Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Oil Cons.
N.M. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

FORM APPROVED
OMB NO. 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM31200

1a. Type of Work: ☐ DRILL ☒ REENTER

6. If Indian, Allotee or Tribe Name:

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

7. Unit or CA Agreement Name and No.:

2. Name of Operator: Nearburg Producing Company

8. Lease Name and Well No.: Werthiem 34 Federal #1

3a. Address: 3300 N A St., Bldg 2, Suite 120, Midland, TX 79705

3b. Phone No. (include area code): 432/686-8235

9. API Well No.: 30-015-00117

4. Location of Well (*Report location clearly and in accordance with any State equirements*)*

At surface: 1980 FSL and 660 FEL

At proposed prod. zone:

SUBJECT TO LIKE APPROVAL BY STATE

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10. Field and Pool, or Exploratory: Dagger Draw; Morrow

11. Sec., T., R., M., or Blk. and Survey or Area: Sec 34, 19S, 25E

14. Distance in miles and direction from nearest town or post office*: 17 miles South of Artesia

12. County or Parish: Eddy

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
660'	120	320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
210'	9700'	NM1307
21. Elevations (Show whether DF, KDB, RT, GL, etc.	**22. Approximate date work will start***	**23. Estimated duration**
NA	8/1/04	45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature	Name (*Printed/Typed*)	Date
S Jordan	Sarah Jordan	6.29.04

Title: Production Analyst

Approved by (Signautre)	Name (*Printed/Typed*)	Date
/s/ Joe G. Lara	/s/ Joe G. Lara	2 AUG 2004

Title	Office
ACTING FIELD MANAGER	CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR 1 YEAR

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowlingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

Roswell Controlled Water Basin

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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-144
March 12, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office.

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒
Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Nearburg Producing Company Telephone: 686-8235 e-mail address: sjordan@nearburg.com
Address: 3300 N A St., Bldg 2, Ste 120, Midland, TX 79705
Facility or well name: Werthiem 34 Fed #1 API #: _____ U/L or Qtr/Qtr I Sec 34 T 19S R 25E
County: Eddy Latitude _____ Longitude _____ NAD: 1927 ☒ 1983 ☐ Surface Owner Federal ☐ State ☒ Private ☐ Indian ☐

Pit	**Below-grade tank**	
Type: Drilling ☒ Production ☐ Disposal ☐ Workover ☐ Emergency ☐ Lined ☒ Unlimited ☐ Liner type: Synthetic ☒ Thickness 12mil Clay ☐ Volume _____ bbl	Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes ☐ If not, explain why not. _____	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet 50 feet or more, but less than 100 feet 100 feet or more	(20 points) (10 points) (0 points) X
Wellhead protection area. (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes No	(20 points) (0 points) X
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more	(20 points) (10 points) (0 points) X
	Ranking Score (Total Points)	0

JUL 2004 RECEIVED OCD - ARTESIA

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: onsite ☐ offsite ☐ If offsite, name of facility _____ (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**
Date: 6/29/04
Printed Name/Title: Sarah Jordan, Production Analyst Signature: S Jordan

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:
Date: 7/9/04
Printed Name/Title: Mike Bratcher/Compliance Officer Signature: Mike Bratcher

N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

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JUL 21 2004
OCD-ARTESIA

5. Lease Serial No.
NMNM31200

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
Werthiem 34 Fed #1

2. Name of Operator
Nearburg Producing Company

9. API Well No.

3a. Address
3300 N A St., Bldg 2, Ste 120, Midland TX 79705

3b. Phone No. (*include area code*)
432/686-8235

10. Field and Pool, or Exploratory Area
Dagger Draw; Morrow

4. Location of Well (*Footage, Sec., T., R., M., or Survey Description*)
1980 FSL and 660 FEL, Sec 34, 19S, 25E

11. County or Parish, State
Eddy NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change Field
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Nearburg Producing Company requests to change the subject well (permit) from the:

Dagger Draw; Morrow

to the:

Cematary; Morrow

ACCEPTED FOR RECORD
JUL 20 2004
LES BABYAK
PETROLEUM ENGINEER

14. I hereby certify that the foregoing is true and correct
Name (*Printed/Typed*)
Sarah Jordan

Title
Production Analyst

Date 7/15/04

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

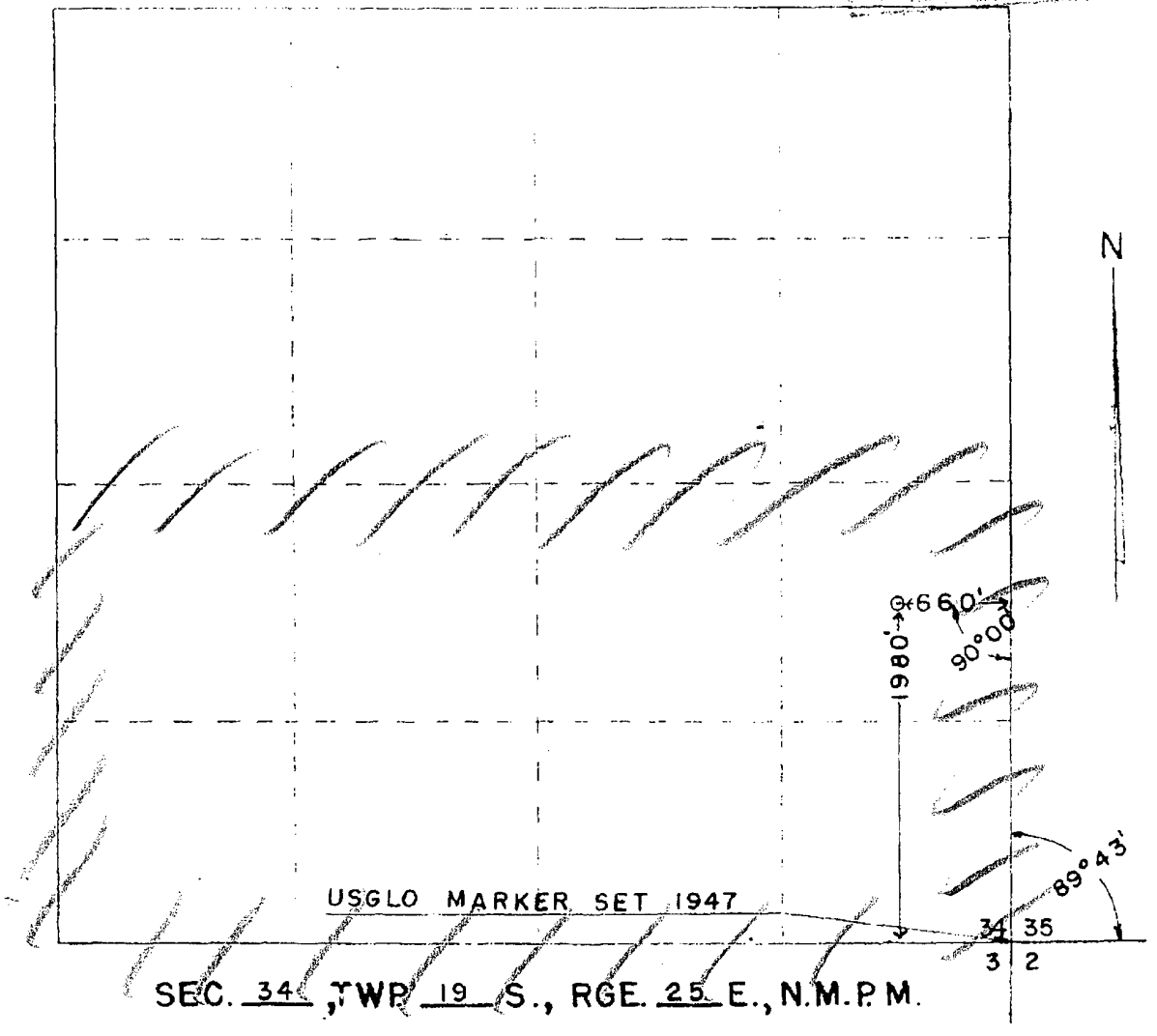
Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

WELL LOCATION SURVEY PLAT

OPERATOR STANOLIND OIL AND GAS CO.

LEASE LAKEWOOD UNIT

WELL NO. 1



SEC. 34, TWP. 19 S., RGE. 25 E., N.M.P.M.

I HEREBY CERTIFY THAT THIS PLAT WAS MADE FROM NOTES TAKEN IN THE FIELD BY ME AND THAT THE SAME IS TRUE AND CORRECT TO BEST OF MY KNOWLEDGE AND BELIEF.

JOHN W. WEST, PE & LS NO 676

AUGUST 28, 1952

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Nearburg Producing Company
3300 North "A" Street, Building 2, Suite 120
Midland, Texas 77905

The undersigned accepts all applicable terms, conditions, stipulations and restrictions covering operations conducted on the leased land or portion thereof, as described below:

Lease No:	NMNM31200
Legal Description of Land:	1980 FSL and 660 FEL Sec. 34, T19S, R25E Eddy County, New Mexico
Formation(s) (if applicable):	Dagger Draw; Morrow
Bond Coverage:	$25,000 statewide bond of Nearburg Producing Company
BLM Bond File No:	NM1307

6.29.04
Date

H. R. Willis
Drilling Manager

ATTACHMENT TO FORM 3160-3
WERTHIEM 34 FEDERAL #1
SECTION 34, T19S, R25E
EDDY COUNTY, NEW MEXICO

DRILLING PROGRAM

1. GEOLOGIC NAME OF SURFACE FORMATION

   Quaternary Alluvium

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Wolfcamp	6610	Barnett	9630
Strawn	8330		
Morrow	9375		

