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DRILLING PROGRAM

Attached to Form 3160-3
Mallon Oil Company
Mallon "34" Federal No. 12
660 FSL, 1980 FEL, Sec.34 T19S R34E
Lea County, New Mexico

Lease Number: NM-052

- Geologic Name of Surface Formation is : Quaternary Alluvium
- 2. Estimated Tops of Important Geologic Markers

Quaternary Alluvium Surface Rustler Top of Salt 1720 Base of Salt 3326 Yates 3513 Seven Rivers 3821 Queen 4516 Delaware 5800 Total Depth 6300

3. The Estimated Depths of Anticipated Fresh water, Oil or Gas:

Quaternary Alluvium	300'	Fresh Water.
Yates	3513'	Oil
Queen	4516'	Oil
Delaware	5800'	Oil

No other formations are expected to give up Oil, Gas, or Fresh Water in measurable quantities. The surface fresh water sands will be protected by setting 9 5/8" csg at 1500' and circulating cement back to surface. Potash will be protected by setting 5 1/2" csg at total depth and circulating cement back to 1300' from surface.

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4. Proposed Casing Program:

Hole Size	<u>Interval</u>	<u>Csg OD</u>	Csg weight grade, Jt,, Type Cond			
25"	0-40'	20"	Conductor, 0.25" wall thickness			
14 3/4"	0-1500'	9 5/8"	36# K-55 STC			
8 3/4"	0-5300	5 1/2"	14# K-55 STC			
	5300-TD	5 1/2"	15.5# K-55 STC			

Cement Program:

20" Conductor csg: Cemented with ready-mix to surface

9 5/8" Surface csg: Cemented to Surface with 700 sx Pacesetter Lite

6.00% Gel (Bentonite)+0.25 lb/sk Cello-Seal

105.% Fresh Water

5 1/2" Production csg. Cemented with 800 sacks Pacesetter Lite (C)

6.00% Gel (Bentonite)+0.25 lb/sk Cello-Seal 5.00% Salt+105.00% Fresh Water, This cement

slurry is designed to bring TOC to 1300'.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram type (3000psi WP) preventer. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams on bttom. The BOP will be nippled up on the 9-5/8" surface csg and used continuosly until TD is reached. BOP and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Pipe rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and 2" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a kelly cock and floor safety valve and choke lines and choke manifold with 3000 psi WP rating.

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6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of brine, cut brine, and polymer/KCL mud system. The applicable depths and properties of this system are as follows:

Depth	Туре	Weight	Viscosity	Waterloss
		(ppg)	(sec)	(cc)
0-40	Fresh Water (spud)	8.5	40-45	N.C.
0-1500	F.W. (Gel/Lime)	8.5-9.0	32-36	N.C.
1500-	TD Brine Water	10.0	32-34	10-12cc

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

- 7. Auxiliary Well Contol and Monitoring Equipment:
 - (A) A Kelly cock will be kept in the drill string at all times.
 - (B) A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
 - (C) The drilling fluids systems will be visually monitored at all times.
- 8. Testing, Logging and Coring Program:

Drill Stem Tests: None Anticipated

Logging: TD to Surface casing, GR, CNL-FDC, DLL, MSFL

Coring: None Planned

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9. Abnormal Conditions, Pressures, Temperatures, & Potential Hazards:

No abnormal pressures or temperatures are anticipated. The proposed mud program will be modified to control excess pressure if abnormal pressures are encountered. The estimated bottom hole temperature (BHT) at TD is 150 F and estimated maximum bottom-hole pressure (BHP) is 2800 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. Anticipated starting date: December 10, 1994
Anticipated completion of Drilling operations: Expected duration of 3 weeks.

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 phi Working Pressure

3 MWP

STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal			
1	Flowline					
2	Fill up line			2*		
3	Drilling nipple					
5	Two single or one dual hydoperated rams	Two single or one dual hydraulically operated rams				
6 a	Drilling spool with 2" min. 3" min choke line outlets					
65	2" min. kill line and 3" mir outlets in ram. (Alternate t					
7	Valve	Gate [] Plug []	3-1/8"			
8	Gate valve—power operat	ed	3-1/8"			
9	Line to choke manifold			3*		
10	Valves	Gate 🗆 Plug 🖸	2-1/16*			
11	Check valve	-	2-1/18"			
12	Casing head					
13	Vaive	Gate [] Plug []	1-13/16"			
14	Pressure gauge with need					
15	Kill line to rig mud pump r		2"			

3
SLIND RAMS
B PIPE RAMS B G G G G G G G G G G G G G G G G G G
ORILLING SPOOL TO ISSUE THE AD TO ISSU
(6) CASING (2)

CONFIGURATION

	OPTIONAL	
16 Flanged valve	1-13/16"	

CONTRACTOR'S OPTION TO FURNISH:

- All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
- Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
- 3.80P controls, to be located near drillers position.
- 4. Kelly equipped with Kelly cock.
- Inside blowout prevventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
- Kelly saver-sub equipped with rubber casing protector at all times.
- 7.Plug type blowout preventer tester.
- 8. Extra set pipe rams to fit drill pipe in use on location at all times.
- 9. Type RX ring gaskets in place of Type R.

MEC TO FURNISH:

- 1.Bradenhead or casinghead and side valves.
- 2. Wear bushing, if required.

GENERAL NOTES:

- Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
- 2.All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through chore. Valves must be full opening and suitable for high pressure mud service.
- Controls to be of standard design and each marked, showing opening and closing position.
- 4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
- 5. All valves to be equipped with handwheels or handles ready for immediate
- 6.Choke lines must be suitably anchored.

- 7. Handwheels and extensions to be connected and ready for use.
- Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
- All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
- 10.Casinghead connections shall not be used except in case of emergency.
- Do not use kill line for routine fill-up operations.

Exhibit 1

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CONTRACTOR

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DISTRICT I P.O. Box 1980, Hobbs, NM 88240

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102 Revised February 10, 1994 Instruction on back Submit to Appropriate District Office

Delaware

State Lease - 4 Copies Fee Lease - 3 Copies

DISTRICT II P.O. Drawer DD, Artemia, NM 88210

1000 Rio Brazos Rd., Axtee, NM 87410

API Number

Property Code

DISTRICT III

OIL CONSERVATION DIVISION

P.O. Box 2088 Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

Pool Code

758

1534	8	MALLON 34 FEDERAL			12				
OGRID N	0.	Operator Name			Elevation				
1397	25	MALLON OIL CO.				3682'			
					Surface Lo	ocation			
UL or let No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	34	198	34E		660	SOUTH	1980	EAST	LEA
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
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