

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 30-025-36857	
<sup>4</sup> Property Code 33230	<sup>5</sup> Property Name Eumont Hardy Unit		<sup>6</sup> Well No. 110
<sup>9</sup> Proposed Pool 1 Eumont -- Yates -- Seven Rivers -- Queen		<sup>10</sup> Proposed Pool 2	

**7 Surface Location**

UL or lot no. G	Section 36	Township 20 S	Range 37 E	Lot Idn	Feet from the 2600	North/South line North	Feet from the 1330	East/West line East	County Lea
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**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
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**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 P S	<sup>15</sup> Ground Level Elevation 3495
<sup>16</sup> Multiple NA	<sup>17</sup> Proposed Depth 3900'	<sup>18</sup> Formation Queen	<sup>19</sup> Contractor Paterson	<sup>20</sup> Spud Date 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 <input type="checkbox"/> Pit Volume: 4500 bbls Drilling Method: Fresh Water X Brine X				
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 #	500'	266	Surface
7 7/8"	5 1/2"	15—15.5 #	3900'	524	Surface

<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 Queen well to proposed depth of 3900', 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

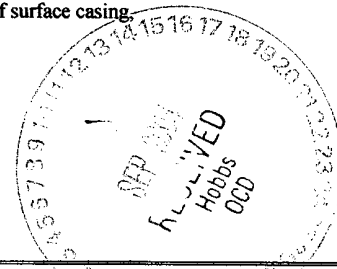
Attachment E—Location Plat

Attachment F—Map of Unit Boundary

Permit Expires 1 Year From Approval  
Date Unless Drilling Underway

**OIL CONSERVATION DIVISION**

<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 <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> .		Approved by: 	
Printed name: Duane C. Winkler		Title: PETROLEUM ENGINEER	
Title: V.P. Operations		Approval Date: SEP 21 2004	
E-mail Address: duanecwinkler@earthlink.net		Expiration Date:	
Date: September 10, 2004	Phone: 505-989-1977	Conditions of Approval Attached <input type="checkbox"/>	



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

State of New Mexico  
Energy, Minerals and Natural Resources Department

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>30-025-36857</b>	Pool Code <b>22800</b>	Pool Name <b>Eumont; Yates-7 Rvrs-Queen Cor'l</b>
Property Code <b>33230</b>	Property Name <b>EUMONT HARDY UNIT</b>	Well Number <b>110</b>
OGRID No. <b>151228</b>	Operator Name <b>MAR OIL &amp; GAS CORPORATION</b>	Elevation <b>3495</b>

Surface Location

UL or lot No. <b>G</b>	Section <b>36</b>	Township <b>20-S</b>	Range <b>37-E</b>	Lot Idn	Feet from the <b>2600</b>	North/South line <b>NORTH</b>	Feet from the <b>1330</b>	East/West line <b>EAST</b>	County <b>LEA</b>
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Bottom Hole Location If Different From Surface

