FORM 3160-3
(July 1992)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0136
Expires February 28, 1995

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: SF - 077091

6. IF INDIAN, ALOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [X]

8. FARM OR LEASE NAME, WELL NO.: TRIGG FEDERAL GAS COM 1M

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY
P.O. BOX 3092
HOUSTON , TX 77079

9. API WELL NO.: 30-045-30620

3. ADDRESS AND TELEPHONE NO.
MARY CORLEY
AUTHORIZED REPRESENTATIVE
PHONE 281.366.4491 EXT:
FAX: 281.366.0700
EMAIL:corleyml@bp.com

10. FIELD AND POOL, OR WILDCAT: BASIN DAKOTA / BLANCO MESAVERDE

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At Surface
1140FSL AND 2420FWL SESW SEC 15 T29N R9W
At proposed prod. zone

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SECTION 15 T29N R9W
MERIDIAN NMP

12. COUNTY OR PARISH: SAN JUAN

13. STATE: NM

14. DISTANCE IN MILES AND DIRECTION FROM THE NEAREST TOWN OR POST OFFICE
13 MILES FROM BLOOMFIELD, NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. ACRES IN LEASE: 303.67	17. NO. OF ACRES ASSIGNED TO THIS WELL: 303.67
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE FT.	19. PROPOSED DEPTH: 7144 MD / TVD	20. ROTARY OR CABLE TOOLS: ROTARY
21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5940 GL		22. APPROX. DATE WORK WILL START*: 05/05/2001

RECEIVED
JUN 2001
OIL CON. DIV.
DIST. 3

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT

Notice of Staking Submitted 02/26/2001. Amoco Production Company respectfully request permission to drill the subject well to a total depth of approximately 7144', complete in the Basin Dakota Pool, produce the well for approximately 30 days to establish production rate, add the Blanco Mesaverde Pool and commingle production downhole. Application for downhole commingling authority (NMOCD order R-11363) will be submitted to all appropriate parties for approval after production has been established in the Basin Dakota Pool and prior to completion of and downhole commingling with the Blanco Mesaverde. In support of our application for permit to drill we have attached 8 documents (1 .doc and 2 .pdf files).

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. ELECTRONIC SUBMISSION #3348 VERIFIED BY THE BLM WELL INFORMATION SYSTEM
FOR AMOCO PRODUCTION COMPANY SENT TO THE FARMINGTON FIELD OFFICE

SIGNED MARY CORLEY TITLE AUTHORIZED REPRESENTATIVE DATE 04/02/2001

PERMIT NO. _____ APPROVAL DATE _____

Application approval 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 theron.
CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY /s/ Lee Otteni TITLE _____ DATE JUN 21

NMOCD Conditions of Approval

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

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	² Pool Code	³ Pool Name	
30-045-30620	71599 & 72319	BASIN DAKOTA & BLANCO MESAVERDE	

⁴ Property Code	⁵ Property Name	⁶ Well Number
001172	Trigg Federal Gas	# 1M

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
000778	AMOCO PRODUCTION COMPANY	5940

