

NM OIL CONSERVATION
ARTESIA DISTRICT

13-793

HIGH CAVEKARST

JUN 15 2015

Form 3160-3
(March 2012)

Split Estate

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

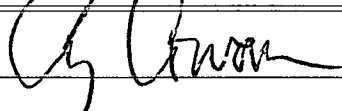
APPLICATION FOR PERMIT TO DRILL OR REENTER

| | | |
|---|---|---|
| 1a. Type of work: <input type="checkbox"/> DRILL <input checked="" type="checkbox"/> REENTER Non-Standard Location | | 5. Lease Serial No. NM-86241 & Fee |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone | | 6. If Indian, Allottee or Tribe Name |
| 2. Name of Operator YATES PETROLEUM CORPORATION | | 7. If Unit or CA Agreement, Name and No. |
| 3a. Address 105 South 4th Street, Artesia, NM 88210 | 3b. Phone No. (include area code) 575-748-4372 | 8. Lease Name and Well No. Ceniza "AGZ" Federal Com #7-H |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 1845' FSL & 270' FWL, 13-20S-24E, Unit Ltr DL At proposed prod. zone 1980' FSL & 330' FEL, 13-20S-24E, Unit Ltr AI | | 9. API Well No. 30-015-43229 |
| 14. Distance in miles and direction from nearest town or post office* This well is approximately 32 miles southwest of Artesia, New Mexico | | 10. Field and Pool, or Exploratory Undesignated Yeso |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 270' | 16. No. of acres in lease NM-86241-880 ac., & Fee 760 ac. | 11. Sec., T. R. M. or Blk. and Survey or Area Section 13-T20S-R24E |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. approx. 930' | 19. Proposed Depth MD 7045' & TVD 2550' | 12. County or Parish Eddy County |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3602' GL | 22. Approximate date work will start* 10/28/2013 | 13. State NM |
| 17. Spacing Unit dedicated to this well N2S2 of 13, T20S, R24E | | |
| 20. BLM/BIA Bond No. on file #NMB000434 NMB000920 | | |
| 23. Estimated duration 60 days | | |

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

| | | |
|---|--|------------------------|
| 25. Signature  | Name (Printed/Typed) Cy Cowan | Date 8/28/13 |
| Title Land Regulatory Agent | | |
| Approved by (Signature) Steve Caffey | Name (Printed/Typed) | Date JUN 8 2015 |
| 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.

(Continued on page 2)

*(Instructions on page 2)

Roswell Controlled Water Basin


2/17/15

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

CERTIFICATION
YATES PETROLEUM CORPORATION
Cenzia AGZ Federal Com. 7H

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; and an someone under employment of Yates Petroleum Corporation has 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 28th day of August 2013

Signature 

Name Cy Cowan

Position Title Land Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

Telephone (505) 748-4372

Field Representative (if not above signatory) Tim Bussell, Drilling Supervisor

Address (if different from above) Same as above.

Telephone (if different from above) (505) 748-4221

E-mail (optional) _____

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6176 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

NM OIL CONSERVATION

ARTESIA DISTRICT Form C-102
Revised August 1, 2011

JUN 15 2015
Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|-----------------------------------|--|---|
| API Number 30-015-43229 | Pool Code 97451 | Pool Name Long Draw Undesignated - yeso |
| Property Code 315037 | Property Name CENIZA AGZ FEDERAL COM | Well Number 7H |
| OGRID No. 025575 | Operator Name YATES PETROLEUM CORP. | Elevation 3602' |