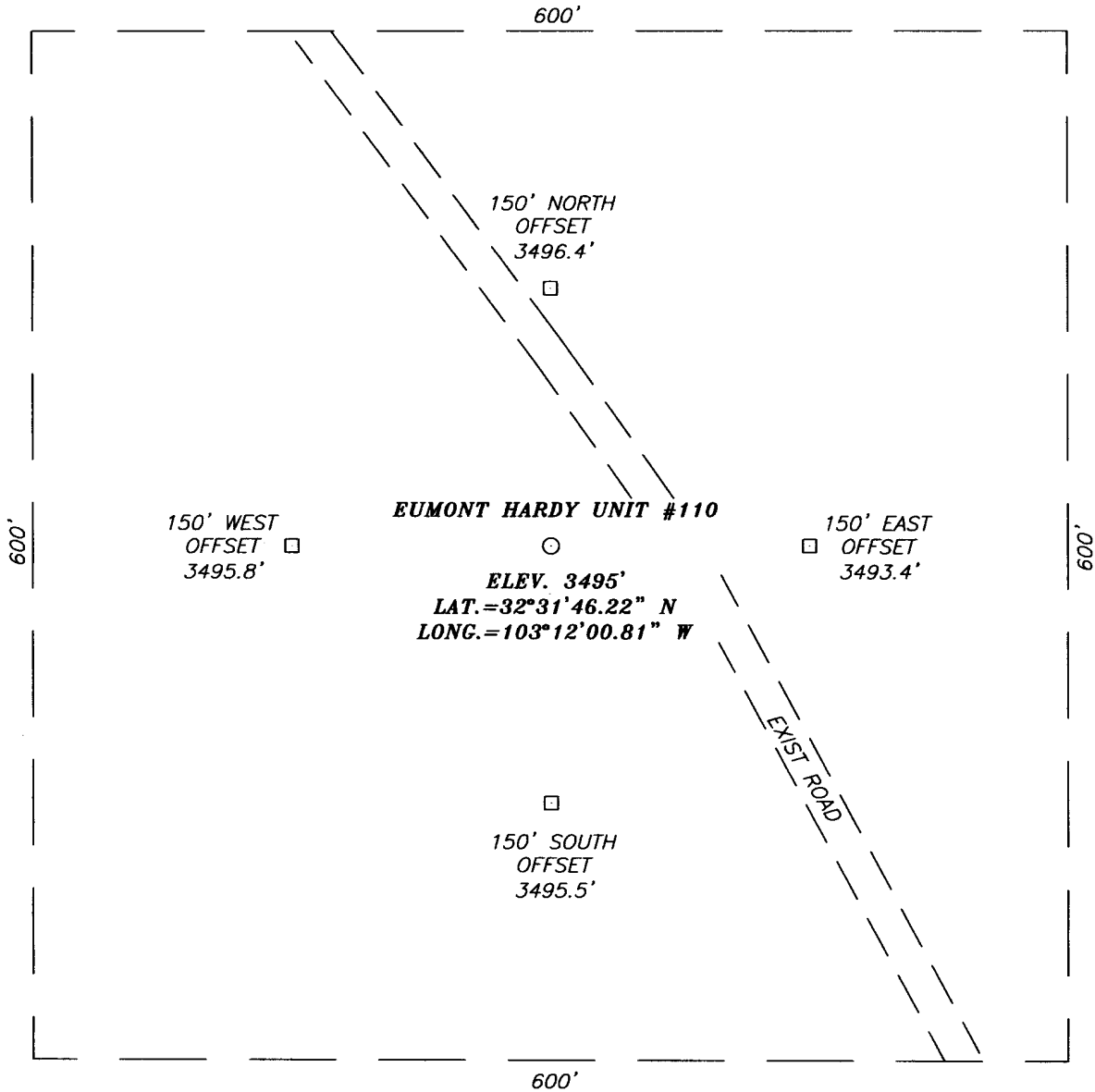
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Dedicated Acres <b>40</b>	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

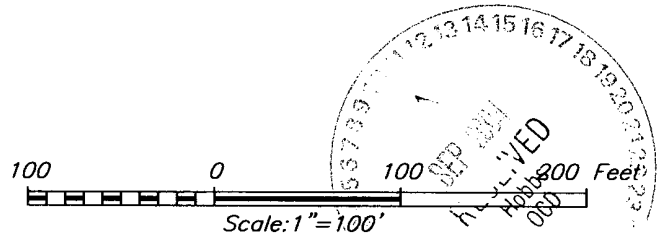
<p>GEODETIC COORDINATES NAD 27 NME  Y=558204.6 N X=849233.2 E  LAT.=32°31'46.22" N LONG.=103°12'00.81" W</p>	<p>OPERATOR CERTIFICATION  I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><b>OCW</b> Signature <b>Duane C. Winkler</b> Printed Name <b>UP Operations</b> Title <b>9/2/04</b> Date</p> <p>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.</p> <p><b>AUGUST 4, 2004</b> Date Surveyed Signature &amp; Seal of Professional Surveyor <b>GARY A. ELLISON</b> 04.11.0935 Certificate No. <b>GARY ELLISON</b> 12641</p>
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**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. 1300'. TURN RT. (EAST) AND GO APPROX. 0.5 MILES TO A BEND ON THE LT. FOLLOW ROAD RT. TO TANK BATTERY TURN LT. (NORTH) @ TANK BATTERY. FOLLOW ROAD APPROX. 0.1 MILES TO PROPOSED LOCATION.