¹⁰ Surface Location

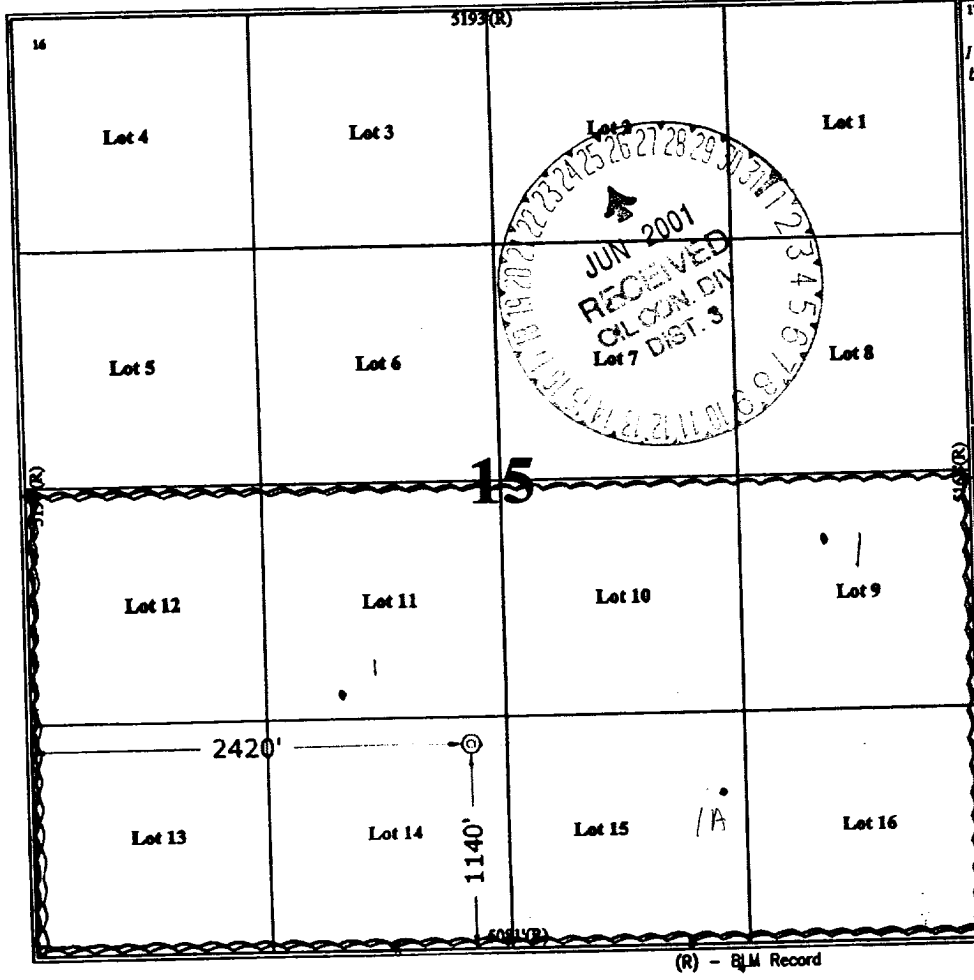
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N (Lot 14)	15	29 N	9 W		1140	SOUTH	2420	WEST	SAN JUAN

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	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
303.67			

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



JUN 2001
RECEIVED
OIL CON. DIV.
DIST. 3

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature
MARY CORLEY
Printed Name
SR. REGULATORY ANALYST
Title
04-02-2001
Date