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL, OR GAS

   Morrow Gas

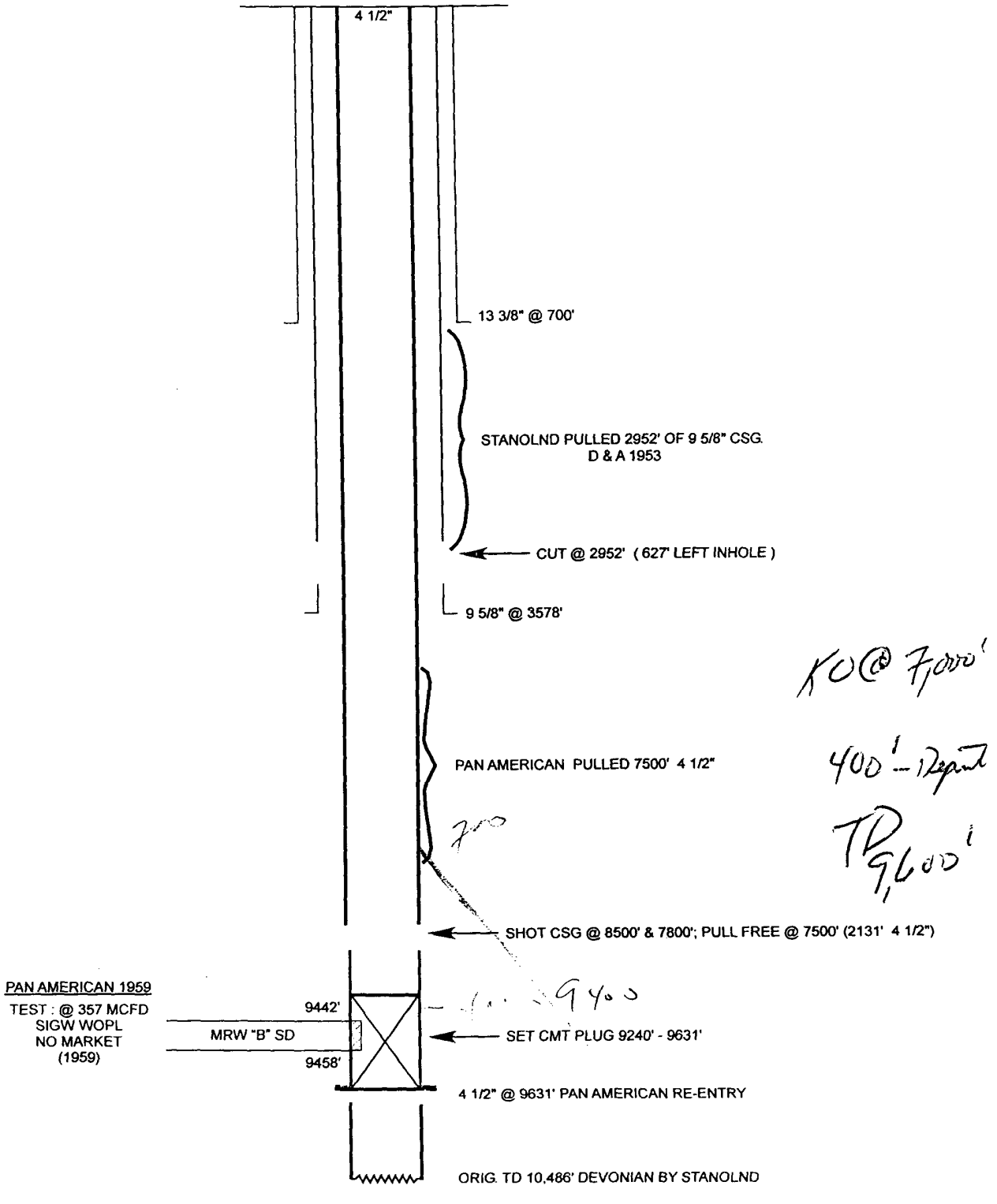
4. CASING AND CEMENTING PROGRAM

Casing Size	From To	Weight	Grade	Joint
13-3/8"	See Attached			
9-5/8"	See Attached			
4-1/2"	See Attached			

We plan to re-enter well. Weld on 13-3/8" head. NU BOPE 's and test to 3000 psi. Drill out plugs to 600'. Test 13-3/8" csg to 500 psi. Drill out w/ 12-1/4" bit to 2950' (top of 9-5/8" cut-off). Switch to 8-3/4" bit and drill to 7500' (top of 4-1/2" cut-off). Reattach 4-1/2" csg w/ Bowen overshot and w/ seal. Test to 1000 psi. TIH w/ 3-3/4" bit. Drill out existing 4-1/2" to 9200'. Test csg to 1000 psi. Cont drilling out to 9600' or top of 4-1/2" float collar. Attempt to completion test in Morrow B sand from 9442' - 9458'. If test is positive, will cement 4-1/2" csg from 9000' - surface. If unable to reattach 4-1/2" csg @ 7500', will set kick-off plug and directionally drill well to a new legal BHL. Run logs and evaluate. If evaluation is positive, run 4-1/2" csg and cmt back to 7500'.

DAGGER DRAW SOUTH PROSPECT

STANOLND OIL CO.
LAKEWOOD UNIT #1
(PAN AMERICAN - #1 WERTHIEM)
RECOMPLETION
Sec. 34, T19S - R25E
1980' FSL & 660 FEL



KO @ 7000'

400' - Depth

TD 9,600'

(RED - PIPE CURRENTLY IN HOLE)

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

The BOP stack will consist of a 3,000 psi working pressure, dual ram type preventer and annular.

A BOP sketch is attached.

6. TYPES AND CHARACTERTICS OF THE PROPOSED MUD SYSTEM

Spud and drill to 2952' with 10 ppg cut brine, Visc 32, Fluid loss NC. Drill 8-3/4" from 2952 to 7500' w/ 10 ppg cut brine, Visc 32. Drill 4-3/4" from 7500 to 9600 w/ 10 ppg cut brine, Visc 38, Fluid Loss 12 cc or enough MW for well control if necessary.

7. AUXILLARY WELL CONTROL AND MONITORING EQUIPMENT

None required.

8. LOGGING, TESTING, AND CORING PROGRAM

DLL/CNL/LDT/CAL/GR logging is planned. Drill stem tests, cores and sidewall cores are possible.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES & POTENTIAL HAZARDS

None anticipated.

10. ANTICAPATED STARTING DATE:

Is planned that operations will commence on August 1, 2004 with drilling and completion operation lasting about 45 day.

SURFACE USE AND OPERATIONS PLAN FOR

DRILLING, COMPLETION, AND PRODUCING

NEARBURG PRODUCING COMPANY
WERTHIEM 34 FEDERAL #1
SECTION 34-T19S-R25E
EDDY COUNTY, NEW MEXICO

LOCATED

17 miles South of Artesia.

OIL & GAS LEASE

NMNM31200

RECORD LESSEE

Exxon Corp

BOND COVERAGE

$25,000 statewide bond of Nearburg Producing Company

ACRES IN LEASE

120

GRAZING LEASE

Peter and Sandra Rowe
203 E El Portal
San Clemente, CA 92672

POOL

Dagger Draw; Morrow

EXHIBITS

A. Area Road Map
B. Drilling Rig Layout
C. Vicinity Oil & Gas Map
D. Topographic & Location Verification Map
E. Well Location & Acreage Dedication Map

This well will be drilled to a depth of approximately 9,631'.

1. EXISTING ROADS

   A. Exhibit A is a portion of a section map showing the location of the proposed well as staked.

   B. Exhibit C is a plat showing existing roads in the vicinity of the proposed well site.

2. ACCESS ROADS

   A. Length and Width

      The access road will be built and is shown on Exhibit D.

   B. Surface Material

      Existing.

   C. Maximum Grade

      Less than five percent

   D. Turnouts

      None necessary.

   E. Drainage Design

      Existing.

   F. Culverts

      None necessary.

   G. Gates and Cattle Guards

      None needed.

3. LOCATION OF EXISTING WELLS

   Existing wells in the immediate area are shown in Exhibit C.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

   Necessary production facilities for this well will be located on the well pad.

