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 - 36858

[5] Property Code	[5] Property Name	[6] Well No.
33230	Eumont Hardy Unit	111

[9] Proposed Pool 1	[10] Proposed Pool 2
Eumont --Yates – Seven Rivers – Queen	

[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	36	20 S	37 E		1400	North	330	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	~~P~~ S	3497
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
NA	3900'	Queen	Paterson	10/2/2004

Depth to Groundwater 90' | Distance from nearest fresh water well 5280' | Distance from nearest surface water 10 miles

Pit: Liner: Synthetic Plastic 40 mils thick Clay ☐ Pit Volume: 4500 bbls Drilling Method:
Closed-Loop System ☐ Fresh Water X 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 #	500'	266	Surface
7 7/8"	5 ½"	15—15.5 #	3900'	524	Surface

[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 Queen well to proposed depth of 3900', 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

RECEIVED SEP 2004 Hobbs OCD

[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: duanecwinkler@earthlink.net

Date: September 10, 2004 Phone: 505-989-1977

OIL CONSERVATION DIVISION

Approved by:

Title: PETROLEUM ENGINEER

Approval Date: SEP 21 2004 Expiration Date:

Conditions of Approval Attached

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
30-025-36858	22800	Eumont; Yates-7 Rvrs-Queen (Oil)

Property Code	Property Name	Well Number
33230	EUMONT HARDY UNIT	111

OGRID No.	Operator Name	Elevation
151228	MAR OIL & GAS CORPORATION	3497'

Surface Location

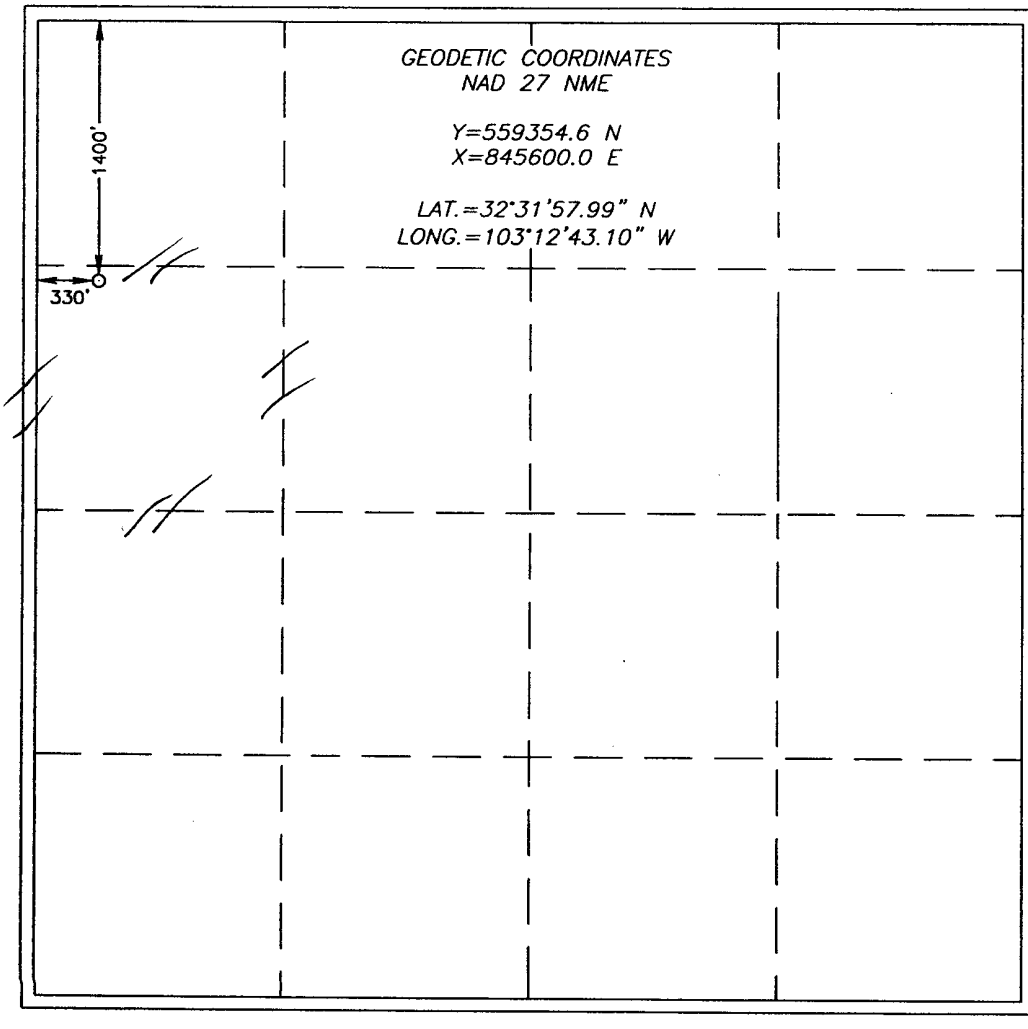
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	36	20-S	37-E		1400	NORTH	330	WEST	LEA

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

Duane C Winkler
Printed Name

UP Operations
Title

9/2/04
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.

