

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. DIV-Dist. 2  
4501 W. Grand Avenue  
Artesia, NM 88210

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

APPLICATION FOR PERMIT TO DRILL OR REENTER


1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM97855	
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Nearburg Producing Company		7. Unit or CA Agreement Name and No.	
3a. Address 3300 N A St., Bldg 2, Suite 120, Midland, TX 79705		8. Lease Name and Well No. McKittrick 24 Federal #3	
3b. Phone No. (include area code) 432/686-8235		9. API Well No. 30-015-34322	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 290 FNL and 1480 FEL At proposed prod. zone 1980 FSL and 660 FEL SUBJECT TO LIKE APPROVAL BY STATE		10. Field and Pool, or Exploratory McKittrick Hills; Upper Penn	
11. Sec., T., R., M., or Blk. and Survey or Area Sec 24, 22S, 24E		12. County or Parish Eddy	
13. State NM		14. Distance in miles and direction from nearest town or post office* 12 miles West of Carlsbad	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 660		16. No. of Acres in lease 840	
17. Spacing Unit dedicated to this well S/2 of Section 24		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2640	
19. Proposed Depth 8600'		20. BLM/BIA Bond No. on file NM1307	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3960		22. Approximate date work will start* 8/1/05	
23. Estimated duration 30 days			

24. Attachments

CARLSBAD CONTROLLED WATER BASIN

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

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

25. Signature 	Name (Printed/Typed) Sarah Jordan	Date 6.20.05
Title Production Analyst		
Approved by (Signature) /s/ Joe G. Lara	Name (Printed/Typed) /s/ Joe G. Lara	Date AUG 16 2005
Title ACTING FIELD MANAGER	Office 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 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)

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

RECEIVED

AUG 17 2005

OOD-ARTESIA

No Earthen Pits Allowed

DISTRICT I  
1625 N. FRENCH DR., HOBBES, 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 <i>McKittrick Henshopper Penn (d)</i>
Property Code	Property Name <b>McKITTRICK 24 FEDERAL</b>	Well Number <b>3</b>
OGRID No. <i>015742</i>	Operator Name <b>NEARBURG PRODUCING COMPANY</b>	Elevation <b>3960'</b>

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	24	22-S	24-E		290	NORTH	1480	EAST	EDDY

Bottom Hole Location If Different From Surface

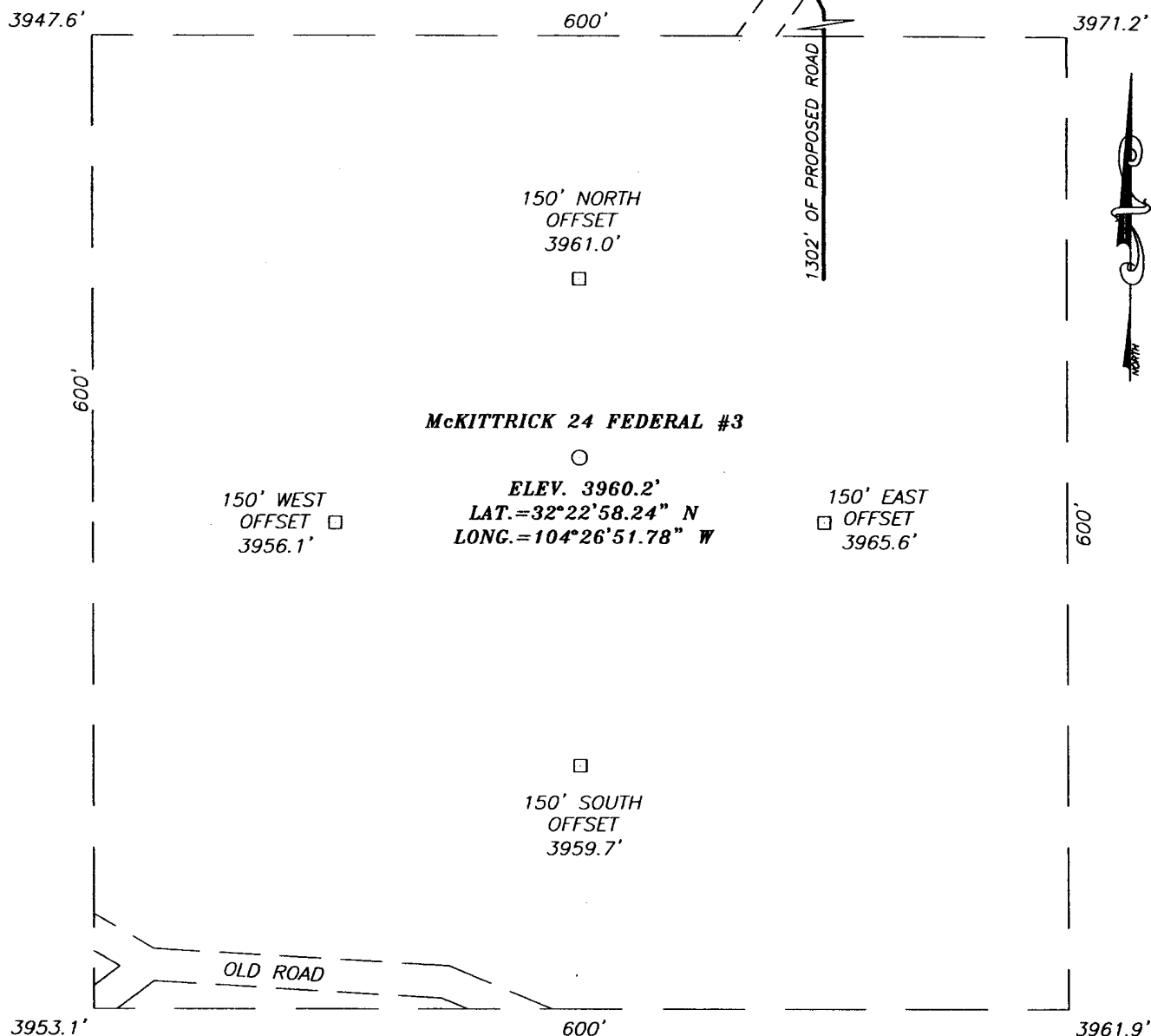
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	24	22-S	24-E		1980	SOUTH	660	EAST	EDDY

Dedicated Acres <i>320</i>	Joint or Infill	Consolidation Code	Order No.
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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

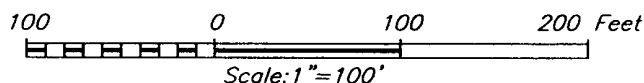
<p>DETAIL</p> <p>3947.6' 3971.2'</p> <p>600' 600'</p> <p>3953.1' 3961.9'</p> <p>GEODETTIC COORDINATES NAD 27 NME SURF. Y=503012.9 N X=464690.1 E</p> <p>LAT.=32°22'58.24" N LONG.=104°26'51.78" W</p> <p>B.H. Y=499999.0 N X=465491.0 E</p> <p>SEE DETAIL</p> <p>290'</p> <p>1480'</p> <p>GRAZ.=16500658" 3119</p> <p>660'</p> <p>1980'</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>[Signature]</i> Signature <i>St Jordan</i> Printed Name <i>Prod Analyst</i> Title <i>6-20-05</i> Date</p> <p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>MARCH 9, 2005</p> <p>Date Surveyed Signature &amp; Seal of Professional Surveyor <i>[Signature]</i> NEW MEXICO 62841 05-13.0943 Certificate No. GARY RUSSEN 12841</p>
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**SECTION 24, TOWNSHIP 22 SOUTH, RANGE 24 EAST, N.M.P.M.,**  
 EDDY COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

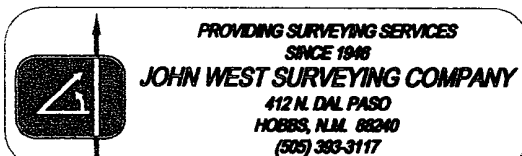
FROM THE INTERSECTION OF ST. HWY. #285 AND ST. HWY. #137 (QUEENS HWY.) GO WEST ON ST. HWY. #137 FOR APPROX. 6.1 MILES. TURN LEFT AND FOLLOW MEANDERING ROAD FOR APPROX. 5.5 MILES TO A ROAD INTERSECTION. TURN RIGHT AND GO APPROX. 3.0 MILES TO ANOTHER ROAD INTERSECTION. TURN LEFT AND FOLLOW ROAD TO THE McKITTRICK 24 #1 WELL. FOLLOW PROPOSED ROAD SURVEY APPROX. 1300' SOUTH TO THIS LOCATION.



**NEARBURG PRODUCING COMPANY**

McKITTRICK 24 FEDERAL #3 WELL  
 LOCATED 290 FEET FROM THE NORTH LINE  
 AND 1480 FEET FROM THE EAST LINE OF SECTION 24,  
 TOWNSHIP 22 SOUTH, RANGE 24 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO.