5. LOCATION AND TYPE OF WATER SUPPLY

It is not contemplated that a water well will be drilled. Water necessary for drilling will be purchased and hauled to the site over existing roads shown on Exhibit D.

6. METHODS OF HANDLING WASTE DISPOSAL

A. Drilling fluids will be allowed to evaporate in the drilling pits until the pits are dry.

B. Water produced during tests will be disposed of in the drilling pits.

C. Oil produced during tests will be stored in test tanks.

D. Trash will be contained in a trash trailer and removed from well site.

E. All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

7. ANCILLARY FACILITIES

None required.

8. WELL SITE LAYOUT

Exhibit B shows the relative location and dimensions of the well pad, mud pits, reserve pit, and trash pit, and the location of major rig components.

9. PLANS FOR RESTORATION OF THE SURFACE

A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. The well site will be cleaned of all trash and junk to leave the site in an as aesthetically pleasing condition as possible.

B. After abandonment, all equipment, trash, and junk will be removed and the site will be clean.

10. OTHER INFORMATION

A. Topography

The land surface at the well site is rolling native grass with a regional slope being to the east.

B. Soil

Topsoil at the well site is sandy soil.

C. Flora and Fauna

The location is in an area sparsely covered with mesquite and range grasses.

D. Ponds and Streams

There are no rivers, lakes, ponds, or streams in the area.

E. Residences and Other Structures

There are no residences within a mile of the proposed well site.

F. Archaeological, Historical, and Cultural Sites

None observed on this area.

G. Land Use

Grazing

H. Surface Ownership

Bureau of Land Management.

11. OPERATOR'S REPRESENTATIVE

H. R. Willis
3300 North "A" Street, Bldg 2, Suite 120
Midland, Texas 79705
Office: (432) 686-8235
Home: (432) 697-2484

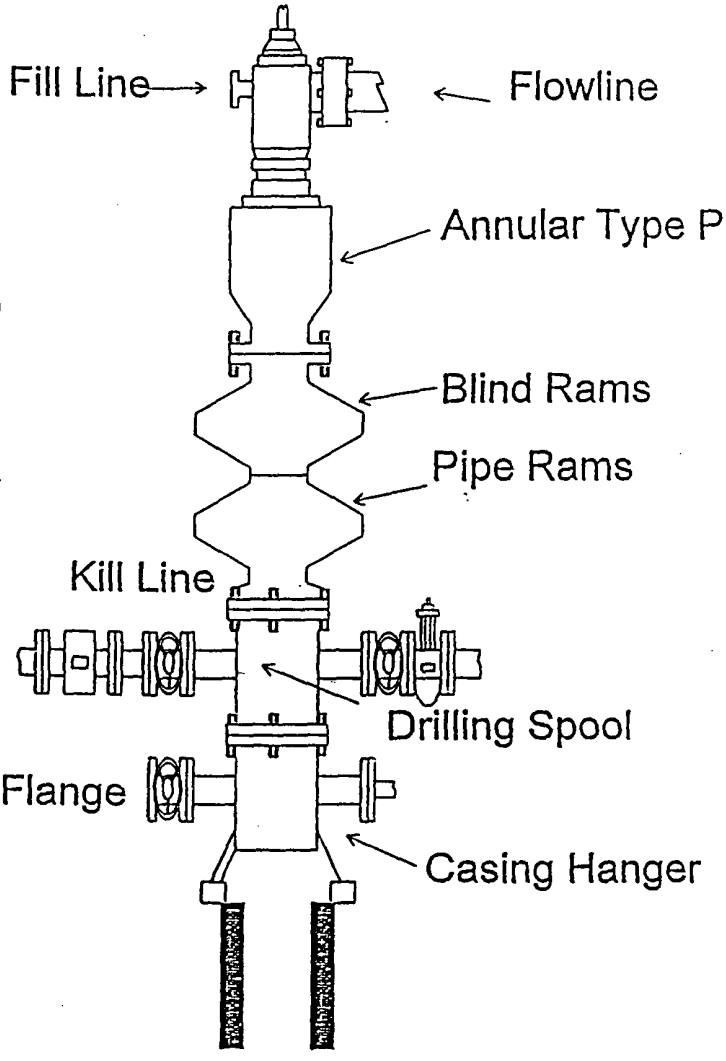
12. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Nearburg Producing Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

