Form 3160-3
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: JIC. CONTRACT 458

6. If Indian, Allottee or Tribe Name: JICARILLA

1a. Type of Work: ☒ DRILL ☐ REENTER — CONFIDENTIAL

7. If Unit or CA Agreement, Name and No.:

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: JIC 458-8 #15

2. Name of Operator: MALLON OIL COMPANY
Contact: ROBERT BLAYLOCK
E-Mail: rblaylock@bhep.com

9. API Well No.: 30-039-27849

3a. Address: 350 INDIANA STREET, SUITE 400, GOLDEN, CO 80401

3b. Phone No. (include area code): Ph: 720.210.1300 Fx: 720.210.1301

10. Field and Pool, or Exploratory: PICTURED CLIFFS

4. Location of Well (*Report location clearly and in accordance with any State requirements.**)
At surface: NWSE Lot J 2120FSL 2075FEL
At proposed prod. zone: NWSE Lot J 2120FSL 2075FEL

11. Sec., T., R., M., or Blk. and Survey or Area: J Sec 8 T30N R3W Mer NMP
SME: BIA

14. Distance in miles and direction from nearest town or post office*: 57 MILES EAST OF BLOOMFIELD

12. County or Parish: RIO ARRIBA

13. State: NM

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 2075 FEET

16. No. of Acres in Lease: 1900.00

17. Spacing Unit dedicated to this well: ~~80.00~~ 160 SE/4

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.: 1500 FEET - JICARILLA 458-8 #7

19. Proposed Depth: 4000 MD

20. BLM/BIA Bond No. on file: 1318288

21. Elevations (Show whether DF, KB, RT, GL, etc.): 7077 GL

22. Approximate date work will start: 12/20/2003

23. Estimated duration: 45-60 DAYS

AUG 2004 RECEIVED ON. CONS. DIV. DIST. 3

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name (Printed/Typed)	Date
(Electronic Submission)	KATHY L. SCHNEEBECK Ph: 303.820.4480	11/19/2003

Title: AGENT

Approved by (Signature)	Name (Printed/Typed)	Date
		JUL 29 2004
Title: Assistant Field Manager	Office	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #24952 verified by the BLM Well Information System
For MALLON OIL COMPANY, sent to the Rio Puerco
Committed to AFMSS for processing by ANGIE MEDINA-JONES on 11/24/2003 ()

AFMSS

Adjud	
Engr	
Geol	
Surf	
Appvl	

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

DISTRICT I
P.O. Box 1980, Hobbs, N.M. 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, N.M. 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
P.O. 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

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-27849	72400	E. Blanco/Pictured Cliffs

[4] Property Code	[5] Property Name	[6] Well Number
~~24245~~ 22182	JICARILLA 458-8	15

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	MALLON OIL COMPANY	7077'