AUGUST 4, 2004
Date Surveyed JR

Signature & Seal of Professional Surveyor

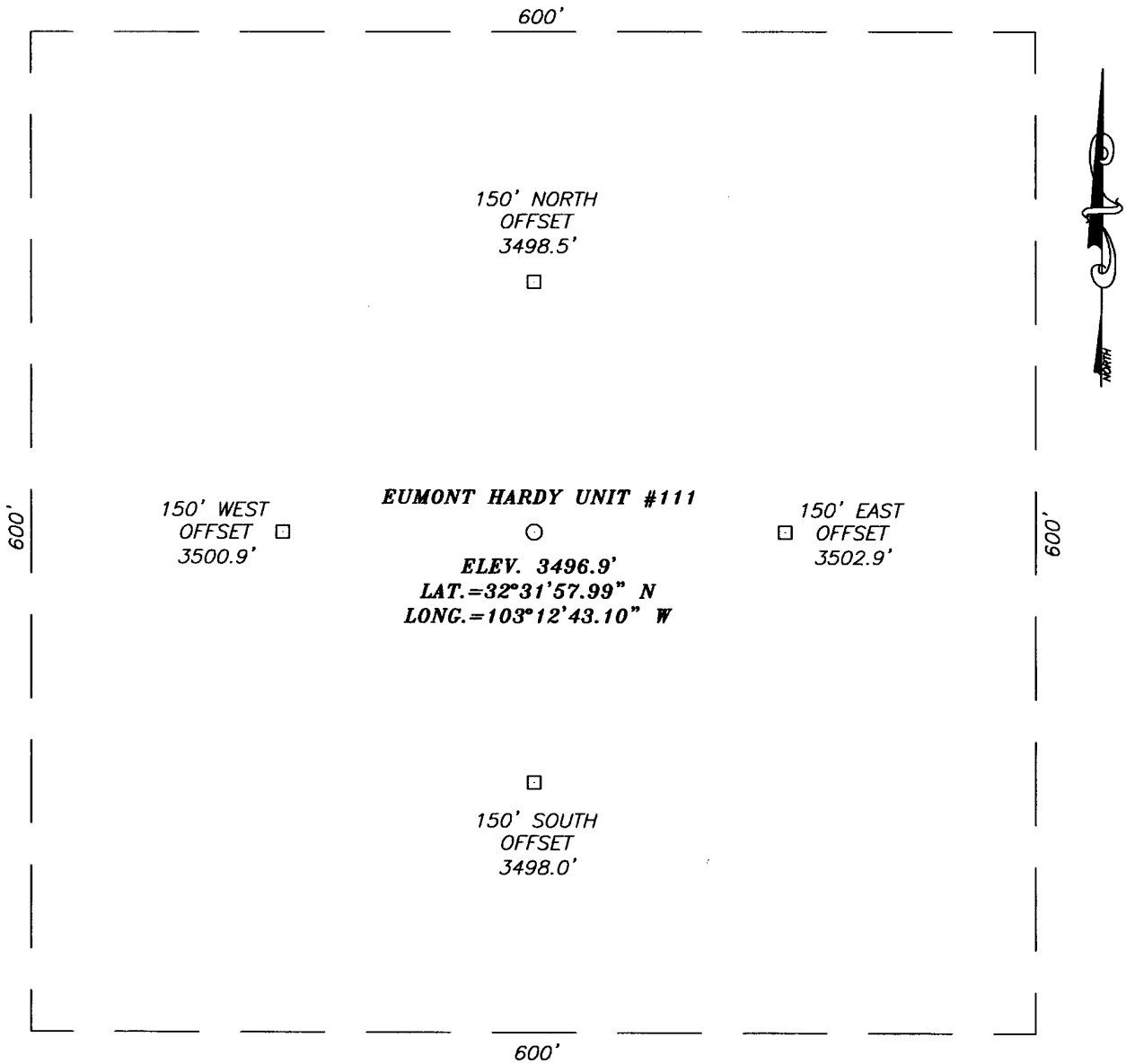
Ronald J. Eidson 8-13-04

04.11.0936

Certificate No. GARY L. EIDSON 12641
RONALD J. EIDSON 3239

SECTION 36, TOWNSHIP 20 SOUTH, RANGE 37 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. #8 AND CO. RD. #49 (HILL RD.) GO EAST ON CO. RD. #49 FOR APPROX. 2.8 MILES TO A CALICHE ROAD ON THE LEFT. TURN LEFT (NORTH) AND GO APPROX. 400' TO A BEND IN THE ROAD. TURN LT .(NORTH) AND GO APPROX. 0.25 MILES. TURN RT. (EAST) AND GO APPROX. 0.3 MILES TO PUMP JACK, TURN LT. (NORTH) AND FOLLOW ROAD APPROX. 0.25 MILES. TURN LT. (WEST) AND FOLLOW ROAD 0.2 MILES. AROUND EXISTING PAD TO A LOW AREA LOOKS LIKE OLD TRAIL ROAD GOING NORTH & SOUTH TURN RT. (NORTH) @ OLD TRAIL ROAD (LOW AREA) GO 600' TO LOCATION.

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

100 0 100 200 Feet

Scale: 1"=100'

