

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 Property Code 30415		⁴ API Number 30 - 025-37310	
⁵ Property Name Malmar Unit		⁶ Well No. 126	
⁹ Proposed Pool 1 Maljamar - Grayburg - San Andres		¹⁰ Proposed Pool 2	

7 Surface Location

UL or lot no. B	Section 13	Township 17S	Range 32E	Lot Idn	Feet from the 1310	North/South line North	Feet from the 2610	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

¹¹ Work Type Code N	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 4141
¹⁶ Multiple NA	¹⁷ Proposed Depth 5100	¹⁸ Formation Graybury San Andres	¹⁹ Contractor United	²⁰ Spud Date August 1, 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: Fresh Water X Brine X				
Closed-Loop System ☐				

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'	619	Surface
7 7/8"	5 1/2"	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 Andres to proposed depth of 5100', 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 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 NMOC 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 25, 2005

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

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 30-025-37310	Pool Code 43329	Pool Name Maljamar Grayburg-San Andres
Property Code 30415	Property Name MALMAR UNIT	Well Number 126
OGRID No. 151228	Operator Name MAR OIL & GAS CORPORATION	Elevation 4141'

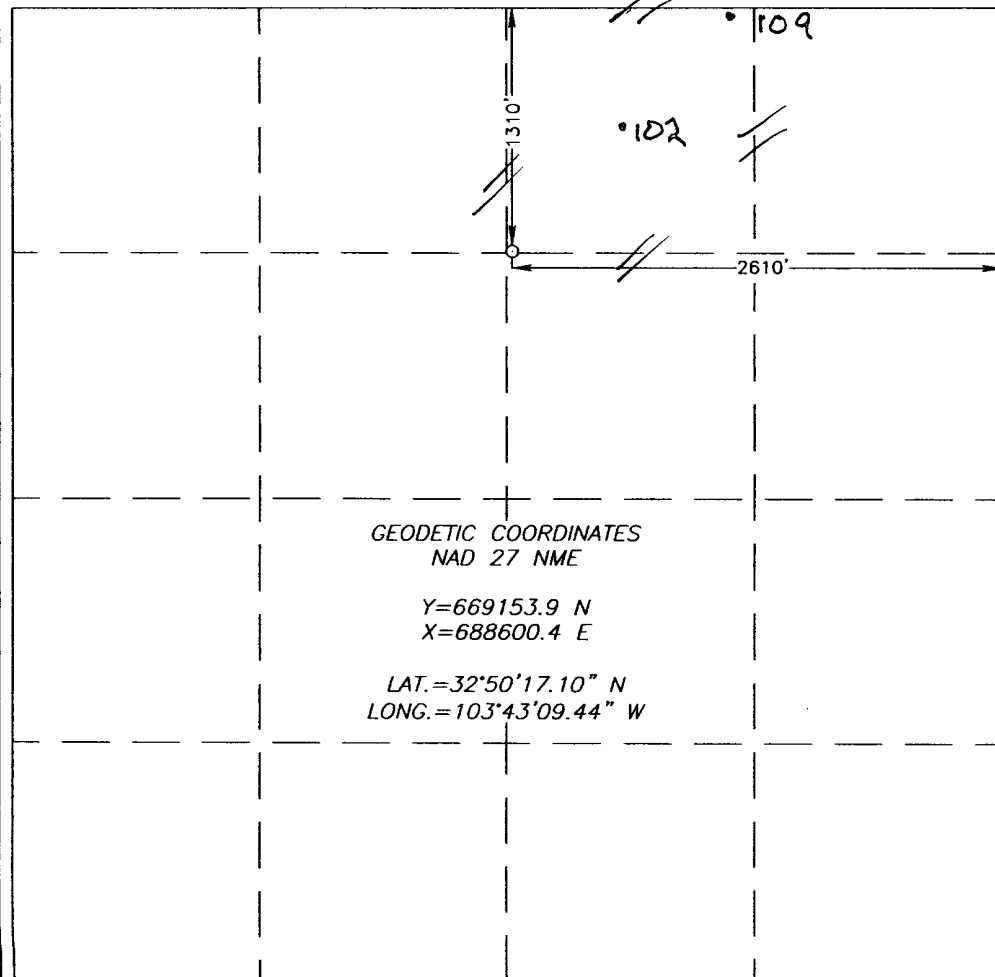
Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	13	17-S	32-E		1310	NORTH	2610	EAST	LEA

