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
May 27, 2004

Submit to appropriate District Office

☐ 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 & Gas Corp PO Box 5155, Santa Fe, New Mexico 87502	151228
	[3] API Number 30-025-37389

[5] Property Code	[5] Property Name	[6] Well No.
30415	Malmar Unit	121

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

[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	18	17S	33E		1330	North	100	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

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
N	O	R	S	4136
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
NA	5100	Graybury San Andres	United	August 20, 2005

Depth to Groundwater 140'	Distance from nearest fresh water well 5280'	Distance from nearest surface water 10 miles

Pit: Liner: Synthetic Plastic 20 mils thick Clay ☐ Pit Volume: 4500 bbls Drilling Method:
Closed-Loop System ☐ Fresh Water & Brine X

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 ¼	8 5/8	20—24 #	1300'	619	Surface
7 7/8"	5 ½"	15—15.5 #	5100'	770	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.

Infill drill Grayburg-San Andress to proposed depth of 5100', Surface: drill 12 ¼" 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 51/2" 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

[23] 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: June 23, 2005 Phone: 505-989-1977

OIL CONSERVATION DIVISION

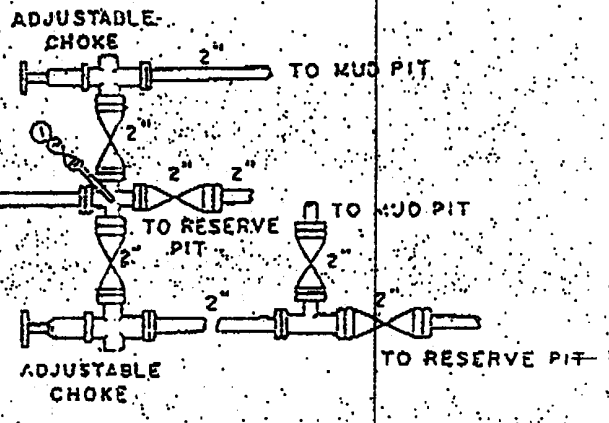
Approved by:

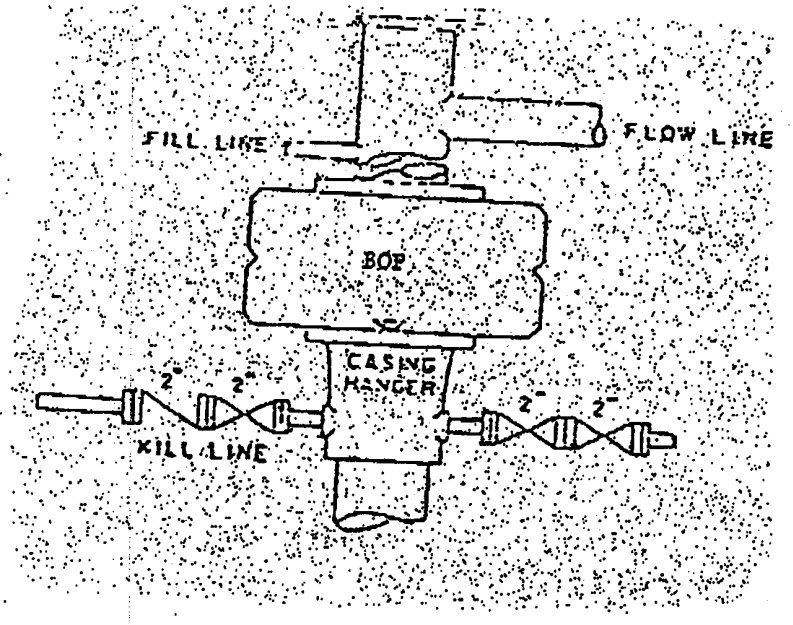
Title: PETROLEUM ENGINEER

Approval Date: JUL 26 2005 Expiration Date:

Conditions of Approval Attached ☐

Attachment A

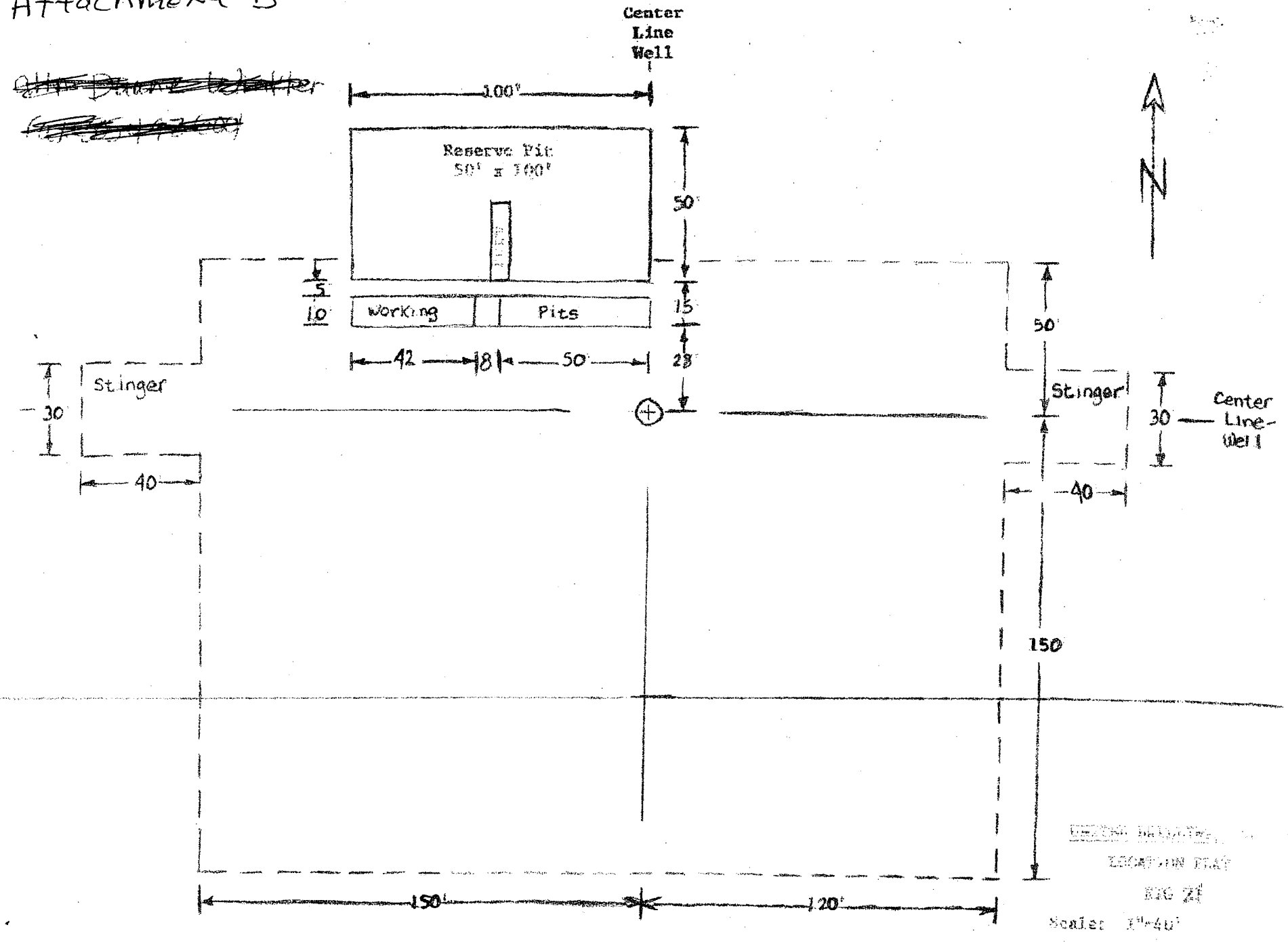




ANNULAR BOP STACK

PRESSURE 2000#

Attachment B



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

Mal Mar Unit #121
1322 FNL, 30 FWL
Lea County, New Mexico
United States of America
S:18 T:17S R:33E

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

Mal Mar Unit	#121
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

Cement : (991.00 ft fill)	
991.00 ft * 0.4127 ft^3/ft * 100 %	= 818.02 ft^3
Total Lead Cement	= 818.02 ft^3
	= 145.70 bbl
Sacks of Cement	= 419 sks
Cement : (309.00 ft fill)	
309.00 ft * 0.4127 ft^3/ft * 100 %	= 255.06 ft^3
Tail Cement	= 255.06 ft^3
	= 45.43 bbl
Shoe Joint Volume: (40.00 ft fill)	
40.00 ft * 0.3576 ft^3/ft	= 14.30 ft^3
	= 2.55 bbl
Tail plus shoe joint	= 269.37 ft^3
	= 47.98 bbl
Total Tail	= 200 sks