[10] Surface Location

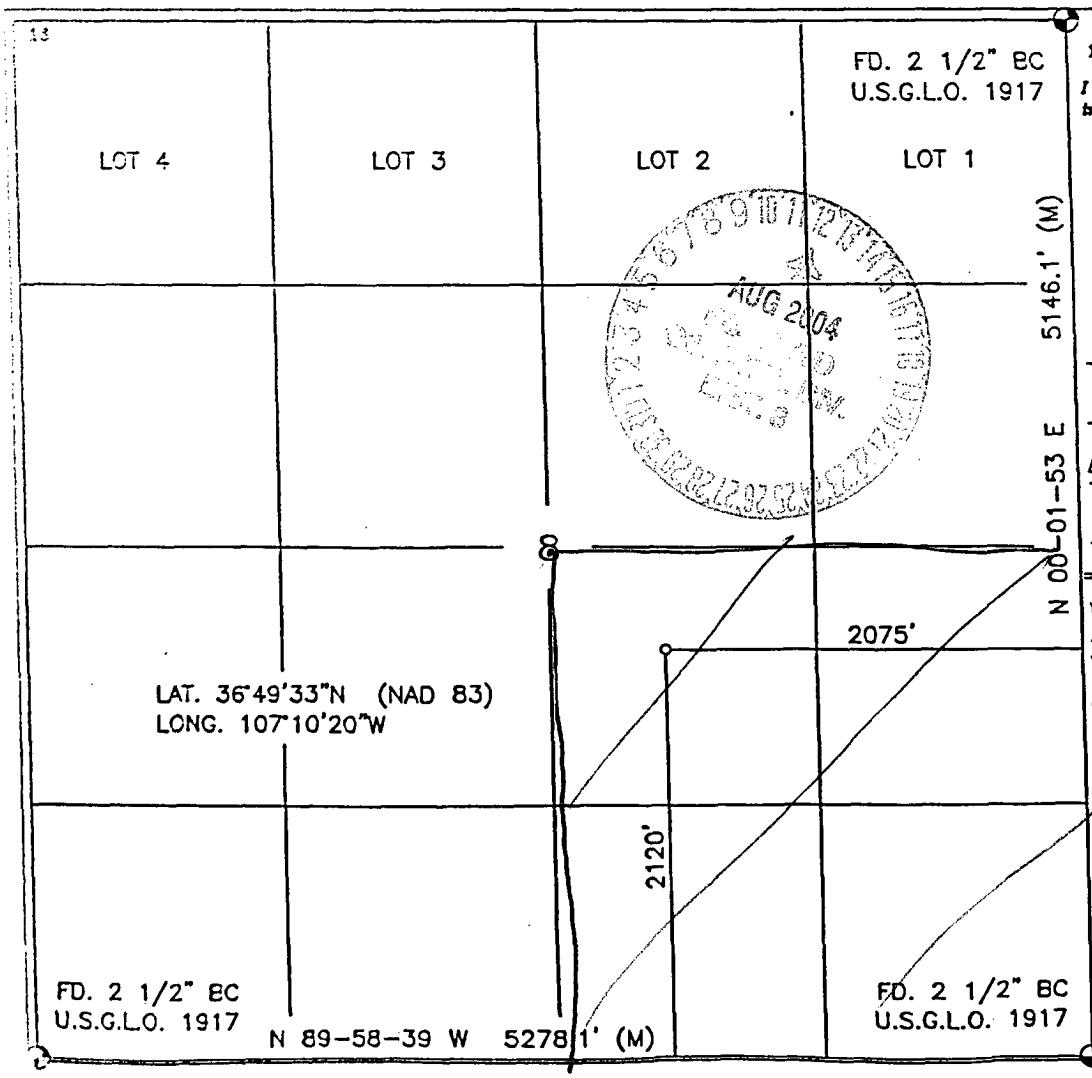
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	8	30-N	3-W		2120'	SOUTH	2075'	EAST	RIO ARRIBA

[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	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
160			

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



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Kathy L. Schneebeck
Signature

Kathy L. Schneebeck
Printed Name

Agent for Mallon Oil Company
Title

Submitted November 19, 2003
Date Re-submitted August 5, 2004

[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.

8-15-03
Date of Survey

Signature and Seal of Professional Surveyor:

DAVID A. JOHNSON
NEW MEXICO
14827
REGISTERED PROFESSIONAL SURVEYOR

14827
Certificate Number

COMPANY: MALLON OIL COMPANY

LEASE: JICARILLA 458-8 #15

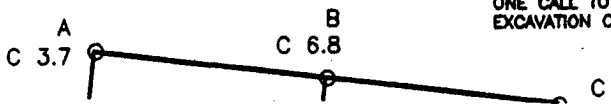
FOOTAGE: 2120' FSL, 2075' FEL

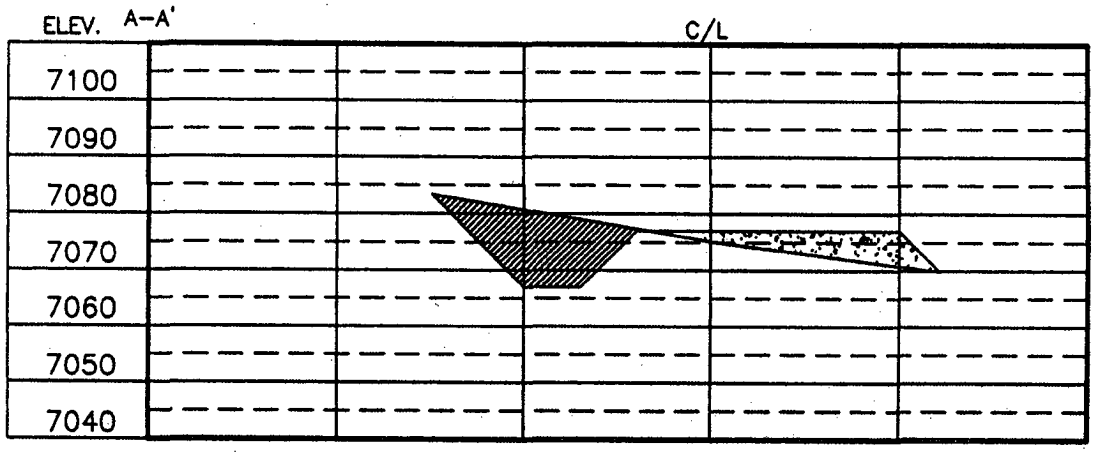
SEC.: 8 TWN: 30-N RNG: 3-W NMPM

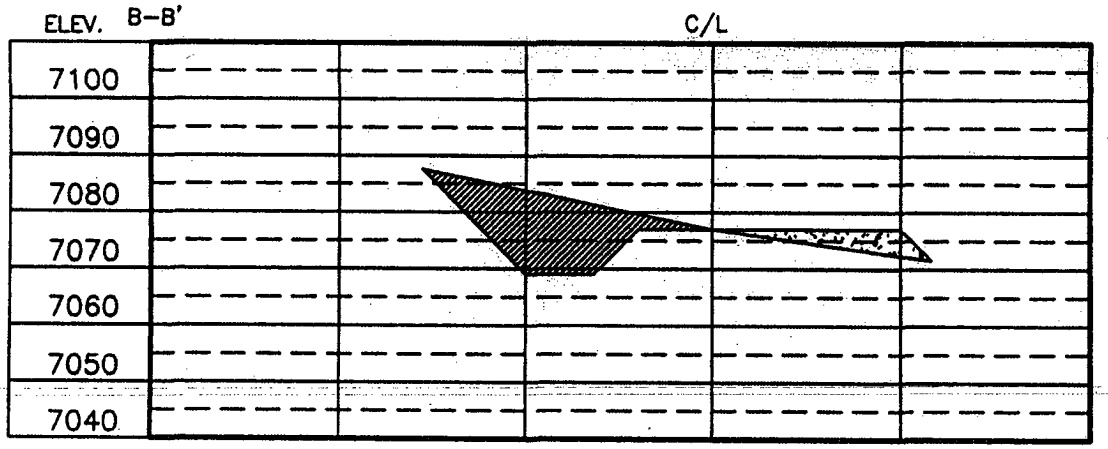
ELEVATION: 7077'

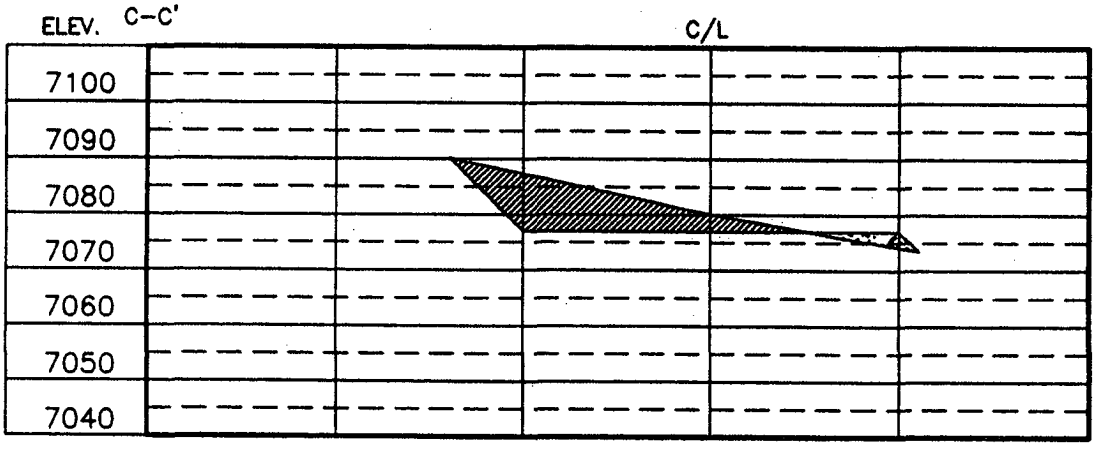
NOTE:

DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.