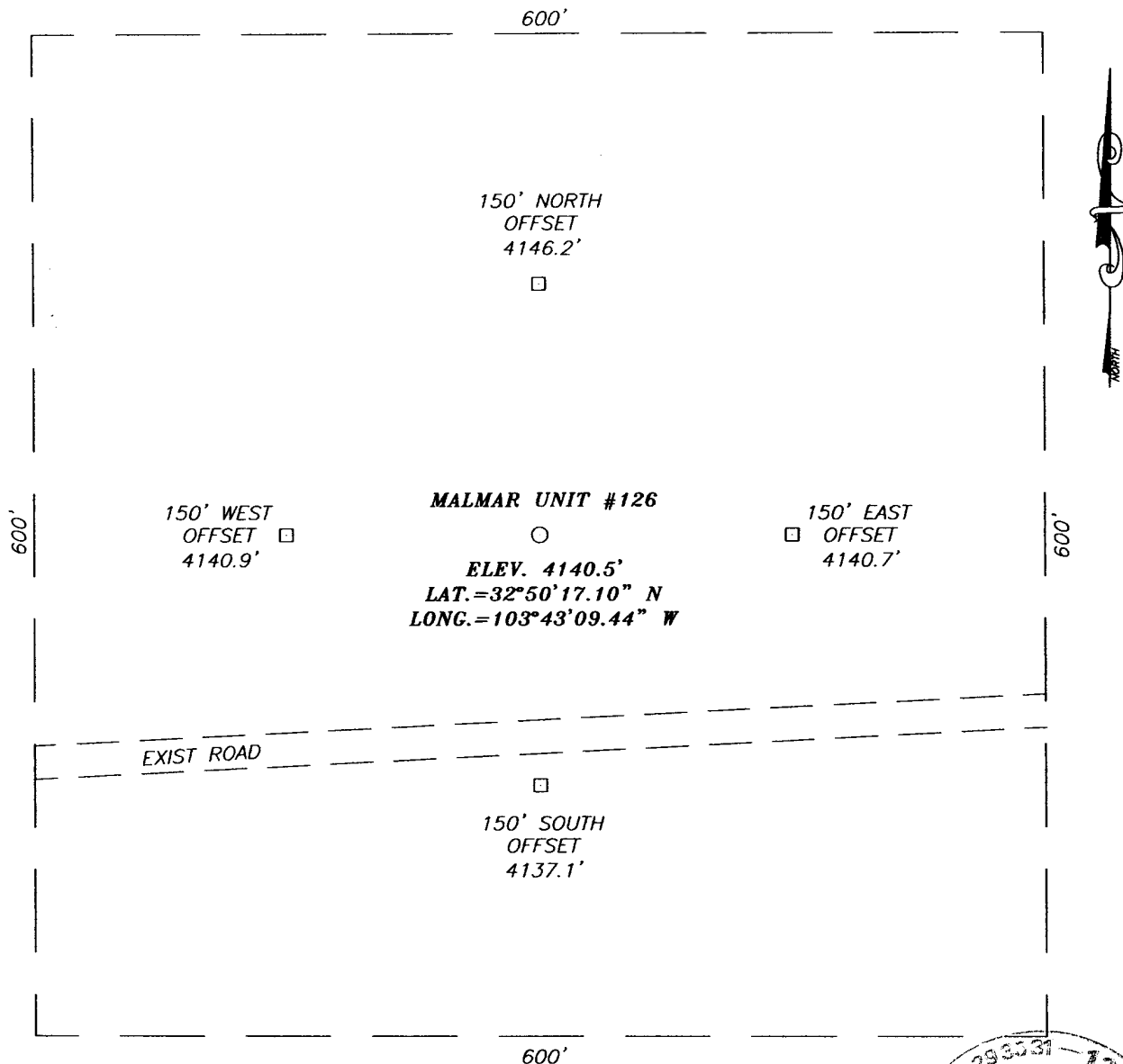
Bottom Hole Location If Different From Surface

