

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

b. TYPE OF WELL

OIL  
WELL ☐GAS  
WELL ☒OTHER ☐SINGLE  
ZONE ☐MULTIPLE  
ZONE ☒2. NAME OF OPERATOR  
AMOCO PRODUCTION COMPANY  
P.O. BOX 3092  
HOUSTON, TX 77079

3. ADDRESS AND TELEPHONE NO.

MARY CORLEY  
SUBMITTING CONTACT

PHONE 281.366.4491

FAX: 281.366.0700

EMAIL: corleymf@bp.com

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At Surface  
2560FNL AND 1880FEL SWNE SEC 24 T30N R9WAt proposed prod. zone  
2000FSL AND 750FEL NESE SEC 24 T30N R9W

14. DISTANCE IN MILES AND DIRECTION FROM THE NEAREST TOWN OR POST OFFICE

16 MILES FROM AZTEC, NM

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest dirg. unit line, if any)

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE FT.

16. NO. ACRES IN LEASE

320.00

19. PROPOSED DEPTH

7185 MD / TVD

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320.00 348.62

20. ROTARY OR CABLE TOOLS

ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5803 GL

22. APPROX. DATE WORK WILL START\*

04/17/2001

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 12-07-2000 as Florance O #20E. Please change well number to 20M. Amoco Production Company respectfully request permission to drill the subject well to a total depth of approximately 7185', 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 7 .pdf files).

This action is subject to internal and  
procedural review pursuant to 43 CFR 3103.3  
and appeal pursuant to 43 CFR 3103.4.

APPROVED BY: [Signature]  
DATE: 02/19/2001  
TITLE: [Signature]

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 #2690 VERIFIED BY THE BLM WELL INFORMATION SYSTEM  
FOR AMOCO PRODUCTION COMPANY SENT TO THE FARMINGTON FIELD OFFICE

SIGNED: MARY CORLEY

TITLE: SUBMITTING CONTACT

DATE: 02/19/2001

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 thereon.  
CONDITIONS OF APPROVAL, IF ANY:

/s/ Jim Lovato

APPROVED BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

NOT FOR NSL - Dakota and ...

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM 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 Other	5. Lease Serial No. SF - 078201
2. Name of Operator AMOCO PRODUCTION COMPANY	6. If Indian, Allottee or Tribe Name
3a. Address P.O. BOX 3092 HOUSTON, TX 77079	7. If Unit or CA/Agreement Name and/or No.
3b. Phone No.(include area code) 281.366.4491	8. Well Name and No. FLORANCE O 20M
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1880FEL 2560FNL	9. API Well No.
	10. Field and Pool, or Exploratory Area BASIN DAKOTA/BLANCO MESAVERDE
	11. County or Parish, and State SAN JUAN NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input 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 checked="" 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 recomple 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.)

APD filed electronically on 2/19/2001. Both the C-102 and 3160-3 indicated acreage assignment for the subject well as 320 acres. Attached please find corrected C-102 indicating the correct acreage assignment of 348.62 acres.

Electronic Submission #2781 verified by the BLM Well Information System for AMOCO PRODUCTION COMPANY Sent to the Farmington Field Office  
Committed to AFMSS for processing by Maurice Johnson on 02/27/2001

Name (Printed/Typed) **MARY CORLEY**Title **SUBMITTING CONTACT**

Signature

Date **02/27/2001****ACCEPTED FOR RECORD****THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By \_\_\_\_\_

Title

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

**MAR 19 2001**Date  
**FARMINGTON FIELD OFFICE**  
BY \_\_\_\_\_

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 a false statement or materially false information.

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

API Number <b>30045-30570</b>		Pool Code <b>71599 &amp; 72319</b>	Pool Name <b>Basin Dakota &amp; Blanco Mesaverde</b>
Property Code <b>000551</b>	Property Name <b>Florance O</b>		Well Number <b># 20M</b>
GORID No. <b>000778</b>	Operator Name <b>AMOCO PRODUCTION COMPANY</b>		Elevation <b>5803 —</b>

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>G (Lot 3)</b>	<b>24</b>	<b>30 N</b>	<b>9 W</b>		<b>2560</b>	<b>NORTH</b>	<b>1880</b>	<b>EAST</b>	<b>SAN JUAN</b>

