District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised June 10, 2003

Submit to appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
MAR Oil and Gas Corp P.O. Box 5155 Santa Fe, NM 87502-5155	151228 [3] API Number 30-025-36449

[3] Property Code	[5] Property Name	[6] Well No.
~~0-024295~~ 30415	Maljamar Unit. ~~Maljamar Grayburg—San Andres~~	Unit 418

[7] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	7	17S	33 E		1300	South	2450	West	LEA

[8] Proposed 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

[9] Proposed Pool 1	[10] Proposed Pool 2
Maljamar; Grayburg—San Andres	

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
N	O	R	S	
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
NA	4700'	San Andres	unknown	October 3, 2003

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4"	8 5/8"	24#	1300'	1087	Surface
7 7/8"	5 ½"	17#--15.5#	4700	905	500' in surf csg

[22] Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Infield drill Grayburg / San Andres well to proposed depth of 4700', Surface: drill 12 ¼" hole 25' into top of the Rustler, Run 8 5/8" surface casing, cement back to surface, no blowout preventor used while drilling surface casing, NU BOP, drill 7 7/8" hole to proposed TD, Run Logs, Run 5 ½" casing to surface, cmt production casing 500' into bottom of surface casing. Attachments: A—BOP schematic, B—Rig Layout, C—cement procedure, D—mud program, E—lease boundary

Permit Expires 1 Year From Approval Date Unless Drilling Underway

RECEIVED
Hobbs
SEP 2003
OCD

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: Duane C Winkler

Printed name: Duane C Winkler

Title: VP Operations

E-mail Address: duanecwinkler@earthlink.net

Date: 9/19/03 Phone: 505-989-1977

OIL CONSERVATION DIVISION

Approved by: Paul F Kautz

Title: PETROLEUM ENGINEER

Approval Date: OCT 07 2003 Expiration Date:

Conditions of Approval:

Attached ☐

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-36449	43329	Maljamar; GB/SA

Property Code	Property Name	Well Number
30415	UNIT	418

OGRID No.	Operator Name	Elevation
151228	MAR OIL & GAS CORPORATION	4225'

Surface Location

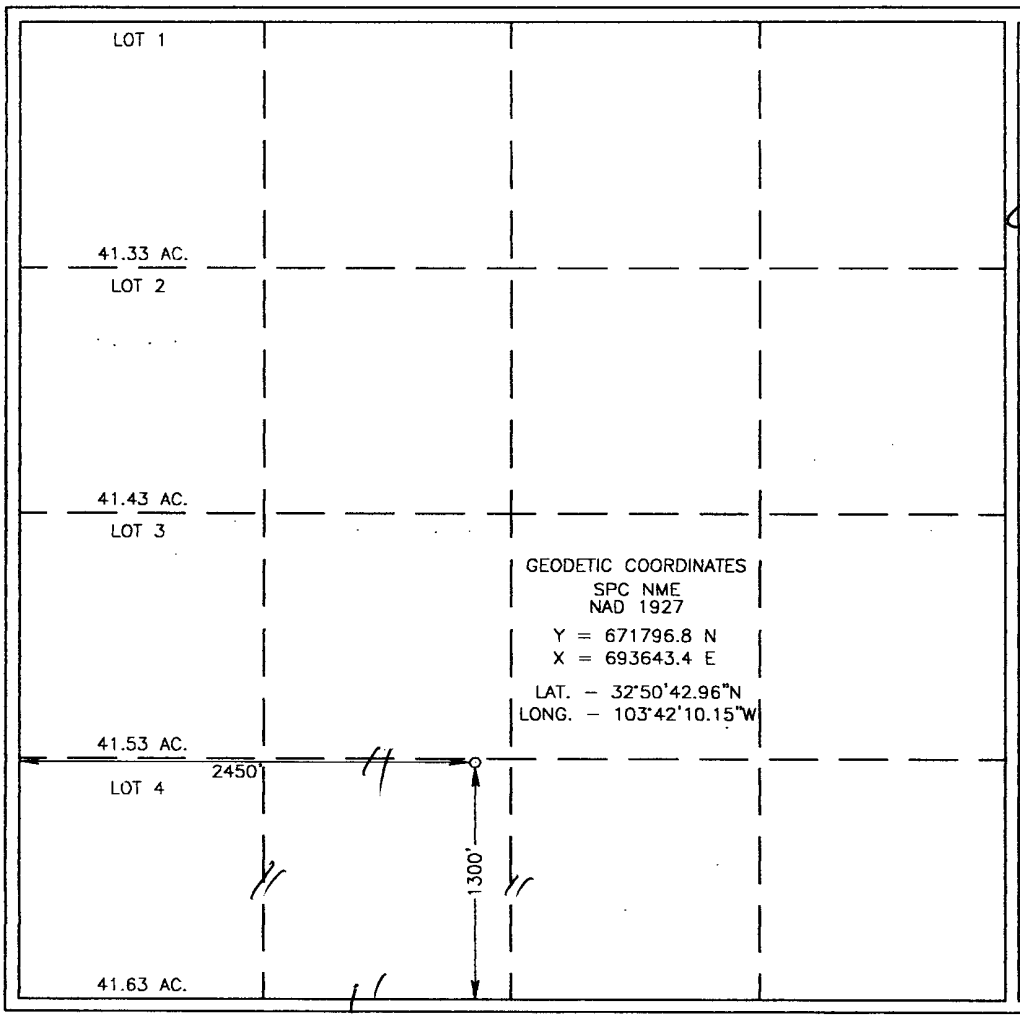
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	7	17-S	33-E		1300	SOUTH	2450	WEST	LEA

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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



OPERATOR CERTIFICATION

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

Duane C Winkler
Signature

Duane C Winkler
Printed Name

VP Operations
Title

9/19/03
Date

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 supervison, and that the same is true and correct to the best of my belief.

SEPTEMBER 11, 2003

Date Surveyed LA

Signature & Seal of Professional Surveyor

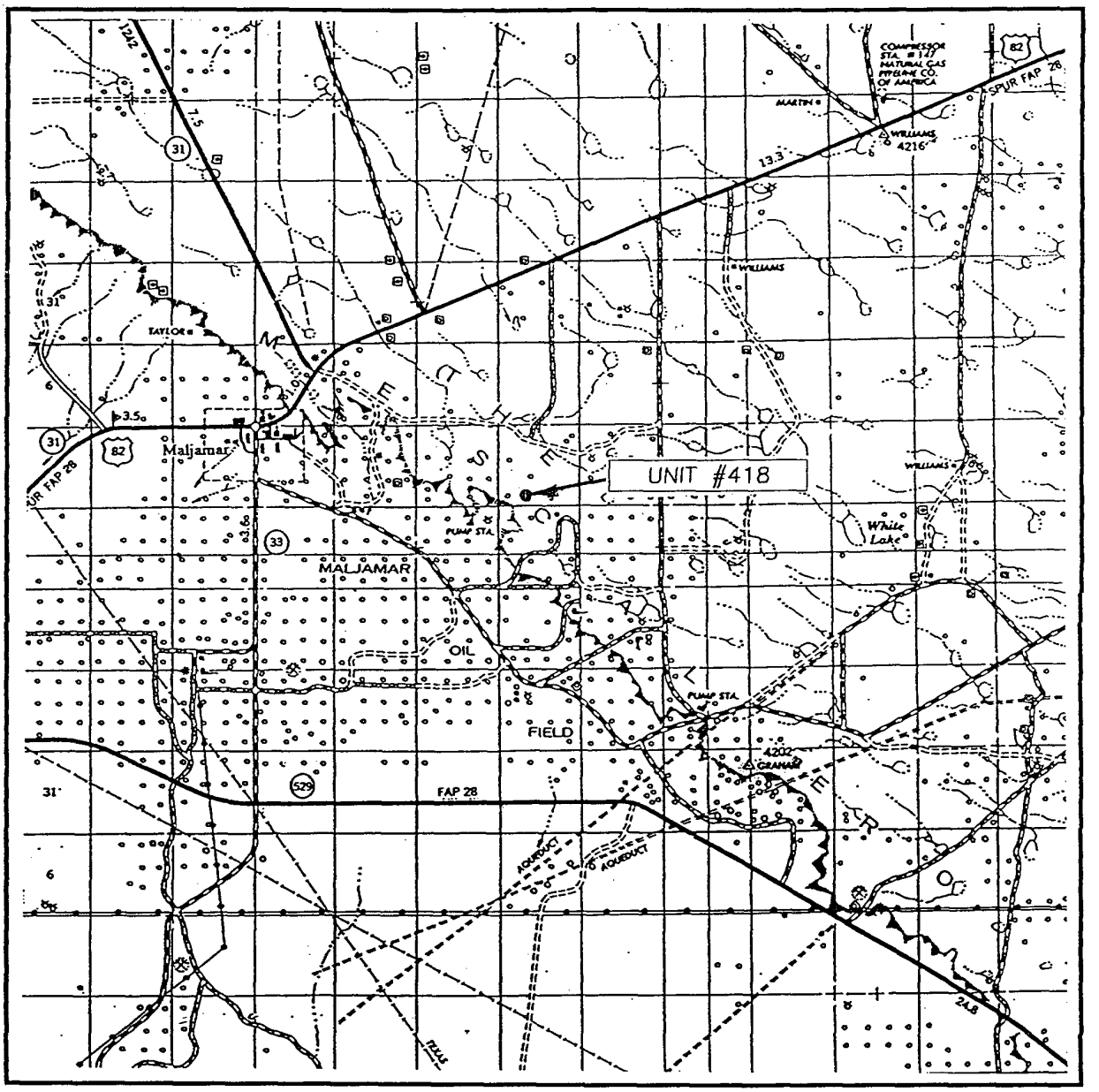
GARY G. EIDSON
NEW MEXICO
12641
REGISTERED PROFESSIONAL SURVEYOR

Gary G. Eidson 9/16/03

03.11.1002

Certificate No. GARY EIDSON 12641

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 7 TWP. 17-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1300' FSL & 4250' FWL

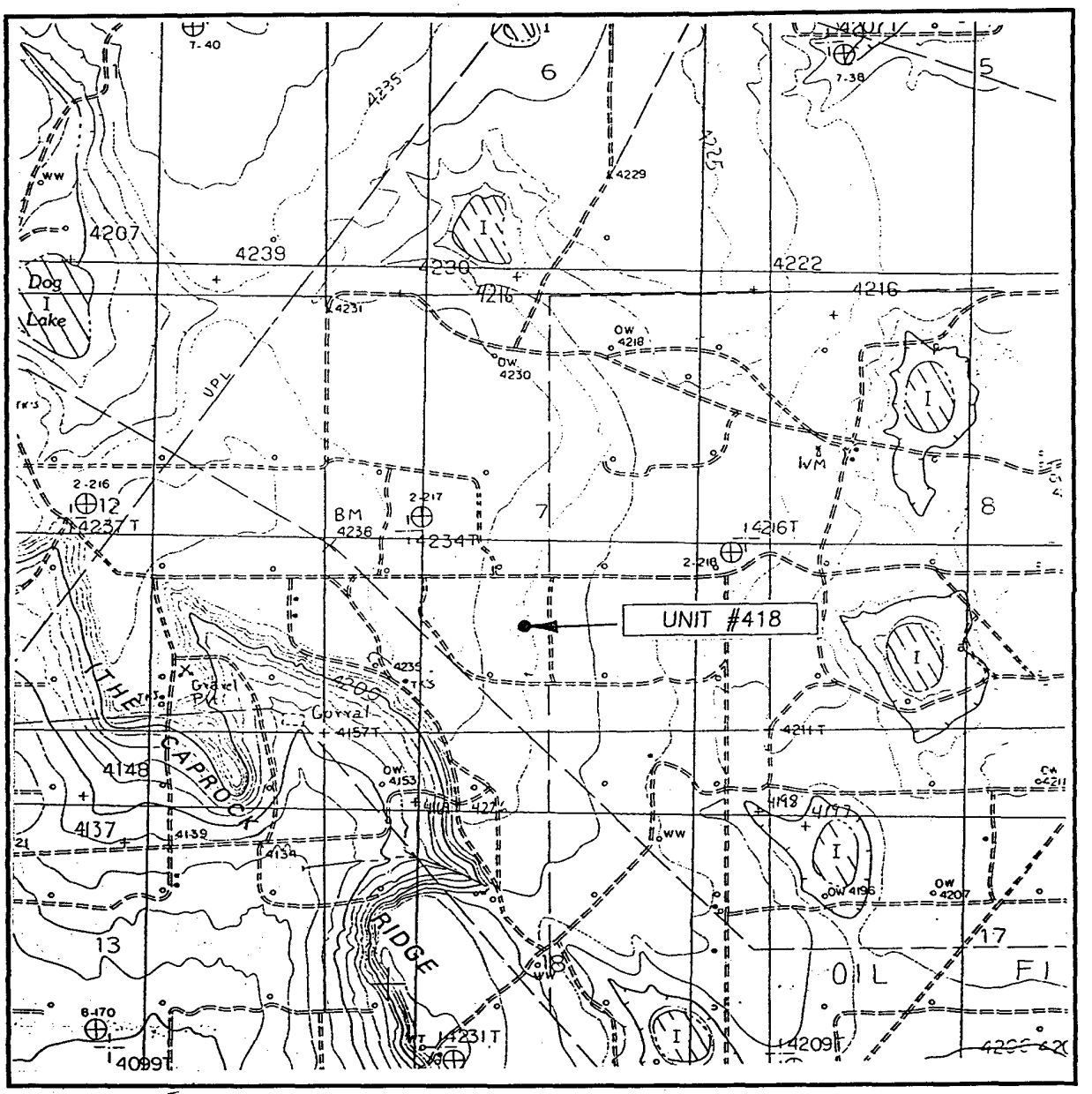
ELEVATION 4225'

OPERATOR MAR OIL & GAS CORPORATION

LEASE UNIT

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
DOG LAKE, NM

SEC. 7 TWP. 17-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1300' FSL & 2450' FWL

ELEVATION 4225'

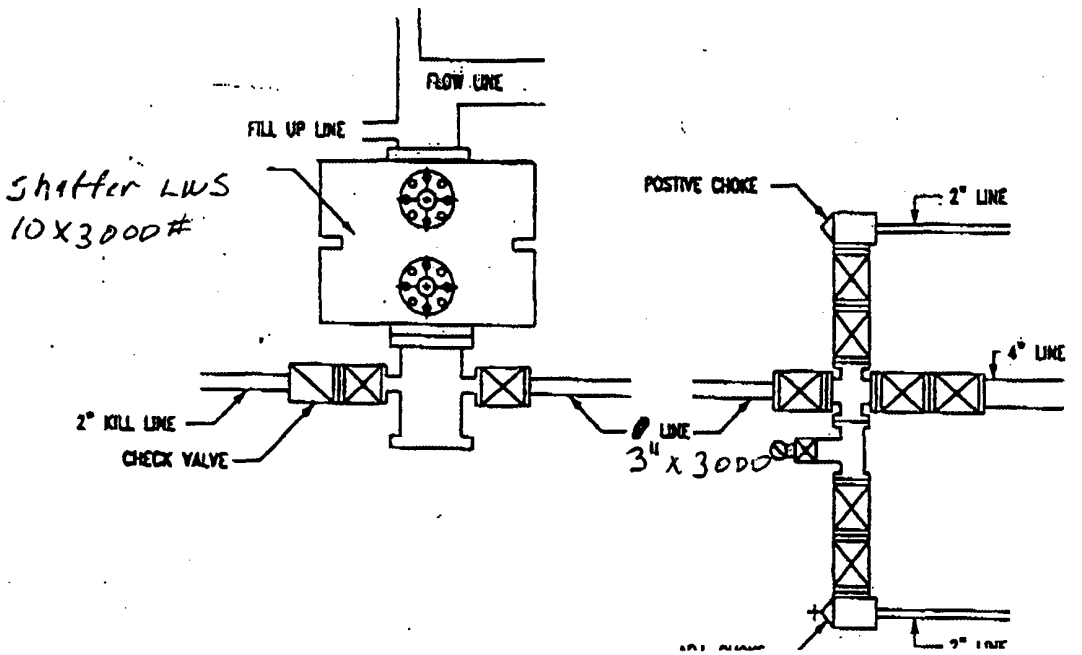
OPERATOR MAR OIL & GAS CORPORATION

LEASE UNIT

U.S.G.S. TOPOGRAPHIC MAP
DOG LAKE, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

Attachment A



8-01-02

Attachment B

Patterson Drilling Company

Rig #65

8,000'

DRAWWORKS
Weiss W-45

ENGINES
Two Cat 3406 diesel, 375 HP with twin disc torque converters

DERRICK
Lee C. Moore 100', 280,000# Rated Capacity

SUBSTRUCTURE
12' high, 17' wide, 40' long, 380,000# Setback Capacity, Rotary Clearance – 9.4', KB – 13'

MUD PUMPS
Pump #1: Emsco D-550 w/Cat 379
Pump #2: Tri-service 500 w/Cat 353

DRILL STRING
8,000' 4-1/2" with X-hole
20 Drill Collars 6-1/4" with 4-1/4" X-hole
8 Drill Collars 8" with 6-5/8" reg

BLOWOUT PREVENTERS
One Shaffer LWS 10" x 3000# with closing unit, Choke Manifold 3" x 3000#

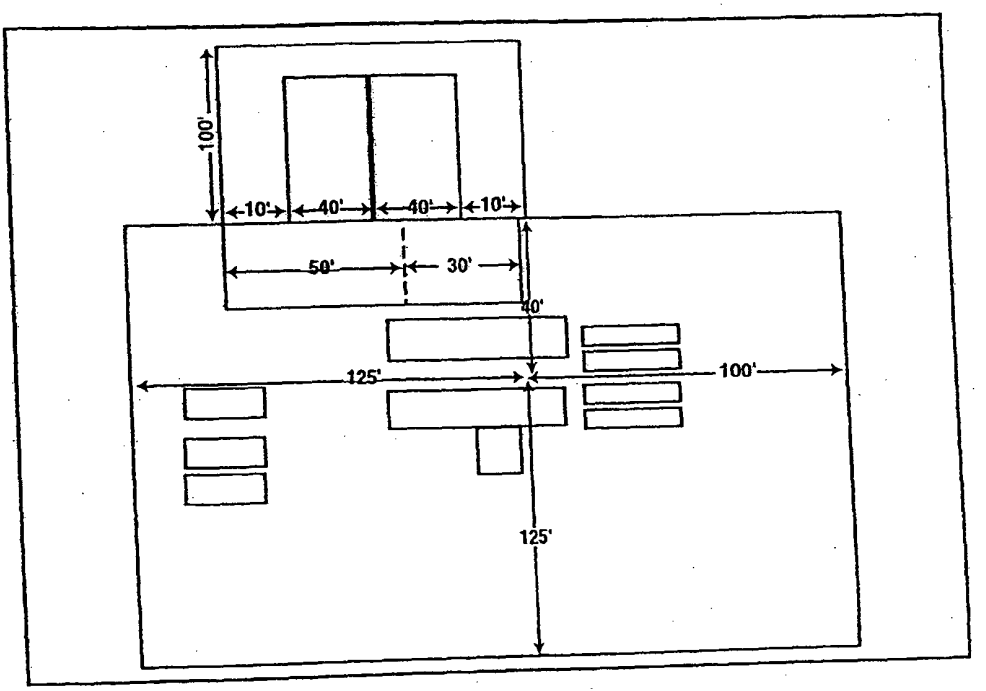
MUD SYSTEM
One 350 bbl pit (total) including a 60 bbl slug suction pit section.

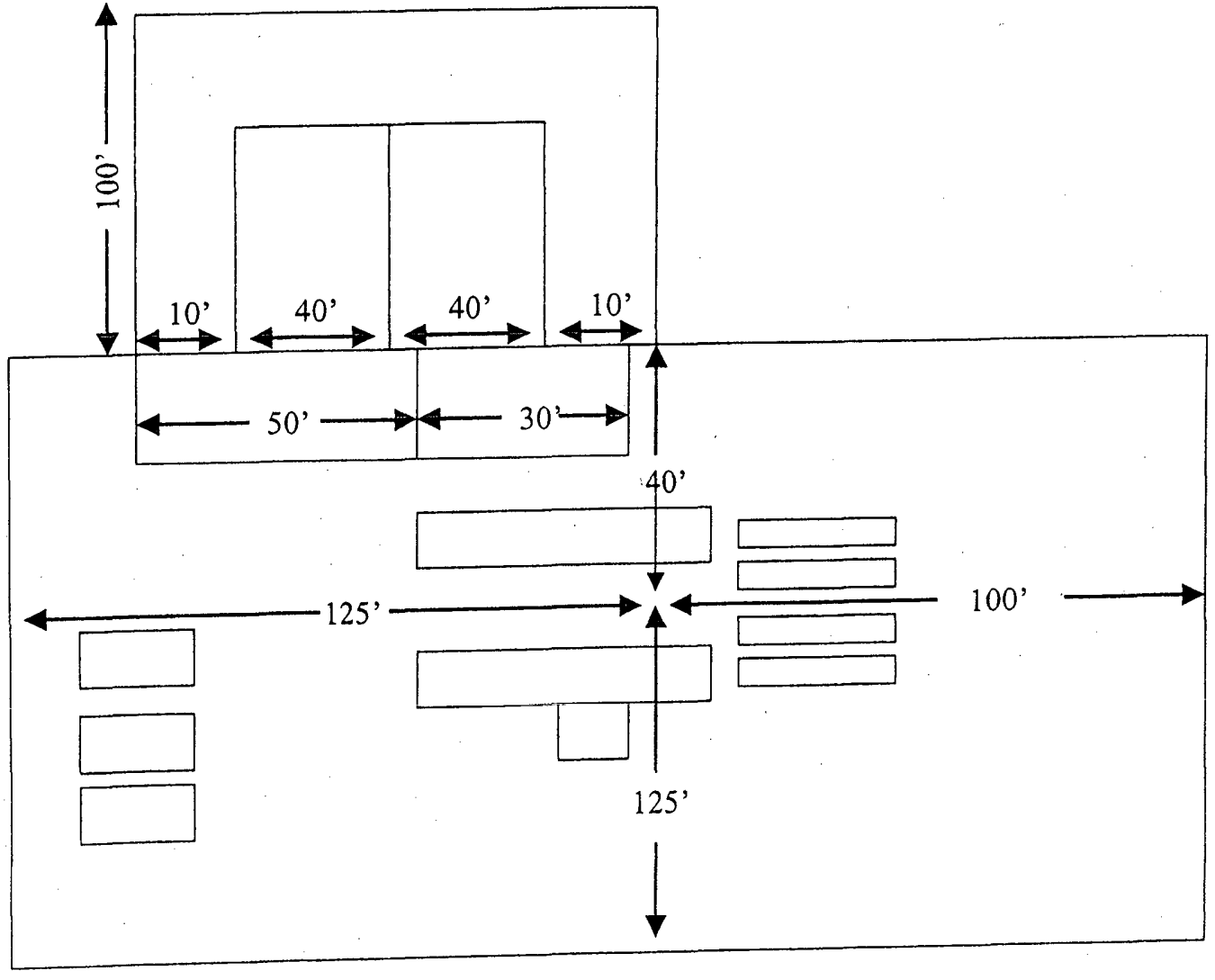
MUD HOUSE
None

COMMUNICATIONS
Cellular Phone

OTHER EQUIPMENT
Blocks. Emsco 150 Ton
Hook. BJ 460 150 Ton
Swivel. Oilwell PC 150, 150 Ton
Rotary Table. BDW 17-1/2" x 44" 150 Ton
Shale Shaker. Single Screen
Electrical Power. One Cat 3406 w/234 kW Generator & One Cat 3306 w/100 kW Generator
Fresh Water Storage. 500 bbl tank
Housing.

"Hole Requirements will dictate actual Reserve Pit size (TOOLPUSHER SHOULD BE CONSULTED)"





RIG 65

Attachment B

Attachment C

Proposal No: 180052027B

Mar Oil & Gas Corp.
MALMAR #41

Sec7-T17S-R33E
Lea County, New Mexico
September 11, 2003

Well Recommendation

Prepared for:
Duane Winkler
VP Operations
Fax: 505-989-1988
Bus Phone: 505-989-1977

Prepared by:
JJ McGlasson
District Technical Supervisor
Hobbs, New Mexico
Bus Phone: 505-392-5556
Mobile: 505-390-3704

POWERVISION℠

Service Point:
Hobbs
Bus Phone: (505) 392-5556
Fax: (505) 392-7307

Service Representatives:
Bill Caperton
Senior Sales Rep
Hobbs, New Mexico
Mobile: (505)-746-7166
Bus Phone: (505) 392-5556

Gr4105

Operator Name: Mar Oil & Gas Corp.
Well Name: MALMAR #41
Job Description: Set Surface @ 1300
Date: September 11, 2003

Attachment C

Proposal No: 180052027B

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
12.250 HOLE	1,300	1,300

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
8.625	8.097	24	1,300	1,300

Float Collar set @	1,260 ft
Mud Density	8.34 ppg
Mud Type	Water Based
Est. Static Temp.	88 ° F
Est. Circ. Temp.	83 ° F

VOLUME CALCULATIONS

994 ft	x	0.4127 cf/ft	with	100 % excess	=	820.3 cf
306 ft	x	0.4127 cf/ft	with	100 % excess	=	252.7 cf
40 ft	x	0.3576 cf/ft	with	0 % excess	=	14.3 cf (inside pipe)
				TOTAL SLURRY VOLUME	=	1087.4 cf
					=	194 bbls

Operator Name: Mar Oil & Gas Corp.
Well Name: MALMAR #41B
Job Description: Set Surface @ 1300
Date: September 11, 2003

Attachment C

Proposal No: 180052027B

FLUID SPECIFICATIONS

FLUID	VOLUME CU-FT		VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
Lead Slurry	820	/	1.99	= 413 sacks (35:65) Poz (Fly Ash):Class C Cement + 0.25 lbs/sack Cello Flake + 6% bwoc Bentonite + 105.5% Fresh Water
Tail Slurry	267	/	1.34	= 200 sacks Class C Cement + 1% bwoc Calcium Chloride + 56.3% Fresh Water
Displacement				80.2 bbls Displacement @ 8.34 ppg

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	12.40	14.80
Slurry Yield (cf/sack)	1.99	1.34
Amount of Mix Water (gps)	11.01	6.34

Operator Name: Mar Oil & Gas Corp.
Well Name: MALMAR #41
Job Description: Set Longstring @ 4700-2 Stage
Date: September 11, 2003

Attachment C

Proposal No: 180052027B

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
8.097 CASING	1,300	1,300
7.875 HOLE	4,700	4,700

SUSPENDED PIPES

DIAMETER (in)		WEIGHT	DEPTH(ft)	
O.D.	I.D.	(lbs/ft)	MEASURED	TRUE VERTICAL
5.500	4.892	17	4,700	4,700

STAGE: 2

Stage Collar set @	3,000 ft
Mud Density	8.34 ppg
Mud Type	Water Based
Est. Static Temp.	100 ° F
Est. Circ. Temp.	93 ° F

VOLUME CALCULATIONS

500 ft	x	0.1926 cf/ft	with	0 % excess	=	96.3 cf
1,700 ft	x	0.1733 cf/ft	with	35 % excess	=	397.6 cf
				TOTAL SLURRY VOLUME	=	493.9 cf
					=	88 bbls

STAGE: 1

Float Collar set @	4,660 ft
Mud Density	8.34 ppg
Mud Type	Water Based
Est. Static Temp.	111 ° F
Est. Circ. Temp.	102 ° F

VOLUME CALCULATIONS

1,700 ft	x	0.1733 cf/ft	with	35 % excess	=	397.6 cf
40 ft	x	0.1305 cf/ft	with	0 % excess	=	5.2 cf (inside pipe)
				TOTAL SLURRY VOLUME	=	402.8 cf
					=	72 bbls

Operator Name: Mar Oil & Gas Corp.
Well Name: MALMAR #418
Job Description: Set Longstring @ 4700-2 Stage
Date: September 11, 2003

Attachment C

Proposal No: 180052027B

FLUID SPECIFICATIONS

STAGE NO.: 1

FLUID	VOLUME CU-FT		VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
1st Lead Slurry	403	/	1.63	= 248 sacks (15:61:11) Poz (Fly Ash):Class C Cement:CSE + 5% bwow Sodium Chloride + 3 lbs/sack LCM-1 + 0.6% bwoc FL-25 + 0.6% bwoc FL-52 + 0.1% bwoc Sodium Metasilicate + 76.4% Fresh Water
Displacement				108.3 bbls Displacement @ 8.4 ppg

CEMENT PROPERTIES

	SLURRY NO. 1
Slurry Weight (ppg)	13.20
Slurry Yield (cf/sack)	1.63
Amount of Mix Water (gps)	7.97

STAGE NO.: 2

2nd Lead Slurry	494	/	1.94	= 255 sacks (35:65) Poz (Fly Ash):Class C Cement + 6% bwoc Bentonite + 0.25 lbs/sack Cello Flake + 102.1% Fresh Water

FLUID	VOLUME CU-FT	VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
Displacement			69.7 bbls Displacement @ 8.34 ppg

CEMENT PROPERTIES

	SLURRY NO. 1
Slurry Weight (ppg)	12.50
Slurry Yield (cf/sack)	1.94
Amount of Mix Water (gps)	10.65

HORIZON MUD COMPANY

Attachment D

Production Interval 1,400'-4,700'

Drill out from under surface casing with brine, circulating the reserve.

It is always possible in this general area to encounter lost circulation. Utilize **Paper** material to control seepage loss. Should complete loss of returns occur while drilling, we recommend pulling a few stands off bottom to avoid differential sticking and spotting a 100-200 barrel pill containing fibrous-type lost circulation material. Spot the pill from above at a reduced pump rate before returning to bottom to commence drilling.

At a depth of approximately **2,400'**, we recommend returning to the working pits and mudding up by **2,500'** with a **Starch/DCS** system to achieve the following properties:

Mud Weight	**10.0-10.2**
Viscosity	**30-32**
Water Loss	**<10**

While using **Starch** for fluid loss control, it is important that the Ph of the fluid remain below 10.0 to avoid burning the **Starch**.

Maintain a 9.0-9.5 Ph with **Caustic.**

We use **DCS** surfactant as a mud additive to provide the following benefits:

⇒ minimize the usage of Mud Products

⇒ help drop solids providing a cleaner mud, lower mud weight and a thinner filter cake

⇒ improve clean-up of the pay zone should whole mud losses be encountered

Lost of fluid could occur after mud-up. Follow the same procedure described earlier should losses occur. Allow hole conditions to dictate the need for any sweeps prior to total depth.

This fluid, adjusted as shown in the **"RECOMMENDED MUD PROPERTIES"** section, or as hole conditions dictate, should provide good hole conditions for logging and casing operations.

HORIZON MUD COMPANY

Attachment D

PROPOSED MUD PROGRAM

CASING DESIGN

8 5/8"	Surface Casing	at	1,400'
7 7/8"	Open Hole	to	4,700'

RECOMMENDED MUD PROPERTIES

DEPTH	MUD WEIGHT	VISCOSITY	FLUID LOSS
Spud	8.3- 8.6	28-30	No Control
400'	8.6- 8.7	30-32	No Control
1,000'	9.2- 9.4	32-34	No Control
1,400'	9.2-9.4	32-34	No Control