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

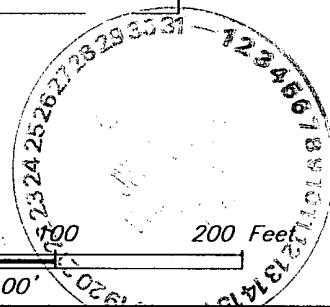
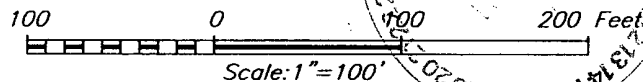
 GEODETIC COORDINATES NAD 27 NME Y=669153.9 N X=688600.4 E LAT.=32°50'17.10" N LONG.=103°43'09.44" W	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Signature Duane C Winkler Printed Name UP Operations Title 6/25/2005 Date 6/25/2005 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. Date Surveyed JUNE 10, 2005 Signature of Seal of Professional Surveyor GARY B. EDSON Certificate No. GARY B. EDSON 12641
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SECTION 13, TOWNSHIP 17 SOUTH, RANGE 32 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, TURN RIGHT
 (NORTH) AND GO APPROX. 0.5 MILES. TURN
 RIGHT (EAST) AND GO APPROX. 0.3 MILES. THIS
 LOCATION IS APPROX. 122' NORTH.

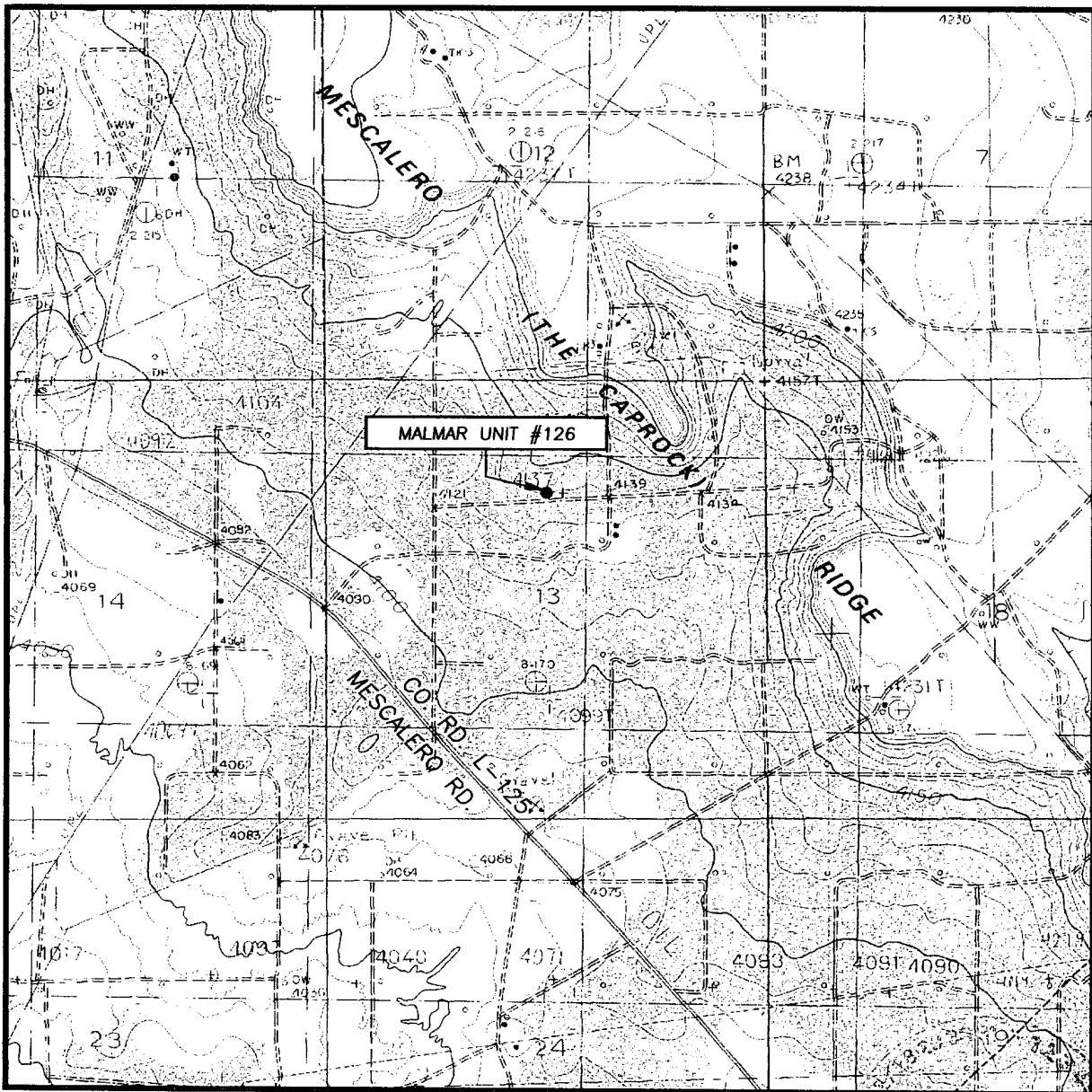




PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 383-3117

MAR OIL & GAS CORPORATION			
MALMAR UNIT #126 WELL LOCATED 1310 FEET FROM THE NORTH LINE AND 2610 FEET FROM THE EAST LINE OF SECTION 13, TOWNSHIP 17 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.			
Survey Date: 06/09/05	Sheet 1 of 1 Sheets		
W.O. Number: 05.11.0902	Dr By: J.R.	Rev 1:N/A	
Date: 06/16/05	Disk: CD#5	05110902	Scale: 1"=100'

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

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

SEC. 13 TWP. 17-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

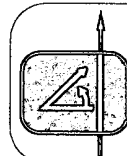
DESCRIPTION 1310' FNL & 2610' FEL

ELEVATION 4141'

