

3R - 23

**GENERAL
CORRESPONDENCE**

YEAR(S):

2001 - 1993



STATE OF
 NEW MEXICO
 OIL
 CONSERVATION
 DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

<input checked="" type="checkbox"/> Telephone	<input type="checkbox"/> Personal	Time 1415	Date 6/5/01
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<u>Originating Party</u>	<u>Other Parties</u>
Bill Olson - Envir. Bureau	Jeff Bless - Bless Engineering (505) 632-1199

Subject
 BP - GCW F#162

Discussion
 Site looks OK per closure but no Pit Closure
 Form included which contains results of all
 soil actions.

Conclusions or Agreements
 He will try to get it submitted next week.

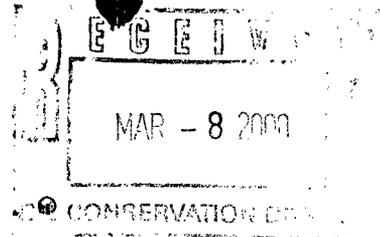
Distribution

Signed *Will Olson*

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903



March 3, 2000

Mr. Roger C. Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Re: BP- Amoco: Groundwater Discharge Plan GW-159
Gallegos Canyon Unit Com F #162, K - Sec 36-T29N-R12W
San Juan County, New Mexico

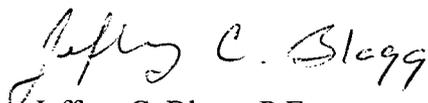
Dear Mr. Anderson:

Referencing your correspondence to Amoco Production Company dated February 14, 2000 with respect to Discharge Plan GW-159, BP-Amoco does not anticipate future actual or potential discharges at the subject GCU Com F #162 well site. Therefore, BP-Amoco is not renewing discharge plan application GW-159.

The GCU Com F #162 is a well site with groundwater impacts that are currently being remediated. Groundwater was pumped, treated and discharged at this site beginning on May 9, 1994 and ending on January 26, 1995. Alternative cleanup methods have been employed since termination of pumping in January 1995. This site is presently undergoing groundwater reclamation using air sparging as a remediation method and no groundwater or other fluids are pumped from or discharged onto the ground surface. It is anticipated that final site remediation will be achieved within the next 12 months.

If you have questions or comments concerning this transmittal, please contact myself at (505)632-1199 or Buddy Shaw with Amoco at (505)326-9219.

Respectfully submitted:
Blagg Engineering, Inc.


Jeffrey C. Blagg, P.E.

President

CC: Buddy Shaw, Amoco Production Company
Denny Foust, NMOCD Aztec



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

February 14, 2000

CERTIFIED MAIL
RETURN RECEIPT NO: Z-559-572-903

Mr. Buddy Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

**RE: GROUND WATER DISCHARGE PLAN GW-159
GALLEGOS CANYON UNIT F#162 WELL SITE
SAN JUAN COUNTY, NEW MEXICO**

Dear Mr. Shaw:

On January 27, 1994 the ground water discharge plan, GW-159 for the Gallegos Canyon Unit F#162 well site located in Unit K, Section 36, Township 29 North, Range 12 West, San Juan County, New Mexico was approved by the Director of the New Mexico Oil Conservation Division (OCD). This discharge plan was required and submitted pursuant to New Mexico Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. The approval expired on January 27, 1999.

If your facility continues to have potential or actual effluent or leachate discharges, you must renew your discharge plan. Please submit a renewal application to the OCD by April 14, 2000. Please submit an original application and one copy to the OCD Santa Fe Office and one copy to the OCD Aztec District Office. Note that the completed and signed application form must be submitted with your discharge plan renewal request (Copies of the WQCC regulations and the application form and guidelines can be found on the OCD web page at www.emnrd.state.nm.us/ocd/). Please indicate whether you have made, or intend to make, any changes in your system, and if so, please include these modifications in your application for renewal.

The discharge plan renewal application for the Gallegos Canyon Unit F#162 well site is subject to the WQCC Regulation 3114 discharge plan fees. Every billable facility submitting a discharge plan renewal will be assessed a fee equal to the filling fee of \$50.00 plus a flat fee of \$690.00 for ground water remediations.

Mr. Buddy Shaw
February 14, 2000
Page 2

The \$50.00 filing fee is to be submitted with the discharge plan renewal application and is nonrefundable. The flat fee for an approved discharge plan renewal may be paid in a single payment due at the time of approval, or in equal installments over the duration of the discharge plan.

Please make all checks payable to the **NMED Water Quality Management Fund** and addressed to the OCD Santa Fe Office.

If you no longer have any actual or potential discharges, a discharge plan is not needed and you need to notify this office. If you have any questions regarding this matter, please do not hesitate to contact Bill Olson of my staff at (505) 827-7154.

Sincerely,

A handwritten signature in cursive script, appearing to read "Roger C. Anderson".

Roger C. Anderson
Environmental Bureau Chief

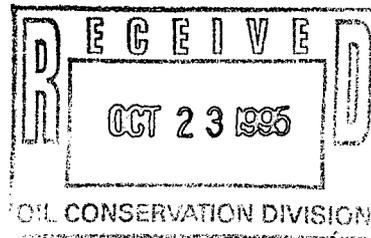
xc: Denny Foust, OCD Aztec District Office

BLAGG ENGINEERING, INC.

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

October 17, 1995

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



*Fax received
on 10/18/95*

Re: Proposed Bio-Enhancement Treatment Procedure
Gallegos Canyon Unit (K) #162, Sec. 36-T29N-R12W
San Juan County, New Mexico

Dear Mr. Olson:

Referencing our telephone communication on this date, attached please find a proposed reclamation treatment procedure for placement of a bio-enhancement solution at the Amoco Production Company GCU Com F No. 162 well location. The purpose of this proposed treatment is for acceleration of remediation of hydrocarbon contamination at the site. A request to apply this treatment was presented in the site quarterly groundwater monitoring report dated October 11, 1995, and included with that transmittal was product information on the proposed bio-enhancement materials. A material safety data sheet (MSDS) on a surfactant to be used in the treatment was not included with the quarterly monitoring report and that MSDS is attached to this transmittal.

Amoco has indicated a preference to proceed with bio-enhancement on the GCU 162 site at the earliest possible date. Your attention to this proposal is appreciated. Questions or comments may be directed to Jeff Blagg at (505)632-1199.

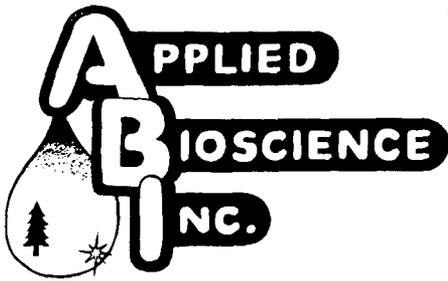
Respectfully submitted:
Blagg Engineering, Inc.

A handwritten signature in cursive script that reads "Jeffrey C. Blagg".

Jeffrey C. Blagg, P.E.
President

cc: Mr. Denny Foust, NMOCD
Mr. Buddy Shaw, Amoco Production Company

Attachments (Procedure and MSDS)



Reply To:
1119 Farmington Avenue
Farmington, New Mexico 87401
(505) 325-5036
Fax (505) 326-2555

310 W. Texas, Suite 907
Midland, Texas 79701
(915) 685-3311
Fax (915) 684-8746

TREATING PROCEDURE FOR REMEDIATION OF AMOCO GCU #162 WELL SITE

SUMMARY

The following treatments should prove to be very effective in remediating the contaminated soil and groundwater, reducing the time needed for site clean up.

The microbial solution used for the 3 treatment phases will consist of 200# Alpha microbes, 48# Alpha micro-nutrients, 255 BBLs of Alpha biocatalyst and fresh water, and 3-1/4 gallons of Biotek surfactant. The treatment will encompass approximately 18,000 cubic yards of soil.

MSDS have been submitted for your review and the New Mexico Groundwater Bureau has this information in its files.

PHASE I

Fill each upper horizontal vapor extraction line on the west side of the location with microbial solution consisting of microbes, biocatalyst, micro-nutrients and surfactant. Each 4" line will be filled with fluid to 5 times its capacity.

Approximately 65 BBLs of microbial solution will be pumped into 860' of 4" PVC. The mixture consists of 70# of microbes, 32-1/2 BBLs biocatalyst and 32-1/2 BBLs fresh water, 12-1/2# micro-nutrients and 3/4 gallon of surfactant.

PHASE II

Using 1/4" pipe and a high pressure pump, microbial solution will be injected horizontally into the area of contamination beginning in the excavated area and going parallel and diagonally to vapor extraction lines used in Phase I. Most of these horizontal borings will be from 7-12' below ground level. We expect to make approximately 50 borings of 50'. The 50 BBL microbial solution will be mixed with 50# of microbes, 25 BBLs biocatalyst and 25 BBLs fresh water, 9-1/2# micro-nutrients and 3/4 gallon of surfactant.

PHASE III

Using 1/4" pipe and a high pressure pump, microbial solution will be injected vertically and diagonally to an a depth of 19' in the affected area. Treatment will start at the outer edge of the stained soil and work inward to the excavated area. We expect to make between 500-800 borings and use 140 BBLs of microbial solution consisting of 80# microbes, 70 BBLs biocatalyst and 70 BBLs fresh water, 26# micro-nutrients and 1-3/4 gallons of surfactant.

