

BRIGHT & COMPANY
DRILLING PROGRAM

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DATE 3/18/92

WELL NAME Cuba Mesa Unit #35-1

TD 4536 TVD, 7569 MD

FIELD Rio Puerco COUNTY Sandoval

STATE New Mexico

LOCATION 730' FSL & 1000' FWL of Section 35, T 21 N, R 2 W

BHL: 1200' FNL & 660' FWL of Section 35.

OBJECTIVE ZONE(S) Gallup

GR. ELEV. 7013

GEOLOGICAL

MECHANICAL

LOGS

FORMATION
TOPS

DEPTHS

HOLE
SIZE

CASING
SIZE

MUD
WT.

14-3/4"

10-3/4"

8.4 - 8.6#

250'

Ojo Alamo

567'

Fruitland

762'

Picture Cliffs

940'

Lewis

1025'

Chacra

1367'

Cliff House

1855'

Menefee

2525'

9-7/8"

7-5/8"

8.4 - 8.6#

CSNG
DIL/SD/DSN
Dipmeter

Pt. Lookout

3145'

Mancos

3377'

3940'

Gallup A

4105'

Gallup B

4273'

Gallup C

4446'

Gallup D

4561'

Semilla

4915'

4950'

6-3/4" to 4501'

6-1/2" to TD

Foam

4-1/2"
slotted liner

Angle = 86.25°

Displacement = 3367'

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION

Bright+G.

EXHIBIT NO. 5

CASE NO. 10459

10459

Gallup B

4536 TVD
7569 MD

CASING and TUBING DESIGN

	SIZE	INTERVAL	LENGTH	WT.	GR.	CPLG.	DESIGN FACTORS		
							COL.	TENSION	BURST
SURFACE.....	10-3/4"	0 - 250	250	40.5#	H-40	ST&C	12.8	31.0	5.4
PROTECTIVE.....	7-5/8"	0 - 3940	3940	26.4#	K-55	ST&C	1.6	3.3	3.1
LINER.....	4-1/2"	3740 - 7569	3829	11.6#	K-55	LT&C			
		6-3/4" holes per ft., 60°	phasing						
		Leave 3 ft. from each end	blank						
TUBING.....	2-7/8"	0 - 3940	3940	6.5#	J-55	EUE			

CEMENT PROGRAM

	FT. of FILL	CEMENT TYPE	SACKS	EXCESS %	WEIGHT	YIELD
SURFACE.....	to surface	Class B + 3% CaCl ₂ + .25 lb/sk	250	100%	15.64	1.20
		Cello-Seal				
Protective Stage 1	1940'	47 PPS Class B + 18.5 PPS Poz A	225	25%	11.49	2.23
		+ 5% salt + 18.5 PPS CSE + .25 PPS Cello-Seal				
	1000'	Class B	235	25%	15.63	1.19
Stage 2	656'	47 PPS Class B + 18.5 PPS POZ A	75	25%	11.49	2.23
DV Tool at 1100'		+ 5% salt + 18.5 PPS CSE + .25 PPS Cello-Seal				
	444'	Class B	100	25%	15.63	1.19

FLOAT EQUIPMENT and CENTRALIZER PROGRAM

	TYPE and SPACING
SURFACE.....	10-3/4", ST&C Guide Shoe, 10-3/4" ST&C Float Collar 1 jt up. Cent. 5' above G.S., 5' above F.C. and then every other jt to surface (5 Cent.)
PROTECTIVE.....	7-5/8", ST&C Float Shoe; 7-5/8" ST&C Float Collar, 1 jt up; 7-5/8", ST&C DV Tool at 1100'. Cent. 5' above shoe, 5' above F.C., on every other collar to 3400', and then every 4th collar to surface.

WELLHEAD EQUIPMENT

SIZE AND WP.....	11" 3000# x 10-3/4" screw-on. Larkin Figure 92,2000# x 7-5/8" SOW
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BRIGHT & COMPANY
DRILLING PROGRAM

MUD PROGRAM

DEPTH

INTERVAL	TYPE	WT.	VISC.	WATER LOSS	TREATMENT
0 - 250	Gel/Lime	8.4-8.6	28-45	NC	Use gel & lime for viscosity.
250 - 4950	KCl/PHPA (LSND)	8.4-8.6	34-38	10-6	
3940 - 7569 (Horizontal)	KCl/PHPA Foam				

REMARKS:

GEOLOGICAL DATA

1. LOGGING:

DEPTH: TYPE LOGS

4950' Compensated Spectral Natural GR, DIL-Spectral Density/Dual
Spaced Neutron, Six Electrode Dipmeter

2. MUD LOGGER: Install at 3000'

3. SAMPLES: None

4. CORING: None

5. DST: None

ADDITIONAL INFO: Call morning reports to office by 8:30 AM (CST). Office phone 512/341-9773.

