DEPUTY OIL & GAS INSPECTOR Ne/4 Sw/4 Sec. 27, T29N, R10W

Pit closure Date:

August 9, 1994

(Documentation Included)

Monitor Well Installation Date:

May 16, 1996

Monitor Well Sampling Date:

June 12, 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:

The BTEX results for all three (3) monitor wells during the June 13, 1997 sampling event were non detectable or below 25% of the New Mexico Water Quality Control Commission's allowable concentration for groundwater. The general water quality results revealed total dissolved solids within the separator pit area (MW #2) and down gradient direction (MW #3) to be below the natural background level (MW #1).

Summary and/or Recommendations:

Based on the enclosed documentation, the groundwater within the separator pit area appears to meet all the criteria for permanent closure. In addition, pit closure/landfarm documentation at the site has been included. Therefore, Amoco is requesting permanent closure status for the separator pit.

All aspects of the Amoco groundwater plan dated October 22, 1996 (approved by NMOCD with letter dated February 7, 1997) has been adhered to.

District I
P O. Box 1980, Hobbs, NM
District II
P O. Drawer DD, Artesia, NM 88211
:trict III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

OIL CONSERVATION DIVISION EGETTING
P.O. Box 2088
Santa Fe, New Mexico 87504-2088
FEB 1 7 1

PIT REMEDIATION AND CLOSURE REPORT

Operator:	Amoco Production Company	Telephone: (505) - 326-9200
Address:		
· · · · · · · · · · · · · · · · · · ·		•
Facility Or:_ Well Name	ROMERO GC	
	an our lote sec K s	Sec 27 T29N R 10 W County SAN JUAN
3		
Pit Type: Sep	arator X Dehydrator	Other
Land Type: B	LM, State, Fee $\frac{\lambda}{\lambda}$	(, Other
Pit Location: Attach diagram	Reference: wellhead X	th 30, width 27, depth 6, other :: (8) :: SD Degrees East North of X West South X
Depth To Grow (Vertical distated contaminants to high water elever ground water)	nce from seasonal	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)
(Less than 200 domestic water	tection Area: feet from a private source, or; less than all other water sources)	Yes (20 points) No (0 points)
Horizontal dis	Surface Water: stance to perennial sivers, streams, creeks, als and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)
		RANKING SCORE (TOTAL POINTS):

			1 1
Date Remediation St	arted:	Date Completed:	8/10/94
Remediation Method:	Excavation $\underline{\times}$	Approx. cubic yards	90
(Check all appropriate sections)	Landfarmed \succeq	Insitu Bioreme ation	•
	Other		
Remediation Location (ie. landfarmed onsite, name and location of offsite facility)	n: Onsite 6 Off	site	-
General Description	Of Remedial Action		
Excavation	on		
Ground Water Encoun	tered: No	Yes <u>×</u> Depth <u>3-5</u>	. 1
Final Pit: Closure Sampling: (if multiple samples,	Sample location	see Attached Documents	
attach sample results and diagram of sample	Sample depthS	(
locations and depths)	Sample date 89		1124
	Sample Results		
	Benzene(ppm)	2.010	
		m) <u>0.117</u>	
		ce(ppm)	
	ТРН	_	
Ground Water Sample	Yes X No	_ (If yes, attach sample r	esults)
OF MY KNOWLEDGE AND	BELIEF	ABOVE IS TRUE AND COMPLETE	
DATE 5/10/94		NAME BULL DEL	A 1
SIGNATURE SASI	PRINTED I	NAME Duddy D. Dh	Aculturation

BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	C.O.C. NO. <u>1685</u>
FIELD REPORT: CLOSURE VERIFICATION	PAGE No:/_ of/
LOCATION: NAME: ROMERO GC WELL #: A PIT: SEP	DATE STARTED: 8/9/94 DATE FINISHED: 8/9/94
QUAD/UNIT: K SEC: 27 TWP: 29 A RNG: 10 DM: NM CNTY: ST ST: NM OTR/FOOTAGE: NE (4 5 W) 4 CONTRACTOR: P. VELASQNEZ	ENVIRONMENTAL NV SPECIALIST:
SOIL REMEDIATION: EXCAVATION APPROX. 30 FT. x 27 FT. x DISPOSAL FACILITY: LANOFALMED ON-SITE CUBIC YARD LAND USE: RANGE AGRIC. LEASE:	
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 118 FEET 59 DEPTH TO GROUNDWATER: <50 NEAREST WATER SOURCE: <1000 NEAREST SURFACE	
	FORMATION: CK/mU
SOIL AND EXCAVATION DESCRIPTION: GW PUMPED PRIOR TO ARRIVA DEPTH APPROX. 3-3/z BEWW SLIGHT THEER OBTERVED ON T GW PUMPED & DISPOSED OF PAST WEEK BY TRIPTE 555.	GROUND SURFACE.
FIELD 418.1 CALCULATIONS SAMPLE I.D. LAB No: WEIGHT (g) ml. FREON DILUTION READING CALC	. ppm
SCALE	
O PIT PERIMETER N OVM RESULTS PIT	PROFILE
TEGN(2) BLEX (8050)	301
TRAVEL NOTES. CALLOUT: $8/9/94$ ONSITE: $8/9/94$	



AROMATIC VOLATILE ORGANICS

Attn:

Nelson Velez

Date:

8/9/94

Company: Blagg Engineering

Lab ID:

1685

Address:

2417

City, State: Bloomfield, NM 87413

P.O. Box 87

Sample ID: Job No.