Survey Date: 3/9/05	Sheet 1 of 1 Sheets
W.O. Number: 05.13.0943	Dr By: J.R.
Date: 3/16/05	Disk: CD#5
05130943	Scale: 1"=100'



**ATTACHMENT TO FORM 3160-3  
MCKITTRICK 24 FEDERAL #3  
SHL: 290 FNL AND 1480 FEL, SEC 24, 22S, 24E  
BHL: 1980 FSL AND 660 FEL, SEC 24, 22S, 24E  
EDDY COUNTY, NEW MEXICO**

**DRILLING PROGRAM**

1. GEOLOGIC NAME OF SURFACE FORMATION

Artesia GP

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

3rd Bone Spring	7350
Wolfcamp Shale	7750

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

Cisco/ Canyon	8150
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4. CASING AND CEMENTING PROGRAM

<u>Casing Size</u>	<u>From</u> <u>To</u>	<u>Weight</u>	<u>Grade</u>	<u>Joint</u>
9-5/8"	0' – 1,500'	36#	J55	STC
7"	0' – 8,600'	23 & 26#	K55, N80	LTC & BTC

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

We plan to drill a 14-3/4" hole to equal 1500'. 9-5/8" casing will be cemented with 700 sxs Class "C" or volume necessary to bring cement back to surface.

8-3/4" hole will be drilled to 8,600' and 7" production casing will be cemented with approximately 1000 sxs of Class "H" cement circulated to surface.

**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 CHARACTERISTICS OF THE PROPOSED MUD SYSTEM**

Spud and drill to 1,500' with fresh water mud for surface string. The production section from 1,600' to 8,600' will be 8.3 ppg Fresh Water system with mud weight sufficient to control formation pressures.

**7. AUXILIARY 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**

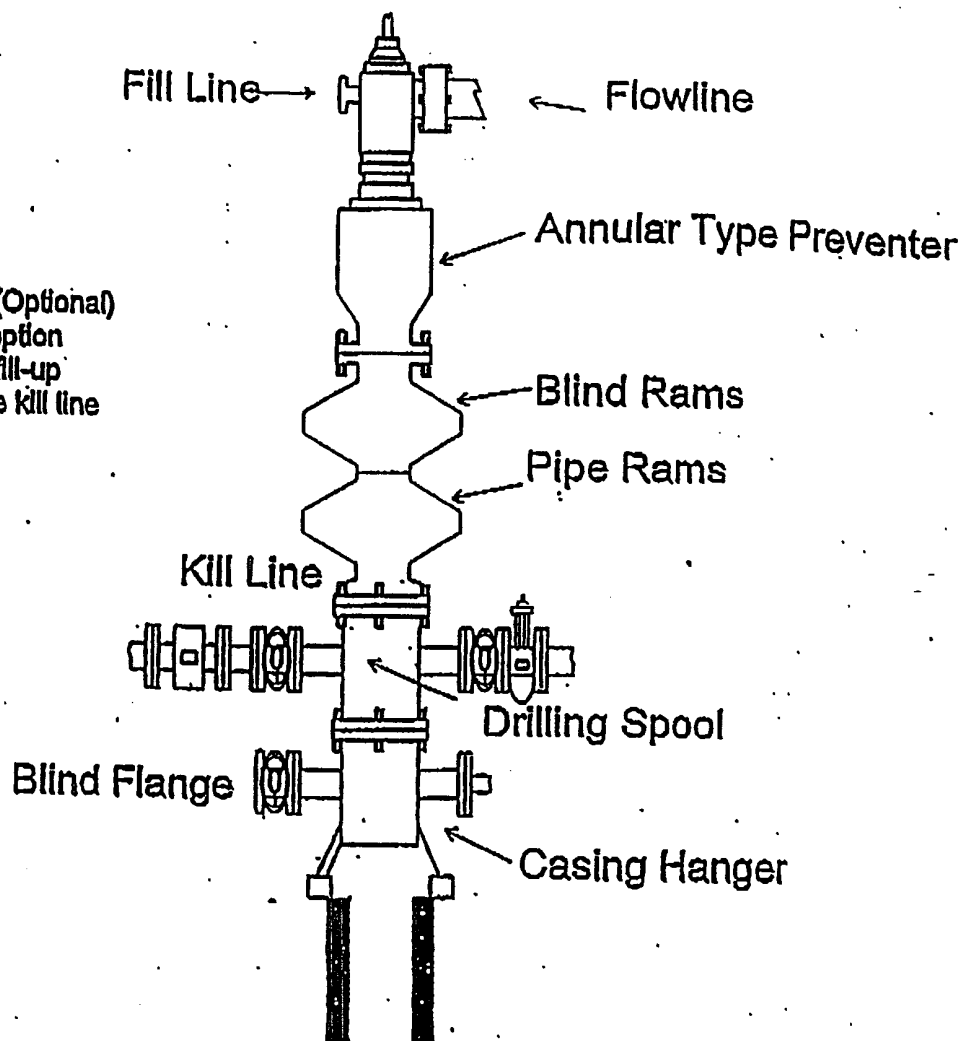
None anticipated.

BHP expected to be 1,100 psi.

**10. ANTICIPATED STARTING DATE:**

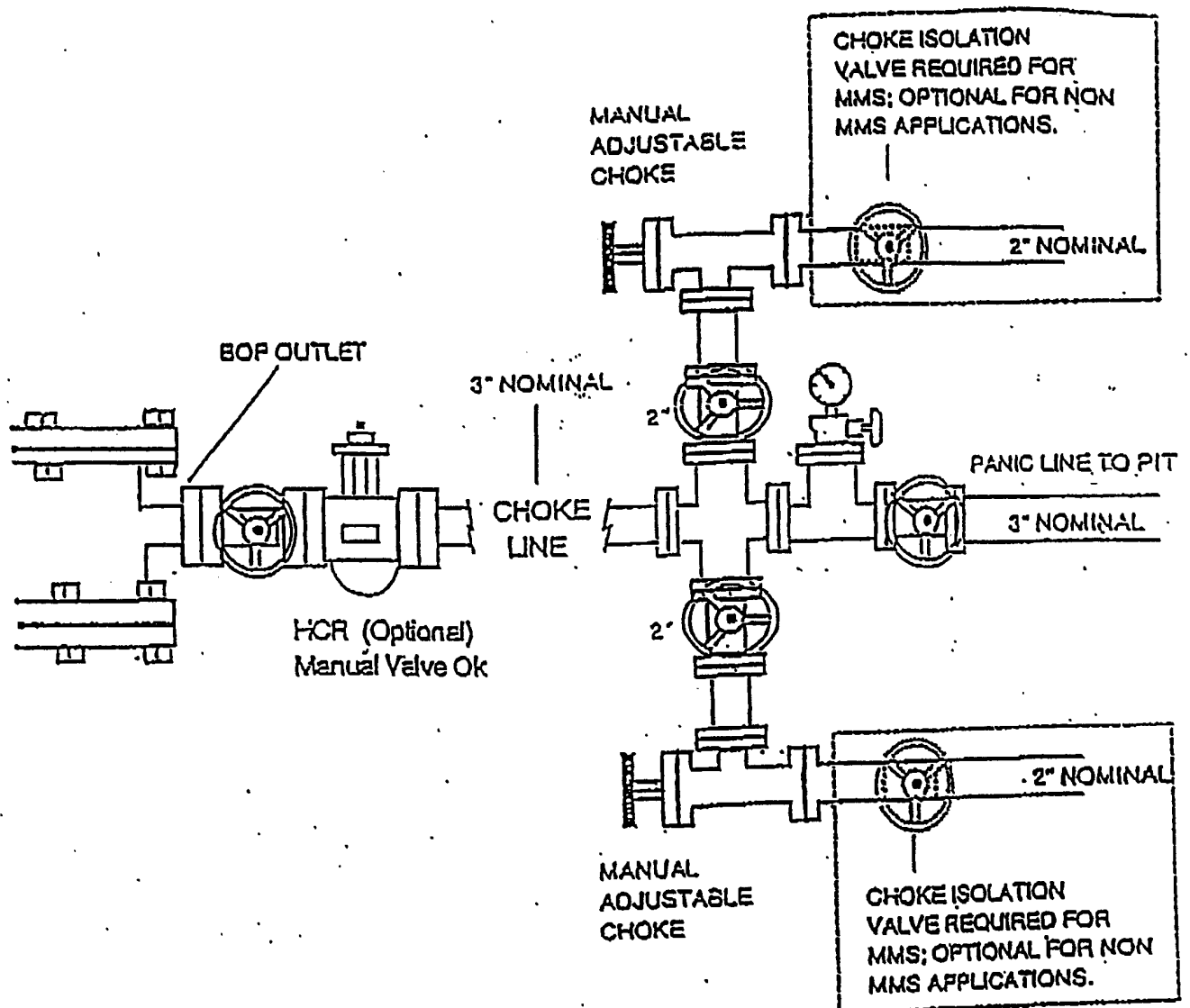
Is planned that operations will commence on August 1, 2005 with drilling and completion operation lasting about 30 days.

