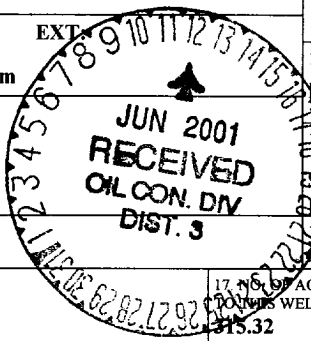


UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. SF - 078116	
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR AMOCO PRODUCTION COMPANY P.O. BOX 3092 HOUSTON, TX 77079		7. UNIT AGREEMENT NAME	
3. ADDRESS AND TELEPHONE NO. MARY CORLEY AUTHORIZED REPRESENTATIVE PHONE 281.366.4491 FAX: 281.366.0700 EMAIL: corleyml@bp.com		8. FARM OR LEASE NAME, WELL NO. FLORANCE 121M	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *) At Surface 2585FNL AND 1445FEL SWNE SEC 24 T30N R10W At proposed prod. zone		9. API WELL NO. 30-045-30609	
14. DISTANCE IN MILES AND DIRECTION FROM THE NEAREST TOWN OR POST OFFICE 10 MILES FROM AZTEC, NM		10. FIELD AND POOL, OR WILDCAT BASIN DAKOTA/BLANCO MESAVERDE	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SECTION 24 T30N R10W	
16. NO. ACRES IN LEASE 315.32		12. COUNTY OR PARISH SAN JUAN	
17. NO. OF ACRES ASSIGNED TO THIS WELL 315.32		13. STATE NM	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE FT.		19. PROPOSED DEPTH MD / TVD 7749	
20. ROTARY OR CABLE TOOLS ROTARY		21. APPROX. DATE WORK WILL START* 04/30/2001	
22. ELEVATIONS (Show whether DF, RT, GR, etc.) 6302 GL			



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 7422', 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 technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.

ALL ACTIONS ARE AUTHORIZED AND SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

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 #3217 VERIFIED BY THE BLM WELL INFORMATION SYSTEM FOR AMOCO PRODUCTION COMPANY SENT TO THE FARMINGTON FIELD OFFICE		
SIGNED MARY CORLEY	TITLE AUTHORIZED REPRESENTATIVE	DATE 03/27/2001

PERMIT NO. _____ APPROVAL DATE 6/8/01

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:

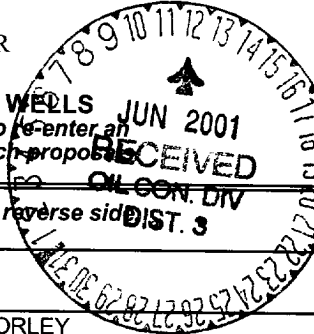
APPROVED BY _____ TITLE _____ DATE _____
NMOCD HOLD C104 FOR NSL - Basin Dakota

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



5. Lease Serial No.
SF - 078116
6. If Indian, Allottee or Tribe Name
7. If Unit or CA/Agreement, Name and/or No.
8. Well Name and No.
FLORANCE 121M
9. API Well No.
10. Field and Pool, or Exploratory
BASIN DAKOTA/BLANCO MESAVERDE
11. County or Parish, and State
SAN JUAN COUNTY, NM

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other
2. Name of Operator
AMOCO PRODUCTION COMPANY

Contact: MARY CORLEY
E-Mail: corleym@bp.com

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

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

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 24 T30N R10W Mer SWNE
36.47900 N Lat, 107.49900 W Lon

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 recompleat 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 recompleat 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 03/27/2001. 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.

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

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #4551 verified by the BLM Well Information System
For AMOCO PRODUCTION COMPANY, sent to the Farmington
Committed to AFMSS for processing by Maurice Johnson on 05/30/2001 ()**

Name (Printed/Typed) MARY CORLEY

Title AUTHORIZED REPRESENTATIVE

Signature

Date 05/27/2001

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By /s/ Lee Otten

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.

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

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 30-045-30609	² Pool Code 71599 & 72319	³ Pool Name BASIN DAKOTA & BLANCO MESAVERDE
⁴ Property Code 000518	⁵ Property Name Florance	⁶ Well Number # 121M
⁷ OGRID No. 000778	⁸ Operator Name AMOCO PRODUCTION COMPANY	⁹ Elevation 6302

¹⁰ Surface Location

UL or Lot No. G (Lot 7)	Section 24	Township 30 N	Range 10 W	Lot Idn	Feet from the 2585	North/South line NORTH	Feet from the 1445	East/West line EAST	County SAN JUAN
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¹¹ Bottom Hole Location If Different From Surface

