

OCD-ARTESIA

MAR 24 2008

OCD-ARTESIA

Form 3160-3
(August 1999)

RESUBMITTAL

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

S

APPLICATION FOR PERMIT TO DRILL OR REENTER

| | | | |
|---|---|---|--|
| 1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input checked="" type="checkbox"/> REENTER <i>Per Operator 3-10-08</i> | | 7. If Unit or CA Agreement, Name and No. | |
| b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone | | 8. Lease Name and Well No. <i>34526</i> Liberty BEL Federal #1 | |
| 2. Name of Operator Yates Petroleum Corporation <i>25575</i> | | 9. API Well No. <i>30-015-36238</i> | |
| 3A. Address 105 South Fourth Street Artesia, New Mexico 88210 | | 10. Field and Pool, or Exploratory Indian Basin Upper Penn Associated | |
| 3B. Phone No. (include area code) (505) 748-1471 | | 11. Sec., T., R., M., or Blk. and Survey or Area Section 27, T21S-R24E Surface Location | |
| 4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface: 1672' FSL and 1144' FEL At proposed prod. Zone: 660' FSL and 660' FWL Section 26, T21S-R24E BHL | | 12. County or Parish Eddy County | |
| 14. Distance in miles and direction from nearest town or post office* Approximately 30 miles northwest of Carlsbad, New Mexico. | | 13. State NM | |
| 15. Distance from proposed location* to nearest property or lease line, ft. (Also to nearest drig unit line, if any) 660' | 16. No. of Acres in lease 760.00 | 17. Spacing Unit dedicated to this well S/2 | |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1500' | 19. Proposed Depth 10914' | 20. BLM/BIA Bond No. on file NM-2811 | |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4002' GL | 22. Approximate date work will start* ASAP | 23. Estimated duration 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 | 4 Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2 A Drilling Plan. | 5 Operator certification. |
| 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). | 6 Such other site specific information and/or plans as may be required by the authorized office. |

| | | |
|---|---|---------------------|
| 25. Signature <i>Cy Cowan</i> | Name (Printed/Typed) Cy Cowan | Date 11/30/2007 |
| Regulatory Agent | | |
| Approved by (Signature) <i>/s/ James Stovall</i> | Name (Printed/Typed) /s/ James Stovall | Date MAR 19 2008 |
| Title 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 TWO YEARS

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 reverse)

SEE ATTACHED FOR
CONDITIONS OF APPROVALAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DISTRICT II
911 South First, Artesia, NM 88210

DISTRICT III
1008 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

Energy, Minerals and Natural Resources Department

Revised March 17, 1999
Instruction on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|---------------------|--|---|
| API Number | Well Code 94784 | Well Name Indian Basin Upper Penn Associated |
| Property Code | Property Name LIBERTY "BEL" FEDERAL | Well Number 1 |
| OGRID No. 025575 | Operator Name YATES PETROLEUM CORPORATION | Elevation 4002 |

Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| I | 27 | 21S | 24E | | 1672 | SOUTH | 1144 | 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 |
|------------------------|-----------------|--------------------|-----------|---------|---------------|------------------|---------------|----------------|--------|
| M | 26 | 21S | 24E | | 660 | SOUTH | 660 | WEST | EDDY |
| Dedicated Acres 320 | 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

| | |
|--|--|
| <p>EAST HALF SECTION 27</p> <p>SECTION LINE</p> <p>WEST HALF SECTION 26</p> <p>NW-101080</p> <p>SURFACE LOCATION</p> <p>BOTTOM HOLE</p> <p>3947 3983 3992 3968</p> <p>1144'</p> <p>1672'</p> <p>660'</p> | OPERATOR CERTIFICATION <i>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</i> Signature Cy Cowan Printed Name Regulatory Agent Title August 5, 2004 Date |
| | SURVEYOR CERTIFICATION <i>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.</i> 7/15/2004 Date Surveyed Signature of Professional Surveyor Herchel L. Jones Certificate No. Herchel L. Jones RLS 3640 LIBERTY LAND SURVEYING COMPANY |

YATES PETROLEUM CORPORATION
Liberty BEL Federal #1
 1672' FSL and 1144' FEL Surface Location
 Section 27, T21S-R24E
 660' FSL & 660' FWL Bottom Hole Location
 Section 26-T21S-R24E
 Eddy County, New Mexico

1. The estimated tops of geologic markers are as follows:

| | | | |
|------------------------------|---------|-------------------|--------|
| Yates/Seven Rivers | Surface | Lower Canyon Lime | 8335' |
| San Andres | 585' | Strawn | 8875' |
| Glorietta | 1568' | Atoka | 9535' |
| 2 nd Bone Springs | 4134' | Upper Morrow | 9875' |
| 3rd Bone Springs | 6975' | Mid Morrow | 9975' |
| Wolfcamp | 7295' | Lower Morrow | 10135' |
| Cisco Canyon Dolomite | 7925' | Base Morrow | 10215' |
| Base of Dolomite | 8465' | TD | 10914' |

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Water: 250' - 350'
 Oil or Gas: All potential zones.

3. Pressure Control Equipment: BOPE will be installed on the 9 5/8" casing and rated for 5000 BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout Preventor controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventors will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.

Auxiliary Equipment:

A. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

4. THE PROPOSED CASING AND CEMENTING PROGRAM:

A. Casing Program: (All New)

| Hole Size | Casing Size | Wt./Ft | Grade | Coupling | Interval | Length |
|-----------|-------------|--------|---------|----------|-------------|---------|
| 14 3/4" | 9 5/8" | 36# | J-55 | ST&C | 0-1650 | 1650' |
| 8 3/4" | 7.0" | 26# | J-55 | LT&C | 0-4500 | 4500' |
| 8 3/4" | 7.0" | 26# | L-80 | LT&C | 4500'-9000' | 4500' |
| 6 1/8 | 4 1/2" | 11.6# | HCP-110 | LT&C | 0-10,914' | 10,914' |

Possible set 7" early if severe lost circulation in Canyon

Yates Petroleum Corporation requests a variance to install a rotating head on the surface casing strings when production casing will be set. If a BOP system is required then we wish to install a 2M system and receive a variance to test the system to 1000# using the rig pumps. The test will be held for 30 minutes on each system component. Components to be tested include pipe rams, blind rams, and annular preventer.

Minimum Casing Design Factors: Collapse 1.125, Burst 1.0, Joint Strength 1.8

*see following
 casing pages
 3/10/08
 [signature]*

*see casing
pages 3/10/06
MFB*

B. Cementing Program:

Surface casing: 200 sx 'H' (YLD 1.53 WT 14.6), tail with 1000 sx Lite 'C' Lite (YLD 1.9 WT 12.7). Tail in w/200 sx 'C' Neat + 2% CaCl₂ (YLD 1.9 WT 12.7).

Production Casing: Stage I 600 sx Super 'C' Modified (YLD 1.6 WT 13.0). DV Tool @7700'
Stage II 1200 sx Lite 'C' (YLD 1.95 WT 12.5). Tail in w/100 sx 'H'
Neat (YLD 1.18 WT 15.6). TOC-1150'

May use nitrified mud cement job if wellbore conditions permit.

5. MUD PROGRAM AND AUXILIARY EQUIPMENT:

| <u>Interval</u> | <u>Type</u> | <u>Weight</u> | <u>Viscosity</u> | <u>Fluid Loss</u> |
|-----------------|------------------|---------------|------------------|-------------------|
| 0-1650' | FW/Air Mist | 8.4 | 28 | N/C |
| 0-4500' | Cut Brine | 8.8-9.0 | 28 | N/C |
| 4500'-9000' | Cut Brine/Starch | 9.0-9.4 | 28-32 | <15cc |
| 9000'-10914' | Salt Gel/Starch | 9.4-9.8 | 34-36 | <12cc |

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Mud will be checked hourly by rig personnel.

6. EVALUATION PROGRAM:

Samples: 10' samples from intermediate casing.
Logging: Platform Express/HRLA/NGT/FMI.
Coring: None anticipated.
DST's: None anticipated.

7. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE AND POTENTIAL HAZARDS:

Anticipated BHP:

| | | | |
|-------------|------------|-----------------------|----------|
| From: 0 | TO: 1650 | Anticipated Max. BHP: | 1050 PSI |
| From: 1650' | TO: 10914' | Anticipated Max. BHP: | 5300 PSI |

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: Possible in surface and intermediate holes.