On weekends and after 5 PM (CST), call Mike Hunt 512/691-0417 or Jack Richards at
512/964-3335.

Cuba Mesa Unit No. 35-1
Rio Puerco Field
Sandoval County, New Mexico

Procedure

- 1) Move-in drilling rig. Install High Speed Shale Shaker at rig-up.
- 2) Drill 14-3/4" hole to 250'. Run and cement 10-3/4" casing as per drilling program. Reciprocate casing while cementing.

Note: Notify BLM at 507/327-5344 when the well is spudded. Also, notify the BLM 48 Hrs prior to cementing casing
- 3) Install casinghead on 10-3/4" casing (10-3/4" screw on x 11" 3000#). Nipple-up 11" x 3000# double ram BOP with pipe rams on bottom and blind rams on top and on annular preventor.
- 4) Prior to drilling out of surface casing, test BOP's, choke manifold, inside BOP, kelly cock, stand pipe valve, and kill line to rated pressure. Test annular BOP to 1500# (50% of rated pressure). Install wear ring.

Note: 1) Have a full opening valve and inside BOP on the floor for each size of tubulars being used.
2) Record BOP test on IADC report form.
- 5) Test 10-3/4" casing to 1500# (rated at 2280 psi)
- 6) Drill a 9-7/8" hole to 4950'. Run stabilizer at 60' and 90'. Take surveys at 500 ft intervals.

Note: 1) Install mud logger at 3000'.
2) Install Skimmer System, Super Choke and Air Compressors prior to setting 7-5/8" casing.
- 7) At TD (4950') run Gyro Survey on slick line drill pipe.
- 8) Log with Compensated Spectral Gamma Ray, DIL-Spectral Density/Dual Spaced Neutron and Six Electrode Dipmeter. From logs, determine target interval in the Gallup.
- 9) Set 350' cement plug from 4190' to 3840' with 240 sx of C1 H +.5% CF-14 + 10% SF-3 + .4% TF-4 (Wt. = 17.1 ppg, Yield = 1.07 cu ft/sk). Use centralizers on bottom 400' of drill pipe, pump mud flush ahead of cement and reciprocate drill pipe. Use caliper log to determine cement volume.
- 10) GIH with 9-7/8" bit and dress-off cement plug to 3940'.
- 11) Run and cement 7-5/8" casing as per drilling program. Run DV Tool at 1100'.
- 12) Remove 10-3/4" casinghead. "Orange peel" 10-3/4" casing onto 7-5/8" casing.
- 13) Install Casinghead (Larkin Fig. 92, 3000# WP for 7-5/8"). Nipple-up 11" 3000# BOP's, annular preventor and rotating head.

- 14) Prior to drilling out of a 7-5/8" casing, test BOP's, choke, manifold, inside BOP, kelly cock, stand pipe valve, and kill line to 3000 psig. Test annular preventor to 1500 psig. Install wear ring.

Note: a) BOP's to have pipe rams on bottom and blind rams on top.
b) Have a full opening valve and inside BOP on the floor for each size of tubulars being used.
c) Record BOP test on IADC report form.