¹² UL or lot no.	¹³ Section	¹⁴ Township	¹⁵ Range	¹⁶ Lot Idn	¹⁷ Feet from the	¹⁸ North/South line	¹⁹ Feet from the	²⁰ East/West line	²¹ County
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²² Dedicated Acres 315.32	²³ Joint or Infill	²⁴ Consolidation Code	²⁵ 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

¹⁶ Lot 4	¹⁷ Lot 3	¹⁸ Lot 2	¹⁹ Lot 1
²⁰ Lot 5	²¹ Lot 7	²² Lot 8	²³ Lot 6
²⁴ Lot 12	²⁵ Lot 11	²⁶ Lot 10	²⁷ Lot 9
²⁸ Lot 13	²⁹ Lot 14	³⁰ Lot 15	³¹ Lot 16

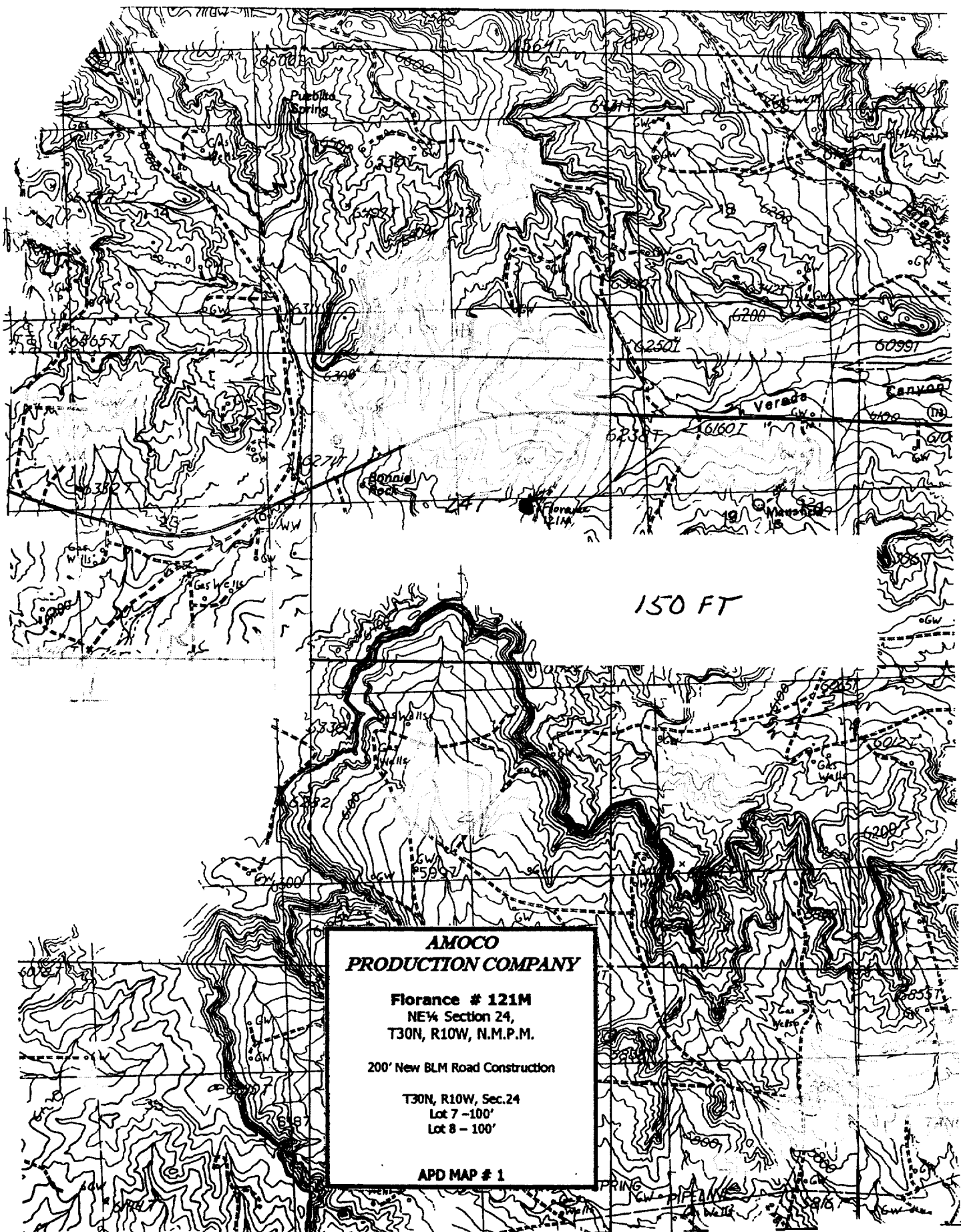
5160' 2585' 1445' 5235'

5284' 5216'

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: MARY CORLEY
Title: SR REGULATORY ANALYST
Date: 3/21/2001