OPERATOR MAR OIL & GAS CORPORATION

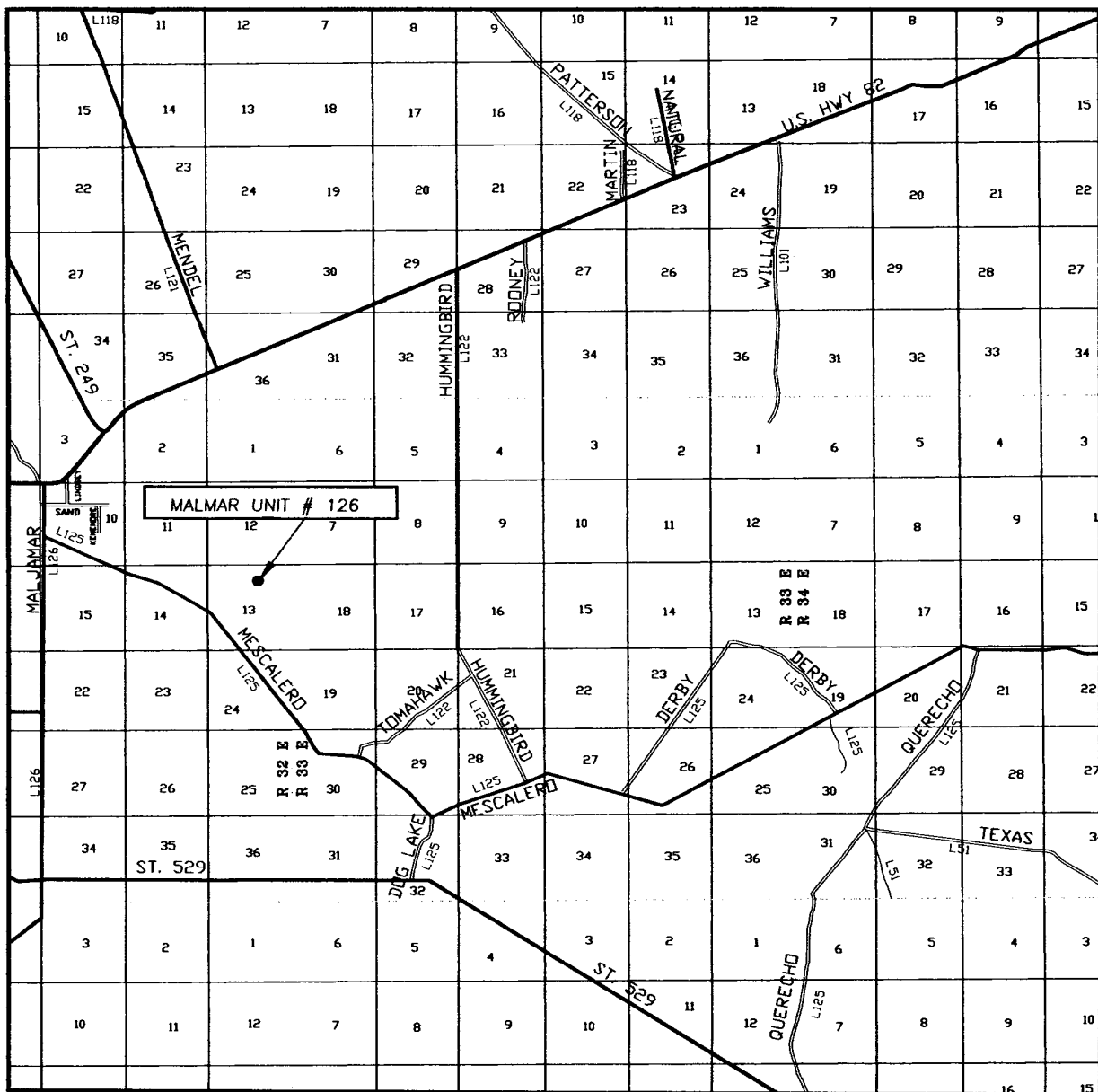
LEASE MALMAR UNIT

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



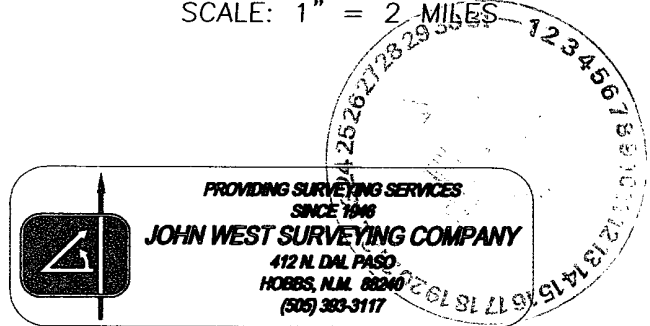
