

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL - <input type="checkbox"/> REENTER		5. Lease Serial No. NMSF - 079907	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian Allottee or Tribe Name	
2. Name of Operator AMOCO PRODUCTION COMPANY		7. If Unit or CA Agreement, Name and No.	
3a. Address P.O. BOX 3092 HOUSTON, TX 77253		8. Lease Name and Well No. GALLEGOS CANYON UNIT 578	
3b. Phone No. (include area code) Ph: 281.366.4491 Fx: 281.366.0700		9. API Well No. 30-045-30678	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface NENE Lot A-300FNL 550FEL At proposed prod. zone		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL	
14. Distance in miles and direction from nearest town or post office* 6 MILES FROM FARMINGTON, NM		11. Sec., T., R., M., or Blk. and Survey or Area B Sec 27 T29N R12W Mer NMP	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		12. County or Parish SAN JUAN	
16. No. of Acres in Lease 43102.00		13. State NM	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.		17. Spacing Unit dedicated to this well 320.00 N/S	
19. Proposed Depth 1637 MD -		20. BLM/BIA Bond No. on file	
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5492 GL - 5922		23. Estimated duration	
22. Approximate date work will start 07/01/2001			

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name (Printed/Typed) MARY CORLEY	Date 05/23/2001
Title AUTHORIZED REPRESENTATIVE		
Approved by (Signature) See next page	Name (Printed/Typed)	Date 6-21-01
Title Office		

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #4482 verified by the BLM Well Information System
For AMOCO PRODUCTION COMPANY, sent to the Farmington
Committed to AFMSS for processing by Maurice Johnson on 05/29/2001 ()

procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4.

RECEIVED
BUREAU OF LAND MANAGEMENT
GENERAL REVIEW DIVISION

** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL **

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS
*Do not use this form for proposals to drill or to re-enter an
abandoned well. Use form 3160-3 (APD) for such proposals.*

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMSF - 079907	
2. Name of Operator AMOCO PRODUCTION COMPANY		6. If Indian, Allottee or Tribe Name	
3a. Address P.O. BOX 3092 HOUSTON, TX 77253		7. If Unit or CA/Agreement, Name and/or No.	
3b. Phone No. (include area code) Ph: 281.366.4494 Fax: 281.366.0760		8. Well Name and No. GALLEGOS CANYON UNIT 578	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 27 T29N R12W Mer NENE		9. API Well No.	
		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL	
		11. County or Parish, and State SAN JUAN COUNTY, NM	

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> APDCH
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Notice to amend drilling location from nonstandard location: 300' N 550' E in Section 27 Township 29N Range 12W

To standard location: 900' N 2175'E in Section 27 Township 29N Range 12W

Please see 2 attachments. C-102 with new location and APD Map.

Should you have questions please call Cherry Hlava at 281-366-4081

14. I hereby certify that the foregoing is true and correct. Electronic Submission #4662 verified by the BLM Well Information System For AMOCO PRODUCTION COMPANY, sent to the Farmington Committed to AFMSS for processing by Maurice Johnson on 06/05/2001 ()	
Name (Printed/Typed) MARY CORLEY	Title AUTHORIZED REPRESENTATIVE
Signature	Date 06/04/2001

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>/s/ Lee Otterli</u>	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		
Office		

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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District I
PO Box 1980, Hobbs NM 88241-1980
District II
PO Drawer KK, Artesia, NM 87211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

2001 JUN -7 AM 9:21

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-30678	² Pool Code 71629	³ Pool Name Basin Fruitland coal
⁴ Property Code 576	⁵ Property Name Gallegos Canyon Unit	⁶ Well Number # 578
⁷ OGRID No. 000778	⁸ Operator Name AMOCO PRODUCTION COMPANY	⁹ Elevation 5462 _

¹⁰ Surface Location

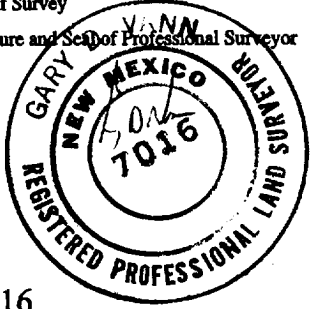
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	27	29 N	12 W		900	NORTH	2175	EAST	SAN JUAN