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



1500 Series

ARBURG PRODUCING COMP  
CHOKE MANIFOLD  
5M SERVICE



**HYDROGEN SULFIDE DRILLING OPERATIONS PLANS  
NEARBURG PRODUCING COMPANY  
MCKITTRICK 24 FEDERAL #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 (H<sub>2</sub>S).
  2. The proper use and maintenance of personal protective equipment and life support systems.
  3. The proper use of H<sub>2</sub>S 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 H<sub>2</sub>S 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 H<sub>2</sub>S Drilling Operations Plan.
- C. There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S 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.



# **HYDROGEN SULFIDE DRILLING OPERATIONS PLANS**

## **PAGE 2**

### **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.

## **HYDROGEN SULFIDE DRILLING OPERATIONS PLANS**

### **PAGE 3**

#### **E. Mud Program**

1. The Mud Program has been designed to minimize the volume of H<sub>2</sub>S circulated to the surface. Proper mud weights, safe drilling practices and the use of H<sub>2</sub>S scavengers will minimize hazards when penetrating H<sub>2</sub>S 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 H<sub>2</sub>S 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 H<sub>2</sub>S environment will be conducted during the daylight hours.

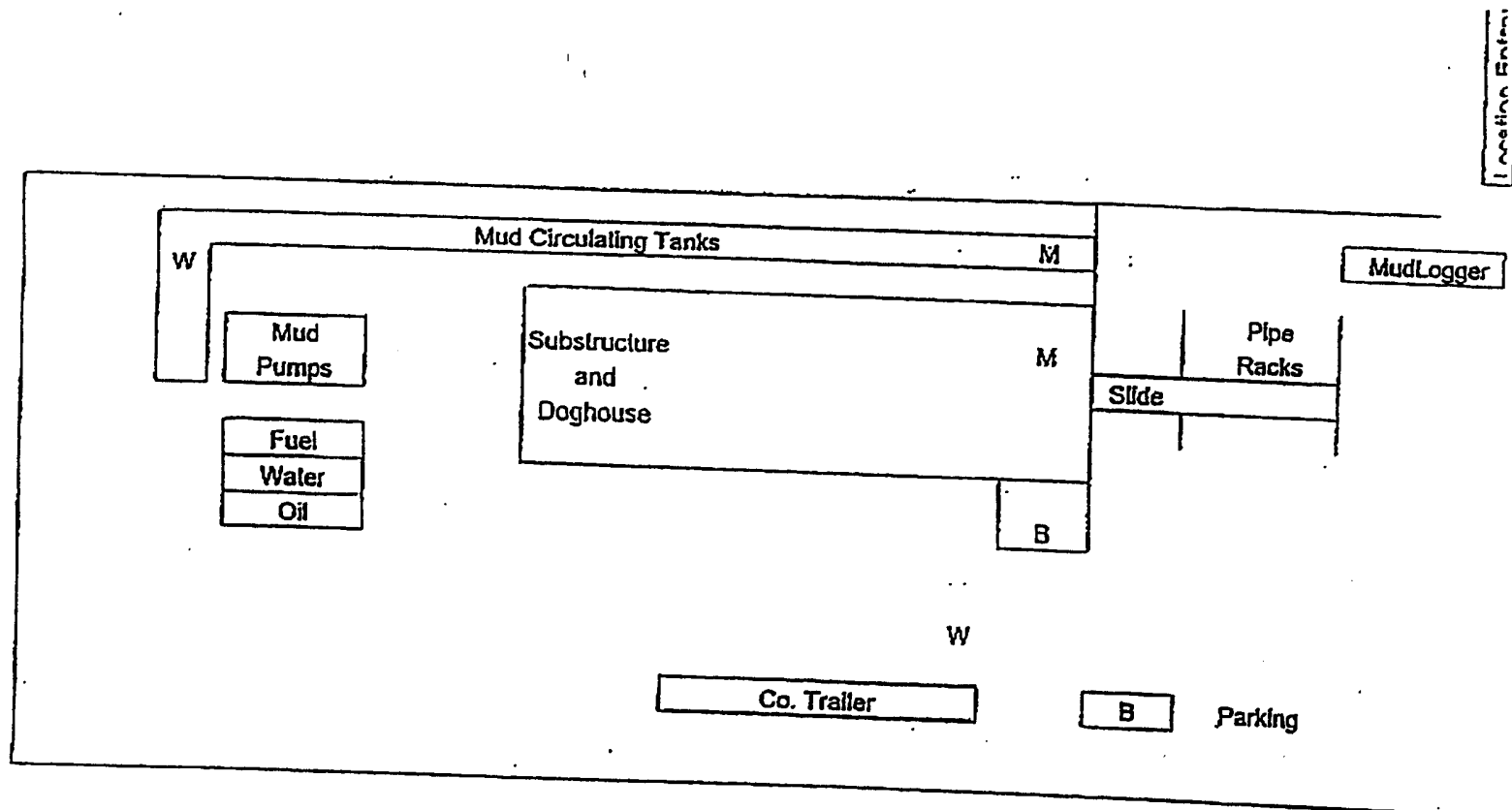
## **WARNING**

**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**

**(432) 686-8235**



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

**Conditions of Approval  
for Cave/Karst Resources  
and Visual on  
Nearburg Producing Company  
Lease #'s NM 97855**

**McKittrick 24 Fed #3  
Surface Hole: 290 FNL & 1480 FEL, Section 24, T. 22 S., R. 24 E.**

**Surface Mitigation**

The following stipulations will apply to minimize impacts during construction, drilling and production.

1. No earthen pits will be allowed. All cuttings and fluids will be held in steel tanks and hauled off site for proper disposal in an approved location.
2. Cuttings will be hauled to BLM approved location.
3. Pad size will be limited to a maximum size of 220' X 350' for a double well location and 220' X 310' for a single well location.
4. Upon completion of the well(s) the location will be reclaimed to the minimal size necessary for production operations.
5. All above ground facilities, structures, appurtenances, and pipelines will be low profile (less than 8 feet in height)
6. All above ground facilities, structures, appurtenances, and pipelines will be painted a non-reflective (Flat) Juniper Green.

**Subsurface Mitigation**

The following stipulations will be applied to protect cave/karst resources and ground water concerns.

1. Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst are expected. Below those zones, the operator may use whatever drilling fluid is approved in the drilling plan.
2. All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.
3. A cave protection casing will be required. The cave-protection casing string would be set at the base of the Capitan or at the deepest known cave-bearing zone as determined by drilling at approximately 1,500 feet. See attached diagram as an example.
4. All casing strings will be cemented to the surface.
5. **Regardless of the type of drilling machinery used, if a bit drops of four feet or more and circulation losses greater than 75 percent occur simultaneously while drilling in any cave-bearing zone, drilling operations will immediately stop and the BLM will be notified by the Operator. In the event that such an incident occurs contact Jim Goodbar at 505 234-5929 or 505 236-1016 after hours and Jim Amos at (505) 234-5909 or 706-2775. The BLM will assess the consequences of the situation and work with Operator on corrective actions to resolve the problem. If corrective actions fail, the well will be plugged.**

**Any corrective actions proposed to resolve problems related to bit drops or lost circulation will require BLM concurrence prior to implementation. A decision on how to proceed will be reached within 24 hours of notification.**

6. Any blasting will be a phased and time delayed.

7. Upon well abandonment the well bore will be cemented completely from the base of the cave bearing zone to the surface.

#### **Monitoring Production Operations**

1. Annual pressure tests will be performed by the Operator on all casing annuli. If the test results indicated a casing failure, remedial actions approved by the BLM will be undertaken to correct the problem.

#### **Record Keeping**

1. The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence of absence of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.
2. The BLM may review data held by companies on wells drilled in cave or karst areas, to gain information about impacts to caves and karst. This information will be used to categorize lost-circulation zones on the basis of depth, relative volume, and severity, and to evaluate and compare the relative success or failure of different remedies attempted to combat lost-circulation problems while drilling and cementing casing in these zones. This information also will be used to update information about the occurrence of cave and karst features. Information concerning cave resources gathered during drilling will be submitted and be retained by the BLM in accordance with The Carlsbad Field Office Cave Management Plan and the regulations implementing the Federal Cave Resources Protection Act.

