

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

¹ Operator Name and Address MAR Oil & Gas Corp PO Box 5155, Santa Fe, New Mexico 87502		² OGRID Number 151228
		³ API Number 30-025-36856
⁴ Property Code 33230	⁵ Property Name Eumont Hardy Unit	⁶ Well No. 109
⁹ Proposed Pool 1 Eumont - Yates - Seven Rivers - Queen		¹⁰ 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
L	36	20 S	37 E		1400	South	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 N	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code P 3	¹⁵ Ground Level Elevation 3491
¹⁶ Multiple NA	¹⁷ Proposed Depth 3900'	¹⁸ Formation Queen	¹⁹ Contractor Paterson	²⁰ Spud Date 10/2/2004
Depth to Groundwater 90'		Distance from nearest fresh water well 5280'		Distance from nearest surface water 10 miles
<u>Pit:</u> Liner: Synthetic Plastic 40 mils thick Clay <input type="checkbox"/> Pit Volume: 4500 bbls <u>Drilling Method:</u> Closed-Loop System <input type="checkbox"/> 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 1/4	8 5/8	20-24 #	500'	266	Surface
7 7/8"	5 1/2"	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 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 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:


PETROLEUM ENGINEER

Approval Date:

SEP 21 2004

Expiration Date:

Conditions of Approval Attached ☐

DISTRICT I
1626 N. FRENCH DR., ROSBS, NM 86240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 86210

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 30-025-36856	Pool Code 22800	Pool Name Eumont; Upates-7 RURS-Queen (oil)
Property Code 33230	Property Name EUMONT HARDY UNIT	Well Number 109
OGRID No. 151228	Operator Name MAR OIL & GAS CORPORATION	Elevation 3491

Surface Location

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

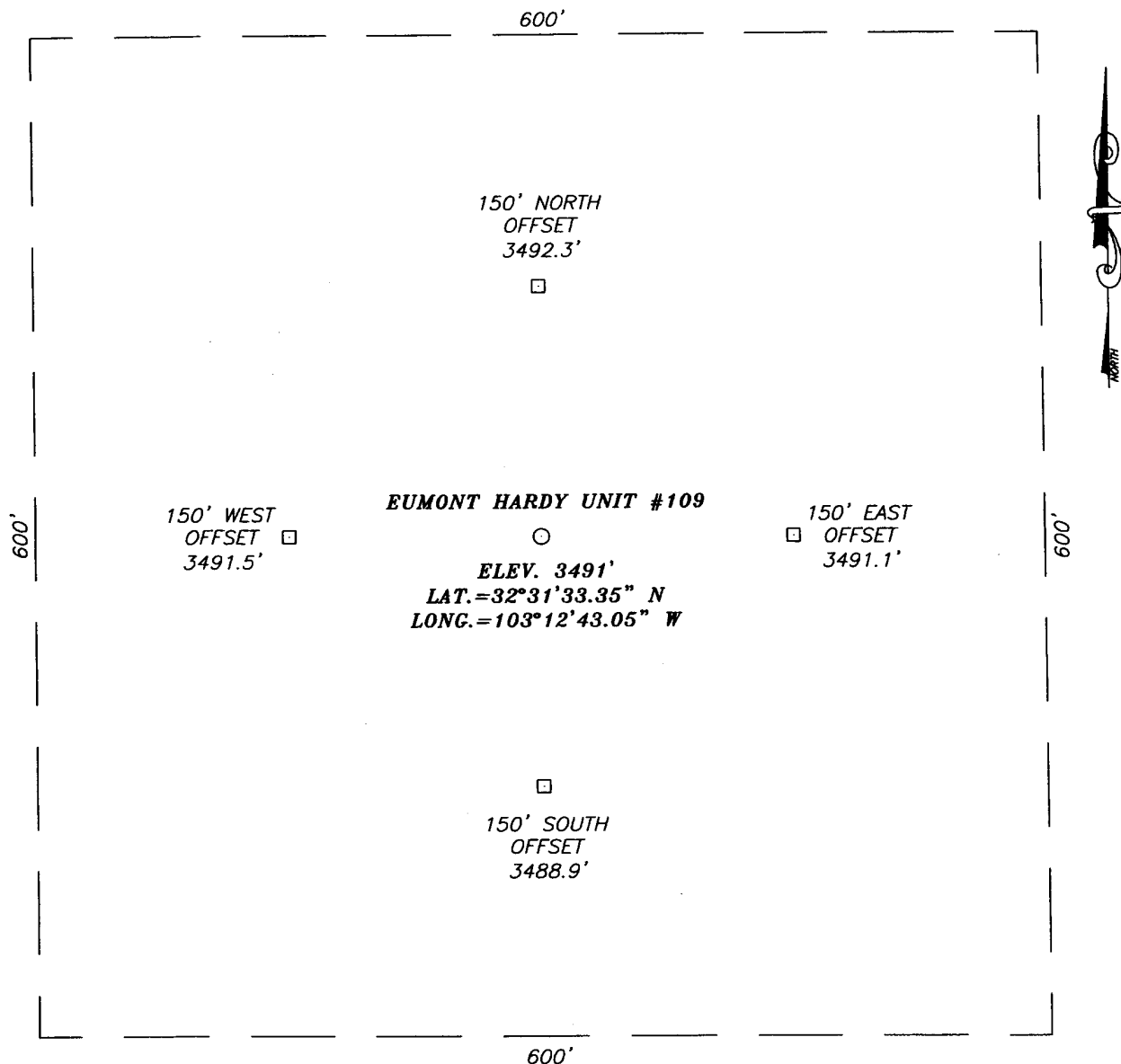
Bottom Hole Location If Different From Surface