2-1000

Project Name:

Romero GC A1

Project Location:

1 @ GW (5') - Sep Pit

Sampled by:

NV DLA Date: Date:

8/9/94 8/10/94 Time:

11:24

Analyzed by: Sample Matrix:

Liquid

Aromatic Volatile Organics

	**Measured
Component	Concentration ug/L
Benzene	10.2
Toluene	28.1
Ethylbenzene	8.9
m,p-Xylene	51.1
m,p-Xylene o-Xylene	18.4
	TOTAL 117 ug/L

ND - Not Detectable

** - Method Detection Limit, 2 ug/L

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Bill Ustail Ph.D.

Date: 8/10/84

FAX: (505) 327-1496 • 24 HR. ~ (505) 327-7105 • OFF.: (505) 325-8786

3005 NORTHRIDGE DRIVE • SUITE F • P. O. BOX 2606 • FARMINGTON, NEW MEXICO 87499

CHAIN OF CU JDY RECORD G SITE
TECHNOLOGIES LIMITED

Date: 15/5/9 4

Page __

657 W. Maple • P. O. Box 2606 • Farmington, NM 87499 LAB: (505) 325-5667 • FAX: (505) 325-6256

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THE COLOR OF STATE OF	Çi	Resometers Inc.	***	1			Telefay No	
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(Client Signature <u>Must Accompany Request)</u> Date Distribution: White On Site Values 148 Distributions White On Site Values 148 Distri	Relinquished t		ate/Time	Deceive	1 0y:		Date/Time	
(Client Signature <u>Must Accompany Request)</u> Date Distribution: White On Site Vallow, 14B Distributions White On Site Vallow,				PACEIVA			Date/Time	
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Vollow AB Dist.		(Cilent Signature <u>MUSI</u> Accompany Request)						
		Distribution: Wb	Vollow	Jeig Jeig	100			

AMOCO GROUNDWATER MONITOR WELL LABORATORY RESULTS SUBMITTED BY BLAGG ENGINEERING, INC.

ROMERO GC A # 1 - SEPARATOR PIT UNIT K, SEC. 27, T29N, R10W

REVISED DATE: JANUARY 13, 1997 FILENAME: (RM-2Q-96.WK3) NJV

								BTE	X EPA MET	THOD 8020 (PPB)
SAMPLE	MONITOR	D.T.W.	T.D.	TDS	COND.	рΗ	PRODUCT			Ethyl	Total
DATE	WELL No:	(ft)	(ft)	mg/L	umhos		(in)	Benzene	Toluene	Benzene	Xylene

ļ	12-Jun-96	MW #1	4.48	10.05	1580	1500	7.0	ND	ND	ND	ND
	12-Jun-96	MW #2	5.87	10.05	1180	1400	6.9	ND	1	ND	ND
	12-Jun-96	MW #3	5.33	10.05	1120	1400	6.9	ND	ND	ND	ND

GENERAL WATER QUALITY AMOCO PRODUCTION COMPANY

ROMERO GC A # 1

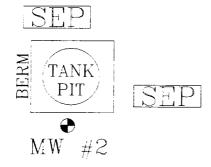
SAMPLE DATE: JUNE 12, 1996

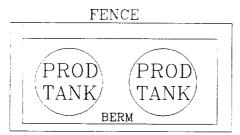
F	PARAMETERS	MW # 1	MW # 2	MW #3	Units
GENERAL	LAB pH	7.1	7.2	7.2	s. u.
	LAB CONDUCTIVITY (25 DEG. CELCIUS)	1,840	1,580	1,550	umhos cm
	TOTAL DISSOLVED SOLIDS (180 DEG. CELCIUS)	1,580	1,180	1,120	mg/L
	TOTAL DISSOLVED SOLIDS (CALCULATED)	1,440	1,090	1,090	mg/L
ANIONS	TOTAL ALKALINITY AS CaCO3	263	382	263	mg/L
	BICARBONATE ALKALINITY (AS CaCO3)	263	382	263	mg/L
	CARBONATE ALKALINITY (AS CaCO3)	NA	NA	NA	mg / L
	HYDROXIDE ALKALINITY (AS CaCO3)	NA	NA	NA	mg/L
	CHLORIDE	37.5	40.0	15.0	mg / L
[SULFATE	796	434	556	mg / L
	NITRATE + NITRITE - N	NA	NA	NA	
	NITRATE - N	NA	NA	NA	
	NITRITE - N	NA	NA	NA	
CATIONS	TOTAL HARDNESS AS CaCO3	597	308	403	mg / L
	CALCIUM	231	116	152	mg / L
	MAGNESIUM	4.84	4.84	6.04	mg/L
	POTASSIUM	<5.0	<5.0	<5.0	mg / L
	SODIUM	210	260	200	mg / L
DATA VALIDATION					ACCEPTANCE LEVEL
	CATION/ANION DIFFERENCE	3.91	0.73	1.14	+/- 5%
	TDS (180):TDS (CALCULATED)	1.1	1.1	1.0	1.0 - 1.2