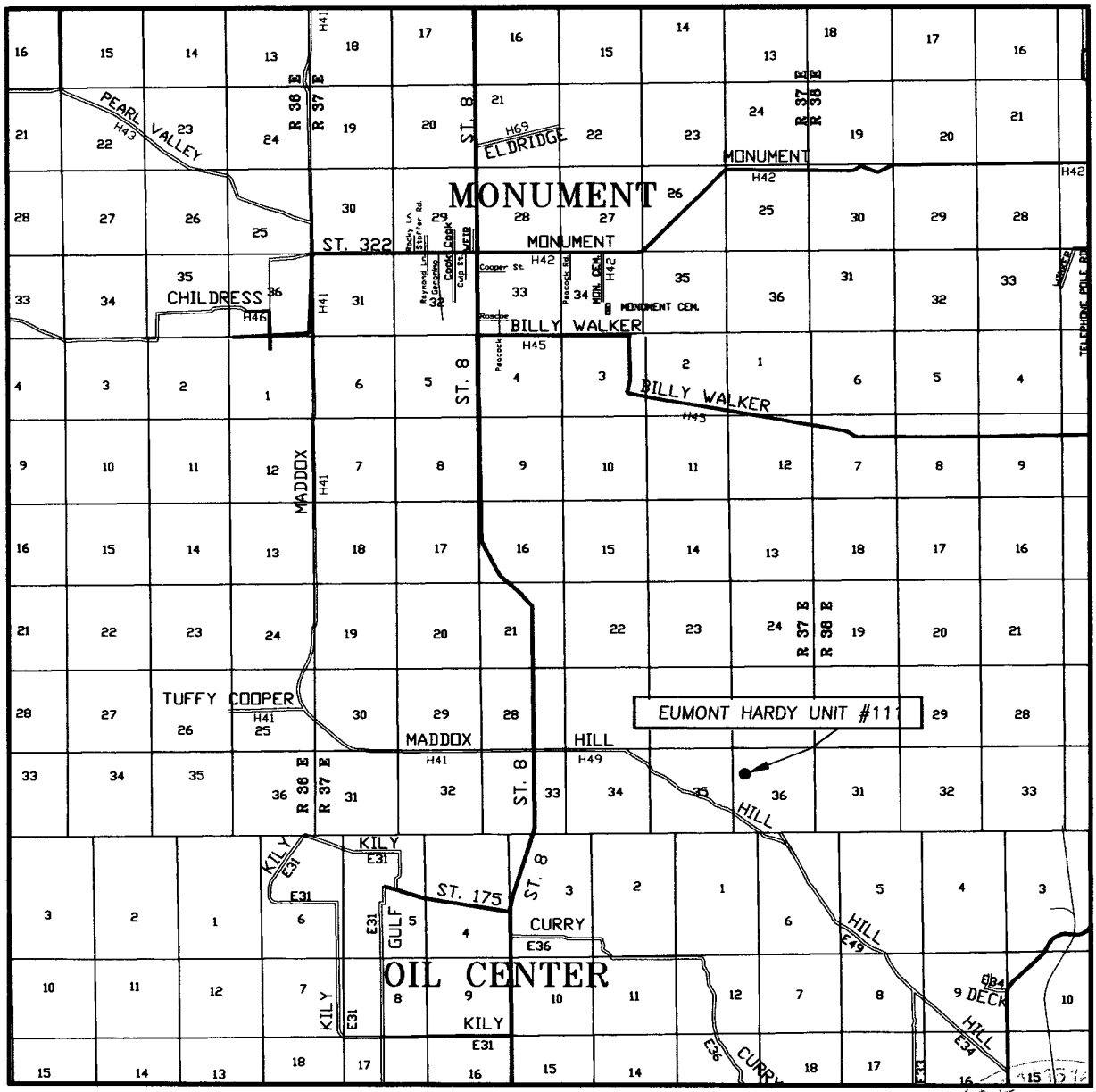
RECEIVED
Hobbs
OCD

MAR OIL & GAS CORPORATION

EUMONT HARDY UNIT #111 WELL
LOCATED 1400 FEET FROM THE NORTH LINE
AND 330 FEET FROM THE WEST LINE OF SECTION 36,
TOWNSHIP 20 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 08/04/04	Sheet 1 of 1 Sheets		
W.O. Number: 04.11.0936	Dr By: J.R.	Rev 1:N/A	