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.
Date of Survey: February 3, 2001
Signature and Seal of Professional Surveyor: *GARY D. VANN*
7016
Certificate Number: 7016

JUN 2001
RECEIVED
OIL CON. DIV
DIST. 3



**AMOCO PRODUCTION COMPANY
DRILLING AND COMPLETION PROGRAM**

Prospect Name: Florance
Lease: FLORANCE
County: San Juan
State: New Mexico
Date: May 27, 2001

Well No: 121M
Surface Location: 24-30N-10W, 2585 FNL, 1445 FEL
Field: Blanco Mesaverde/Basin Dakota

OBJECTIVE: Drill 450' below the base of the Greenhorn Limestone, set 41/2" production casing, Stimulate LS, CH, MF, PL and DK intervals

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Estimated GL: 6302		Estimated KB: 6316	
Rotary	0 - TD	MARKER		SUBSEA	MEAS. DEPTH
LOG PROGRAM		Ojo Alamo		4649	1667
TYPE	DEPTH INVERAL	Fruitland Coal	*	3914	2402
OPEN HOLE		Pictured Cliffs	*	3384	2932
GR-Induction	TD to 7" shoe	Lewis Shale	#	3334	2982
Density/Neutron	TD to 7" shoe	Cliff House	#	1753	4564
CASED HOLE		Menefee Shale	#	1638	4679
GR-CCL-TDT	TDT – TD to 7" shoe	Point Lookout	#	1143	5173
CBL	Identify 4 ½" cement top	Mancos		1026	5291
REMARKS: - Please report any flares (magnitude & duration).		Greenhorn		-894	7210
		Bentonite Marker		-943	7259
		Two Wells	#	-990	7306
		Dakota MB	#	-1130	7446
		Burro Canyon	*	-1260	7576
		Morrison	*	-1310	7626
		TOTAL DEPTH		-1433	7749
		# Probable completion interval		* Possible Pay	
		DRILL CUTTING SAMPLES		DRILLING TIME	
		FREQUENCY	DEPTH	FREQUENCY	DEPTH
None	10 feet	Production hole	Geolograph	0-TD	
REMARKS:					


MUD PROGRAM:

Approx. Interval	Type Mud	Weight, #/ga	Vis, sec/qt	W/L cc's/30 min	Other Specification
0 - 200	3 jts. Spud	8.6-9.2			
200 - 3082	(1) Water/LSND	8.6-9.2		<6	
3082 - 7576	Gas/Air/N2/Mist	Volume sufficient to maintain a stable and clean wellbore			
7576 - 7749	(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 frequency.
(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 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"	
Intermediate 1	3082	7"	J/K-55 ST&C	20#	8.75"	
Production	7749	4 1/2"	J-55	11.6#	6.25"	

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/NMOCDD 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:

May 3, 2001

Version 3.0

HGJ/KAT

Form 46 12-00 KAT

Cementing Program

Slurry 1	108 sx Class G Cement	125 cuft
TOC@Surface	+ 2% CaCl ₂ (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 (ft ³ /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
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Lead	234 sx Class "G" Cement	679 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% CaCl ₂ (accelerator)	80 % excess

Slurry Properties:	Density (lb/gal)	Yield (ft ³ /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 centralizers @ base of Ojo
- 7 Centralizers 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
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Lead	143 LiteCrete D961 / D124 / D154	306 cuft
Slurry 1	+ 0.03 gps D47 antifoam	
TOC@Surface	+ 0.5% D112 fluid loss	

Cementing Program

+ 0.11% D65 TIC

Tail
Slurry 2

1918 ft fill

150 sx 50/50 Class "G"/Poz
+ 5% D20 gel (extender)
+ 0.1% D46 antifoam
+ 1/4 #/sk. Cellophane Flake
+ 0.25% D167 Fluid Loss

216 cuft
+ 5 #/sk D24 gilsonite
+ 0.15% D65 TIC
+ 0.1% D800 retarder

Slurry Properties:

Density
(lb/gal)

Yield
(ft³/sk)

Water
(gal/sk)

0.1026 cuft/ft OH

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

5291

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.

**Amoco Production Company
BOP Pressure Testing Requirements**

Well Name: Florance 121M
County: San Juan

State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1667		
Fruitland Coal	2402		
PC	2932		
Lewis Shale	2982		
Cliff House	4564	500	0
Menefee Shale	4679		
Point Lookout	5173	600	0
Mancos	5291		
Dakota	7306	2600	1436

** 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 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 in the Basin Dakota. No abnormal temperature, pressure, or H2S anticipated.

Equipment Specification

Interval

Below conductor casing to total depth

BOP Equipment

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 2000 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.