PROVIDING SURVEYING SERVICES
SINCE 1948
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 383-3117

VICINITY MAP

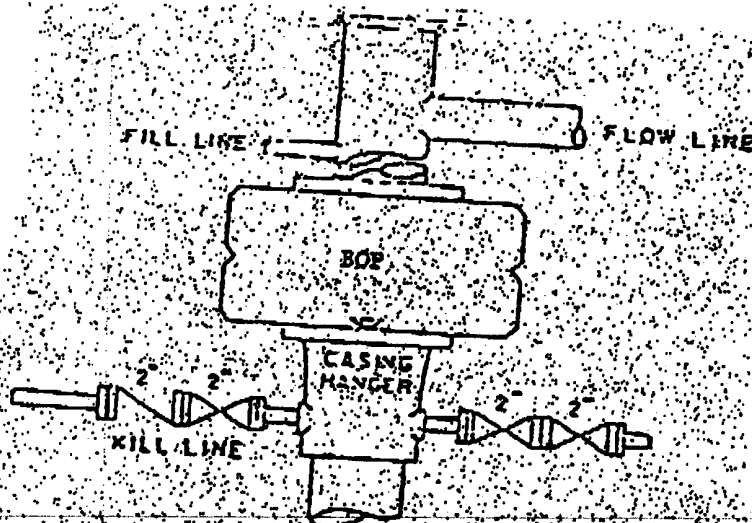
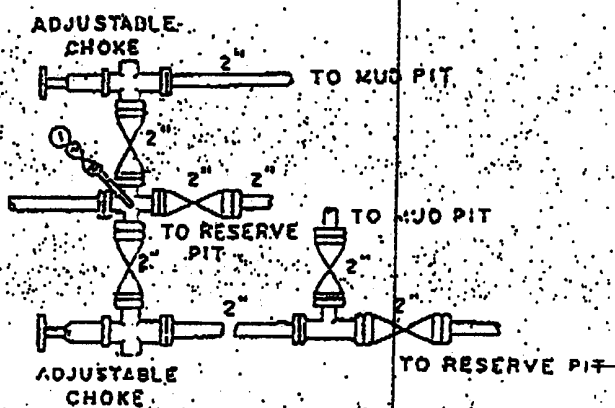


