Form 3160-3
(April 2004)

DS New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

POTASH

I-34

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM~~101340~~ 97897

1a. Type of Work: [X] DRILL [ ] REENTER

6. If Indian, Allotee or Tribe Name

1b. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

7. Unit or CA Agreement Name and No.

2. Name of Operator
Nearburg Producing Company 15742

8. Lease Name and Well No. 23239
Jade 34 Federal Com #3

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

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

9. API Well No.
30-025-36820

4. Location of Well (*Report location clearly and in accordance with any State equirements*)*
At surface 1115 FNL and 2364 FWL
SUBJECT TO LIKE APPROVAL BY STATE
R-111-P Potash
At proposed prod. zone 1980 FSL and 1980 FWL
u/k K

10. Field and Pool, or Exploratory
✓ Gem; Morrow, East 77380

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 34-19S-33E

14. Distance in miles and direction from nearest town or post office*
30 miles S/SW of Hobbs, NM

12. County or Parish: Lea County
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
990	320	S/2 of 34

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
990	13,700	NM1307

21. Elevations (Show whether DF, KDB, RT, GL, etc.	22. Approximate date work will start*	23. Estimated duration
3565'	7/16/04	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.

RECEIVED
AUG 2004
Hobbs OCD

25. Signature	Name (*Printed/Typed*)	Date
Sarah Jordan	Sarah Jordan	6-10-04

Title: Production Analyst

Approved by (Signature)	Name (*Printed/Typed*)	Date
/s/ Linda S. C. Rundell	/s/ Linda S. C. Rundell	AUG 09 2004

Title	Office
STATE DIRECTOR	NM STATE 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 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.

*(Instructions on page 2)

DECLARED WATER BASIN
CEMENT BEHIND THE 13 3/8"
CASING MUST BE CIRCULATED
WITNESS

R-111-P Potash and
DECLARED WATER BASIN
CEMENT BEHIND THE 8 5/8
CASING MUST BE CIRCULATED
WITNESS

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

K

S/2 Production must be circulated NMOCD

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	Pool Code	Pool Name
30-025-36820	77380	GEM;MORROW, EAST (GAS)

Property Code	Property Name	Well Number
23239	JADE "34" FEDERAL COM	3

OGRID No.	Operator Name	Elevation
15742	NEARBURG PRODUCING COMPANY	3565'

Surface Location

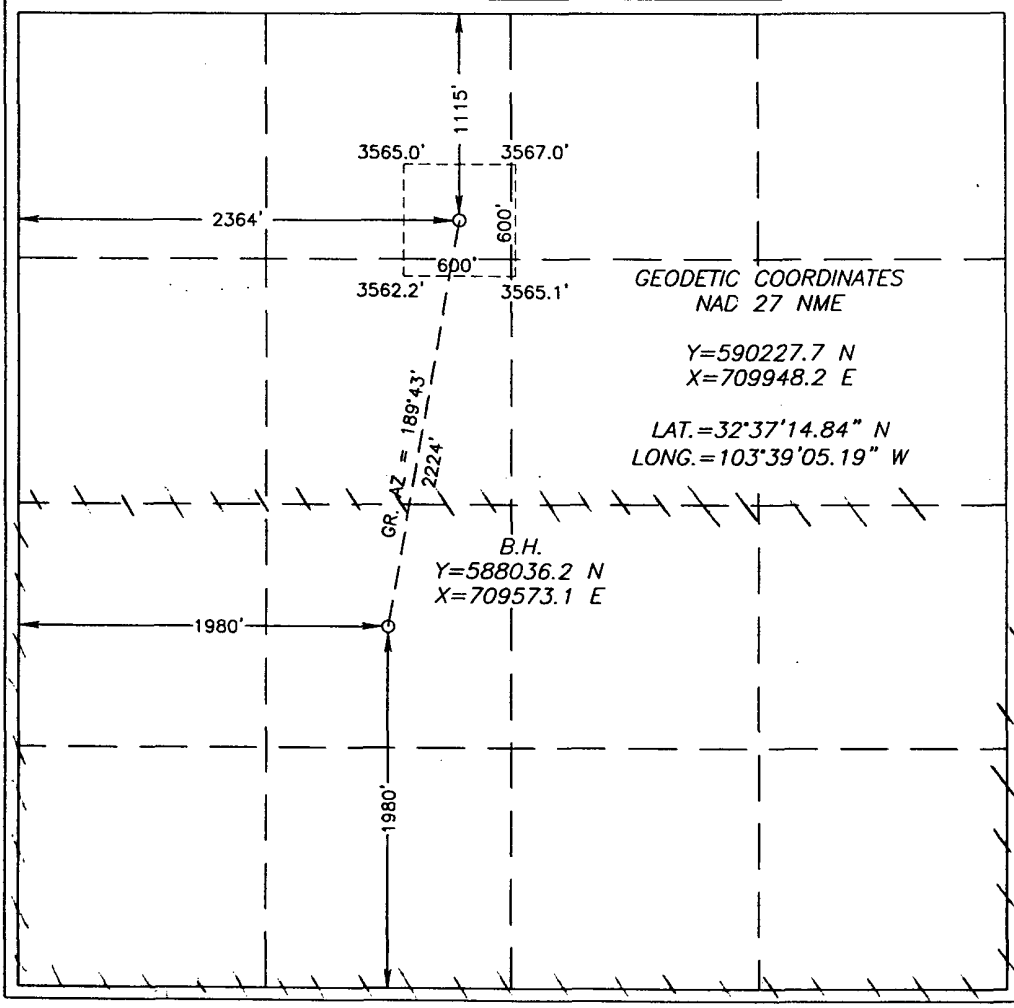
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	34	19-S	33-E		1115'	NORTH	2364'	WEST	LEA

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
K	34	19-S	33-E		1980'	SOUTH	1980'	WEST	LEA

Dedicated Acres	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.