FENCE

WELL HEAD

MW #3







MW #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.

30 FT.

SITE

AMOCO PRODUCTION COMPANY

ROMERO GC A1

NE 4 SW/4 SEC. 27, T29N, R10W

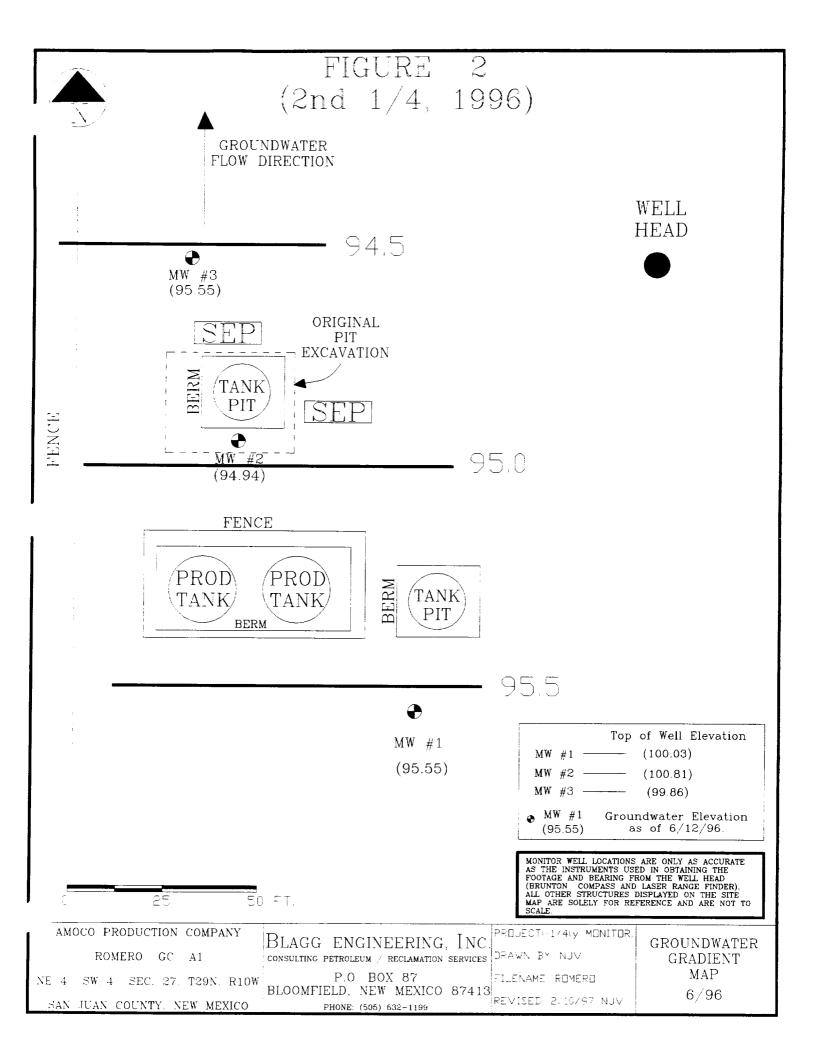
SAN JUAN COUNTY, NEW MEXICO

Blagg engineering, Inc. CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 FILENAME ROMERO PHONE: (505) 632-1199

PROJECT: MW INSTALL DRAWN BY NUV

MAP 6/96



BLAGG ENGINEERING, Inc.