SCALE: 1" = 2 MILES

SEC. 13 TWP. 17-S RGE. 32-E
 SURVEY N.M.P.M.
 COUNTY LEA
 DESCRIPTION 1310' FNL & 2610' FEL
 ELEVATION 4141'
 OPERATOR MAR OIL & GAS CORPORATION
 LEASE MALMAR UNIT



Attachment A

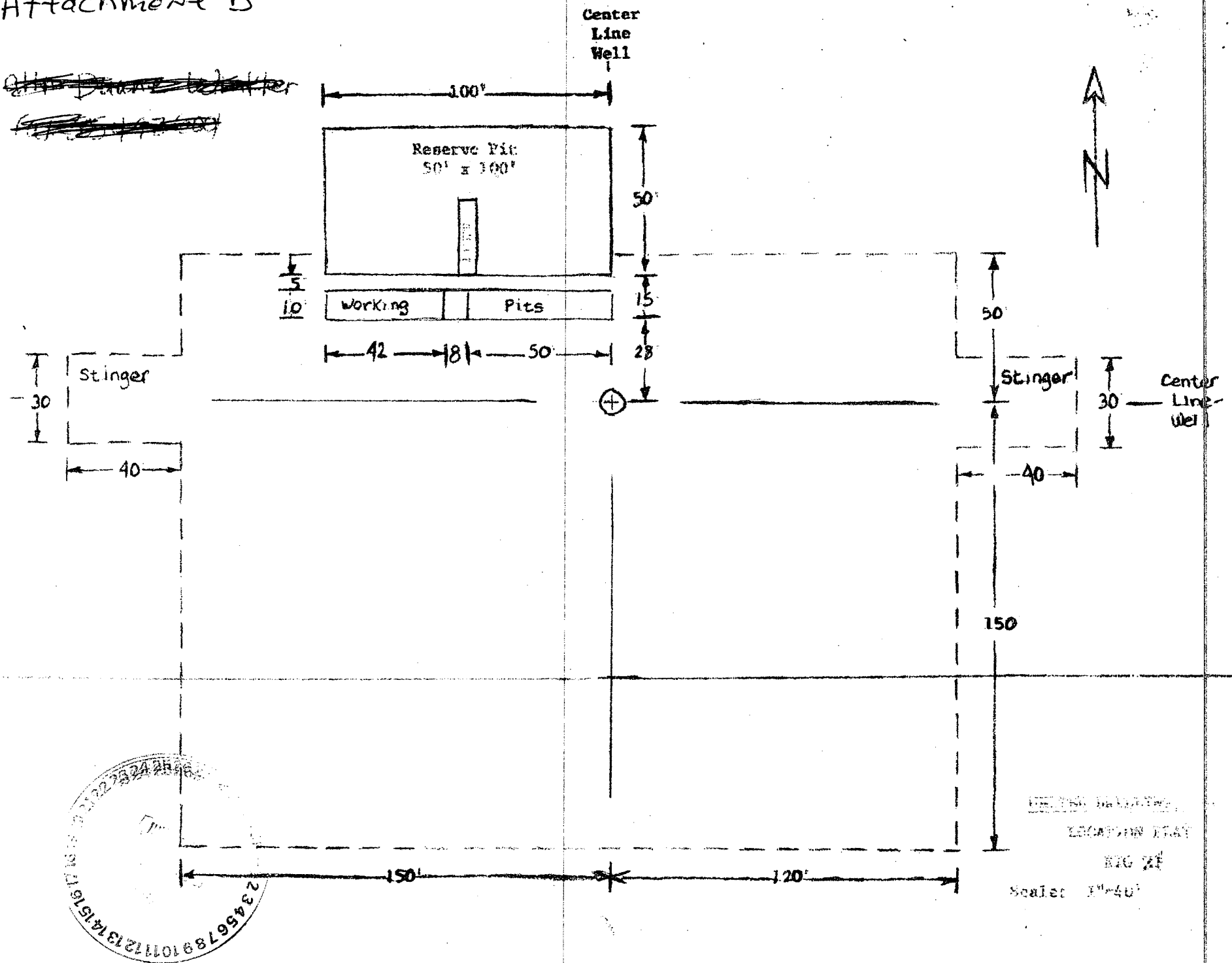


ANNULAR BOP STACK

PRESSURE 2000#



~~CHAS. D. HARRIS~~
~~CHAS. D. HARRIS~~





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

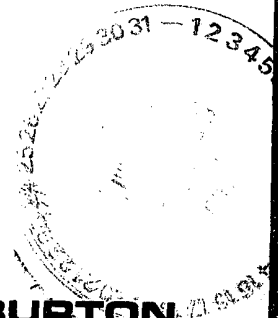
Mal Mar Unit #126
1310 FNL, 2610 FEL
Lea County, New Mexico
United States of America
S:13 T:17S R:32E

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

HALLIBURTON

Job Information

Surface Casing

Mal Mar Unit

#126

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)

$991.00 \text{ ft} \times 0.4127 \text{ ft}^3/\text{ft} \times 100 \% = 818.02 \text{ ft}^3$

Total Lead Cement = 818.02 ft³

= 145.70 bbl

Sacks of Cement = 419 sks

Cement : (309.00 ft fill)

$309.00 \text{ ft} \times 0.4127 \text{ ft}^3/\text{ft} \times 100 \% = 255.06 \text{ ft}^3$

Tail Cement = 255.06 ft³

= 45.43 bbl

Shoe Joint Volume: (40.00 ft fill)