Signature: Duke Roush

Printed Name: Duke Roush

Title: Senior Landman

Date: 6/16/04

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

JUNE 9, 2004

Date Surveyed: JR

Signature & Seal of Professional Surveyor: Gary G. Eidson, New Mexico, 12641

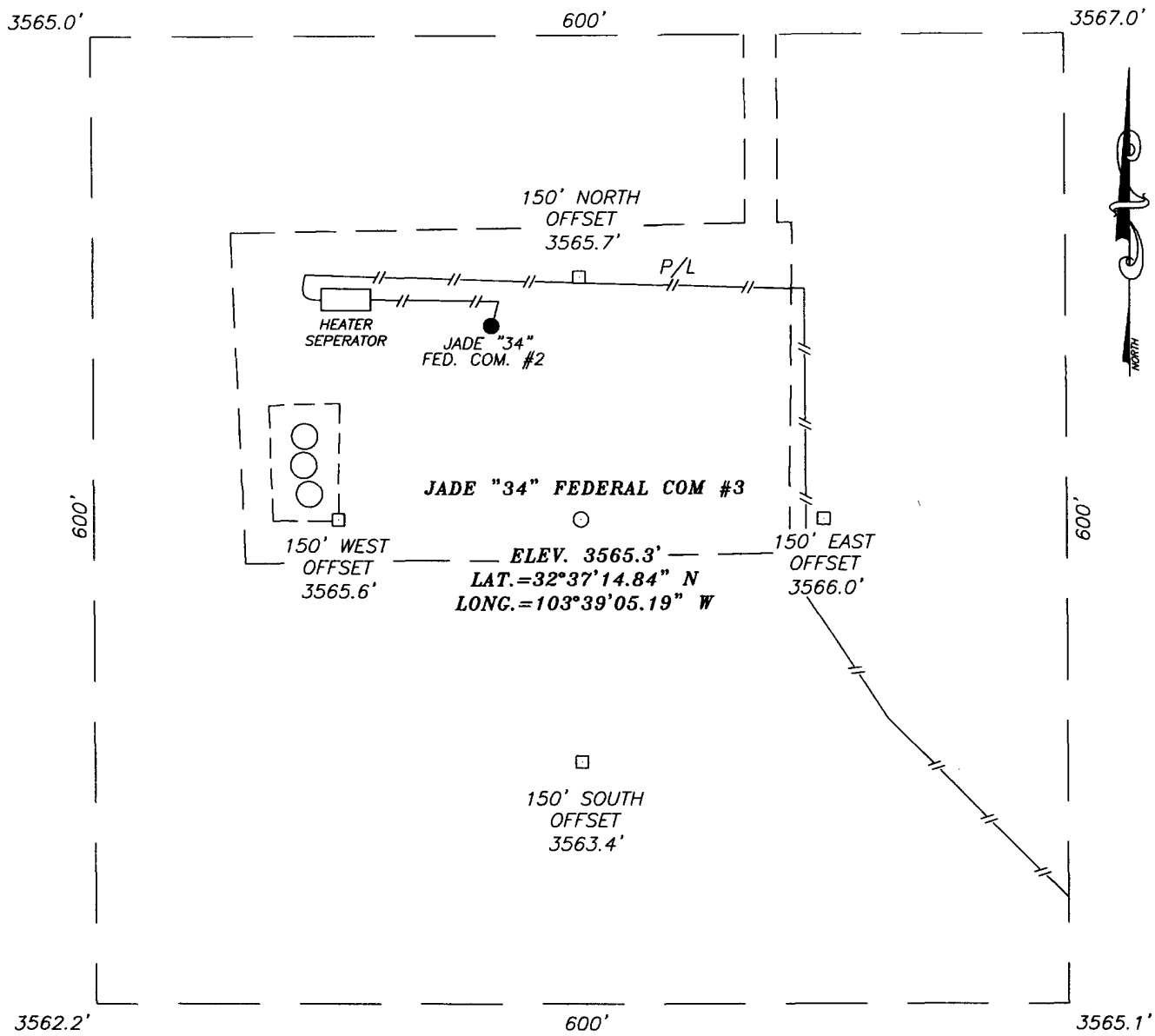
Gary G. Eidson 6/15/04

04.11.0691

Certificate No. GARY EIDSON 12641

SECTION 34, TOWNSHIP 19 SOUTH, RANGE 33 EAST, N.M.P.M.,

LEA COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM HWY 62-180 MILEPOST 75.5 TURN NW ON CO. RD. #55 (SMITH RANCH ROAD) GO 2.1 MILES AND ROAD TURNS RIGHT (NORTH) 0.1 MILES PAVEMENT ENDS, TURN LEFT (WEST) AND GO 0.4 MILES ROAD TURNS RIGHT. GO 0.2 MILES NW. TURN LEFT ON CALICHE ROAD 200' SW THRU CATTLE GUARD RD. TURN (WEST) BY MACH ENERGY TANK BATTERY BATE FED. GO WEST 0.9 MILES TURN LEFT (SOUTH) 1465' TO EXISTING WELL PAD JADE FED. #2. THIS LOCATION IS ON THE SOUTH EDGE OF WELL PAD.

100 0 100 200 Feet

Scale: 1"=100'

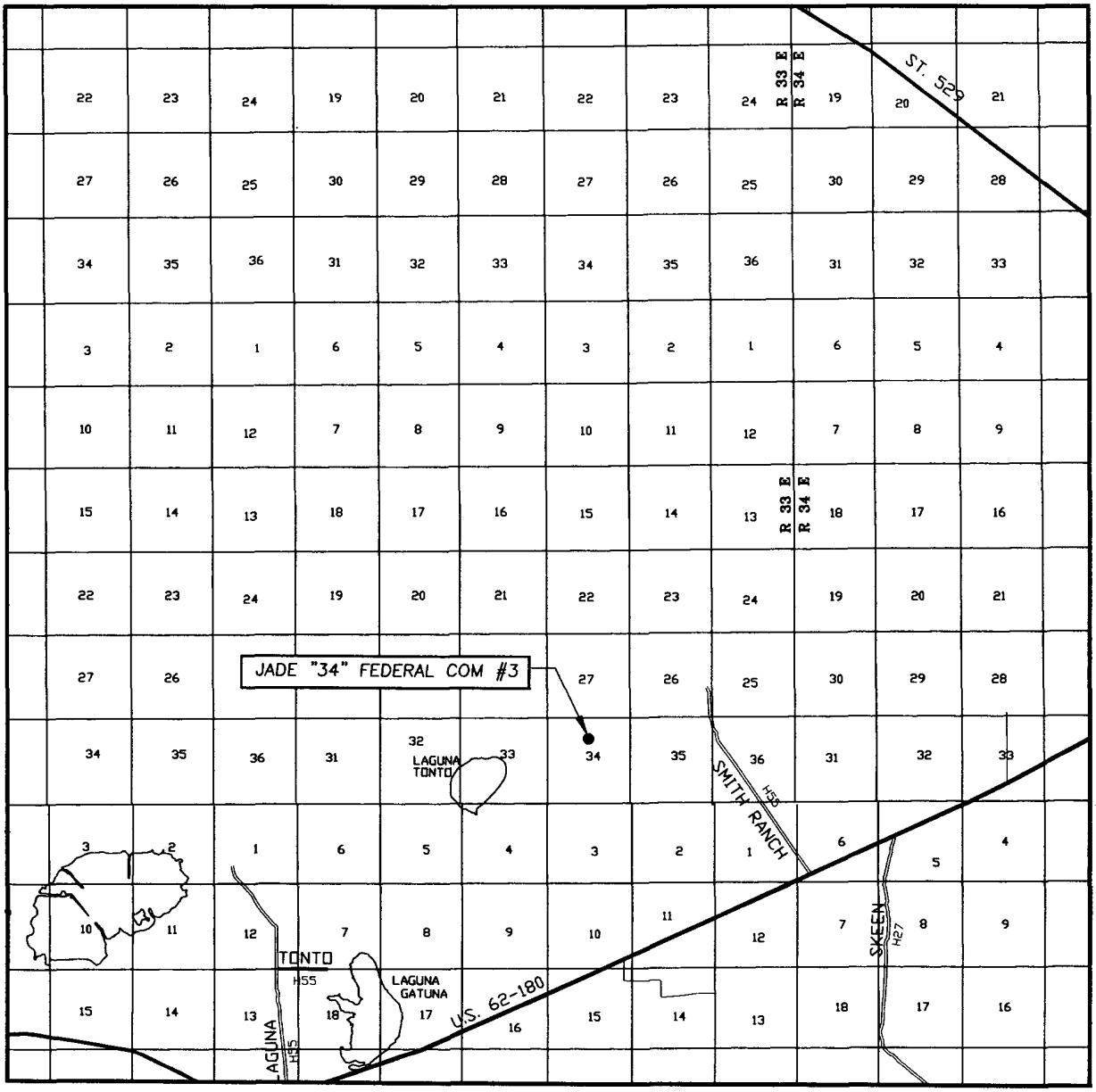
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

NEARBURG PRODUCING COMPANY

JADE "34" FEDERAL COM #3 WELL
LOCATED 1115 FEET FROM THE NORTH LINE
AND 2364 FEET FROM THE WEST LINE OF SECTION 34,
TOWNSHIP 19 SOUTH, RANGE 33 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.

