

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

Operator Name and Address MAR Oil & Gas Corp PO Box 5155, Santa Fe, New Mexico 87502		OGRID Number 151228
Property Code 25104 33230	Property Name Eumont Hardy Unit	Well No. 104
Proposed Pool 1 Eumont Yates - Seven Rivers - Queen		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
6	5	21 S	37 E		1325	North	1328	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

Work Type Code N	Well Type Code O	Cable/Rotary R	Lease Type Code P	Ground Level Elevation 3488
Multiple NA	Proposed Depth 3900'	Formation Queen	Contractor Paterson	Spud Date July 19, 2004
Depth to Groundwater 60'		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: Closed-Loop System <input type="checkbox"/> Fresh Water <input checked="" type="checkbox"/> Brine <input checked="" 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'	620	Surface
7 7/8"	5 1/2"	15-15.5 #	3900'	447	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 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

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 ☒ 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: July 8, 2004

Phone: 505-989-1977

OIL CONSERVATION DIVISION

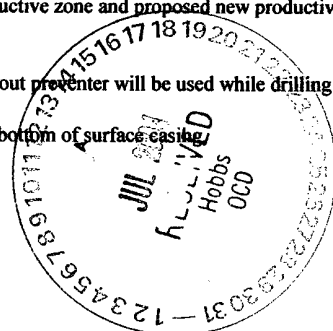
Approved by:

Title:

Approval Date:

Expiration Date:

Conditions of Approval Attached ☐



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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Revised JUNE 10, 2003
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-D25-36756	Pool Code 22800	Pool Name Eumont 4-SR-QN
Property Code 33230	Property Name EUMONT HARDY UNIT	Well Number 104
OGRID No. 151228	Operator Name MAR OIL & GAS CORPORATION	Elevation 3449'

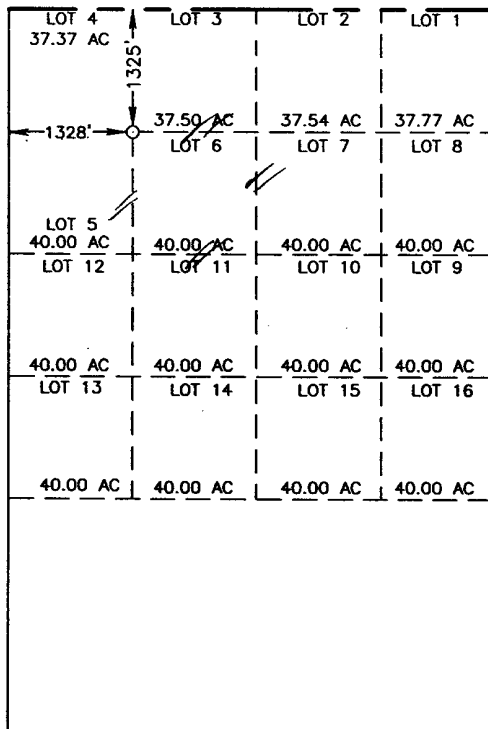
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
6	5	21-S	37-E		1325'	NORTH	1328'	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 40	Joint or Infill	Consolidation Code	Order No.						

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



GEODETIC COORDINATE
NAD 27 NME

Y=554231.9 N
X=852753.7 E

LAT.=32°31'06.55" N
LONG.=103°11'20.20" W

OPERATOR CERTIFICATION

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

[Signature]
Signature
Duane C Winkler
Printed Name
U.P. Operations
Title
7/9/04
Date