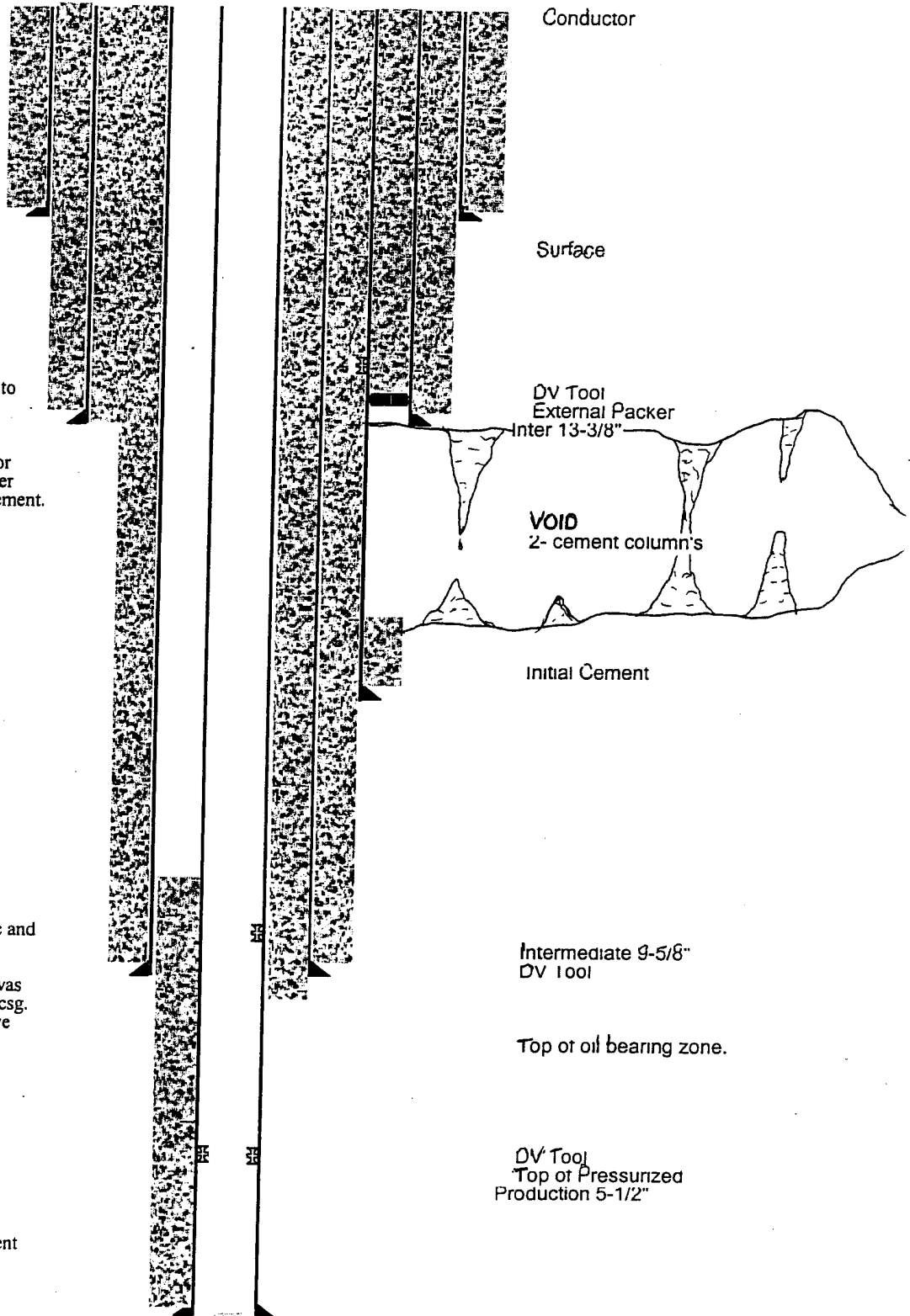
# WELLBORE SCHEMATIC

## "CAVE PROTECTION"

### NO VOID

### VOID

1. Set conductor casing.
2. Set surface casing, cement and circulate.
3. Drill inter hole. If no void, drill to depth and cement to surface.
4. If void encountered, ream hole for 13-3/8" casing. Place external packer above void. DV tool above pkr. Cement. Open DV tool, circ cement.
5. Drill inter hole to depth, case, circ and cement
6. Drill prod hole to depth. If void was encountered during drilling 1st Inter csg. Cmt, circulate or tie-back 200 ft above DV tool on 1st Inter csg.
7. If no void, prod csg to depth, cement and tie-back 200 ft into Inter csg.



Intermediate 9-5/8"  
DV Tool

Top of oil bearing zone.

DV Tool  
Top of Pressurized  
Production 5-1/2"

## CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Nearburg Producing Company

Well Name & No: McKittrick 24 Fed Com No. 03

Location: Surface: 290' FNL & 1480' FEL,

Bottom Location : 1980' FSL & 660' FEL

Sec.24, T. 22 S. R. 24 E.

Lease: NMNM 97855

Lea County, New Mexico

Eddy.....

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 9 5/8 inch; 7 inch;

C. BOP Tests

2. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be in operations 500 ft or three days prior to drilling into the Top of the Upper Penn formation at about 7900 ft.

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCDC shall be included on the subsequent report of setting the first casing string.

6. A Communitization Agreement shall be approved by this office prior to any sales from this office.

### II. CASING:

1. The 9 5/8 inch shall be set at 1500 Feet with cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

3. The minimum required fill of cement behind the 7 inch Production casing is to circulate to surface.

### III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 9 5/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2 M psi.



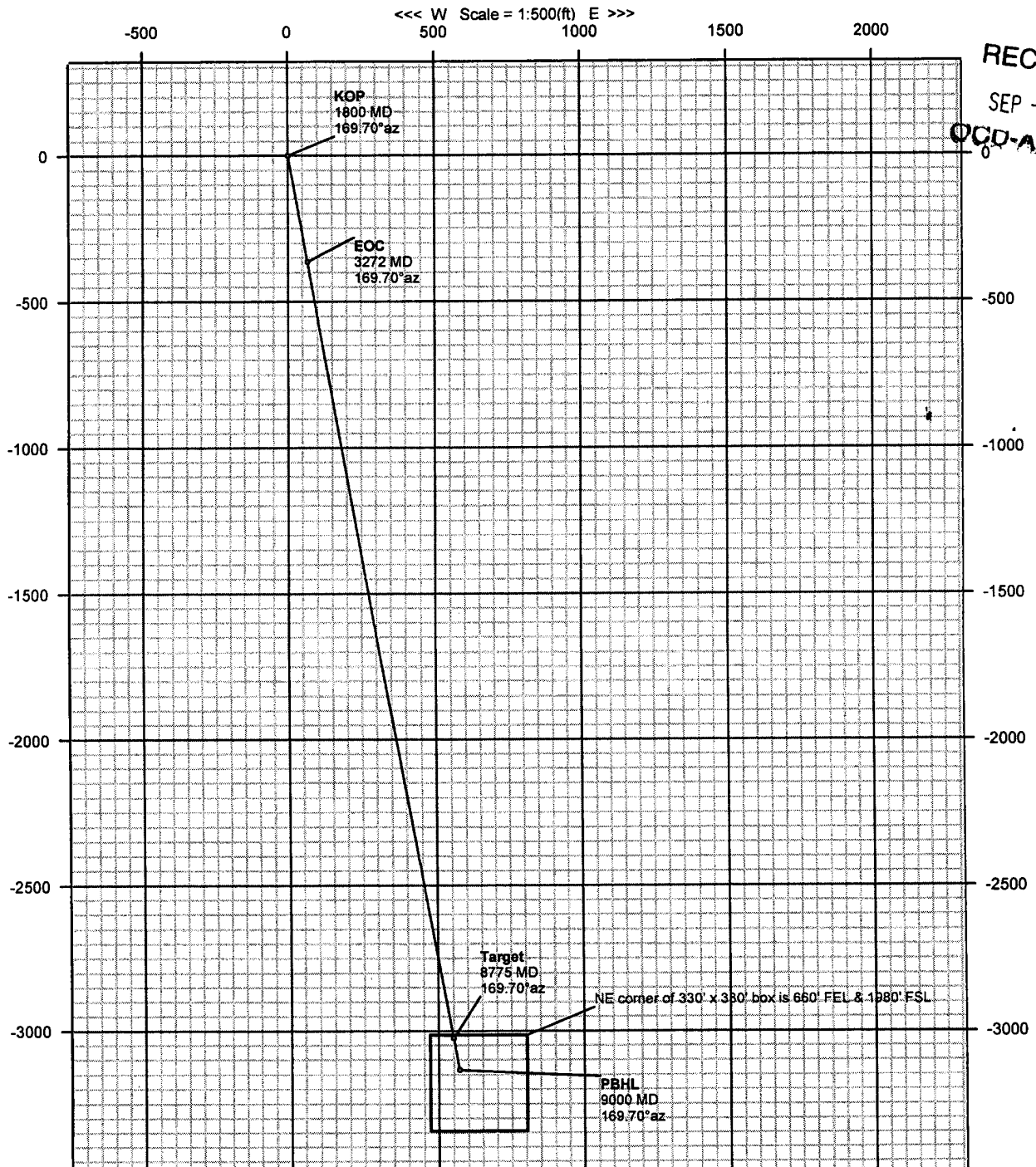
### **III. Pressure Control (continued):**

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the test.