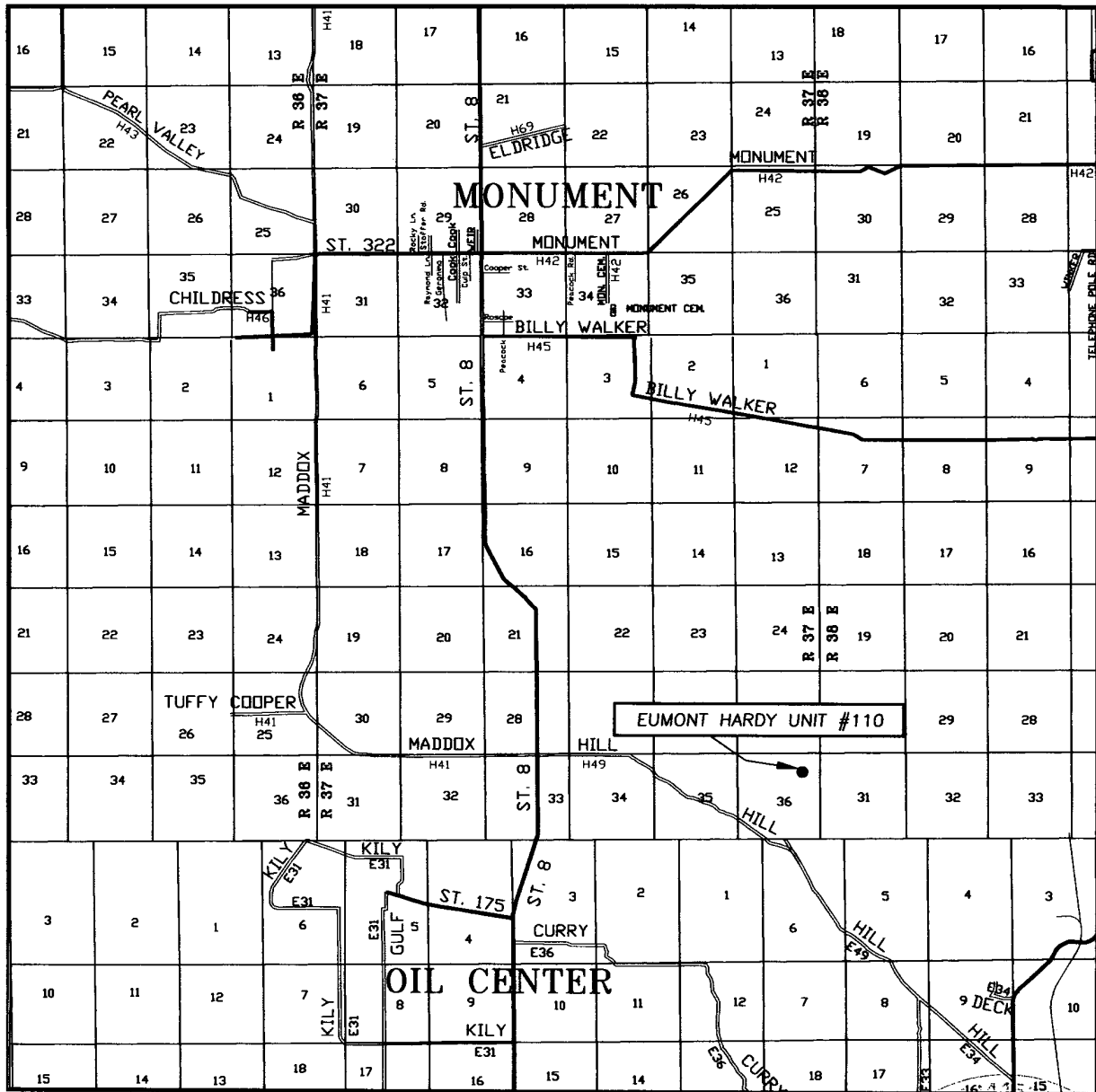




**PROVIDING SURVEYING SERVICES  
SINCE 1946**  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (505) 393-3117

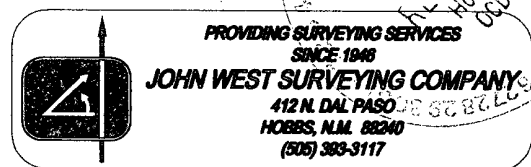
MAR OIL & GAS CORPORATION			
EUMONT HARDY UNIT #110 WELL LOCATED 2600 FEET FROM THE NORTH LINE AND 1330 FEET FROM THE EAST LINE OF SECTION 36, TOWNSHIP 20 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.			
Survey Date: 08/04/04	Sheet 1 of 1 Sheets		
W.O. Number: 04.11.0935	Dr By: E. LOERA	Rev 1:N/A	
Date: 08/06/04	Disk: CD#10	04110935	Scale: 1"=100'