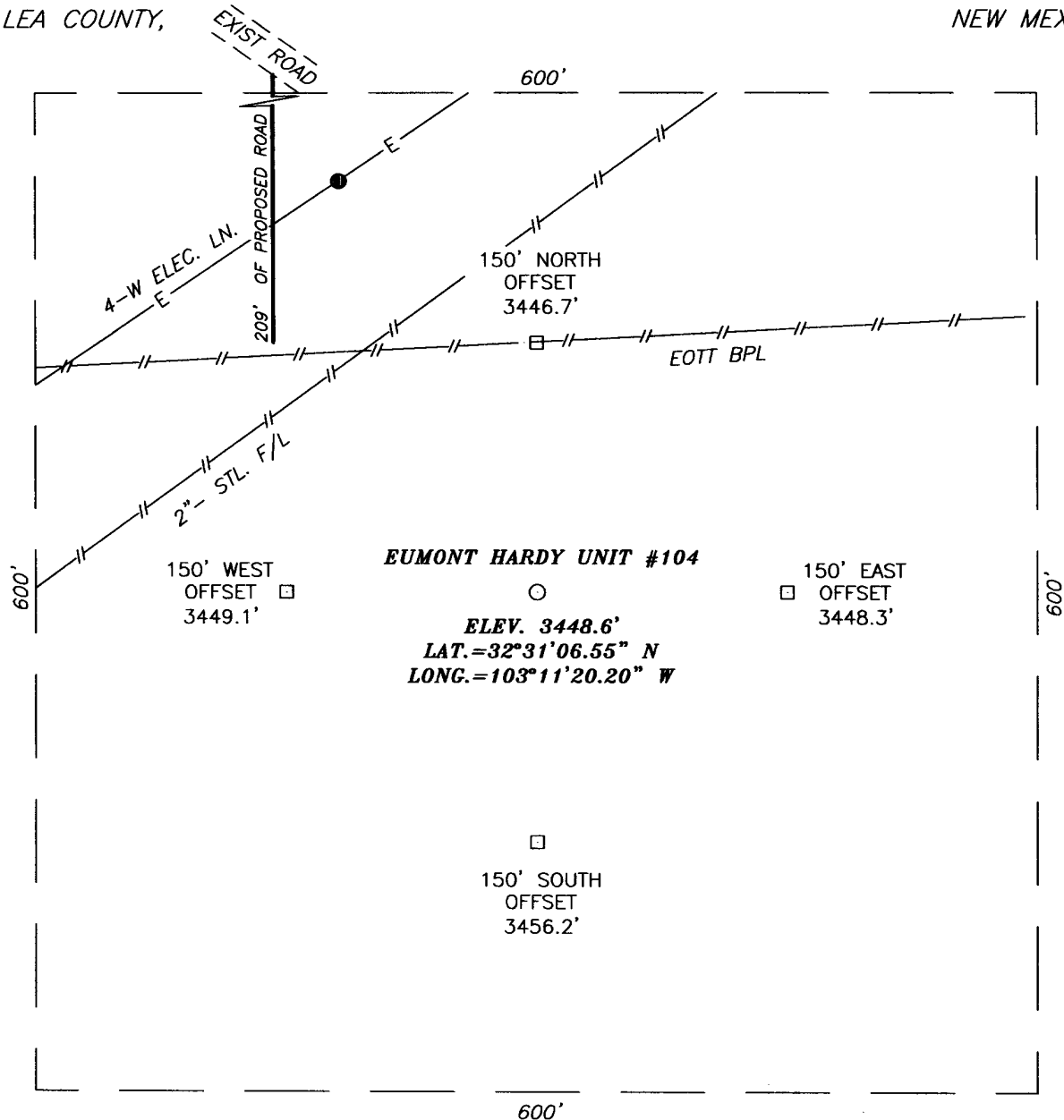
SURVEYOR CERTIFICATION

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

JUNE 24, 2004

Date Surveyed
Signature & Seal of
Professional Surveyor
[Signature]
04.11.0770
Certificate No. GARY EIDSON 12641

SECTION 5, TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO



EUMONT HARDY UNIT #104

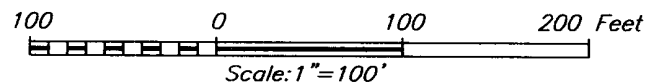
ELEV. 3448.6'