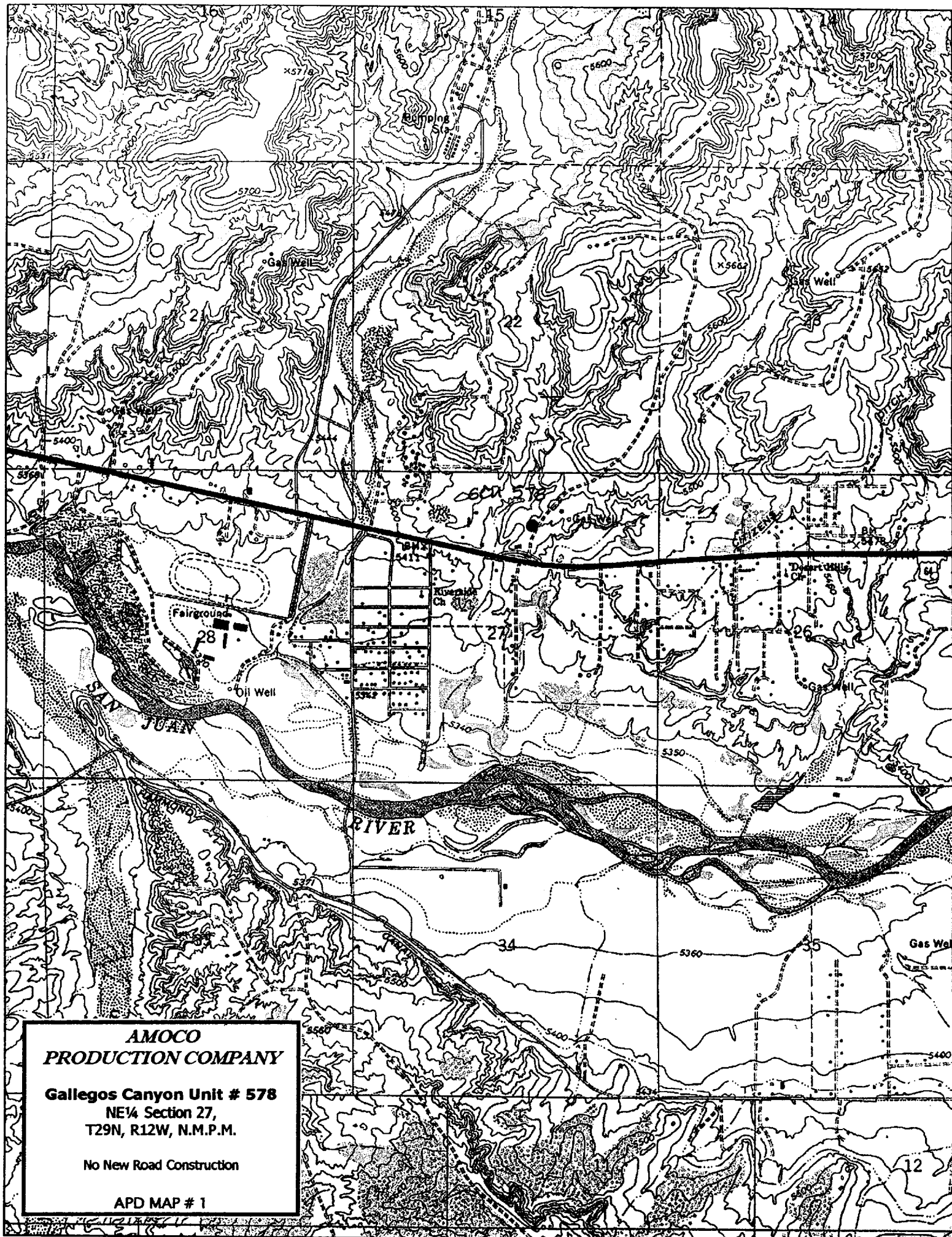
¹¹ Bottom Hole Location If Different From Surface

⁷ UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres 320 NA	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<div><p>16</p><p>2642(R)</p><p>2622(R)</p><p>900'</p><p>2175'</p><p>2677(R)</p><p>5239(R)</p><p>RECEIVED OIL CON. DIV DIST. 3 JUN 2001</p></div>	<div><p>¹⁷ OPERATOR CERTIFICATION</p><p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p><p>Signature _____</p><p>Printed Name _____</p><p>Title _____</p><p>Date _____</p></div>
	<div><p>¹⁸ SURVEYOR CERTIFICATION</p><p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p><p>April 3, 2001</p><p>Date of Survey _____</p><p>Signature and Seal of Professional Surveyor </p><p>7016 Certificate Number</p></div>



**AMOCO
PRODUCTION COMPANY**

Gallegos Canyon Unit # 578

NE 1/4 Section 27,
T29N, R12W, N.M.P.M.

No New Road Construction

APD MAP # 1

**AMOCO PRODUCTION COMPANY
DRILLING AND COMPLETION PROGRAM**

Prospect Name: GCU 578	Well No: 578
Lease: GALLEGOS CANYON UNIT	Surface Location: 300' FNL & 550' FEL
County: San Juan	Sec. 27, 29N-12W
State: New Mexico	Field: Basin Fruitland Coal
Date: May 23, 2001	

OBJECTIVE: Drill 150' into the Pictured Cliffs, set 4 ½" casing to TD, perf & stimulate Fruitland Coal interval