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		Fluid Weight	12.50 lbm/gal
0.25 lbm/sk	Flocele (Lost Circulation Additive)	Slurry Yield:	1.95 ft^3/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
Estimated Slurry Properties:		**Thickening Time:**	**5:0:0**
CompressiveStrengths @ 80 °F		**24:0:0**	**510 psi**
		72:0:0	**760 psi**
		Free Water:	**0.3 %**
		Actual Fluid Loss:	**500 cc**
Fluid 3: Tail-in with 200 sks			
Premium Plus Cement		Fluid Weight	14.80 lbm/gal
94 lbm/sk	Premium Plus Cement (Cement)	Slurry Yield:	1.35 ft^3/sk
2 %	Calcium Chloride (Accelerator)	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
Estimated Slurry Properties:		**Thickening Time:**	**2:45:0**
CompressiveStrengths @ 80 °F		**24:0:0**	**1800 psi**
		72:0:0	**3000 psi**
		Free Water:	**0.0 %**

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

Mal Mar Unit	#121
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)

Stage 1

Cement : (1800.00 ft fill)

1800.00 ft * 0.1733 ft^3/ft * 50 %	= 467.79 ft^3
First Stage Tail Cement	= 467.79 ft^3
	= 83.32 bbl

Shoe Joint Volume: (40.00 ft fill)

40.00 ft * 0.1336 ft^3/ft	= 5.35 ft^3
	= 0.95 bbl
Tail plus shoe joint	= 473.13 ft^3
	= 84.27 bbl
Total Tail	= 343 sks

Stage 2

Cement : (2300.00 ft fill)

1300.00 ft * 0.1926 ft^3/ft * 10 %	= 275.41 ft^3
1000.00 ft * 0.1733 ft^3/ft * 50 %	= 259.88 ft^3
Total Second Stage Lead Cement	= 535.29 ft^3
	= 95.34 bbl
Sacks of Cement	= 257 sks

Cement : (900.00 ft fill)

900.00 ft * 0.1733 ft^3/ft * 50 %	= 233.89 ft^3
Second Stage Tail Cement	= 233.89 ft^3
	= 41.66 bbl

Shoe Joint Volume: (0.00 ft fill)

0.00 ft * 0.1336 ft^3/ft	= 0.00 ft^3
	= 0.00 bbl
Tail plus shoe joint	= 233.89 ft^3
	= 41.66 bbl
Total Tail	= 170 sks

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)	Fluid Weight	14.80 lbm/gal
0.6 %	LAP-1 (Low Fluid Loss Control)	Slurry Yield:	1.38 ft^3/sk
0.4 %	CFR-3 (Dispersant)	Total Mixing Fluid:	6.49 Gal/sk
0.25 lbm/sk	D-AIR 3000 (Defoamer)	Top of Fluid:	3200 ft
3 lbm/sk	Salt (Lost Circulation Additive)	Calculated Fill:	1800 ft
0.3 %	Econolite (Light Weight Additive)	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)	Fluid Weight	12.50 lbm/gal
6 lbm/sk	Salt (Salt)	Slurry Yield:	2.08 ft^3/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)	Fluid Weight	14.80 lbm/gal
0.6 %	LAP-1 (Low Fluid Loss Control)	Slurry Yield:	1.38 ft^3/sk
0.4 %	CFR-3 (Dispersant)	Total Mixing Fluid:	6.47 Gal/sk
0.25 lbm/sk	D-AIR 3000 (Defoamer)	Top of Fluid:	2300 ft
3 lbm/sk	Salt (Salt)	Calculated Fill:	900 ft
0.3 %	Econolite (Light Weight Additive)	Volume:	41.66 bbl
		Calculated Sacks:	169.98 sks
		Proposed Sacks:	170 sks

Cost Estimate (Continued) — Production Casing

Mtrl Nbr	Description	Qty	U/M	Unit Price	Gross Amt
76400	MILEAGE, CMT MTLS DEL/RET NUMBER OF TONS	40 38.16	MI	[redacted]	[redacted]
3965	SVC CHRG, CMT & ADDITIVES NUMBER OF EACH	864 1	CF	[redacted]	[redacted]
	Total			**USD**	[redacted]
	Less 56% Discount			**USD**	[redacted]
	Discounted Total			**USD**	[redacted]