LAT.=32°31'06.55" N

LONG.=103°11'20.20" W

DIRECTIONS TO LOCATION

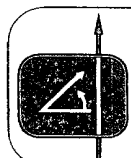
AT MILEPOST 10.95 ON ST. HWY. #8 TURN LEFT (EAST) ONTO HILL RD. GO SOUTHEAST 3.8 MILES, TURN LEFT (EAST) AND GO APPROX. 0.14 MILES, THEN TURN LEFT (NE) AND GO APPROX. 0.4 MILES. TURN RIGHT AT "Y" IN ROAD (SE) AND GO APPROX. 0.1 MILES. PROPOSED LOCATION IS 300' SOUTH.



MAR OIL & GAS CORPORATION

EUMONT HARDY UNIT #104 WELL
LOCATED 1325 FEET FROM THE NORTH LINE
AND 1328 FEET FROM THE WEST LINE OF SECTION 5,
TOWNSHIP 21 SOUTH, RANGE 37 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

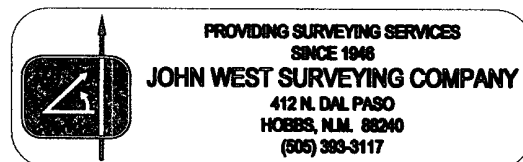
Survey Date: 06/24/04	Sheet 1 of 1 Sheets
W.O. Number: 04.11.0770	Dr By: J. RIVERO
Date: 04/29/04	Disk: CD#10
04110770	Scale: 1"=100'



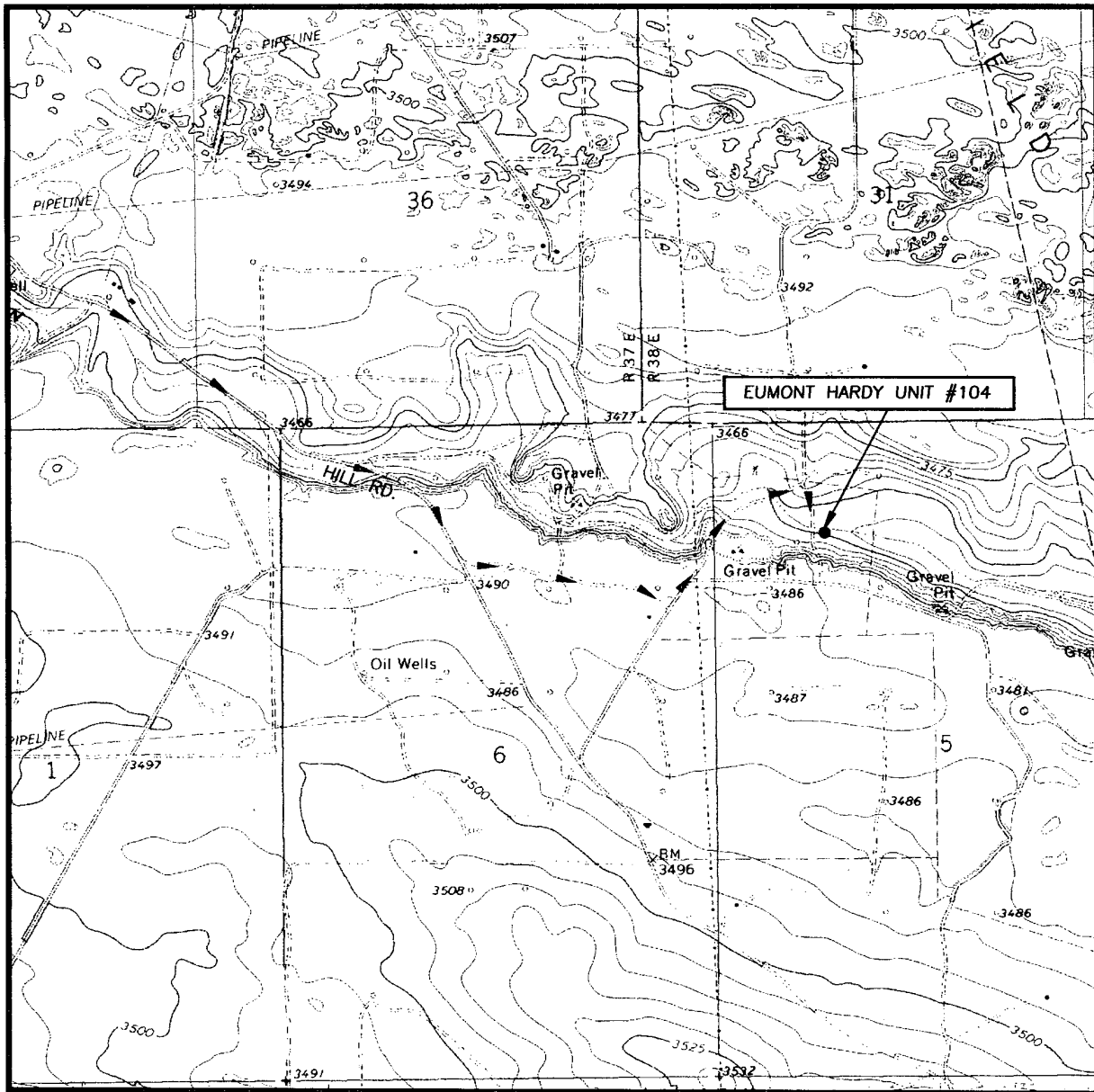
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