H₂S Zones Anticipated: Possible Canyon

Maximum Bottom Hole Temperature: 178 F

8. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 30 days to drill the well with completion taking another 15 days.

Liberty BEL Federal #1

Surface Casing

| 0 ft to 1,650 ft | | | | Make up Torque ft-lbs | | | Total ft = 1,650 |
|---------------------|----------------|----------------|---------|-----------------------|-------|-------|------------------|
| O.D. | Weight | Grade | Threads | opt. | min. | mx. | |
| 9.625 inches | 36 #/ft | J-55 | ST&C | | 4,530 | 3,400 | 5,660 |
| Collapse Resistance | Internal Yield | Joint Strength | | Body Yield | | Drift | |
| 2,020 psi | 3,520 psi | 394,000 # | | 564,000 # | | 8.765 | |

Cemented w/200sx Class C (YLD 1.34 Wt. 14.8) Tail w/1050sx C-Lite (YLD 1.9 Wt. 12.7) TOC= surface

Tail

Lead

per operator 3/10/08

[Signature]

Production Casing

| 0 ft to 10,914 ft | | | | Make up Torque ft-lbs | | | Total ft = 10,914 |
|---------------------|----------------|----------------|---------|-----------------------|------|-------|-------------------|
| O.D. | Weight | Grade | Threads | opt. | min. | mx. | |
| 7 inches | 26 #/ft | HCP-110 | LT&C | | 6930 | 5200 | 8660 |
| Collapse Resistance | Internal Yield | Joint Strength | | Body Yield | | Drift | |
| 7,800 psi | 9,950 psi | 693,000 # | | 830,000 # | | 6.151 | |

DV tool @ 7700'

Stage 1: Cemented w/600sx Super C (YLD 1.6 WT 13)

Stage 2: Cemented w/1450sx C-lite (YLD 1.95 WT 12.5) Tail w/100sx Class H (YLD 1.18 WT 15.6) TOC=1150'

see COA

Liberty BEL Federal #1 Contingency Casing/Cement

Surface Casing

| | | | | | | | | | | |
|---------------------|----------------|----|----------------|---------|------------|-----------------------|-------|--|------------|-------|
| | 0 | ft | to | 1,650 | ft | Make up Torque ft-lbs | | | Total ft = | 1,650 |
| O.D. | Weight | | Grade | Threads | opt. | min. | mx. | | | |
| 9.625 inches | 36 #/ft | | J-55 | ST&C | 4,530 | 3,400 | 5,660 | | | |
| Collapse Resistance | Internal Yield | | Joint Strength | | Body Yield | | Drift | | | |
| 2,020 psi | 3,520 psi | | 394,000 # | | 564,000 # | | 8.765 | | | |

Cemented w/200sx Class C (YLD 1.34 Wt. 14.8) Tail w/1050sx C-Lite (YLD 1.9 Wt. 12.7) TOC= surface

Intermediate Casing

| | | | | | | | | | | |
|---------------------|----------------|----|----------------|---------|------------|-----------------------|-------|--|------------|-------|
| | 0 | ft | to | 4,500 | ft | Make up Torque ft-lbs | | | Total ft = | 4,500 |
| O.D. | Weight | | Grade | Threads | opt. | min. | mx. | | | |
| 7 inches | 26 #/ft | | J-55 | LT&C | 3670 | 2750 | 4590 | | | |
| Collapse Resistance | Internal Yield | | Joint Strength | | Body Yield | | Drift | | | |
| 4,320 psi | 4,980 psi | | 367,000 # | | 415,000 # | | 6.151 | | | |

| | | | | | | | | | | |
|---------------------|----------------|----|----------------|---------|------------|-----------------------|-------|--|------------|-------|
| | 4,500 | ft | to | 9,000 | ft | Make up Torque ft-lbs | | | Total ft = | 4,500 |
| O.D. | Weight | | Grade | Threads | opt. | min. | mx. | | | |
| 7 inches | 26 #/ft | | L-80 | LT&C | 5110 | 3830 | 6390 | | | |
| Collapse Resistance | Internal Yield | | Joint Strength | | Body Yield | | Drift | | | |
| 5,410 psi | 7,240 psi | | 511,000 # | | 604,000 # | | 6.151 | | | |

DV tool @ 7700'

Stage 1: Cemented w/250sx Super H (YLD 1.67 WT 13)

Stage 2: Cemented w/900sx C-Lite (YLD 2.0 WT 12.5) Tail w/100sx Class H (YLD 1.87 WT 15.6) TOC=1150'

Production Casing

| | | | | | | | | | | |
|---------------------|----------------|----|----------------|---------|------------|-----------------------|-------|--|------------|--------|
| | 0 | ft | to | 10,914 | ft | Make up Torque ft-lbs | | | Total ft = | 10,914 |
| O.D. | Weight | | Grade | Threads | opt. | min. | mx. | | | |
| 4.5 inches | 11.6 #/ft | | HCP-110 | LT&C | 3020 | 2270 | 3780 | | | |
| Collapse Resistance | Internal Yield | | Joint Strength | | Body Yield | | Drift | | | |
| 8,650 psi | 10,690 psi | | 279,000 # | | 367,000 # | | 3.875 | | | |

Cemented w/275sx Super H (YLD 1.67 Wt. 13) TOC=8500'

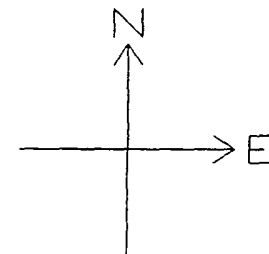
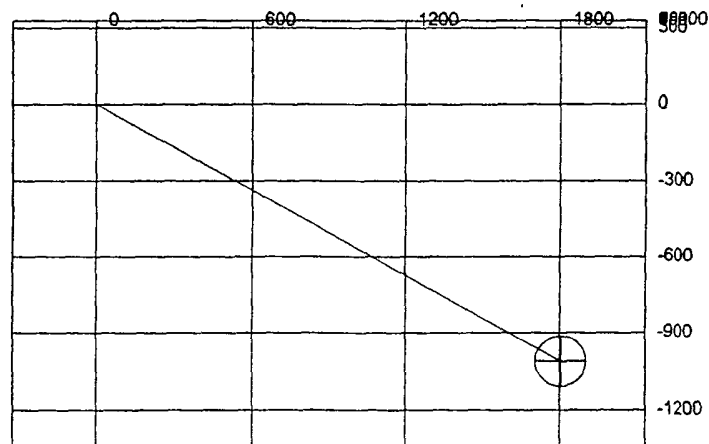
4012
6 1/8
per operator
3/10/06
HWA

