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CONDITIONS OF APPROVAL TO ANY:

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NEW MENTO OIL CONSERVATION COMMISSION Form C-102 Supersedes 6-128 Effective 1-1-68 WELL LC . TION AND ACREAGE DEDICATION PL All distances must be from the outer boundaries of the Section

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# PROGNOSIS

FOR

MARALO, INC. CHAVELEA-CARSON NO. 2 CHAVES COUNTY, NEW MEXICO

> Jack D. Semon 12 May 1977

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Operator:

MARALO, INC.

Lease and Well No.:

CHAVELEA-CARSON NO. 2

Location:

1980' FNL & 1980' FEL, Section 16, T-9-S, R-31-E,

Chaves County, New Mexico

#### Elevation:

### Surface Casing:

17 1/2" hole is to be drilled to 450'± using a fresh water gel-lime mud (8.5 to 8.8 PPG, 34 to 36 sec vis, NC on water loss).

Casing setting as follows (assuming 450' as setting depth):

	Thds Off		
Description	Length	From	To
Rotary Correction	12	0	12
13 3/8" OD, 48#/ft, H-40, ST&C	398	12	410
13 3/8" OD, 48#/ft, H-40, ST&C	39	410	449
Howco type M guide shoe	1	449	450

The bottom three (3) joints are to be sand blasted to remove mill scale and lacquer and are to be welded and sealed with Howco-weld A. Positive type centralizers are to be used; one set on each of the bottom three (3) joints. API modified thread lubricant is to be used on the casing threads.

Casing is to be cemented to the surface using 500 sacks Class  $\hbox{\ensuremath{\tt 'C''}},$  2% CaCl cement.

(slurry wt 15.0 PPG, slurry volume 1.324 CF/sack; 6.3 gal mixing wtr per sack; 3 hrs pumping time)

A W.O.C. time of twelve (12) hours, after plug is down, will be observed.

Prior to drilling the float, the casing is to be displaced with 10.0 PPG brine, and the casing is to be pressure tested to 500 psi for 30 minutes. After drilling the shoe the casing is again to be pressure tested to 500 psi for 30 minutes.

#### Intermediate Casing:

11" hole is to be drilled to 3350'±

(Actual casing point is to be determined by geologist on location and below the top of the San Andres formation. Sufficient to case off incompetent zones.)

using a 10.0 PPG brine (28 to 35 sec vis, NC on water loss) using

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# Intermediate Casing (Cont'd):

lime for pH control. A flosal sweep should be used to insure clean hole conditions.

Casing setting as follows (assuming 3350' as setting depth):

	Thds Off		
Description	Length	From	To
Rotary Correction	11	0	11
8 5/8" OD, 24#/ft, K-55, ST&C Csg	2135	11	2146
8 5/8" OD, 24#/ft, K-55, (ST Collar X			
LT Pin)	40	2146	2196
8 5/8" OD, 32#/ft, K-55, LT&C Csg	1110	2196	3306
Float Collar	2	3306	3308
8 5/8" OD, 32#/ft, K-55, LT&C Csg	40	<b>3</b> 308	3348
Float Shoe, Howco down jet *	2	3348	3350

(NOTE: 32#/ft casing is to be drifted for 7 7/8" bit)
 \* Float shoe is to have lateral exits for cement as it is
 intended to rest part of casing weight on bottom.

The bottom three (3) joints are to be sand blasted to remove mill scale and lacquer and, in addition, are to be welded and sealed with Howco-weld A. Positive type centralizers are to be used; one set on each of the bottom three (3) joints. API modified thread lubricant is to be used on casing threads.

Prior to running the 8 5/8" OD casing a volume meter is to be run to determine the actual cement volume required.

Casing is to be cemented with Halliburton light cement with 5# gilsonite and 10# salt per sack (slurry wt 12.9 PPG, slurry volume 1.963 CF/sack; 9.9 gal mixing water per sack; 3 hrs pumping time) followed by 300 sacks Class "C", 2% CaCl (slurry wt 15.0 PPG, slurry volume 1.31 CF/sack; 6.2 gal mixing water per sack; 3 hrs pumping time).