# VICINITY MAP

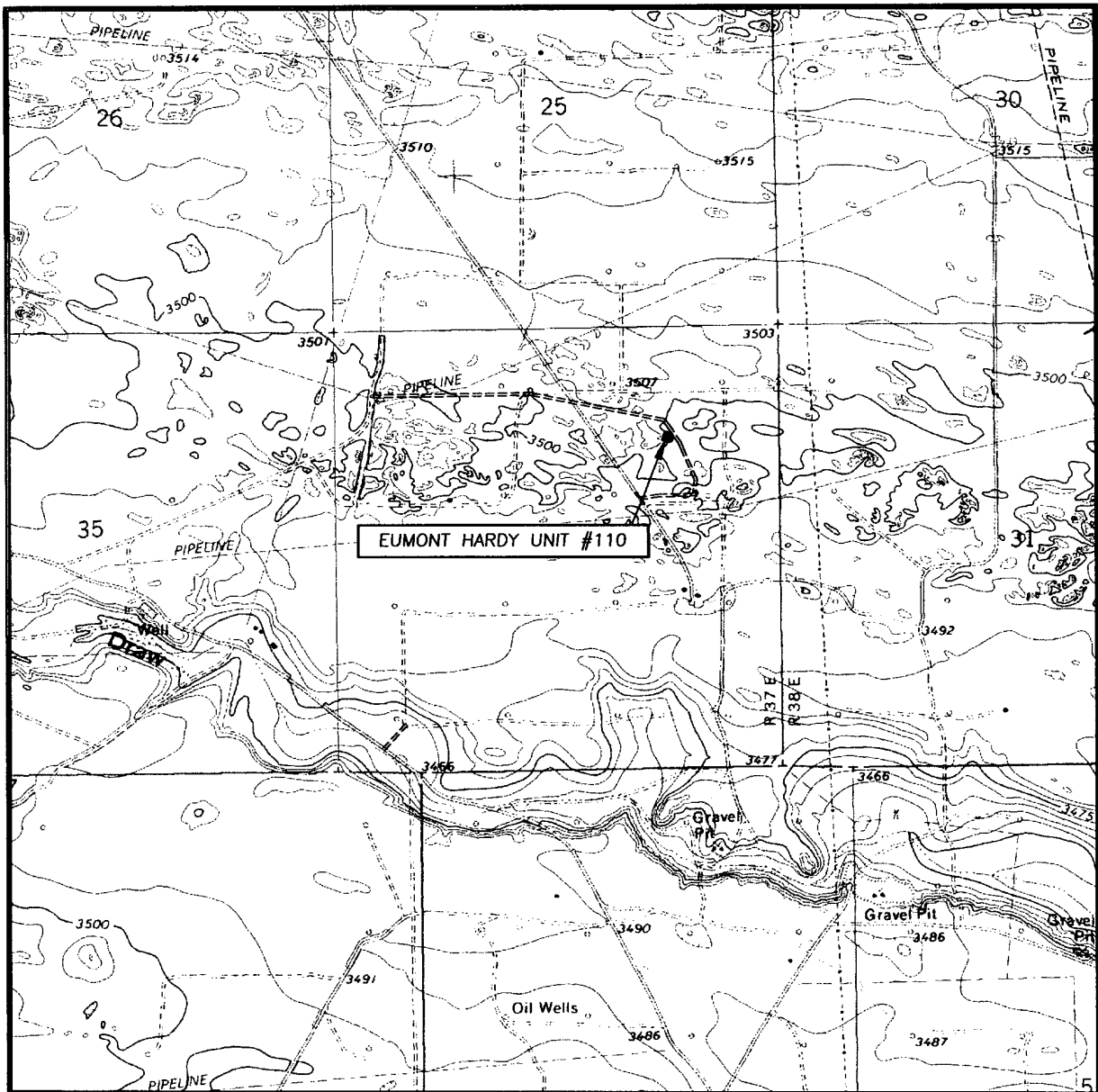


SCALE: 1" = 2 MILES

SEC. 36 TWP. 20-S RGE. 37-E  
 SURVEY N.M.P.M.  
 COUNTY LEA  
 DESCRIPTION 2600' FNL & 1330' FEL  
 ELEVATION 3495  
 OPERATOR MAR OIL & GAS CORPORATION  
 LEASE EUMONT HARDY UNIT



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 5'  
HOBBS SW, N.M. - 5'