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

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

Attachment D

Bulldog Mud

Jerry Butts
Post Office Box 263 Artesia, New Mexico 88211
505-365-6093 (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 [redacted]

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,

State of New Mexico

Energy, Minerals and Natural Resources Department

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

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	Pool Code	Pool Name
30-025-37389	43329	Maljamar GB-SA

Property Code	Property Name	Well Number
30415	MALMAR UNIT	121

OGRID No.	Operator Name	Elevation
151128	MAR OIL & GAS CORPORATION	4136'

Surface Location

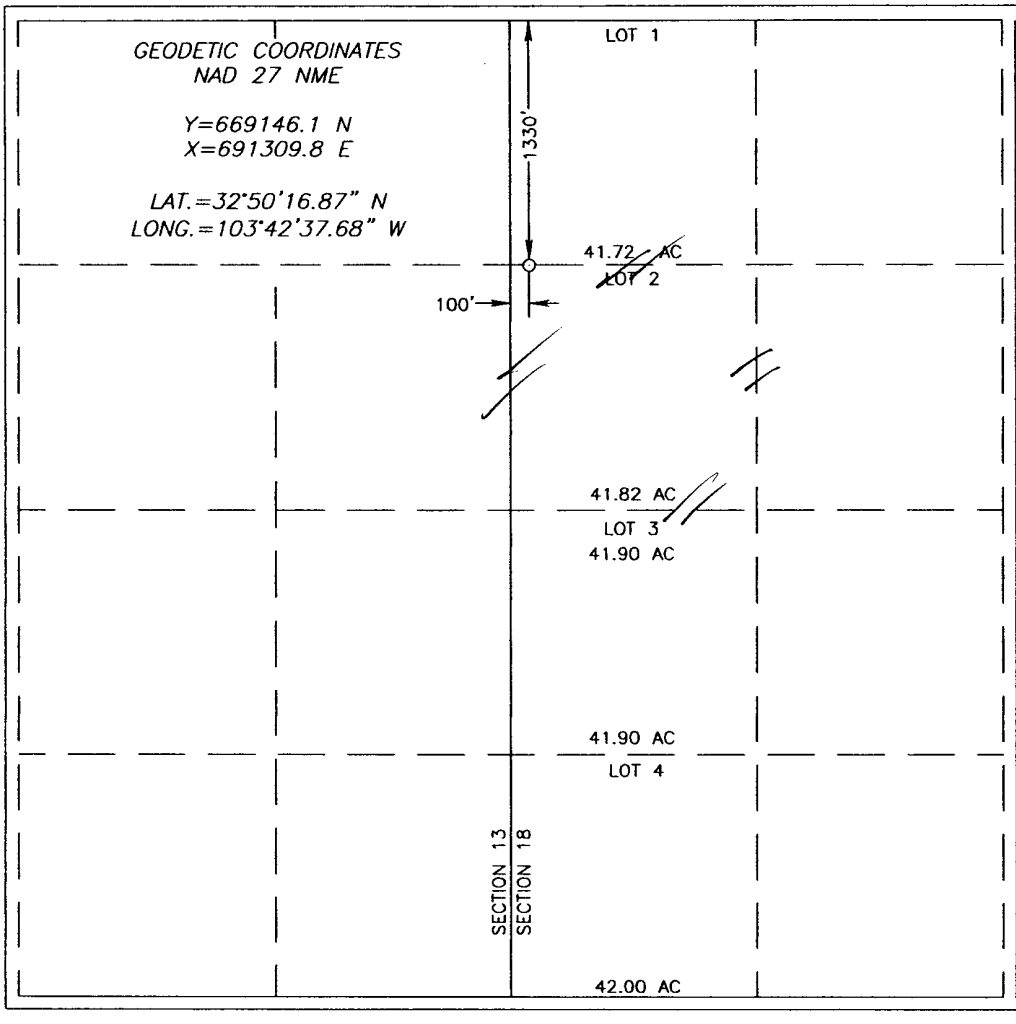
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	18	17-S	33-E		1330	NORTH	100	WEST	LEA

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.

Signature: dcw

Printed Name: Duane C Winkler

Title: VP Operations

Date: 7/22/05

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.

