Form 3160-3
(August 1999)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

CONFIDENTIAL

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. CONTRACT 451
	6. If Indian, Allottee or Tribe Name JICARILLA APACHE
	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 451-03 14
2. Name of Operator MALLON OIL COMPANY 13925 Contact: ART CHILDERS E-Mail: artchilder@bhep.com	9. API Well No. 30-039-29266
3a. Address 350 INDIANA STREET, SUITE 400 GOLDEN, CO 80401 3b. Phone No. (include area code) Ph: 505.382.9100	10. Field and Pool, or Exploratory EAST BLANCO/PICTURED CLIFFS
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface NENE Lot 1 740FNL 610FEL At proposed prod. zone NENE Lot 1 740FNL 610FEL	11. Sec., T., R., M., or Blk. and Survey or Area Sec 3 T29N R3W Mer NMP SME: BIA
14. Distance in miles and direction from nearest town or post office* 57 MILES EAST OF BLOOMFIELD, NM	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) 740' FNL 16. No. of Acres in Lease 2560.00	17. Spacing Unit dedicated to this well ~~160.00~~ NE/4 155.13
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 2200' JIC 451-3 #1 19. Proposed Depth 4000 MD	20. BLM/BIA Bond No. on file 1318288
21. Elevations (Show whether DF, KB, RT, GL, etc. 7246 GL 22. Approximate date work will start 07/14/2004	23. Estimated duration 45-60 DAYS

OCT 2004

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 (Electronic Submission)	Name (Printed/Typed) KATHY L. SCHNEEBECK Ph: 303.820.4480	Date 06/14/2004
Title AGENT		
Approved by (Signature)	Name (Printed/Typed)	Date SEP 30 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 #31851 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 06/15/2004 ()

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

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II
1301 W. Grand Ave., Artesia, N.M. 88210

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

DISTRICT IV
1220 South St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised June 10, 2003
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	
30-039-29266	72400	East Blanco/Pictured Cliffs	
[4] Property Code	[5] Property Name		[6] Well Number
~~24245~~ 23931	JICARILLA 451-03		14
[7] OGRID No.	[8] Operator Name		[9] Elevation
013925	MALLON OIL COMPANY		7246'

[10] Surface Location

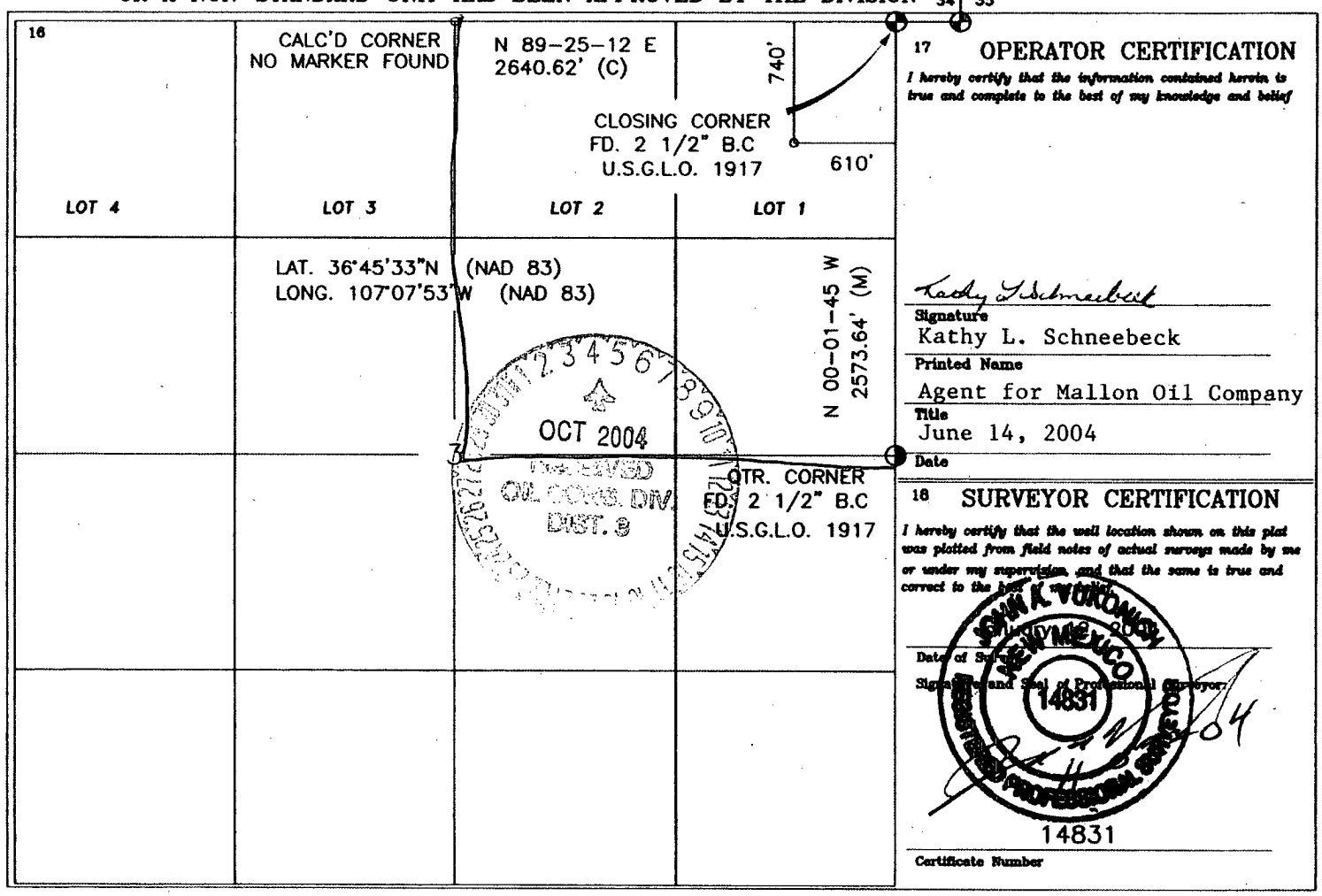
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	3	29-N	3-W		740	NORTH	610	EAST	RIO ARRIBA