MATERIAL SAFETY DATA SHEET

BIOTEK ENVIRONMENTAL SERVICES INC.
3200 Wilcrest, Suite 215
Houston, Texas 77042

Date 10/14/92

Emergency Phone (713) 782-3984

SECTION I - IDENTITY

NAME: BioClean 10¹²
D.O.T.: Class not regulated
FORMULA: Proprietary
CHEMICAL FAMILY: Aqueous solution of various natural extracts and micronutrients - Biodegradable

SECTION II - PHYSICAL AND CHEMICAL CHARACTERISTICS

FIRE AND EXPLOSION DATA

Boiling Point	-	>392°F	Fire Extinguisher Media	-	NA
Specific Gravity	-	1.058	Melting Point	-	NA
Percent Volatile by Weight	-	0.016	Vapor Pressure @ 20°C/mm/Hg	-	<0.01
Flammable Limit	-	NA	Vapor Density Air = 1	-	>1
Reactivity with WATER	-	No	Solubility in Water	-	Complete
Auto-Ignite Temperature	-	NA	Flash Point	-	490°F
Evaporation Rate	-	Same as water	Odor	-	Mild
Appearance	-	Pale yellow			

SPECIAL FIRE FIGHTING PROCEDURES:

Special Fire Fighting Procedures - NA
Unusual Fire and Explosion Hazards - None

SECTION III - PHYSICAL HAZARDS

Stability - Stable
Polymerization - No
Incompatible Substance - None Known
Hazardous Decomposition - NA

SECTION IV - HEALTH HAZARDS

Inhalation - Vapor or mist may cause headache, nausea, and irritation of the nose, throat, and lungs if significant amounts are inhaled. Coughing upon inhalation of vapors. Move subject to fresh air.
Skin Contact - Irritation to skin upon repeated and prolonged contact. Wash affected area thoroughly. If irritation persists, or if ingested, contact physician.
Eye Contact - Slightly irritating to eyes. Reddening of the eyes upon contact. Flush eyes with large amount of water for 15 minutes. If irritation persists, contact physician.
Carcinogenicity - None

NOT FOR HUMAN CONSUMPTION

Medical Conditions Aggravated by Exposure - None

SECTION V - SPECIAL PROTECTION

Respiratory Protection - None
Ventilation Required - Normal
Exhaust Required - None
Protective Clothing - None

SECTION VI - PRECAUTIONS FOR HANDLING AND USE

Precautions to be taken in handling - None
NOT FOR HUMAN CONSUMPTION
Precautions to be taken in case of spill - None
Disposal procedures - None - Environmentally compatible to living organisms, soil and water. Follow all Federal, State and Local regulations for non-hazardous waste disposal.

INFORMATION ON THIS MATERIAL SAFETY SHEET REFLECTS THE LATEST INFORMATION AND DATA THAT WE HAVE ON HAZARDS, PROPERTIES AND HANDLING OF THIS PRODUCT UNDER THE RECOMMENDED CONDITIONS OF USE. THIS MATERIAL SAFETY DATA SHEET WAS PREPARED TO COMPLY WITH 24 CFR 1910.1200.

ACKNOWLEDGEMENT OF RECEIPT
OF CHECK/CASH

I hereby acknowledge receipt of check No. 532852 dated 2/4/94,
or cash received on 2/8/94 in the amount of \$ 1430.00
from Amoco Production Company
for Gallegos Canyon Unit Com F No. 162 Groundwater Remediation GW-157

Submitted by: _____ Date: _____
(Facility Name) (DP No.)

Submitted to ASD by: Kathy Brown Date: 2/8/94

Received in ASD by: Angie Albre Date: 2/8/94

Filing Fee New Facility Renewal _____
Modification _____ Other _____
(specify)

Organization Code 521.07 Applicable FY 94

To be deposited in the Water Quality Management Fund.

Full Payment or Annual Increment _____

AMOCO PRODUCTION COMPANY
TULSA, OKLAHOMA

Form 587 May 86 San Juan Operations Center Location February 4, 19 94 No. 532852
No Protest At Sight

Pay To The Order of NMED-Water Quality Management Fund \$ 1430.00

PROPERLY ENDORSE THIS ITEM AND NEGOTIATE AS A CHECK

Fourteen Hundred Thirty and 00/100 ----- Dollars

In Payment of

Gallegos Canyon Unit Com F No. 162
Discharge Plan GW-157

PAYABLE THROUGH
The First National Bank and Trust Company
Tulsa, Oklahoma

86-1
1039 }

Kenn K. Shattow

ENVIROTECH[®] INC.

UNDERGROUND TANK TESTING • SITE ASSESSMENT • SITE REMEDIATION

5796 U.S. HIGHWAY 64 - 3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

RECEIVED
NEW MEXICO OIL CONSERVATION DIVISION
RECEIVED
94 JAN 31 AM 8 50

January 28, 1994

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

Re: MW Completion Logs
Discharge Plan GW-157
Amoco Production Company
GCU Com F#162 Remedial Action Plan
San Juan County, New Mexico

Project 92140/C4495

Dear Mr. Olson:

Referencing our telephone communication on January 27, 1994, please find attached one copy of monitor well completion logs for wells installed at the Amoco Production Company GCU Com F#162 site. These logs were inadvertently omitted from our correspondence to Amoco dated January 19, 1994, with reference to Discharge Plan GW-157.

If you have questions or comments concerning this transmittal, please contact Jeff Blagg of Envirotech at (505)632-0615.

Respectfully submitted,
Envirotech, Inc.

Jeffrey C. Blagg
Jeffrey C. Blagg, P.E.
Geological Engineer

JCB/AMOCO/jan94ocd.xmt

CC: Denny Foust, NMOCD Aztec
Buddy Shaw, Amoco Farmington



GROUNDWATER MANAGEMENT SECTION

Amoco Corporation Environmental Affairs and Safety Department

Well No. MW# 3 Date Drilled 3/92 Driller s

Project No. Amoco Location s Drilling Method HAND Auger
~~4 1/4" ID Hollow Stem Auger~~

Well Type Observation Hole Diameter s" Sample Type Split Spoon Boring Depth _____

Casing: Material Schedule 40 PVC Type Schedule 40, screw joints Diameter 2" Sweet's Length 10'

Screen: Material Schedule 40 PVC Depth _____ Slot Size 0.010 Diameter 2" solid Length 15'

Filter Pack Material Cabrado Silica Upper Seal Type But/grout

Backfill Material But/grout Lower Seal Type But/grout

Ground Surface Elevation _____ Top of Casing Elevation _____ Logger K. P. Heaton

Well as Constructed	Depth from Ground Surface	Screen	Depth (Soil Type) Feet	Sample Interval	Soil Description	"N" Value	PID Headspace (ppm)
Steel Protective Casing w/ Locking Cover			0				
Cap			2				
Ground Surface			4				
Concrete Seal			6				
Bentonite Seal			8				
Backfill			10				
2 in. Diameter PVC Pipe			12				
			14				
Bentonite Seal			16				
			18				
Threaded Joint			20				
Gravel Pack			22				
0.01 in. Screen Slots			24				
			25				
Screw Cap							

AMW-4 LITHOLOGIC LOG

LOCATION MAP:



PRODUCED WATER
PIT

FENCE



SITE ID: GCU-162 LOCATION ID: AMW-4
 SITE COORDINATES (ft.): _____
 N _____ E _____
 GROUND ELEVATION (ft. MSL): _____
 STATE: N.M. COUNTY: SAN JUAN
 DRILLING METHOD: HAND AUGER
 DRILLING CONTR.: _____
 DATE STARTED: 3-27-92 DATE COMPLETED: 3-27-92
 FIELD REP.: M. MOHORCICH
 COMMENTS: _____

1/4 1/4 1/4 1/4 S 36 T 29N R 12W

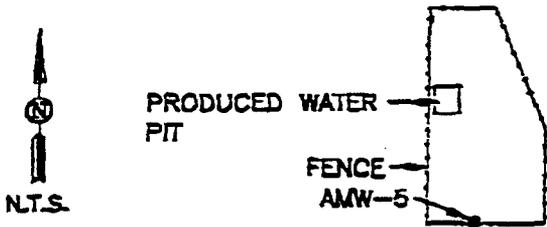
LOCATION DESCRIPTION:

DEPTH (FT.)	LITH.	R E C	S A M	RUN			SAMPLE		USCS	VISUAL CLASSIFICATION
				#	FROM	TO	LD.	TYPE		
0-1.5'	[Dotted pattern]									SILTY SAND: DARK YELLOWISH BROWN 10YR 4/2, MOIST, VERY FINE GRAIN, WELL SORTED, UNCONSOLIDATED. COLOR CHANGE AT 1' TO MODERATE YELLOWISH BROWN 10YR 5/4 VERY FINE GRAIN SAND.
5	[Dotted pattern]									1.5-7.0' SAND: MODERATE YELLOWISH BROWN 10YR 5/4, FINE TO COARSE GRAINED, ~70% FINE TO MEDIUM, 30% COARSE SAND, POORLY SORTED, DRY, UNCONSOLIDATED, COLOR CHANGE AT 3.2-7.0' TO DUSKY YELLOW 5Y 6/4.
10	[Diagonal hatching]									7.0-11' CLAYEY SILT: LIGHT OLIVE GRAY 5Y 5/2, ~30% CLAY, MODERATELY PLASTIC, SLIGHTLY MOIST, SEMI CONSOLIDATED.
	[Dotted pattern]									11.0-13.0' SILTY SAND: DUSKY YELLOW 5Y 6/4, VERY FINE TO FINE GRAIN (70%), WELL SORTED, SLIGHTLY MOIST, UNCONSOLIDATED.
15	[Dotted pattern]									13.0-18.5' SAND: DUSKY YELLOW 5Y 6/4 FINE TO MEDIUM GRAIN, MOIST, UNCONSOLIDATED. HYDROCARBON STAIN AND ODOR AT 17.9'. OLIVE GRAY 5Y 4/2, MEDIUM GRAIN, H2O AT 18'.
20	[Dotted pattern]									18.5-19.0' SILTY SAND: LIGHT OLIVE GRAY 5Y 5/2, SATURATED, SLIGHTLY CONSOLIDATED.
25	[Dotted pattern]									19.0-20.0' SAND: LIGHT OLIVE GRAY 5Y 5/2, TO DUSKY YELLOW 5Y 6/4, MEDIUM TO COARSE GRAIN, SUBANGULAR SLOUGHING IN AT 20'. T.D. AT 20'.
30										