¹⁸ SURVEYOR CERTIFICATION

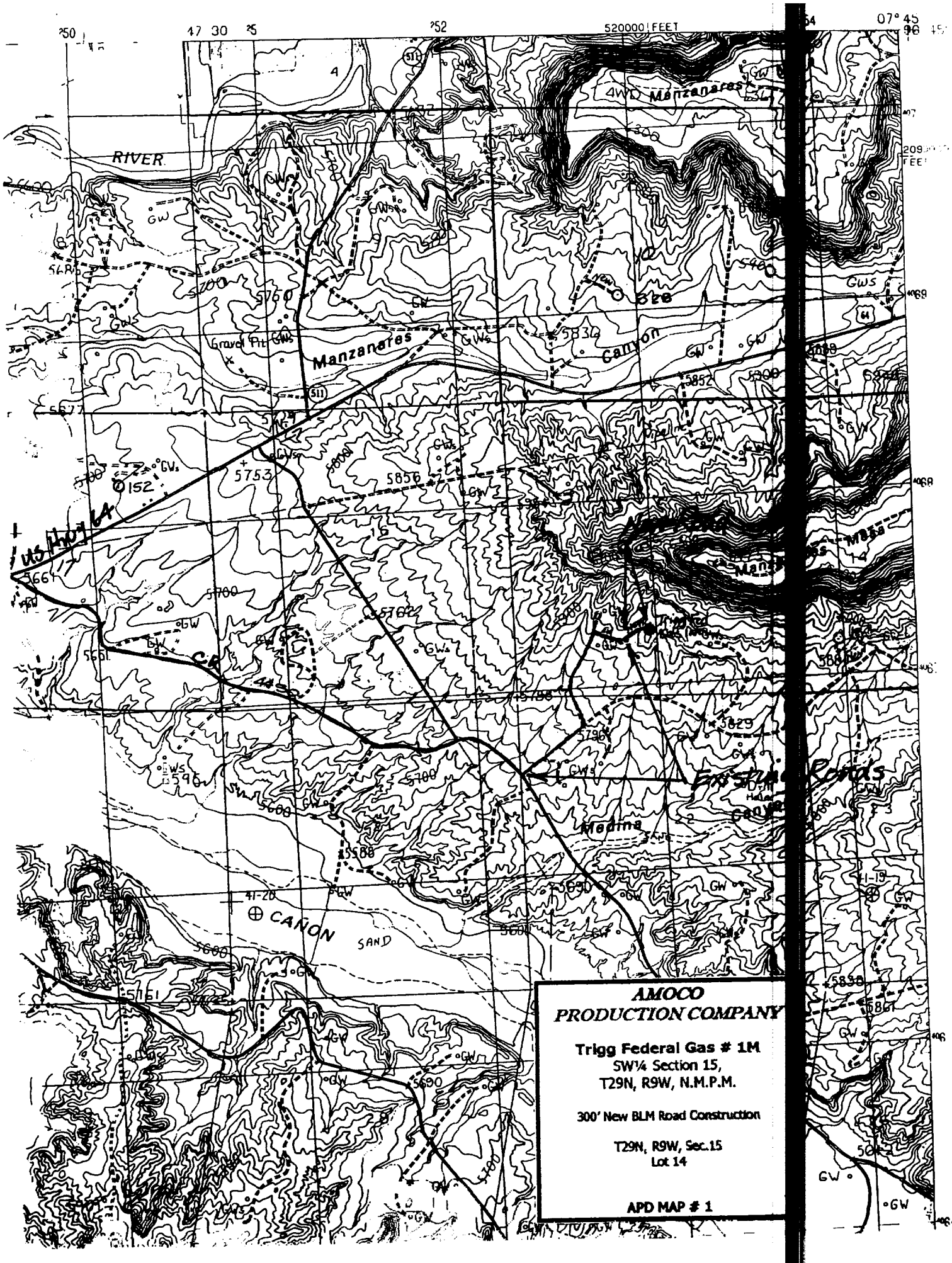
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

January 9, 2001
Date of Survey

Signature and Seal of Professional Surveyor

GARY VANN
NEW MEXICO
7016
REGISTERED PROFESSIONAL LAND SURVEYOR

7016
Certificate Number


AMOCO
PRODUCTION COMPANY
Trigg Federal Gas # 1M
SW¼ Section 15,
T29N, R9W, N.M.P.M.
300' New BLM Road Construction
T29N, R9W, Sec.15
Lot 14
APD MAP # 1
Manzanares
Gravel Pit
Canyon
Medina
CANON
SAND
RIVER
4WD
Existing Roads

AMOCO PRODUCTION COMPANY
DRILLING AND COMPLETION PROGRAM

Prospect Name: Trigg Federal Gas Com B
Lease: TRIGG FEDERAL GAS COM B
County: San Juan
State: New Mexico
Date: April 2, 2001

Well No: 1M
Surface Location: 15-29N-9W, 1140 FSL,242 FEL
Field: Blanco Mesaverde/Basin D ota

OBJECTIVE: Drill 400' below the base of the Greenhorn Limestone, set 4" Liner across Dakota, Stimulate LS, CH, MF, PL and DK Int s