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Estimated GL: 5492		Estimated KB: 5503	
Rotary/Top Drive	0 - TD	MARKER		SUBSEA	MEAS. DEPTH
		Ojo Alamo		Surface	Surface
		Kirtland		5156	347
		Fruitland Coal	#	4410	1093
		Pictured Cliffs	*	4016	1487
		TOTAL DEPTH		3866	1637
		# Completion interval		* Possible Pay	
LOG PROGRAM		DRILL CUTTING SAMPLES			
TYPE	DEPTH INVERAL	FREQUENCY DEPTH		DRILLING TIME	
Open Hole (Platform Express)	TD to base of surface casing			FREQUENCY	DEPTH
				Geolograph	0-TD
REMARKS:					
- Please report any flares (magnitude & duration).					
SPECIAL TESTS		DRILL CUTTING SAMPLES		DRILLING TIME	
TYPE		FREQUENCY DEPTH		FREQUENCY DEPTH	
None				Geolograph 0-TD	
REMARKS:					

MUD PROGRAM:

Approx. Interval	Type Mud	Weight, #/gal	Vis, sec/qt	W/L cc's/30 min	Other Specification
0 - 120-135 3 jts.	Spud	8.6-9.2			
120-135 - TD (1)	Water/LSND	8.6-9.2			

REMARKS:

(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.

CASING PROGRAM: (Normally, tubular goods allocation letter specifies casing sizes to be used. Hole sizes will be governed by Contract)

Casing String	Estimated Depth	Casing Size	Grade	Weight	Hole Size	Landing Point, Cement, Etc.
Surface/Conductor	120-135	7"	J 55 ST&C	23#	8.75"	1
Production	1637	4 ½"	J 55 ST&C	10.5#	6.25"	1, 2

REMARKS:

- (1) Circulate Cement to Surface
(2) Set casing 150' below top of Pictured Cliffs

CORING PROGRAM:

None

COMPLETION PROGRAM:

Rigless, Single Stage Hydraulic Frac

GENERAL REMARKS:

Notify BLM/NMOCDD 24 hours prior to Spud, BOP testing, and Casing and Cementing.

Form 46 Reviewed by: _____ Logging program reviewed by: DLJ

PREPARED BY:	APPROVED:	DATE:
KAS/JLP		

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT	DENSITY (lb/gal)	YIELD (ft ³ /sk)	WATER (gal/sk)	EXCES S %
8 3/4"	J-55 ST&C 7"	23#	135'	95 SXS (113 CU.FT..) CLS B CIRC TO SURFACE	15.6	1.19	5.25	100%
6 1/4"	J-55 ST&C 4 1/2"	10.5	1637'	120 SXS (251 CU.FT.) CLS B - LEAD 44 SXS (97 CU.FT.) CLS B - TAIL	11.4 15.6	2.68 1.19	16.6 5.25	70%
				2%CuCl w 3% SMS				

FEDERAL CEMENTING REQUIREMENTS

1. All permeable zones containing fresh water and other usable water containing 10,000 PPM or less total dissolved solids will be isolated and protected from contamination by cement circulated in place for the protection of permeable zones per the NTL-FRA 90-1 Section III A.
2. The hole size will be no smaller than 1 1/2" larger diameter than the casing O.D. across all water zones.
3. An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement.
4. An adequate number of casing centralizers will be run through usable water zones to ensure that the casing is centralized through these zones. The adequate number of centralizers to use will be determined by API SPEC 10D.
5. Centralizers will impart a swirling action around the casing and will be used just below and into the base of the lowest usable water zone.
6. A chronological log will be kept recording the pump and slurry information and will be sent to the BLM with the subsequent sundry.

**Amoco Production Company
BOP Pressure Testing Requirements**

Well Name: Gallegos Canyon Unit 578

County: San Juan

State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	Surface		
Kirtland	347		
Fruitland Coal	1093		
Pictured Cliffs	1487		

** Note: Determined using the following formula: $ABHP - (.22 * TVD) = ASP$

Requested BOP Pressure Test Exception: 750 PSI

**SAN JUAN BASIN
Fruitland Coal Formation
Pressure Control Equipment**

Background

The objective Fruitland Coal formation maximum surface pressure is anticipated to be less than 1000 PSI, based on shut-in surface pressures from adjacent wells. Pressure control equipment working pressure minimum requirements are therefore 2000 PSI. Equipment to be used will conform to API RP-53 (Figure 2.C.2) for a 2000 PSI system per Federal Onshore Order No. 2. Due to available conventional equipment within the area, 3000 PSI rated pressure control equipment will typically be utilized in a double ram type arrangement. Regional drilling rights to be utilized have substructure height limitations which exclude the use of annular preventers; therefore a rotating head will be installed above these rams. This pressure control equipment will be utilized for conventional drilling below conductor to total depth. No abnormal temperature, pressure, or Hydrogen Sulfide gas is anticipated.

Equipment Specification

Interval

BOP Equipment

Below conductor casing to total depth

11" nominal or 7 1/16", 3000 PSI double ram
preventer with rotating head.

All ram type preventers and related control equipment will be hydraulically tested to 250 PSI (low pressure) and 750 PSI (high pressure), upon installation, following any repairs or equipment replacements, or at 30 day intervals. Accessories to BOP equipment will include Kelly cock, upper Kelly cock with a handle available, floor safety valves and choke manifold which will also be tested to equivalent pressure at the appropriate intervals.