Survey Date: 06/09/04	Sheet 1 of 1 Sheets		
W.O. Number: 04.11.0691	Dr By: J. RIVERO	Rev 1:N/A	
Date: 06/11/04	Disk: CD#10	04110691	Scale: 1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 34 TWP. 19-S RGE. 33-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1115' FNL & 2364' FWL

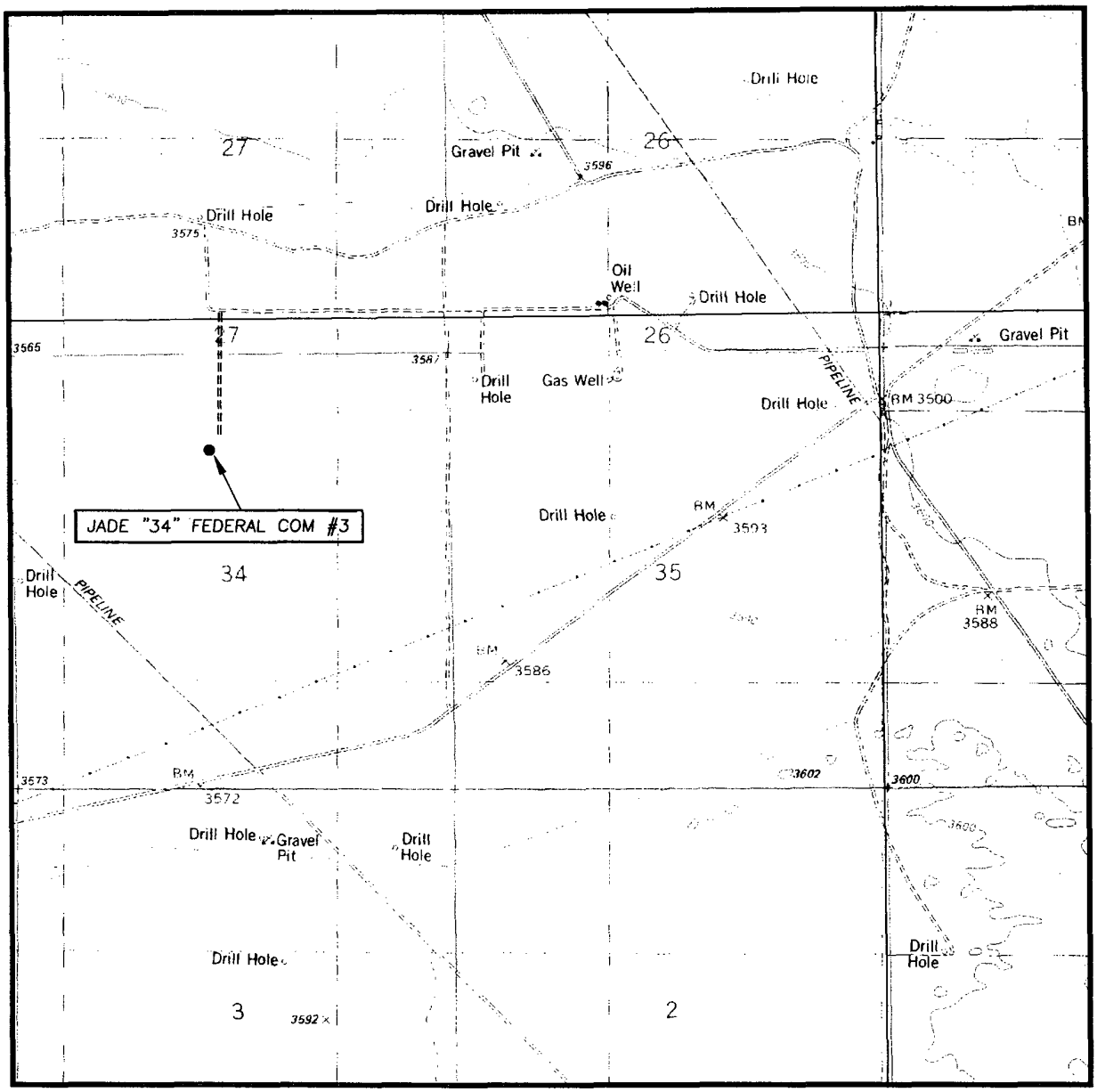
ELEVATION 3565'

OPERATOR NEARBURG PRODUCING COMPANY

LEASE JADE "34" FEDERAL COM

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
LAGUNA GATUNA, N.M. – 10'

SEC. 34 TWP. 19–S RGE. 33–E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1115' FNL & 2364' FWL

ELEVATION 3565'

OPERATOR NEARBURG PRODUCING COMPANY

LEASE JADE "34" FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP
LAGUNA GATUNA, N.M.

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

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:	NMNM101340
Legal Description of Land:	SHL: 1115' FNL and 2364' FWL BHL: 1980' FSL and 1980' FWL Sec. 34, T19S, R33E Lea County, New Mexico
Formation(s) (if applicable):	Gem; Morrow, East
Bond Coverage:	$25,000 statewide bond of Nearburg Producing Company
BLM Bond File No:	NM1307

6/16/04
Date

H. R. Willis
Drilling Manager

ATTACHMENT TO FORM 3160-3
JADE 34 FEDERAL COM #3
SECTION 34, T19S, R33E
LEA COUNTY, NEW MEXICO

DRILLING PROGRAM

1. GEOLOGIC NAME OF SURFACE FORMATION

Quaternary Aeolian Deposits

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Yates	3199	Wolfcamp	11021
Delaware	5294	Strawn	12113
Bone Spring	8079	Morrow	13077

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

Delaware	Oil	Atoka	Gas
Bone Spring	Oil	Morrow	Gas
Strawn	Gas		

4. CASING AND CEMENTING PROGRAM

Casing Size	From To	Weight	Grade	Joint
13-3/8"	0' – 500'	48#	H40	STC
8-5/8"	0' – 2,000'	24#	K55	STC
	2,000 - 4,000	32#	K55	STC
	4,000 - 5,200'	32#	HCK-55	STC
5-1/2"	0' - 4,200'	20#	N80	LTC
	4,200' - 8,400'	17#	N80	LTC
	8,400' - 13,700'	20#	N80	LTC

Equivalent or adequate grades and weights of casing may be substituted at time casing is run, depending on availability.

We plan to drill a 17-1/2" hole to equal 500'. 13-3/8" casing will be cemented with 500 sxs or volume necessary to bring cement back to surface.

11" hole will be drilled to 5,200' and 8-5/8" casing will be cemented with 2300 sxs 35/64 Poz "C" or volume based on fluid caliper necessary to bring cement back to surface.

7-7/8" hole will be drilled to 13,700' and 5-1/2" production casing will be cemented with approximately 1500 sxs of 50/50 and 35/64 Poz "H" cement or volume necessary to tie back to 8-5/8" casing.

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

   The BOP stack will consist of a 5,000 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 500' with fresh water mud for surface string. The intermediate section will be drilled with 10 ppg Brine 5,200'. The production section from 5,200' to 10,800' will be fresh water at 8.4 ppg, from 10,800' - 12,400' with 9 ppg cut brine and from 12,400' - 13,700' with a Brine/ Poly Pac/ XCD system with 9.5 ppg mud weight.

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 July 16, 2004 with drilling and completion operation lasting about 45 day.