Date: 08/06/04	Disk: CD#10	04110936	Scale: 1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 36 TWP. 20-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1400' FNL & 330' FWL

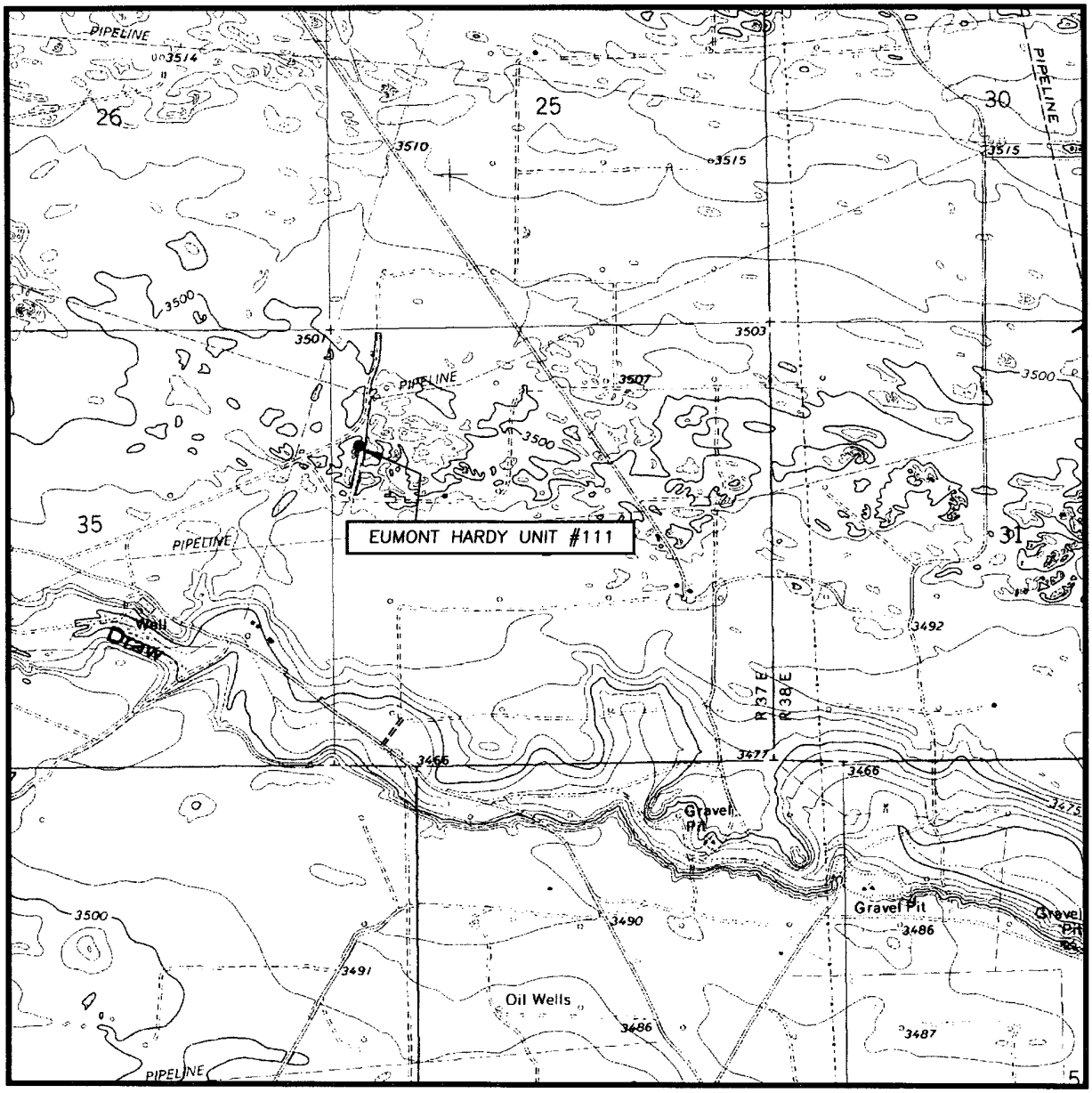
ELEVATION 3496

OPERATOR MAR OIL & GAS CORPORATION

LEASE EUMONT HARDY 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:
HOBBS SW, N.M. – 5'