[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~~ 155.13			NSL 4355

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

June 14, 2004
Date

[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.

NOVEMBER 2003
Date of Survey

Signature and Seal of Professional Surveyor:

GARY L. VANN
NEW MEXICO
14831
REGISTERED PROFESSIONAL SURVEYOR

14831
Certificate Number

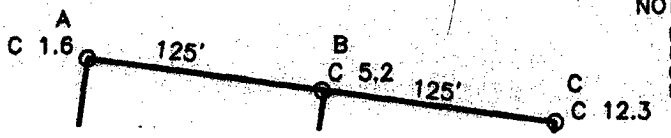
COMPANY: MALLON OIL COMPANY

LEASE: JICARILLA 451-03 No. 14

FOOTAGE: 740 FNL 610 FEL

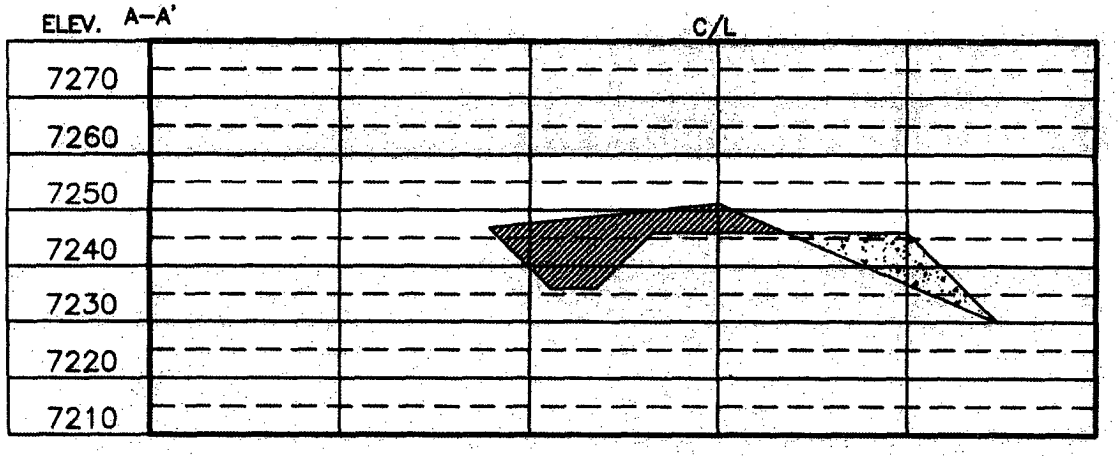
SEC.: 3 TWN: 29-N RNG: 3-W NMPM

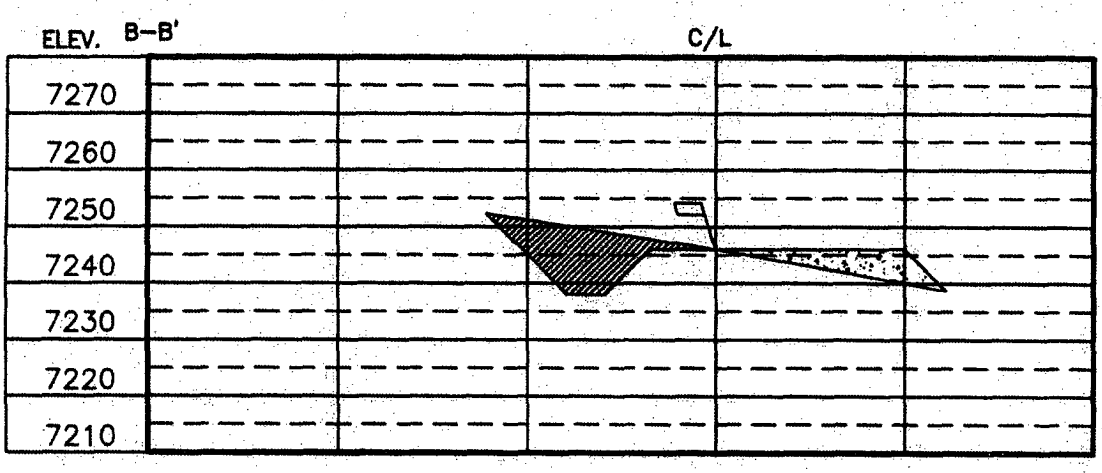
ELEVATION: 7246'

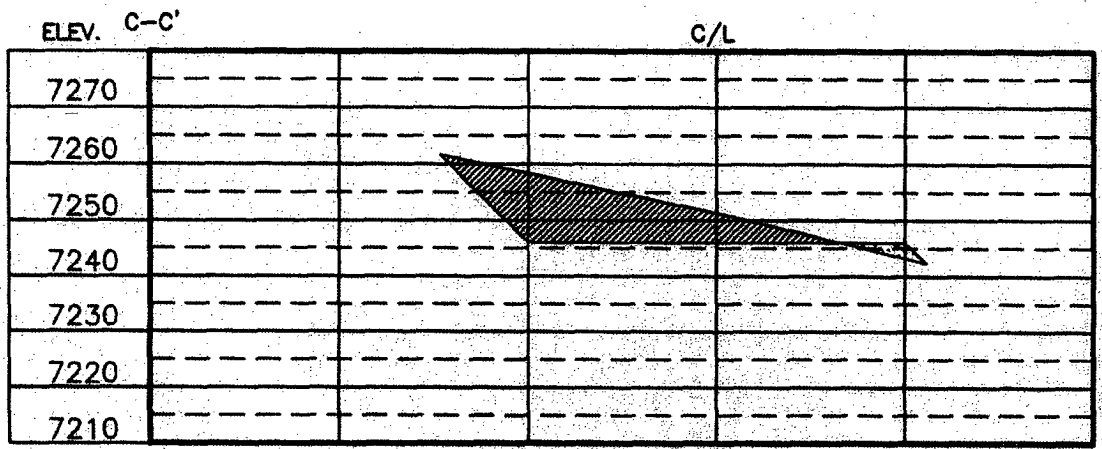


NOTE:

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.







Daggett Enterprises, Inc.
Surveying and Oil Field Services
P. O. Box 15068 • Farmington, NM 87401
Phone (505) 326-1772 • Fax (505) 326-6019
NEW MEXICO L.S. No. 14831

DRAWN BY: BL
DATE: 03/25/04

Mallon Oil Company
Jicarilla 451-03 #14
740' FNL 610' FEL (NE/4 NE/4)
Sec. 3 T29N R3W
Rio Arriba County, New Mexico
Lease: Contract 451

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 May 6, 2004 as determined by Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA) and Jicarilla Oil & Gas Administration (JOGA), and at which time the specific concerns of Mallon Oil Company (Mallon), BLM, BIA and JOGA were discussed.