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

BORE /	TEST HOLE REPORT	BORING # <u>BH - 1</u> MW # <u>1</u>
LOCATION NAME:	ROMERO GC A # 1	PAGE # 1
CLIENT:	AMOCO PRODUCTION COMPANY	DATE STARTED <u>5/17/96</u>
CONTRACTOR:	BLAGG ENGINEERING, INC. / PAUL & SONS	DATE FINISHED 5/17/96
EQUIPMENT USED: BORING LOCATION:		OPERATOR BM
		PREPARED BY NJV
DEPTH & LITHOLOGY MW FEET & INTERVAL SCHEMATI	T JRDOND SURFACE	
	TOP OF CASING APPROX. 1.90 FT. ABOVE GROUND SUID TO SUID ARK YELLOWISH BROWN SAND AND GRAVEL CONTINUOUS THE BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT FIRM, NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 -	IROUGHOUT ENTIRE GROUNDWATER), 8.1 FT. INTERVAL).
	NOTES: O - SAND & GRAVEL (VARYING SIZES). TOS - TOP OF SCREEN FROM GROUND SURF TD - TOTAL DEPTH OF MONITOR WELL FRO GW - GROUND WATER.	
	DRAWING. ROMERO-1	DATE. 2/25/97 DWN BY: NJV

BLAGG ENGINEERING, Inc.

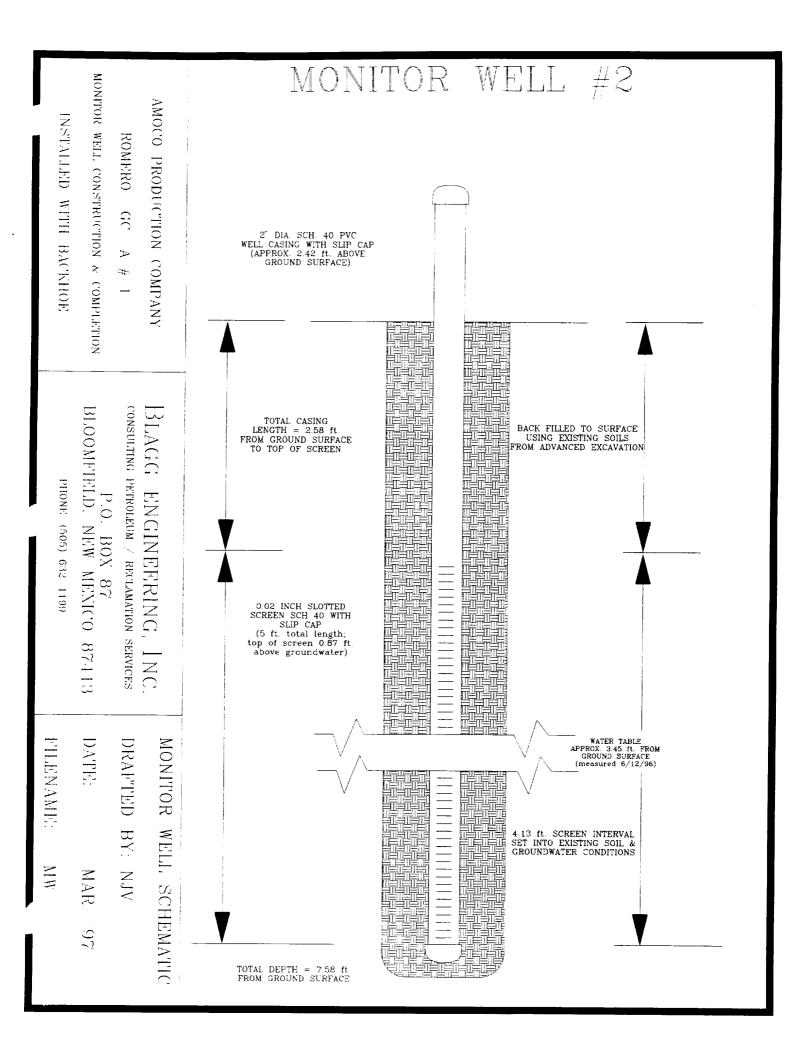
P.O. BOX 87 BLOOMFIELD, NM 87413 (505) 632-1199