18 1/2
 23 1/2
 Drive Point

AMW-5 LITHOLOGIC LOG

LOCATION MAP:



SITE ID: GCU 162 LOCATION ID: AMW-5
 SITE COORDINATES (FL.): _____
 N _____ E _____
 GROUND ELEVATION (FL. MSL): _____
 STATE: N.M. COUNTY: SAN JUAN
 DRILLING METHOD: HAND AUGER
 DRILLING CONTR: _____
 DATE STARTED: 3-27-92 DATE COMPLETED: 3-27-92
 FIELD REP.: M. MOHORCICH
 COMMENTS: UPGRADIENT WELL INSIDE FENCE AT SOUTH END OF SITE

1/4 1/4 1/4 1/4 S36 T29N R12W

LOCATION DESCRIPTION:

DEPTH (FT.)	LITH.	REC	S A M	RUN		SAMPLE		USCS	VISUAL CLASSIFICATION
				#	FROM	TO	LD.		
	[Pattern]								0-1.5' <u>SILTY SAND: DARK YELLOWISH BROWN 10YR 4/2, MOIST, SLIGHTLY PLASTIC, WELL SORTED MEDIUM GRAIN SAND.</u>
5	[Pattern]								1.5-2.0' <u>SAND: DARK YELLOWISH ORANGE 10YR 6/6, FINE TO MEDIUM GRAIN, SLIGHTLY CaCo₃ CEMENTED BUT UNCONSOLIDATED.</u>
	[Pattern]								2.0-9.0' <u>SAND: DUSK YELLOW 5Y 6/4, VERY FINE TO COARSE, MOSTLY FINE TO MEDIUM (~70%), UNCONSOLIDATED, POORLY SORTED.</u>
10	[Pattern]								9.0-11.0' <u>CLAYEY SILT: LIGHT OLIVE GRAY 5Y 5/2 TO DUSKY YELLOW 5Y 6/4, MOIST, MODERATE PLASTICITY.</u>
15	[Pattern]								11.0-15.0' <u>CLAYEY SILTY SAND & SAND: STRINGERS OF CLAYEY SILTY SANDS ALTERNATING IN PRIMARILY MEDIUM GRAIN SANDS, LIGHT OLIVE GRAY TO DUSKY YELLOW WITH RUST LAMINATIONS THROUGHOUT, MODERATELY SORTED, UNCONSOLIDATED.</u> * H ₂ O ENCOUNTERED AT 20'
20	[Pattern]								
25	[Pattern]								T.D. AT 25' DUE TO BOREHOLE SLOUGHING
30	[Pattern]								

TD 25'
Drive Point



San Juan Co. NM 3 3/4" ID

GROUNDWATER MANAGEMENT SECTION
Amoco Corporation Environmental Affairs and Safety Department

Well No. MW-6 Date Drilled 9/2/92 Driller's Envirotech Inc.
 Project No. Amoco GCU ComF #162 Location NW/4, SE/4 (S), Sec 36 T29N R12W Drilling Method 3 3/4" ID Hollow Stem Auger
 Well Type Observation Hole Diameter 5" 7 7/8" OP Sample Type Split Spoon Boring Depth 27'
 Casing: Material Schedule 40 PVC Type Schedule 40, screw joints Diameter 2" Length 17.3'
 Screen: Material Schedule 40 PVC Depth 16-26 Slot Size 0.010 Diameter 2" Length 10'
 Filter Pack Material Colorado Silica Sd #10 Upper Seal Type Bentonite/Grout
 Backfill Material Bentonite/Grout Lower Seal Type Bentonite Gel
 Ground Surface Elevation 97.76 Top of Casing Elevation 98.68 Logger K.P. Heaton G.W. Barker

Well as Constructed	Depth from ground surface	Screen	Depth (Soil Type) Feet	Sample Interval	Soil Description	N Value	PID Headspace (ppm)
Steel Protective Casing w/ Locking Cover			0				
Cap	+9.2		2		<u>SAND</u> : Lt Brown, Med Grained; darker w/silt upper 1'. No Odors		NA
Ground Surface	0		4				
Concrete Seal			6	5-6.5'	<u>SAND</u> : Lt. Brown, med-Fine Grained No Odors		2.1
Bentonite Seal			8				
Grout			10	10-11.5'	<u>Sandy Silt</u> : Some Clay to Abundant Clay, No Odors.		5.1
Backfill			12				
2 in. Diameter PVC Pipe			14				
Bentonite Seal	12.4		16	15-16.5'	<u>SAND</u> : Gray-Black, Med-Grained, Some Silt, moist, HC odor		388
Threaded Joint	14.4		18				
Gravel Pack	16.4		20	20-21.5'	<u>SAND</u> : Tan-Brown, med-Coarse Grained, wet, No Odors		NA
0.01 in. Screen Slots			22				
Screw Cap	26.4		24				
			25				
			27	TD 27'			



GROUNDWATER MANAGEMENT SECTION
Amoco Corporation - Environmental Affairs and Safety Department

Well No. MW # 7 Date Drilled 9-3-92 Driller's Envirotech
 Project No. Amoco Location s Drilling Method 4 1/4" ID Hollow Stem Auger
 Well Type Observation Hole Diameter s" Sample Type Split Spoon Boring Depth 25
 Casing: Material Schedule 40 PVC Type Schedule 40, screw joints Diameter 2" Solid Length 20'
 Screen: Material Schedule 40 PVC Depth 25' Slot Size 0.010 Diameter 2" Screen Length 10'
 Filter Pack Material 8/12 sand Upper Seal Type But
 Backfill Material But grout Lower Seal Type Butyl
 Ground Surface Elevation _____ Top of Casing Elevation _____ Logger K. P. Heaton

Well as Constructed	Depth from Ground Surface	Screen	Depth (Soil Type) Feet	Sample Interval	Soil Description	"N" Value	PID Headspace (ppm)
Steel Protective Casing w/ Locking Cover			0				
Cap			2				
Ground Surface			4				
Concrete Seal	1'		6				
Bentonite Seal			8				
Backfill	2'		10				
2 in. Diameter PVC Pipe			12				
			14				
Bentonite Seal	11'		16				
			18				
Threaded Joint	13'		20				
Gravel Pack	15'		22				
0.01 in. Screen Slots			24				
Screw Cap	25'		25				



GROUN DWATER MANAGEMENT SECTION
 Amoco Corporation - Environmental Affairs and Safety Department

Well No. MW-8 Date Drilled 9/3/92 Driller s Enivrotech
 Project No. Amoco Location s Drilling Method 4 1/4" ID Hollow Stem Auger
 Well Type Observation Hole Diameter s" Sample Type Split Spoon Boring Depth 25'
 Casing: Material Schedule 40 PVC Type Schedule 40, screw joints Diameter 2" Length _____
 Screen: Material Schedule 40 PVC Depth 25 Slot Size 0.010 Diameter 2" Length _____
 Filter Pack Material 8/12 Sand Upper Seal Type Bent gel
 Backfill Material Bent grout Lower Seal Type Bent Rel
 Ground Surface Elevation _____ Top of Casing Elevation _____ Logger K. P. Heaton

Well as Constructed	Depth from Ground Surface	Screen	Depth (Soil Type) Feet	Sample Interval	Soil Description	"N" Value	PID Headspace (ppm)
Steel Protective Casing w/ Locking Cover			0				
Cap			2				
Ground Surface	0						
Concrete Seal	1						
Bentonite Seal	6						
Backfill	3		8				
2 in. Diameter PVC Pipe			10				
			12				
			14				
Bentonite Seal	11		16				
			18				
	13						
Threaded Joint	15		20				
Gravel Pack			22				
0.01 in. Screen Slots			24				
			25				
Screw Cap	25						



GROUNDWATER MANAGEMENT SECTION
Amoco Corporation - Environmental Affairs and Safety Department

Well No. MW-9 Date Drilled 10/92 Driller's Envirotech
 Project No. Amoco Location s Drilling Method 4 1/4" ID Hollow Stem Auger
 Well Type Observation Hole Diameter s" Sample Type Split Spoon Boring Depth 15'
 Casing: Material Schedule 40 PVC Type Schedule 40, screw joints Diameter 2" solid Length 5
 Screen: Material Schedule 40 PVC Depth 15' Slot Size 0.010 Diameter 2" screen Length 10
 Filter Pack Material 8/12 Sand Upper Seal Type But
 Backfill Material Best Grout Lower Seal Type But
 Ground Surface Elevation _____ Top of Casing Elevation _____ Logger K. P. Heaton

Well as Constructed	Depth from Ground Surface	Screen	Depth (Soil Type) Feet	Sample Interval	Soil Description	"N" Value	PID Headspace (ppm)
Steel Protective Casing w/ Locking Cover			0				
Cap			2				
Ground Surface	0						
Concrete Seal	3						
Bentonite Seal	6						
Backfill	8						
2 in. Diameter PVC Pipe	10						
Bentonite Seal	16						
Threaded Joint	20						
Gravel Pack	22						
0.01 in. Screen Slots	24						
Screw Cap	15		25				

**LIMITED SUBSURFACE ASSESSMENT
524 WEST BROADWAY
BLOOMFIELD, NEW MEXICO**

January 1994

Project: 94223



GIL CONSERVATION DIVISION
RECEIVED

1994 JAN 24 AM 10 12

Southern

Rockies

Business

Unit

San Juan Operations Center

January 21, 1994

NMOCD ✓
P. O. Box 2088
Santa Fe, NM 87504

Attention: Bill Olson

Gallegos Canyon Unit Com F No. 162 - Remediation Plan

Please reference your letter of January 7, 1994 concerning the above subject. Amoco offers the following comments as well as supplemental input from Envirotech.