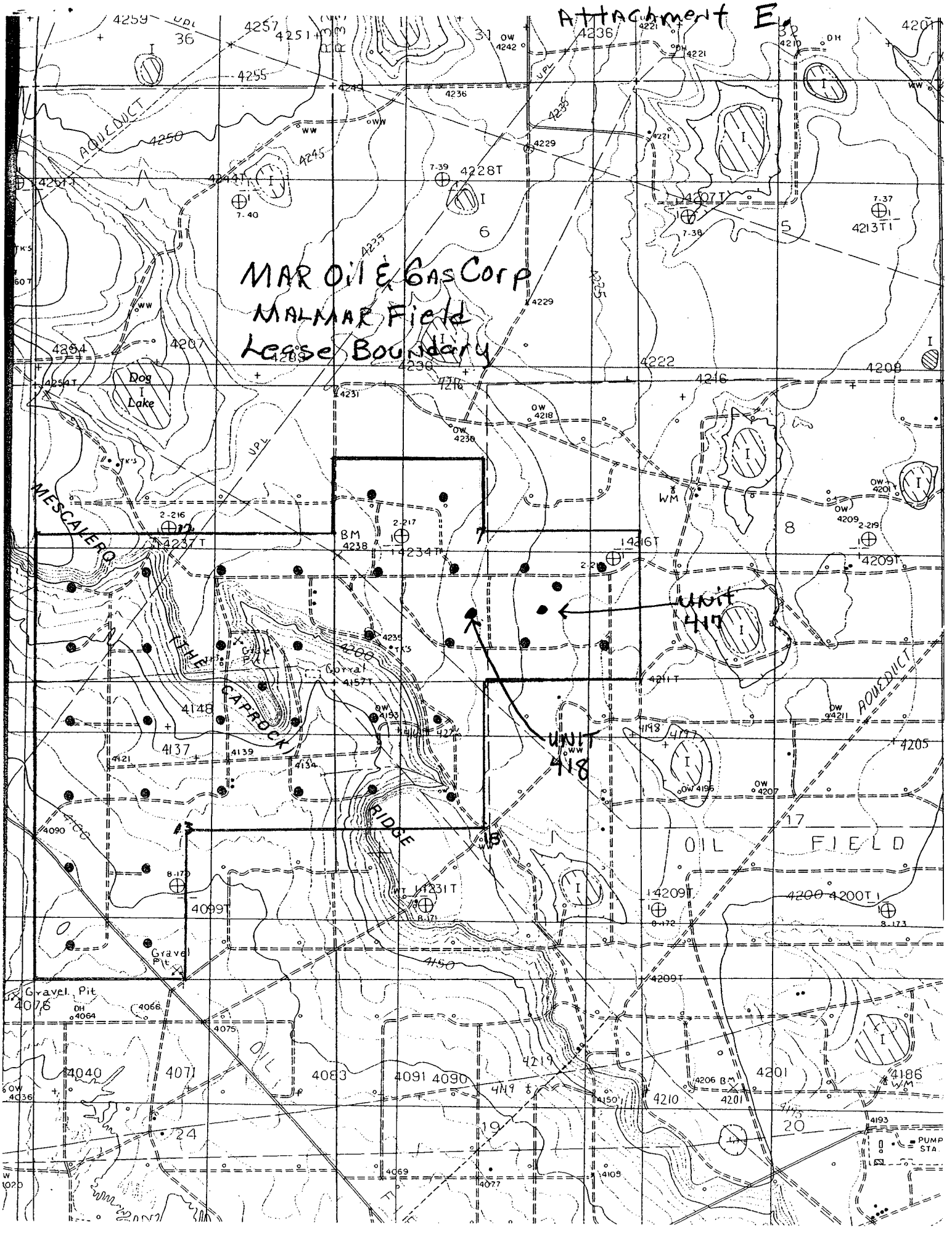
Set 8 5/8" Intermediate Casing at 1,400'. Drill out with Brine Water.

1,500'	9.8-10.0	28-29	No Control
2,500'	10.0-10.2	30-32	<10
3,500'	10.0-10.2	30-32	<10
4,200'	10.1-10.2	30-32	<10
4,700'	10.2-10.3	30-32	<10

RECOMMENDED MUD PROGRAM BY CASING INTERVAL

Intermediate Hole 0'-1,400'

Spud the surface hole with fresh water circulating through the reserve pit to allow maximum time for settling drilled-solids. Allow the native solids to build and maintain a viscosity of **32-34 seconds**. While drilling the **Red Bed**, it is important to maintain a stable viscosity with constant additions of fresh water at the Floline. **Lime** will flocculate the red bed clays causing difficulty in maintaining a stable viscosity; therefore we recommend that **Lime** not be used for Ph.


Attachment E
MAR Oil & Gas Corp
MALMAR Field
Lease Boundary
Unit 417
Unit 418
Dog Lake
MESCALERO
TETHER CAPROCK
RIDGE
AQUEDUCT
OIL FIELD
Gravel Pit
Corral
Gravel Pit
PUMP STA