The map displays a grid of land sections. A callout box labeled "EUMONT HARDY UNIT #104" points to a specific location in the upper-middle section of the map. Key geographical features include "CURRY HILL", "COYOTE HILL", and "DELAWARE BASIN". Major roads shown are "ST. 175", "ST. 176", "ST. 8", "ST. 207", "ST. 18", "ST. 234", "N. TURNER", "S. LEGION", "GULF", "MADDOX HILL", "CURRY HILL", "JONES CITY", "EUNICE", and "TEXAS AVE.". Other labels include "OIL CENTER", "EUNICE CITY LIMITS", "CONTINENTAL", "DRINKARD", "PRIVATE RD.", "MUNICIPAL RECREATION AREA", "LEA CO EUNICE AP", "E36", "E38", "E33", "E23", "E21", "E22", "E24", "E25", "E26", "E27", "E28", "E29", "E30", "E31", "E32", "E34", "E35", "E36", "E37", "E38", "E39", "E40", "E41", "E42", "E43", "E44", "E45", "E46", "E47", "E48", "E49", "E50", "E51", "E52", "E53", "E54", "E55", "E56", "E57", "E58", "E59", "E60", "E61", "E62", "E63", "E64", "E65", "E66", "E67", "E68", "E69", "E70", "E71", "E72", "E73", "E74", "E75", "E76", "E77", "E78", "E79", "E80", "E81", "E82", "E83", "E84", "E85", "E86", "E87", "E88", "E89", "E90", "E91", "E92", "E93", "E94", "E95", "E96", "E97", "E98", "E99", "E100".

SEC. 5 TWP. 21-S RGE. 37-E
SURVEY _____ N.M.P.M. _____
COUNTY _____ LEA _____
DESCRIPTION 1325' FNL & 1328' FWL
ELEVATION _____ 3449'
MAR OIL & GAS
OPERATOR _____ CORPORATION _____
LEASE _____ EUMONT HARDY UNIT



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

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

SEC. 5 TWP. 21-S RGE. 37-E

SURVEY _____ N.M.P.M.