Surface Location

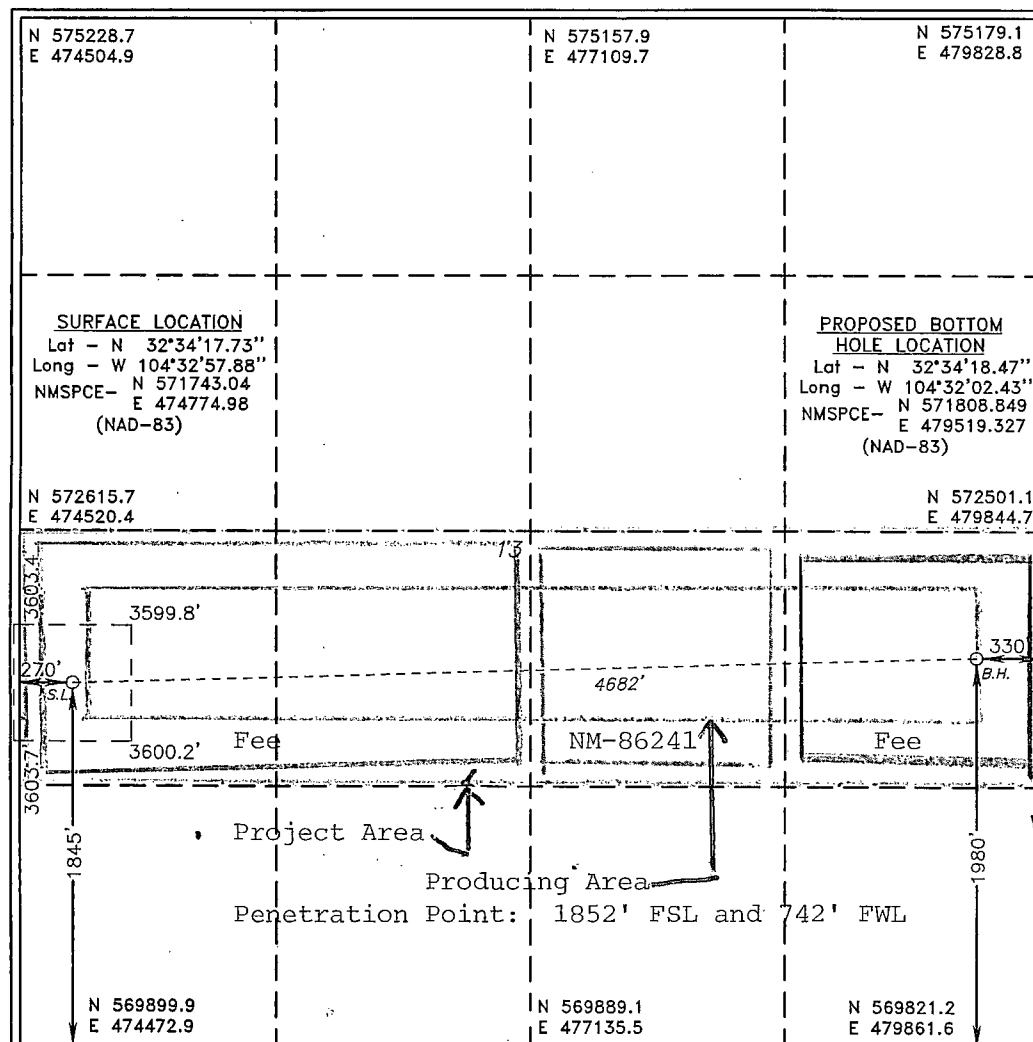
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| L | 13 | 20 S | 24 E | | 1845 | SOUTH | 270 | WEST | 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 | 13 | 20 S | 24 E | | 1980 | SOUTH | 330 | EAST | EDDY |