7/1/04
Date

H. R. Willis/SJ
H. R. Willis
Drilling Manager

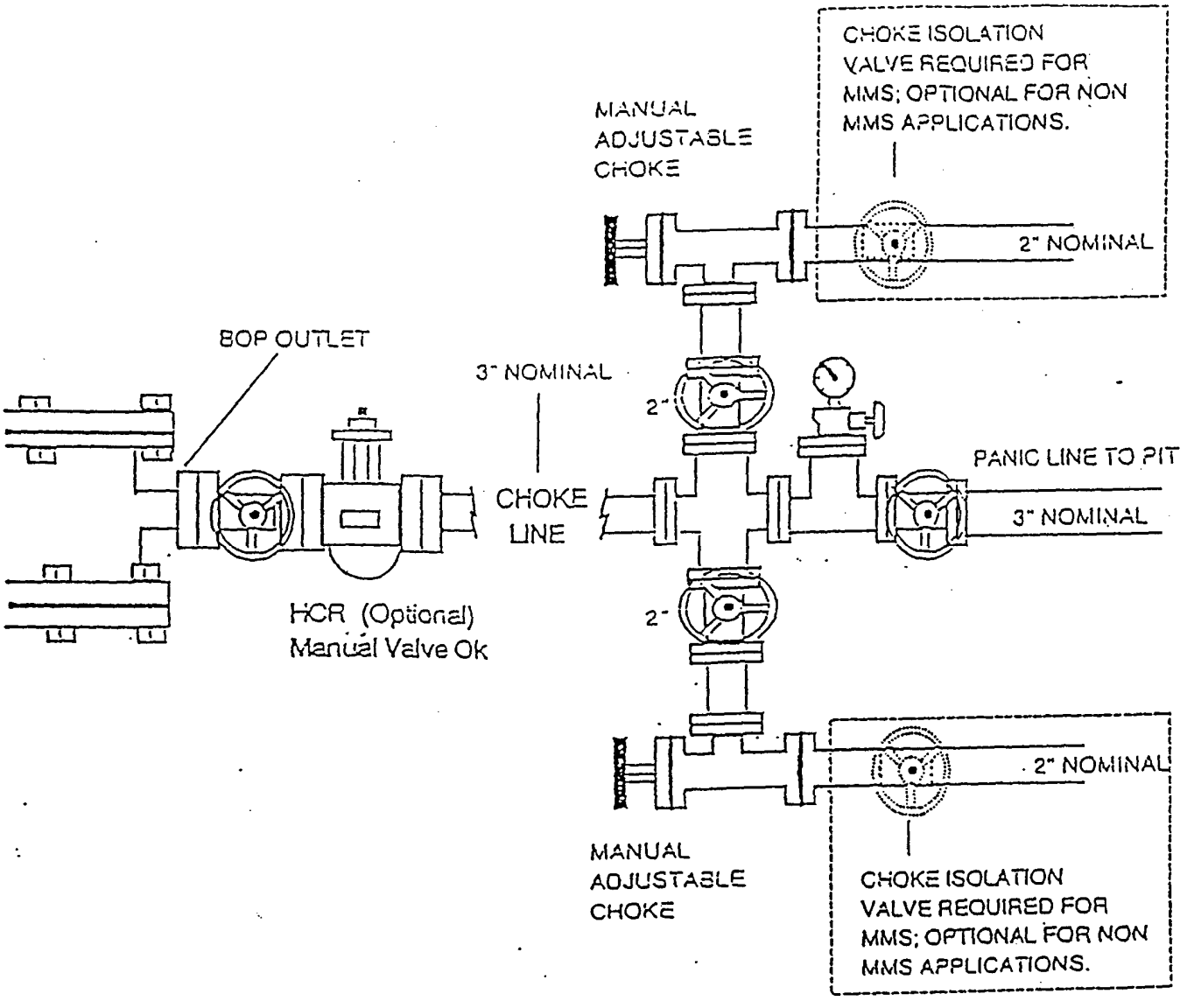
BOPE SCHEMATIC
NEARBURG PRODUCING COMPANY

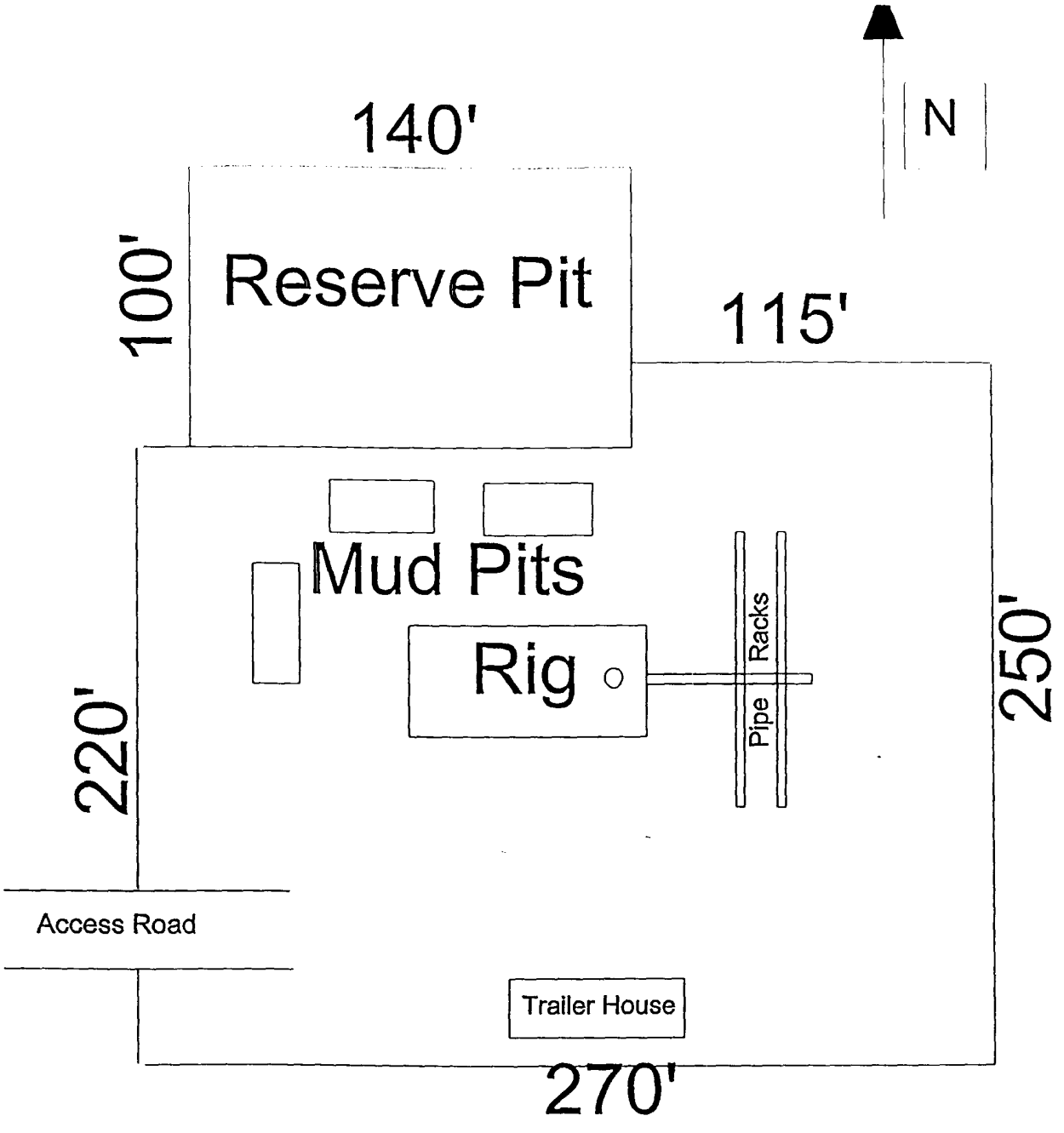


Rotating Head (Optional)
Drilling Nipple option
must include a fill-up
line. Do not use kill line
for fill up.