JUNE 9, 2005

Date Surveyed REV: 06/29/05 JR

Signature & Seal of Professional Surveyor: Gary L. Eidson 7/6/05

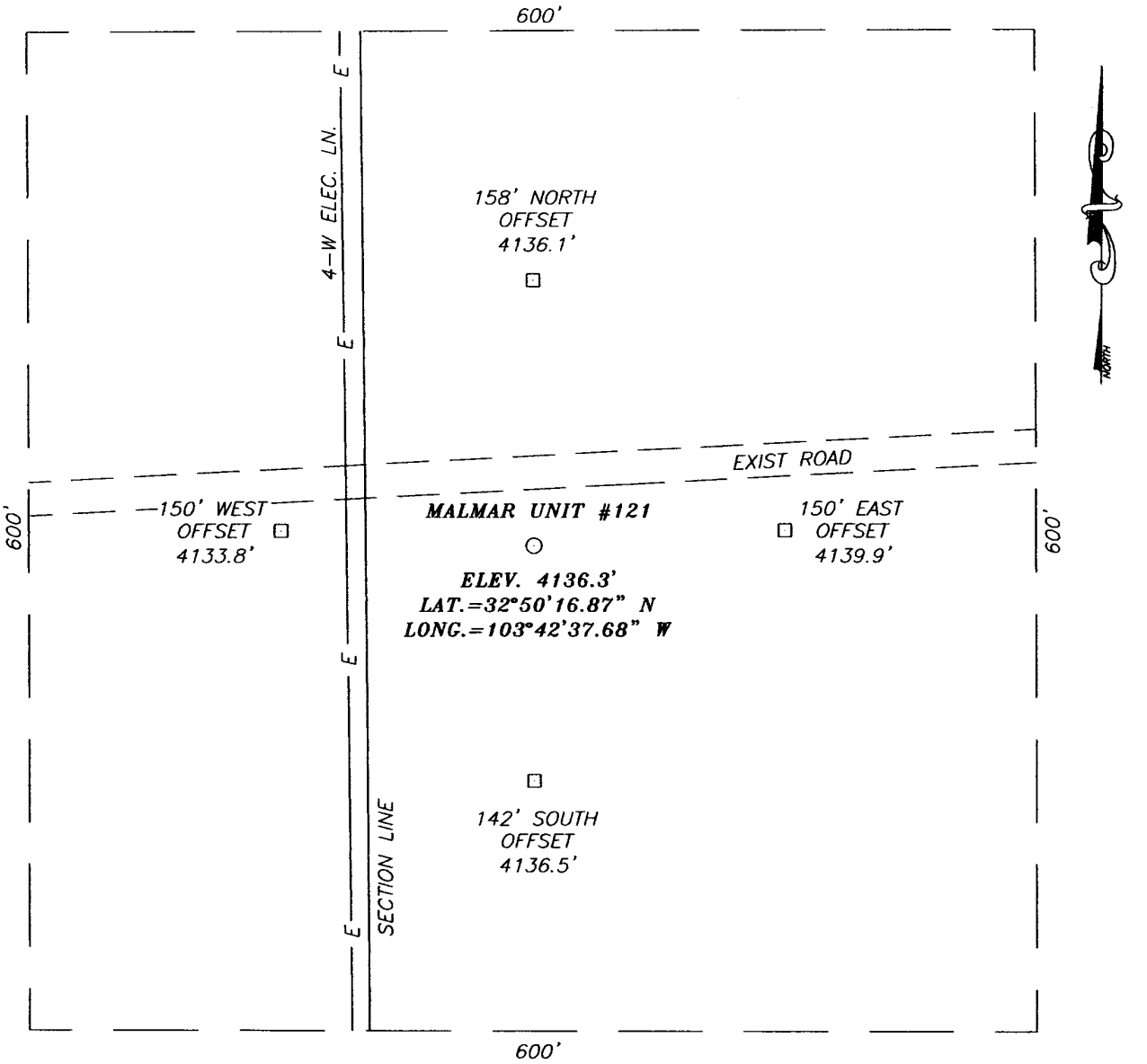
GARY L. EIDSON
NEW MEXICO
12641
REGISTERED PROFESSIONAL SURVEYOR

Certificate No. GARY EIDSON 12641

95-11-0897

SECTION 18, TOWNSHIP 17 SOUTH, RANGE 33 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 TO A CALICHE ROAD ON THE RIGHT. TURN RIGHT. TURN RIGHT (NORTH) AND GO APPROX. 0.5 MILES. TURN RIGHT (EAST) AND GO APPROX. 0.8 MILES. THIS LOCATION IS APPROX. 55' SOUTH OF EXISTING ROAD.