- The test shall be done by an independent service company
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures.
- Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in safe workman-like manner. Hard line connections shall be required.
- Both low pressure and high pressure testing of BOPE is required.

# Nearburg Producing Company

WELL	Mckitttrck 24 Fed #3	FIELD	Eddy County, NM	STRUCTURE	Mckitttrck 24 Fed #3
Magnetic Parameters Model: IGRF 2005	Dip: 60.316° Mag Dec: +8.668°	Date: September 01, 2005 FS: 49226.5 nT	Surface Location Lat: N32 22 54.243 Lon: W104 26 51.777	NAD83 New Mexico State Plane, Eastern Zone, US Feet Northing: 503012.80 NUS Easting: 464680.10 NUS Grid Corner: -0.08128042° Scale Factor: 0.9999105158	Miscellaneous Skt: Mckitttrck 24 Fed #3 Plan: Mckitttrck 24-3 r1 TVD Ref: R900 (0.00 ft above) Entry Date: Thu 12:14 PM September 01, 2005

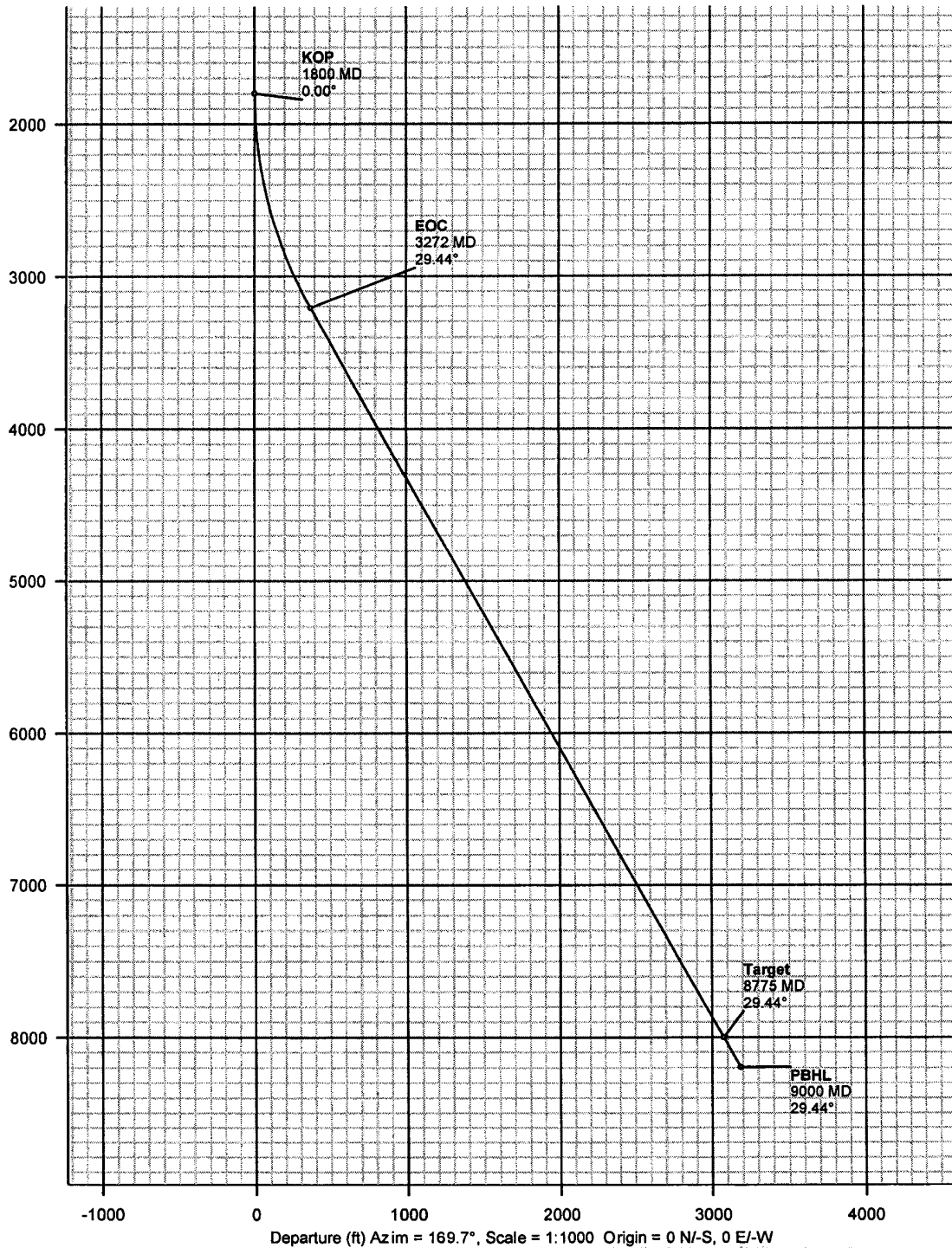


**INTREPID**  
Directional Drilling Specialists



# Nearburg Producing Company

WELL	Mckitttrck 24 Fed #3	FIELD	Eddy County, NM	STRUCTURE	Mckitttrck 24 Fed #3
Magnetic Parameters Model: IGRP 2005	Dip: 60.310° Mag Dec: +8.668°	Date: September 01, 2005 FS: 46228.5 mT	Surface Location Lat: N32 22 58.243 Lon: W104 28 51.777	NAZD27 New Mexico State Planes, Eastern Zone, US Feet Northing: 903012.80 RLUS Easting: 464895.10 RLUS Grid Conv: -0.08126042° Scale Fact: 0.9999105168	Miscellaneous Stat: Mckitttrck 24 Fed #3 Plan: Mckitttrck 24-3_r1 TVD Ref: RVS (9.00 ft above) Srvy Date: Thu 12:14 PM September 01, 2005



**INTREPID**  
Directional Drilling Specialists



# Proposal

<b>Report Date:</b> September 1, 2005 <b>Client:</b> Nearburg Producing Company <b>Field:</b> Eddy County, NM <b>Structure / Slot:</b> Mckittrck 24 Fed #3 / Mckittrck 24 Fed #3 <b>Well:</b> Mckittrck 24 Fed #3 <b>Borehole:</b> Mckittrck 24 Fed #3 <b>UWI/API#:</b> <b>Survey Name / Date:</b> Mckittrck 24-3_r1 / September 1, 2005 <b>Tort / AHD / DDI / ERD ratio:</b> 29.441° / 3185.42 ft / 5.013 / 0.389 <b>Grid Coordinate System:</b> NAD27 New Mexico State Planes, Eastern Zone, US Feet <b>Location Lat/Long:</b> N 32 22 58.243, W 104 26 51.777 <b>Location Grid N/E Y/X:</b> N 503012.900 rUS, E 464690.100 rUS <b>Grid Convergence Angle:</b> -0.06126042° <b>Grid Scale Factor:</b> 0.99991052	<b>Survey / DLS Computation Method:</b> Minimum Curvature / Lubinski <b>Vertical Section Azimuth:</b> 169.700° <b>Vertical Section Origin:</b> N 0.000 ft, E 0.000 ft <b>TVD Reference Datum:</b> RKB <b>TVD Reference Elevation:</b> 0.0 ft relative to <b>Sea Bed / Ground Level Elevation:</b> 0.000 ft relative to <b>Magnetic Declination:</b> 8.668° <b>Total Field Strength:</b> 49226.534 nT <b>Magnetic Dip:</b> 60.316° <b>Declination Date:</b> September 01, 2005 <b>Magnetic Declination Model:</b> IGRF 2005 <b>North Reference:</b> Grid North <b>Total Corr Mag North -&gt; Grid North:</b> +8.729° <b>Local Coordinates Referenced To:</b> Well Head
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Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Tool Face (deg)
Tie-In	0.00	0.00	169.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	169.70M
KOP	1800.00	0.00	169.70	1800.00	0.00	0.00	0.00	0.00	0.00	0.00	169.70M
	1900.00	2.00	169.70	1899.98	1.75	-1.72	0.31	1.75	169.70	2.00	169.70M
	2000.00	4.00	169.70	1999.84	6.98	-6.87	1.25	6.98	169.70	2.00	169.70M
	2100.00	6.00	169.70	2099.45	15.69	-15.44	2.81	15.69	169.70	2.00	0.00G
	2200.00	8.00	169.70	2198.70	27.88	-27.43	4.99	27.88	169.70	2.00	0.00G
	2300.00	10.00	169.70	2297.47	43.52	-42.82	7.79	43.52	169.70	2.00	0.00G
	2400.00	12.00	169.70	2395.62	62.60	-61.59	11.20	62.60	169.70	2.00	0.00G
	2500.00	14.00	169.70	2493.06	85.10	-83.72	15.22	85.10	169.70	2.00	0.00G
	2600.00	16.00	169.70	2589.64	110.98	-109.19	19.85	110.98	169.70	2.00	0.00G
	2700.00	18.00	169.70	2685.27	140.21	-137.95	25.08	140.21	169.70	2.00	0.00G
	2800.00	20.00	169.70	2779.82	172.77	-169.98	30.91	172.77	169.70	2.00	0.00G
	2900.00	22.00	169.70	2873.17	208.60	-205.24	37.32	208.60	169.70	2.00	0.00G
	3000.00	24.00	169.70	2965.21	247.67	-243.68	44.31	247.67	169.70	2.00	0.00G
	3100.00	26.00	169.70	3055.84	289.93	-285.26	51.86	289.93	169.70	2.00	0.00G
	3200.00	28.00	169.70	3144.94	335.33	-329.92	59.99	335.33	169.70	2.00	0.00G
EOC	3272.07	29.44	169.70	3208.14	369.96	-363.99	66.18	369.96	169.70	2.00	0.00G
Target	8774.52	29.44	169.70	8000.00	3074.59	-3025.00	550.00	3074.59	169.70	0.00	0.00G
PBHL	9000.00	29.44	169.70	8196.36	3185.42	-3134.04	569.83	3185.42	169.70	0.00	0.00G