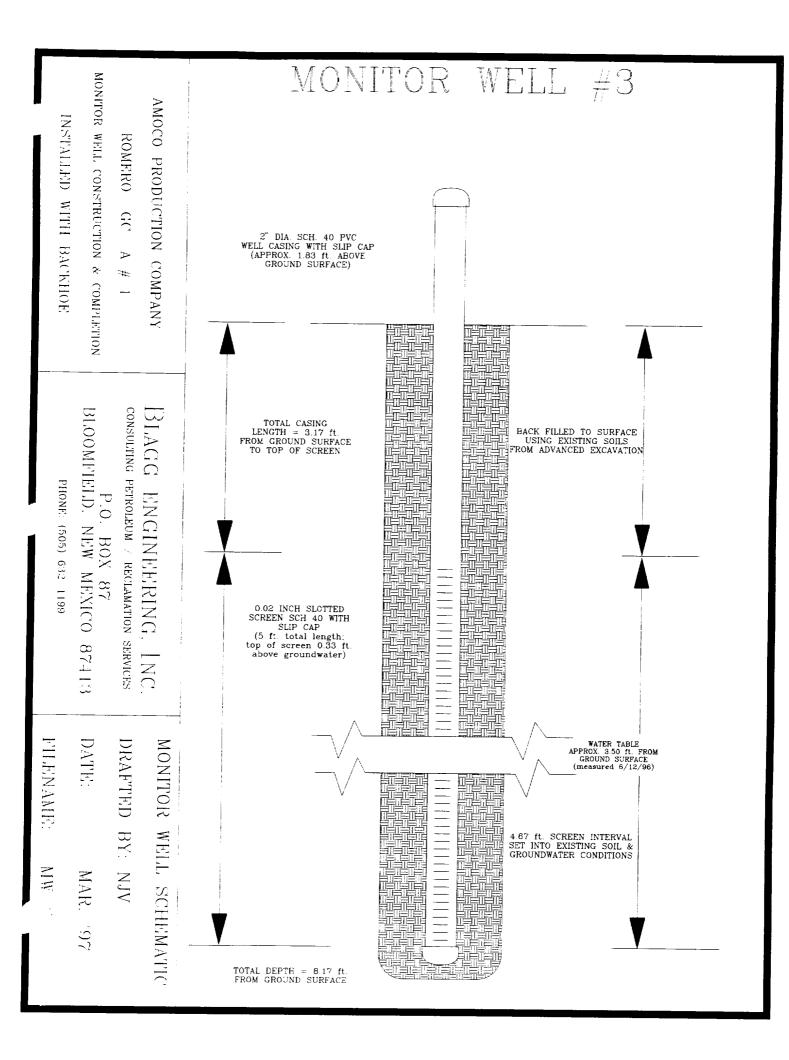
BORE /	TEST HOLE REPORT	BORING # <u>BH - 2</u> MW # 2
	ROMERO GC A # 1 AMOCO PRODUCTION COMPANY BLAGG ENGINEERING, INC. / PAUL & SONS BACKHOE S67W, 120 FEET FROM WELL HEAD.	PAGE #
FEET WE INTERVAL SCHEMATI	FIELD CLASSIFICATION AND REAL GROUND SURFACE TOP OF CASING APPROX. 2.42 FT. ABOVE GROUND	
2.50 2.50	DARK YELLOWISH BROWN SAND AND GRAVEL, NON COHES NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 3.6) GW DEPTH ON 6/12/96 = 3.45 FT. (APPROX.) FROM GROUND FROM GROUN	
	DARK GRAY SAND AND GRAVEL, NON COHESIVE, SATURATI NO APPARENT HYDROCARBON ODOR OBSERVED (3.5 - 7.5	ED, FIRM TO LOOSE, 8 FT. INTERVAL).
TD □ 7.58	NOTES: - SAND & GRAVEL (VARYING SIZES) TOS - TOP OF SCREEN FROM GROUND S TD - TOTAL DEPTH OF MONITOR WELL I GW - GROUND WATER.	DISCOLORED. URFACE.
	DRAWING ROMERO-2	DATE: 2/25/97 DWN BY: NJV

BLAGG ENGINEERING, Inc.

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

	(000) 000 1100	
BORE /	TEST HOLE REPORT	BORING # <u>BH + 3</u> MW # 3
LOCATION NAME:	ROMERO GC A # 1	PAGE # 3
CLIENT:	AMOCO PRODUCTION COMPANY	DATE STARTED 5/17/96
CONTRACTOR:	BLAGG ENGINEERING, INC. / PAUL & SONS	DATE FINISHED 5/17/96
EQUIPMENT USED:		OPERATORBM
BORING LOCATION:	N89W, 123 FEET FROM WELL HEAD.	PREPARED BY NJV
DEPTH \$\frac{\pi}{\pi} LITHOLOGY MW SCHEMATIC	FIELD CLASSIFICATION AND REMAR	RKS
	TOP OF CASING APPROX. 1.83 FT. ABOVE GROUND SURF	FACE.
1 N N	DARK YELLOWISH BROWN SAND AND GRAVEL CONTINUOUS THR BORING, NON COHESIVE, SLIGHTLY MOIST TO SATURATED (AT FIRM, NO APPARENT HYDROCARBON ODOR OBSERVED (0.0 - 8	GROUNDWATER)
TOS	▼ GW DEPTH ON 6/12/96 = 3.50 FT. (APPROX.) FROM GROUND	SURFACE.
3 - ID - 817	NOTES. OCC - SAND & GRAVEL (VARYING SIZES). TOS - TOP OF SCREEN FROM GROUND SURFA TD - TOTAL DEPTH OF MONITOR WELL FROM GW - GROUND WATER.	
	DRAWING: ROMERO-3 D.	ate: 2/25/97 DWN EY: NJV





BLAGG ENGINEERING INC.

MONITOR WELL QUARTERLY MONITORING DATA

DATE:_	6-12-96	<u> </u>					PROJEC'	r no:		_	
CLIENT	:AM	060		· · · · · · · · · · · · · · · · · · ·	СНА	IN-01	-CUSTOD	Y NO:	2491	-	
LOCATI	ON:	ROMERO	<u>6C</u>	AL		-	·		 	_	
PROJEC	T MANAG	ER:	pro			5	SAMPLER:	REV		_	
			МО	NITOR W	ELL DA	TA					
WELL #	WELL ELEV.	WATER ELEV.	1	T.D. (FT)	TIME	рН	COND.	BAIL (GAL)	PROD (IN)		
MW-1	100.03	95.55	4.48	10.05	1(00	7.0	1500	1.0		CUT	0,12
MU-2	100.81	94.94	5.87	10.05	1115	6.9	1400	1.0		car	0,12
mn-3	99.86	94.53	<i>5.</i> 33	10.05	1130	6.9	1400	1.0		<4T	0.12
Notes:	Volume	of wate	er bai	ed from	n well	prio	r to sam	pling.			
	Ideally 1.25 2" w	y a min: 5" well = : vell = 0 vell = 1	imum of = 24 c = 2 bai = 3 bai).49 ga l.95 ga	3 welloz. per lls per lls per llons	foot of foot of foot - foot - per foot per foot	nes: of water small of small of of ot of	ter. ll teflo " dispos water. water.	n baile	r iler		



PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:

Romero GC A1

Sample ID:

MW - 1

Lab ID:

3914 Water

Sample Matrix: Preservative:

Cool, HgCl₂

Condition:

Intact

 Report Date:
 06/28/96

 Date Sampled:
 06/12/96

 Date Received:
 06/12/96

Date Analyzed:

06/24/96

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

10.0	Tot	al R	TEX					_	i de la companya de l	# in	i ve	. 1
- 1	10	ar D	יבי			A Pro	IA	ע				- 1

ND - Analyte not detected at the stated detection limit.

Quality Control:

<u>Surrogate</u>

Percent Recovery

Acceptance Limits

Trifluorotoluene

101

88 - 110%

Bromofluorobenzene

100

86 - 115%

Duiel

Reference:

Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209,

Oct. 1984.

Comments:

Ansia Jeman Analyst

Review



PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:

Romero GC A1

Sample ID:

MW - 2

Lab ID:

3915

Sample Matrix: Preservative:

Water Cool, HgCl₂

Condition:

Intact

Report Date:

06/28/96

Date Sampled: Date Received: 06/12/96 06/12/96

Date Analyzed:

06/24/96

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	0.71	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50

T		
1		그리고 그림에게 열림을 하는 사람들은 그 속에 가는 것이 되는 것이 되었다. 그런 말이 없는 것이 없다.
1	Takal	
ı	lotai	0)764
		· · · · · · · · · · · · · · · · · · ·
L		그그는 발매하다고 불쾌질하게 병원 시선되었습니다. 회사 교회의 사회의 사회에 가장 가장 하지 않아 내가 가장 하는 사례

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate Trifluorotoluene Percent Recovery 101

Acceptance Limits

Bromofluorobenzene

101

88 - 110% 86 - 115%

Reference:

Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209,

Oct. 1984.

Comments:

Comp/1



PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:

Romero GC A1

Sample ID: Lab ID: MW - 3 3916

Sample Matrix: Preservative:

Water

Intact

Condition:

Cool, HgCl₂

 Date Sampled:
 06/12/96

 Date Received:
 06/12/96

 Date Analyzed:
 06/24/96

Report Date:

06/28/96

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

		184 Feb. 1		
Total BTEX	region Milare			
IUIDIEA	CTION AND		ND	4.4 - 11 11
· · · · · · · · · · · · · · · · · · ·	Table 1 Section		140	1
L		1.0		100

ND - Analyte not detected at the stated detection limit.

Quality Control:

SurrogatePercent RecoveryAcceptance LimitsTrifluorotoluene10088 - 110%Bromofluorobenzene10086 - 115%

Reference:

Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209,

Oct. 1984.

Comments:

Analyst Acma

Review



General Water Quality Blagg Engineering, Inc.

Project ID:

Romero GC A1

Sample ID:

MW - 1

Laboratory ID:

3914

Sample Matrix: Water

Date Reported:

06/28/96

Date Sampled:

06/12/96

Time Sampled:

11:00

Date Received:

06/12/96

Parameter		Analytical Result	Units
General	Lab pH	7.1	S.U.
	Lab Conductivity @ 25° C	1,840	μmhos/cm
	Total Dissolved Solids @ 180°C	. 1,580	mg/L
	Total Dissolved Solids (Calc)	. 1,440	mg/L
Anions	Total Alkalinity as CaCO ₃	263	mg/L
	Bicarbonate Alkalinity as CaCO ₃	263	mg/L
	Carbonate Alkalinity as CaCO ₃	. NA	mg/L
	Hydroxide Alkalinity as CaCO ₃	NA	mg/L
	Chloride	37.5	mg/L
	Sulfate	796	mg/L
	Nitrate + Nitrite - N	NA	_
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as CaCO ₃	597	mg/L
	Calcium	231	mg/L
	Magnesium	4.84	mg/L
	Potassium	< 5.0	mg/L
	Sodium	210	mg/L
ata Validation		<u> </u>	cceptance Lev
	Cation/Anion Difference	3.91	+/- 5 %
	TDS (180):TDS (calculated)	1.1	1.0 - 1.2

Reference

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

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General Water Quality Blagg Engineering, Inc.