DRAWN BY: BS R.O.W.#: MN255 CADFILE: MN255CFB DATE: 8/5/03

Daggett Enterprises, Inc.
Surveying and Oil Field Services
P. O. Box 15068 · Farmington, NM 87401
Phone (505) 326-1772 Fax (505) 326-6019

Mallon Oil Company
Jicarilla 458-8 #15
2,120' FSL 2,075' FEL (NW/4 SE/4) Lot J
Sec. 8 T30N R3W
Rio Arriba County, New Mexico
Lease: Jicarilla Contract 458

CONFIDENTIAL

DRILLING PROGRAM
(Per Rule 320)

This Application for Permit to Drill (APD) was initiated under the NOS process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. This NOS process includes an onsite meeting which was held on September 30, 2003 as determined by Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA) and Jicarilla Oil & Gas Commission (JOGC), and at which time the specific concerns of Mallon Oil Company (Mallon), BLM, BIA and JOGC were discussed.

MALLON RESPECTFULLY REQUESTS THAT ALL INFORMATION REGARDING THIS WELL BE KEPT CONFIDENTIAL.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,077'

ESTIMATED FORMATION TOPS - (Water, oil, gas and/or other mineral-bearing formations)

Upper San Jose	Surface	Sandstone, shales & siltstones
Lower San Jose	1,440'	Sandstone, shales & siltstones
Nacimiento	2,026'	Sandstone, shales & siltstones
Ojo Alamo	3,072'	Sandstone, shales & siltstones
Kirtland	3,307'	Sandstone, shales & siltstones
Fruitland	3,590'	Sandstone, shales & siltstones
Pictured Cliffs	3,644'	Sandstone, shales & siltstones
Lewis	3,714'	Sandstone, shales & siltstones

TOTAL DEPTH 4,000'

Estimated depths of anticipated fresh water, oil, or gas:

Tertiary		
San Jose	surface	Gas
Nacimiento	2,026'	Gas
Ojo Alamo	3,072'	Gas
Fruitland	3,590'	Gas
Pictured Cliffs	3,644'	Gas

water bearing

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0' – 250'	12-1/4"	8-5/8"	J-55 24# ST&C New	To surface (±175 sxs Class B)
0' – T.D.	7-7/8"	5-1/2"	J-55 15.5# LT&C New	TD to surface (±630 sxs lite or 65:35 poz and ±270 sxs 50:50 poz)*

* Actual cement volume to be determined by caliper log.

Yields: Class B yield = 1.18 ft^3/sx
65:35 Poz yield = 1.62 ft^3/sx
50:50 Poz yield = 1.26 ft^3/sx

All fresh water and prospectively valuable minerals encountered during drilling, will be recorded by depth and protected.

PRESSURE CONTROL

BOPs and choke manifold will be installed and pressure tested before drilling out under surface casing (subsequent pressure test will be performed whenever pressure seals are broken), and then will be checked daily as to mechanical operating condition. BOP's will be pressure tested at least once every 30 days. Ram type preventors and related pressure control equipment will be pressure tested to 1,000 psi. Annular type preventor will be pressure tested to 50% of the rated working pressure, not to exceed 1,000 psi. All casing strings will be pressure tested to 0.22 psi/ft. or 1,000 psi, whichever is greater, not to exceed 70% of internal yield.

BOP to be either double gate rams or an annular preventor as per Onshore Order No. 2.

Statement on Accumulator System and Location of Hydraulic Controls

The drilling rig has not yet been selected for this well. Selection will take place after approval of this application. Manual and/or hydraulic controls will be in compliance with Onshore Order No. 2 for 2M systems.

A remote accumulator will be used. Pressures, capacities, location of remote hydraulic and manual controls will be identified at the time of the BLM supervised BOP test.