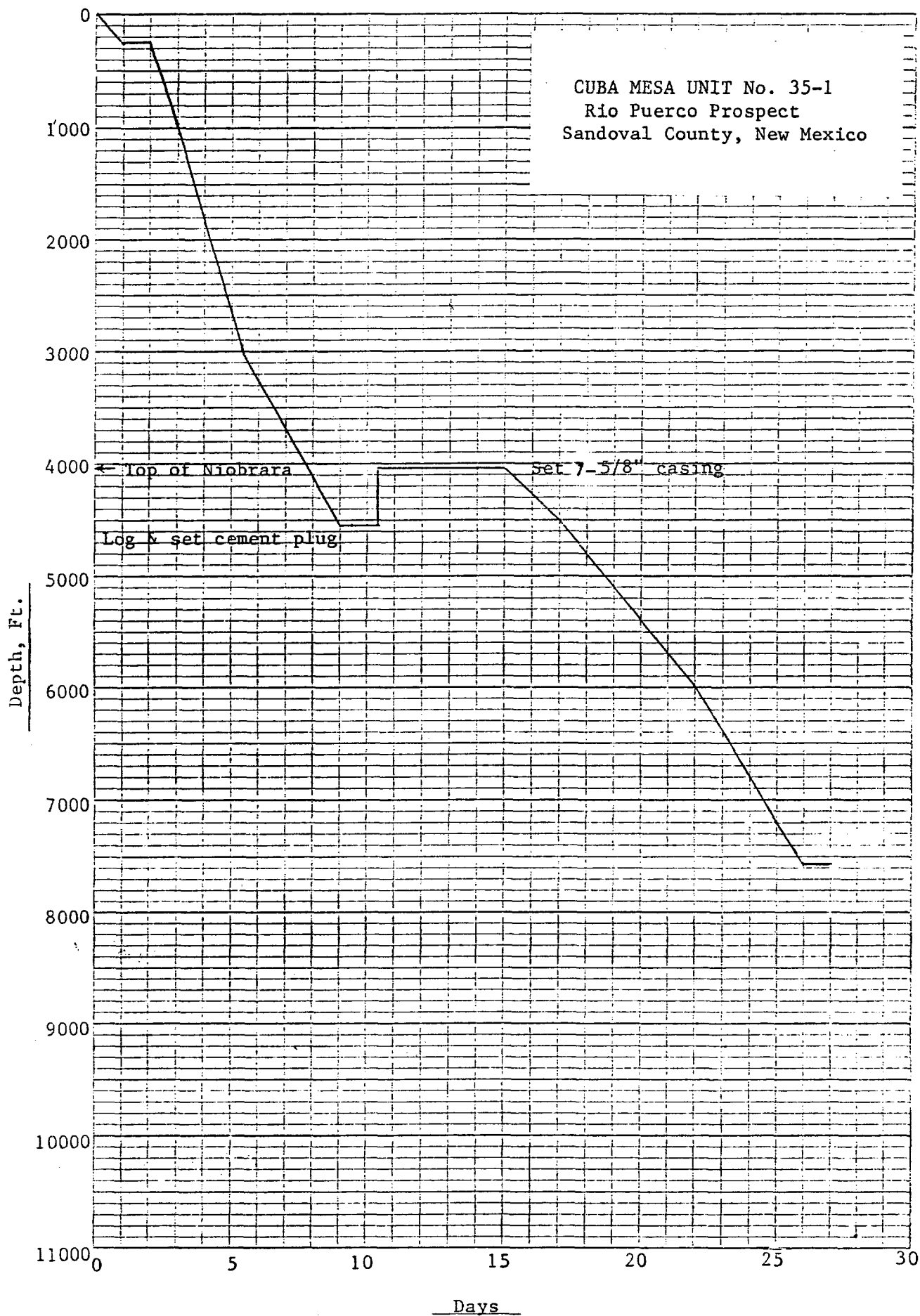
- 15) Test 7-5/8" casing to 1500 psig (rated at 4140#).

- 16) GIH with 6-3/4" rock bit, float sub, 2 - 4-3/4" non mag drill collars, 21 jts of 3-1/2", 13.30#, S-135 DP, 66 jts of 3-1/2" HWDP with 3-1/2" IF tool jts, and 3-1/2", 13.30#, S-135 drill pipe with 3-1/2" IF tool jts. Use rotary to drill cement, float equipment and 70 ft of cement plug. (Geoservice MWD must be below casing to send signal). Install wear ring.

Note:

- 1) The 3-1/2", S-135 drill pipe will be run in the curve and horizontal portion of the hole.
 - 2) The 66 jts of HWDP will provide 37,000 lbs of effective bit weight.
 - 3) Drill pipe design will provide 200,000 lbs of overpull.
- 17) GIH with 6-3/4" rock bit, motor, non mag flex joint, float sub, mule shoe sub, 2 - non mag DC's, 21 jts of 3-1/2", S-135 DP, 66 jts of 3-1/2" HWDP, and 3-1/2", S-135 DP.
- 18) Kick-off cement plug and directionally drill as per directional program. Reduce hole size to 6-1/2" after curve is completed.
- 19) The mud system will be a foamed KCl/PHPA mud. Circulate through skimmer system. The formation pressure of the Gallup is approximately 6.5 ppg.
- 20) The proposed target is the Gallup "B" with an estimated depth of 4315' in the straight hole. The actual target and depths will be determined from the logs of the straight hole.
- 21) The dip of the Gallup "B" is 3.75 degrees in a direction of N 25 degrees W.
- 22) The bottom hole location will be 1200' FNL and 1000' FWL of Section 35, T 21 N, R 2 W. The horizontal displacement will be 3367' with an azimuth of N 5.8 degrees W.
- 23) If the mud log shows indicates the well to be commercially productive, a 4-1/2" slotted liner will be set. The holes in the liner will be drilled with 6-3/4" holes per ft with 60 degree phasing. Leave 3 ft from each end blank.
- 24) To test well, GIH with rental packer, and 2-7/8" tubing. Swab test well.
- 24) Based on the results of the swab test, a pump will be sized and installed with a workover rig.

CUBA MESA UNIT No. 35-1
 Rio Puerco Prospect
 Sandoval County, New Mexico



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UNIT 1 NORTH PLAIN DIVISION
 KEUFFEL & ASSOCIATES, INC. NEW YORK, N.Y.