100 0 100 200 Feet

Scale: 1"=100'

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO

HOBBS, N.M. 88240

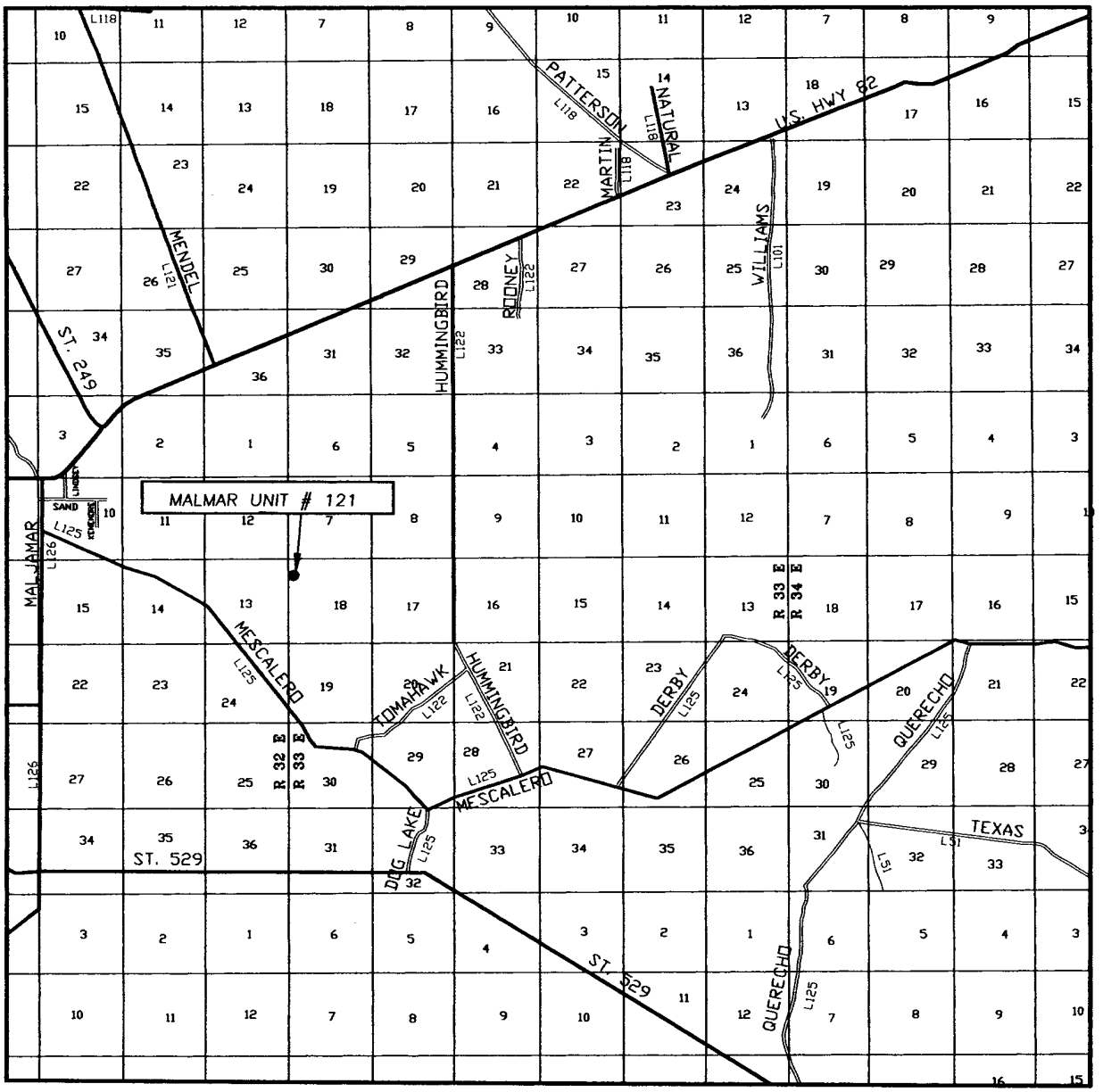
(505) 393-3117

MAR OIL & GAS CORPORATION

MALMAR UNIT #121 WELL
LOCATED 1330 FEET FROM THE NORTH LINE
AND 100 FEET FROM THE WEST LINE OF SECTION 18,
TOWNSHIP 17 SOUTH, RANGE 33 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 06/09/05	Sheet 1 of 1 Sheets		
W.O. Number: 05.11.0897	Dr By: J.R.		Rev 1:06/29/05
Date: 06/15/05	Disk: CD#5	05110897	Scale: 1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 18 TWP. 17-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1330' FNL & 100' FWL