900 Series

2M AND 3M SERVICE

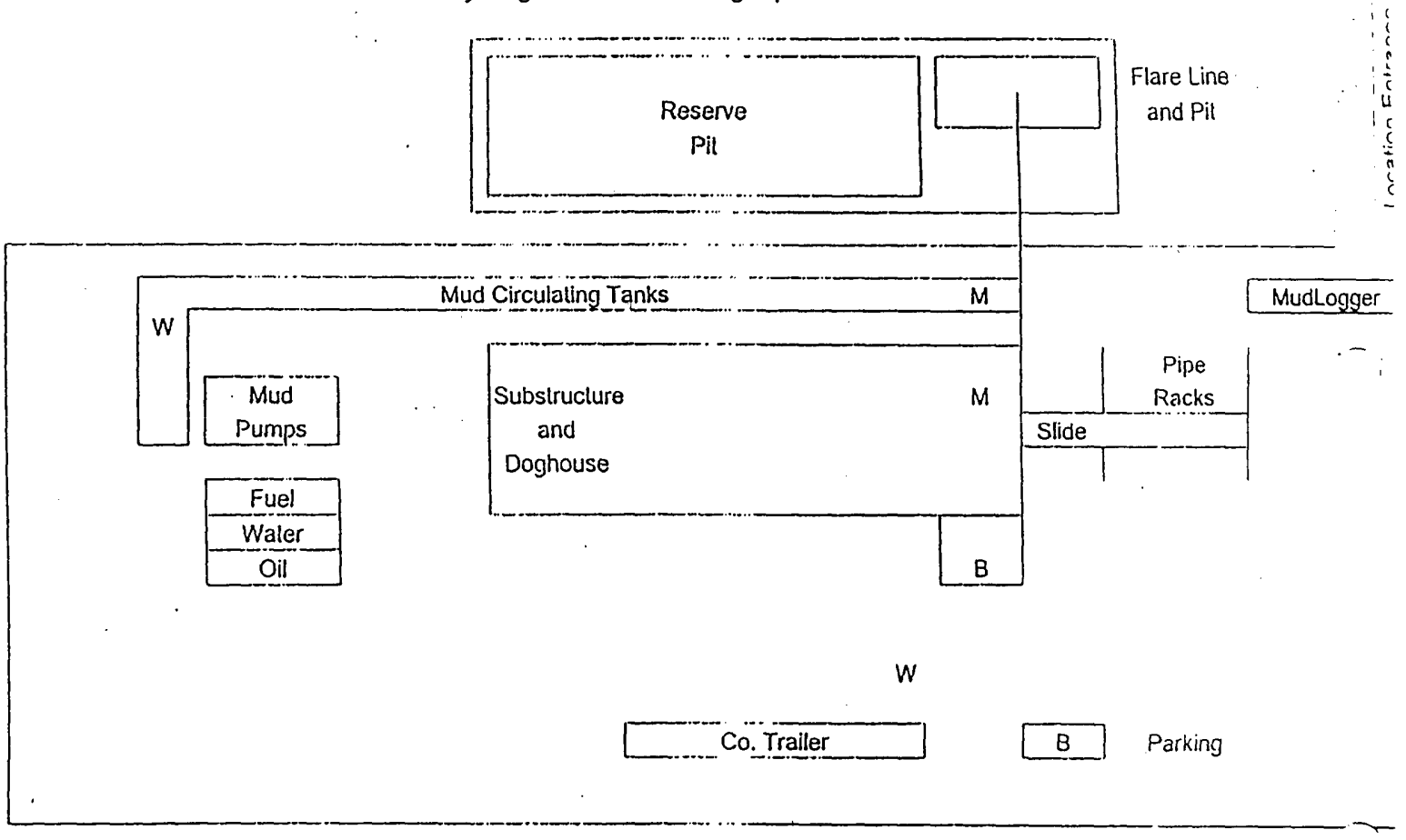




DRILLING RIG LAYOUT
NEARBURG PRODUCING COMPANY

Nearburg Producing Company

Hydrogen Sulfide Drilling Operations Location Plan



M - H2S Monitors with alarms at bell nipple and shale shaker

W - Wind Direction Indicators

B - Safe Briefing areas with caution signs and protective breathing equipment. Minimum 150' from wellhead.

Prevailing Wind Directions: Summer - South/Southwest
Winter - North/Northwest

WARNING

YOU ARE ENTERING AN H_2S AREA

AUTHORIZED PERSONNEL ONLY

1. *BEARDS OR CONTACT LENSES NOT ALLOWED.*
2. *HARD HATS REQUIRED.*
3. *SMOKING IN DESIGNATED AREAS ONLY.*
4. *BE WIND CONSCIOUS AT ALL TIMES.*
5. *CHECK WITH NPC SUPT AT MAIN OFFICE.*

Nearburg Producing Company
1-432-686-8235

HYDROGEN SULFIDE DRILLING OPERATIONS PLANS
NEARBURG PRODUCING COMPANY
WERTHIEM 34 FEDERAL #1

1. HYDROGEN SULFIDE TRAINING

   A. All regularly assigned personnel, contracted or employed by Nearburg Producing Company, will receive training from a qualified instructor in the following areas prior to commencing drilling potential hydrogen sulfide bearing formations in this well:

      1. The hazards and characteristics of hydrogen sulfide (H2S).

      2. The proper use and maintenance of personal protective equipment and life support systems.

      3. The proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures and prevailing winds.

      4. The proper techniques for first aid and rescue procedures.

   B. In addition, supervisory personnel will be trained in the following areas:

      1. The effects of H2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.

      2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.