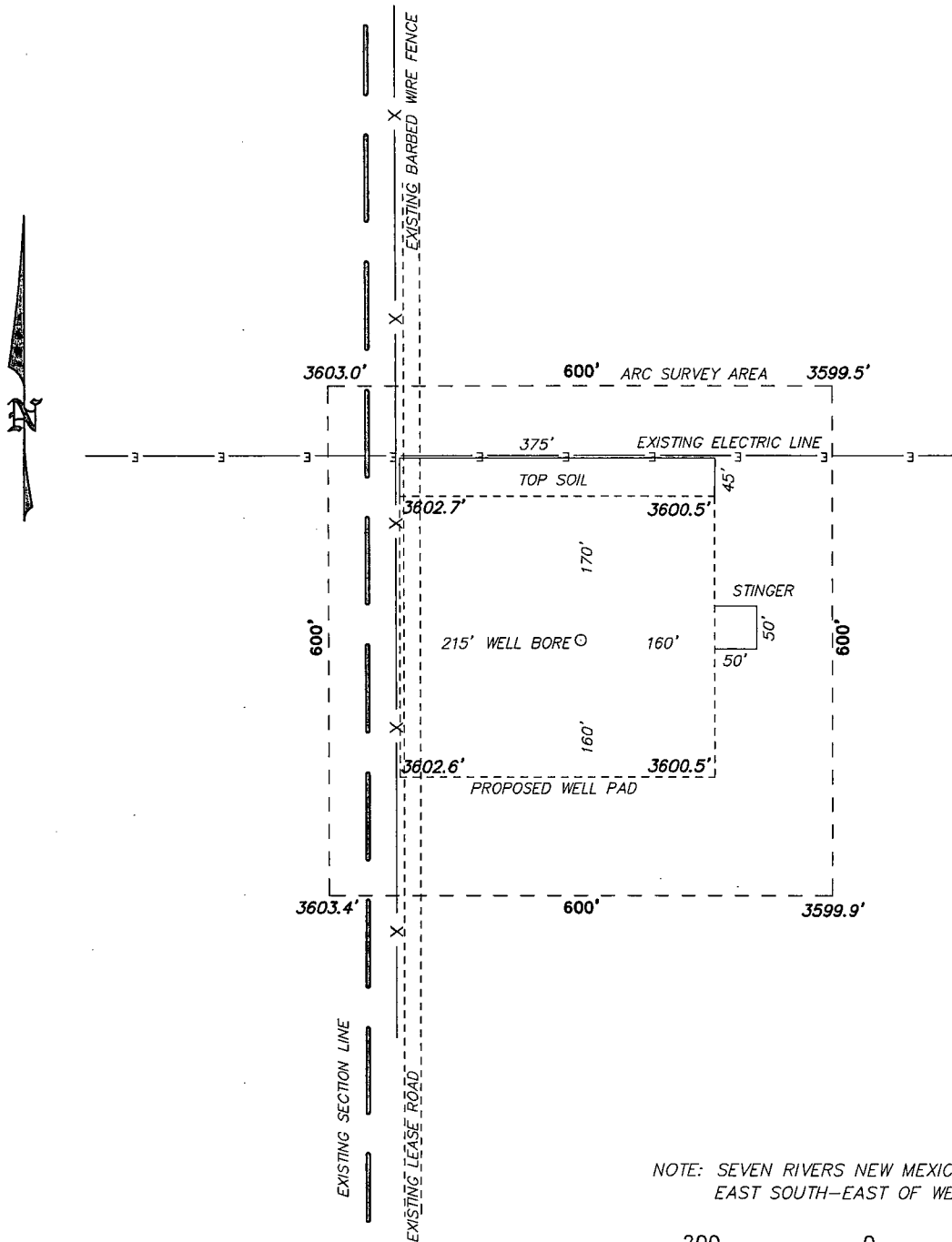
| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|-----------------|-----------------|--------------------|-----------|
| 160 | | | |

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



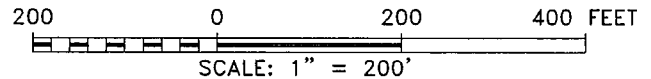
| | |
|--|--|
| OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature Cy Cowan Printed Name _____ Email Address _____ | |
| SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date Surveyed Signature Professional Surveyor Certificate No. Gary L. Jones 7977 BASIN SURVEYS 29094 | |

SECTION 13, TOWNSHIP 20 SOUTH, RANGE 24 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



YATES PETROLEUM CORP.
CENIZA AGZ FEDERAL COM #7H
ELEV. - 3602'
SURFACE LOCATION
Lat - N 32°34'17.73"
Long - W 104°32'57.88"
NMSPCE- N 571743.04
E 474774.98
(NAD-83)

NOTE: SEVEN RIVERS NEW MEXICO IS LOCATED ABOUT 7.5 MILES
EAST SOUTH-EAST OF WELL LOCATION



DRIVING DIRECTIONS:
FROM INTERSECTION OF COUNTY ROADS SAWBUCK AND PICKETT;
GO EAST ON PICKETT FOR 1.4 MILES TO EXISTING LEASE ROAD
GOING NORTH; GO NORTH ON LEASE ROAD FOR 0.2 MILES TO
PROPOSED WELL PAD.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

YATES PETROLEUM CORP.