SURFACE USE AND OPERATIONS PLAN FOR

DRILLING, COMPLETION, AND PRODUCING

NEARBURG PRODUCING COMPANY
JADE 34 FEDERAL COM #3
SECTION 34-T19S-R33E
LEA COUNTY, NEW MEXICO

LOCATED

30 miles S/SW of Hobbs, NM

OIL & GAS LEASE

NMNM101340

RECORD LESSEE

Nearburg Exploration Company, LLC

BOND COVERAGE

$25,000 statewide bond of Nearburg Producing Company

ACRES IN LEASE

320 acres

GRAZING LEASE

Kenneth Smith, Smith Ranch
PO Box 764
Carlsbad, NM 88221

POOL

Gem; Morrow. East

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 13,700'.

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.

6.16.04
Date

H. R. Willis
Drilling Manager

HYDROGEN SULFIDE DRILLING OPERATIONS PLANS
NEARBURG PRODUCING COMPANY
JADE 34 FEDERAL COM #3

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.

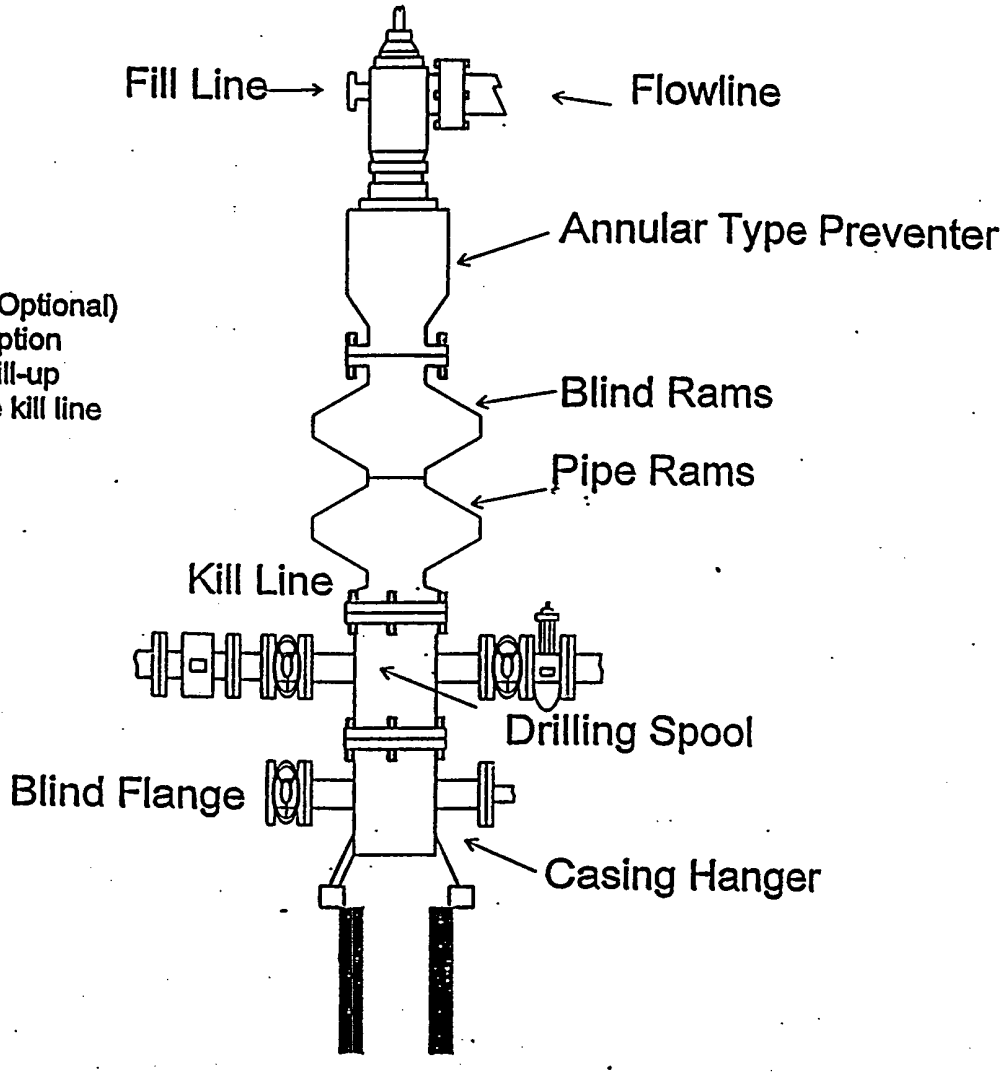
H. Well Testing

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.