Item 1 - Former Source Areas

Amoco will investigate the areas referenced this summer and, if necessary, remove contaminated soils.

Item 2 - Current Separator Pit

This area will also be investigated this summer. Soil remediation will begin after infiltration work is done.

Thank you for your continued cooperation.

B. D. Shaw
Environmental Coordinator

Attachment

ENVIROTECH INC.

UNDERGROUND TANK TESTING • SITE ASSESSMENT • SITE REMEDIATION

5796 U.S. HIGHWAY 64 - 3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

January 19, 1994

Mr. B.D. Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

Re: Discharge Plan GW-157
GCU Com F#162 Remedial Action Plan
San Juan County, New Mexico

File 92140/C4495

Dear Mr. Shaw:

Referencing correspondence from the New Mexico Oil Conservation Division (OCD) dated January 7, 1994, this letter transmits information as requested by the OCD. This data is provided as a supplement to the document "Remedial Action Plan, Amoco Production Company, Gallegos Canyon Unit Well No. 162, (K) Sec 36 T29N R12W, San Juan County, New Mexico", dated October, 1993.

OCD comments as outlined in their correspondence have been addressed below:

Comment 1: To be addressed under separate cover.

Comment 2: To be addressed under separate cover.

Comment 3: Boring logs for monitor wells MW-2A, MW-3A, MW-7, MW-8, MW-9 and MW-10.

Boring logs for the monitor wells referenced above are not available. However, boring logs were maintained during installation of recovery wells RW-2, RW-3, RW-4, RW-5 and RW-6. It is recommended to apply a lithologic correlation between the recovery wells and monitor wells, as indicated in Table 1 on the following page. Boring logs for recovery wells RW-2, RW-3, RW-4, RW-5 and RW-6 are included as Attachment B to this letter.

Table 1

Amoco GCU 162 Well Site
Proposed Monitor Well Boring Log Correlation

<u>Monitor Well</u>	<u>Correlative Recovery Well</u>
MW-2A	RW-3
MW-3A	RW-5
MW-7	RW-6
MW-8	RW-4
MW-9	RW-6
MW-10	RW-6

Comment 4: Well completion diagrams for monitor wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, MW-9 and MW-10, and water table elevation in relation to the screened interval for all monitor wells.

Completion diagrams for each of these wells have been assembled from available data and included as Attachment B to this letter.

Well screen intervals and water table elevation data from the most recent sample event (July 29, 1993) are included in Table 2:

Table 2

Amoco GCU 162 Well Site
Well Screen Intervals and Water Table Elevations
July 29, 1993 Sample Event

<u>Monitor Well</u>	<u>Screened Interval</u>	<u>Depth to Water</u>	<u>Relative Water Elevation</u>
MW-1	17.5'-22.5'	20.74'	79.26'
MW-2	13.5'-23.5'	20.93'	79.23'
MW-3	15.0'-25.0'	21.08'	78.02'
MW-4	18.5'-23.5'	20.82'	78.05'
MW-5	15.0'-25.0'	21.85'	80.65'
MW-6	16.4'-26.4'	20.04'	78.64'
MW-7	15.0'-25.0'	19.16'	78.23'
MW-8	15.0'-25.0'	20.50'	78.53'
MW-9	5.0'-15.0'	11.42'	77.08'
MW-10	10.0'-20.0'	14.02'	77.56'

Comment 5: Proposed location and construction schematic of the infiltration gallery.

The existing abandoned separator pit is proposed for use as an infiltration gallery. This pit is directly upgradient from all groundwater recovery wells. The location of the pit is indicated on the attached Site Map and a schematic detail of this pit is attached.

Comment 6: Reclamation system effluent testing.

Immediately upon reclamation system startup, effluent water will be tested daily for the first five (5) days of operation to insure that water standards, as promulgated by the New Mexico Water Quality Control Commission (NMWQCC) Regulations, Section 3-103, have been achieved. Following the first five (5) days of successful reclamation system operation, effluent sampling is to be performed on a monthly basis.

Initial and annual system effluent sample events will include laboratory testing for BTEX (USEPA Method 8020), major cations and anions, RCRA Heavy Metals (Ag, As, Ba, Cd, Cr, Hg, Pb, and Se) and Polynuclear Aromatic Hydrocarbons (USEPA Method 8100). Monthly sample events will include laboratory testing for BTEX (USEPA Method 8020) only.

Effluent will not be placed into the infiltration gallery if NMWQCC Regulations are not achieved, based on the results of laboratory testing.

Comment 7: Measurement of free product thickness.

Free product thickness will be measured in each groundwater monitor well on a weekly basis until all known free product has been recovered. Water samples will not be retrieved for scheduled laboratory analysis from wells which are measured to contain free product.

Comment 8: Sampling commitments.

Initial and annual groundwater monitor well sample events will include laboratory testing for BTEX

(USEPA Method 8020), major cations and anions, RCRA Heavy Metals (Ag, As, Ba, Cd, Cr, Hg, Pb, and Se) and Polynuclear Aromatic Hydrocarbons (USEPA Method 8100). Quarterly sample events will include laboratory testing for BTEX (USEPA Method 8020) only. Any monitor well which is measured to contain free product will not be sampled for laboratory analysis.

Comment 9: Work plan to complete definition of the soil and groundwater contamination plume.

To date, the primary emphasis at the GCU 162 site has been to initiate groundwater reclamation to minimize environmental impacts. Following installation and start-up of the proposed reclamation system, a work plan to complete definition of the soil and groundwater contamination plume will be developed. It is presently proposed to submit this work plan on or about June 1, 1994, and to complete site investigations during the summer of 1994.

The above information is provided as a supplement to the proposed reclamation plan at the Amoco GCU 162 well site. If clarification or additional information is required, Envirotech can be contacted at (505)632-0615.

Respectfully submitted,
Envirotech, Inc.

