UNITED STATES

DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

	1			
5.	Lease Number SF-078387			
6. If Indian, All. or Tribe Name				
7.	Unit Agreement Name			
8 .	Well Name & Numbe			
	Howell D #2			
9.				
10. Field and				
11	Blanco Mesaverde County and State			
11.	San Juan Co, NM			
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PLUG AND ABANDONMENT PROCEDURE

Howell D #2 (MV) Blanco Mesaverde DPNO 47929A SW, Sec. 29, T31N, R8W

San Juan County, New Mexico

Note: All cement volumes use 100% excess outside pipe and 50' excess inside pipe. The stabilizing wellbore fluid will be 8.3 ppg, sufficient to balance all exposed formation pressures.

- 1. Install and/or test rig anchors. Prepare blow pit. Comply to all NMOCD, BLM and Meridian safety rules and regulations.
- 2. MOL and RUSU. Blow well down; kill with water if necessary. ND wellhead and NU BOP and stripping head; test BOP.
- 3. POH and tally 2" tubing (163 joints, tubing at 5059'). Visually inspect tubing, if it has heavy scale or is in poor condition then LD and PU 2" work string. PU a 6-5/8" casing scraper and RIH to 5050'. Note, in April, 1993, a casing scraper only went to 4780'; attempt to work scraper through tight spot in 6-5/8" casing.
- 4. Plug #1 (Mesaverde open hole interval, 5000' to 5244'): PU 6-5/8" cement retainer and RIH; set at 5050', or as deep as possible; adjust cement volumes accordingly. Pressure test tubing to 1000#; establish rate into Mesaverde open hole interval. Mix and pump 92 sxs Class B cement, squeeze 83 sxs cement below cement retainer (sufficient to cover top of fish and 50' below Mesaverde top, 100% excess), then spot 9 sxs cement above retainer to 5000'. POH with setting tool. Pressure test casing to 500#.
- 5. Plug #2 (Pictured Cliffs and Fruitland tops, 3434' to 3050'): Perforate 4 squeeze holes at 3434'. Establish rate into squeeze holes if casing tested. PU 6-5/8" cement retainer and RIH; set at 3330'. Establish rate into squeeze holes. Mix and pump 189 sxs Class B cement, squeeze 116 sxs cement outside casing over Pictured Cliffs and Fruitland tops from 3434' to 3050' and leave 73 sxs cement inside casing. POH with tubing. Pressure test casing to 500#.
- 6. Plug #3 (Kirtland and Ojo Alamo tops, 2520' to 2330'): Perforate 4 squeeze holes at 2520'. Establish rate into holes if casing tested. PU 6-5/8" cement retainer and RIH; set at 2470', Establish rate into squeeze holes. Mix and pump 98 sxs Class B cement, squeeze 57 sxs cement below retainer over Kirtland and Ojo Alamo tops from 2520' to 2330' and spot 41 sxs cement inside casing. POH and LD tubing. Pressure test casing.
- 7. Plug #4 (Surface): Perforate 2 holes at 341'. Establish circulation out bradenhead valve. Mix and pump approximately 114 sxs Class B cement down the 6-5/8" casing, circulate good cement out bradenhead valve. Shut in well and WOC.
- 8. ND BOP and cut off well head below surface casing flange and install P&A marker with cement to BLM specs. RD and MOL. Cut off anchors.
- 9. Restore location per BLM stipulations.

PERTINENT DATA SHEET

10/26/94

WELLNAME:	Howell D #2				DP NUMB	BER:		47929A			
WELL TYPE:	Blanco Mesave	erde			ELEVATI		GL: KB:	6545'			
LOCATION:	1650' FSL, 9 Sec. 29, T31N, San Juan Coun		00		INITIAL POTE			6,000	MCF/D	·	
OWNERSHIP:	GWI: NRI:	100.0000% 83.5000%			DRILLIN		CC	PUD DATE: DMPLETED: AL DEPTH: PBTD:		0: 5	7-03-51 3-28-51 755' pen Hole
CASING RECORD:		· · · · · ·									
HOLE SIZE	SIZE	WEIGHT	GRADE	<u>DEPTH</u>	E	QUIP.		CEMENT	-		тос
12 1/4"	9 5/8"	36#	J55	291'		-		150 sx			Surface
8 3/4"	6 5/8"	20#	J55	5150'				300 sx	1	rs	4100'
Tubing	2 3/8"	4.7#	J55	5057'							
FORMATION TOPS:	Ojo Alamo Kirtland Fruitland Pictured Cliffs Lewis Cliffhouse Menefee		2380' 2470' 3100' 3384' 3439' 5194' 5250'		(Point Lookout Gallup Graneros Dakota		5642'			
LOGGING:	ES, L-W GR, T	s									
PERFORATIONS	None Open F	Hole									
STIMULATION:	5205' 5755' s	shot 1200 qts.	SNG								
WORKOVER HISTORY: Apr-93					npted to pull tubin						
PRODUCTION HISTORY:	Gas	Oil			DATE OF LAST	PRODUCTION	ON:	<u>Gas</u>	Qil		
Cumulative as of 1994: Current:	8.2 Bcf 0 M cf	28.4 MBbl 0 Bbl				Septembe	er, 1992	2 8 Mcf	0 BbI		
PIPELINE:	EPNG										