SEC. 36 TWP. 20-S RGE. 37-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1400' FNL & 330' FWL

ELEVATION 3496

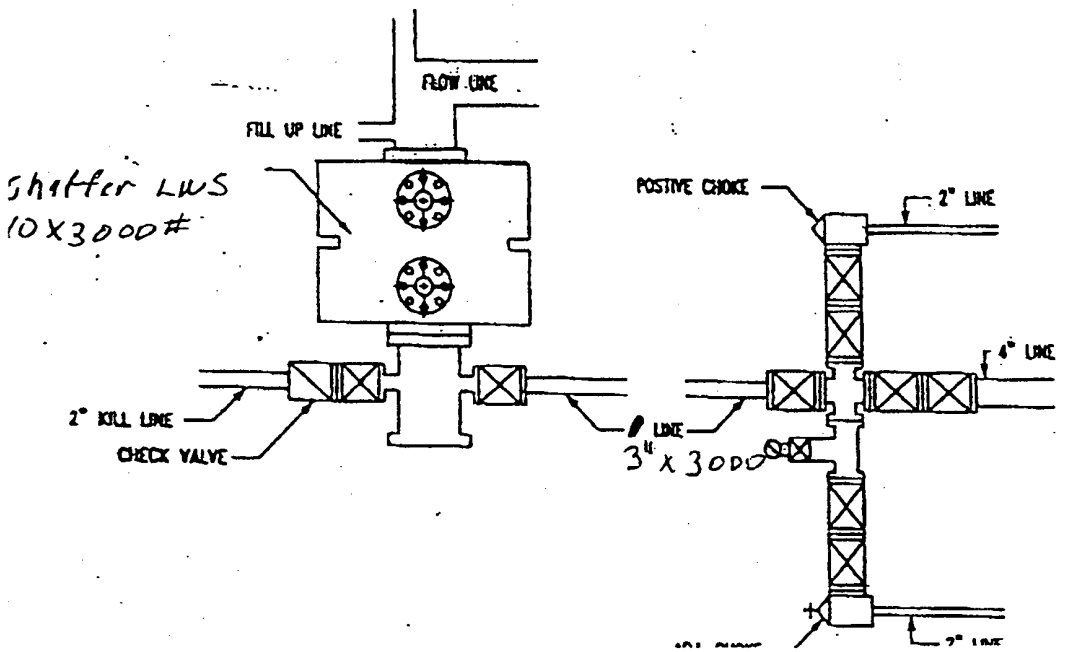
OPERATOR MAR OIL & GAS CORPORATION

LEASE EUMONT HARDY UNIT

U.S.G.S. TOPOGRAPHIC MAP
HOBBS SW, N.M.

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

Attachment A



Attachment B

8-01-02

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#

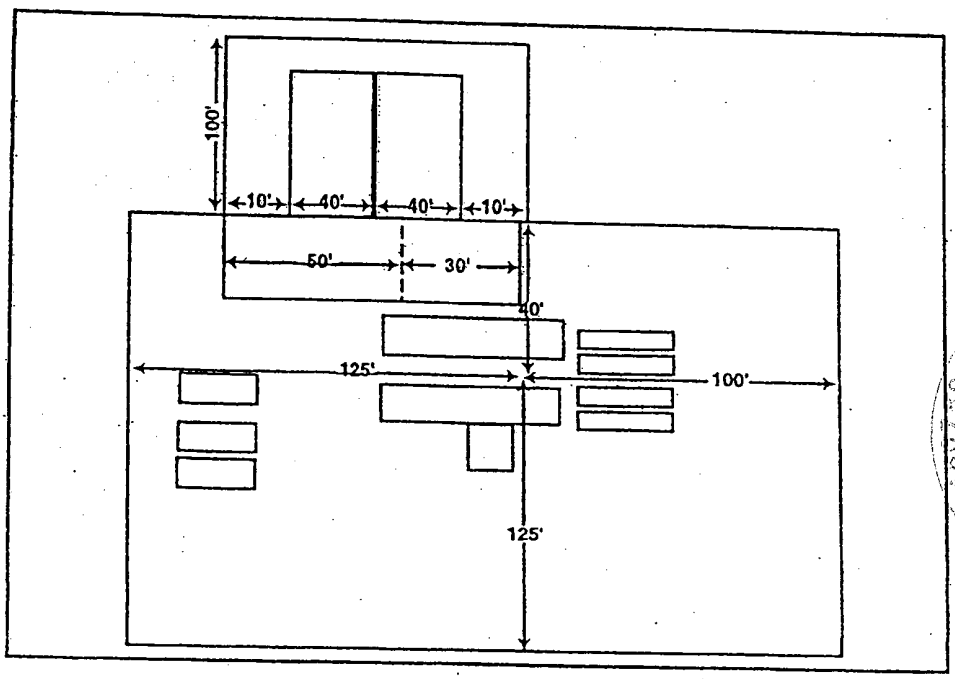
MUD SYSTEM
One 350 bbl plt (total) including a 60 bbl slug suction pit section.