Jeffrey C. Blagg
Jeffrey C. Blagg, P.E.
Geological Engineer

Attachments

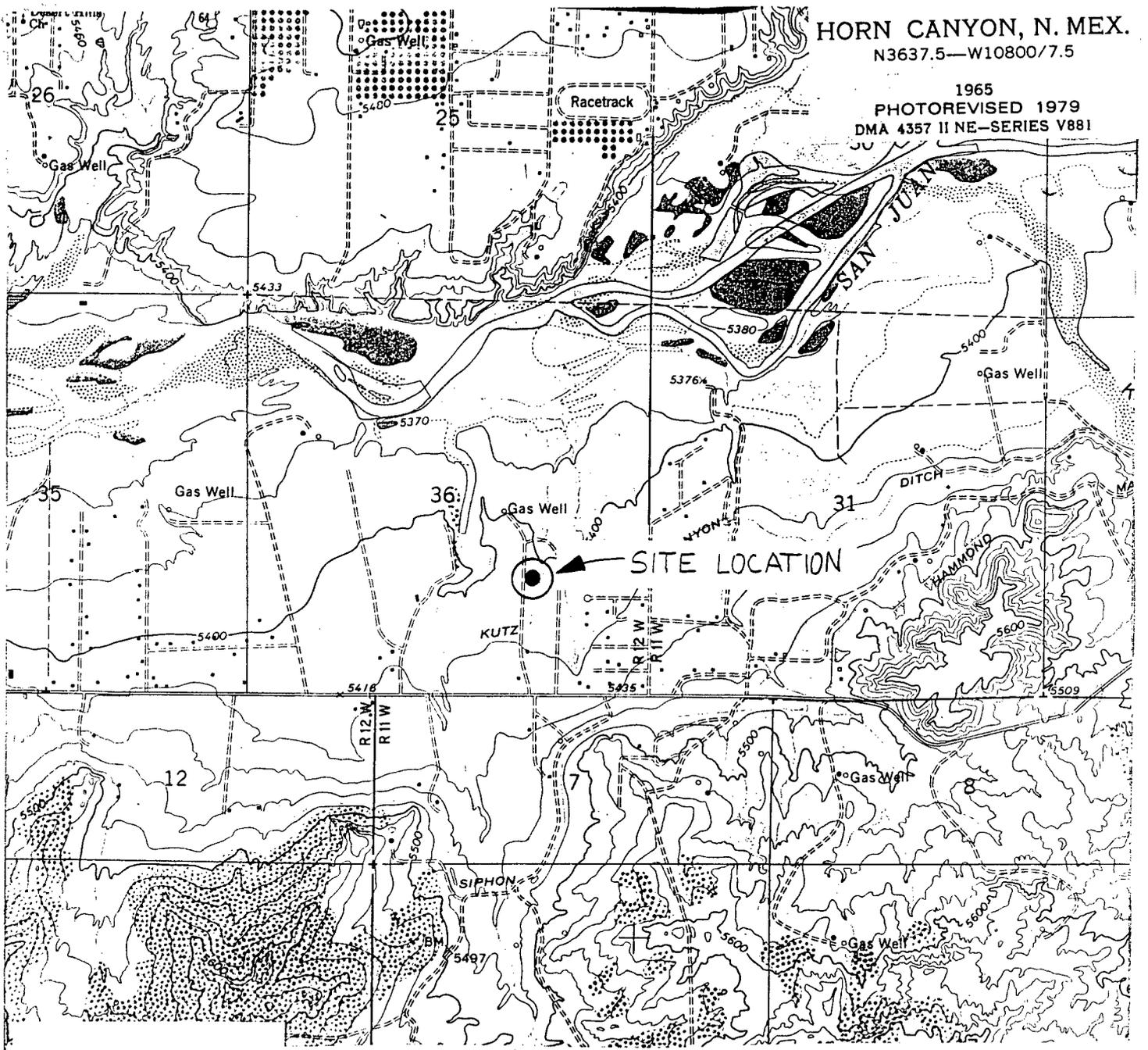
AMOCO/ocd.ltr

Attachment A

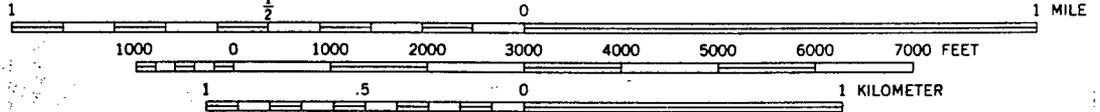
Site Maps and Diagrams

HORN CANYON, N. MEX.
N3637.5—W10800/7.5

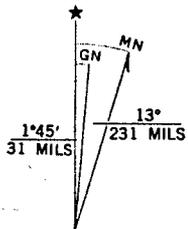
1965
PHOTOREVISED 1979
DMA 4357 II NE—SERIES V881



SCALE 1:24 000



CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929



UTM GRID AND 1979 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

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

ENVIROTECH INC.

ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64-3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

LOCATION
MAP

FIGURE 1

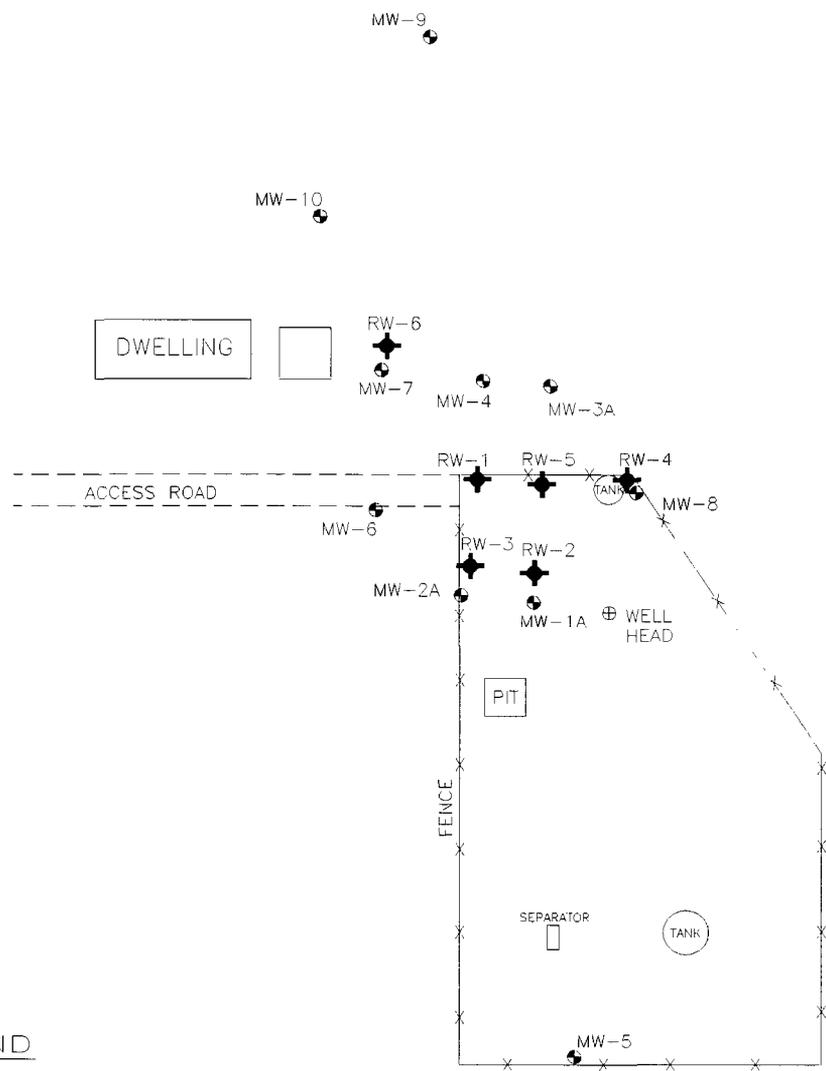
DRWN BY:
JCB

162SITE9

PROJ MANG
JCB

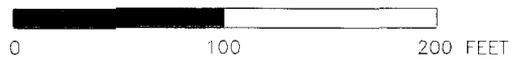
PROJECT NO: 92140

SEPT. 1993



LEGEND

- RW-6  RECOVERY WELL
- MW-7  GROUNDWATER MONITOR WELL



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

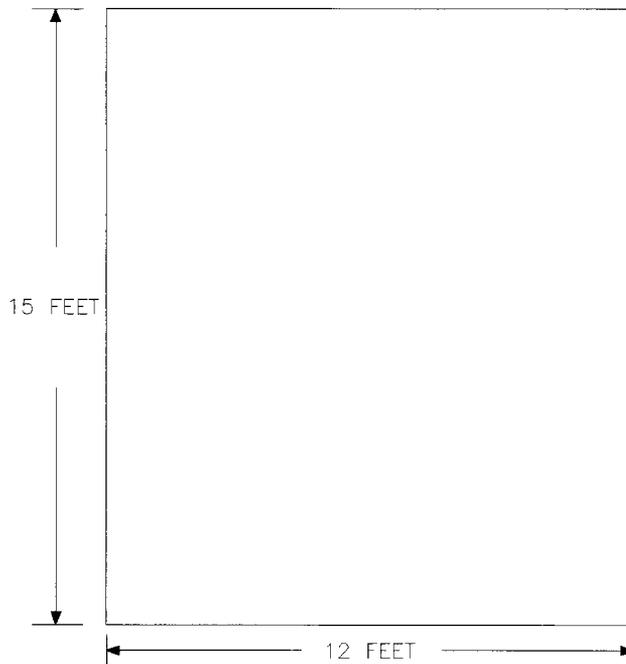
ENVIROTECH INC.
 ENVIRONMENTAL SCIENTISTS & ENGINEERS
 5796 U.S. HIGHWAY 64-3014
 FARMINGTON, NEW MEXICO 87401
 PHONE: (505) 632-0615

SITE MAP

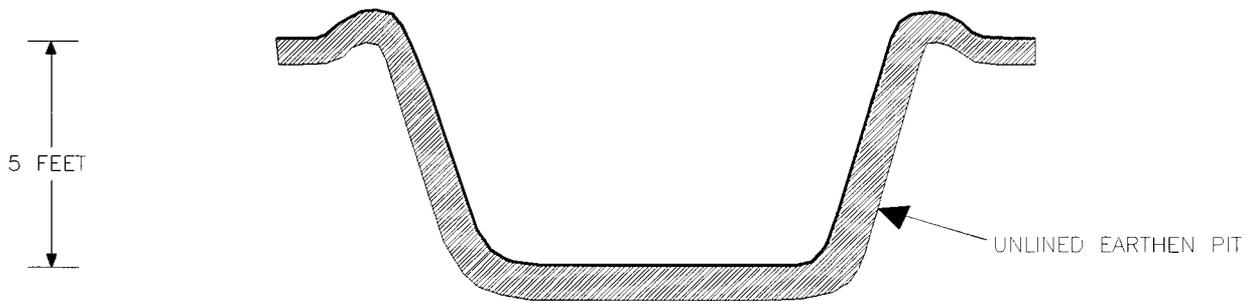
FIGURE 2	DRWN BY: JCB
162SITE3	PROJ MGR: JCB

PROJECT NO: 92140 JULY, 1993

INFILTRATION GALLERY PLAN VIEW



INFILTRATION GALLERY SIDE VIEW



SCALE



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

PROJECT NO: 92140 JAN, 1994

ENVIROTECH INC.