A W.O.C. of twelve (12) hours, after plug is down, will be observed.

Prior to drilling the float collar, the casing is to be displaced with 9.9 to 10.0 PPG brine water and pressure tested to 600 psi for 30 minutes. After drilling the float shoe, the casing is again to be tested to 600 psi for 30 minutes.

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# Production Casing:

7 7/8" hole is to be drilled from the 8 5/8" OD casing seat to total depth. A 10.0 PPG brine water, using lime for pH control, is to be used. At approximately 6800' the hole is to be mudded up with salt water gel and 5% oil by volume (40 to 45 sec vis, NC on water loss). At approximately 9000' the water loss is to be reduced to 10 to 15 cc. Appropriate corrosion inhibitors are to be used.

 $5\ 1/2$ " OD casing is to be set at total depth if commercial shows are encountered; actual setting depth may vary. Estimated casing setting is as follows:

Degarintian	Thds Off		
Description	Length	From	To
Rotary Correction	10	0	10
5 1/2" OD, 17#/ft, N-80, LT&C Csg	1783	10	1793
5 1/2" OD, 17#/ft, K-55, LT&C Csg	5707	1793	7500
Howco DV Stage Cementing Tool	3	7500	7503
5 1/2" OD, 17#/ft, K-55, LT&C Csg	493	<b>7</b> 503	7996
5 1/2" OD, 17#/ft, N-80, LT&C Csg	<b>2</b> 560	7996	10,556
Float Collar	2	10,556	10,558
5 1/2" OD, 17#/ft, N-80, LT&C Csg	40	10,558	10,598
Float Shoe, down jet type *	2	10,598	10,600

<sup>\*</sup> Float shoe is to be equipped with lateral exits as it is intended to rest part of the casing weight on bottom.

5 1/2" OD casing is to be inspected using a combination mechanical optical and magnetic particle full length; in addition, the casing is to be drifted.

The bottom three (3) joints are to be sealed with Howco-weld A. API modified thread lubricant is to be used on casing threads.

Positive type centralizers are to be used on bottom three (3) joints and are to be included over any possible prospective pay zones. Casing is also to be sand blasted to remove mill scale and lacquer across any prospective zones and bottom three (3) joints.

Prior to running the  $5\ 1/2"$  casing, a caliper survey is to be run to determine actual cement volumes. Cement is to be calculated to fill the annulus to 3000" on the second stage. Casing will be cemented in two (2) stages as follows:



# Production Casing (Cont'd):

First Stage: Class "H" cement with 0.8% HALAD-22 and 6# KCl

per sack (slurry wt 15.9 PPG, slurry volume 1.21 CF/sack; 5.2 gal mixing water per sack; 3 hrs pumping time). Cement volume is to fill from

casing shoe to DV stage cementing tool.

NOTE: Open DV tool and circulate out excess cement above

tool --- then circulate slowly 8 hours while W.O.C.

before beginning second stage.

Second Stage: Class "H", pozmix A 50-50 2% gel with 0.6% HALAD-22

and 5# salt per sack (slurry wt 14.5 PPG, slurry volume 1.28 CF/sack; 5.7 gal mixing water per sack;

3 hrs pumping time).

After the second stage plug is down the  $5\ 1/2$ " OD casing is to be cut off, equipment nippled down and the rig released.

# Completion:

Completion procedure will be determined after total depth is reached and zones of interest have been evaluated.

#### Logging:

Mud Logging Unit 8 5/8" Csg Seat to TD GR-Compensated Neutron Surface to TD

Dual Laterolog 8 5/8" Csg Seat to TD Bensity 8 5/8" Csg Seat to TD

Microlaterolog Selected Intervals

#### Drill Stem Tests:

DST's in the Morrow are anticipated; however, the exact number will be as required by the Geological Department when zones of interest are encountered.

# Samples and Drilling Time:

10' drill cutting samples will be required from 2200' to TD.

10' drilling time will be required from surface to TD.

