

# OIL CONSERVATION DIVISION

2040 South Pacheco

Santa Fe, NM 87505

OIL CONSERVATION DIVISION

RECEIVED

AMENDED REPORT

## APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1 Operator Name and Address. Amoco Production Company P. O. Box 800 Denver, Colorado 80201		2 OGRID Number 000778
3 Property Code 667	4 Property Name Heaton LS	5 API Number 30 - 0 45 - 2612 921
		6 Well No. 3A

7 Surface Location									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	32	31N	11W		1705	North	1600	West	San Juan

8 Proposed 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
9 Proposed Pool 1 Blanco Mesaverde N/32 72317					10 Proposed Pool 2				

11 Work Type Code N-New Well	12 Well Type Code G	13 Cable/Rotary Rotary	14 Lease Type Code P-Private	15 Ground Level Elevation 5798 GL
16 Multiple No	17 Proposed Depth 5264'	18 Formation Blanco Mesaverde	19 Contractor Aztec	20 Spud Date 1/1/96

21 Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12.25	8.625	24#	120'	106 cu. ft. to surf.	
7.88	5.500	14#	2609'	723 cu. ft. to surf.	
4.75	2.875	6.5#	5264'	300 cu. ft. to 2,300'	

22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

23 I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Gail M. Jefferson</i>		OIL CONSERVATION DIVISION	
Printed name: Gail M. Jefferson		Approved by: <i>Ernie Busch</i>	
Title: Sr. Admin. Staff Asst.		Title:	
Date: 10/16/95		Approval Date: Expiration Date:	
Phone: (303) 830-6157		Conditions of Approval: Attached <input type="checkbox"/>	

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Artesia, NM 88211-0719  
District III  
1000 Rio Arizoso 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

APL Number 31-145-29292	Pool Code 72319	Pool Name Blanco Mesaverde
Property Code 1.1.1	Property Name HEATON LS	Well Number # 3A
OGRID No. 000778	Operator Name AMOCO PRODUCTION COMPANY	Elevation 5798

10 Surface Location

UL or Int no. F	Section 32	Township 31 N	Range 11 W	Lot Idn	Feet from the 1705	North/South line NORTH	Feet from the 1600	East/West line WEST	County SAN JUAN
--------------------	---------------	------------------	---------------	---------	-----------------------	---------------------------	-----------------------	------------------------	--------------------

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
12 Dedicated Acres 320.00									
13 Joint or Infill									
14 Consolidation Code									
15 Order No.									

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

BLM RECORD 16 1278.25 1318.02' 1318.02' 1600' 1705'	1278.25'	1705'			17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature Gail M. Jefferson Printed Name Sr. Admin. Staff Asst. Title Date 10/16/95
					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 July 19, 1995 Signature and Seal of Professional Surveyor GARY D. VAUGHN NEW MEXICO REGISTERED PROFESSIONAL LAND SURVEYOR 7016 Certificate Number

**AMOCO PRODUCTION COMPANY**  
**DRILLING and COMPLETION PROGRAM**

Lease/Well#: Heaton LS #3A  
 County: San Juan New Mexico  
 Former name:

Surface Location: 1705' FNL & 1600' FWL of Section 32, T31N, R11W  
 Field:

**OBJECTIVE:** Mesa Verde Gas

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER		
TYPE OF TOOLS	DEPTH OF DRILLING	Actual GL-----	Estimated KB	
Rotary	Ground Level - TD		5798	5810
		Marker	Depth (ft.)	SS Elev. (ft.)

LOGGING PROGRAM	DEPTH	Ojo Alamo	826	4,984
TYPE		Kirtland	847	4,963
		Fruitland Coal	1,852	3,958
		PC *	2,271	3,539
		Lewis Shale	2,459	3,351
		Cliff House	3,815	1,995
		Menefee Shale *	4,059	1,751
		Point Lookout *	4,814	996
		Mancos	5,214	596
		Gallup		
				Greenhorn
		Graneros		
		Dakota		
		<b>TOTAL DEPTH</b>	<b>5,264</b>	<b>546</b>

No open hole logs required.