ENVIRONMENTAL SCIENTISTS & ENGINEERS
 5796 U.S. HIGHWAY 64-3014
 FARMINGTON, NEW MEXICO 87401
 PHONE: (505) 632-0615

INFILTRATION
 GALLERY
 SCHEMATIC

FIGURE 3

DRWN BY:
 JCB

RECPT

PROJ MGR:
 JCB

Attachment B

Recovery Well Boring and Completion Logs

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

BORING & COMPLETION LOG - RW#2

BORING No: RW NO. 2
 JOB No: 92140
 PAGE No: B1
 LOCATION: GCU 162
 DATE START: 8-24-93
 DATE FINISH: 8-24-93
 DRILLER: DONOHUE
 PREPARED BY: BLAGG

PROJECT: AMOCO GCU 162 RECLAMATION
 CLIENT: AMOCO PRODUCTION COMPANY
 CONTRACTOR: ENVIROTECH, INC.
 EQUIPMENT USED: TRUCK MOUNTED CME-55 HOLLOW STEM AUGER DRILL

DEPTH FEET	LITH ICON	COMPLETION	FIELD CLASSIFICATION AND REMARKS
5	[Dotted pattern]	4-INCH DIAMETER CASING & SCREEN CEMENT/BENTONITE GROUT MIX	YELLOW/GREEN CLAYEY SILTY SAND, DRY TO MOIST, MINOR COHESIVE, FIRM.
10	[Horizontal lines]	BENT	SAME AS ABOVE, EXCEPT MOIST. YELLOW/GREEN SILTY SANDY CLAY, PLASTIC, MOIST, WITH STRINGERS OF SILTY CLAYEY SAND.
15	[Horizontal lines]	BENT	SAME AS ABOVE, EXCEPT VERY MOIST.
20	[Dotted pattern]	8/12 GRADED SAND FILTER PACK	SAME AS ABOVE, EXCEPT BLACK TO GREY COLOR, ODOR OF HYDROCARBON CONTAMINATION. SILTY/CLAYEY SAND, WATER SATURATED.
25	[Dotted pattern]	[Dotted pattern]	
30	[Dotted pattern]	[Dotted pattern]	SAME AS ABOVE, TD 30 FEET.

DRAWING: AMOCO/RW2LOG
 DATE: 9/93
 DWN BY: JCB

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

BORING & COMPLETION LOG - RW#3

BORING No: RW NO. 3
 JOB No: 92140
 PAGE No: B1
 LOCATION: GCU 162
 DATE START: 8-24-93
 DATE FINISH: 8-24-93
 DRILLER: DONOHUE
 PREPARED BY: BLAGG

PROJECT: AMOCO GCU 162 RECLAMATION
 CLIENT: AMOCO PRODUCTION COMPANY
 CONTRACTOR: ENVIROTECH, INC.
 EQUIPMENT USED: TRUCK MOUNTED CME-55 HOLLOW STEM AUGER DRILL

DEPTH FEET	LITH ICON	COMPLETION PIPE FILL	FIELD CLASSIFICATION AND REMARKS
5	[Dotted pattern]	4-INCH DIAMETER CASING & SCREEN CEMENT/BENTONITE GROUT MIX	YELLOW/GREEN COARSE GRAINED SAND, DRY TO MOIST, NON COHESIVE, FIRM.
10	[Horizontal lines]	BENT	YELLOW/GREEN SILTY SANDY CLAY, PLASTIC, MOIST, WITH STRINGERS OF SILTY CLAYEY SAND.
15	[Horizontal lines]	[Vertical lines]	SAME AS ABOVE, EXCEPT BLACK TO GREY COLOR, ODOR OF HYDROCARBON CONTAMINATION.
20	[Dotted pattern]	8/12 GRADED SAND FILTER PACK	SILTY/CLAYEY SAND, WATER SATURATED.
25	[Dotted pattern]	[Vertical lines]	
30	[Dotted pattern]	[Vertical lines]	SAME AS ABOVE, TO 30 FEET.

DRAWING: AMOCO/RW3LOG
 DATE: 9/93
 DWN BY: JCB

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

BORING & COMPLETION LOG - RW#4

BORING No: RW NO. 4
 JOB No: 92140
 PAGE No: B1
 LOCATION: GCU 162
 DATE START: 8-25-93
 DATE FINISH: 8-25-93
 DRILLER: DONOHUE
 PREPARED BY: BLAGG

PROJECT: AMOCO GCU 162 RECLAMATION
 CLIENT: AMOCO PRODUCTION COMPANY
 CONTRACTOR: ENVIROTECH, INC.
 EQUIPMENT USED: TRUCK MOUNTED CME-55 HOLLOW STEM AUGER DRILL

DEPTH FEET		LITH ICON	COMPLETION PIPE FILL	FIELD CLASSIFICATION AND REMARKS
5		[Dotted Pattern]	4-INCH DIAMETER CASING & SCREEN CEMENT/BENTONITE GROUT MIX	YELLOW/GREEN CLAYEY SILTY SAND, DRY TO MOIST, MINOR COHESIVE, FIRM.
10		[Horizontal Lines]	BENT	YELLOW/GREEN SILTY SANDY CLAY, PLASTIC, MOIST, WITH STRINGERS OF SILTY CLAYEY SAND. SAME AS ABOVE, EXCEPT MOIST.
15		[Horizontal Lines]	BENT	SAME AS ABOVE, EXCEPT VERY MOIST. SAME AS ABOVE, EXCEPT BLACK TO GREY COLOR, ODOR OF HYDROCARBON CONTAMINATION.
20		[Dotted Pattern]	8/12 GRADED SAND FILTER PACK	SILTY/CLAYEY SAND, WATER SATURATED.
25		[Dotted Pattern]		
30		[Dotted Pattern]		SAME AS ABOVE, TD 30 FEET.

DRAWING: AMOCO/RW4LOG
 DATE: 9/93
 DWN BY: JCB

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

BORING & COMPLETION LOG - RW#5

BORING No: RW NO. 5
 JOB No: 92140
 PAGE No: B1
 LOCATION: GCU 162
 DATE START: 8-25-93
 DATE FINISH: 8-25-93
 DRILLER: DONOHUE
 PREPARED BY: BLAGG

PROJECT: AMOCO GCU 162 RECLAMATION
 CLIENT: AMOCO PRODUCTION COMPANY
 CONTRACTOR: ENVIROTECH, INC.
 EQUIPMENT USED: TRUCK MOUNTED CME-55 HOLLOW STEM AUGER DRILL

DEPTH FEET		LITH ICON	COMPLETION	FIELD CLASSIFICATION AND REMARKS
5		[Dotted Pattern]	PIPE FILL 4-INCH DIAMETER CASING & SCREEN CEMENT/BENTONITE GROUT MIX	YELLOW/GREEN CLAYEY SILTY SAND, DRY TO MOIST, MINOR COHESIVE, FIRM.
10		[Horizontal Lines]	BENT	YELLOW/GREEN SILTY SANDY CLAY. PLASTIC, MOIST, WITH STRINGERS OF SILTY CLAYEY SAND. SAME AS ABOVE, EXCEPT MOIST.
15		[Horizontal Lines]	BENT	SAME AS ABOVE, EXCEPT VERY MOIST. SAME AS ABOVE, EXCEPT BLACK TO GREY COLOR, ODOR OF HYDROCARBON CONTAMINATION.
20		[Dotted Pattern]	8/12 GRADED SAND FILTER PACK	SILTY/CLAYEY SAND, WATER SATURATED.
25		[Dotted Pattern]		
30		[Dotted Pattern]		SAME AS ABOVE, TD 30 FEET.

DRAWING: AMOCO/RW5LOG
 DATE: 9/93
 DWN BY: JCB

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

BORING & COMPLETION LOG - RW#6

BORING No: RW NO. 6
 JOB No: 92140
 PAGE No: B1
 LOCATION: GCU 162
 DATE START: 8-26-93
 DATE FINISH: 8-26-93
 DRILLER: DONDHUE
 PREPARED BY: BLAGG

PROJECT: AMOCO GCU 162 RECLAMATION
 CLIENT: AMOCO PRODUCTION COMPANY
 CONTRACTOR: ENVIROTECH, INC.
 EQUIPMENT USED: TRUCK MOUNTED CME-55 HOLLOW STEM AUGER DRILL

DEPTH FEET	LITH ICON	COMPLETION PIPE FILL	FIELD CLASSIFICATION AND REMARKS
5	[Dashed pattern]	4-INCH DIAMETER CASING & SCREEN CEMENT/BENTONITE GROUT MIX	YELLOW/GREEN CLAYEY SILTY SAND, DRY TO MOIST, MINOR COHESIVE, FIRM.
10	[Horizontal lines]	BENT	YELLOW/GREEN SILTY SANDY CLAY. PLASTIC, MOIST, WITH STRINGERS OF SILTY CLAYEY SAND. SAME AS ABOVE, EXCEPT MOIST.
15	[Horizontal lines]	BENT	SAME AS ABOVE, EXCEPT VERY MOIST.
20	[Horizontal lines]	BENT 8/12 GRADED SAND FILTER PACK	SAME AS ABOVE, EXCEPT BLACK TO GREY COLOR, ODOR OF HYDROCARBON CONTAMINATION.
25	[Horizontal lines]	[Horizontal lines]	SILTY/CLAYEY SAND, WATER SATURATED.
30	[Horizontal lines]	[Horizontal lines]	SAME AS ABOVE, TD 30 FEET.

