Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FO APPROVED
OM NO. 1004-0135
Expir 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

RECEIVED
JUL 2001
OIL CON. DIV.
DIST. 3

5. Lease Serial N
SF - 077095

6. If Indian, Allo or Tribe Name

7. If Unit or CA/ ement, Name and/or No.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name an
TRIGG FED RAL GAS COM 1M

2. Name of Operator
AMOCO PRODUCTION COMPANY
Contact: MARY CORLEY
E-Mail: corleyml@bp.com

9. API Well No.

3a. Address
P.O. BOX 3092
HOUSTON, TX 77253

3b. Phone No. (include area code)
Ph: 281.366.4491
Fx: 281.366.0700

10. Field and Po r Exploratory
BASIN DAK TA/BLANCO MESAVERDE

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 15 T29N R9W Mer SESW 1140FSL 2420FWL
36.43300 N Lat, 107.46000 W Lon

11. County or Pa , and State
SAN JUAN OUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resum	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ APDCH
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and a oximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all inent 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 sh e filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a For 160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been compl , and the operator has determined that the site is ready for final inspection.)

Application for Permit to Drill for the subject well was submitted on 04/02/2001. Amoco Production Company re ctfully submits for your approval amendments to our drilling and completion Program as per the attached two (2) documents. T major change is in the casing and cementing program.

The subject well also requires NMOCD approval for a Non-Standard drilling location for the Basin Dakota compl on. A request for an exception to the Non-Standard well location is being submitted to the NMOCD under a separate applicati

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #5090 verified by the BLM Well Information System
For AMOCO PRODUCTION COMPANY, sent to the Farmington
Committed to AFMSS for processing by Maurice Johnson on 06/19/2001 ()

Name *(Printed/Typed)* MARY CORLEY — Title AUTHORIZED REPRESENTATIVE

Signature — Date 06/19/2001

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By — Title — 7/3/01

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 departm 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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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: June 19, 2001

Well No: 1M
Surface Location: 15-29N-9W, 1140 FSL,24[illegible] FEL
Field: Blanco Mesaverde/Basin [illegible]kota

OBJECTIVE: Drill 450' below the base of the Greenhorn Limestone, set 4 1/2" production casing. Stimulate LS, CH, MF, PL and [illegible] intervals

METHOD OF DRILLING

TYPE OF TOOLS	DEPTH OF DRILLING
Rotary	0 - TD

LOG PROGRAM

TYPE	DEPTH INVERAL
OPEN HOLE	
GR-Induction	TD to 7" shoe
Density/Neutron	TD to 7" shoe
CASED HOLE	
GR-CCL-TDT	TDT – TD to 7" shoe
CBL	Identify 4 ½" cement top

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

APPROXIMATE DEPTHS OF GEOLOG[illegible] — [illegible]L MARKER

Estimated GL: 5940 — Estimat[illegible] KB: 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	#	-95	6914
Burro Canyon	*	-113	7089
Morrison	*	-118	7139
TOTAL DEPTH		-124	7194

Probable completion interval — * Possi[illegible] Pay

SPECIAL TESTS

TYPE
None

REMARKS:

DRILL CUTTING SAMPLES

FREQUENCY	DEPTH
10 feet	Production hole

DR[illegible]ING TIME

FREQUE[illegible]CY	DEPTH
Geologra[illegible]	0-TD

MUD PROGRAM:

Approx. Interval			Type Mud	Weight, #/ga	Vis, sec/qt	W/L cc's/30 min	Other	pecification
0	- 120-135	3 jts.	Spud	8.6-9.2				
120-135	- 2634	(1)	Water/LSND	8.6-9.2		<6		
2634	- 7089		Gas/Air/N2/Mist	Volume sufficient to maintain a stable and clean wellbo				
7089	7194	(2)	LSND	9.0-9.2		<6		

REMARKS:
(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequ[illegible]cy.
(2) Mud up 50' above Morrison +/-.