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

SURVEY N.M.P.M.

COUNTY LEA

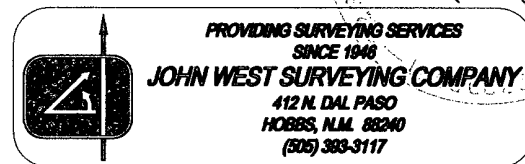
DESCRIPTION 2600' FNL & 1330' FEL

ELEVATION 3495'

OPERATOR MAR OIL & GAS CORPORATION

LEASE EUMONT HARDY UNIT

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



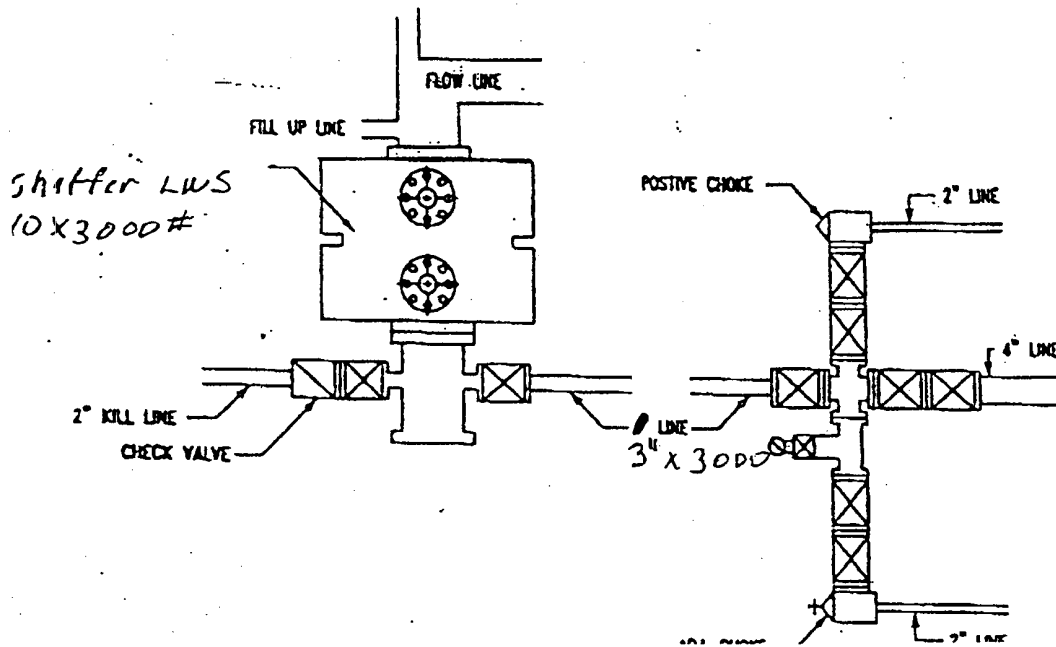
PROVIDING SURVEYING SERVICES  
SINCE 1946