MUD PROGRAM

0'	-	250'	Fresh water – M.W. 8.5 ppg, Vis 30-33
250'	-	TD	Fresh water - Low solids non-dispersed M.W. 8.5 – 9.2 ppg Vis – 28 – 50 sec W.L. 15cc or less

Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kick" will be available at wellsite.

AUXILIARY EQUIPMENT

A) A Kelly cock will be kept in the drill string at all times
B) Inside BOP or stab-in valve (available on rig floor)
C) Mud monitoring will be visually observed

LOGGING, CORING, TESTING PROGRAM

A)	Logging:	DIL- CNL-FDC-GR - TD - BSC (GR to surface) Sonic (BSC to TD)
B)	Coring:	None
C)	Testing:	Possible DST – None anticipated. Drill stem tests may be run on shows of interest

ABNORMAL CONDITIONS

A)	Pressures:	No abnormal conditions are anticipated Bottom hole pressure gradient – 0.31 psi/ft
B)	Temperatures:	No abnormal conditions are anticipated
C)	H_2S:	None is anticipated.
D)	Estimated bottomhole pressure:	1,240 psi

ANTICIPATED START DATE

December 20, 2003

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-3/8" J-55 4.7#/ft tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

Jicarilla 458-8 #15
2,120'FSL 2,075' FEL (NW /4 SE /4)
Sec. 8 T 30N R 3W
Rio Arriba County, New Mexico
Jic Contract 458

SURFACE CASING AND CENTRALIZER DESIGN

Proposed Total Depth:			4,000 '
Proposed Depth of Surface Casing:			250 '
Estimated Pressure Gradient:			0.31 psi/ft
Bottom Hole Pressure at			4,000 '
0.31 psi/ft	x 4,000 '	=	1,240 psi
Hydrostatic Head of gas/oil mud:			0.22 psi/ft
0.22 psi/ft	x 4,000 '	=	880 psi

Maximum Design Surface Pressure

Bottom Hole Pressure	–	Hydrostatic Head	=	
(0.31 psi/ft x 4,000 ')	–	(0.22 psi/ft x 4,000 ')	=	
1,240 psi	–	880 psi	=	360 psi

Casing Strengths 8-5/8" J-55 24# ST&C

Wt.	Tension (lbs)	Burst (psi)	Collapse (psi)
24 #	244,000	2,950	1,370
32 #	372,000	3,930	2,530