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

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,246'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,977'	Sandstone, shales & siltstones
Ojo Alamo	3,185'	Sandstone, shales & siltstones
Fruitland	3,611'	Sandstone, shales & siltstones
Pictured Cliffs	3,700'	Sandstone, shales & siltstones
Lewis	3,808'	Sandstone, shales & siltstones
TOTAL DEPTH	4,000'	

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

Tertiary		
San Jose	surface	Gas
Nacimiento	1,977'	Gas
Ojo Alamo	3,185'	Gas
Fruitland	3,611'	Gas
Pictured Cliffs	3,700'	Gas

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
July 14, 2004

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 451-03 #14
740' FNL 610' FEL (NE /4 NE /4)
Sec. 3 T 29N R 3W
Rio Arriba County, New Mexico
Contract 451

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'

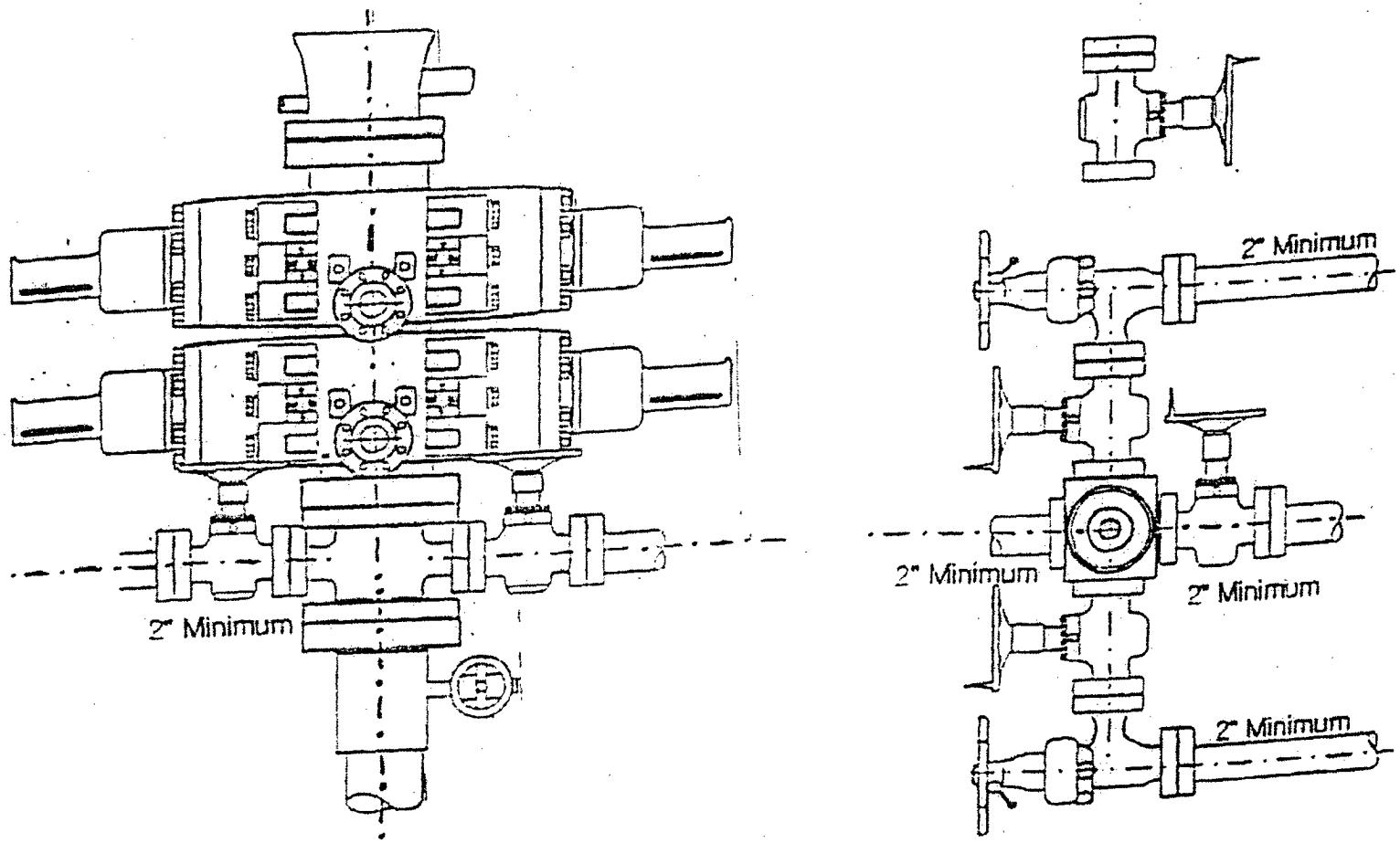
Total centralized ± 440 ' (-190 ' – 250 ')

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