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)"



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

Eumont Hardy Units #111, #110, #109, #108 & #107
(5 Well Package)
Lea County, New Mexico
United States of America

Cementing Recommendation

Prepared for: Duane Winkler
July 23, 2004
Version: 4

Submitted by:
Paul Thornton

Halliburton Energy Services
5801 Lovington Hwy.
Hobbs, New Mexico
505/390-1010

HALLIBURTON

Job Information — Surface Casing

Eumont Hardy Units	#111, #110, #109, #108 & #107
Open Hole Section	0 - 500 ft (MD)
Inner Diameter	12.250 in
Job Excess	100 %
Surface Casing	0 - 500 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 : (273.00 ft fill)

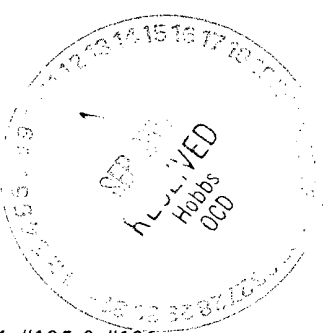
273.00 ft * 0.4127 ft^3/ft * 100 %	= 225.35 ft^3
Total Lead Cement	= 225.35 ft^3
	= 40.14 bbl
Sacks of Cement	= 116 sks

Cement : (227.00 ft fill)

227.00 ft * 0.4127 ft^3/ft * 100 %	= 187.38 ft^3
Tail Cement	= 187.38 ft^3
	= 33.37 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	= 201.68 ft^3
	= 35.92 bbl
Total Tail	= 150 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 bbl
Fresh Water — Fluid Volume: 20 bbl

Fluid 2: Lead with 120 sks
Halliburton Light Premium Plus Cement
0.25 lbm/sk Flocele (Lost Circulation Additive)

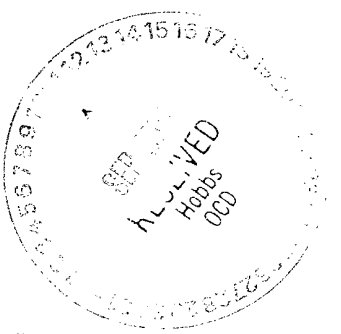
Fluid Weight	12.50 lbm/gal
Slurry Yield:	1.95 ft^3/sk
Total Mixing Fluid:	10.80 Gal/sk
Top of Fluid:	0 ft
Calculated Fill:	273 ft
Volume:	40.18 bbl
Calculated Sacks:	115.62 sks
Proposed Sacks:	120 sks
Thickening Time:	**5:0:0**
24:0:0	**510 psi**
72:0:0	**760 psi**
Free Water:	**0.3 %**
Actual Fluid Loss:	**± 500 cc**

Estimated Slurry Properties:
CompressiveStrengths @ 80 °F

Fluid 3: Tail-in with 150 sks
Premium Plus Cement
94 lbm/sk Premium Plus Cement (Cement)
2 % Calcium Chloride (Accelerator)

Fluid Weight	14.80 lbm/gal
Slurry Yield:	1.34 ft^3/sk
Total Mixing Fluid:	6.34 Gal/sk
Top of Fluid:	273 ft
Calculated Fill:	227 ft
Volume:	35.88 bbl
Proposed Sacks:	150 sks
Thickening Time:	**2:45:0**
24:0:0	**1800 psi**
72:0:0	**3000 psi**
Free Water:	**0.0 %**

Estimated Slurry Properties:
CompressiveStrengths @ 80 °F



Job Information — Production Casing

Eumont Hardy Units	#111, #110, #109, #108 & #107
Surface Casing	0 - 500 ft (MD)
Outer Diameter	8.625 in
Inner Diameter	8.097 in
Linear Weight	24 lbm/ft
Thread	STC
Casing Grade	J-55
Open Hole Section	500 - 3900 ft (MD)
Inner Diameter	7.875 in
Job Excess	50 %
Production Casing	0 - 3900 ft (MD)
Outer Diameter	5.500 in
Inner Diameter	4.950 in
Linear Weight	15.50 lbm/ft
Thread	LTC
Casing Grade	J-55