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 ☒

RECEIVED  
SEP - 7 2005  
OCD-ARTESIA

Operator: <u>Nearburg Producing Company</u> Telephone: <u>686-8235</u> e-mail address: <u>s.jordan@nearburg.com</u>		
Address: <u>3300 N A St., Bldg 2, Ste 120, Midland, TX 79705</u>		
Facility or well name: <u>McKittrick 24 Fed #3</u> API #: _____ U/L or Qtr/Qtr <u>B</u> Sec <u>24</u> T <u>22S</u> R <u>24E</u>		
County: <u>Eddy</u> Latitude _____ Longitude _____ NAD: 1927 <input checked="" type="checkbox"/> 1983 <input type="checkbox"/> Surface Owner Federal <input checked="" type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Indian <input type="checkbox"/>		
<b>Pit</b> Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlimited <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>12</u> mil Clay <input type="checkbox"/> Volume _____ bbl	<b>Below-grade tank</b> Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> 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	(20 points)
	50 feet or more, but less than 100 feet	(10 points)
	100 feet or more	(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	(20 points)
	No	(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	(20 points)
	200 feet or more, but less than 1000 feet	(10 points)
	1000 feet or more	(0 points) X
<b>Ranking Score (Total Points)</b>		<b>0</b>

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: 6/9/05 6/20/05

Printed Name/Title: Sarah Jordan, Production Analyst

Signature: [Signature]

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: \_\_\_\_\_

Printed Name/Title: \_\_\_\_\_ Signature: \_\_\_\_\_

**Nearburg Producing Company**

**3300 N A St., Bldg 2, Suite 120**

**Midland, TX 79705**

**Hydrogen Sulfide (H<sub>2</sub>S) Contingency  
Plan**

**For**

**McKittrick 24 Federal #3**

**SHL: 290 FNL and 1480 FEL**

**BHL: 1980 FSL and 660 FEL**

**Sec 24, 22S, 24E**

**Eddy County, New Mexico**

**PUBLIC PROTECTION PLAN  
NEARBURG PRODUCING COMPANY**

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# **PUBLIC PROTECTION PLAN NEARBURG PRODUCING COMPANY**

## **1. PURPOSE**

This plan is intended to protect the health and safety of the public, contractors and Nearburg Producing Company (NPC) personnel should an unanticipated release of a potentially hazardous volume of Hydrogen Sulfide (H<sub>2</sub>S) occur.

Further to:

- Comply with the Bureau of Land Management's (BLM) Onshore Oil and Gas Operations Onshore Oil and Gas Order No. 6, Hydrogen Sulfide Operations (43 CFR Part 3160).
- Comply with the State of New Mexico Oil Conservation Division's (NMOCD) rule 19 NMAC 15.C 118.
- Assure proper notification of the appropriate parties and agencies.

## **2. SCOPE**

The provisions of this document are intended to address Hydrogen Sulfide (H<sub>2</sub>S) releases and H<sub>2</sub>S emergencies at Nearburg Producing Companies production batteries and all surrounding operated field locations in the McKittrick Hills Field. Facilities for which calculations indicate a potential hazardous volume of H<sub>2</sub>S could occur have additional site specific response information and radius of exposure drawn on the attached plat map. The field is located approximately 20 miles west of Carlsbad, New Mexico (Eddy County).

This plan is intended to be used in conjunction with the Emergency Response plan that is available at the Artesia Field Office and applies to RMS Level 1 incidents.

## **3. DEFINITIONS**

**All Clear** - Notification of effected personnel, by the response leader, that the incident has ended and the area is safe to re-enter.

**A Potentially Hazardous Volume** - a volume of Hydrogen Sulfide (H<sub>2</sub>S) gas of such concentrate that:

- The 100-ppm ROE includes any public area.
- The 500-ppm ROE includes any public road.
- The 100-ppm ROE exceeds 3,000 feet.

**Facility** – Equipment involved in producing, processing, or transporting natural gas and/or crude oil, including the property to the edge of the pad or fence.



## **PUBLIC PROTECTION PLAN NEARBURG PRODUCING COMPANY**

**Hydrogen Sulfide Gas (H<sub>2</sub>S)** – is extremely flammable, colorless, poisonous gas that may occur naturally as a component of production streams, such as crude oil, produced water and natural gas. At low concentrations it has a rotten egg odor, but at higher concentrations deadens the sense of smell. Its specific gravity is heavier than air giving it a tendency to collect in low-lying areas on still days. The permissible exposure limit is 10 ppm and the short term exposure limit is 15 ppm. It is considered to be immediately dangerous to life and health at 300 ppm. H<sub>2</sub>S is readily dispersed in air and is water soluble.

**ICS (Incident Command System)** – A team based concept for emergency response in which roles and responsibilities are predetermined.

**Incident Commander (IC)** – Senior Nearburg Producing Company employee in charge of an emergency response.

**Incipient Stage Fire** – A fire in the beginning or very early stages of development, which can be effectively extinguished by one or more persons with portable fire fighting equipment.

**Muster Site** – A pre-defined staging or meeting area.

**RMS Level I** – an emergency that can be reasonably addressed by Artesia Area Office in which the incident occurs and that can be resolved in approximately two days or less.

**ROE (Radius of Exposure)** – The radius constructed with the point of escape (of gas) as its starting point and its length calculated using the Pasquill-Gifford derived equation or computer modeling where the H<sub>2</sub>S concentration is greater than 10%.

**PPM** – Parts per Million

**Public Area** – Any building or structure that is not associated with the well, facility or operation for which the ROE is being calculated and that is used as a dwelling, office, place of business, church, school, hospital or government building, or any portion of a park, city, town, village, or designated school bus stop or other similar area where members of the public may reasonably be expected to be present.

**Public Road** – Any federal, state, municipal or county road or highway.

**Serious Incident** – An event which results or has the potential to result in severe personal injury and/or significant equipment damage.

**Sulfur Dioxide (SO<sub>2</sub>)** – A heavy colorless toxic gas that is formed when hydrogen sulfide is burned. It has a pungent odor and is a respiratory irritant. The permissible exposure limit is 2 ppm, the short term exposure limit is 5 ppm. It is considered to be immediately dangerous to life and health at 100 ppm. SO<sub>2</sub> is readily dispersed in air and is water soluble.

**Total Personnel Evacuation** – An evacuation of all persons (contract employees, or visitors) from the emergency area to a muster area.

# **PUBLIC PROTECTION PLAN NEARBURG PRODUCING COMPANY**

## **4. THE PLAN**

### **Training:**

All personnel (company, contractors and sub-contractors) working in the field for NPC are required to complete hydrogen sulfide training before beginning work and annually thereafter.

Training on the contents of this plan shall be provided to all NPC and appropriate contract personnel working for NPC:

- whenever the employees' responsibilities or designated actions under the plan change,
- whenever the contents of the plan are changed/revised
- whenever a new employee begins employment, and
- periodically as needed for all employees.

Nearburg Producing Company supervision is responsible for this training.

### **Orientation:**

All persons visiting or working at Indian Basin shall receive an orientation covering the following minimum items:

- ☐ What types of emergencies are possible,
- ☐ What the emergency evacuation alarm sounds like in the gas plant,
- ☐ How to report an incident/emergency,
- ☐ Who will be in charge during an emergency,
- ☐ How to safely evacuate the plant, and
- ☐ Where to assemble so that all persons can be accounted for.

The NPC representative responsible for the contractors or visitors shall conduct the orientations and shall document attendees and dates.

### **H2S Monitors:**

All personnel working at the Indian Basin are required to wear personal H2S monitor at all times when working in the plant or field. Monitors should have a vibrating alarm if used in high noise areas.

### **Activation:**

Phase I – activated when:

1. Sustained H2S concentration reaches 10 parts per million (ppm) in any work area and the source is not readily identified and/or controllable.
2. Continuous H2S levels are detected at 10 ppm (or greater) at any public road, near an occupied residence or bus stop, and the source is not readily identified and/or immediately controlled.