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

Casing String	Estimated Depth	Casing Size	Grade	Weight	Hole Size	Lead[illegible]	Pt, Cmt, Etc.
Surface/Conductor	120-135	9 5/8"	H-40 ST&C	32#	12.25"	1	
Intermediate 1	2634	7"	J/K-55 ST&C	20#	8.75"	1,2	
Production	7194	4 1/2"	J-55	11.6#	6.25"	3	

REMARKS:
(1) Circulate Cement to Surface
(2) Set casing 100' into Lewis Shale
(3) Bring cement 100' above 7" 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:
HGJ/KAT		May 8, 2001 Version 3.0

Form 46 12-00 KAT

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 Anticipate 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	153

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

Requested BOP Pressure Test Exception: 3000 psi

Cementing Program

Well Name:	[redacted] Com B	Field:	[redacted] / Basin Dakota
Location:	[redacted] FSL,2420 FEL	API No.	
County:		Well Flac	
State:		Formation:	[redacted]
		KB Elev (est)	
		GL Elev. (est)	

Casing Program:

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)	Stage Tool Or TOL (ft.)	Cmt Cir. Out (bbl.)
Surface	[redacted]	12.25	9.625	ST&C	Surface	NA	
Intermediate		8.75	7	LT&C	Surface	NA	
Production -		6.25	4.5	?	2534	NA	

Casing Properties: (No Safety Factor Included)

Casing String	Size (In.)	Weight (lb/ft)	Grade	Burst (psi.)	Collapse (psi.)	Joint St. (1000 lbs.)	Capacity (bbl/ft.)	Drift (in.)
Surface	9.625	32	H-40	3370	1400	254	0.0787	8.84
Intermediate	7	20	K-55	3740	2270	234	0.0405	6.45
Production -	4.5	11.6	J-55	5350	4960	154	0.0155	3.87

Mud Program

Apx. Interval (ft.)	Mud Type	Mud Weight
0 - SCP	Water/Spud	8.6-9.2
SCP - ICP	Water/LSND	8.6-9.2
ICP - ICP2	Gas/Air Mist	NA
ICP2 - TD	LSND	8.6 - 9.2

Recommended Mud Properties Prio Cementing:
PV <20
YP <10
Fluid Loss <15

Cementing Program:

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

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 production cement job to minmize drillout.
*** Run TMD cased hole logs to identify pay; Perforating and CH logs can be run rigless.

Surface:

Preflush	20 bbl.	FreshWater	
Slurry 1	73 sx Class G Cement		85 cuft
TOC@Surface	+ 2% CaCl2 (accelerator)		
	0.25 #/sk Cellophane Flake (lost circulation additive)		0.3132 cuft/ft OH
	0.1% D46 antifoam		100 % excess

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)

Cementing Program

Slurry 1	15.8	1.16	4.95

Casing Equipment: 9-5/8", 8R, ST&C
1 Guide Shoe
1 Top Wooden Plug
1 Autofill insert float valve
4 Centralizers
1 Stop Ring
1 Thread Lock Compound

Intermediate:

Fresh Water	20 bbl	fresh water	
Lead		195 sx Class "G" Cement	564 cuft
Slurry 1		+ 3% D79 extender	
TOC@Surface		+ 2% S1 Calcium Chloride	
		+1/4 #/sk. Cellophane Flake	
		+ 0.1% D46 antifoam'	
Tail		107 sx 50/50 Class "G"/Poz	135 cuft
Slurry 2		+ 2% gel (extender)	
500 ft fill		0.1% D46 antifoam	0.1503 cuft/ft OH
		+1/4 #/sk. Cellophane Flake	0.1746 cuft/ft csg
		+ 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", 8R, ST&C

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

Production:

Fresh Water	10 bbl	CW100	
Lead		143 LiteCrete D961 / D124 / D154	305 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC@Surface		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		149 sx 50/50 Class "G"/Poz	214 cuft
Slurry 2		+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
1897 ft fill		+ 0.1% D46 antifoam	+ 0.15% D65 TIC
		+ 1/4 #/sk. Cellophane Flake	+ 0.1% D800 retarder
		+ 0.25% D167 Fluid Loss	
			0.1026 cuft/ft OH
Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
			10 % excess
			0.1169 cuft/ft csg

Cementing Program

Slurry 1	9.5	2.14	6.38	
Slurry 2	13	1.44	6.5	Top of Mancos [redacted]

Casing Equipment: 4-1/2", 8R, ST&C

1 Float Shoe (autofill with minimal LCM in mud)
1 Float Collar (autofill with minimal LCM in mud)
1 Stop Ring
39 Centralizers (every third joint

1 Top Rubber Plug
1 Thread Lock Compound

Note:

1. The job should be pumped at 2-3 bpm max rate. Do not exceed 3 bpm on displacement
2. Wash pump and lines before displacement. Slow to 1 bpm for the last 30 bbl of displacement.