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

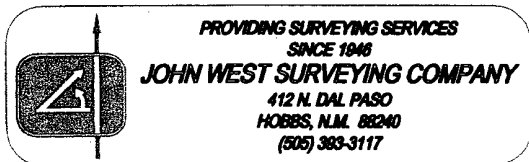
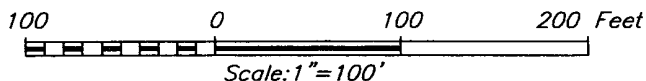
	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. DCA Signature Duane C Winkler Printed Name UP Operations Title 9/2/04 Date
	SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, 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 E. Eidson Professional Surveyor 04.11.0934 Certificate No. GARY EIDSON 12641 RONALD E. 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. 800'. PROPOSED LOCATION IS APPROX. 400' WEST.

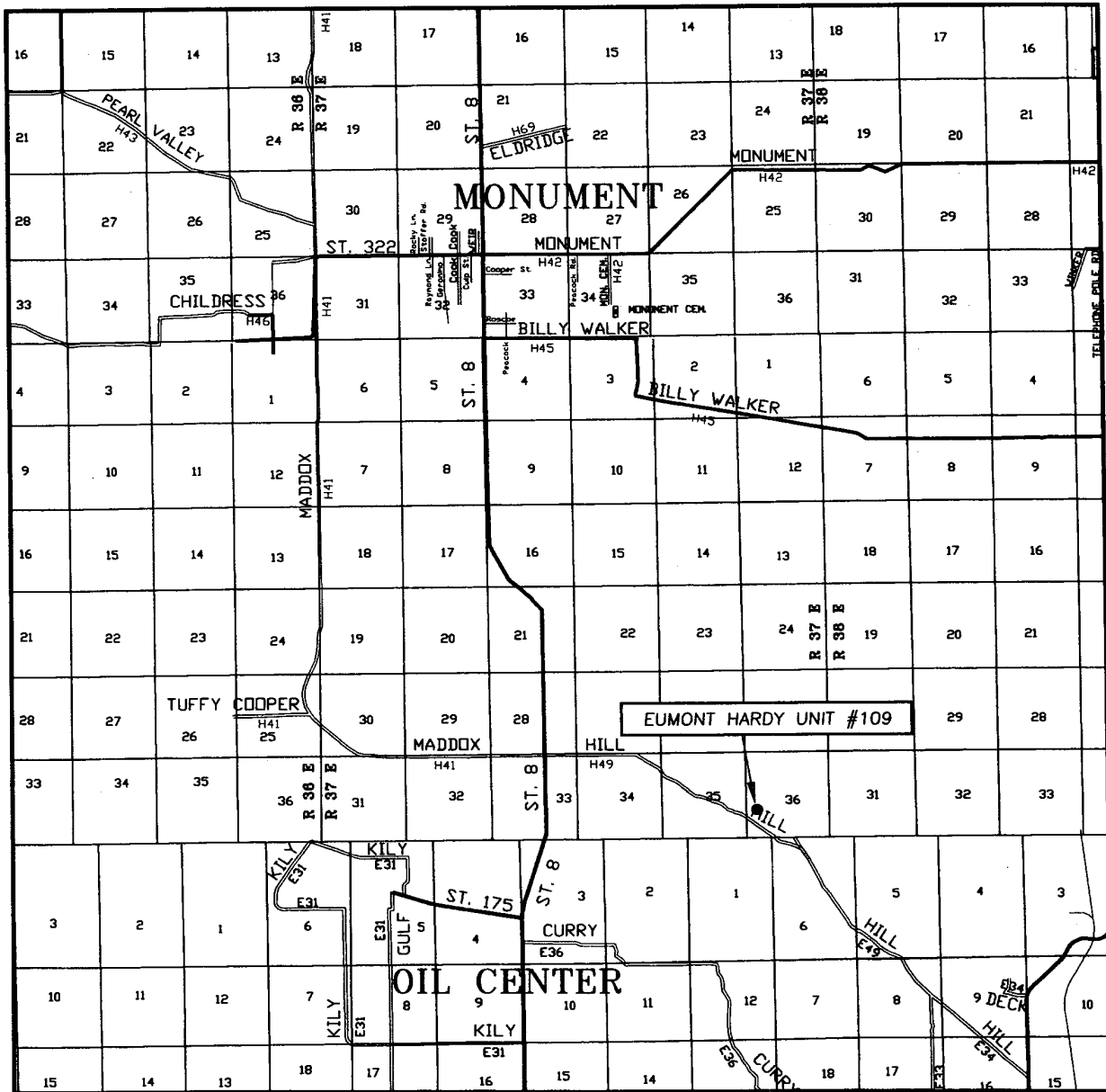


MAR OIL & GAS CORPORATION

EUMONT HARDY UNIT #109 WELL
 LOCATED 1400 FEET FROM THE SOUTH 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: 04.11.0934	Dr By: J.R.	Rev 1:N/A	
Date: 08/06/04	Disk: CD#10	04110934	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' FSL & 330' FWL