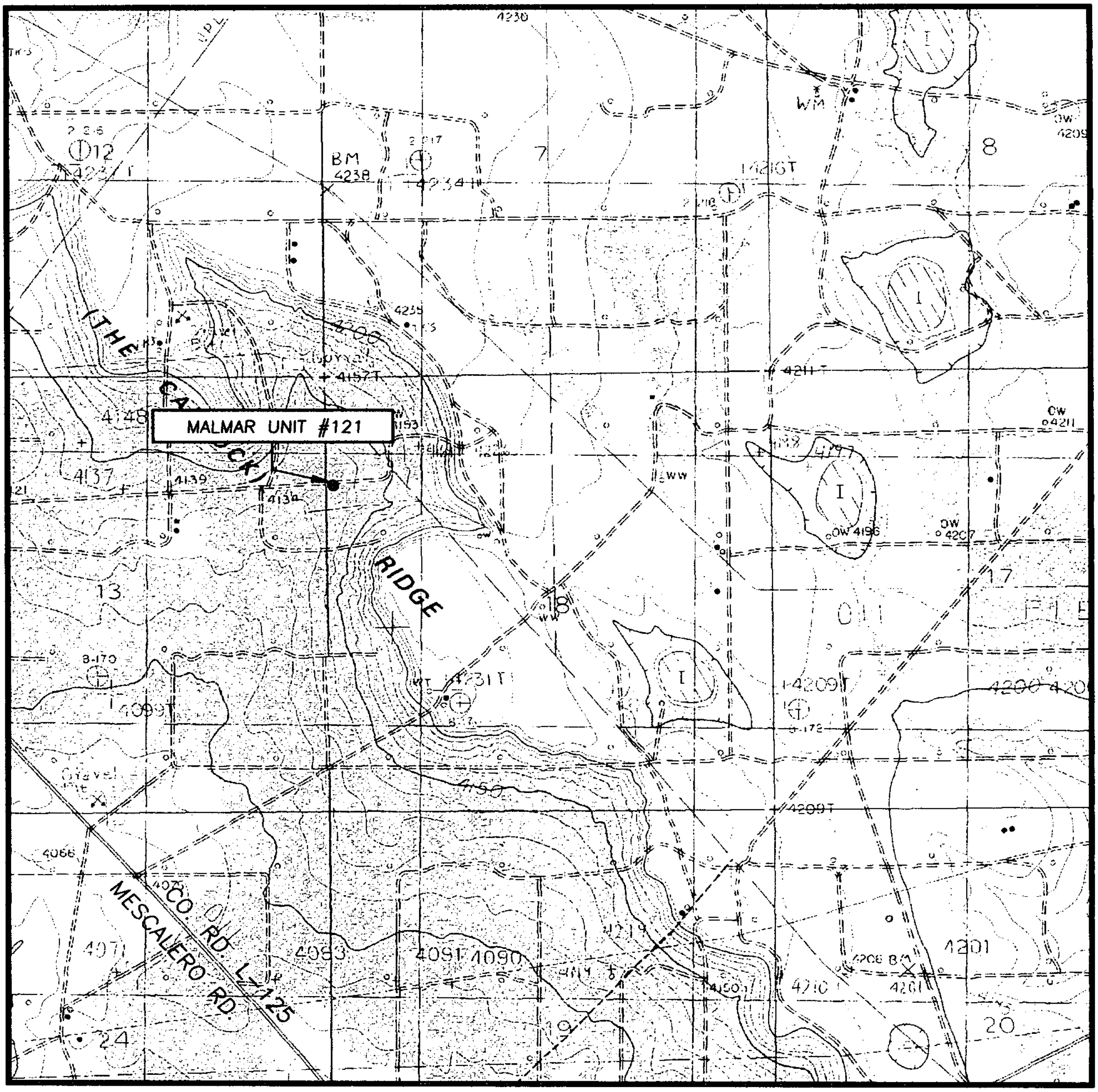
ELEVATION 4136'

OPERATOR MAR OIL & GAS CORPORATION

LEASE MALMAR UNIT

PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

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

SEC. 18 TWP. 17–S RGE. 33–E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1330' FNL & 100' FWL