**JOHN WEST SURVEYING COMPANY**

412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 393-3117

SEP 2008  
HOBBS  
000

# Attachment A



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 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

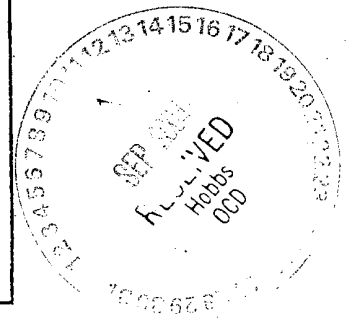
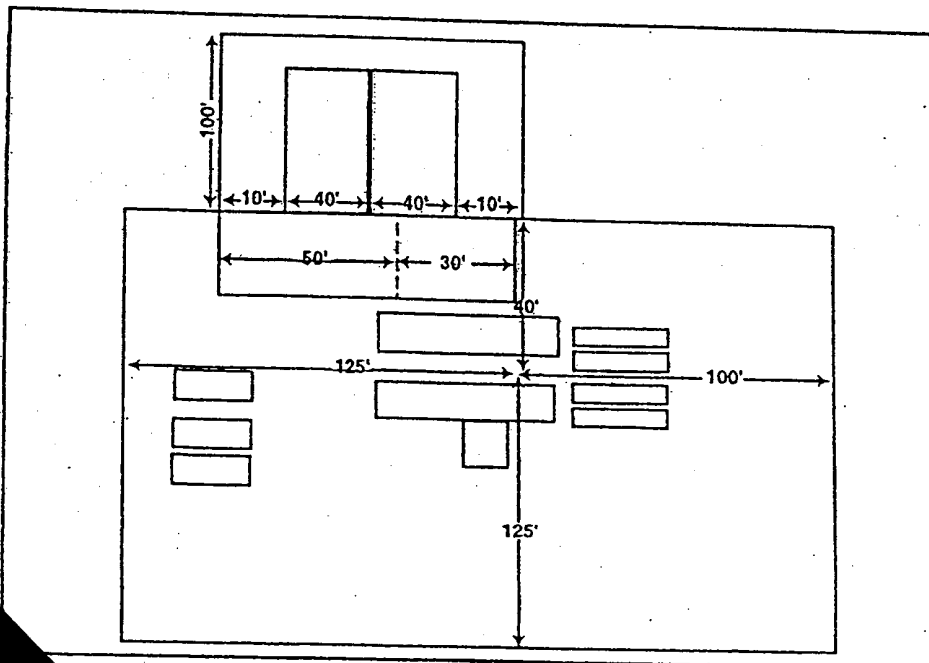
Electrical Power. One Cat 3406 w/234 kW

Generator &amp; 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)

$273.00 \text{ ft} * 0.4127 \text{ ft}^3/\text{ft} * 100 \%$

= 225.35 ft<sup>3</sup>

Total Lead Cement

= 225.35 ft<sup>3</sup>

= 40.14 bbl

Sacks of Cement

= 116 sks

Cement : (227.00 ft fill)