see COA

| | M.D. [ft] | Inclination [°] | Azimuth [°] | T.V.D. [ft] | N+/S- [ft] | E+/W- [ft] | D.L.S. [°/100ft] | ToolFace [°] | T.F. Ref. [HS/GN] |
|----|-----------|--------------------|-------------|-------------|------------|------------|---------------------|-----------------|----------------------|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | |
| 2 | 2500.00 | 0.00 | 0.00 | 2500.00 | 0.00 | 0.00 | 1.50 | 119 | GN |
| 3 | 2624.67 | 1.87 | 119.29 | 2624.65 | -1.00 | 1.77 | 1.50 | 360 | HS |
| 4 | 2952.76 | 6.79 | 119.29 | 2951.70 | -13.11 | 23.37 | 1.50 | 0 | HS |
| 5 | 3280.84 | 11.71 | 119.29 | 3275.41 | -38.91 | 69.36 | 1.50 | 0 | HS |
| 6 | 3608.92 | 16.63 | 119.29 | 3593.41 | -78.20 | 139.40 | 1.50 | 0 | HS |
| 7 | 3937.01 | 21.56 | 119.29 | 3903.35 | -130.70 | 232.98 | 1.50 | 360 | HS |
| 8 | 4265.09 | 26.48 | 119.29 | 4202.94 | -196.00 | 349.40 | 1.50 | 360 | HS |
| 9 | 4593.18 | 31.40 | 119.29 | 4489.98 | -273.64 | 487.80 | 1.50 | 360 | HS |
| 10 | 4921.26 | 36.32 | 119.29 | 4762.34 | -363.05 | 647.17 | 1.50 | 0 | HS |
| 11 | 4969.47 | 37.04 | 119.29 | 4801.00 | -377.14 | 672.29 | 1.50 | 360 | HS |
| 12 | 5843.94 | 37.04 | 119.29 | 5499.00 | -634.86 | 1131.71 | 0.00 | | |
| 13 | 5905.51 | 36.12 | 119.29 | 5548.44 | -652.82 | 1163.72 | 1.50 | 180 | HS |
| 14 | 6233.60 | 31.20 | 119.29 | 5821.44 | -741.75 | 1322.25 | 1.50 | 180 | HS |
| 15 | 6561.68 | 26.28 | 119.29 | 6109.03 | -818.90 | 1459.78 | 1.50 | 180 | HS |
| 16 | 6889.76 | 21.35 | 119.29 | 6409.09 | -883.70 | 1575.28 | 1.50 | 180 | HS |
| 17 | 7217.85 | 16.43 | 119.29 | 6719.40 | -935.66 | 1667.91 | 1.50 | 180 | HS |
| 18 | 7545.93 | 11.51 | 119.29 | 7037.68 | -974.40 | 1736.98 | 1.50 | 180 | HS |
| 19 | 7874.02 | 6.59 | 119.29 | 7361.57 | -999.65 | 1781.98 | 1.50 | 180 | HS |
| 20 | 8202.10 | 1.67 | 119.29 | 7688.71 | -1011.21 | 1802.59 | 1.50 | 180 | HS |
| 21 | 8313.41 | 0.04 | 116.34 | 7800.00 | -1012.00 | 1804.00 | 0.00 | | |
| 22 | 10913.41 | 0.00 | 0.00 | 10400.00 | -1012.00 | 1804.00 | 0.00 | | |

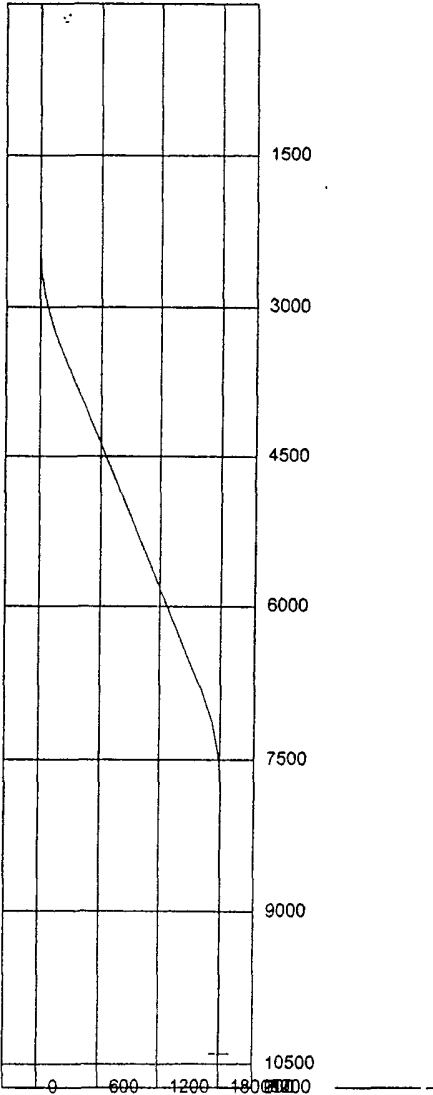
3D^s Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation
Well: Liberty BEL Federal #1



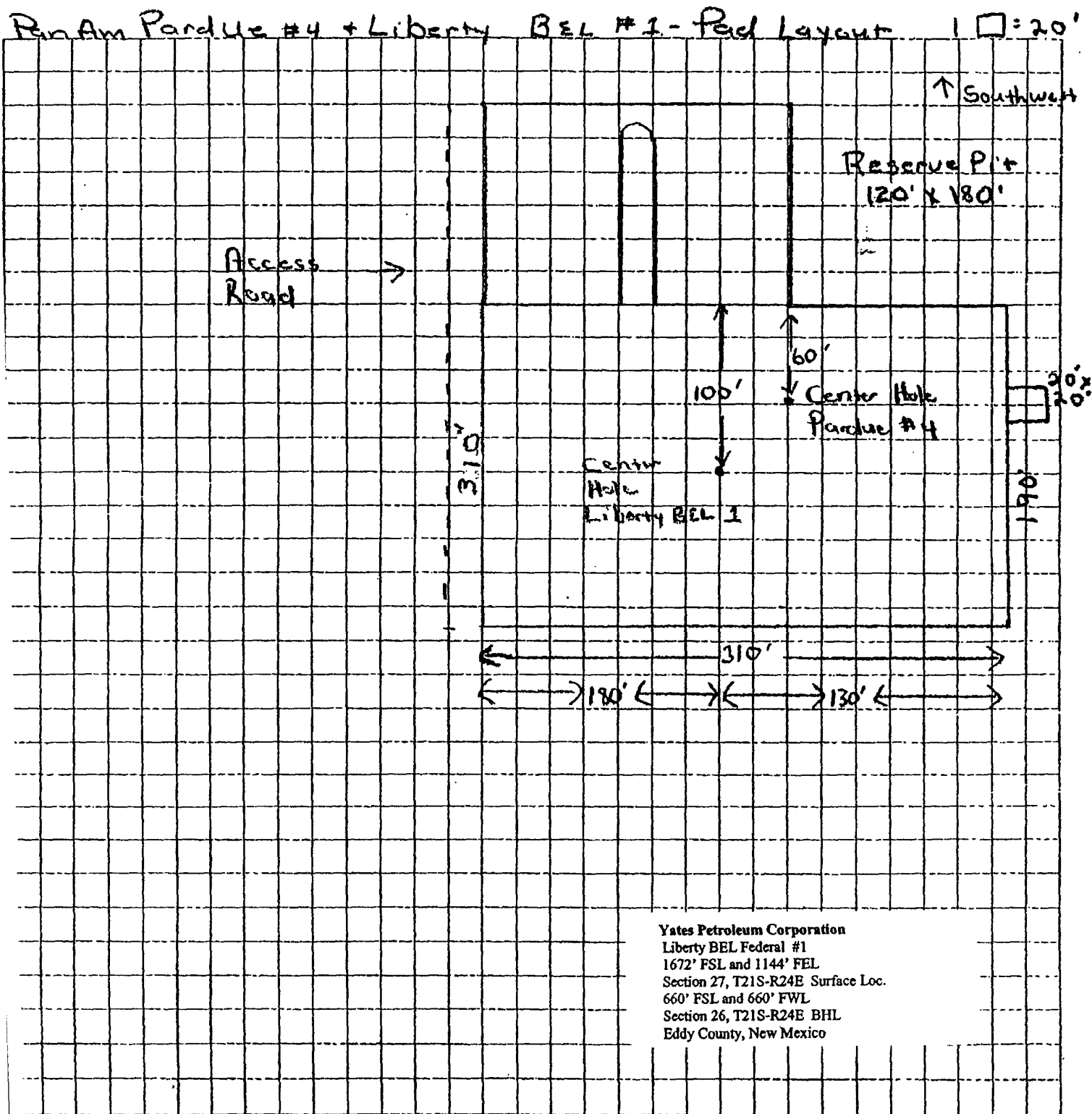
3D^s Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation
Well: Liberty BEL Federal #1





NABORS DRILLING USA, INC.