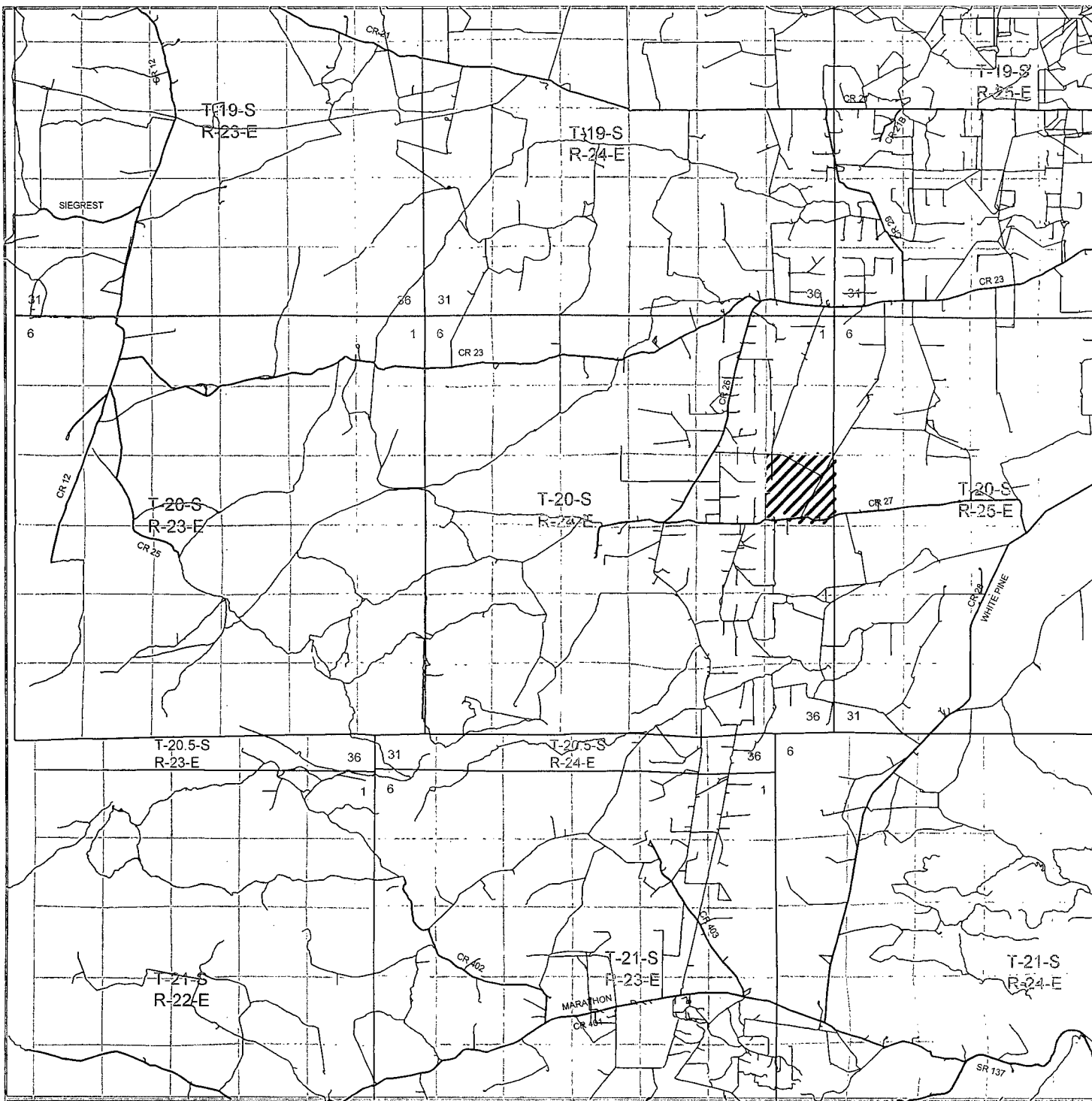
REF: CENIZA AGZ FEDERAL COM #7H / WELL PAD TOPO