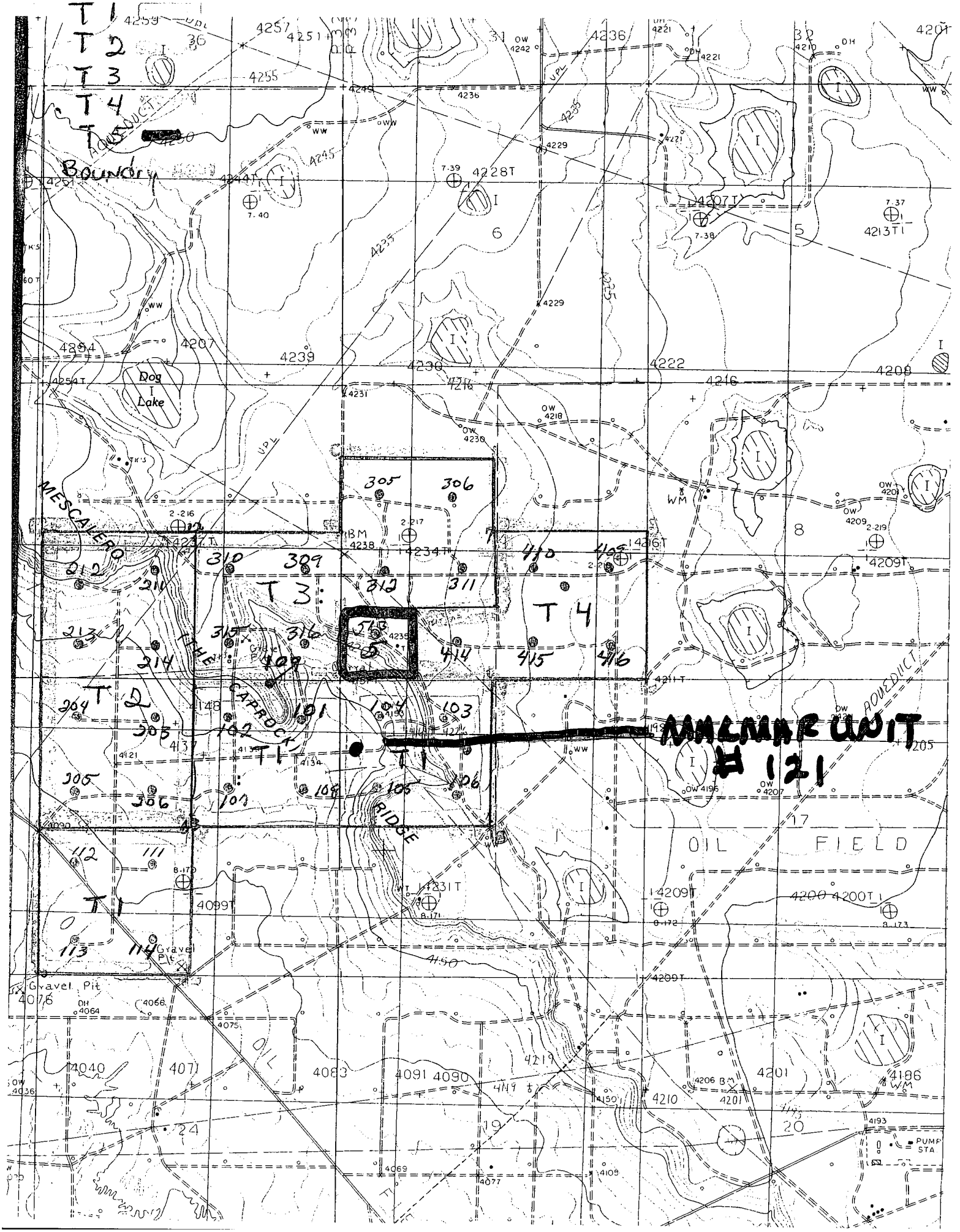
ELEVATION 4136'

OPERATOR MAR OIL & GAS CORPORATION

LEASE MALMAR UNIT

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

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117


T 1
T 2
T 3
T 4
T 5
BOUNDRY
Dog Lake
MESCALERO
THE CAPROCK
RIDGE
OIL FIELD
Gravel Pit
Gravel Pit
AQUEDUCT
AQUEDUCT
MALMAR UNIT
121