Form 3160-5
(August 1999)

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.

JUN 2001

5. Lease Serial No.
SF - 078201

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
FLORANCE O 20M

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

9. API Well No.
30-045-30570

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 Pool, or Exploratory
BASIN DAKOTA/BLANCO MESAVERDE

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 24 T30N R9W Mer SWNE
36.47800 N Lat, 107.43700 W Lon

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			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ 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 approximate duration thereof. If the proposal is to deepen directionally or recomplete 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 recompletion 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.)

Application for Permit to Drill for the subject well was submitted on 02/19/2001 and approved by your office on 03/19/2001. Amoco Production Company respectfully submits for your approval amendments to our drilling and completion Program as per the attached two (2) documents. The major change is in the casing and cementing program.

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #4893 verified by the BLM Well Information System
For AMOCO PRODUCTION COMPANY, sent to the Farmington
Committed to AFMSS for processing by Maurice Johnson on 06/14/2001 ()

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

Signature — Date 06/11/2001

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date 6/15/01

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 department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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

AMOCO PRODUCTION COMPANY
DRILLING AND COMPLETION PROGRAM

Prospect Name: Florance O
Lease: FLORANCE O
County: San Juan
State: New Mexico
Date: June 11, 2001

Well No: 20M
Surface Location: 24-30N-9W, 2560 FNL,1880 FEL
Bottom Hole Loc.: 24-30N-9W, 2000 FSL, 750 FEL
Field: Blanco Mesaverde/Basin Dakota

OBJECTIVE: Drill 400' below the base of the Greenhorn Limestone, set 4" Liner across Dakota, Stimulate LS, CH, MF, PL and DK 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-7 " shoe
CBL	Identify 4 ½" cement top

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

APPROXIMATE DEPTHS OF GEOLOGICAL MARKER

Estimated GL: 5803 Estimated KB: 5817

MARKER		SUBSEA	MEAS. DEPTH
Ojo Alamo		4454	1438
Fruitland Coal	*	3737	2258
Pictured Cliffs	*	3292	2767
Lewis Shale	#	3188	2886
Cliff House	#	1554	4570
Menefee Shale	#	1469	4655
Point Lookout	#	1053	5071
Mancos		943	5181
Greenhorn		-912	7036
Bentonite Marker		-968	7092
Two Wells	#	-1020	7144
Dakota MB	#	-1140	7264
Burro Canyon	*	-1280	7404
Morrison	*	-1330	7454
TOTAL DEPTH		-1418	7492

Probable completion interval * Possible Pay

SPECIAL TESTS

TYPE
None

REMARKS:

DRILL CUTTING SAMPLES

FREQUENCY	DEPTH
10 feet	Production hole

DRILLING TIME

FREQUENCY	DEPTH
Geolograph	0-TD

MUD PROGRAM:

Approx. Interval			Type Mud	Weight, #/gal	Vis, sec/qt	W/L cc's/30 min	Other Specification
0	- 200		Spud	8.6-9.2			
200	- 2989	(1)(2)	Water/LSND	8.6-9.2		<6	
2989	- 7404		Gas/Air/Mist	Volume sufficient to maintain a stable and clean wellbore			
7404	7492		LSND	8.6-9.2		<6	

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

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 Pt, Cmt, Etc.
Surface/Conductor	200	9 5/8"	H-40 ST&C	32#	12.25"	1
Intermediate 1	2989	7"	J/K-55 ST&C	20#	8.75"	1,2
Production (liner)	7492	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:	
KAS/KAT		February 16, 2001 Version 1.0	

Form 46 12-00 KAT

Amoco Production Company
BOP Pressure Testing Requirements

Well Name: Florance O **20M**
County: San Juan **State:** New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1363		
Fruitland Coal	2080		
PC	2525		
Lewis Shale	2629		
Cliff House	4263	500	0
Menefee Shale	4348		
Point Lookout	4764	600	0
Mancos	4874		
Dakota	6837	2600	1528

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

Requested BOP Pressure Test Exception: 3000 psi

Well Name:	Florance O 20M	Field:	Blanco Mesaverde / Basin Dakota
Location:	24-30N-9W, 2560 FNL,1880 FEL	API No.	
County:	San Juan	Well Flac	
State:	New Mexico	Formation:	Dakota MesaVerde
		KB Elev (est)	5817
		GL Elev. (est)	5803

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	200	12.25	9.625	ST&C	Surface	NA	
Intermediate	2989	8.75	7	LT&C	Surface	NA	
Production -	7492	6.25	4.5	?	2889	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	8.845
Intermediate	7	20	K-55	3740	2270	234	0.0405	6.456
Production -	4.5	11.6	J-55	5350	4960	154	0.0155	3.875

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%	80	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

Cementing Program

Slurry 1	108 sx Class G Cement		125 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)
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	226 sx Class "G" Cement		654 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 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", 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	142 LiteCrete D961 / D124 / D154		304 cuft
Slurry 1	+ 0.03 gps D47 antifoam		
TOC@Surface	+ 0.5% D112 fluid loss		

Cementing Program

		+ 0.11% D65 TIC	
Tail		142 sx 50/50 Class "G"/Poz	204 cuft
Slurry 2		+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
	1811 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 ann
Slurry 1	9.5	2.14	6.38	
Slurry 2	13	1.44	6.5	Top of Mancos 5181

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.