Phase II – activated when:

1. A potentially hazardous volume of H2S is detected.
2. When sustained H2S concentrations exceed 50 ppm at any facility boundary.

## **PUBLIC PROTECTION PLAN NEARBURG PRODUCING COMPANY**

### **Phase I:**

Upon discovery on-site personnel should:

- ☐ Make others on-site aware of the presence of H<sub>2</sub>S and leave the area upwind or crosswind to a safe location. (Pre-determine if a pre-job tailgate meeting was conducted).
- ☐ Prevent unauthorized persons from entering the area. Request assistance if needed.
- ☐ If a residence or other public area is in the vicinity, monitor for H<sub>2</sub>S to ensure exposure is less than 10 ppm. Notify supervisor if higher exposures are noted or if any other questions arise about steps necessary to protect these sensitive areas.
- ☐ If considering re-entering the area to assess the H<sub>2</sub>S source, ensure you have been properly trained to respond. Use an H<sub>2</sub>S monitor with digital display (preferably a multi-gas monitor) and have a supplied air respirator (SAR) and back up person with SAR readily available. Consider notification of supervisor if appropriate.
- ☐ Proceed with caution. If H<sub>2</sub>S concentration reaches 10 ppm in your breathing zone, back out and use SAR to re-enter. **If H<sub>2</sub>S concentration reaches 50 ppm at the facility boundary, immediately notify supervision.**
- ☐ If source can be safely controlled, monitor area to ensure H<sub>2</sub>S levels are below 10 ppm. End response here and sound all clear to allow others to re-enter the area. Report length of release and volume to supervisor.
- ☐ If the source of H<sub>2</sub>S cannot be identified and/or controlled, or if you cannot do so without exposing yourself to danger, leave the area to a safe distance.
- ☐ Notify supervision.
- ☐ Continue to monitor for H<sub>2</sub>S and maintain site security until instructed by supervision to do otherwise.

Supervision:

- ☐ Gather necessary information to determine the course of action and level of response.
- ☐ Mobilize any additional man power or equipment necessary.
- ☐ Ensure Phase II measures are implemented if appropriate.
- ☐ Continue to monitor situation until incident is over.
- ☐ Make notifications if required.
- ☐ Complete reports if required.
- ☐ Investigate as indicated.

### **Phase II**

Upon discovery on-site personnel should:

- ☐ Make others on-site aware of the presence of H<sub>2</sub>S and leave the area upwind or crosswind to a safe location. (Pre-determined if a pre-job tailgate meeting was conducted).
- ☐ Prevent authorized persons from entering the area.
- ☐ **Notify Supervisor.**

Supervision:

- ☐ Initiate the Incident Command System as deemed appropriate.
- ☐ Mobilize the resources necessary to maintain site security and provide for the protection of personnel and the public.
- ☐ Issue warnings to all NPC personnel by radio and/or phone (IB Contact List) to make them aware of the incident and its location. Have non-essential personnel leave the area. If deemed necessary, order a total personnel evacuation of the area.

## **PUBLIC PROTECTION PLAN NEARBURG PRODUCING COMPANY**

- ☐ Notify non-company personnel known to work or reside in the area (IB Contact List). If necessary to ensure their safety, dispatch NPC personnel with the appropriate monitor, supplied air respirators and means of communication to these locations. (*Appendix B*)
- ☐ Have NPC personnel set up road blocks to prevent unauthorized entry into impacted areas until relieved by law enforcement or other authorized personnel.
- ☐ Make all appropriate notifications to NPC, Federal, State and local authorities.
- ☐ When the release has been contained and monitoring indicates the area is safe to re-enter, terminate operations and sound the all clear.
- ☐ Complete records if required.
- ☐ Investigate as indicated.
- ☐ For spills, well blowouts, fires, natural disasters and terrorist or bomb threats

All other personnel not involved in the immediate response:

- ☐ If a total evacuation is ordered, report to the incident command center or nearest muster site to which you have safe access. (See Appendix A for muster site locations)
- ☐ Ensure all contract personnel working for you (or in your area) are accounted for and have them report to a safe muster site.
- ☐ Senior employee at each muster site should make a roster of all personnel reporting to that muster site and be prepared to make it available to the incident commander (IC).
- ☐ Maintain communication with the IC and be prepared to offer assistance as it is requested.

### **Ignition of H<sub>2</sub>S:**

While no uncontrollable release of H<sub>2</sub>S is anticipated, should ignition of gas be necessary for the protection of personnel or the public, the determination would be made by the NPC Incident Commander. The method of ignition will maintain the safety of the person performing this task as the primary concern. The most likely method would be the use of a flare gun from a safe distance.

If this becomes necessary, monitoring will include sulfur dioxide (SO<sub>2</sub>) in addition to H<sub>2</sub>S.

**PUBLIC PROTECTION PLAN  
NEARBURG PRODUCING COMPANY**

**6. APPROVALS**

Approved by:

Name:

Title: Drilling Manager

*H. Willis / SG*

Date:

*6.20.05*

**NEARBURG PRODUCING COMPANY  
REGULATORY CONTACTS**

Agency	Contact Name		Division/Area	Main Phone #	Cell Phone	Home Phone #
	First	Last				
NMOCD	Emergency Number		District 2	505-748-1283		
NMOCD	Field Rep On-Call		District 2	505-939-8622		
NMOCD	Tim	Gum	District 2	505-748-1283	505-626-0824	505-324-1387
NMOCD	Mike	Stubblefield	District 2	505-748-1283	505-626-0831	505-746-6422
NMOCD	Gerry	Guye	District 2	505-748-1283	505-626-0843	505-887-3254
NMOCD	Phil	Hawkins	District 2	505-748-1283	505-626-0836	505-746-9272
NMOCD	Bryan	Arrant	District 2	505-748-1283	505-626-0830	505-748-2092
NMOCD	Lori	Wortenberhy	Santa Fe Division Ofc.	505-827-7131	505-476-3460	505-466-0134
NMOCD	Ed	Martin	Santa Fe Division Ofc.	505-827-7131	505-476-3492	505-685-4056
NMOCD	Roger	Anderson	Santa Fe Division Ofc.	505-827-7131	505-476-3490	505-471-2017
NM State Police			District 3, Roswell	505-827-9312		
NM State Police			Sub-District 3, Roswell	505-622-7200 (call this # for dispatch to our area)		
BLM			Carlsbad	505-887-6544		
US Coast Guard			National Response Center	800-424-8802		
NMED			Air Quality Bureau	505-827-1494		
	State Emergency Response Center			505-827-9126		
LEPC	Local Emerg. Planning Commission - Eddy County			505-885-2111		
NM OSHA	New Mexico OSHA Ofc.			505-827-2850		

## EMERGENCY SERVICES

Service Provider	Description	Main Phone	
<b>General Emergency</b>	<b>Police, Fire, Ambulance</b>	<b>911</b>	
Carlsbad Police, Fire, Ambulance Service		505-885-2111	
Artesia General Hospital	Medical Services	505-748-3333	
Carlsbad Fire Dept.	Fire Control	505-885-3124	
Artesia Fire Dept.	Fire Control	505-746-2701	
Happy Valley Fire Dept.	Fire Control	505-885-1982	
NM State Police	Sub-District 3, Carlsbad		
NM State Police (Dispatcher)	District 3, Roswell	505-622-7200	
Eddy County Sheriff	Law Enforcement	505-887-7551	

**NEARBURG PRODUCING COMPANY  
EMERGENCY RESPONSE PLAN**

<b>Position</b>	<b>Office Phone</b>	<b>Cell Phone #</b>	<b>Home Phone #</b>
<b>Drilling Superintendent</b>			
Butch Willis	432-686-8235 (223)		
<b>Production Superintendent</b>			
Matt Lee	505-746-0422	505-365-6662	505-746-0932
<b>Operations</b>			
Roger King	505-746-0422	505-361-3605	505-885-3605
Rick Foutch	505-746-0422	505-361-4211	505-887-7844
Jerry Stark	505-746-0422	505-365-4672	505-746-3862
<b>Planning Section</b>			
Fred White	214-739-1778	469-644-1326	972-931-8845
Bob Shelton	432-686-8235 (214)	432-682-3100	432-528-6134
<b>Public Affairs</b>			
Bob Shelton	432-686-8235 (214)	432-682-3100	432-528-6134