Howell D #2

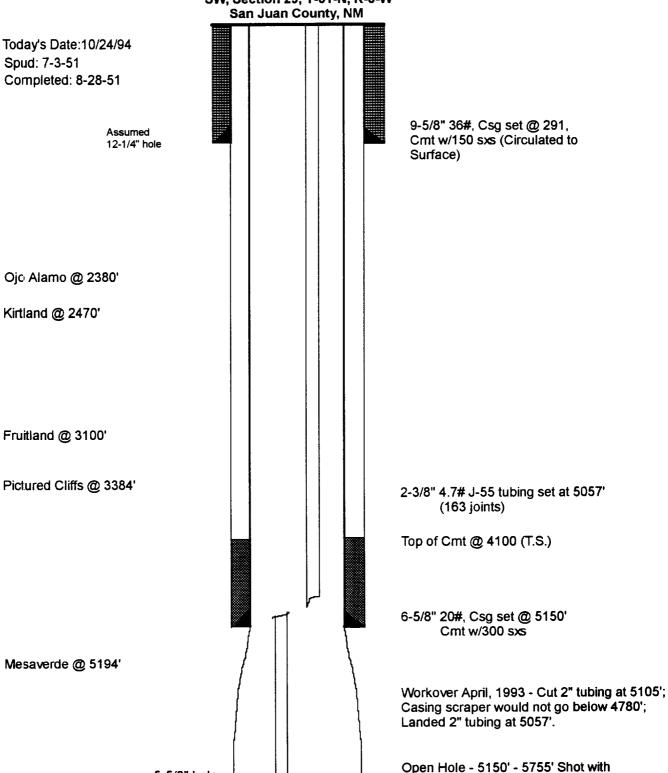
Current

Blanco Mesaverde

DPNO 47929A

1200 quarts solidified Nitro-glycerin.

SW, Section 29, T-31-N, R-8-W



TD 5755'

5-5/8" hole

Howell D #2 Proposed P & A

Blanco Mesaverde DPNO 47929A

SW, Section 29, T-31-N, R-8-W San Juan County.NM

Today's Date: 10/24/94

Spud: 7-3-51

Completed: 8-28-51

Assumed 12-1/4" hole

Ojo Alamo @ 2380'

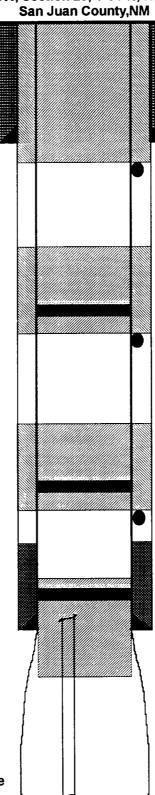
Kirtland @ 2470'

Fruitland @ 3100'

Pictured Cliffs @ 3384'

Mesaverde @ 5194'

5-5/8" hole



TD 5755'

9-5/8" 36#, Csg set @ 291, Cmt w/150 sxs (Circulated to Surface)

> Plug #4 341' - Surface' 114 sxs cement

Perforate @ 341'

Plug #3 2520' - 2330' 41 sxs Inside 57 sxs outside

Cement Retainer @ 2470'

Perforate @ 2520'

Plug #2 3434' - 3050' 73 sxs Inside 116 sxs outside

Cement Retainer @ 3330'

Perforate @ 3434'

Top of Cmt @ 4100 (T.S.)

Plug #1 5244' - 5000' 83 sxs below CR 9 sxs above CR

Cement Retainer @ 5050'

6-5/8" 20#, Csg set @ 5150' Cmt w/300 sxs

Workover April, 1993 - Cut 2" tubing at 5105'; Casing scraper would not go below 4780'; Landed 2" tubing at 5057'.

Open Hole - 5150' - 5755' Shot with 1200 quarts solidified Nitro-glycerin.

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT FARMINGTON DISTRICT OFFICE

1235 La Plata Highway Farmington, New Mexico 87401

Attachment to Notice of

Re: Permanent Abandonment

Intention to Abandon

Well: 2 Howell D

CONDITIONS OF APPROVAL

- 1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Leases."
- 2. **Mike Flaniken** with the Farmington Office is to be notified at least 24 hours before the plugging operations commence (505) 599-8907.
- 3. The following modifications to your plugging program are to be made (when applicable):
 - 1. Extend Pictured Cliffs and Fruitland cement plug from 3434' to 3014'. (top of Fruitland @ 3064')
 - 2. Move Ojo Alamo cement plug. Perforate at 2319' and place a cement plug from 2319' to 2140' inside and outside the casing plus 100 % excess cement in the annulus and 50 linear feet excess inside the casing. (top of Kirtland @ 2269', Top of Ojo Alamo @ 2190')
 - 3. Perforate at 1032' and place a cement plug from 1032' to 932' inside and outside the casing plus 100% excess cement outside the casing and 50 linear excess inside the casing. (top of Nacimiento at 982')