      3. The contents and requirements of the H2S Drilling Operations Plan.

   C. There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S.

A. Well Control Equipment:

1. Flare line with continuous pilot.

2. Choke manifold with a minimum of one remote choke.

3. Blind rams and pipe rams to accommodate all sizes with properly sized closing unit.

4. Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head and flare gun with flares as needed.

B. Protective Equipment for Essential Personnel:

Mark II Surviveair 30-minute units located in the dog house and at briefing areas, as indicated on well site diagram.

C. H2S Detection and Monitoring Equipment:

1. Two portable H2S monitors positioned and location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.

2. One portable SO2 monitor positioned near flare line.

D. Visual Warning systems:

1. Wind direction indicators as shown on well site diagram.

2. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate. See example attached.

E. Mud Program

1. The Mud Program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weights, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

2. A mud-gas separator will be utilized as needed.

F. Metallurgy

All drill strings, casing, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and line and valves shall be suitable for H2S service.

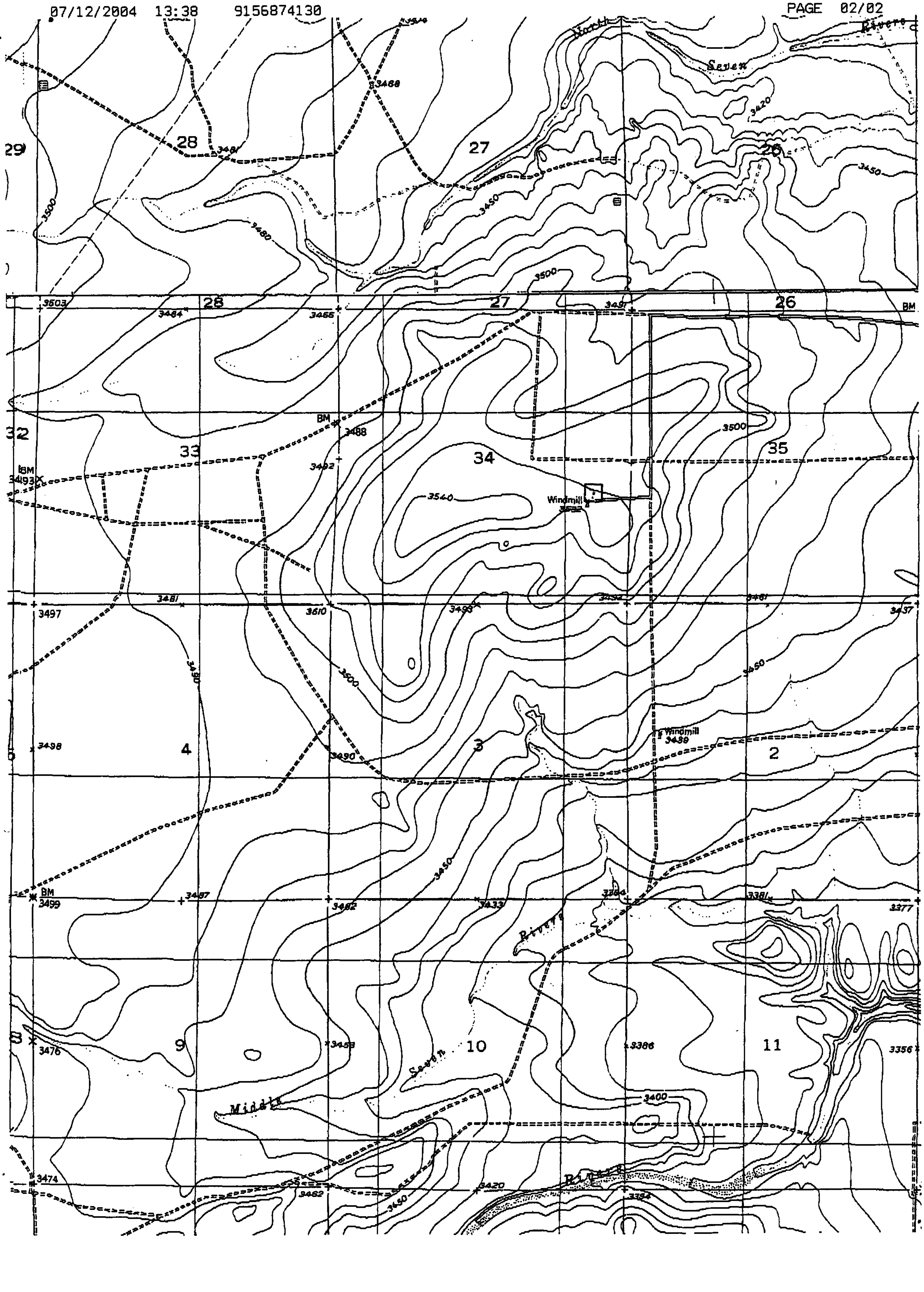
G. Communication

1. Cellular telephone communications in company vehicles and mud logging trailer.

2. Land line (telephone) communications at area office.

H. Well Testing

Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing in an H2S environment will be conducted during the daylight hours.


North
Seven
River
3420
3450
26
27
28
29
3468
3481
3500
3480
3503
3484
3465
3491
BM
32
33
34
35
BM
3488
3492
BM
3493
3540
Windmill
3500
3497
3481
3610
3493
3461
3437
3480
3500
3450
3498
4
3
2
Windmill
3439
3490
3450
BM
3499
3487
3482
3433
3384
3381
3377
River
3476
9
3459
10
3386
11
3356
Seven
Middle
3400
3474
3482
3450
3420
3394
River

PREPARED FOR:

Mr. Butch Willis
NEARBURG PRODUCING COMPANY
Midland, Texas

Werthiem 34 Fed # 1
Section 34
T-19-S
R-25-E
Eddy County, New Mexico

RECEIVED
JUL 20 2004
OCD-ARTESIA

Prepared by
Jason Edwards
July 14, 2004

DRILLING FLUID SYNOPSIS

NEARBURG PRODUCING CORPORATION
Werthiem 34 Fed # 1

Section 34
T-19-S
R-25-E
Eddy County, New Mexico

CASING

13 3/8"	at	700'
9 5/8"	at	3,578'
4 1/2"	at	9,700'