500 W. WALL, SUITE 280 • MIDLAND, TEXAS 79701

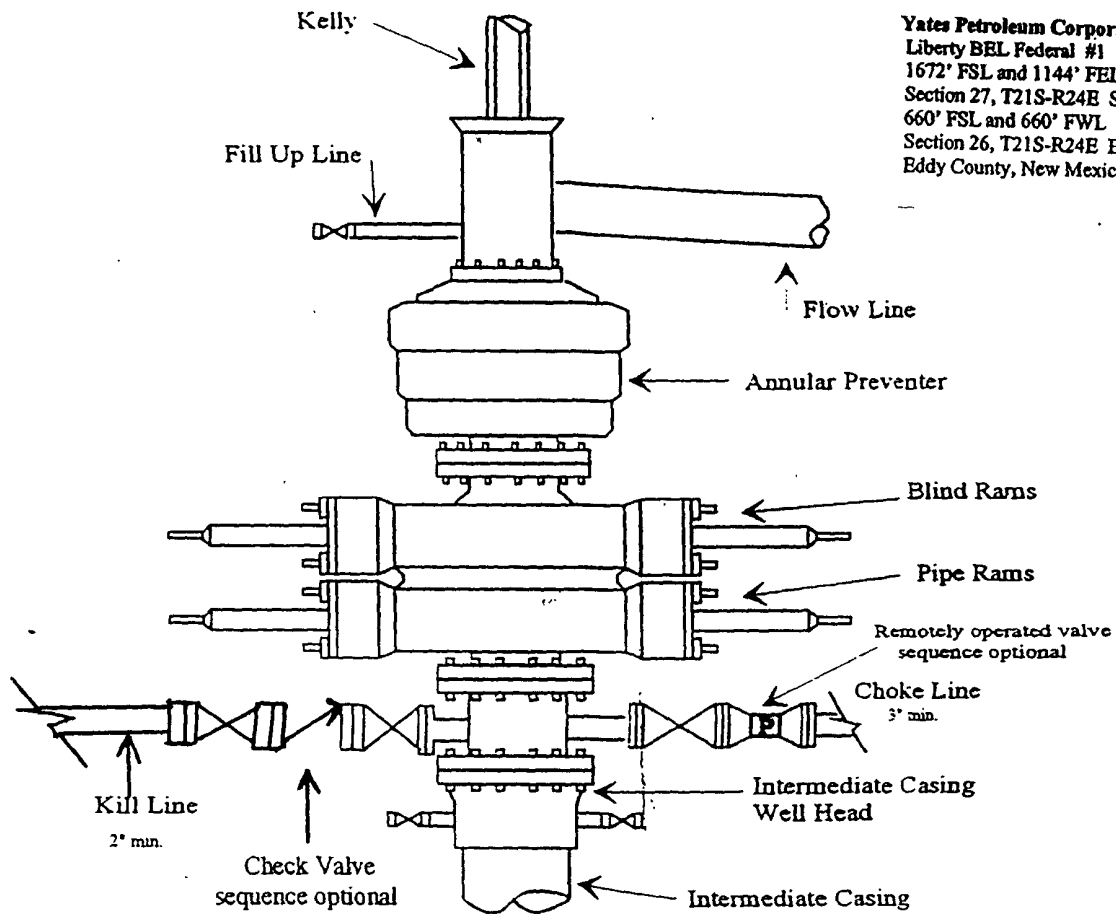
OFFICE (915) 683-3377 • FAX 915-570-5444



Yates Petroleum Corporation

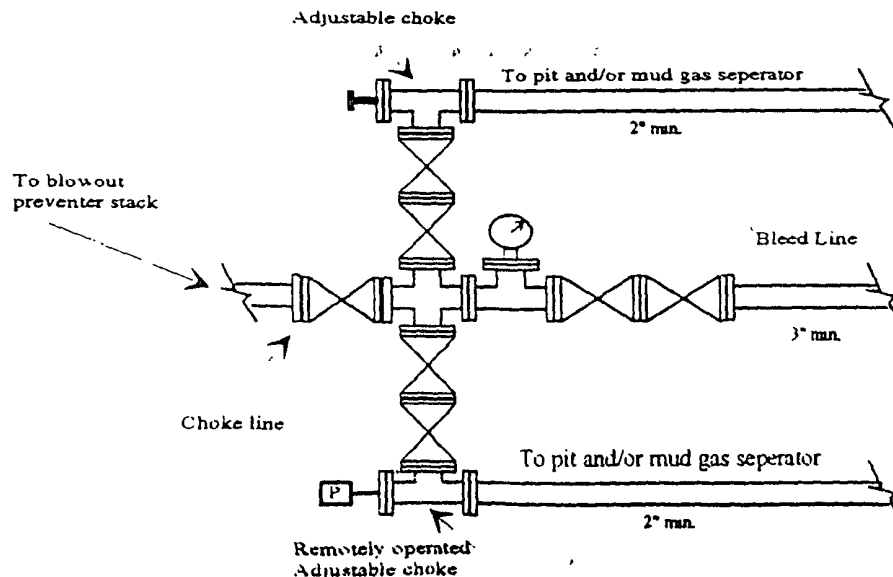
BOP-4

Typical 5,000 psi Pressure System Schematic Annular with Double Ram Preventer Stack



Yates Petroleum Corporation
Liberty BEL Federal #1
1672' FSL and 1144' FEL
Section 27, T21S-R24E Surface Loc.
660' FSL and 660' FWL
Section 26, T21S-R24E BHL
Eddy County, New Mexico

Typical 5,000 psi choke manifold assembly with at least these minimum features



WF

Yates Petroleum Corporation

**105 S. Fourth Street
Artesia, NM 88210**

Hydrogen Sulfide (H₂S) Contingency Plan

For

Liberty BEL Federal #1

1672' FSL, 1144' FEL Surface Location

Section-27, T-21S, R-24E

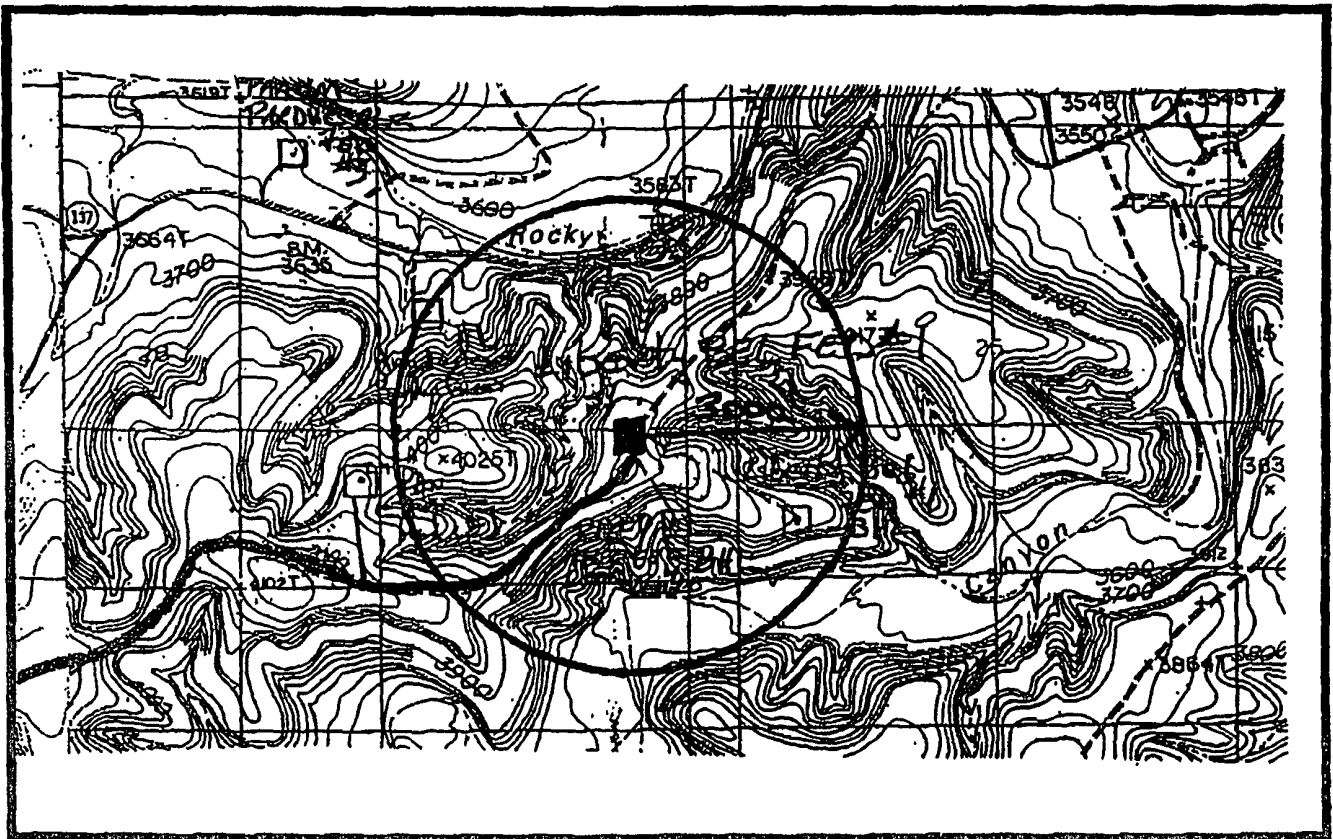
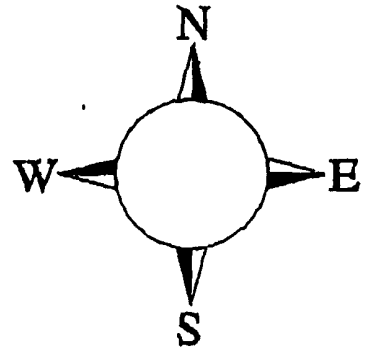
660' FSL and 660' FWL Bottom Hole Location