COUNTY _____ LEA

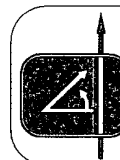
DESCRIPTION 1325' FNL & 1328' FWL

ELEVATION _____ 3449'

OPERATOR _____ MAR OIL & GAS CORPORATION

LEASE _____ EUMONT HARDY UNIT

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

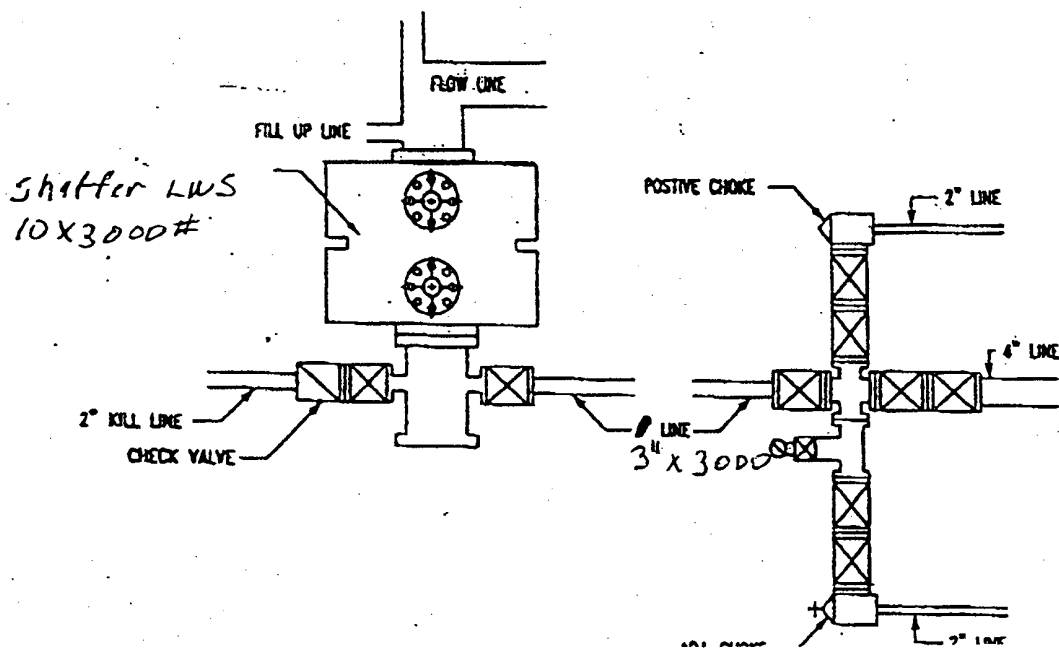


PROVIDING SURVEYING SERVICES
SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO
HOBBS, N.M. 88240
(505) 383-3117

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

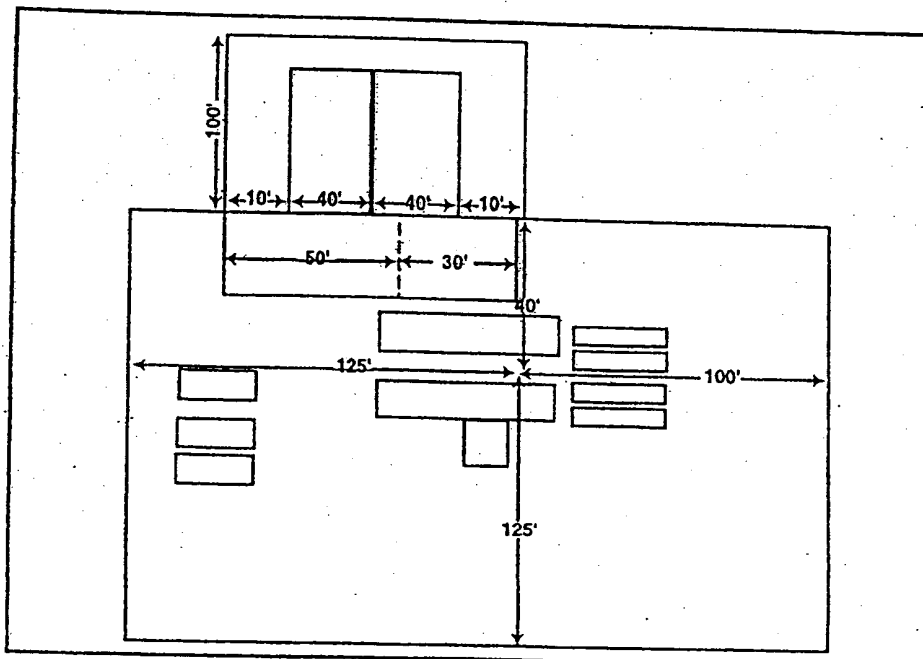
Electrical Power. One Cat 3406 w/234 kW

Generator & 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 #101, #102, #104, #105 & #106
(5 Well Package)
Lea County, New Mexico
United States of America

Cementing Recommendation

Prepared for: Duane Winkler
July 8, 2004
Version: 2

Submitted by:
Paul Thornton

Halliburton Energy Services
5801 Lovington Hwy.
Hobbs, New Mexico
505/392-9653/390-1010

HALLIBURTON

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

Eumont Hardy Units

#101, #102, #104, #105 & #106

Open Hole Section

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 : (992.00 ft fill)

 $992.00 \text{ ft} * 0.4127 \text{ ft}^3/\text{ft} * 100 \%$ $= 818.85 \text{ ft}^3$

Total Lead Cement

 $= 818.85 \text{ ft}^3$ $= 145.84 \text{ bbl}$

Sacks of Cement

 $= 420 \text{ sks}$

Cement : (308.00 ft fill)

 $308.00 \text{ ft} * 0.4127 \text{ ft}^3/\text{ft} * 100 \%$ $= 254.24 \text{ ft}^3$

Tail Cement

 $= 254.24 \text{ ft}^3$ $= 45.28 \text{ bbl}$

Shoe Joint Volume: (40.00 ft fill)

 $40.00 \text{ ft} * 0.3576 \text{ ft}^3/\text{ft}$ $= 14.30 \text{ ft}^3$ $= 2.55 \text{ bbl}$

Tail plus shoe joint

 $= 268.54 \text{ ft}^3$ $= 47.83 \text{ bbl}$

Total Tail

 $= 200 \text{ sks}$

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 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 ft³/sk
Total Mixing Fluid: 10.80 Gal/sk
Top of Fluid: 0 ft
Calculated Fill: 992 ft
Volume: 145.83 bbl
Calculated Sacks: 419.68 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: 1.34 ft³/sk
Total Mixing Fluid: 6.34 Gal/sk
Top of Fluid: 992 ft
Calculated Fill: 308 ft
Volume: 47.84 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**Job Information****Production Casing**

Eumont Hardy Units

#101, #102, #104, #105 & #106

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

Open Hole Section

1300 - 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 : (2100.00 ft fill)

500.00 ft * 0.1926 ft³/ft * 0 %= 96.30 ft³1600.00 ft * 0.1733 ft³/ft * 50 %= 415.81 ft³

Total Lead Cement

= 512.11 ft³

= 91.21 bbl

Sacks of Cement

= 246 sks

Cement : (1000.00 ft fill)

1000.00 ft * 0.1733 ft³/ft * 50 %= 259.88 ft³

Tail Cement

= 259.88 ft³

= 46.29 bbl

Shoe Joint Volume: (40.00 ft fill)

40.00 ft * 0.1336 ft³/ft= 5.35 ft³

= 0.95 bbl

Tail plus shoe joint

= 265.23 ft³

= 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 250 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 ft³/sk
Total Mixing Fluid: 11.55 Gal/sk
Top of Fluid: 800 ft
Calculated Fill: 2100 ft
Volume: 91.21 bbl
Calculated Sacks: 245.97 sks
Proposed Sacks: 250 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 ft³/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
505-363-6083 (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...