Logging Program Remarks:

SPECIAL TESTS		DRILL CUTTING SAMPLES		DRILLING TIME	
TYPE	DEPTH INTERVAL, ETC	FREQUENCY	DEPTH	FREQUENCY	DEPTH
None				Geolograph	Int - TD
		Remarks:			

Remarks:

Mud Logging Program: None

Coring Program: None

**MUD PROGRAM:**

Approx. Interval	Type Mud	Weight, #/gal	Vis, sec/qt	W/L, cc's/30 min.
0' - 2609' (1) (2)	Water	8.6 - 9.2	Sufficient to clean hole	N/C
2609' - TD (3)	Air/Mist			

Mud Program Remarks:

- 1 - The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.
- 2 - If required to mud up, mud up with a LSND designed for good hole cleaning.
- 3 - If required to mud up, mud up with a LSND designed for good hole cleaning, API WL between 10-15.

**CASING PROGRAM:**

Casing String	Estimated Depth	Casing Size	Hole Size	Landing Point, Cement, Etc
Conductor	120	8-5/8"		
Surface	2,609	5-1/2"	7.875"	1, 2
Production	5,264	2-7/8"	4.75"	3

Casing Program Remarks:

- 1 - Circulate cement to surface.
- 2 - Set casing a minimum of 150' into the Lewis Shale
- 3 - Circulate cement a minimum of 300' into the surface casing overlap.

**GENERAL REMARKS:**

Business Unit Engineering staff to design completion program.

Form 46 Reviewed by:	Logging program reviewed by	
PREPARED BY:	APPROVED	APPROVED
P. Edwards/Craig/Ovitz		
Form 46 7-84bw	For Production Dept	For Exploration Dept
Date: 10/3/95	Rev Date 10/12/95 14 48	File heatls3a x1w

# CEMENTING PROGRAM

## Heaton LS #3A

Well Name: **Heaton LS #3A**  
Location: **Sec 32, T31N, R11W**  
County: **San Juan**  
State: **New Mexico**

Field:  
API No.  
Well Flac  
Formation: **Mesa Verde**  
KB Elev. (est.) **5810 ft.**  
GL Elev. (est.) **5798 ft.**

### Casing Program:

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)	Stage Tool Or TOL (ft.)	Cmt Circ. Out (bbl.)
Conductor	120	12.25	8.625	8R, ST&C	Surface	NA	
Surface	2,609	7.88	5.500	8R, ST&C	Surface	NA	
Production	5,264	4.75	2.875	8R, EUE	2300	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.)
Conductor	8.625	24	J-55	2950	1370	244	0.0636	7.972
Surface	5.500	14	J-55	4270	3120	172	0.0244	6.241
Production	2.875	6.5	N-80	10570	11160	144	0.00579	2.347

### Mud Program:

Apx. Interval (ft.)	Mud Type	Mud Weight (lb/gal)	Recommended Mud Properties Prior Cementing:	
			PV	<20
			YP	<10
			Fluid Loss	<15
0 - SCP	Water/Spud	8.6-9.2		
SCP - TD	Air/Mist	NA		

### Cementing Program:

	Conductor	Surface	Production
Excess %, Bit	75	60	30
Excess %, Caliper	NA	NA	20
BHST (est. deg. F)	60	100	140
Pipe Movement	NA	Rotate/Reciprocate	Rotate/Reciprocate
Rate, Max. (bpm)	6	6	4
Rate, Recommended (bpm)	6	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	1
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 Do not reverse out
- 4 Run Blend Test on Cement
- 5 Record Rate , Pressure, and Density on 3.5" disk
- 6 Confirm densometer with pressurized mud scales
- 7 1" cement to surface if cement is not circulated.
- 8 If cement is not circulated to the surface, run temp. survey 10-12 hr. after landing plug.

### Notes:

- \*\*\* Displace top plug on the production casing job with 0.2% Clay Fix II or 2% KCl water.
- \*\*\* Do not wash up on top of plug. Wash pumps and lines. We want to do rig less completions.

# CEMENTING PROGRAM

Heaton LS #3A

## Conductor:

Preflush	10 bbl.	Fresh Water	
Slurry 1 TOC@Surface	90 sk	Standard Cement + 2% CaCl <sub>2</sub> (not mixed) or 1.5 cu. yard Ready Mix	106 cu. ft.

Slurry Properties:	density (lb/gal)	yield (ft <sup>3</sup> /sk)	water (gal/sk)
slurry 1	15.60	1.18	5.20

Casing Equipment: (Halliburton) 8 5/8", 8R, ST&C  
1 Top Wooden Plug

## Surface:

Preflush	20 bbl. 20 bbl.	Mud Flush Fresh Water + dye marker	
Lead Slurry 1 TOC@Surface		50/50 Standard Cement/Blended Silicalite + 0.2% gel (total) + 0.5% Versaset + 0.4% Halad-344 + 0.2% CaCl <sub>2</sub> + 1/4 lb/sk floccle	594 cu. ft.
Tail slurry 2	100 sk	Standard Cement + 0.4% Halad-344 + 0.4% CFR-3 + 2.0% Microbond + 5 lb/sk gilsonite + 1/4 lb/sk floccle	129 cu. ft.