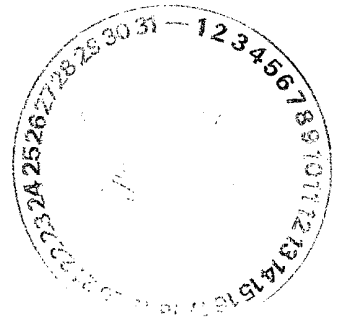
$40.00 \text{ ft} \times 0.3576 \text{ ft}^3/\text{ft} = 14.30 \text{ ft}^3$

= 2.55 bbl

Tail plus shoe joint = 269.37 ft³

= 47.98 bbl

Total Tail = 200 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: 991 ft
Volume: 145.76 bbl
Calculated Sacks: 419.47 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

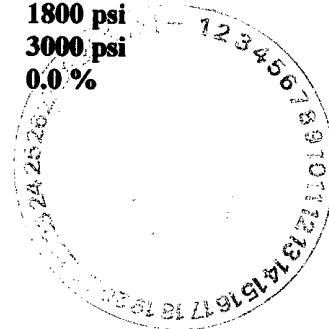
Estimated Slurry Properties:
Compressive Strengths @ 80 °F

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: 1.35 ft³/sk
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
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

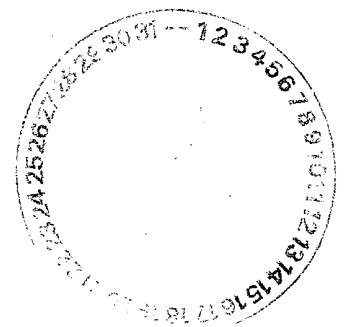


HALLIBURTON

Casing/Sales Equipment

Surface Casing

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



HALLIBURTON

Job Information

Production Casing

Mal Mar Unit

#126

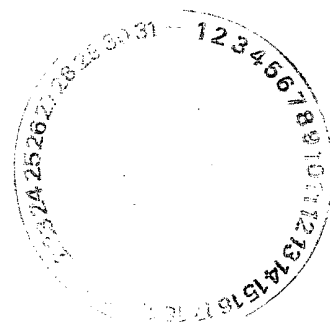
Surface Casing	0 - 1300 ft (MD)
Outer Diameter	8.625 in
Inner Diameter	8.097 in
Linear Weight	24 lbm/ft
Thread	STC
Casing Grade	J-55
Job Excess	10 %

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)