DISTRIC
P.O. Box

DI
F

ARBURG PRODUCING COMPAN
BOPE SCHEMATIC



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

1500 Series

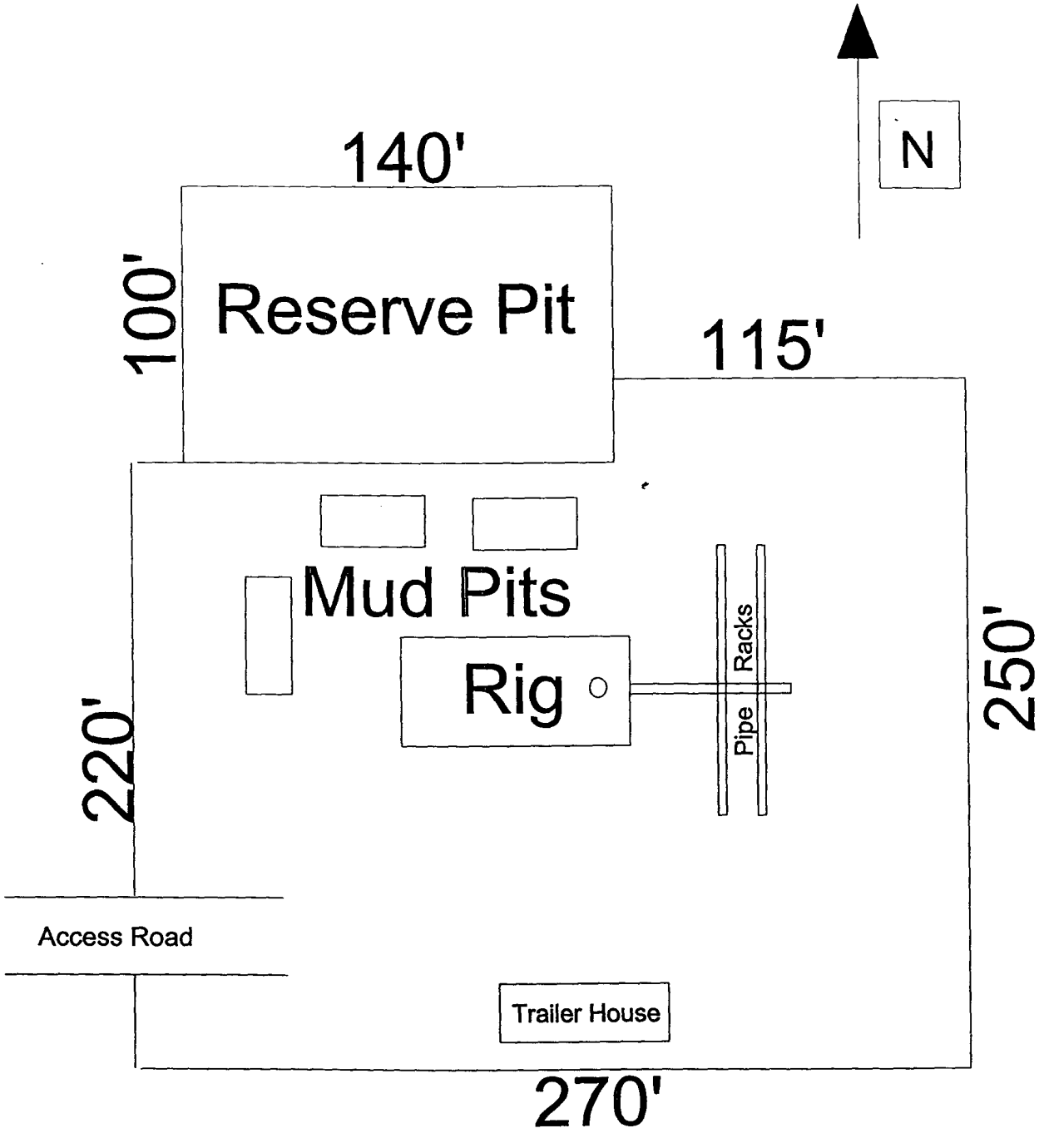


EXHIBIT B
DRILLING RIG LAYOUT
NEARBURG PRODUCING COMPANY

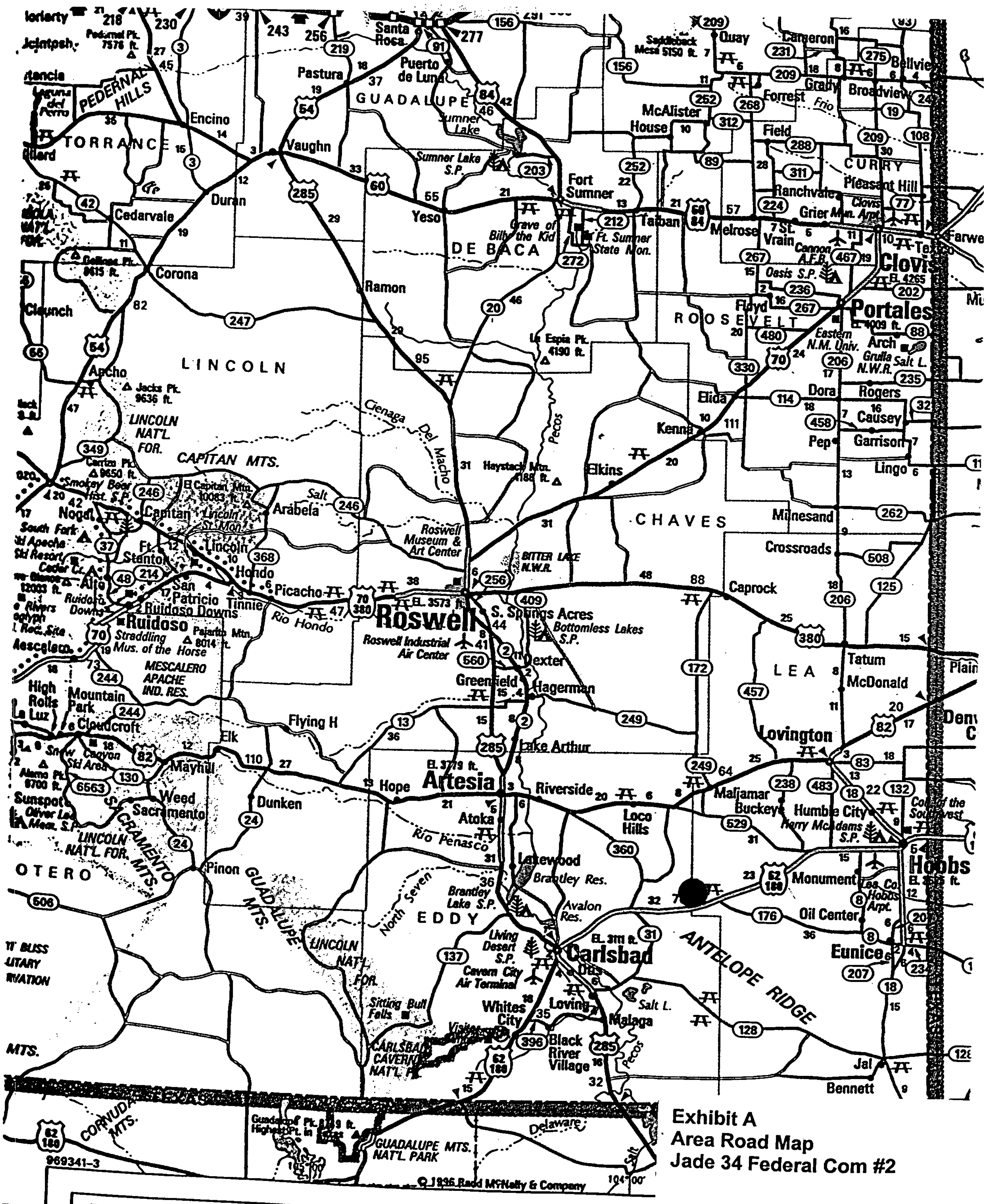


Exhibit A
Area Road Map
Jade 34 Federal Com #2

WARNING

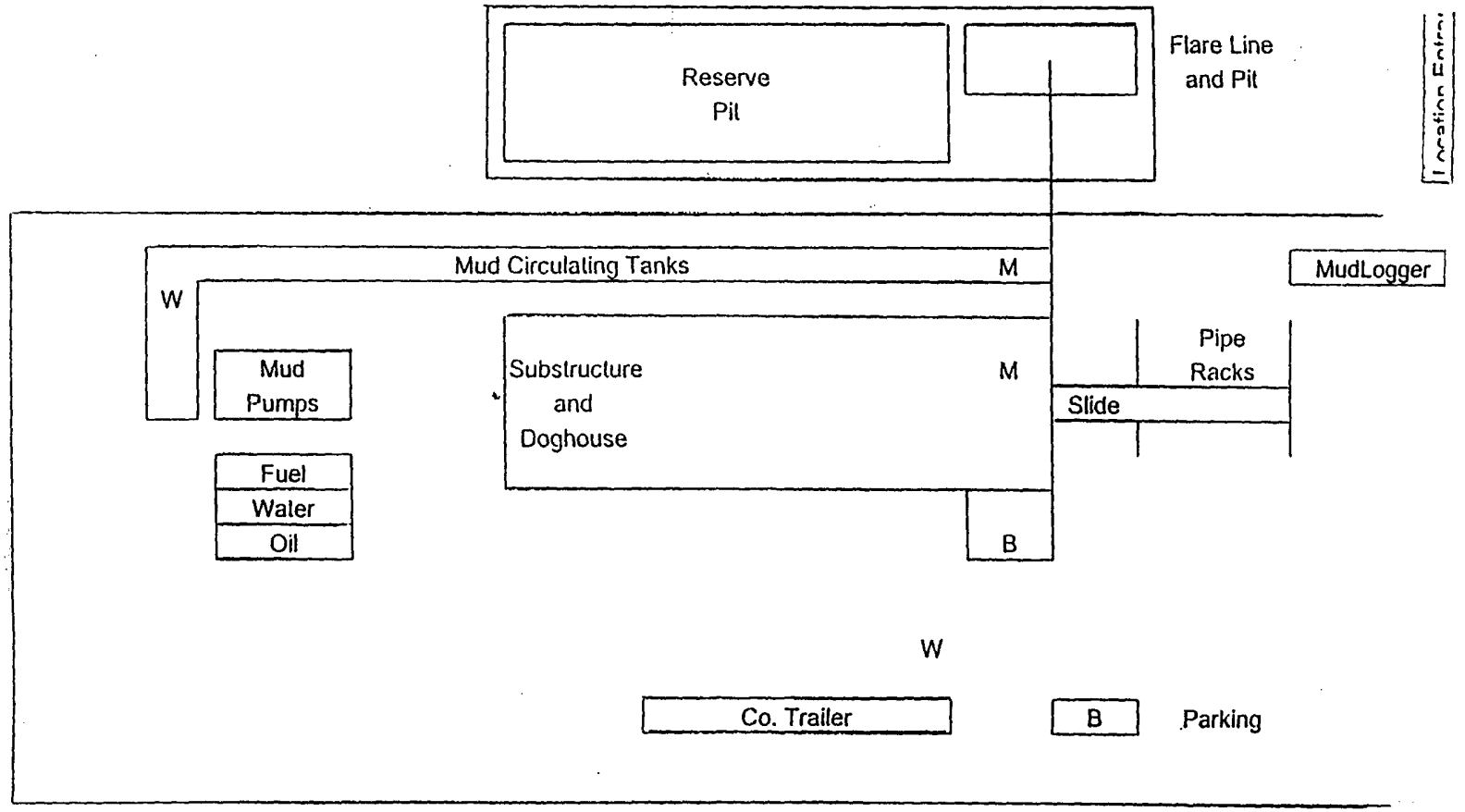
YOU ARE ENTERING A H2S AREA
AUTHORIZED PERSONNEL ONLY

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 NEARBURG SUPERINTENDENT AT MAIN OFFICE

NEARBURG PRODUCING COMPANY

(915) 686-8235

NEARBURG PRODUCING COMPANY
HYDROGEN SULFIDE DRILLING OPERATIONS LOCATION PLAN



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

W - Wind Direction Indicators

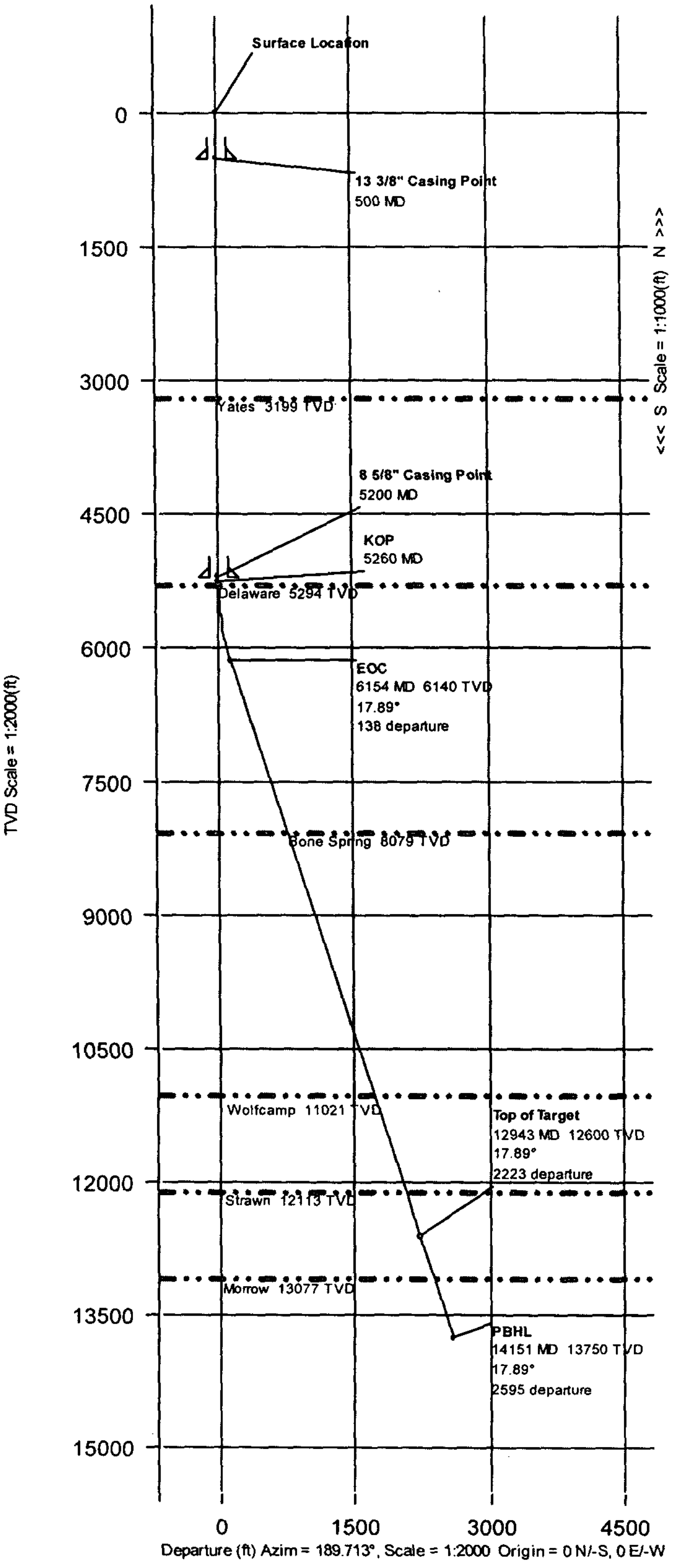