DEPTH	MUD WEIGHT	VISCOSITY	FLUID LOSS	DRILL SOLIDS	COMMENTS
0-700'	8.6 to 9.0	32 to 34	No control	<5%	Spud Mud
700'-3,578'	8.4 to 8.5	28 to 29	No Control	<1%	Fresh water, Paper, Caustic, Star NP-110
3,578'-8,000'	8.4 to 9.2	28 t0 29	No Control	<1%	Fresh/Brine, Paper, Lime, Star NP-110
8,000'-9,700'	9.0 to 9.2	30 to 40	15-8cc	<5%	White Starch, Xanthan Gum

RECOMMENDED CASING PROGRAM

13 3/8"	at	700'
9 5/8"	at	3,578'
4 1/2"	at	9,700'

RECOMMENDED DRILLING FLUID PROGRAM

DEPTH	WEIGHT	VISCOSITY	FILTRATE
0-700'	**8.6-9.0**	**32-34**	**No Control**

Spud with fresh water gel and lime spud mud, circulating the working pits. Use paper, as needed, for seepage control and hole sweeps. There is a potential for lost returns in this interval. If lost returns are encountered and circulation cannot be regained after pumping several viscous LCM pills, you should consider dry drilling to casing point. While dry drilling, we recommend periodically pumping viscous LCM sweeps, to prevent solid accumulation in annulus.

DEPTH	WEIGHT	VISCOSITY	FILTRATE
700'-3,578'	**8.4-8.5**	**28-29**	**No Control**

Drill out from under surface casing with fresh water, circulating the reserve pit. Paper should be used to control seepage. Use Caustic for a 9.0 to 9.5 pH. Use Star NP-110 to control solids and for sweeps. There is a potential for lost returns in this interval. If lost returns are encountered, please refer to Ambar Lone Star Mud's Lost Circulation Procedure. If abnormal pressures are encountered, we recommend additions of brine to control.

DEPTH	WEIGHT	VISCOSITY	FILTRATE
3,578'-8,000'	**8.4-9.2**	**28-29**	**No Control**

Drill out from under surface casing with fresh water, circulating the reserve pit. Paper should be used to control seepage. Use Caustic for a 9.0 to 9.5 pH. Use Star NP-110 to control solids and for sweeps. At 6,000' begin additions of brine for an 8.8 to 9.0 ppg fluid weight. There is a potential for lost returns in this interval. If lost returns are encountered, please refer to Ambar Lone Star Mud's Lost Circulation Procedure. If abnormal pressures are encountered, we recommend additions of brine to control. If fluid weights in excess of 10.0 ppg are required, we recommend mudding up as discussed in the next interval and utilize Barite to control.

RECOMMENDED DRILLING FLUID PROGRAM

DEPTH	WEIGHT	VISCOSITY	FILTRATE
8,000'-9,700'	**9.0-9.2**	**30-40**	**15-8cc**

At **8,000'**, or as hole conditions dictate, return to the working pits and mud up with a **Xanthan Gum/Starch** type system for a 34 to 40 sec/100cc funnel viscosity and API fluid loss of 15cc. Caustic should be used to control the pH at 9.0 to 10.0. Our engineer will monitor for SRB's at the well site and recommend treatments of preservative as needed. If lost circulation is encountered, please refer to Line Star Mud's lost Circulation Procedure. At **8,600'**, or prior to drilling the **Atoka**, increase the funnel viscosity to 36-40 with additions of Xanthan Gum. At **8,950'**, or prior to drilling the **Morrow**, lower the API fluid loss to 8cc.

Estimated Drilling Fluid Cost: $20,000.00 to $30,000.00
Estimated Drilling Days: 18 to 22

This cost is based on a 1000 bbl system and does not reflect lost circulation, water flows, abnormal pressures, or multiple DSTs.

ESTIMATED FORMATION TOPS

GRAYBURG	475'
SAN ANDRES	755'
GLORIETA	2,360'
TUBB	3,125'
ABO	3,740'
WOLFCAMP	6,310'
CANYON	7,695'
STRAWN	8,225'
ATOKA	8,846'
MORROW	9,026'
MISSISSIPPIAN	9,486'
TD	9,700'

AMBAR LONE STAR FLUID SERVICES
LOST CIRCULATION PROCEDURES

Loss of circulation is a possibility on this well. Although each well is different, there are some basic procedures and drilling practices that can aid in reducing the severity or, in some cases, prevent lost circulation. Below is a list, which may prove helpful.

1. Maintain viscosities as low as possible and still clean the hole. We recommend a viscosity of 28 to 40 on this well.
2. Maintain mud weights as low as possible without jeopardizing safety.
3. Use slow trip speeds to prevent swabbing and surging.
4. Break circulation in stages with reduced pump strokes while tripping in the hole.
5. Rotate pipe prior to and while tripping in the hole.
6. Use an optimum hydraulics program.

Severe seepage to total loss of circulation may occur even when the above procedures are followed. For severe seepage, we recommend circulating pills (50-100 bbls. depending on hole size) containing 10-30 ppb of various (fibrous and flake) lost circulation material. It would be helpful to reduce pump rates until full returns are established. Once full returns are regained, normal pump rates should be returned to in stages. The inclusion of lost circulation material in the entire system is recommended only if the above procedures do not adequately seal off the loss zone.

For total loss of circulation, we recommend pulling enough stands to place the bit above the loss zone. A viscous pill containing the appropriate type of loss circulation material should be spotted. Due to the sensitive nature of the Morrow, we recommend the use of acid soluable LCM shuch as Magma Fiber, in the production interval. The size of the pill should be determined by hole size and should contain at <u>least</u> 30 ppb lost circulation material. Several attempts should be made before considering other alternatives. After returns are regained, we recommend staging back to bottom using the procedure outlined above.

If returns are not fully re-established, consideration should be given to dry drilling while pumping periodic sweeps to ensure hole cleaning.