Slurry Properties:	density (lb/gal)	yield (ft <sup>3</sup> /sk)	water (gal/sk)
slurry 1	12.00	2.03	11.45
slurry 2	15.11	1.29	5.40

Casing Equipment: (Halliburton) 5 1/2", 8R, ST&C  
1 Type Regular Guide Shoe  
1 Super Seal II Float Collar  
1 Weld A  
14 S-4 Centralizer 1 ea. on 1st 12 joints, 1 ea. above and below Ojo Alamo  
1 Top Rubber Plug

# CEMENTING PROGRAM

Heaton LS #3A

Production:

Preflush	05 bbl.	Chemical Wash	
	02 bbl.	Fresh Water	
Lead Cement Slurry 1 TOC @ 2300 ft.		50/50 Std. Cmt/Poz A + 2% gel (total) + 5 lb/sk gilsonite + 0.4% Haled-344 + 1/4 lb/sk floccle	300 cu. ft.

Slurry Properties:	density (lb/gal)	yield (ft <sup>3</sup> /sk)	water (gal/sk)
slurry 1	13.50	1.32	5.59

Note: The job should be pumped at 4 bpm max rate. Do not exceed 2 bpm on displacement. Slow to 2 bpm for the displacement. Displace with 2% KCl or 0.2% Clay Fix II water. This is to be a rigless completion. Wash pumps and lines before displacing.

Casing Equipment: Halliburton 2 7/8", 8R, EUE, (no need to cut long pin)

- 1 Super Seal II Float Shoe
- 10 S-4 Fluidmaster Centralizer ( 2 7/8" " 4 3/4")
- 1 Lock Clamp
- 1 Weld A
- 1 Omega Latch Down Plug and Baffle

# Amoco Production Company

## BOP Pressure Testing Requirements

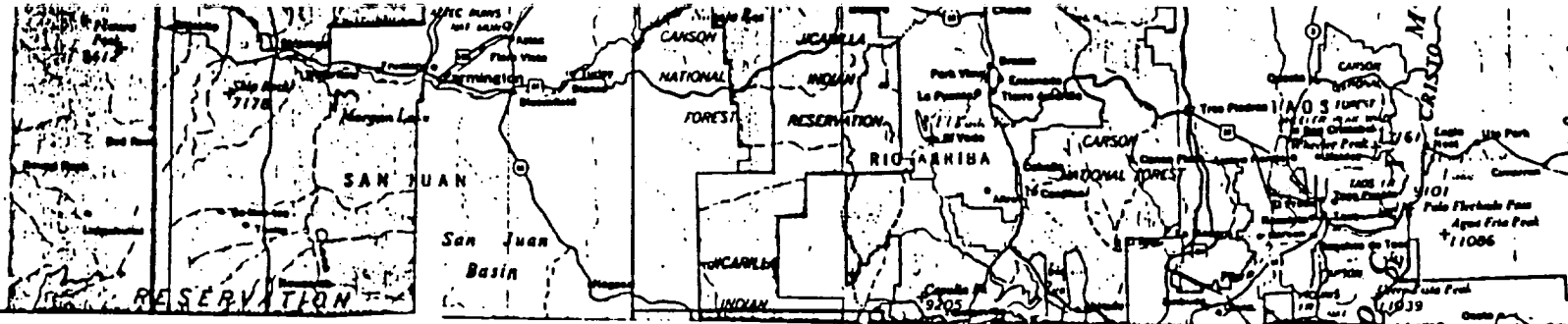
Lease/Well#: Heaton LS #3A  
 County: San Juan

State: New Mexico

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	826		
Kirtland	847		
Fruitland Coal	1,852		
PC	2,271		
Lewis Shale	2,459		
Cliff House *	3,815	1200	361
Menefee Shale *	4,059		
Point Lookout *	4,814	1700	641
Mancos	5,214		
Gallup	0		
Greenhorn	0		
Graneros	0		
Dakota	0		

\*\* Note: Determined using the following formula:  $ABHP - (.22 \times TVD) = ASP$

Requested BOP Pressure Test Exception: 750



HEATON LS # 3 A  
1705' F/NL 1600' F/WL  
SEC. 32, T31N, R11W, N.M.P.M.  
RAIL POINT:  
MUD POINT:  
CEMENT POINT:

