

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

Form C-101  
May 27, 2004

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

Submit to appropriate District Office

☐ AMENDED REPORT

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

<sup>1</sup> Operator Name and Address MAR Oil & Gas Corp PO Box 5155, Santa Fe, New Mexico 87502		<sup>2</sup> OGRID Number 151228
		<sup>3</sup> API Number 30-025-37396
<sup>4</sup> Property Code 30415	<sup>5</sup> Property Name Malmar Unit	<sup>6</sup> Well No. 221
<sup>7</sup> Proposed Pool 1 Maljamar - Grayburg - San Andres		<sup>10</sup> Proposed Pool 2

**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
E	13	17S	32E		2630	North	1310	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

**Additional Well Information**

<sup>11</sup> Work Type Code N	<sup>12</sup> Well Type Code O	<sup>13</sup> Cable/Rotary R	<sup>14</sup> Lease Type Code S	<sup>15</sup> Ground Level Elevation 4109
<sup>16</sup> Multiple NA	<sup>17</sup> Proposed Depth 5100	<sup>18</sup> Formation Graybury San Andres	<sup>19</sup> Contractor United	<sup>20</sup> Spud Date November 1 2005
Depth to Groundwater 140'		Distance from nearest fresh water well 5280'		Distance from nearest surface water 10 miles
<b>Pit:</b> Liner: Synthetic Plastic 20 mils thick Clay <input type="checkbox"/> Pit Volume: 4500 bbls Drilling Method: <input checked="" type="checkbox"/> Fresh Water <input checked="" type="checkbox"/> Brine <input type="checkbox"/>				
Closed-Loop System <input type="checkbox"/>				

**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"	20-24 #	1300'	619	Surface
7 7/8"	5 1/2"	15-15.5 #	5100'	770	5500' in Surf Csg

<sup>22</sup> 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.

Infill drill Grayburg-San Andres to proposed depth of 5100', Surface: drill 12 1/4" hole to 1300' or 25' into top of the Salt, no blow out preventer will be used while drilling surface hole, Run 8 5/8" surface casing and cement back to surface

NU BOP, drill 7 7/8" hole to proposed TD, Run Logs, Run 5 1/2" casing to surface, cement production casing 500' into bottom of surface casing,

Attachments: A - BOP Schematic

Attachment: B - Rig Layout

Attachment C - Cement Procedure

Attachment D - Mud Program

Attachment E - Location Plat

Attachment F - Map of Unit Boundary

**Permit Expires 1 Year From Approval  
Date Unless Drilling Underway**

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Printed name: Duane C. Winkler

Title: V.P. Operations

E-mail Address: dcwinkler@centurytel.net

Date: July 22, 2005

Phone: 505-989-1977

**OIL CONSERVATION DIVISION**

Approved by:

Title:

Approval Date:

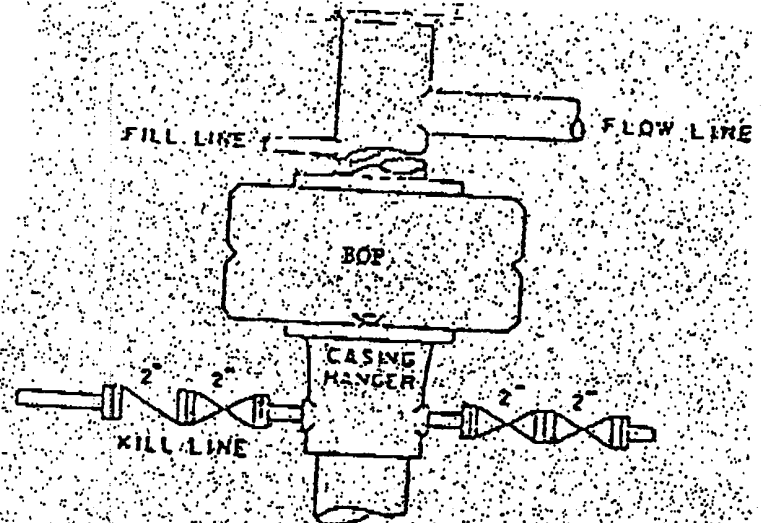
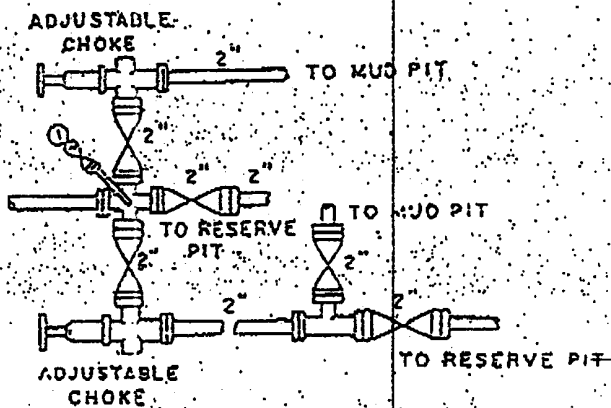
Conditions of Approval Attached ☐

Expiration Date:

**PETROLEUM ENGINEER**

**JUL 26 2005**

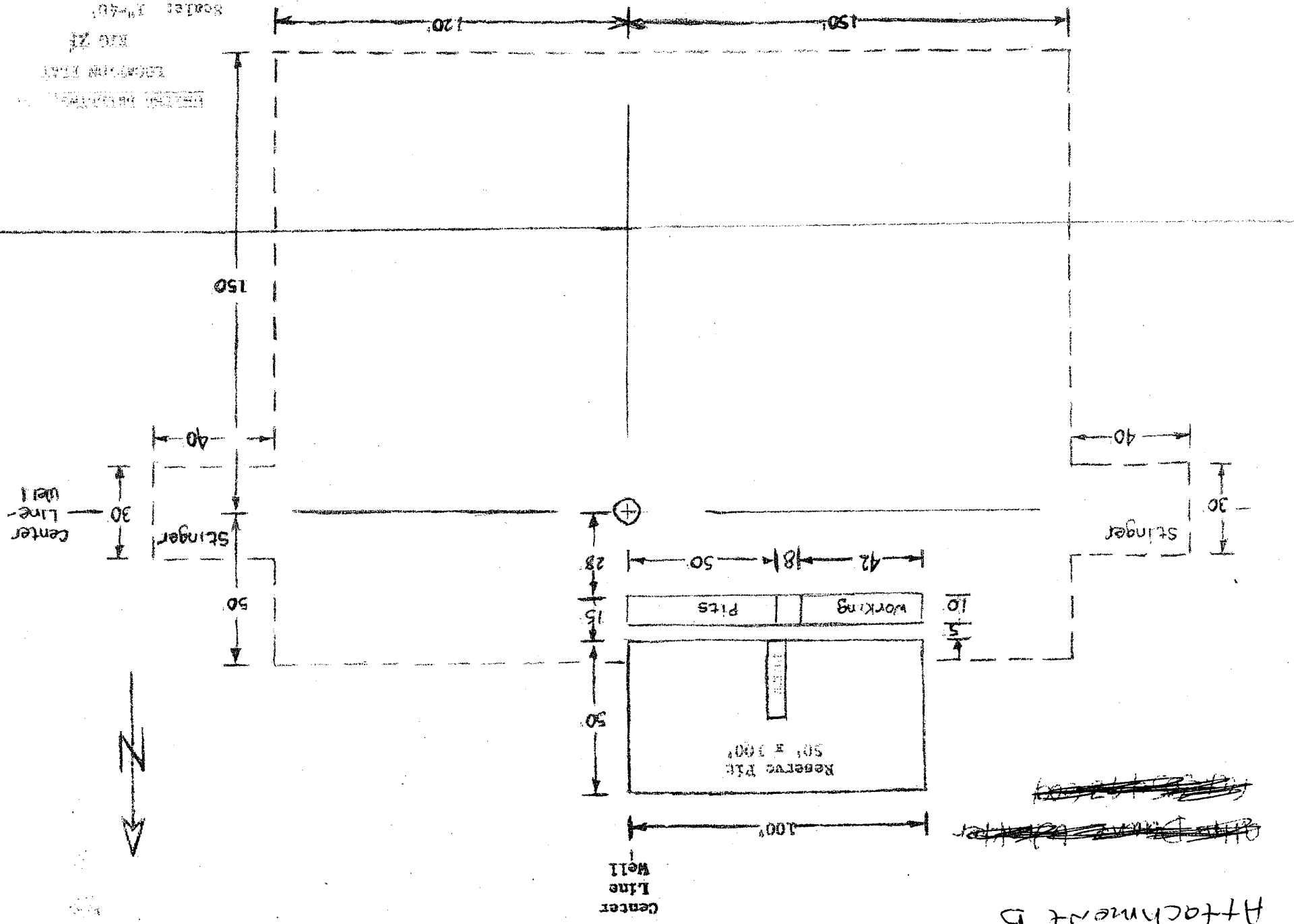
## Attachment A



ANNULAR BOP STACK

PRESSURE 2000#

# Attachment B





**Mar Oil & Gas Corp**  
**P. O. Box 5155**  
**Santa Fe, New Mexico 87502**

Mal Mar Unit #221  
2635 FNL, 1321 FWL  
Lea County, New Mexico  
United States of America  
S:13 T:17S R:32E

## **Cementing Recommendation**

Prepared for: Duane C. Winkler  
June 14, 2005  
Version: 1

Submitted by:  
Paul Thornton

Halliburton Energy Services  
5801 Lovington Hwy.  
Hobbs, New Mexico 88240  
1.505.392.0742

**HALLIBURTON**

**Job Information****Surface Casing**

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Mal Mar Unit

#221

12-1/4" Hole 0 - 1300 ft (MD)  
Inner Diameter 12.250 in  
Job Excess 100 %

Surface Casing 0 - 1300 ft (MD)  
Outer Diameter 8.625 in  
Inner Diameter 8.097 in  
Linear Weight 24 lbm/ft  
Thread STC  
Casing Grade J-55

**Calculations**

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Cement : (991.00 ft fill)  
 $991.00 \text{ ft} * 0.4127 \text{ ft}^3/\text{ft} * 100 \%$  = 818.02 ft<sup>3</sup>  
Total Lead Cement = 818.02 ft<sup>3</sup>  
= 145.70 bbl  
Sacks of Cement = 419 sks

Cement : (309.00 ft fill)  
 $309.00 \text{ ft} * 0.4127 \text{ ft}^3/\text{ft} * 100 \%$  = 255.06 ft<sup>3</sup>  
Tail Cement = 255.06 ft<sup>3</sup>  
= 45.43 bbl

Shoe Joint Volume: (40.00 ft fill)  
 $40.00 \text{ ft} * 0.3576 \text{ ft}^3/\text{ft}$  = 14.30 ft<sup>3</sup>  
= 2.55 bbl  
Tail plus shoe joint = 269.37 ft<sup>3</sup>  
= 47.98 bbl  
Total Tail = 200 sks

## Job Recommendation

## Surface Casing

Install floating equipment, run casing to bottom, and circulate minimum of 2-3 hole volumes prior to cementing as follows:

### Fluid Instructions

Fluid 1: Precede cement with 20 bbls  
Fresh Water

Fluid Volume: 20 bbl

Fluid 2: Lead with 420 sks  
Halliburton Light Premium Plus Cement  
0.25 lbm/sk Flocele (Lost Circulation Additive)

Fluid Weight 12.50 lbm/gal  
Slurry Yield: 1.95 ft<sup>3</sup>/sk  
Total Mixing Fluid: 10.80 Gal/sk  
Top of Fluid: 0 ft  
Calculated Fill: 991 ft  
Volume: 145.76 bbl  
Calculated Sacks: 419.47 sks  
Proposed Sacks: 420 sks  
**Thickening Time: 5:0:0**  
**24:0:0 510 psi**  
**72:0:0 760 psi**  
**Free Water: 0.3 %**  
**Actual Fluid Loss: 500 cc**

**Estimated Slurry Properties:**  
**Compressive Strengths @ 80 °F**

Fluid 3: Tail-in with 200 sks  
Premium Plus Cement  
94 lbm/sk Premium Plus Cement (Cement)  
2 % Calcium Chloride (Accelerator)

Fluid Weight 14.80 lbm/gal  
Slurry Yield: 1.35 ft<sup>3</sup>/sk  
Total Mixing Fluid: 6.37 Gal/sk  
Top of Fluid: 991 ft  
Calculated Fill: 309 ft  
Volume: 47.91 bbl  
Calculated Sacks: 200 sks  
Proposed Sacks: 200 sks  
**Thickening Time: 2:45:0**  
**24:0:0 1800 psi**  
**72:0:0 3000 psi**  
**Free Water: 0.0 %**

**Estimated Slurry Properties:**  
**Compressive Strengths @ 80 °F**

# HALLIBURTON

## Casing/Sales Equipment

## Surface Casing

<u>Mtrl Nbr</u>	<u>Description</u>	<u>Qty</u>	<u>U/M</u>	<u>Unit Price</u>	<u>Gross Amt</u>
2	FLOAT EQUIPMENT DELIVERY CHARGE NUMBER OF UNITS	80 1	MI		
86954	FUEL SURCHG-CARS/PICKUPS NUMBER OF UNITS	80 1	MI		
101314446	SHOE,CSG,TIGER TOOTH,8 5/8 IN 8RD	1	EA		
101235370	CLR,FLT,TROPHY SEAL,8-5/8 8RD	1	EA		
100004484	CENTRALIZER ASSY - API - 8-5/8 CSG X	10	EA		
100004628	CLAMP - LIMIT - 8-5/8 - HINGED -	1	EA		
100005045	HALLIBURTON WELD-A KIT	1	EA		
	<b>Total</b>			USD	
	<b>Less 52% Discount</b>			USD	
	<b>Discounted Total</b>			USD	

## ***Job Information***

## ***Production Casing***

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Mal Mar Unit

#221

Surface Casing	0 - 1300 ft (MD)
Outer Diameter	8.625 in
Inner Diameter	8.097 in
Linear Weight	24 lbm/ft
Thread	STC
Casing Grade	J-55
Job Excess	10 %

7-7/8" Hole	1300 - 5000 ft (MD)
Inner Diameter	7.875 in
Job Excess	50 %

Production Casing	0 - 5000 ft (MD)
Outer Diameter	5.500 in
Inner Diameter	4.950 in
Linear Weight	15.50 lbm/ft
Thread	LTC
Casing Grade	J-55

DV / ECP Tool

3200 ft (MD)



# HALLIBURTON

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## Calculations

## Production Casing

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### Stage 1

Cement : (1800.00 ft fill)

$$1800.00 \text{ ft} * 0.1733 \text{ ft}^3/\text{ft} * 50 \% = 467.79 \text{ ft}^3$$

$$\text{First Stage Tail Cement} = 467.79 \text{ ft}^3$$

$$= 83.32 \text{ bbl}$$

Shoe Joint Volume: (40.00 ft fill)

$$40.00 \text{ ft} * 0.1336 \text{ ft}^3/\text{ft} = 5.35 \text{ ft}^3$$

$$= 0.95 \text{ bbl}$$

$$\text{Tail plus shoe joint} = 473.13 \text{ ft}^3$$

$$= 84.27 \text{ bbl}$$

$$\text{Total Tail} = 343 \text{ sks}$$

### Stage 2

Cement : (2300.00 ft fill)

$$1300.00 \text{ ft} * 0.1926 \text{ ft}^3/\text{ft} * 10 \% = 275.41 \text{ ft}^3$$

$$1000.00 \text{ ft} * 0.1733 \text{ ft}^3/\text{ft} * 50 \% = 259.88 \text{ ft}^3$$

$$\text{Total Second Stage Lead Cement} = 535.29 \text{ ft}^3$$

$$= 95.34 \text{ bbl}$$

$$\text{Sacks of Cement} = 257 \text{ sks}$$

Cement : (900.00 ft fill)

$$900.00 \text{ ft} * 0.1733 \text{ ft}^3/\text{ft} * 50 \% = 233.89 \text{ ft}^3$$

$$\text{Second Stage Tail Cement} = 233.89 \text{ ft}^3$$

$$= 41.66 \text{ bbl}$$

Shoe Joint Volume: (0.00 ft fill)

$$0.00 \text{ ft} * 0.1336 \text{ ft}^3/\text{ft} = 0.00 \text{ ft}^3$$

$$= 0.00 \text{ bbl}$$

$$\text{Tail plus shoe joint} = 233.89 \text{ ft}^3$$

$$= 41.66 \text{ bbl}$$

$$\text{Total Tail} = 170 \text{ sks}$$

# HALLIBURTON

## Job Recommendation

## Production Casing

Install floating equipment, run casing to bottom, and circulate minimum of 2-3 hole volumes prior to cementing as follows:

### Fluid Instructions

#### Stage 1

Fluid 1: Precede cement with 20 bbls

Fresh Water

Fluid Volume: 20 bbl

Fluid 2: First Stage: Mix and pump 345 sks

Premium Plus Cement

94 lbm/sk	Premium Plus Cement (Cement)
0.6 %	LAP-1 (Low Fluid Loss Control)
0.4 %	CFR-3 (Dispersant)
0.25 lbm/sk	D-AIR 3000 (Defoamer)
3 lbm/sk	Salt (Lost Circulation Additive)
0.3 %	Econolite (Light Weight Additive)

Fluid Weight	14.80 lbm/gal
Slurry Yield:	1.38 ft <sup>3</sup> /sk
Total Mixing Fluid:	6.49 Gal/sk
Top of Fluid:	3200 ft
Calculated Fill:	1800 ft
Volume:	84.27 bbl
Calculated Sacks:	343.35 sks
Proposed Sacks:	345 sks

### DV / ECP Tool @ 3200 ft (MD)

#### Stage 2

Fluid 1: Precede cement with 20 bbls

Fresh Water

Fluid Volume: 20 bbl

Fluid 2: Second Stage: Lead with 260 sks

Halliburton Light Premium Plus Cement

0.25 lbm/sk	Flocele (Lost Circulation Additive)
6 lbm/sk	Salt (Salt)

Fluid Weight	12.50 lbm/gal
Slurry Yield:	2.08 ft <sup>3</sup> /sk
Total Mixing Fluid:	11.55 Gal/sk
Top of Fluid:	0 ft
Calculated Fill:	2300 ft
Volume:	95.34 bbl
Calculated Sacks:	257.10 sks
Proposed Sacks:	260 sks

Fluid 3: Second Stage: Tail-in with 170 sks

Premium Plus Cement

94 lbm/sk	Premium Plus Cement (Cement)
0.6 %	LAP-1 (Low Fluid Loss Control)
0.4 %	CFR-3 (Dispersant)
0.25 lbm/sk	D-AIR 3000 (Defoamer)
3 lbm/sk	Salt (Salt)
0.3 %	Econolite (Light Weight Additive)

Fluid Weight	14.80 lbm/gal
Slurry Yield:	1.38 ft <sup>3</sup> /sk
Total Mixing Fluid:	6.47 Gal/sk
Top of Fluid:	2300 ft
Calculated Fill:	900 ft
Volume:	41.66 bbl
Calculated Sacks:	169.98 sks
Proposed Sacks:	170 sks

# HALLIBURTON

## Cost Estimate (Continued)

## Production Casing

<u>Mtrl Nbr</u>	<u>Description</u>	<u>Qty</u>	<u>U/M</u>	<u>Unit Price</u>	<u>Gross Amt</u>
76400	MILEAGE, CMT MTLs DEL/RET NUMBER OF TONS	40 38.16	MI		
3965	SVC CHRg, CMT & ADDITIVES NUMBER OF EACH	864 1	CF		
	<b>Total</b>			<b>USD</b>	
	<b>Less 56% Discount</b>			<b>USD</b>	
	<b>Discounted Total</b>			<b>USD</b>	

**Note:** If flow occurs, ECP and all other float equipment will be supplied by competition. If no flow is present, HES will supply DV Tool and all other float equipment.

## Casing/Sales Equipment

## Production Casing

<u>Mtrl Nbr</u>	<u>Description</u>	<u>Qty</u>	<u>U/M</u>	<u>Unit Price</u>	<u>Gross Amt</u>
2	FLOAT EQUIPMENT DELIVERY CHARGE NUMBER OF UNITS	80 1	MI		
86954	FUEL SURCHARGE- F. E. DELIVERY NUMBER OF UNITS	80 1	MI		
101242320	SHOE,FLT,TROPHY SEAL,5-1/2 8RD	1	EA		
101235368	CLR,FLT,TROPHY SEAL,5-1/2 8RD	1	EA		
100013917	CMTR,TY P ES,5-1/2 LG 8RD,17-23 LBS	1	EA		
100004672	PLUG SET - FREE FALL - 5-1/2 8RD &	1	EA		
100004476	CTRZR ASSY,5 1/2 CSG X 7 7/8 HOLE,HINGED	15	EA		
100004624	CLAMP - LIMIT - 5-1/2 - HINGED -	1	EA		
100005045	KIT,HALL WELD-A	1	EA		
	<b>Total</b>			<b>USD</b>	
	<b>Less 52% Discount</b>			<b>USD</b>	
	<b>Discounted Total</b>			<b>USD</b>	



# Bulldog Mud

Jerry Butts  
Post Office Box 263 Artesia, New Mexico 88211  
505-305-6093 (cell) 505-748-7396 (fax)  
Email: bulldogmud@yahoo.com

June 14, 2005

## MAR Oil & Gas Corporation

Post Office Box 5155  
Santa Fe, New Mexico 87502  
Attn: Mr. Duane Winkler  
& Mr. John Gould

RE: Maljamar Area Wells  
Lea County, New Mexico

### Suggested Mud Program

**Surface Interval** 0 - 1300'

Drill with Fresh Water adding Fresh Water Gel and Soda Ash at 10:1 for a viscosity of 34+

**Production Interval** 1300 - 5000' TD

Circulate reserve pit, add Brine and PHPA as needed to keep fluid clean

If water flow is encountered, continue drilling with fluid as is and sweep hole with Super Sweep and/or PHPA

If no water flow, drill with fluid as above; may desire 20 cc water loss with Starch to protect pay zone  
At TD, sweep of 40 vis mud with Salt Gel and Starch at 8:1 ratio

Estimated cost, no abnormal problems or pressures: not to exceed ~~3000 per well~~

Thank you for your consideration of this Mud Program. If you have any questions, suggestions or concerns, please do not hesitate to contact me immediately. Bulldog Mud sincerely appreciates all of your past work and looks forward to continuing to service your drilling fluid needs.

Respectfully,

## DISTRICT I

1625-N. FRENCH DR., HOBBS, NM 88240

## State of New Mexico

Energy, Minerals and Natural Resources Department

## DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

## OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.

Santa Fe, New Mexico 87505

Form C-102

Revised JUNE 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-025-37396</b>	Pool Code <b>43329</b>	Pool Name <b>Maljamar GB/SA</b>
Property Code <b>30415</b>	Property Name <b>MALMAR UNIT</b>	Well Number <b>221</b>
QGRD No. <b>151228</b>	Operator Name <b>MAR OIL &amp; GAS CORPORATION</b>	Elevation <b>4109'</b>

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>E</b>	<b>13</b>	<b>17-S</b>	<b>32-E</b>		<b>2630</b>	<b>NORTH</b>	<b>1310</b>	<b>WEST</b>	<b>LEA</b>

## Bottom Hole Location If Different From Surface

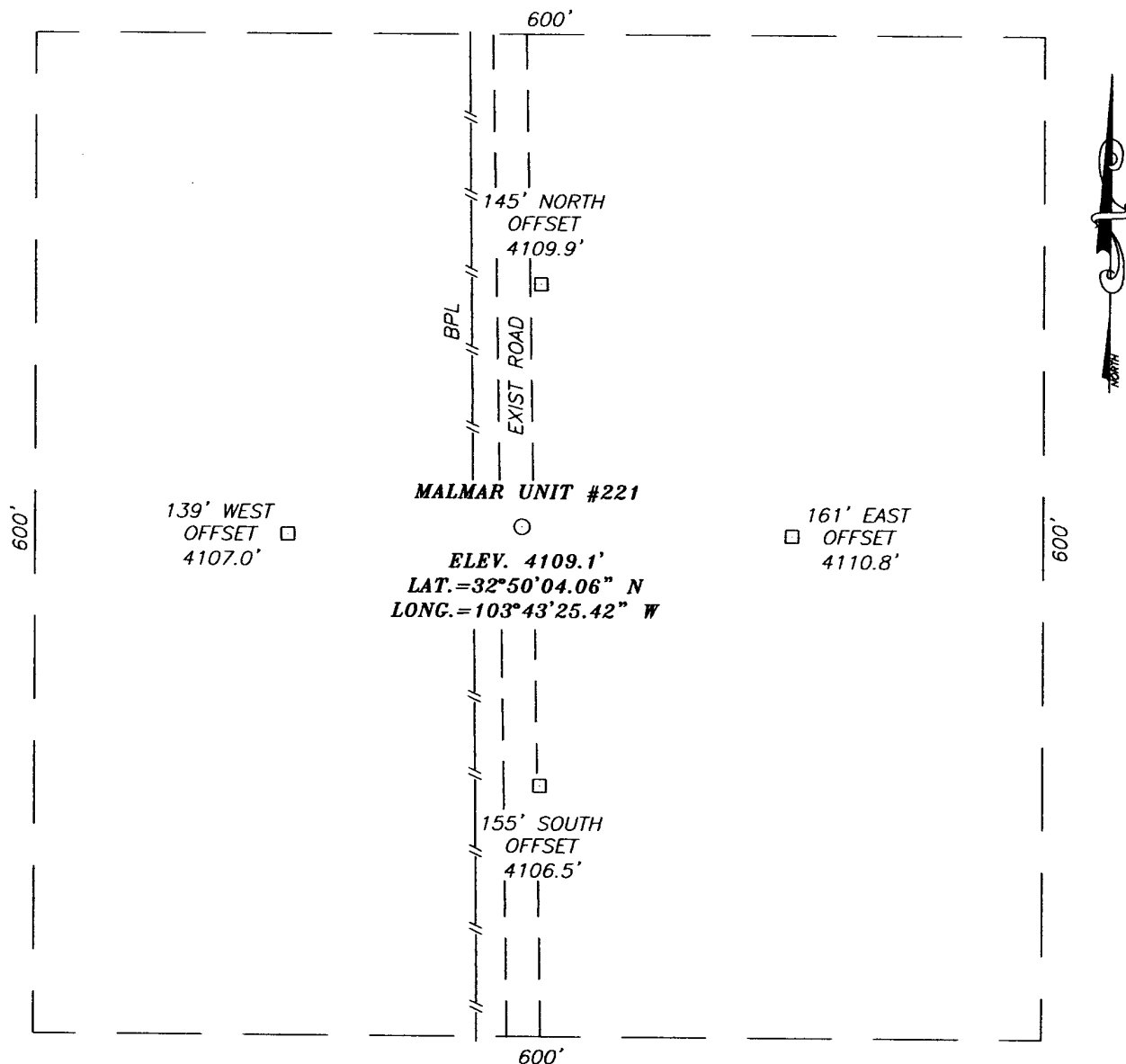
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres <b>40</b>	Joint or Infill	Consolidation Code	Order No.
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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

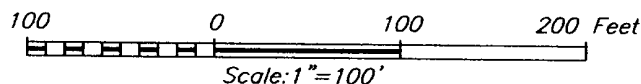
<p>2630'</p> <p>205</p> <p>1310'</p> <p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=667828.7 N X=687244.4 E</p> <p>LAT.=32°50'04.06" N LONG.=103°43'25.42" W</p>	<b>OPERATOR CERTIFICATION</b>  I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.  Signature  Printed Name <b>Duane C Winkler</b> Title <b>UP Operations</b> Date <b>7/22/05</b>
	<b>SURVEYOR CERTIFICATION</b>  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.  JUNE 10, 2005 Date Surveyed Signature & Seal of Professional Surveyor  Certificate No. <b>GARY EIDSON</b> 12841

**SECTION 13, TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.,**  
 LEA COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

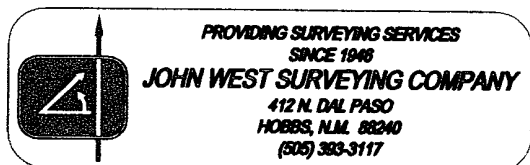
FROM OF CO. RD. L-125 (MESCALERO RD.) AND  
 CO. RD. L-122 (TOMAHAWK RD.), GO NW ON CO.  
 RD. L-125 FOR APPROX. 1.9 MILES, TURN RIGHT  
 (NORTH) AND GO APPROX. 0.3 MILES. THIS  
 LOCATION IS ON THE EAST SIDE OF ROAD.



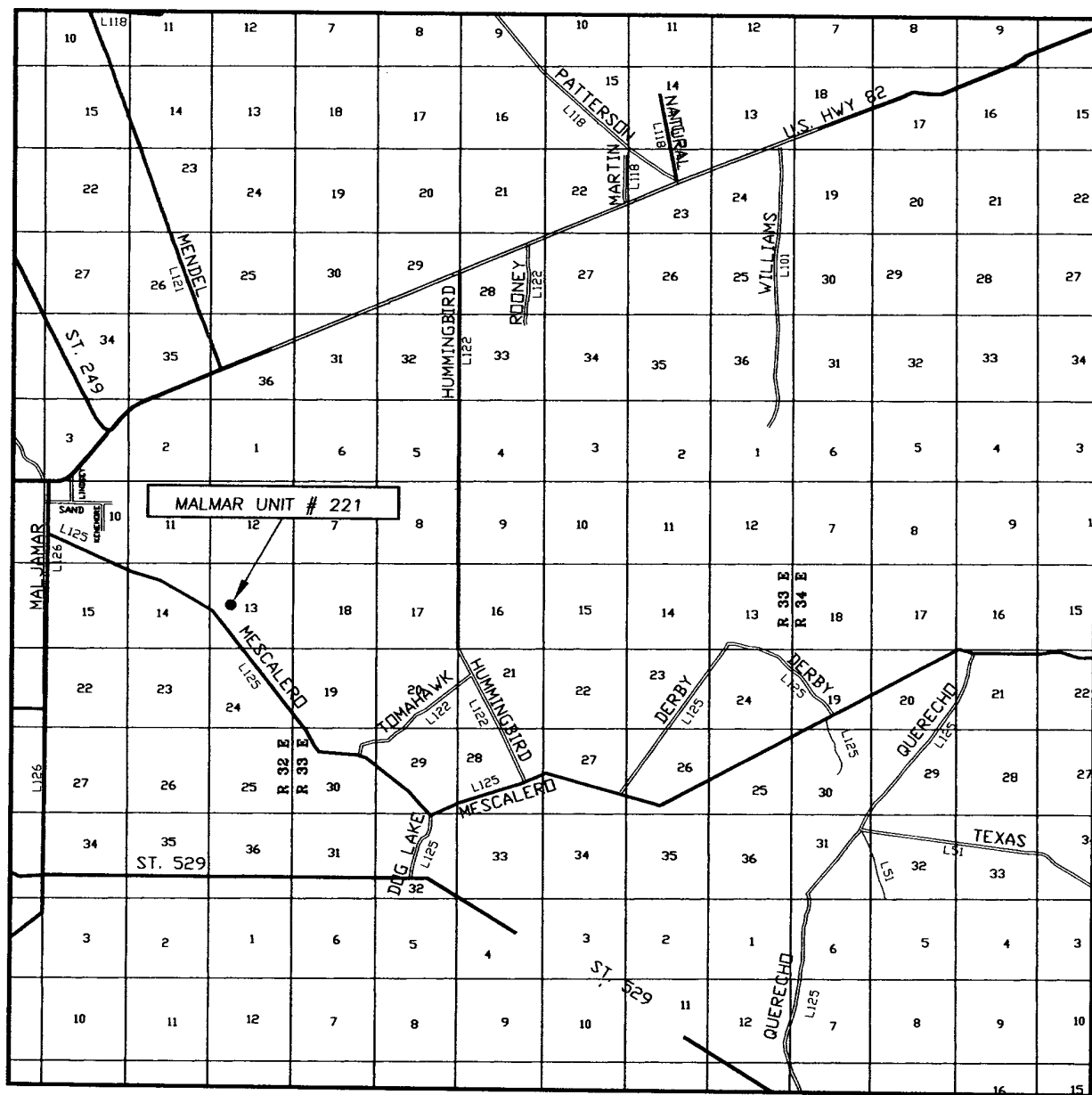
**MAR OIL & GAS CORPORATION**

MALMAR UNIT #221 WELL  
 LOCATED 2630 FEET FROM THE NORTH LINE  
 AND 1310 FEET FROM THE WEST LINE OF SECTION 13,  
 TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M.,  
 LEA COUNTY, NEW MEXICO.

Survey Date: 06/10/05	Sheet 1 of 1 Sheets
W.O. Number: 05.11.0904	Dr By: J.R.
Date: 06/16/05	Disk: CD#5
05110904	Scale: 1"=100'



## VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 13 TWP. 17-S RGE. 32-E

SURVEY \_\_\_\_\_ N.M.P.M.

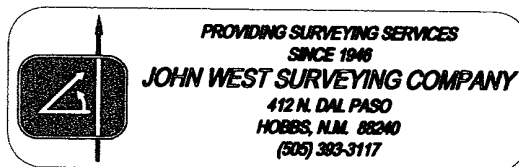
COUNTY \_\_\_\_\_ LEA \_\_\_\_\_

DESCRIPTION 2630' FNL & 1310' FWL

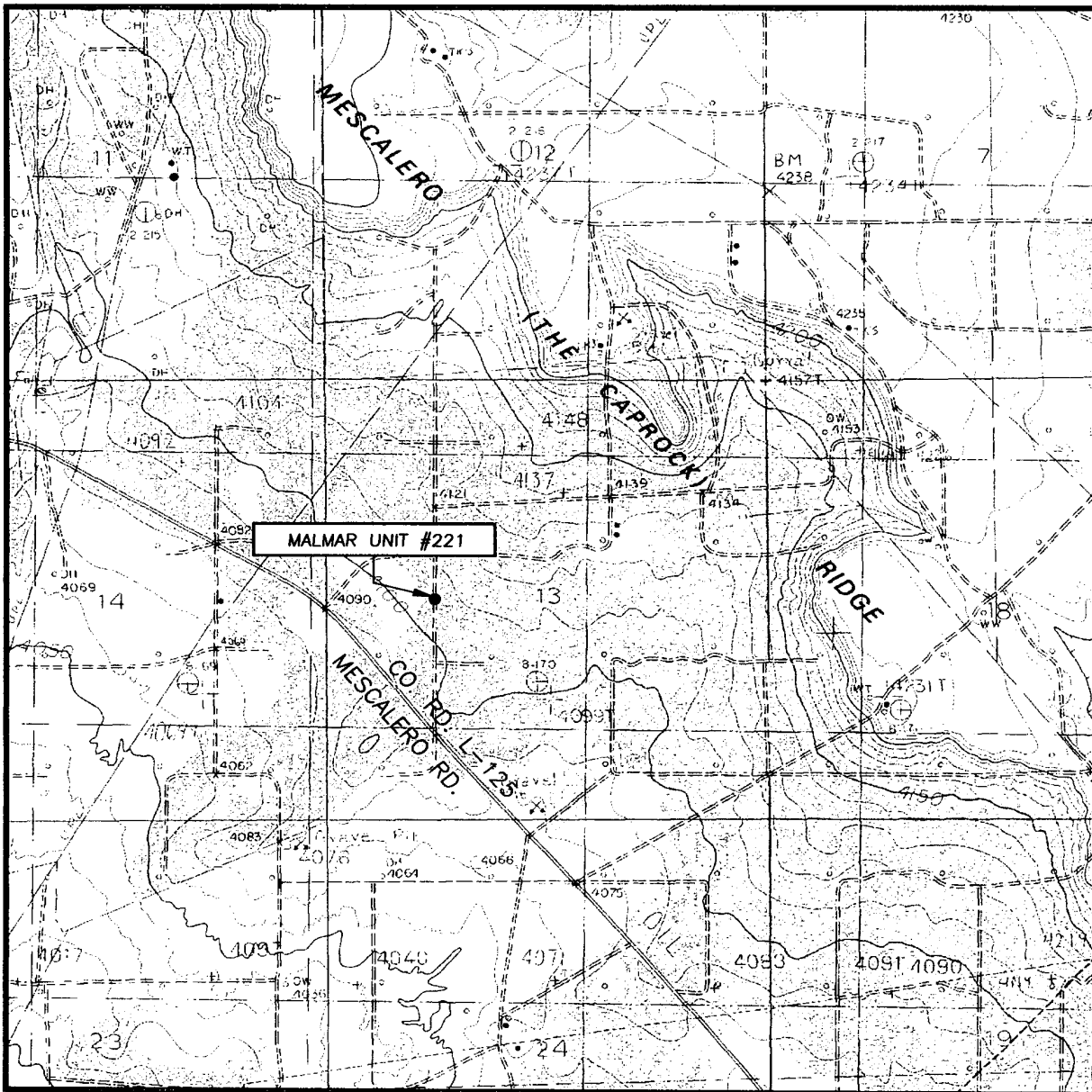
ELEVATION 4109'

OPERATOR MAR OIL & GAS CORPORATION

LEASE \_\_\_\_\_ MALMAR UNIT



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
DOG LAKE, N.M. - 10'

SEC. 13 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

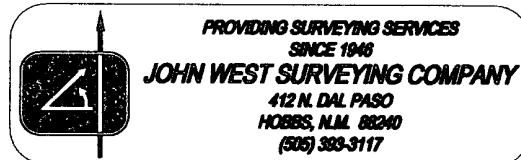
DESCRIPTION 2630' FNL & 1310' FWL

ELEVATION 4109'

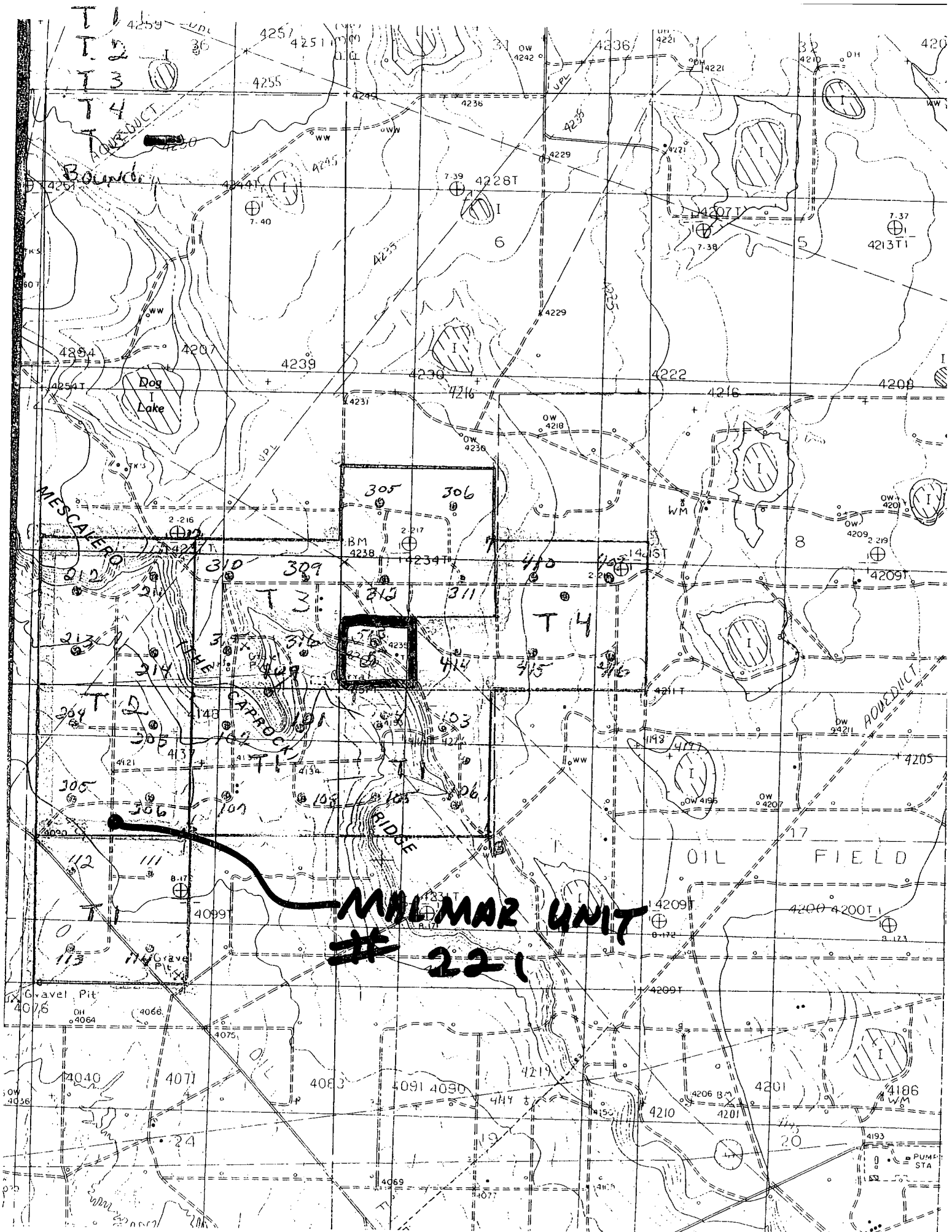
OPERATOR MAR OIL & GAS CORPORATION

LEASE MALMAR UNIT

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







**MALMAR UNIT  
# 221**