THE CENIZA AGZ FEDERAL COM #7H LOCATED 1845'
FROM THE SOUTH LINE AND 270' FROM THE WEST LINE OF
SECTION 13, TOWNSHIP 20 SOUTH, RANGE 24 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

W.O. Number: 29094 Drawn By: D. JONES

Date: 07-26-2013 Disk: DAJ - 29094WELL

Survey Date: 07-25-2013 Sheet 1 of 1 Sheets



CENIZA AGZ FEDERAL COM #7H

Located 1845' FSL and 270' FWL

Section 13, Township 20 South, Range 24 East,
N.M.P.M., Eddy County, New Mexico.



focused on excellence
in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: DAJ 29094

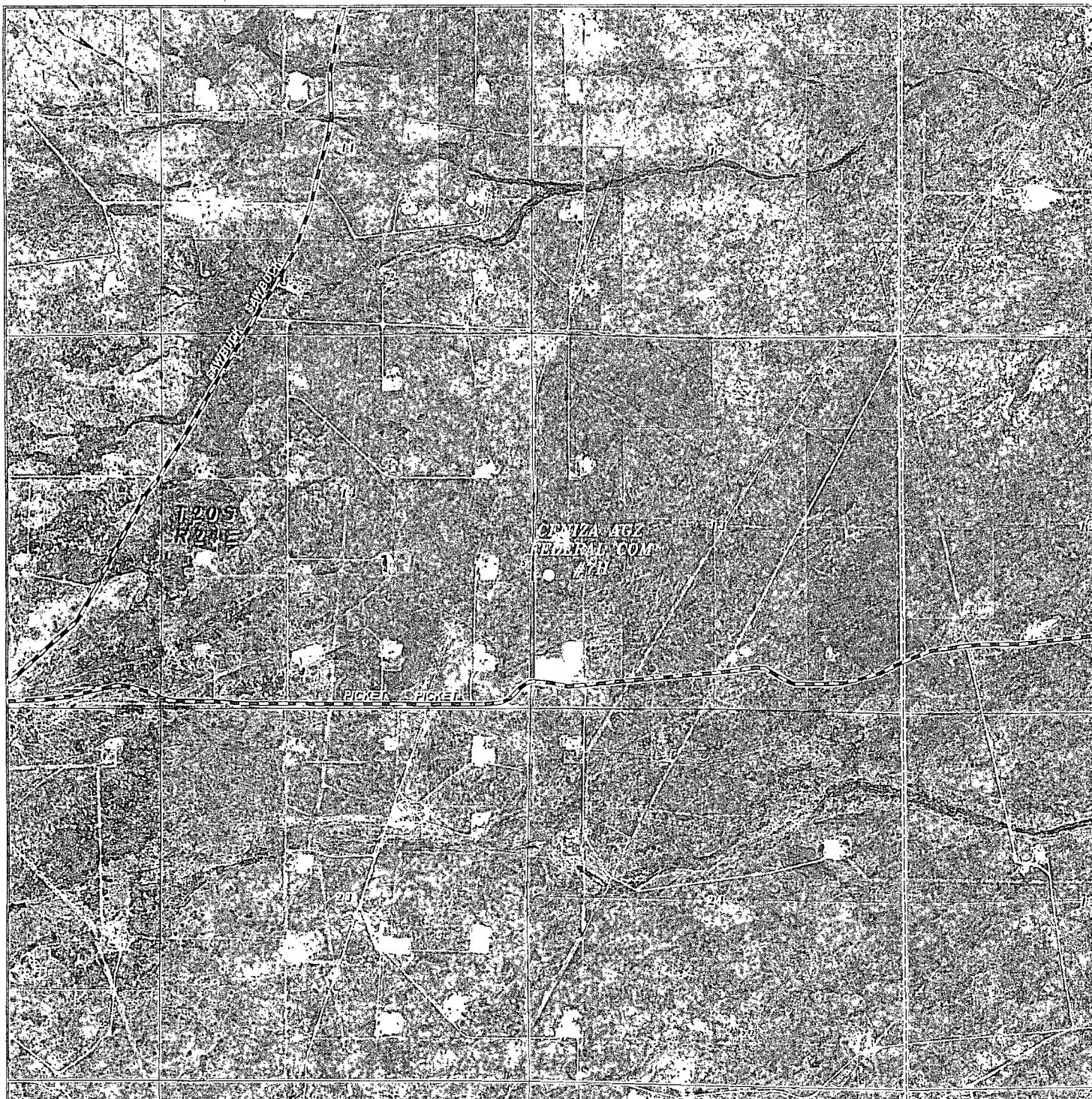
Survey Date: 07-25-2013

Scale: 1" = 2 Miles

Date: 07-26-2013



YATES
PETROLEUM
CORP.



CENIZA AGZ FEDERAL COM #7H

Located 1845' FSL and 270' FWL
 Section 13, Township 20 South, Range 24 East,
 N.M.P.M., Eddy County, New Mexico.



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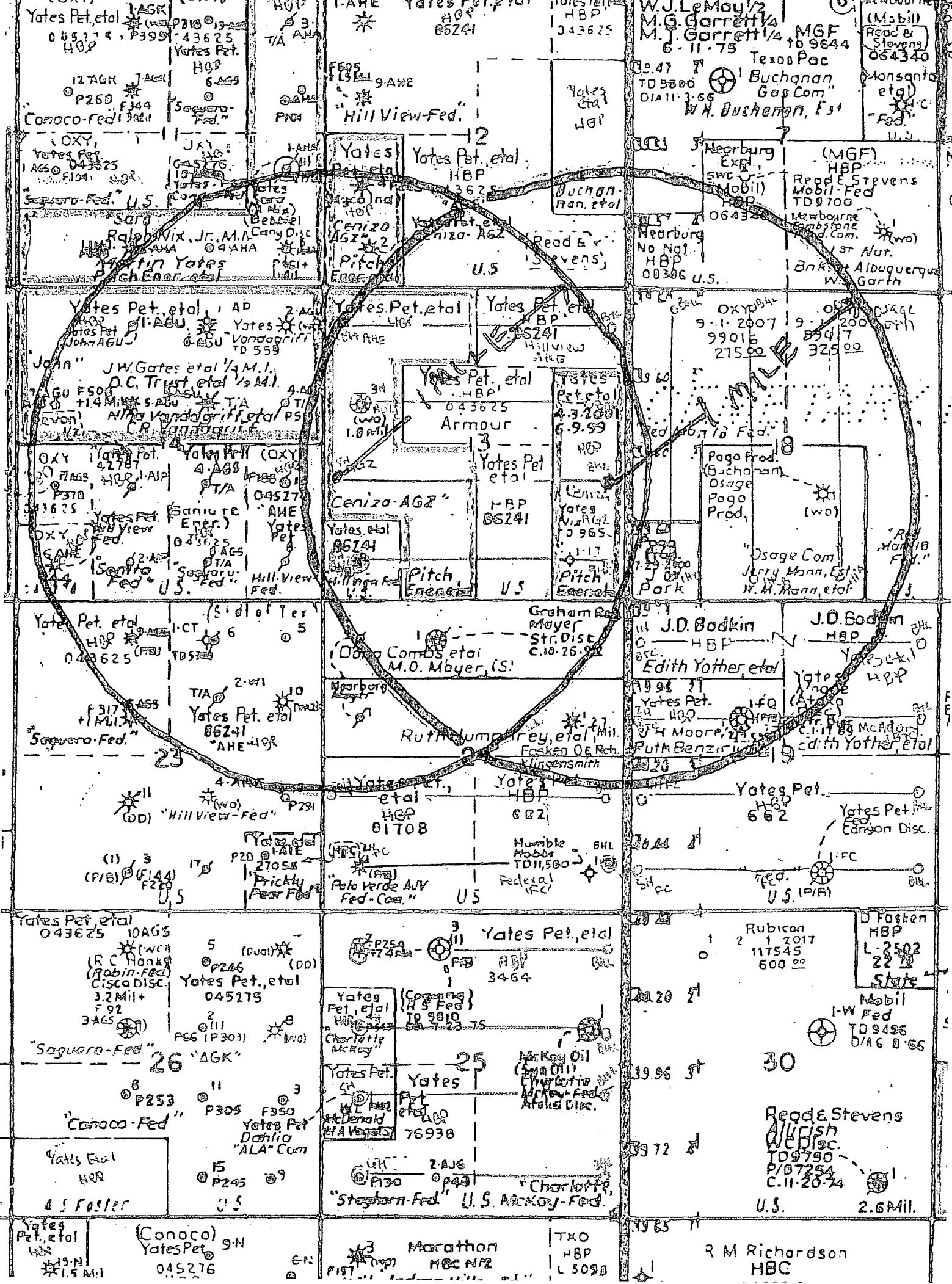
W.O. Number: DAJ 29094