HALLIBURTON

Calculations

Production Casing

Stage 1

Cement : (1800.00 ft fill)

$$\begin{aligned} 1800.00 \text{ ft} * 0.1733 \text{ ft}^3/\text{ft} * 50 \% &= 467.79 \text{ ft}^3 \\ \text{First Stage Tail Cement} &= 467.79 \text{ ft}^3 \\ &= 83.32 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (40.00 ft fill)

$$\begin{aligned} 40.00 \text{ ft} * 0.1336 \text{ ft}^3/\text{ft} &= 5.35 \text{ ft}^3 \\ &= 0.95 \text{ bbl} \\ \text{Tail plus shoe joint} &= 473.13 \text{ ft}^3 \\ &= 84.27 \text{ bbl} \\ \text{Total Tail} &= 343 \text{ sks} \end{aligned}$$

Stage 2

Cement : (2300.00 ft fill)

$$\begin{aligned} 1300.00 \text{ ft} * 0.1926 \text{ ft}^3/\text{ft} * 10 \% &= 275.41 \text{ ft}^3 \\ 1000.00 \text{ ft} * 0.1733 \text{ ft}^3/\text{ft} * 50 \% &= 259.88 \text{ ft}^3 \\ \text{Total Second Stage Lead Cement} &= 535.29 \text{ ft}^3 \\ &= 95.34 \text{ bbl} \\ \text{Sacks of Cement} &= 257 \text{ sks} \end{aligned}$$

Cement : (900.00 ft fill)

$$\begin{aligned} 900.00 \text{ ft} * 0.1733 \text{ ft}^3/\text{ft} * 50 \% &= 233.89 \text{ ft}^3 \\ \text{Second Stage Tail Cement} &= 233.89 \text{ ft}^3 \\ &= 41.66 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (0.00 ft fill)

$$\begin{aligned} 0.00 \text{ ft} * 0.1336 \text{ ft}^3/\text{ft} &= 0.00 \text{ ft}^3 \\ &= 0.00 \text{ bbl} \\ \text{Tail plus shoe joint} &= 233.89 \text{ ft}^3 \\ &= 41.66 \text{ bbl} \\ \text{Total Tail} &= 170 \text{ sks} \end{aligned}$$



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

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)
0.6 % LAP-1 (Low Fluid Loss Control)
0.4 % CFR-3 (Dispersant)
0.25 lbm/sk D-AIR 3000 (Defoamer)
3 lbm/sk Salt (Lost Circulation Additive)
0.3 % Econolite (Light Weight Additive)

Fluid Weight 14.80 lbm/gal
Slurry Yield: 1.38 ft³/sk
Total Mixing Fluid: 6.49 Gal/sk
Top of Fluid: 3200 ft
Calculated Fill: 1800 ft
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)
6 lbm/sk Salt (Salt)

Fluid Weight 12.50 lbm/gal
Slurry Yield: 2.08 ft³/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)
0.6 % LAP-1 (Low Fluid Loss Control)
0.4 % CFR-3 (Dispersant)
0.25 lbm/sk D-AIR 3000 (Defoamer)
3 lbm/sk Salt (Salt)
0.3 % Econolite (Light Weight Additive)

Fluid Weight 14.80 lbm/gal
Slurry Yield: 1.38 ft³/sk
Total Mixing Fluid: 6.47 Gal/sk
Top of Fluid: 2300 ft
Calculated Fill: 900 ft
Volume: 41.66 bbl
Calculated Sacks: 169.98 sks
Proposed Sacks: 170 sks

HALLIBURTON

Cost Estimate (Continued)

Production Casing

<u>Mtrl Nbr</u>	<u>Description</u>	<u>Qty</u>	<u>U/M</u>	<u>Unit Price</u>	<u>Gross Amt</u>
76400	MILEAGE, CMT MTLs DEL/RET NUMBER OF TONS	40 38.16	MI		74
3965	SVC CHRg, CMT & ADDITIVES NUMBER OF EACH	864 1	CF		?
	Total				
	Less 56% Discount				
	Discounted Total				

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

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



Bulldog Mud

Jerry Butts
Post Office Box 263 Artesia, New Mexico 88211
505-305-8093 (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: Meljamar 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 ~~32,000 per foot~~

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,