B - Safe Briefing areas with caution signs and protective breathing equipment. Minimum 150' from wellhead.

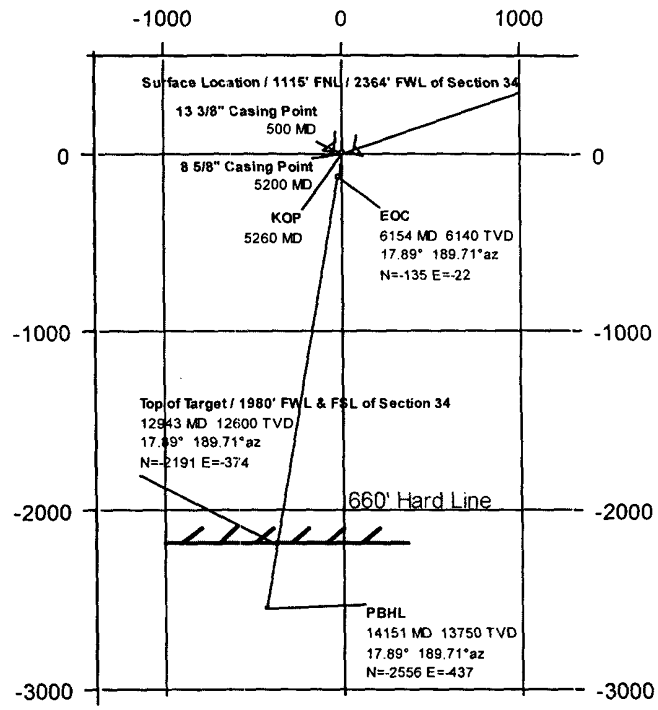
Prevailing Wind Directions: Summer - South/Southwest
Winter - North/Northwest

Nearburg Producing Company

WELL	FIELD	STRUCTURE
Jade 34 Federal Com 3	Lea County, NM	Jade 34 Federal Com 3

Magnetic Parameters				Surface Location		NAD27 New Mexico State Planes, Eastern Zone, US Feet		Miscellaneous			
Model: IGRF 2000	Dip: 60.798°	Date: June 17, 2004		Lat: N32 37 14.636	Northing: 590227.70 ftUS	Grid Conv: +0.35760398°		Slot: Jade 34 Federal Com 3	TVD Ref: RKB (0.00 ft above)		
	Mag Dec: +8.668°	FS: 49723.6 nT		Lon: W103 39 5.192	Easting: 709948.20 ftUS	Scale Fact: 0.99995957		Plan: Jade 34 Fed Com 3	Srvy Date: Thu 11:44 AM June 17, 2004		





Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S (-)	E(+) / W (-)	DLS
Tie-In	0.00	0.00	189.71	0.00	0.00	0.00	0.00	0.00
13 3/8" Casing Point	500.00	0.00	189.71	500.00	0.00	0.00	0.00	0.00
Yates	3199.00	0.00	189.71	3199.00	0.00	0.00	0.00	0.00
8 5/8" Casing Point	5200.00	0.00	189.71	5200.00	0.00	0.00	0.00	0.00
KOP	5260.00	0.00	189.71	5260.00	0.00	0.00	0.00	0.00
Delaware	5294.00	0.68	189.71	5294.00	0.20	-0.20	-0.03	2.00
EOC (Curve-Hold)	6154.37	17.89	189.71	6139.91	138.48	-136.49	-23.36	2.00
Bone Spring	8191.95	17.89	189.71	8079.00	764.32	-753.36	-128.95	0.00
Wolfcamp	11283.38	17.89	189.71	11021.00	1713.84	-1689.28	-289.14	0.00
Strawn	12430.85	17.89	189.71	12113.00	2066.29	-2036.67	-348.60	0.00
Top of Target	12942.59	17.89	189.71	12600.00	2223.46	-2191.59	-375.12	0.00
Morrow	13443.82	17.89	189.71	13077.00	2377.42	-2343.34	-401.09	0.00
PBHL	14151.00	17.89	189.71	13750.00	2594.62	-2557.43	-437.73	0.00

INTREPID
Directional Drilling Specialists

INTREPID
Directional Drilling Specialists

Proposal

Report Date:	June 17, 2004	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Nearburg Producing Company	**Vertical Section Azimuth:**	189.713°
Field:	Lea County, NM	**Vertical Section Origin:**	N 0.000 ft, E 0.000 ft
Structure / Slot:	Jade 34 Federal Com 3 / Jade 34 Federal Com 3	**TVD Reference Datum:**	RKB
Well:	Jade 34 Federal Com 3	**TVD Reference Elevation:**	0.0 ft relative to
Borehole:	Jade 34 Federal Com 3	**Sea Bed / Ground Level Elevation:**	0.000 ft relative to
UWI/API#:		**Magnetic Declination:**	8.668°
Survey Name / Date:	Jade 34 Fed Com 3 / June 17, 2004	**Total Field Strength:**	49723.571 nT
Tort / AHD / DDI / ERD ratio:	17.887° / 2594.63 ft / 4.679 / 0.189	**Magnetic Dip:**	60.798°
Grid Coordinate System:	NAD27 New Mexico State Planes, Eastern Zone, US Feet	**Declination Date:**	June 17, 2004
Location Lat/Long:	N 32 37 14.838, W 103 39 5.192	**Magnetic Declination Model:**	IGRF 2000
Location Grid N/E Y/X:	N 590227.700 ftUS, E 709948.200 ftUS	**North Reference:**	Grid North
Grid Convergence Angle:	+0.36760396°	**Total Corr Mag North -> Grid North:**	+8.300°
Grid Scale Factor:	0.99995957	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	DLS (deg/100 ft)	Northing (ftUS)	Easting (ftUS)
Tie-In	0.00	0.00	189.71	0.00	0.00	0.00	0.00	0.00	590227.70	709948.20
13 3/8" Casing Point	*500.00*	*0.00*	*189.71*	*500.00*	*0.00*	*0.00*	*0.00*	*0.00*	*590227.70*	*709948.20*
Yates	*3199.00*	*0.00*	*189.71*	*3199.00*	*0.00*	*0.00*	*0.00*	*0.00*	*590227.70*	*709948.20*
8 5/8" Casing Point	*5200.00*	*0.00*	*189.71*	*5200.00*	*0.00*	*0.00*	*0.00*	*0.00*	*590227.70*	*709948.20*
KOP	5260.00	0.00	189.71	5260.00	0.00	0.00	0.00	0.00	590227.70	709948.20
Delaware	*5294.00*	*0.68*	*189.71*	*5294.00*	*0.20*	*-0.20*	*-0.03*	2.00	*590227.50*	*709948.17*
	5300.00	0.80	189.71	5300.00	0.28	-0.28	-0.05	2.00	590227.42	709948.15
	5400.00	2.80	189.71	5399.94	3.42	-3.37	-0.58	2.00	590224.33	709947.62
	5500.00	4.80	189.71	5499.72	10.05	-9.90	-1.70	2.00	590217.80	709946.51
	5600.00	6.80	189.71	5599.20	20.15	-19.86	-3.40	2.00	590207.84	709944.80
	5700.00	8.80	189.71	5698.27	33.72	-33.24	-5.69	2.00	590194.46	709942.51
	5800.00	10.80	189.71	5796.81	50.74	-50.02	-8.56	2.00	590177.69	709939.64
	5900.00	12.80	189.71	5894.69	71.19	-70.17	-12.01	2.00	590157.53	709936.19
	6000.00	14.80	189.71	5991.80	95.04	-93.68	-16.03	2.00	590134.02	709932.17
	6100.00	16.80	189.71	6088.02	122.27	-120.52	-20.63	2.00	590107.19	709927.57
EOC (Curve-Hold)	6154.37	17.89	189.71	6139.91	138.48	-136.49	-23.36	2.00	590091.21	709924.84
Bone Spring	*8191.95*	*17.89*	*189.71*	*8079.00*	*764.32*	*-753.36*	*-128.95*	*0.00*	*589474.37*	*709819.26*
Wolfcamp	*11283.38*	*17.89*	*189.71*	*11021.00*	*1713.84*	*-1689.28*	*-289.14*	*0.00*	*588538.49*	*709659.07*
Strawn	*12430.85*	*17.89*	*189.71*	*12113.00*	*2066.29*	*-2036.67*	*-348.60*	*0.00*	*588191.12*	*709599.62*
Top of Target	12942.59	17.89	189.71	12600.00	2223.46	-2191.59	-375.12	0.00	588036.20	709573.10
Morrow	*13443.82*	*17.89*	*189.71*	*13077.00*	*2377.42*	*-2343.34*	*-401.09*	*0.00*	*587884.46*	*709547.13*
PBHL	14151.00	17.89	189.71	13750.00	2594.63	-2557.43	-437.73	0.00	587670.37	709510.48

AMBAR **LONE STAR**
FLUID SERVICES

415 W. WALL STE 530
MIDLAND, TX 79701

DRILLING FLUID SYNOPSIS

NEARBURG PRODUCING COMPANY
Jade 34 Fed Com # 3
Section 34
T-19-S
R-33-E
Lea County, New Mexico

CASING

13 3/8" at 500'
8 5/8" at 5,600'
5 1/2" at 13,700'

DEPTH	MUD WEIGHT	VISCOSITY	FLUID LOSS	DRILL SOLIDS	COMMENTS
0-500'	8.6 to 9.0	34 to 36	No Control	<5%	Spud Mud
500'-5,600'	10.0 to 10.1	28 to 29	No Control	<1%	Brine, Caustic, Star NP-110, Paper
5,600'-11,600'	8.4 to 9.0	28 to 29	No Control	<1%	Fresh/Cut Brine, Star NP-110, Caustic, Paper
11,600'-12,200'	9.0 to 9.5	30 to 32	Below 20cc	<1%	Cut Brine, Starch, Star NP-110, Xanthan Gum sweeps
12,200'-13,700'	9.0 to 10.0	36 to 50	15cc to 8cc	<5%	Xanthan Gum, Starch, Caustic, Salt & Barite as needed