Scale: 1" = 2000'

YELLOW TINT - USA LAND
 BLUE TINT - STATE LAND
 NATURAL COLOR - FEE LAND



YATES
 PETROLEUM
 CORP.



Yates Pet. et al.
045714, P395
HOB

12 AGK
P260, F344
Conoco-Fed

OXY
Yates Pet.
1 AGS
Saguaro-Fed. U.S.

Saguaro-Fed. U.S.
John
Ralph Nix, Jr. M.A.
Martin Yates
Pachener et al.

Yates Pet. et al.
John AGU
John AGU

John
J.W. Gates et al. 1/4 M.L.
D.C. Trust et al. 1/2 M.L.
Hill View AGU

OXY
Yates Pet.
Yates Pet. et al.

OXY
Yates Pet.
Yates Pet. et al.

Yates Pet. et al.
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043625

Saguaro-Fed.
Yates Pet. et al.
HOB

Hill View-Fed.
Yates Pet. et al.
HOB

Yates Pet. et al.
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Yates Pet. et al.
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Saguaro-Fed.
Yates Pet. et al.
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Conoco-Fed.
Yates Pet. et al.
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Hill View-Fed.
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Yates Pet. et al.
HOB
043625

W.J. LeMay
M.G. Garrett
M.J. Garrett
6-11-75

Texaco Pac
Buchanan
Gas Com
W.H. Buchanan, Esq

Hearburg
Exp.
SWC
Mobil
HOB

Hearburg
No Nat.
HOB
00306 U.S.

OXY
9-1-2007
99015
275.00

Pogo Prod.
Buchanan
Osage
Pogo Prod.

Osage Com.
Jerry Mann, Esq
W.M. Mann, et al.

J.D. Bodkin
HOB
Edith Yotter, et al.

Yates Pet.
HOB
043625

Yates Pet.
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YATES PETROLEUM CORPORATION

Ceniza "AGZ" Federal Com #7-H
1845' FSL & 270' FWL, Surface Hole
1980' FSL & 330' FEL, Bottom Hole
Section 13 - T20S-~~R45-E~~ **246**
Eddy County, New Mexico

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

| | | | | |
|------------|------------|-------------|--------------|-----------|
| San Andres | 568' | Yeso | 2204' MD-Oil | 2200' TVD |
| KOP | 2028' | Target Yeso | 2773 MD-Oil | 2505' TVD |
| Glorieta | 2100'--Oil | Lateral TD | 7045' MD | 2550' TVD |

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

Water: Approximately 400.

Oil or Gas: See above--All Potential Zones

3. Pressure Control Equipment: A 3000 PSI BOP system with a minimum opening of 13 5/8" will be nipped up on 9 5/8" casing. Blind rams and pipe rams will be tested to the rated pressure of the BOP. Test will be conducted by an Independent Tester, utilizing a test plug in the well head. Test will be held for 10 minutes on each segment of the system tested. Any Leaks will be repaired at the time of the test. Annular preventer will be tested to 50% of rated working pressure. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers 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.

Accumulator system will be inspected for correct pre charge pressures, and proper functionality. Prior to connection to the BOP system.

