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.

5. Lease Serial No.
NM - 010989

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.
FIELDS A 4B

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

9. API Well No.
30-045-30633

3a. Address
P.O. BOX 3092
HOUSTON, TX 44253

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

10. Field and Pool, or Exploratory
BASIN DAKOTA/BLANCO MESAVEI

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 28 T32N R11W NWSE 2195FSL 1390FEL
36.57300 N Lat, 107.59400 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	☒ Other Change to Original A PD
	☐ 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 as the Fields 4M was submitted on 04/11/2001. On 05/30/2001 a Sundry Notice to amend the casing and cementing program was submitted. APD was approved with these changes on 06/11/2001.

The subject well was orginally proposed for completion into the Basin Dakota and Blanco Mesaverde with production to be commingled downhole.

It is now our intention to complete only into the Mesaverde formation, Amoco Production Company, therefore, respectfully submits for your approval amendments to our drilling and completion Program as per the attached two (2)documents.

Further Amoco request that the name and well number be changed from Fields # 4M to Fields A # 4B.

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #9618 verified by the BLM Well Information System
For AMOCO PRODUCTION COMPANY, sent to the Farmington

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

Signature (Electronic Submission) Mary Corley — Date 12/04/2001

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____ Title _____ Date 1/17/02

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.

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AMOCO PRODUCTION COMPANY
DRILLING AND COMPLETION PROGRAM

Prospect Name: Fields
Lease: FIELDS A
County: San Juan
State: New Mexico
Date: December 2, 2001

Well No: 4B
Surface Location: 28-32N-11W, 2195 FSL,1390 FEL
Field: Blanco Mesaverde

OBJECTIVE: Drill 50' below the base of the Mancos Shale, set 41/2" production casing, Stimulate LS, CH, MF and PL intervals

METHOD OF DRILLING

TYPE OF TOOLS	DEPTH OF DRILLING
Rotary	0 - TD

LOG PROGRAM

TYPE	DEPTH INVERAL
OPEN HOLE	
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 GEOLOGICAL MARKER

Estimated GL: 6248 Estimated KB: 6262

MARKER		SUBSEA	MEAS. DEPTH
Ojo Alamo		4406	1857
Fruitland Coal	*	3951	2312
Pictured Cliffs	*	3298	2964
Lewis Shale	#	3251	3012
Cliff House	#	1538	4724
Menefee Shale	#	1384	4878
Point Lookout	#	1010	5253
Mancos		881	5382
Greenhorn			
Bentonite Marker			
Two Wells	#		
Dakota MB	#		
Burro Canyon	*		
Morrison	*		
TOTAL DEPTH		831	5431

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, #/ga	Vis, sec/qt	W/L cc's/30 min	Other Specification
0	- 120-135		Spud	8.6-9.2			
120-135	- 2262	(1)	Water/LSND	8.6-9.2		<6	
2262	- 5431		Gas/Air/N2/Mist	Volume sufficient to maintain a stable and clean wellbore			

REMARKS:
(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.

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	9 5/8"	H-40 ST&C	32#	12.25"	1
Intermediate 1	2262	7"	J/K-55 ST&C	20#	8.75"	1,2
Production	5431	4 1/2"	J-55	11.6#	6.25"	3

REMARKS:
(1) Circulate Cement to Surface
(2) Set casing 50' above Fruitland Coal
(3) Bring cement 100' above 7" shoe

CORING PROGRAM:
None

COMPLETION PROGRAM:
Rigless, 3-4 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/MNP		December 2, 2001 Version 6.0	

Form 46 12-00 MNP

Amoco Production Company
BOP Pressure Testing Requirements

Well Name: **Fields A** **4B**
County: **San Juan** **State:** **New Mexico**

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	1857		
Fruitland Coal	2312		
PC	2964		
Lewis Shale	3012		
Cliff House	4724	500	0
Menefee Shale	4878		
Point Lookout	5253	600	0
Mancos	5382		

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

Requested BOP Pressure Test Exception: 750 psi

Cementing Program

Well Name:	Fields A4B	Field:	Blanco Mesaverde / Basin Dakota
Location:	28-32N-11W, 2195 FSL,1390 FEL	API No.	
County:	San Juan	Well Flac	
State:	New Mexico	Formation:	Dakota MesaVerde
		KB Elev (est)	6262
		GL Elev. (est)	6248

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	135	12.25	9.625	ST&C	Surface	NA	
Intermediate	2262	8.75	7	LT&C	Surface	NA	
Production -	5431	6.25	4.5	?	2162	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 Los:	<15

Cementing Program:

	Surface	Intermediate	Production
Excess %, Bit	100	80	40
Excess %, Caliper	NA	NA	25
BHST (est deg. F)	60	120	185
Pipe Movement	NA	Rotate/Reciprocate	Rotate/Reciprocate
Rate, Max (bpm)	6	8	6
Rate Recommended (bpm)	5	6	4
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.

Surface:

Preflush	20 bbl.	FreshWater	
Slurry 1	80 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)
Slurry 1	15.8	1.16	4.95

Cementing Program

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		160 sx	Class "G" Cement	464 cuft
Slurry 1			+ 3% D79 extender	
TOC@Surface			+ 2% S1 Calcium Chloride	
			+1/4 #/sk. Cellophane Flake	
			+ 0.1% D46 antifoam'	
Tail		110 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
12 Centralizers (one in middle of first joint, then every third collar)
2 Fluidmaster vane centalizers @ base of Ojo
4 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		190	LiteCrete D961 / D124 / D154	455 cuft
Slurry 1			+ 0.03 gps D47 antifoam	
TOC@Surface			+ 0.5% D112 fluid loss	
			+ 0.11% D65 TIC	
Tail		0 sx	50/50 Class "G"/Poz	0 cuft
Slurry 2			+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
	0 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
				40 % excess
				0.1169 cuft/ft csg ann

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	9.5	2.52	6.38

Cementing Program

Slurry 2	13	1.44	6.5	Top of Mancos 4931

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
27 Centralizers (every third joint)
1 Top Rubber Plug
1 Thread Lock Compound