$227.00 \text{ ft} * 0.4127 \text{ ft}^3/\text{ft} * 100 \%$

= 187.38 ft<sup>3</sup>

Tail Cement

= 187.38 ft<sup>3</sup>

= 33.37 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

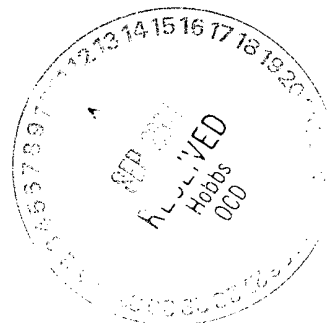
Tail plus shoe joint

= 201.68 ft<sup>3</sup>

= 35.92 bbl

Total Tail

= 150 sks



# HALLIBURTON

## 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 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)

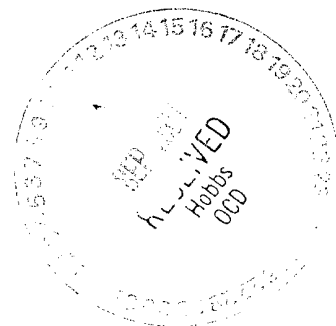
Fluid Weight 12.50 lbm/gal  
Slurry Yield: 1.95 ft<sup>3</sup>/sk  
Total Mixing Fluid: 10.80 Gal/sk  
Top of Fluid: 0 ft  
Calculated Fill: 273 ft  
Volume: 40.18 bbl  
Calculated Sacks: 115.62 sks  
Proposed Sacks: 120 sks  
Thickening Time: 5:0:0  
24:0:0 510 psi  
72:0:0 760 psi  
Free Water: 0.3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

Estimated Slurry Properties:  
Compressive Strengths @ 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<sup>3</sup>/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:  
Compressive Strengths @ 80 °F



# HALLIBURTON

## 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)

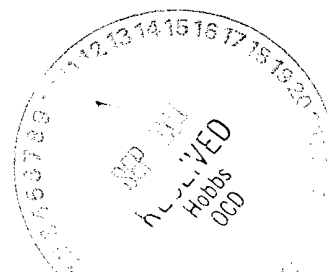
250.00 ft * 0.1926 ft <sup>3</sup> /ft * 0 %	= 48.15 ft <sup>3</sup>
2400.00 ft * 0.1733 ft <sup>3</sup> /ft * 50 %	= 623.72 ft <sup>3</sup>
Total Lead Cement	= 671.87 ft <sup>3</sup>
	= 119.66 bbl
Sacks of Cement	= 323 sks

Cement : (1000.00 ft fill)

1000.00 ft * 0.1733 ft <sup>3</sup> /ft * 50 %	= 259.88 ft <sup>3</sup>
Tail Cement	= 259.88 ft <sup>3</sup>
	= 46.29 bbl

Shoe Joint Volume: (40.00 ft fill)

40.00 ft * 0.1336 ft <sup>3</sup> /ft	= 5.35 ft <sup>3</sup>
	= 0.95 bbl
Tail plus shoe joint	= 265.23 ft <sup>3</sup>
	= 47.24 bbl
Total Tail	= 201 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

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<sup>3</sup>/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<sup>3</sup>/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  
505-363-6063 (voice) 505-746-7396 (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

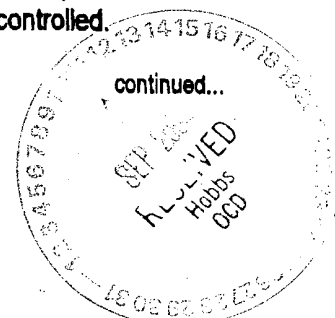
**Suggested Mud Program**

**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.

Received Time Jul. 9. 11:01AM



**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

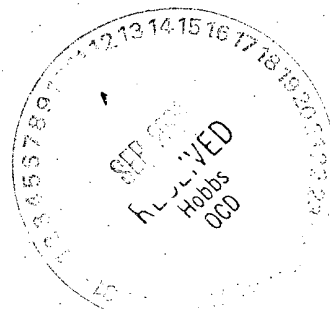
Estimated cost per well should not exceed: \$~~5000~~ (no abnormal hole conditions;  
i.e.: lost returns, waterflow, stuck  
pipe, etc...)

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.