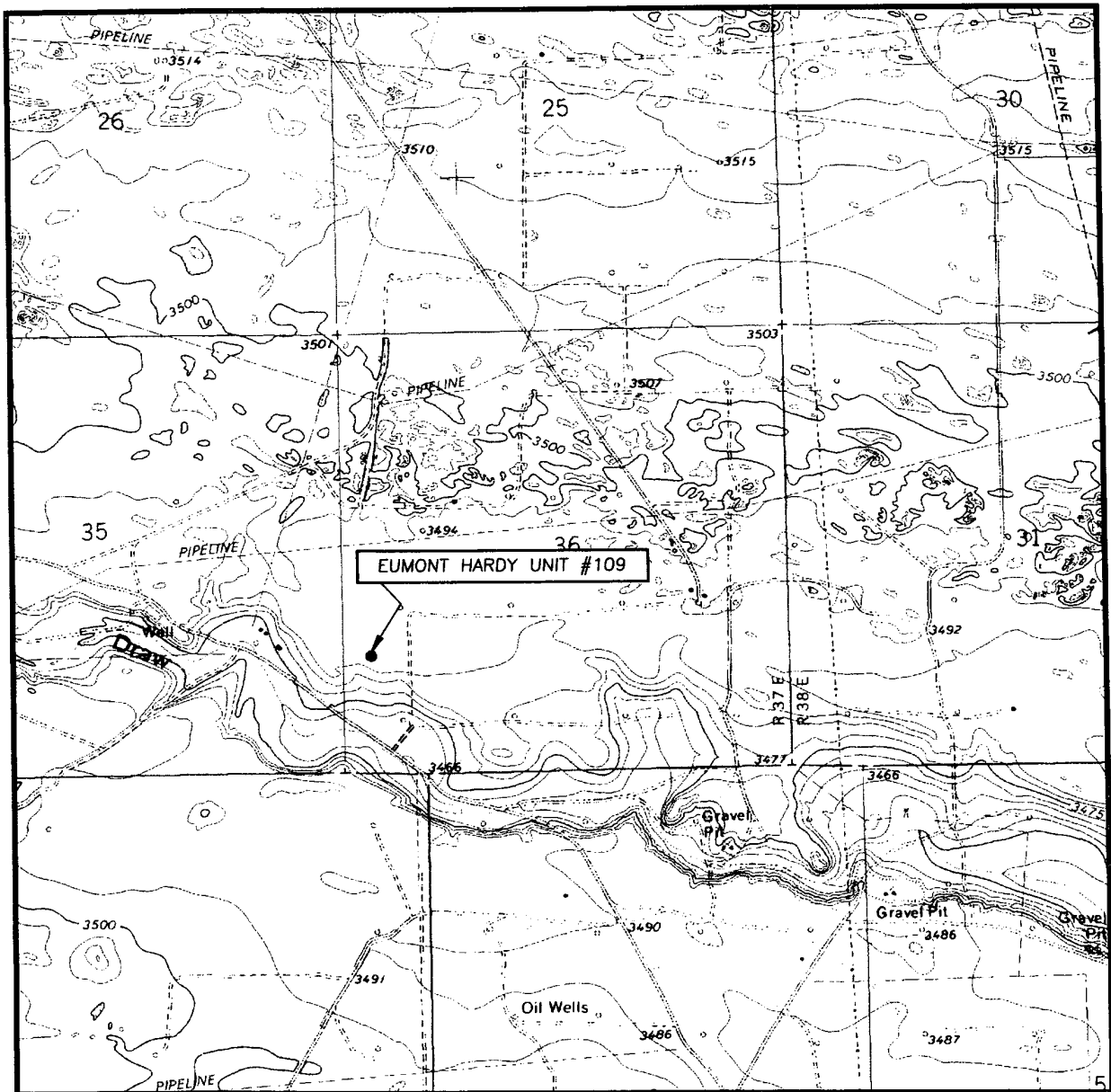
ELEVATION 3491'

OPERATOR MAR OIL & GAS CORPORATION

LEASE EUMONT HARDY UNIT

PROVIDING SURVEYING SERVICES
SINCE 1948
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBES, N.M. 88240
(505) 383-3117

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

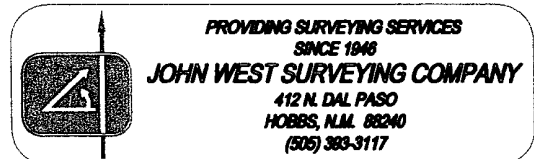
DESCRIPTION 1400' FSL & 330' FWL

ELEVATION 3491'