Project ID:

Romero GC A1

Date Reported:

06/28/96

Sample ID:

MW - 2

Date Sampled:

06/12/96

Laboratory ID:

3915

Time Sampled:

11:15

Sample Matrix:

Water

Date Received:

06/12/96

Parameter		Analytical Result	Units
General	Lab pH	7.2	s.u.
	Lab Conductivity @ 25° C	1,580	μ mhos/cm
	Total Dissolved Solids @ 180°C	1,180	mg/L
	Total Dissolved Solids (Calc)	1,090	mg/L
Anions	Total Alkalinity as CaCO₃	382	mg/L
	Bicarbonate Alkalinity as CaCO ₃	382	mg/L
	Carbonate Alkalinity as CaCO ₃	NA	mg/L
	Hydroxide Alkalinity as CaCO ₃	NA	mg/L
	Chloride	40.0	mg/L
	Sulfate	434	mg/L
	Nitrate + Nitrite - N	NA	-
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as CaCO ₃	308	mg/L
	Calcium	116	mg/L
	Magnesium	4.84	mg/L
	Potassium	< 5.0	mg/L
	Sodium	260	mg/L
Data Validation		Ac	ceptance Level
	Cation/Anion Difference	0.73	+/- 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



General Water Quality Blagg Engineering, Inc.

Project ID: Romero GC A1
Sample ID: MW - 3
Laboratory ID: 3916
Sample Matrix: Water

 Date Reported:
 06/28/96

 Date Sampled:
 06/12/96

 Time Sampled:
 11:30

 Date Received:
 06/12/96

Parameter		Analytical Result	Units
General	Lab pH	7.2	s.u.
	Lab Conductivity @ 25° C	1,550	μmhos/cm
	Total Dissolved Solids @ 180°C	1,120	mg/L
	Total Dissolved Solids (Calc)	1,090	mg/L
Anions	Total Alkalinity as CaCO₃	263	mg/L
	Bicarbonate Alkalinity as CaCO ₃	263	mg/L
	Carbonate Alkalinity as CaCO ₃	NA	mg/L
	Hydroxide Alkalinity as CaCO ₃	NA	mg/L
	Chloride	15.0	mg/L
	Sulfate	556	mg/L
	Nitrate + Nitrite - N	NA	_
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as CaCO ₃	403	mg/L
	Calcium	152	mg/L
	Magnesium	6.04	mg/L
	Potassium	< 5.0	mg/L
	Sodium	200	mg/L
Data Validation			Acceptance Leve
	Cation/Anion Difference	1.14	+/- 5 %
	TDS (180):TDS (calculated)	1.0	1.0 - 1.2
Poforonco	LISEDA 600/470 000 Markhada far Obras LA		

Reference

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

Chief Mer Review



June 28, 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 12, 1996. The samples were from the Romero GC A1 site. Analyses for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and general water quality parameters were performed on the samples, as per the accompanying chain of custody form.

Analysis was performed on the samples 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 samples, as reported.

Water parameters were determined for the samples according to the appropriate methodologies as outlined in <u>Standard Methods for the Examination of Water and Wastewater</u>, 18th edition, 1992.

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.

Denise A. Bohemier

Lab Director

General Water Quality Quality Control Report

Blagg Engineering, Inc.

Report Date:

6/28/96

Parameter	Analytical Result	Certified Value	Acceptance Range	Units
Laboratory pH	9.03	9.09	8.89 - 9.29	S.U.
Conductivity _	1313	1220	1040 - 1400	μ mhos/cm
Total Dissolved Solids	820	913	794 - 1030	mg/L
Total Alkalinity	191	180	160 - 200	mg/L
Chloride	135	138	128 - 148	mg/L
Sulfate	128	124	107 - 141	mg/L
Total Hardness	239	254	218 - 290	mg/L
Calcium	57.8	54.6	47.0 - 62.2	mg/L
Magnesium	NA	NA	NA	mg/L
Potassium	120	123	105 - 141	mg/L
Sodium	170	173	147 - 199	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 Wastewater, 18th ed.,

1992.