DRAWING: AMOCO/RW6LOG
 DATE: 9/93
 DWN BY: JCB



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

January 7, 1994

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

ANITA LOCKWOOD
CABINET SECRETARY

CERTIFIED MAIL

RETURN RECEIPT NO. P-667-241-890

Mr. B.D. Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

**RE: DISCHARGE PLAN GW-157
AMOCO GCU COM F#162 WELL SITE
SAN JUAN COUNTY, NEW MEXICO**

Dear Mr. Shaw:

The New Mexico Oil Conservation Division (OCD) is in the process of reviewing Amoco Production Company's ground water discharge plan application which is contained in Amoco's October 1993 "REMEDIAL ACTION PLAN, AMOCO PRODUCTION COMPANY, (K) SEC 36 T29N R12W NMPM, SAN JUAN COUNTY, NEW MEXICO".

The OCD has the following comments and requests for information and/or commitments regarding the above referenced application:

1. The remedial action plan (RAP) identifies the separator pit as located approximately 100 feet south of the separator and states that the presence of other unlined pits is not evident.

✓ According to the OCD's records, this pit was not in existence during the OCD's 1987 Vulnerable Area ground water quality study the of GCU Com F#162 site. In 1987, an unlined separator pit, approximately 28 foot by 30 foot in size, was located directly west of the separator and an unlined blowdown pit was located northeast of the well head. At that time, the OCD's analysis of ground water from monitor wells installed downgradient of the separator pit showed that the ground water contained over 10,000 parts per billion of benzene. Since these source areas were not investigated and because of the potential for these former pits to act as continuing sources

Mr. B.D. Shaw
January 7, 1994
Page 2

of ground water contamination, the OCD requests that Amoco provide a commitment and timetable to investigate and, if necessary, remediate these former source areas.

- ✓ 2. The report does not indicate whether Amoco investigated the extent of contamination of soils related to the current separator pit. Please provide this information if it is available or provide a commitment and schedule for determining this information.
- ✓ 3. Appendix B does not contain the boring logs for monitor wells MW-2A, MW-3A, MW-7, MW-8, MW-9 or MW-10. Please provide this information.
4. Appendix B does not contain the well completion diagrams for monitor wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, MW-9 and MW-10. Please provide this information as well as the water table elevation in relation to the screen interval for all monitor wells.
- ✓ 5. Please provide OCD with a proposed location and construction schematic of the infiltration gallery.
- ✓ 6. In addition to Amoco's proposed aromatic hydrocarbon sampling of the air stripper effluent, the OCD requires that the air stripper effluent be initially sampled for major cations and anions, heavy metals and polynuclear aromatic hydrocarbons with subsequent analyses performed on an annual basis. Please provide a commitment to perform these analyses.
- ✓ 7. Several of the monitor wells contain free phase product on the water table. For your information, the OCD does not require that wells containing free phase product be sampled and analyzed for dissolved phase constituents. For wells containing free phase product, a measurement of the product thickness is sufficient for monitoring the effectiveness of the remediation system.
- ✓ 8. The report recommends quarterly sampling of ground water from all monitor wells for concentrations of aromatic hydrocarbons. The OCD requires that the initial samples be analyzed for major cations and anions, heavy metals and polynuclear aromatic hydrocarbons. Please provide a commitment to perform these analyses.

Mr. B.D. Shaw
January 7, 1994
Page 3

- ✓ 9. The past investigation work did not completely define the extent of ground water contamination at the site. Please provide a commitment and schedule for submission of a work plan to complete the define of the contaminant plume.

Submission of the above requested material will allow the OCD to complete a review of this discharge plan. If you have any questions, please contact me at (505) 827-5885.

Sincerely,



William C. Olson
Hydrogeologist
Environmental Bureau

xc: OCD Aztec Office



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

OIL CONSERVATION DIVISION
RECEIVED
93 NOV 24 AM 10 08

November 26, 1993

Permit# GW94005

Mr. William J. Lemay
Director, State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

This responds to the notice of publication received by the U.S. Fish and Wildlife Service (Service) on November 4, 1993, regarding the Oil Conservation Division (OCD) discharge plan applications submitted by Giant Industries and Amoco Production Company, on fish, shellfish, and wildlife resources in New Mexico.

The Service has the following comments on the issuance of the following discharge permits.

GW-40 Giant Industries Arizona, Inc., Giant Bloomfield Refinery located in the NW 1/4 of section 27, T29N, R12W, and the SW 1/4 of section 22, T29N, R12W, San Juan County, New Mexico. Approximately 32,877 gallons per day of groundwater will be processed through a treatment system to remove contaminants prior to reinjection into an infiltration gallery.

GW-157 Amoco Production Company, Gallegos Canyon Unit Com F#162 located in the NE 1/4, SW 1/4 of section 36, T29N, R12W, San Juan County, New Mexico. Approximately 4,320 gallons per day of groundwater will be processed through a treatment system to remove contaminants prior to reinjection into an infiltration gallery.

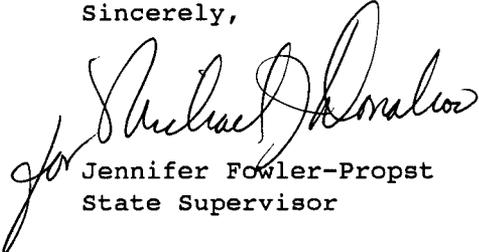
The Service recommends that the location of the infiltration gallery be situated to avoid gradients that could lead to non-point source runoff into a surface water of New Mexico. A berm with a height of at least 12 inches above the level of the gallery should be constructed around the perimeter of the field. The Service recommends a clay and caliche mixture for construction of the berm. This material is relatively inexpensive and an excellent barrier to water runoff. The berm should also be constructed and compacted in such a fashion that its integrity will remain intact and should be inspected on a regular basis to insure there is no overflow.

Mr. William J. Lemay

2

If you have any questions concerning our comments, please contact Mary Orms at (505) 883-7877.

Sincerely,



for Jennifer Fowler-Propst
State Supervisor

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Administrator, U.S. Environmental Protection Agency, Dallas, Texas

AFFIDAVIT OF PUBLICATION

No. 32505

STATE OF NEW MEXICO,
County of San Juan:

C.J. SALAZAR being duly sworn, says: "That she is the CLASSIFIED MANAGER of The Farmington Daily Times, a daily newspaper of general circulation published in English in Farmington, said county and state, and that the hereto attached LEGAL NOTICE

was published in a regular and entire issue of the said Farmington Daily Times, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for ONE consecutive (days) (//////) on the same day as follows:

First Publication WEDNESDAY, NOVEMBER 10, 1993

Second Publication _____

Third Publication _____

Fourth Publication _____

and the cost of publication was \$ 68.65

On Nov 17, 1993 C.J. Salazar appeared before me, whom I know personally to be the person who signed the above document.

Ammy Beck
Notary Public, San Juan County,
New Mexico

My Comm expires: April 2, 1996

COPY OF PUBLICATI
NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission (WQCC) Regulations, the following discharge plan application and discharge plan renewal application have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-40) - Giant Industries Arizona, Inc., Timothy Kinney, Project Manager, P.O. Box 256, Farmington, New Mexico 87499, has submitted an application to renew a discharge plan application for their inactive Giant Bloomfield Refinery located in the NW 1/4 of Section 27, Township 29 North, Range 12 West, and the SW 1/4 of Section 22, Township 29 North, Range 12 West NMPM, San Juan County, New Mexico. The application addresses discharges to ground water associated with the remediation of petroleum contaminated ground water. Approximately 32,877 gallons per day of ground water with a total dissolved solids concentration of approximately 2500 mg/l is processed through a treatment system to remove contaminants to below WQCC ground water standards prior to reinjection in an infiltration gallery. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 25 to 45 feet with a total dissolved solids concentration of approximately 2500 to 5000 mg/l. The discharge plan addresses system operation and monitoring and how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-157) - Amoco Production Company, Buddy Shaw, Environmental Coordinator, San Juan Operations Center, 200 Amoco Court, Farmington, New Mexico 87401, has submitted a discharge plan application for the Gallegos Canyon Unit Com F#162 located in the NE 1/4, SW 1/4 of Section 36, Township 29 North, Range 12 West San Juan County, New Mexico. The application addresses discharges to ground water associated with the remediation of petroleum contaminated ground water. Approximately 4320 gallons per day of contaminated ground water is proposed to be processed through a treatment system to remove contaminants to below WQCC ground water standards prior to reinjection in an infiltration gallery. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 20 feet with a total dissolved solids concentration of approximately 444 mg/l. The discharge plan addresses system operation and monitoring and how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan applications may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and public hearing may be requested by any interested person. Request for public hearing shall set forth the reasons why a hearing shall be held. A hearing will be held if the Director determines that there is significant public interest.

If no hearing is held, the Director will approve or disapprove the plan based on the information available. If a public hearing is held, the Director will approve the plan based on the information in the plan and information presented at the hearing.

GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico on this 2nd day of November, 1993.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
WILLIAM J. LEMAY, Director

SEAL

Legal No. 32505 published in the Farmington Daily Times, Farmington, New Mexico
Wednesday, November 10, 1993.

STATE OF NEW MEXICO

County of Bernalillo ss

Paul D. Campbell being duly sworn declares and says that he is National Advertising manager of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition,

for 1 times, the first publication being on the 17 day of Nov, 1993, and the subsequent consecutive publications on 18, 1993.

Bernadette Ott

Sworn and subscribed to before me, a notary Public in and for the County of Bernalillo and State of New Mexico, this 17 day of Nov 1993.