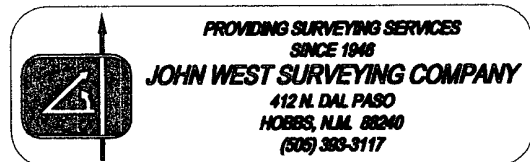
## AREA RESIDENTS AND OFFSET OPERATIONS

Location Description	Contact	Title	Address	City/ST/Zip	Phone 1	Cell	Location Info.
4TK + (Boles)	Wilkie, Mark & Sandi		1073 Marathon Rd.	Carlsbad, NM 88220	505-457-2022		
Foster Ranch	Foster, John		P.O. Box 103	Artesia, NM 88211-0103	505-457-2165		
Forrest Lee Ranch	Lee, Dean		P.O. Box 89	Lakewood, NM 88254	505-457-2301		Trailer house near NIBU 24
Gissler Ranch	Cox, Billy		344 Pinderosa Pine	Carlsbad, NM 88220	505-457-2397		
Gregory's	Gregory, Wayne		617 Queens Hwy.	Carlsbad, NM 88220	505-457-2245		
HH Ranch	Houchtaling, Harold		P.O. Box 234	Artesia, NM 88211-0234	505-457-2245		
Howell Ranch	Howell, Richard		P.O. Box 94	Lakewood, NM 88254	505-457-2602		
Kincaid Ranch	Kincaid, Gene		2913 Octotilly Canyon Dr.	Carlsbad, NM 88220	505-887-6918		
Kincaid Ranch	Kincaid, Hugh		2911 Octotilly Canyon Dr.	Carlsbad, NM 88220	505-885-9458		
Kincaid Ranch	Marbauch, Jim		1762 Qureen Hwy.	Carlsbad, NM 88220	505-457-2233		Lives at ranch house just E of Hwy 137 About 2 miles past mile marker 42 towrds Queens.
Old Jones Ranch	Lasiter, Rick				505-457-2108		
Schafer Ranch	Biebelle, Stacey		646 Qureen Hwy.	Carlsbad, NM 88220	505-457-2360		House near low water crossing on Hwy 137
Patsy's old house	DeMoss, Neil				none		
Chevron Oil	Boles, Randy					505-390-7232	
Chevron Oil	Angel, Kenneth					505-390-1540	
Devon	Daniel				505-390-5850		
Devon	Crosbey, Owen				505-748-7749		
Devon	Huber, Mark				505-748-5502		
Devon	Canada, Don				505-748-5503		
Devon	Brady				505-390-5431		
Devon	Huber, Joe	Superintendent			505-390-5438		
Devon	"Doghouse"				505-457-2613		
Duke Energy	Lamb, Johnny	Foreman			505-390-2791		
Duke Energy	Main Office		Carlsbad		505-628-0282		
Duke Energy	Valenzuela, Oscar				505-910-4675		
El Paso	Jacquez, David	Gas Measurement			505-857-2158		
KMG (Kerr McGee)	Deese, Tommy	Superintendent			505-234-2703	505-706-3423	
KMG (Kerr McGee)	Chalker, Andy	Prod. Foreman			505-234-2703	505-910-0342	
KMG (Kerr McGee)	Hess, Bobby	Team Leader			505-234-2703	505-706-3543	
KMG (Kerr McGee)	Wilson, James						
KMG (Kerr McGee)	Brannon, Steve				505-390-1540	505-706-3669	
Yates Petroleum (Agave)	Main Office				505-784-1471		
Yates Petroleum (Agave)	Johnson, Bill	Foreman			505-748-6816	505-365-4615	
Yates Petroleum (Agave)	Moorehead, Robert				505-748-6815	505-365-4840	

[illegible]

CONTOUR INTERVAL:  
AZOTEA PEAK, N.M. - 20'  
CARNERO PEAK, N.M. - 20'

U.S.G.S. TOPOGRAPHIC MAP  
AZOTEA PEAK, N.M.



PREPARED FOR:

Mr. Butch Willis  
**NEARBURG PRODUCING CORPORATION**  
Midland, Texas

**McKittrick 24 Federal # 3**  
Section 24  
T-22-S  
R-24-E  
Eddy County, New Mexico

Prepared by:  
Randy Auburg  
March 22, 2005

March 22, 2005

Mr. Butch Willis  
Nearburg Producing Corporation  
3300 N. A St.  
Suite 2120  
Midland, Texas 79705-5402

Dear Mr. Willis,

Thank you for the opportunity to submit our drilling fluid recommendations for McKittrick 24 Federal # 3 in Eddy County, New Mexico. These recommendations are based on information from your office, offset well data, and our knowledge of the area.

Of particular concern in this area is the potential for lost circulation and differential sticking in the surface hole and the Upper Penn formation. H<sub>2</sub>S may be present in the Bone Springs and Upper Pennsylvanian. Potential problems are discussed in the "Drilling Fluid Program" section of this proposal.

We estimate drilling time for this well to be 14 days at an estimated no service cost of \$4,000.00 to \$5,000.00 if severe lost circulation is not encountered. All support services for this well, including engineering, warehousing and trucking, is in Hobbs, New Mexico.

Sincerely,

Randy Auburg  
Technical Services Manager  
Permian Basin

## DRILLING FLUID SYNOPSIS

### NEARBURG PRODUCING CORPORATION

MCKITTRICK 24 FEDERAL # 3

Section 24

T-22-S

R-24-E

Eddy County, New Mexico

#### CASING

9 5/8" at 1,500'

5 1/2" at 8,600'

DEPTH	MUD WEIGHT	VISCOSITY	FLUID LOSS	DRILL SOLIDS	COMMENTS
0-1,500'	8.4 to 8.5	28 to 29	No Control	<1%	Fresh Water, Fresh Gel Sweeps, Lime, Paper
1,500'-8,600'	8.4 to 8.5	28 to 29	No Control	<1%	Fresh Water, Star NP-110, Paper, Lime Starch if needed

## ESTIMATED FORMATION TOPS

SAN ANDRES	495'
GLORIETA	2,018'
YESO	2,110'
BONE SPRINGS	4,600'
WOLFCAMP	7,548'
PENN (CISCO)	7,775'
CANYON	7,895'
TD	8,600'

## RECOMMENDED CASING PROGRAM

9 5/8" at 1,600'

5 1/2" at 8,600'

## RECOMMENDED DRILLING FLUID PROGRAM

<u>DEPTH</u>	<u>WEIGHT</u>	<u>VISCOSITY</u>	<u>FILTRATE</u>
0-1,500'	8.4-8.5	28-29	No Control

Spud with Fresh Water circulating the working pits. Sweep the hole with Amgel flocculated with Lime, mixed at a 10 to 1 ratio. Use Paper for seepage control and for 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.

<u>DEPTH</u>	<u>WEIGHT</u>	<u>VISCOSITY</u>	<u>FILTRATE</u>
1,500'-8,600'	8.4-8.5	28-29	No Control

Drill out from surface with Fresh Water circulating the reserve pit. Use Star NP-110 for sweeps and for solids control. Maintain a 9.0 to 10.0 pH with Lime. Paper should be used for seepage control and for sweeps. Sweep the hole every 200', or as needed, with pre-hydrated Amgel in order to minimize solids buildup in the annulus and to reduce the possibility of lost circulation while drilling the Upper Pennsylvanian and other sub-normally pressured formations. 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. There is a possibility of encountering H<sub>2</sub>S from the Bone Springs and the Upper Pennsylvanian. If H<sub>2</sub>S is encountered, we recommend additions of an H<sub>2</sub>S Scavenger for personnel safety and a Filming Amine to protect the drill string. We recommend utilizing a ±200 bbl premix pit for sweeps and LCM pills.

Note: we recommend use of an LCM blend of Fiber Plug, Nut Shell, Maxi-Seal (Chem-Seal), and Mica in this interval.

If a drilling fluid is desired for evaluation of this interval, we recommend returning to the working pits and mudding up with a Star NP-110/Starch system. Reduce the API fluid loss too less than 15cc with Starch. Maintain a 9.0 to 10.0 pH with Lime. Use Amgel if additional viscosity is required.

**Estimated Drilling Fluid Cost: \$4,000.00 to \$5,000.00**

**Estimated Drilling Days: 13 to 16**

**Estimates are based on a 1,000 bbl system and do not reflect lost circulation, abnormal pressure, H<sub>2</sub>S, unstable hole conditions requiring elevated viscosities or mud in production interval.**

## **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 29 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 lost circulation material should be spotted. The size of the pill should be determined by hole size and should contain at least 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.



## **PERMIAN BASIN REGION PERSONNEL**

### **MIDLAND OFFICE**

**800-669-7146**

Larry Wadzeck	Regional Manager Permian/MidCon
Carlton Crownover	Engineering Manager
Randy Auburg	Technical Service Manager
Gerald Huff	Regional Sales & Marketing

### **WEST TEXAS ENGINEERING**

**800-669-7146**

Jim Paysinger	Senior Sales and Service Engineer
Tom O'Reilley	Senior Sales and Service Engineer
Joseph Abraham	Sales and Service Engineer
Blake Arthur	Sales and Service Engineer
Jeff Donnell	Sales and Service Engineer

### **NEW MEXICO ENGINEERING**

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Gregg Scarbro	Senior Sales and Service Engineer
Marshall Fleming	Senior Sales and Service Engineer
Manny Heald	Sales and Service Engineer
Clay Gamble	Sales and Service Engineer