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

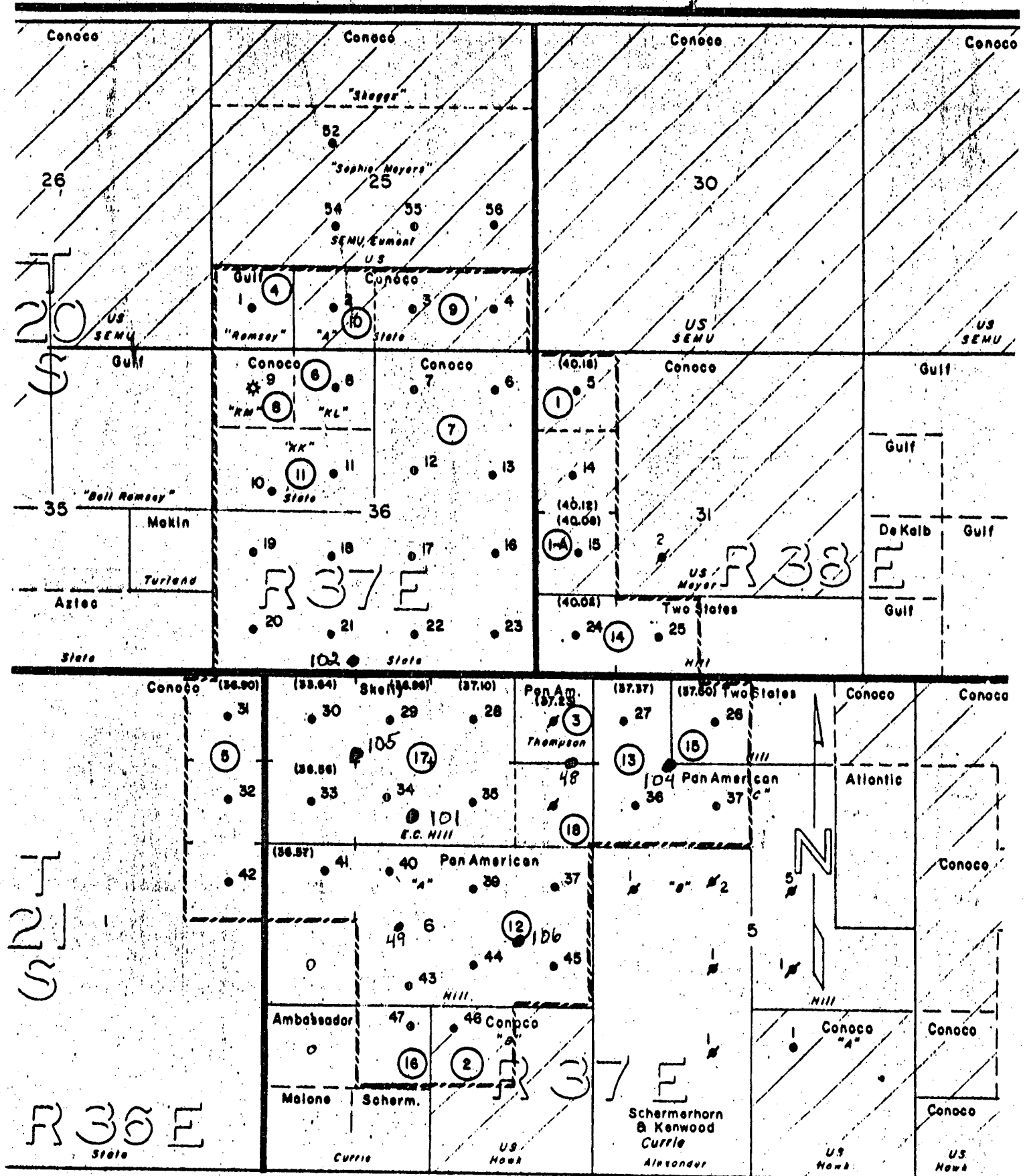
Estimated cost per well should not exceed: ~~\$5000~~ (no abnormal hole conditions;
i.e.: lost returns, waterflow, stuck
pipe, etc...)

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



— 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.

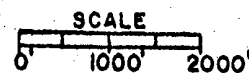


EXHIBIT F