12-18-93

PRICE \$47.41
Statement to come at end of month.

CL.A-22-A (R-1/93) ACCOUNT NUMBER C-71124

NOTICE OF PUBLICATION
STATE OF NEW MEXICO
ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
 Notice is hereby given that pursuant to New Mexico Water Quality Control Commission (WQCC) Regulations, the following discharge plan application and discharge plan renewal application have been submitted to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-40) - Giant Industries Arizona, Inc., Timothy Kinney, Project Manager, P.O. Box 256, Farmington, New Mexico 87499, has submitted an application to renew a discharge plan application for their inactive Giant Bloomfield Refinery located in the NW 1/4 of Section 27, Township 29 North, Range 12 West, and the SW 1/4 of Section 22, Township 29 North, Range 12 West NMPM, San Juan County, New Mexico. The application addresses discharges to ground water associated with the remediation of petroleum contaminated ground water. Approximately 32,877 gallons per day of ground water with a total dissolved solids concentration of approximately 2500 mg/l is processed through a treatment system to remove contaminants to below WQCC ground water standards prior to reinjection in an infiltration gallery. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 25 to 45 feet with a total dissolved solids concentration of approximately 2500 to 5000 mg/l. The discharge plan addresses system operation and monitoring and how spills, leaks, and other accidental discharges to the surface will be managed.

(GW-157) - Amoco Production Company, Buddy Shaw, Environmental Coordinator, San Juan Operations Center, 200 Amoco Court, Farmington, New Mexico 87401, has submitted a discharge plan application for the Gallegos Canyon Unit Corn F#182 located in the NE 1/4, SW 1/4 of Section 36, Township 29 North, Range 12 West San Juan County, New Mexico. The application addresses discharges to ground water associated with the remediation of petroleum contaminated ground water. Approximately 4320 gallons per day of contaminated ground water is proposed to be processed through a treatment system to remove contaminants to below WQCC ground water standards prior to reinjection in an infiltration gallery. Groundwater most likely to be affected by an accidental discharge is at a depth of approximately 20 feet with a total dissolved solids concentration of approximately 444 mg/l. The discharge plan addresses system operation and monitoring and how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge plan application may be viewed at the above address between 8:00 a.m. and 4:00 p.m. Monday through Friday. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of the publication of this notice during which comments of this notice may be submitted to him a public hearing may be requested by any interested person. Requests for public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 2nd day of November, 1993.

STATE OF NEW MEXICO
 OIL CONSERVATION DIVISION
 William J. LeMay
 Director

Journal November 17 1993

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

November 9, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

ANITA LOCKWOOD
CABINET SECRETARY

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-405

Mr. B.D. Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

**RE: TEMPORARY DISCHARGE AUTHORIZATION FOR GROUND WATER REMEDIATION
AMOCO GCU-181 WELL SITE
SAN JUAN COUNTY, NEW MEXICO**

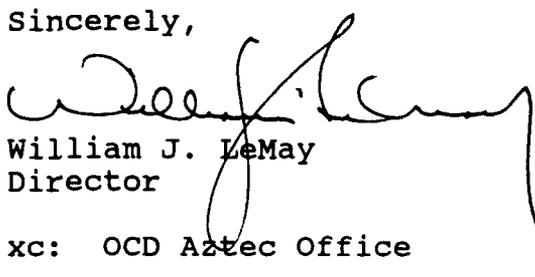
Dear Mr. Shaw:

The New Mexico Oil Conservation Division (OCD) is in receipt of Amoco's November 2, 1993 "GCU Com F No. 162 - Remediation Plan". This document contains Amoco's request for authorization to temporarily discharge treated water from a ground water remediation system at the GCU-181 well site while a discharge plan for the site is being processed. The discharge plan application for the site was submitted on October 19, 1993 and OCD is in the process of issuing public notice and reviewing the application.

Pursuant to Section 3-106.B. of the New Mexico Water Quality Control Commission (WQCC) regulations and for good cause shown, Amoco is hereby authorized to discharge at the GCU Com F #162 well site, located in Unit K of Section 36, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico, without an approved discharge plan for 120 days. This authorization is granted because of the urgency to protect ground water and human health and to allow the OCD time to review the discharge plan application.

Please be advised that OCD approval does not relieve Amoco of responsibility for compliance with any other federal, state or local laws and/or regulations. If you have any questions, please contact Bill Olson of my staff at (505) 827-5885.

Sincerely,


William J. LeMay
Director

xc: OCD Aztec Office

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



November 15, 1993

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-407

Mr. B.D. Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

**RE: CORRECTION TO NOVEMBER 9, 1993
TEMPORARY DISCHARGE AUTHORIZATION FOR GROUND WATER REMEDIATION
AMOCO GCU COM F#162 WELL SITE
SAN JUAN COUNTY, NEW MEXICO**

Dear Mr. Shaw:

On November 9, 1993 the New Mexico Oil Conservation Division (OCD) sent you correspondence authorizing Amoco to temporarily discharge treated water from a ground water remediation system at the GCU Com F#162 well site while a discharge plan for the site is being processed. This correspondence contained an error in referencing the correct site number. Certain sections of the letter referred to the Amoco GCU-181 well while other sections referred to the GCU Com F#162 well site.

This letter serves to correct these discrepancies. All references to the "GCU-181 well site" in the OCD's November 9, 1993 approval letter should be deleted and replaced with the "GCU Com F#162 well site".

The OCD apologizes for any confusion resulting from this error. If you have any questions, please contact Bill Olson of my staff at (505) 827-5885.

Sincerely,

William J. LeMay by JHM
William J. LeMay
Director

xc: OCD Aztec Office

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR



POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

November 3

1993

ALBUQUEQUE JOURNAL
717 Silver Southwest
Albuquerque, New Mexico 87102

RE: NOTICE OF PUBLICATION

ATTN: ADVERTISING MANAGER

Dear Sir/Madam:

Please publish the attached notice one time immediately on receipt of this request. Please proofread carefully, as any error in a land description or in a key word or phrase can invalidate the entire notice.

Immediately upon completion of publication, please send the following to this office:

1. Publisher's affidavit in duplicate.
2. Statement of cost (also in duplicate.)
2. CERTIFIED invoices for prompt payment.

We should have these immediately after publication in order that the legal notice will be available for the hearing which it advertises, and also so that there will be no delay in your receiving payment.

Please publish the notice no later than November 10, 1993.

Sincerely,

Sally Leichtle
Sally E. Leichtle
Administrative Secretary

Attachment

PS Form 3800, June 1991

Sent <i>Albu Journal</i>	
Street and No	
P. O., State and ZIP Code	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

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ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504,
(505) 827-5800

November 3 1993

FARMINGTON DAILY TIMES
P. O. Box 450
Farmington, New Mexico 87401

RE: NOTICE OF PUBLICATION

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Sally Leichtle
Sally E. Leichtle
Administrative Secretary

Attachment

PS Form 3800, June 1991

Sent to	
Street/Post Office	
P.O. State and ZIP Code	PO BOX 450, NM 87401
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	

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No Insurance Coverage Provided
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P 176 013 208



OIL CONSERVATION DIVISION
RECEIVED

'93 NOV 5 11 05 AM
November 2, 1993

Southern

Rockies

Business

Unit

San Juan Operations Center

NMOCD
P.O. Box 2088
Santa Fe, NM 87504
Attn: Bill Olson

RE: GCU Com F No. 162 - Remediation Plan

This is a request for temporary approval to discharge groundwater on the subject site pending a discharge plan approval. Immediate implementation is required due to risk of plume movement. Listed below is additional information.

- * Infiltration Gallery - We will attempt to use the old earthen pit. Modifications will be made if this does not work. Amoco will advise you if a modification is needed.
- * Groundwater monitoring - Discharge water will be monitored for BTEX, general chemistry, and metals.

Thank you for your consideration.

Buddy Shaw

Buddy Shaw
Environmental Coordinator

NOTICE OF PUBLICATION

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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GIVEN under the Seal of New Mexico Conservation Commission at Santa Fe, New Mexico, on this 2nd day of November, 1993.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY, Director

SEAL

ENVIROTECH INC.

UNDERGROUND TANK TESTING • SITE ASSESSMENT • SITE REMEDIATION

5796 U.S. HIGHWAY 64 - 3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

RECEIVED

OCT 19 1993

OIL CONSERVATION DIV.
SANTA FE

October 15, 1993

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

Re: Remedial Action Plan
Amoco Production Company
Gallegos Canyon Unit (K) #162
Section 36-T29N-R12W
San Juan County, New Mexico

Project 92140/C4495

Dear Mr. Olson:

Amoco Production Company has retained Envirotech, Inc. to prepare a Remedial Action Plan for reclamation of contaminated groundwater at the referenced gas well location. Enclosed, please find one copy of this Plan for your review and approval.

Amoco intends to implement reclamation system installation prior to NMOCD final approval of this Plan to expedite site clean-up. However, Amoco will adhere to Plan modifications as may be required by NMOCD.

If you have questions or comments concerning this transmittal, please contact Jeff Blagg of Envirotech at (505)632-0615.

Respectfully submitted,
Envirotech, Inc.

Jeffrey C. Blagg
Jeffrey C. Blagg, P.E.
Geological Engineer

JCB/AMOCO/RAP.XMT

CC: Denny Foust, NMOCD Aztec
Buddy Shaw, Amoco Farmington