Calculations

Cement : (2650.00 ft fill)

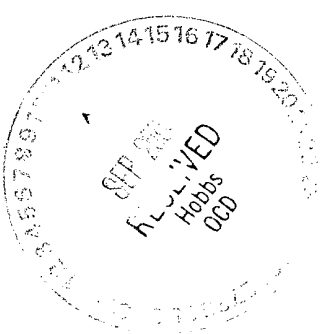
250.00 ft * 0.1926 ft^3/ft * 0 %	= 48.15 ft^3
2400.00 ft * 0.1733 ft^3/ft * 50 %	= 623.72 ft^3
Total Lead Cement	= 671.87 ft^3
	= 119.66 bbl
Sacks of Cement	= 323 sks

Cement : (1000.00 ft fill)

1000.00 ft * 0.1733 ft^3/ft * 50 %	= 259.88 ft^3
Tail Cement	= 259.88 ft^3
	= 46.29 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	= 265.23 ft^3
	= 47.24 bbl
Total Tail	= 201 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

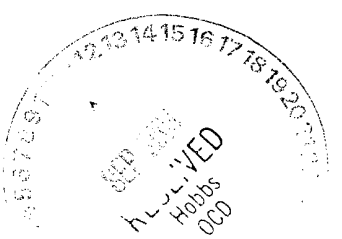
Fluid Volume:	20 bbl

Fluid 2: Lead with 265 sks
Halliburton Light Premium Plus Cement
0.25 lbm/sk Flocele (Lost Circulation Additive)
6 lbm/sk Salt (Accelerator)

Fluid Weight	12.50 lbm/gal
Slurry Yield:	2.08 ft^3/sk
Total Mixing Fluid:	11.55 Gal/sk
Top of Fluid:	250 ft
Calculated Fill:	2650 ft
Volume:	119.66 bbl
Calculated Sacks:	322.70 sks
Proposed Sacks:	325 sks

Fluid 3: Tail-in with 205 sks
50/50 Poz Premium Plus Cement (2% Gel)
3 lbm/sk Salt (Salt)
0.3 % Halad(R)-322 (Low Fluid Loss Control)

Fluid Weight	14.20 lbm/gal
Slurry Yield:	1.32 ft^3/sk
Total Mixing Fluid:	6.13 Gal/sk
Top of Fluid:	2900 ft
Calculated Fill:	1000 ft
Volume:	47.24 bbl
Calculated Sacks:	201.23 sks
Proposed Sacks:	205 sks



BULLDOG MUD
Jerry Butts
Post Office Box 263 Artesia, New Mexico 88211
505-365-8093 (voice) 505-748-7396 (fax)

Attachment D

July 9, 2004

MAR Oil & Gas Corporation
Post Office Box 5155
Santa Fe, New Mexico 87502
Attn: Mr. Duane Winkler

RE: Eumont Hardy Unit
Well #101, #102, #104, #105, #106
Estimated TD: 3900 ft

Suggested Mud Program

Surface Interval 0 -- 1300' 12 1/4" hole 8 5/8" casing
Drill with spud mud of Gel:Lime
Viscosity at 34+ sec/1000
Will make viscosity as Red Bed is drilled
Control viscosity, solids & weight with additions of Fresh Water
Add 1 sx Paper every 50 -- 75' to help Red Bed
At casing point, you may want to pump a 50 bbl sweep of 40 viscosity Gel mud to insure a clean hole for running 8 5/8" casing

Production Interval 1300' -- TD 7 7/8" hole 5 1/2" casing
1300 -- 2500' Interval
Drill with Brine (circulating reserve)
Add Caustic Soda for pH at 10+
Add Paper to control seepage

2500' -- TD Interval
Return to steel pits to reduce filtrate to 10 cc with addition of Starch
Add Caustic Soda for pH at 10+
Add Newcide as a preservative for the Starch

*Note: Eventhough this well will not have Starch in the system for extended periods of time, we recommend Newcide as a safety factor in keeping the filtrate controlled.

continued...