Safety Factors

Tension (Dry): 1.8 Burst: 1.0 Collapse: 1.125

Tension (Dry): 24 # / ft x 250 ' = 6,000 #

Safety Factor = 244,000 / 6,000 = 40.67 ok

Burst: Safety Factor = 2,950 psi / 360 psi = 8.19 ok

Collapse: Hydrostatic = 0.052 x 9.0 ppg x 250 ' = 117 psi

Safety Factor = 1,370 psi / 117 psi = 11.71 ok

Use 250 ' 8-5/8" J-55 24# ST&C

Use 2,000 psi minimum casinghead and BOP's but will test to 1,000 psi

Centralizers

8 Total
1 near surface at 160'
3 middle of bottom joint, second joint, third joint
4 every other joint ±80'

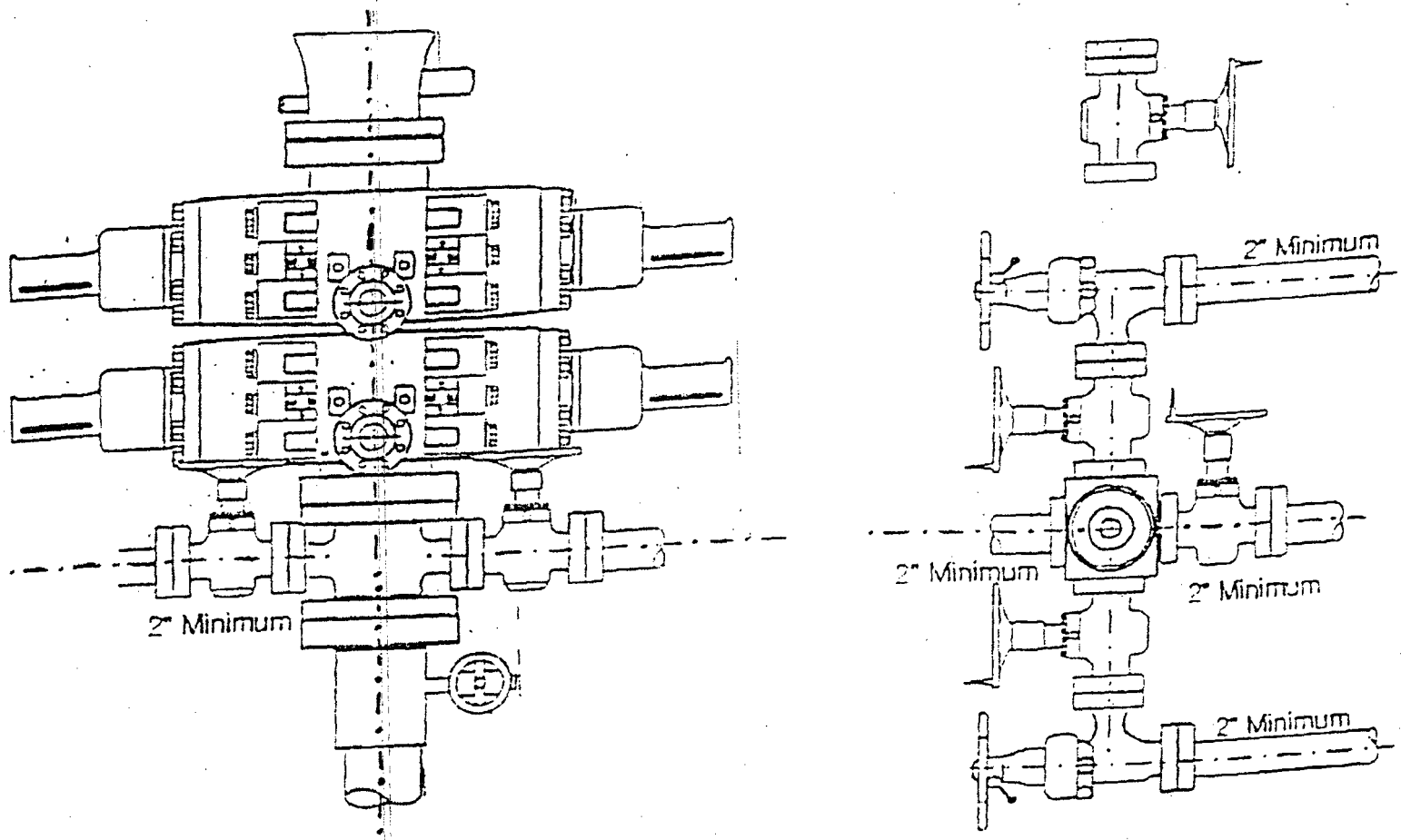
Total centralized ± 440 ' (-190 ' – 250 ')

Note that field experience indicates that additional centralizers greatly increase the chance of "sticking" the surface casing prior to reaching surface casing total depth.

2-M SYSTEM

MALLON OIL COMPANY

ANNULAR PREVENTOR MAY BE SUBSTITUTED FOR DOUBLE GATE PREVENTORS
BOP PRESSURE TEST TO 1,000 PSI



BOP PLAT

Hydrogen Sulfide Drilling Operations Plan

I. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H_2S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H_2S Safety Equipment and Systems

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

A. Well control equipment:

1. Choke manifold with a minimum of one remote choke.
2. Blind rams and pipe rams to accomodate all pipe sizes with properly sized closing unit.

B. Protective equipment for essential personnel:

1. Mark II Surviveair 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

C. H_2S detection and monitoring equipment:

1. Two portable H_2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S levels of 10 ppm are reached.

D. Visual warning systems:

1. Wind direction indicators as shown on well site diagram.

2. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate. See example attached.

E. Mud program:

1. The mud program has been designed to minimize the volume of H_2S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

F. Metallurgy:

1. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.

2. All elastomers used for packing and seals shall be H_2S trim.

G. Communication:

1. Cellular telephone communications in company vehicles.

H. Well testing:

1. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill stem testing operations conducted in an H_2S environment will use the closed chamber method of testing.