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# Estimated Formation Tops:

Rustler	1325
Yates	1900
San Andres	3125
Glorieta	4545
Tubbs	6022
Abo	6902
Wolfcamp	8017
Bell Zone	8687
Atoka	9647
Morrow	9907
Mississippian	10,590

JDS/1sg 12 May 1977

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- (1) Existing roadway to the Maralo, Inc., Chavelea-Carson No. 1 will be utilized. New roadway will be constructed due south from the Chavelea-Carson No. 1 approximately 4300' thence west approximately 4000' to the Chavelea-Carson No. 2 location. All construction to be on state land. See attached map for details.
- (2) Production facilities, if a commercial well is realized, will be constructed on the extreme edge of the drilling pad.
- (3) Water, both fresh and brine, will be trucked to the drill site. Water to be purchased from a commercial source.
- (4) Materials for construction of access roadway and location will be secured from state land; pit approximately 2 1/2 miles distant.
- (5) No ancillary facilities are proposed.
- (6) After completion of operations all waste materials will be disposed of through burial to a sufficient depth. Liquids will be trucked to proper disposal facilities.
- (7) Surface of land will be restored to original conditions acceptable to Bureau of Land Management.
- (8) Well site layout -- as attached diagram.
- (9) Well control sketch -- as attached diagram.
- (10) OPERATORS representative designated as Cecil Evans, Production Superintendent, P. O. Box 832, Midland, Texas 79702; Telephone 915-684-7441 (Office).
- (11) I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by MARALO, INC., its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

12 May 1977

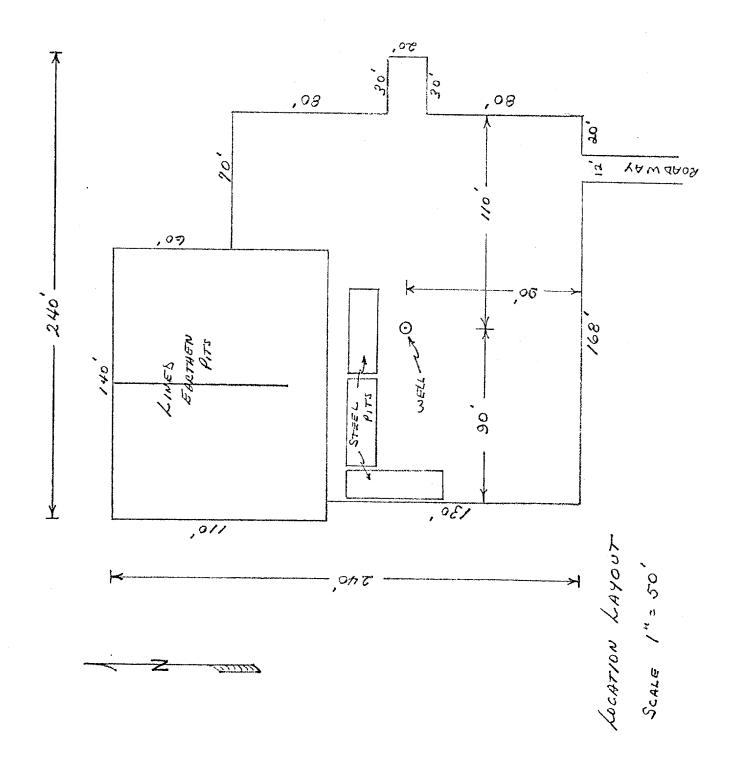
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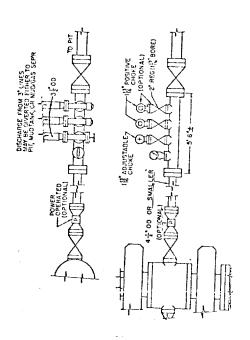
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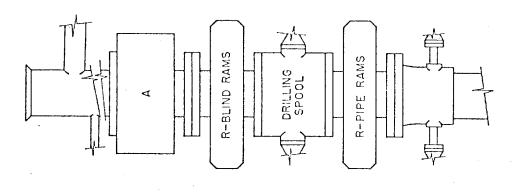
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BLOW OUT PREVENTER PROGRAM

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