BULLDOG MUD

MAR Oil & Gas Corporation
Suggested Mud Program
Eumont Hardy Wells
July 9, 2004
page 2

Attachment D

Production Interval cont'

This mud should be sufficient to drill to TD
At TD, pump a 50 bbl pill of 40 vis/10cc mud around while circulating, then spot another 50 bbl pill on bottom before you POH to log

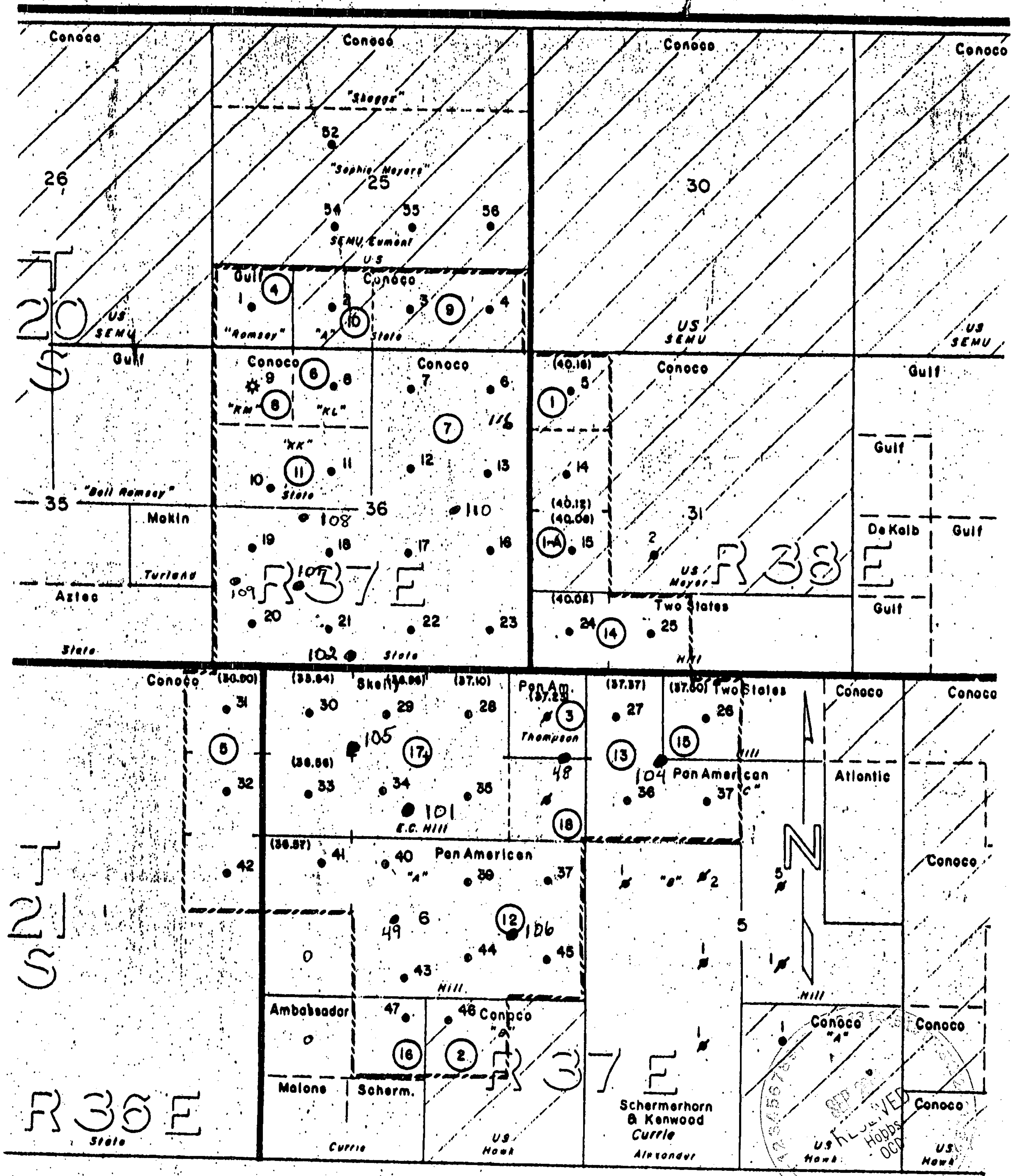
Estimated cost per well should not exceed: $[redacted] (no abnormal hole conditions; i.e.: lost returns, waterflow, stuck pipe, etc...)

We offer a 10% discount on materials if paid within 10 days of receipt of invoice. We invoice only at the end of the well.

I appreciate your consideration of this Suggested Mud Program. Please do not hesitate to call me immediately with any questions, suggestions or concerns. Bulldog Mud looks forward to this opportunity to service your drilling fluid needs, and I look forward to hearing from you soon.

Respectfully,

Jerry D. Butts
Bulldog Mud Company



EUMONT HARDY UNIT BOUNDARY

(2) TRACT NUMBERS

(36.90) ACRES IN NON-STANDARD LOTS

mar OIL & GAS CORPORATION

P.O. BOX 5155 SANTA FE
NEW MEXICO 87502-5155

Lea County, N.M.

SCALE
0 1000' 2000'

EXHIBIT F