METHOD OF DRILLING

TYPE OF TOOLS	DEPTH OF DRILLING
Rotary	0 - TD

LOG PROGRAM

TYPE	DEPTH INVERAL
OPEN HOLE	
GR-Induction	TD to 5 ½" shoe
Density/Neutron	TD to 5 ½" shoe
Sonic	TD to 5 ½" shoe
CASED HOLE	
GR-CCL-TDT	TDT - PBTD-7 5/8" shoe GR-CCL - PBTD-0'
CBL	Top of 4" - 50' above 7 5/8 "shoe

REMARKS:
- Please report any flares (magnitude & duration).

APPROXIMATE DEPTHS OF GEOLOGI L MARKER

Estimated GL: 5940 Estimate B: 5954

MARKER		SUBSEA	MEAS. DEPTH
Ojo Alamo		458	1366
Fruitland Coal	*	370	2249
Pictured Cliffs	*	348	2475
Lewis Shale	#	342	2534
Cliff House	#	179	4157
Menefee Shale	#	169	4257
Point Lookout	#	124	4709
Mancos		111	4837
Greenhorn		-73	6689
Bentonite Marker		-79	6744
Two Wells	#	-85	6804
Dakota MB	#	-96	6914
Burro Canyon	*	-113	7089
Morrison	*	-118	7139
TOTAL DEPTH		-119	7144

Probable completion interval * Possi Pay

SPECIAL TESTS

TYPE
None

REMARKS:

DRILL CUTTING SAMPLES

FREQUENCY	DEPTH
10 feet	Production hole

DR LING TIME

FREQU CY	DEPTH
Geologra	0-TD

MUD PROGRAM:

Approx. Interval			Type Mud	Weight, #/gal	Vis, sec/qt	W/L cc's/30 min	Oth	Specification
0	- 120-135	3 jts.	Spud	8.6-9.2				
120-135	- 2199	(1)(2)	Water/LSND	8.6-9.2				
2199	- 6744		Gas/Air/Mist	Volume sufficient to maintain a stable and clean wellbor				
6744	7144		LSND	8.6-9.2				

REMARKS:
(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate fr uency.
(2) Top set Fruitland Coal to minimize lost circulation, air volume to maintain hole stability.

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

Casing String	Estimated Depth	Casing Size	Grade	Weight	Hole Size	La	ing Pt, Cmt, Etc.
Surface/Conductor	120-135	10 3/4"	J-55 ST&C	40.5#	14.75"	1	
Intermediate 1	2199	7 5/8"	K-55 LT&C	26.4#	9.875"	1,2	
Intermediate 2	6744	5 ½"	K-55 LT&C	15.5#	6.75"	4	
Production (liner)	7144	4"	K-55 H 511	11#	4.75"	3	

REMARKS:
(1) Circulate Cement to Surface
(2) Set casing 50' above Fruitland Coal
(3) Liner Lap should be a minimum of 100'
(4) Bring cement 200' above 7 5/8" shoe

CORING PROGRAM:
None

COMPLETION PROGRAM:
Rigless, 4-6 Stage Limited Entry Hydraulic Frac

GENERAL REMARKS:
Notify BLM/NMOCD 24 hours prior to Spud, BOP testing, and Casing and Cementing.