11 Bottom Hole Location If Different From Surface

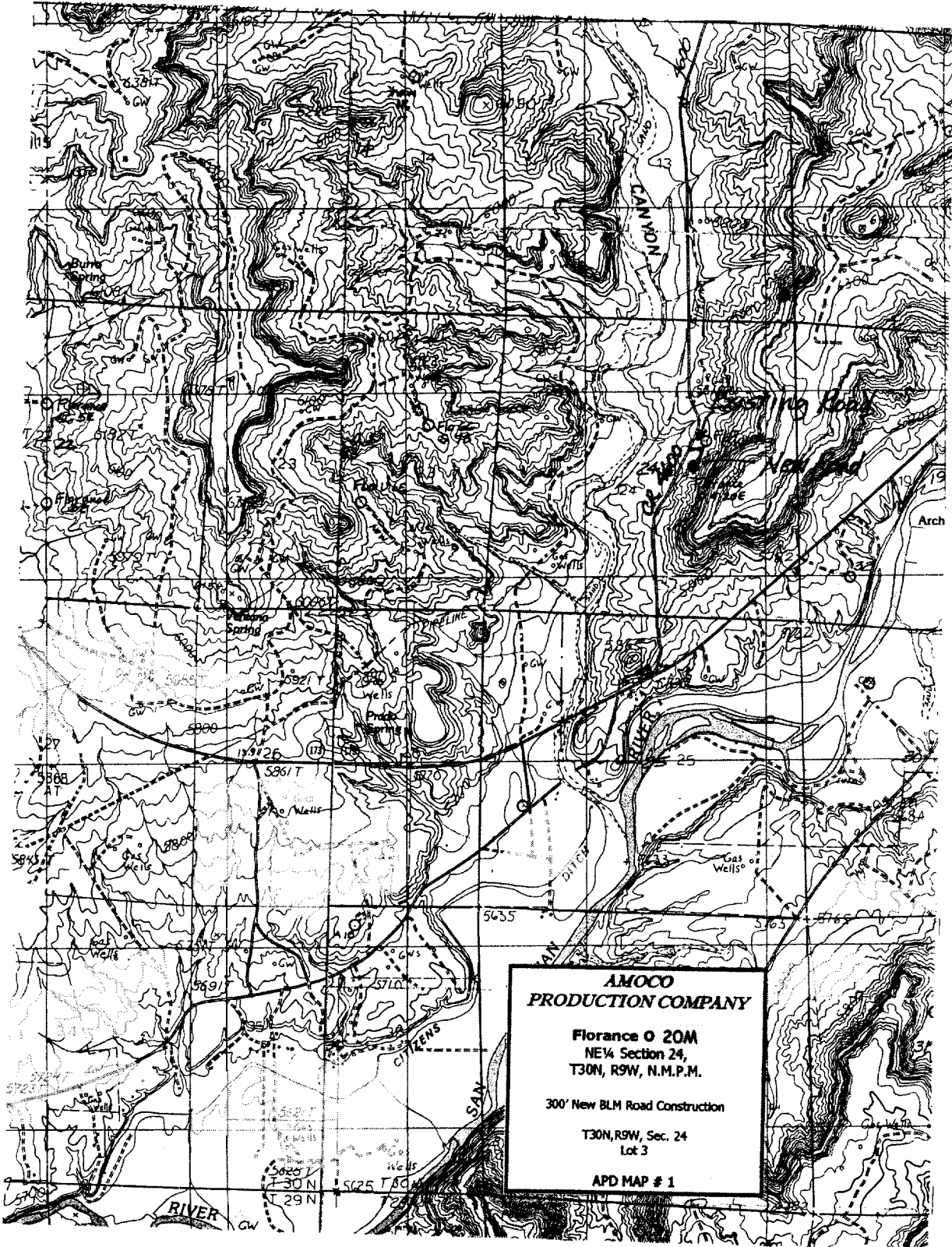
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>I (Lot 5)</b>	<b>24</b>	<b>30 N</b>	<b>9 W</b>		<b>2000</b>	<b>SOUTH</b>	<b>750</b>	<b>EAST</b>	<b>SAN JUAN</b>

Dedicated Acres <b>348.62</b>	Joint or Infill	Consolidation Code	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

	<p>16</p> <p>5260(R)</p> <p>Lot 2</p> <p>Lot 1</p> <p>2560'</p> <p>Lot 3</p> <p>Lot 4</p> <p>24</p> <p>1880'</p> <p>Az-121°40' 1364'</p> <p>Downhole Target 2000' F/SL 750' F/EL</p> <p>Lot 6</p> <p>Lot 5</p> <p>Lot 7</p> <p>Lot 8</p> <p>3124(R)</p> <p>2629(R)</p>	<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><i>Mary Corley</i></p> <p>Signature <b>Mary Corley</b></p> <p>Printed Name <b>Sr. Regulatory Analyst</b></p> <p>Title <b>02/19/2001</b></p> <p>Date</p> <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><b>November 18, 2000</b></p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor</p> <p></p> <p><b>7016</b></p> <p>Certificate Number</p>
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(R) - BLM Record