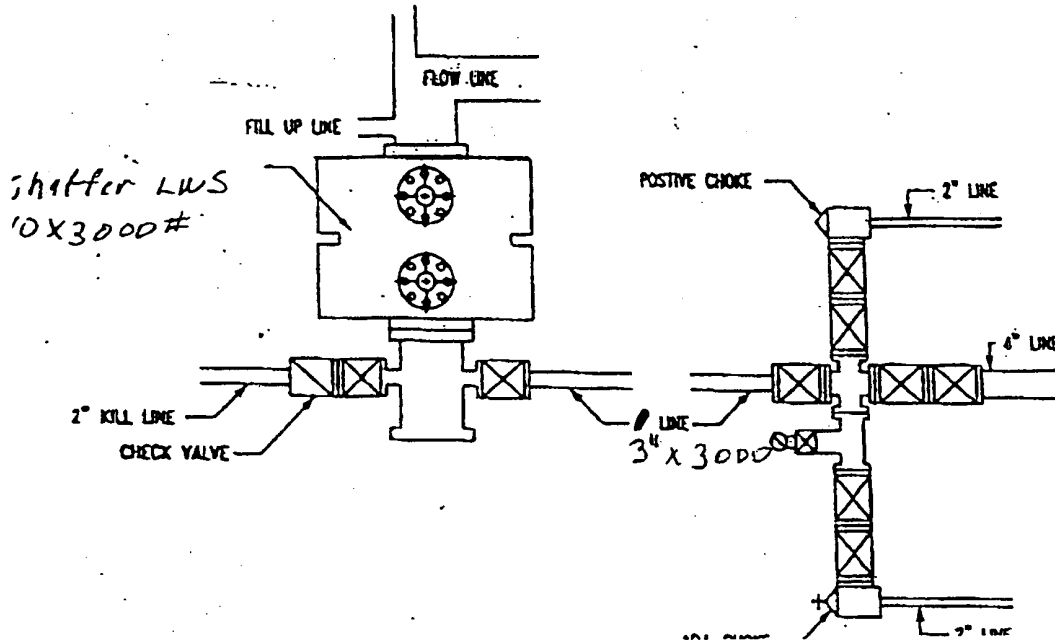
OPERATOR MAR OIL & GAS CORPORATION

LEASE EUMONT HARDY UNIT

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



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

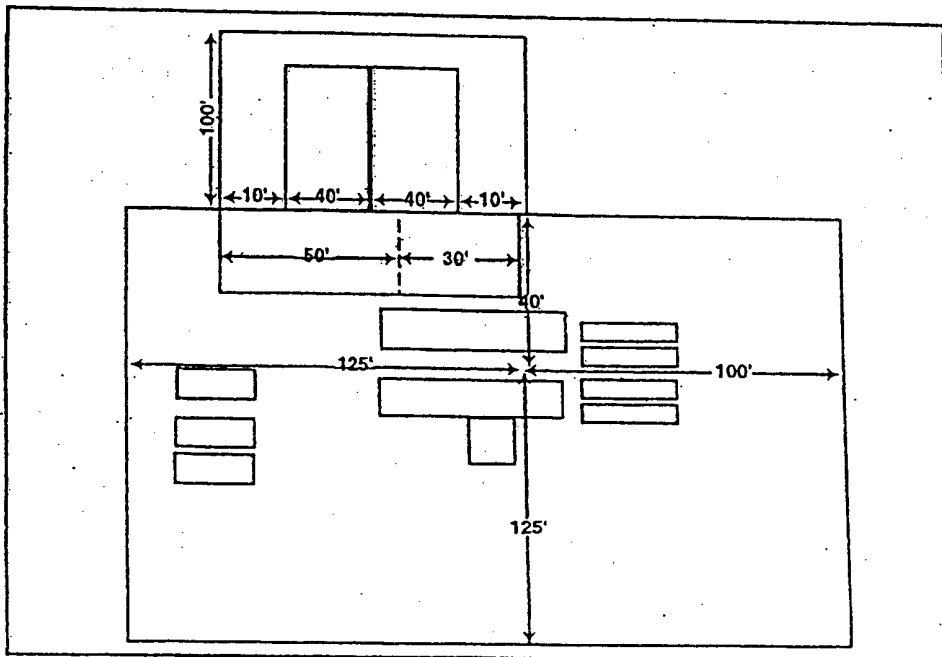
Electrical Power. One Cat 3406 w/234 kW

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 #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

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)

$273.00 \text{ ft} * 0.4127 \text{ ft}^3/\text{ft} * 100 \% = 225.35 \text{ ft}^3$

Total Lead Cement = 225.35 ft³

= 40.14 bbl

Sacks of Cement = 116 sks

Cement : (227.00 ft fill)

$227.00 \text{ ft} * 0.4127 \text{ ft}^3/\text{ft} * 100 \% = 187.38 \text{ ft}^3$

Tail Cement = 187.38 ft³

= 33.37 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 bbl

Tail plus shoe joint = 201.68 ft³

= 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 ft³/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 ft³/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

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 ft³/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 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
506-365-8003 (voice) 506-744-7398 (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: \$~~XXXX~~ (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