Section 26, T21S-R24E

Eddy County NM

Liberty BEL Federal #1 Location

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



Emergency Procedures

In the case of a release of gas containing H_2S , the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H_2S , measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H_2S monitors and air packs in order to control the release. Use the "buddy system" to ensure no injuries during the response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H_2S and SO_2

| Common Name | Chemical Formula | Specific Gravity | Threshold Limit | Hazardous Limit | Lethal Concentration |
|------------------|------------------|------------------|-----------------|-----------------|----------------------|
| Hydrogen Sulfide | H_2S | 1.189 Air = 1 | 10 ppm | 100 ppm/hr | 600 ppm |
| Sulfur Dioxide | SO_2 | 2.21 Air = 1 | 2 ppm | N/A | 1000 ppm |

Contacting Authorities

YPC personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. YPC Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Yates Petroleum Corporation Phone Numbers

YPC Office (505) 748-1471
 Pinson McWhorter/Operations Manager (505) 748-4189
 Darrel Atkins/Production Manager (505) 748-4204
 Ron Beasley/Prod Superintendent (505) 748-4210
 Al Springer/Drilling (505) 748-4225
 Paul Hanes/Prod. Foreman/Roswell (505) 624-2805
 Jim Krogman/Drilling Superintendent (505) 748-4215
 Artesia Answering Service (505) 748-4302
 (During non-office hours)

Agency Call List**Eddy County (505)****Artesia**

State Police 746-2703
 City Police 746-2703
 Sheriff's Office 746-9888
 Ambulance 911
 Fire Department 746-2701
 LEPC (Local Emergency Planning Committee) 746-2122
 NMOCD 748-1283

Carlsbad

State Police 885-3137
 City Police 885-2111
 Sheriff's Office 887-7551
 Ambulance 911
 Fire Department 885-2111
 LEPC (Local Emergency Planning Committee) 887-3798
 US Bureau of Land Management 887-6544

New Mexico Emergency Response Commission (Santa Fe) (505) 476-9600
 24 HR (505) 827-9126
 New Mexico State Emergency Operations Center (505) 476-9635
 National Emergency Response Center (Washington, DC) ... (800) 424-8802

Other

Boots & Coots IWC 1-800-256-9688 or (281) 931-8884
 Cudd Pressure Control (915) 699-0139 or (915) 563-3356
 Halliburton (505) 746-2757
 B. J. Services (505) 746-3569

Flight For Life -4000 24th St, Lubbock, TX (806) 743-9911
 Aerocare -Rr 3 Box 49f, Lubbock, TX (806) 747-8923
 Med Flight Air Amb 2301 Yale Blvd SE #D3, Albuquerque, NM (505) 842-4433
 S B Air Med Svc 2505 Clark Carr Loop SE, Albuquerque, NM (505) 842-4949

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Yates Petroleum Corporation

Liberty BEL Federal #1

1672' FSL and 1144' FEL Surface location

Section 27, T21S-R24E

660' FSL & 660' FWL Bottom Hole Location

Section 26, T21S-R24E

Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

Exhibit A is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 30 miles northwest of Carlsbad, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS:

Go north of Carlsbad on Highway 285 to approximately 12.5 miles to Highway 137. Turn west on Highway 137 and go approximately 14 miles. Turn left on lease road and go approximately 2 miles. Turn left here on lease and go approx. 4.6 miles. The road will fork here. Take the left fork and go .7 of a mile. At this point go right for .3 of a mile to a two track road. The two track road will be upgraded from this point for .5 of a mile to the well location.

2. PLANNED ACCESS ROAD

The new access will go approximately .5 of a mile in an east then northeasterly direction to the southwest corner of the proposed well location.

3. LOCATION OF EXISTING WELL

- A. There is drilling activity within a one-mile radius of the well site.
- B. Exhibit D shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

- A. There are production facilities on this lease at the present time.
- B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

6. SOURCE OF CONSTRUCTION MATERIALS:

Dirt contractor will locate nearest pit and obtain any permits and materials needed for construction.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
- D. Oil produced during operations will be stored in tanks until sold.
- E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- F. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES:

None

9. WELLSITE LAYOUT:

- A. Exhibit C shows the relative location and dimensions of the well pad, the reserve pits, the location of the drilling equipment, rig orientation and access road approach.
- B. The reserve pits will be plastic lined. The reserve pits will be plastic lined. Yates Petroleum Corporation is in full compliance with the OCD General Plan for Drilling Pits approved on April 15, 2004.
- C. A 600' x 600' area has been staked and flagged.

10. PLANS FOR RESTORATION:

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the wellsite in as aesthetically pleasing a condition as possible.
- B. Unguarded pits, if any, containing fluids will be fenced until they have dried and been leveled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled level after they have evaporated and dried.

11. SURFACE OWNERSHIP: Federal Surface, Administered by Bureau of Land Management, Carlsbad, New Mexico.

12. OTHER INFORMATION:

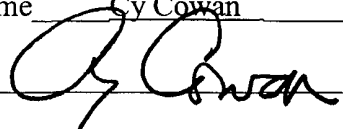
- A. Topography: Refer to the existing archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.
- B. The primary surface use is for grazing.

CERTIFICATION
YATES PETROLEUM CORPORATION
Liberty BEL Federal #1

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 30th day of November, 2007.