Form 46 Reviewed by: Logging program reviewed by: N/A

PREPARED BY:	APPROVED:	DATE:
KAS/KAT		March 8, 2001 Version 1.0

Cementing Program: TRIGG FEDERAL GAS COM B # 1M

	Surface	Intermediate	I2	Liner
Excess %, Bit	100%	80	50	10
Excess %, Caliper	NA	NA	NA	30
BHST (est deg. F)	60	120	150	160
Pipe Movement	NA	Rotate/Reciprocate	Rotate/Reciprocate	as per Liner C
Rate, Max (bpm)	7	4	4	2
Rate Recommended (bpm)	6	4	3	2
Pressure, Max (psi)	200	2000	2000	2000
Shoe Joint	40	80	80	40
Batch Mix	NA	NA	NA	NA
Circulating prior cmtng (hr)	0.5	1.5	2.5	2
Time Between Stages, (hr)	NA	NA	NA	NA
Special Instructions	1,6,7	1,6,8	1,6,9	2,3,4,6

1. Do not wash pumps and lines.
2. Wash pumps and lines.
3. Reverse out
4. Run Blend Test on Cement
5. Record Rate, Pressure, and Density on 3.5" disk
6. Confirm densitometer with pressurized mud scales
7. 1" cement to surface if cement is not circulated.
8. If cement is not circulated to surface, run temp. survey 10-12 hr. after landing plug.

Notes:

*Do not wash up on top of plug. Wash lines before displacing liner cement job to minimize drillout.
** After cement set time the liner top will be drilled out and liner circulated clean with treated water.
*** Run TMD cased hole logs to identify pay; Perforating and CH logs can be run rigless.

Surface:

Preflush	20 bbl.	FreshWater	
Slurry 1	120sx Class G Cement		cuft
TOC@Surface	+ 2% CaCl2 (accelerator)		
	0.25 #/sk Cellophane Flake (lost circulation additive)		0.5 cuft/ft OH
	0.1% D46 antifoam		% excess

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	15.8	1.16	4.95

Casing Equipment:

10-3/4", 8R, ST&C
1 Guide Shoe
1 Top Wooden Plug
1 Autofill insert float valve
4 Centralizers
1 Stop Ring
1 Thread Lock Compound

Cementing Program: TRIGG FEDERAL GAS COM B # 1M

Intermediate:

Fresh Water		20 bbl	fresh water	
Lead		220 sx	Class "G" Cement	638 cuft
Slurry 1			+ 3% D79 extender	
TOC@Surface			+ 2% S1 Calcium Chloride	
			+1/4 #/sk. Cellophane Flake	
			+ 0.1% D46 antifoam'	
Tail		152 sx	50/50 Class "G"/Poz	193 cuft
Slurry 2			+ 2% gel (extender)	
	500 ft fill		0.1% D46 antifoam	0.2148 cuft/ft OH
			+1/4 #/sk. Cellophane Flake	0.2338 cuft/ft csg ann
			+ 2% CaCl2 (accelerator)	80 % excess

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	11.4	2.9	17.77
Slurry 2	13.5	1.27	5.72

Casing Equipment:

7-5/8", 8R, ST&C
1 Float Shoe (autofill with minimal LCM in mud)
1 Float Collar (autofill with minimal LCM in mud)
1 Stop Ring
9 Centralizers (one in middle of first joint, then every third collar)
2 Fluidmaster vane centalizers @ base of Ojo
8 Centalizers one every 4th joint from Ojo to base of surface casing
1 Top Rubber Plug
1 Thread Lock Compound

Int 2:

Fresh Water		10 bbl	CW100	
Lead		431	LiteCrete D961 / D124 / D154	923 cuft
Slurry 1			+ 0.03 gps D47 antifoam	
TOC@Surface			+ 0.5% D112 fluid loss	
			+ 0.11% D65 TIC	
Tail		80 sx	50/50 Class "G"/Poz	115 cuft
Slurry 2			+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
	500 ft fill		+ 0.1% D46 antifoam	+ 0.15% D65 TIC
			+ 1/4 #/sk. Cellophane Flake	+ 0.1% D800 retarder
			+ 0.25% D167 Fluid Loss	
				0.1521 cuft/ft OH
				50 % excess
				0.0999 cuft/ft csg ann

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	9.5	2.14	6.38
Slurry 2	13	1.44	6.5

Casing Equipment:

5-1/2", 8R, ST&C
1 Float Shoe (autofill with minimal LCM in mud)
1 Float Collar (autofill with minimal LCM in mud)
1 Stop Ring
35 Centralizers (every third joint
1 Top Rubber Plug
1 Thread Lock Compound

Cementing Program: TRIGG FEDERAL GAS COM B # 1M

Production (liner):

Preflush		10 bbl.	CW100 / LCM wash		
Lead Cement			2350/50 Poz/G		34
Slurry 1			5% D20 bentonite	0.1% D46 antifoam	
	100ft lap		0.25#/sk D29 cellophane		
	100ft cap		0.25% D167 Fluid loss		0.0358 ft OH
			0.15% D65 TIC		0.0484 ft csg ann
			0.15% D800 retarder		0.1336 ft csg

Slurry Properties:	Density (lb/gal)	(ft3/sk)	Water (gal/sk)	10 xcess
Slurry 1	13	1.44	6.5	

Liner Float Equipment: Float Shoe and Float Collar (furnished by Liner Hanger Company)
1 Thread Lock Compound

Note:

1. Coordinate w/Liner hand to drop plug, or set/release Liner as required
2. The job should be pumped at 2-3 bpm max rate. Do not exceed 3 bpm on displacement
3. Wash pump and lines before displacement. Slow to 1 bpm for the last 30 bbl of displacement.
4. This is to be a rigless completion. After cement set time, liner top will be dressed off an liner circulated clean with 2 % KCl or 2 gal/1000 gal L64.

FEDERAL CEMENTING REQUIREMENTS

1. **All permeable zones containing fresh water and other usable water containing 10, 0 PPM or less total dissolved solids will be isolated and protected from contamination b ement circulated in place for the protection of permeable zones per the NTL-FRA 90-1 Sec n III A.**
2. **The hole size will be no smaller than 1 ½" larger diameter than the casing O.D. a oss all water zones.**
3. **An adequate spacer will be pumped ahead of the cement slurry to help prev t mud contamination of the cement.**
4. **An adequate number of casing centralizers will be run through usable water nes to ensure that the casing is centralized through these zones. The adequate n ber 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 b w and into the base of the lowest usable water zone.**
6. **A chronological log will be kept recording the pump and slurry information and wi e sent to the BLM with the subsequent sundry.**

Amoco Production Company
BOP Pressure Testing Requirements

Well Name: TRIGG FEDERAL GAS COM B 1M
County: San Juan State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipat Surface Pressure *
Ojo Alamo	1366		
Fruitland Coal	2249		
PC	2475		
Lewis Shale	2534		
Cliff House	4157	500	
Menefee Shale	4257		
Point Lookout	4709	600	
Mancos	4837		
Dakota	6804	2600	15

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

Requested BOP Pressure Test Exception: 3000 PSI

SAN JUAN BASIN
Dakota Formation
Pressure Control Equipment

Background

The objective Dakota formation maximum surface pressure is anticipated to be less t n 1000 PSI, based on shut-in surface pressures from adjacent wells. Pressure control e pment working pressure minimum requirements are therefore 2000 PSI. Equipment to be d will conform to API RP-53 (Figure 2.C.2) for a 2000 PSI system per Federal Onshore Order N 2. Due to available conventional equipment within the area, 3000 PSI rated pressure control e pment will typically be utilized in a double ram type arrangement. Regional drilling rights to b tilized have substructure height limitations which exclude the use of annular preventers; th fore a rotating head will be installed above these rams. This pressure control equipment will b tilized for conventional drilling below conductor to total depth in the Basin Dakota. No normal temperature, pressure, or H2S 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 SI (low pressure) and 2000 PSI (high pressure), upon installation, following any repairs or e pment replacements, or at 30 day intervals. Accessories to BOP equipment will include k cock, upper kelly cock with a handle available, floor safety valves and choke manifold whic ll also be tested to equivalent pressure.