ESTIMATED FORMATION TOPS

ANHYDRITE	1,302'
YATES	3,199'
CAPITAN REEF EST.	3,800'
DELAWARE	5,294'
BONE SPRING	8,079'
1ST BONE SPRING SAND	9,164'
2ND BONE SPRING SAND	9,750'
3RD BONE SPRING SAND	10,636'
WOLFCAMP LIME	11,021'
CISCO EST.	11,700'
STRAWN	12,123'
ATOKA	12,363'
MORROW CARB	12,735'
MIDDLE B	13,077'
MORROW C	13,432'
TD	13,700'

RECOMMENDED CASING PROGRAM

13 3/8"	at	500'
8 5/8"	at	5,600'
5 1/2"	at	13,700'

RECOMMENDED DRILLING FLUID PROGRAM

DEPTH	WEIGHT	VISCOSITY	FILTRATE
0-500'	8.6-9.0	34-36	No Control

Spud with a Fresh Water Gel and Lime type fluid, circulating through the working pits. Use Paper, as needed, for seepage control.

DEPTH	WEIGHT	VISCOSITY	FILTRATE
500'-5,600'	10.0-10.1	28-29	No Control

Drill out with brine water circulating through the inner portion of a horseshoe type reserve pit to allow maximum settling time for drilled solids. Additions of Paper should be made, as needed, for seepage control. Use Caustic Soda to control pH at 9-10. Brines in this area often exhibit high total hardness (Magnesium). Based on water quality, It may be necessary to augment the Caustic Soda with additions of Lime. Use Star NP-110 for hole sweeps and to control drill solids. Periodically sweep the hole with a viscous Salt Gel pill. 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. Please refer Ambar Lone Star's Lost Circulation Procedure.

Matador's, Laguna Deep Fed # 5, Section 32, T-19-S, R-33-E, reported dry drilling to casing point from 4,243' to 5,200'.

Matador's, Topacio Fed 28 # 1, Section 28, T-19-S, R-33-E, reported the well flowing 60 bbl per hour at 3,535' while tripping with a 10.2 ppg fluid weight. They lost complete returns at 3,444'. They dry drilled to casing point at 4,525'.

Note: Pan American's, Gorman-Federal 1, Section 35, is shown on the map as a salt-water disposal. However, the scout ticket shows the well to a producer.

RECOMMENDED DRILLING FLUID PROGRAM

DEPTH	WEIGHT	VISCOSITY	FILTRATE
5,600'-11,600'	8.4-9.0	28-29	No Control

Drill out with fresh water, circulating through the outer reserve. Use Caustic Soda to control pH at 9-10. Utilize Star NP-110 for hole sweeps and to control solids. Additions of Paper should be made, as needed, for seepage control. Periodically sweep the hole with viscous Fresh/Salt Gel pills. There is a potential for abnormal pressure in the Wolfcamp. If hole conditions dictate or geological considerations are required, increase the fluid weight with additions of brine. Brines in this area often exhibit high total hardness (Magnesium). Based on water quality, It may be necessary to augment the Caustic Soda with additions of Lime. There is a potential for lost circulation inn this interval. If losses are encountered, please refer to Ambar Lone Star's Lost Circulation Procedure.

Matador's, Laguna Deep Fed # 5, Section 32, T-19-S, R-33-E, reported losing fluid at 10,250'. They reported complete losses at 10,285' while drilling with an 8.5 ppg fluid weight. They mudded up with Salt Gel/Starch and continued drilling. They noted sporadic, often severe losses as the fluid weight was increased to 10.1 ppg prior to TD at 13,650'.

Matador's, Topacio Fed 28 # 1, Section 28, T-19-S, R-33-E, reported losses at 8,900' while drilling with an 8.4 ppg fluid weight.

DEPTH	WEIGHT	VISCOSITY	FILTRATE
11,600'-12,200'	9.0-9.5	30-32	Below 20cc

At **11,600'**, or prior to drilling the **Cisco**, we recommend mudding up through the reserve with a **Star NP-110/White Starch** system. White Starch should be used for an API fluid loss <20cc. Xanthan Gum should be used for hole sweeps. Use Caustic Soda and Lime to control pH at 9-10. A bactericide such as Starhib TSW may be required in this interval. Our engineer will monitor SRB's at the well site, and recommend treatments as needed. Diligently monitor background gas and penetration rates. If abnormal pressures are encountered, we recommend additions of brine or Salt as needed to control. If additional viscosity is required, we recommend you return to the working pits and add Xanthan Gum as needed. We recommend a linear shaker with<120 mesh screens and a decanting centrifuge for solids control if you return to the pits.

Note: Pan American's, Gorman-Federal 1, Section 35, is shown on the map as a salt-water disposal. However, the scout ticket shows the well to a producer.

RECOMMENDED DRILLING FLUID PROGRAM

DEPTH	WEIGHT	VISCOSITY	FILTRATE
12,200'-13,700'	9.0-10.0	36-40	15-8cc

At **12,200'**, or prior to the **Atoka**, begin additions of Xanthan Gum for a 36 to 42 sec/1000cc funnel viscosity. Use White Starch to reduce the API fluid loss to 15cc. At **12,700'** or prior to drilling the **Morrow**, reduce the API filtrate to <8cc with White Starch. If abnormal pressure is encountered, we recommend additions of Salt, as needed to control. If densities above 10 ppg are required, we recommend additions of Barite. Monitor the annular flow profile to insure a laminar flow regime in the annulus between the drill collars and open hole. We recommend a linear shaker with <120 mesh screens and a decanting centrifuge for solids control. We also recommend a 150-bbl premix pit, gas separator, and a rotating head for this well.

Matador's, Diamante Federal 21 # 1, Section 21, T-19-S, R-33-E, reported fluid weights from 9.5 to 12.2 ppg in this interval.

Matador's, Fed 6 Com # 2, Section 6, T-20-S, R-34-E, reported losing 10 to 15 bbl/hr while drilling with an 8.9-ppg fluid weight at 12,595'.

Matador's, Laguna Deep Unit # 7, Section 36, T-19-S, R-33-E, reported taking a gas kick at 12,631' while drilling with an 8.9-ppg fluid weight. The fluid density was increased to 11.0-ppg. They reported losing circulation while pumping 5 bbl/min. After reducing the pump rate to 3-bbl/min circulation was regained. Fluid weights as high 11.5-ppg were reported prior to TD.

Estimated Drilling Fluid Cost: $32,000.00 to $42,000.00
Estimated Drilling Days: 34 to 36

Cost is based on a 1,400 bbl system and does not include lost circulation or abnormal pressures.

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. 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.

Due to the sensitive nature of the Morrow, we recommend utilizing acid soluble LCM, such as Magma Fiber in that interval. Initial pills should contain 10 ppb Magma Fiber. If returns cannot be reestablished utilize 10 ppb Magma Fiber and 10 ppb Cedar Fiber.

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: Jade 34 Federal #3 API #: 30-025-36820 U/L or Qtr/Qtr C Sec 34 T 19S R 33E
County: Lea Latitude _____ Longitude _____ NAD: 1927 ☒ 1983 ☐ Surface Owner Federal ☒ State ☒ Private ☐ Indian ☐

30-025-36820

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

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: 6/21/04

Printed Name/Title: Sarah Jordan, Production Analyst Signature: Sarah 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: 7/20/04

Printed Name/Title: PETROLEUM ENGINEER Signature: David J. Catanach