Printed Name Cy Cowan

Signature 

Position Title Regulatory Agent

Address 105 South Fourth Street, Artesia, NM 88210

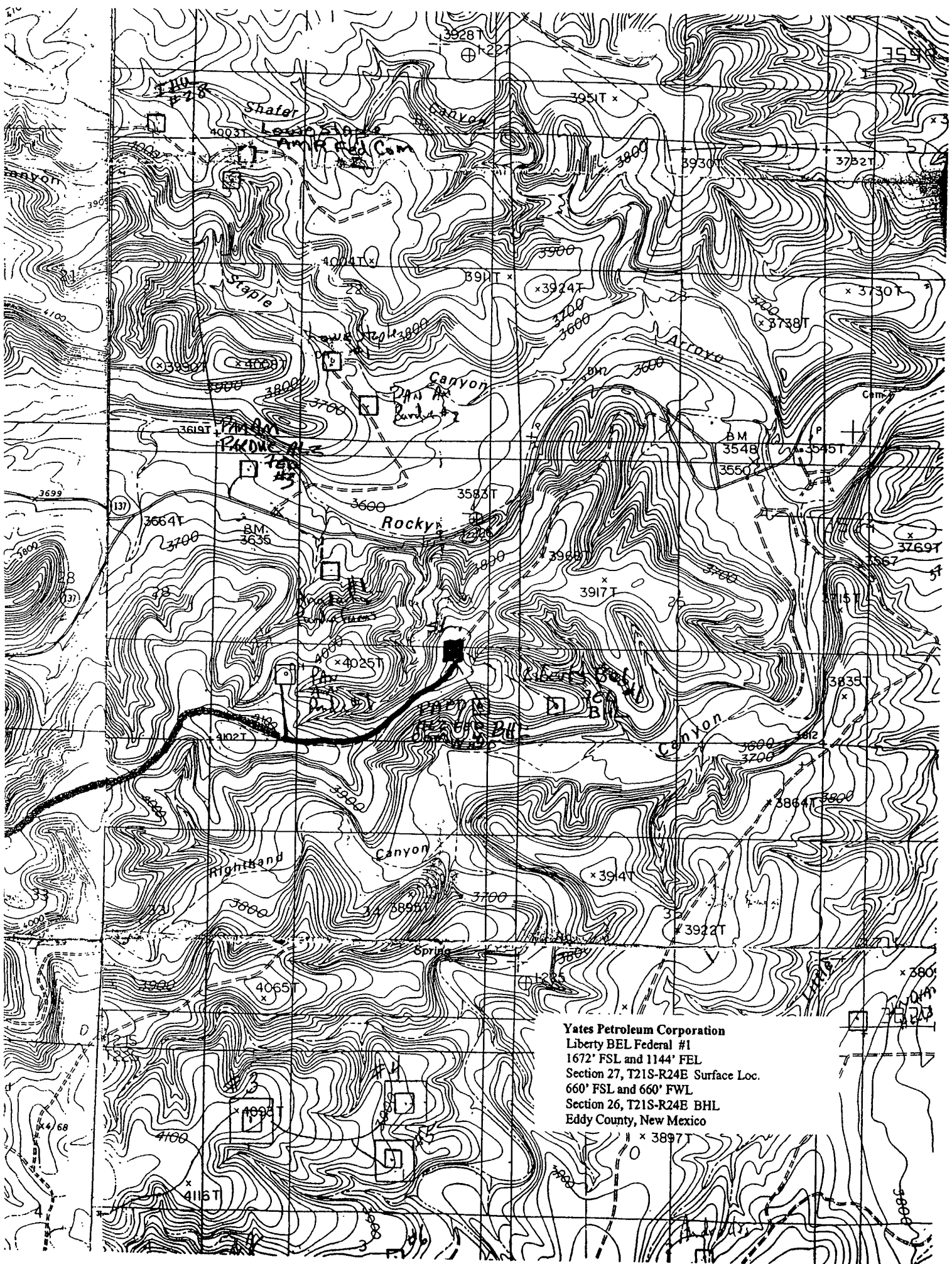
Telephone 575-748-4372

Field Representative (if not above signatory) Jim Krogman

Address (if different from above) Same

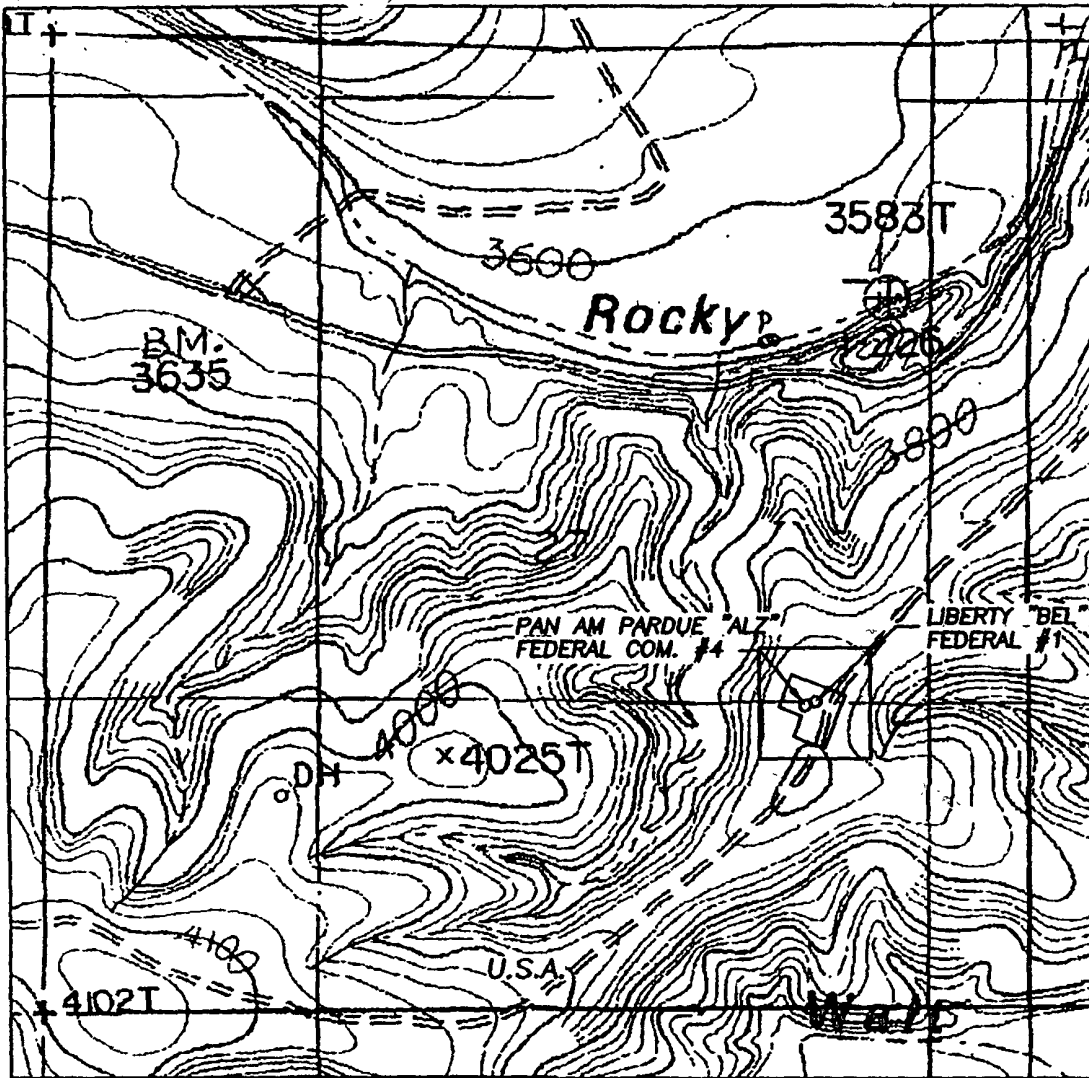
Telephone (if different from above) 575-748-4215

E-mail (optional) cy@ypcnm.com



Yates Petroleum Corporation
Liberty BEL Federal #1
1672' FSL and 1144' FEL
Section 27, T21S-R24E Surface Loc.
660' FSL and 660' FWL
Section 26, T21S-R24E BHL
Eddy County, New Mexico

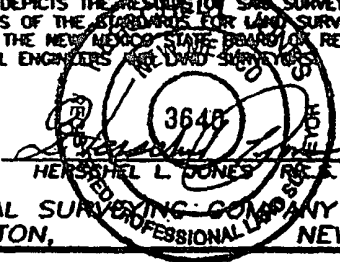
SECTION 27, TOWNSHIP 21 SOUTH, RANGE 24 EAST, NMPM, EDDY COUNTY, NEW MEXICO.



Yates Petroleum Corporation
 Liberty BEL Federal #1
 1672' FSL and 1144' FEL
 Section 27, T21S-R24E Surface Loc.
 660' FSL and 660' FWL
 Section 26, T21S-R24E BHL
 Eddy County, New Mexico

1000' 0 1000' 2000'
 Scale 1" = 1000'

THE PREPARATION OF THIS PLAT AND THE PERFORMANCE OF THE SURVEY UPON WHICH IT IS BASED WERE DONE UNDER MY DIRECTION AND THE PLAT ACCURATELY DEPICTS THE RESULTS OF SAID SURVEY AND MEET THE REQUIREMENTS OF THE STANDARDS FOR LAND SURVEYS IN NEW MEXICO AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS.