Comments:

Review

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191

Please Fill Out Thoroughly. White/Yellow: Anaitas Pink: Client Shaded areas for lab use only. Page of COMMENTS METALS Other (specify): Date RCRA Metals TCLP (1311) RCRA Metals (Total) Priority Pollutants Relinquished By: Received By: Other (specify): WATER ANALYSES Oil and Grease Company: Nutrients: NH4+ / NO2- / NO3- / TKN Solids: TDS / TSS / SS CHAIN OF CUSTODY 91.21-9 Shhl BOD / Fecal / Total Coliform Date Specific Anions (specify): Specific Cations (specify): Cation / Anion Relinquished By: Other (specify): Received By: からみ TCLP Extraction BEL Signature Polynuclear Aromatic Hydrocarbons (8100) Company: ORGANIC ANALYSES Base / Neutral / Acid GC/MS (625 / 8270) 91.21-9 Volatiles GC/MS (624 / 8240 / 8260) Herbicides (615 / 8150) Time: Time: Chlorinated Pesticides / PCBs (608 / 8080) (r.soa \ r.soa) selitsloV AWQS Chlorinated Hydrocarbons (8010) Aromatic HCa(BTEX/MTBE (602 / 8020) Sampled By: Required Turnaround Time (Prior Authorization Required for Rush) Received By: Gasoline (GRO) REB BEI Gasoline / Diesel (mod. 8015) Company: Company: Petroleum Hydrocarbons (418.1) Labib Qustody Seals: Y / N / NA Sample Receipt 807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395 8c166 Matrix SEES SEES SAME 632-Received Intact: No. Containers: Received Cold: 00 Time 3 2 ROMERO 6C 21.9 PROJECT MANAGER: Date = Shipped Via: DEC 1) Project Information Proj. Name: AMOCO Anaitas Lab I.D.: Sample 1D Company: Company: Address: ME. Address: Phone: Bill To: × 5-P. O. No: Proj. #: Fax: ME

CLIENT: AMOCO	BLAGG EN P.O. BOX 87, I	BLOOMFIELI), NM 8	1	LOCATION NE	577G
	(505	5) 632-119	99 		С.Ы.С. INL	<u> </u>
FIELD REPORT:	LANDFARM/C	OMPOST PI	ILE CLO	SURE		
LOCATION: NAME: ROMERO	GC A WELL #	: PITS	: 5EP		DATE STARTED:	
QUAD/UNIT: K SEC: Z			NTY: 3J S	T: NM	ENVIRONMENTAL SPECIALIST:	
QTR/FOOTAGE: NE/4	56/4 CONTRACT	TOR: P&S			SPECIALIST:	
SOIL REMEDIATION:						20
l control cont	TEM: LANDFARM	A	PPROX. C	UBIC Y	ARDAGE:	70
LAND USE:	RANGE	L.	IFT DEPTI	1 (ft):	6-1	
FIELD NOTES & REMAR	RKS:		,			,
DEPTH TO GROUNDWATER: < 5				r surface	WATER: <!--</b-->	000
NMOCD RANKING SCORE:	NMOCD TPH CLOSURE	E STD: <u>100</u> PP	м .	محدد اسد سرد	CIZITIVM	0)57
SOIL MOST SAND	O & GROVEL - DK.	YELL. BROWN	non col	iesive, reservei	SLIGHTET TO	LE PT. 3
NO APPARENT	O & GRAVEL - DK. PLANTITY OF BLA HC ODOR OBSER F FROM 3" TO	EVED IN ANY	OF THE	50MP	LE PIS., S	omains
	is from 3" to	6", collect	rep 3 m	, com	postite Fue	UB
CLOSED)	EXE. T	2 4404 CALCHIA	TIONS			
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				<u> </u>		
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LANDFARM PERIMETER LF-1 PT. D	sample of ESIGNOTION	OVM K	ESULTS FIELD HEADSPACE	SAMPLE	LAB SAMPI	RESULTS RESULTS
	_	LF -1	PID (ppm) 0, 0	LF-1	(8015) 1140	53.3
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TRAVEL NOTES: CALL DUT		ONSITE:	5/8/9	 78		



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Blagg / AMOCO	Project #:	04034-10
LF - 1	Date Reported:	05-12-98
D249	Date Sampled:	05-08-98
5776	Date Received:	05-11-98
Soil	Date Extracted:	05-12-98
Cool	Date Analyzed:	05-12-98
Cool and Intact	Analysis Requested:	8015 TPH
	LF - 1 D249 5776 Soil Cool	LF - 1 Date Reported: D249 Date Sampled: 5776 Date Received: Soil Date Extracted: Cool Date Analyzed:

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	19.4	0.2
Diesel Range (C10 - C28)	33.9	0.1
Total Petroleum Hydrocarbons	53.3	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments: Romero GC A #1 Landfarm. 5 Pt. Composite.

Deur P. Queuer

Stacy W Sendler
Review

Sample: (Sumplyon) Sample: (Sumplyon) Change (Sumple Sample) Change (Sumple
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