**AMOCO  
PRODUCTION COMPANY**

**Florance O 20M**  
NE 1/4 Section 24,  
T30N, R9W, N.M.P.M.

300' New BLM Road Construction

T30N, R9W, Sec. 24  
Lot 3

APD MAP # 1



**AMOCO PRODUCTION COMPANY  
DRILLING AND COMPLETION PROGRAM**

**Prospect Name:** Florance O  
**Lease:** FLORANCE O  
**County:** San Juan  
**State:** New Mexico  
**Date:** February 19, 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		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Estimated GL: 5803		Estimated KB: 5817	
Rotary	0 - TD	MARKER		SUBSEA	TVD
<b>LOG PROGRAM</b>		Ojo Alamo		4454	1363
<b>TYPE</b>	<b>DEPTH INVERAL</b>	Fruitland Coal	*	3737	2080
OPEN HOLE		Pictured Cliffs	*	3292	2525
GR-Induction	TD to 5 1/2" shoe	Lewis Shale	#	3188	2629
Density/Neutron	TD to 5 1/2" shoe	Cliff House	#	1554	4263
Sonic	TD to 5 1/2" shoe	Menefee Shale	#	1469	4348
<u>CASED HOLE</u>		Point Lookout	#	1053	4764
GR-CCL-TDT	TDT - PBTD-7 5/8" shoe	Mancos		943	4874
	GR-CCL - PBTD-0'	Greenhorn		-912	6729
CBL	Top of 4" - 50' above 7 5/8 "shoe	Bentonite Marker		-968	6785
REMARKS:		Two Wells	#	-1020	6837
- Please report any flares (magnitude & duration).		Dakota MB	#	-1140	6957
		Burro Canyon	*	-1280	7097
		Morrison	*	-1330	7147
		TOTAL DEPTH		-1368	7185
		# Probable completion interval		* Possible Pay	
SPECIAL TESTS		DRILL CUTTING SAMPLES		DRILLING TIME	
TYPE		FREQUENCY	DEPTH	FREQUENCY	DEPTH
None		10 feet	Production hole	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 - 2030 (1)(2)	Water/LSND	8.6-9.2			
2030 - 6785	Gas/Air/Mist	Volume sufficient to maintain a stable and clean wellbore			
6785 7185	LSND	8.6-9.2			

REMARKS:  
(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.  
(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 Contract)						
Casing String	Estimated Depth	Casing Size	Grade	Weight	Hole Size	Landing Pt, Cmt, Etc.
Surface/Conductor	120-135	10 3/4"	J-55 ST&C	40.5#	14.75"	1
Intermediate 1	2030	7 5/8"	K-55 LT&C	26.4#	9.875"	1.2
Intermediate 2	6785	5 1/2"	K-55 LT&C	15.5#	6.75"	4
Production (liner)	7185	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

<b>PREPARED BY:</b>  KAS/KAT	<b>APPROVED:</b>  	<b>DATE:</b> February 16, 2001 Version 1.0
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Form 46 12-00 KAT

# Cementing Program: Florance O 20M

	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 Co.
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.

<b>Surface:</b>				
Preflush	20 bbl.	FreshWater		
Slurry 1	120sx Class G Cement			139cuft
TOC@Surface	+ 2% CaCl <sub>2</sub> (accelerator)			
	0.25 #/sk Cellophane Flake (lost circulation additive)			0.5563cuft/ft OH
	0.1% D46 antifoam			100% excess
Slurry Properties:	Density	Yield	Water	
	(lb/gal)	(ft <sup>3</sup> /sk)	(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: Florance O 20M

## Intermediate:

Fresh Water	20 bbl	fresh water	
Lead	197sx	Class "G" Cement	572 cuft
Slurry 1		+ 3% D79 extender	
TOC@Surface		+ 2% S1 Calcium Chloride	
		+1/4 #/sk. Cellophane Flake	
		+ 0.1% D46 antifoam	
Tail	152sx	50/50 Class "G"/Poz	193cuft
Slurry 2		+ 2% gel (extender)	
500ft 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
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	454	LiteCrete D961 / D124 / D154	971 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC@Surface		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail	80sx	50/50 Class "G"/Poz	115cuft
Slurry 2		+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
500ft 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

## 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
			0.0999 cuft/ft csg ann

## 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