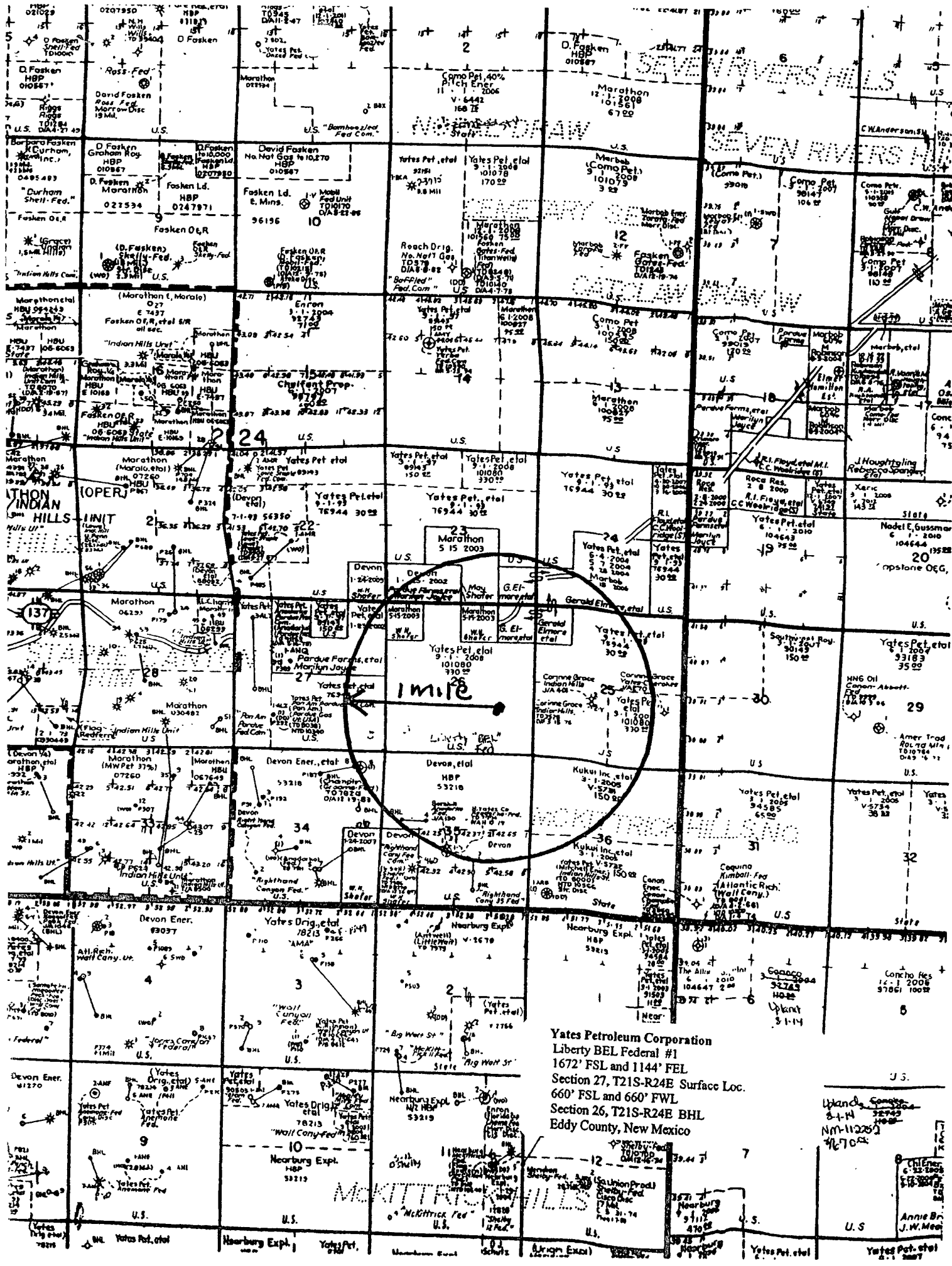
GENERAL SURVEYING COMPANY P.O. BOX 1928
 LOVINGTON, NEW MEXICO 88260

YATES PETROLEUM CORP.

LEASE ROAD TO ACCESS THE YATES LIBERTY "BEL"
 FEDERAL #1 WELL, LOCATED IN SECTION 27, TOWNSHIP 21
 SOUTH, RANGE 24 EAST, NMPM, EDDY COUNTY, NEW
 MEXICO.

BOTTOM HOLE LOCATED IN SECTION 26.

| | |
|------------------------|----------------------------|
| Survey Date: 7/15/2004 | Sheet 1 of 1 Sheets |
| Drawn By: Ed Blevins | W.O. Number |
| Date: 7/18/04 | Scale 1" = 1000' LIBERTY 1 |



Yates Petroleum Corporation
Liberty BEL Federal #1
1672' FSL and 1144' FEL
Section 27, T21S-R24E Surface Loc.
660' FSL and 660' FWL
Section 26, T21S-R24E BHL
Eddy County, New Mexico

Upland
6-1-1
NM-11225
4670

Annie Br.
J.W. Mead

French Dr., Hobbs, NM 88240

State of New Mexico
Energy Minerals and Natural Resources

Form C-144
March 12, 2004

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

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

FEB 10 2005

DOB-ARTESIA

Operator: Yates Petroleum Corporation Telephone: (505) 748-4372 e-mail address: debbiec@yppenn.com

Address: 105 South 4th Street, Artesia, NM 88210

Facility or well name: Liberty BEL Federal #1 API #: 30-015-33870 U/L or Qtr/Qtr ☐ Sec 27 T 21S R 24E

County: Eddy Latitude Longitude NAD: 1927 ☐ 1983 ☐ Surface Owner - Federal ☒ State ☐ Private ☐ Indian ☐

Pit Type: Drilling ☒ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☒ Unlined ☐

Liner type: Synthetic ☒ Thickness 12 mil

Clay ☐ Volume bbl

Below-grade tank

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

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

0 points

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

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

Ranking Score (Total Points)

0 Points

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: February 9, 2005

Printed Name/Title: Cy Cowan/Regulatory Agent Signature: *Debbie S. Caffall*

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.

Approved: FEB 10 2005

Date: Printed Name/Title: *Paul R. P.* Signature: *[Signature]*

PECOS DISTRICT CONDITIONS OF APPROVAL

| | |
|-----------------------|-------------------------------------|
| OPERATOR'S NAME: | Yates Petroleum Corporation |
| LEASE NO.: | NM-101080 |
| WELL NAME & NO.: | Liberty BEL Federal #1 |
| SURFACE HOLE FOOTAGE: | 1672' FSL & 1144' FEL |
| BOTTOM HOLE FOOTAGE: | 660' FSL & 660' FWL |
| LOCATION: | Section 27, T. 21 S., R 24 E., NMPM |
| COUNTY: | Eddy County, New Mexico |

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Cave/Karst
 - VRM
- ☒ **Construction**
 - Notification
 - Topsoil
 - Cuttings Pit
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
- ☐ **Cuttings Pit Closure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave and Karst

Cave/Karst Surface Mitigation

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

Berming:

Any tank batteries will be constructed and bermed large enough to contain any spills that may occur.

Bermed areas will be lined with rip-stop padding to prevent tears or punctures in liners and lined with a permanent 20 mil plastic liner.

Buried Cuttings Pit:

A 70X120 foot cuttings pit will be utilized for this location. The cuttings pit will be lined with 4 oz. felt and two layers of 12 mil. plastic. Upon completion of the well all excess fluids will be vacuumed off the cuttings pit and allowed to dry. The pit liner will then be folded over the cuttings, covered with a 12 mil plastic cover and then covered with at least three feet of top soil.

Closed Mud System

A closed mud system will be utilized to drill the well. All fluids will be hauled off site for disposal.

Cave/Karst Subsurface Mitigation

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

Rotary Drilling with Fresh Water:

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 features are expected. Use depth to the deepest expected fresh water as listed in the geologist report.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone as identified in the geologic report.

Casing:

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.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported.

Regardless of the type of drilling machinery used, if a void (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. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Delayed Blasting:

Any blasting will be a phased and time delayed.

Abandonment Cementing:

Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

Record Keeping:

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 or 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.

Visual Resources Management (VRM)

1. PAINING REQUIREMENT- IN ACCORDANCE WITH NOTICE TO LESSEES (NTL) 87-1 NEW MEXICO, "Painting of Oil Field Facilities to Minimize Visual Impacts": ALL permanent surface production facilities, including the well-drive control system, treatment, storage, transformers, power (except specifically approved electrical transmission lines and poles, or other permanent above-ground facilities not otherwise specifically subject to safety coloring requirements), shall be painted by the holder to blend with the dominant natural color of the surrounding landscape. The paint used shall be one of the "Standard Environmental Colors" designated by the Rocky Mountain Five-State Interagency Committee, and shall be a flat, non-reflective finish. The color specified for this location is:

Standard Environmental Color: Shale Green

Munsell Soil Color Chart Number: 5Y 4/2 (# 657)

Any exception to this Painting Requirement must be approved by the BLM Authorized Officer in writing prior to implementation.

2. LOW PROFILE FACILITIES - All permanent surface production facilities, including the well-drive control system, treatment, storage, transformers, power (except specifically approved electrical transmission lines and poles), or other permanent above-ground facilities shall be "low profile", not to exceed 10 feet in height. Any exception to on, Low Profile Facilities must be approved in writing by the BLM Authorized Officer prior to implementation.