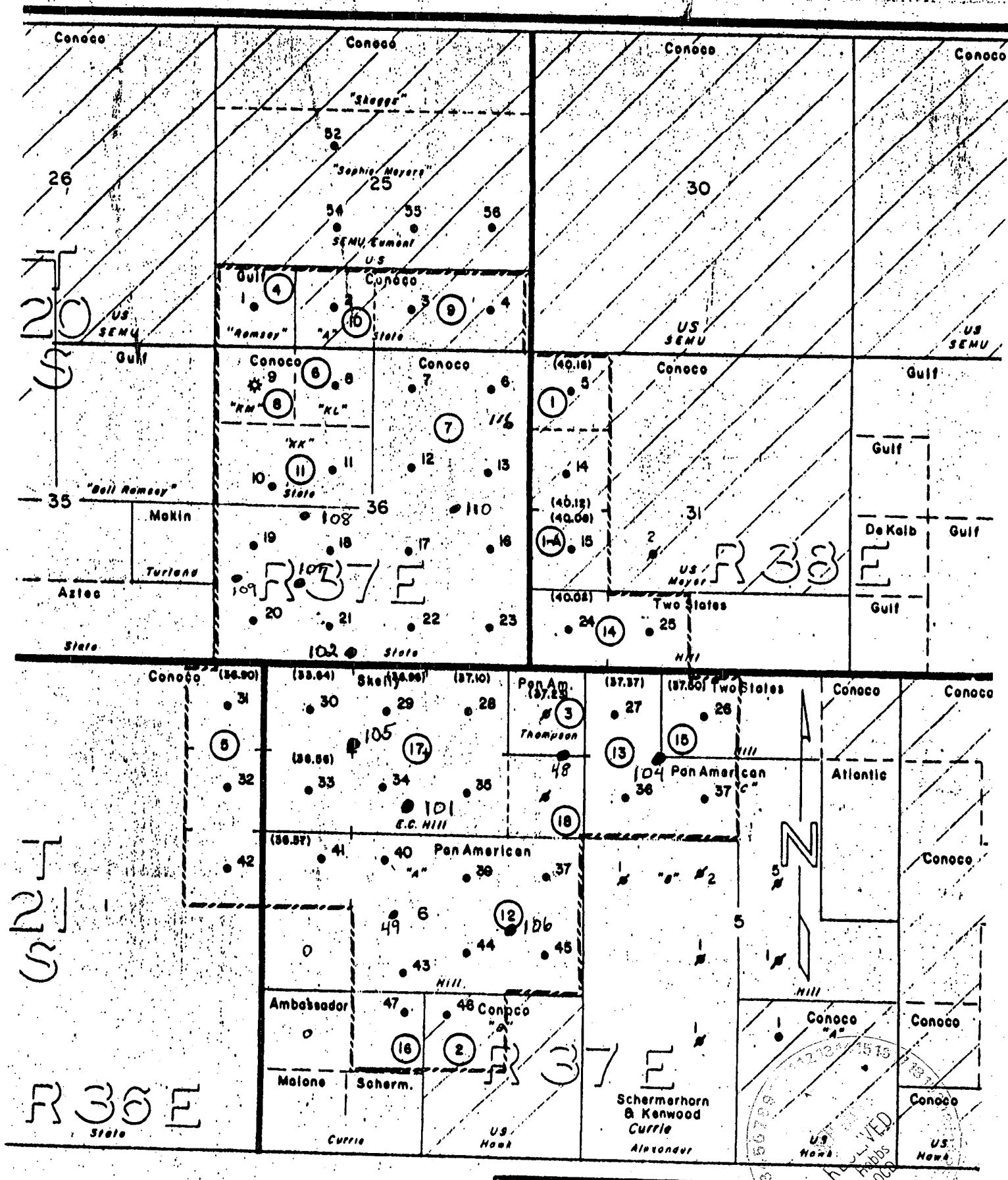
I appreciate your consideration of this Suggested Mud Program. Please do not hesitate to call me immediately with any questions, suggestions or concerns. Bulldog Mud looks forward to this opportunity to service your drilling fluid needs, and I look forward to hearing from you soon.

Respectfully,

Jerry D. Butts  
Bulldog Mud Company



Received Time Jul. 9. 11:01AM



EUMONT HARDY UNIT BOUNDARY

② TRACT NUMBERS

(36.90) ACRES IN NON-STANDARD LOTS



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

Lea County, N.M.

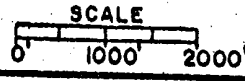


EXHIBIT F