3. EARLY RECLAMATION - The proposed project is located within a Class Three Visual Resource Area. The project will be built in a manner to minimize visibility. The proposed project will be a linear feature for the life of the project, impacting visual resources.

1. The proposed construction and scenic impacts will be limited to the approved pad size.
2. No fill should be added especially to the pad side facing out to the Highway 137.
3. Facilities (including transformers and power poles) should be located on the side away from Highway 137.
4. Upon completion of the well and installation of the production facilities (if the well is a producer) the pad will be reclaimed back to a minimal size (to the anchors) needed for production operations. The pads edges will be recontoured and the extra caliche and pad material will be hauled off-site. After one year, the BLM may require additional site reclamation.
5. The reclaimed areas will be grid rolled and reseeded with seed mix as indicated in the Special Drilling Stipulations.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

C. CUTTINGS PIT

The cuttings pit shall be constructed and closed in accordance with the NMOCD rules.

The cuttings pit shall be constructed 120' X 70' on the Southwest side of the well pad.

The cuttings pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The cuttings pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The cuttings pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

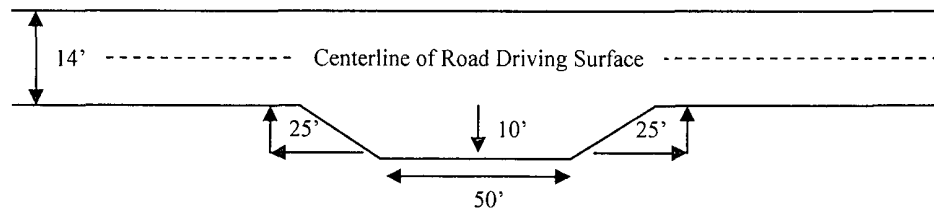
Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout – Plan View

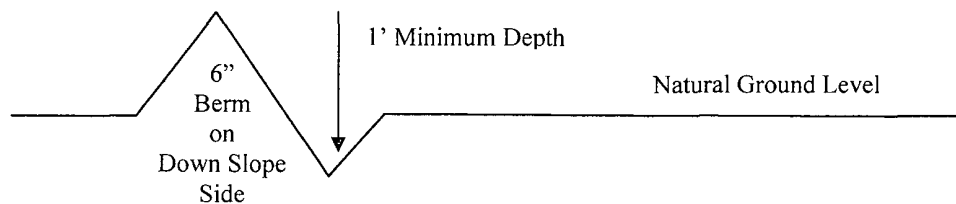


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

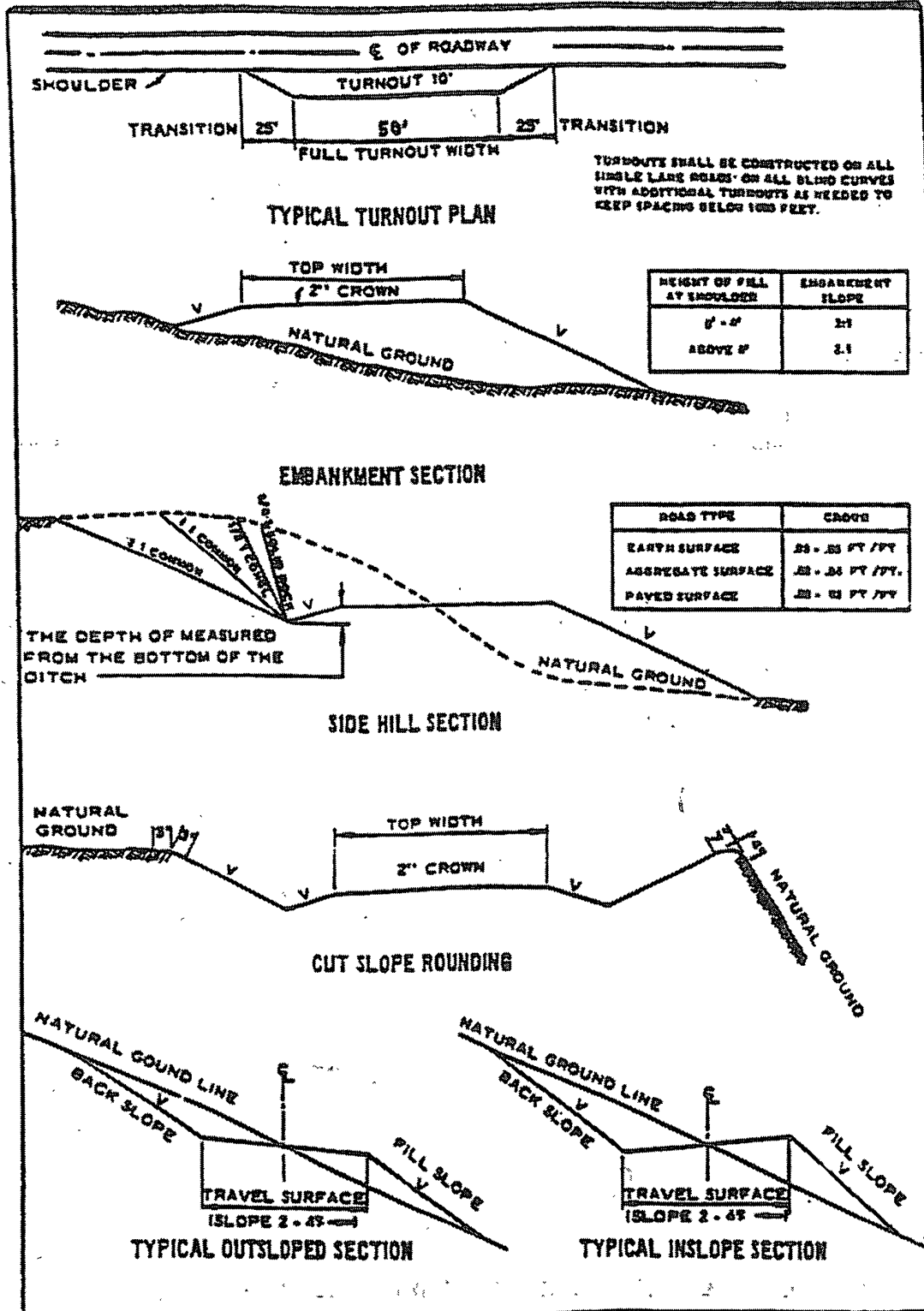
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the **Canyon** formation. **Measurements in the gas stream in nearby sections have ranged from 7000-8000 ppm.**
2. 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.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

1. The **9-5/8** inch surface casing shall be set at **approximately 1650** feet and cemented to the surface. **Approved for aerated mud for this section of hole, but not for air drilling.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement). **Please provide WOC times to inspector for cement slurries.**

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.

High cave/karst.

Possible lost circulation in the San Andres, Wolfcamp, and Canyon formations.

Possible high pressure gas bursts in the Wolfcamp and possible overpressure in the Pennsylvanian section.

- 2. The minimum required fill of cement behind the 7 inch production casing is:

- ☒ Cement to surface **due to high cave/karst.** If cement does not circulate see B.1.a-d above. **Remedial cementing may be difficult due to space between casing strings.**

Contingency casing program – steps 3 and 4

- 3. The minimum required fill of cement behind the 7 inch intermediate casing is:

- ☒ Cement to surface **due to high cave/karst.** If cement does not circulate see B.1.a-d above. **Please provide WOC times to inspector for cement slurries. Remedial cementing may be difficult due to space between casing strings.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

- 4. The minimum required fill of cement behind the 4-1/2 inch production casing is:

- ☒ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

- 5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations..

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
3. The appropriate BLM office shall be notified a minimum of 2 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
 - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
 - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.
 - f. **No variance granted on BOP test since there is a possibility that only two casing strings will be used.**

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

VRM Facility Requirement

Low-profile tanks not greater than ten-feet-high shall be used.

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time the cuttings pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

B. CUTTINGS PIT CLOSURE

The cuttings pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorised officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

| <u>Species</u> | <u>lb/acre</u> |
|---|----------------|
| Plains Bristlegrass (<i>Setaria magrostachya</i>) | 1.0 |
| Green Spangletop (<i>Leptochloa dubia</i>) | 2.0 |
| Side oats Grama (<i>Bouteloua curtipendula</i>) | 5.0 |

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed
(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.