Auxiliary Equipment:

4. 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.

THE PROPOSED CASING AND CEMENTING PROGRAM:

- A. Casing Program: (Casing All New) ** See COA*

one string [

| HOLE SIZE | CASING SIZE | WT/FT | GRADE | COUPLING | INTERVAL | LENGTH |
|-----------|-------------|-------|-------|----------|-------------|--------|
| 14 3/4" | 9 5/8" | 36# | J-55 | LT&C | 0-700' | 700' |
| 8 3/4" | 7" | 26# | L-80 | LT&C | 0-2300' | 2300' |
| 8 1/2" | 5 1/2" | 17# | L-80 | Buttress | 2300'-7045' | 4745' |

Minimum Casing Design Factors: Burst 1.0, Tensile 1.8, Collapse 1.125

- B. CEMENTING PROGRAM:

Surface casing will be cemented from 700' to surface with 410 sacks of 35:65:6PzC (Wt. 12.50 Yld. 2.00). Tail in with 200 sacks Class C with CaCl₂ (Wt. 14.80 Yld. 1.34). Cement designed with 100% excess. TOC is to surface.

* See COA

Production Casing will be cemented from 7045' to surface with 350 sacks of 35:65:6PzC (Wt. 12.50 Yld. 2.00). Tail in 870 sacks of PecosVILt with D112, Fluid Loss 0.4%; D151, Calcium Carbonate, 22.5 lb/sack; D-174, Extender 1.5 lb/sack; D-177, Retarder 0.01 lb/sack; D-800, Retarder 0.5 lb/sack and D46, Antifoam Agent, 0.15 lb/sack (Wt. 13.00 Yld. 1.82). Cement designed with 35% excess. TOC is to surface.

The well will be drilled vertically to 2028'. Well will then be kick off at approximately 2028' and directionally drilled at 12 degrees per 100' with an 8 3/4" hole to 2773' MD (2505' TVD). The hole size will be reduced to 8 1/2" and drilled to 7045' MD (2550' TVD) where a tapered string will be run, with 7" casing set at approximately 2300 MD and 5 1/2' casing to TD at 7045' MD (2550' TVD). Production string will be cemented to surface. Penetration point of the producing zone will be encountered at 1852' FSL & 742' FWL, 13-20S-24E. Deepest TVD in the well is 2550' in the lateral.

5. Mud Program and Auxiliary Equipment:

| INTERVAL | TYPE | WEIGHT | VISCOSITY | FLUID LOSS |
|------------|-------------|-----------|-----------|------------|
| 0-700' | Fresh Water | 8.60-8.70 | 32-34 | N/C |
| 700'-7045' | Fresh Water | 8.50-8.70 | 28-32 | N/C |

Casing Design Factors: Burst 1.0 Tensile 1.8 Collapse 1.125

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. The slow pump speed will be recorded on the daily drilling report after mudding up. A mud test will be performed every 24 hours after mudding up to determine, as applicable, viscosity, gel strength, filtration and pH. After surface casing is set an electronic PVT system will be installed as our primary mud level monitoring system. A secondary system will also be implemented as to insure the PVT system is functioning properly. The secondary system will be comprised of the derrick hand visually checking the fluid level in the pits periodically using a nut on the end of a rope hanging just above the fluid level in the pit.

6. EVALUATION PROGRAM: * See COA

Samples: 10' samples 700' to TD (7045' MD) *See COA*
Logging: Horizontal-MWD-GR.
Coring: None
DST's: None
Mudlogging: Yes. Out from under surface casing.

7. Abnormal Conditions, Bottom hole pressure and potential hazards: * See COA
Anticipated BHP: Depths are TVD.

| | |
|---------------------------|----------|
| 0' to 200 700' | 317 PSI |
| 700' to 2550' | 1154 PSI |

No abnormal pressures or temperatures are anticipated.

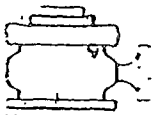
Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: H2S is anticipated.

Maximum Bottom Hole Temperature 140 F

8. ANTICIPATED STARTING DATE:

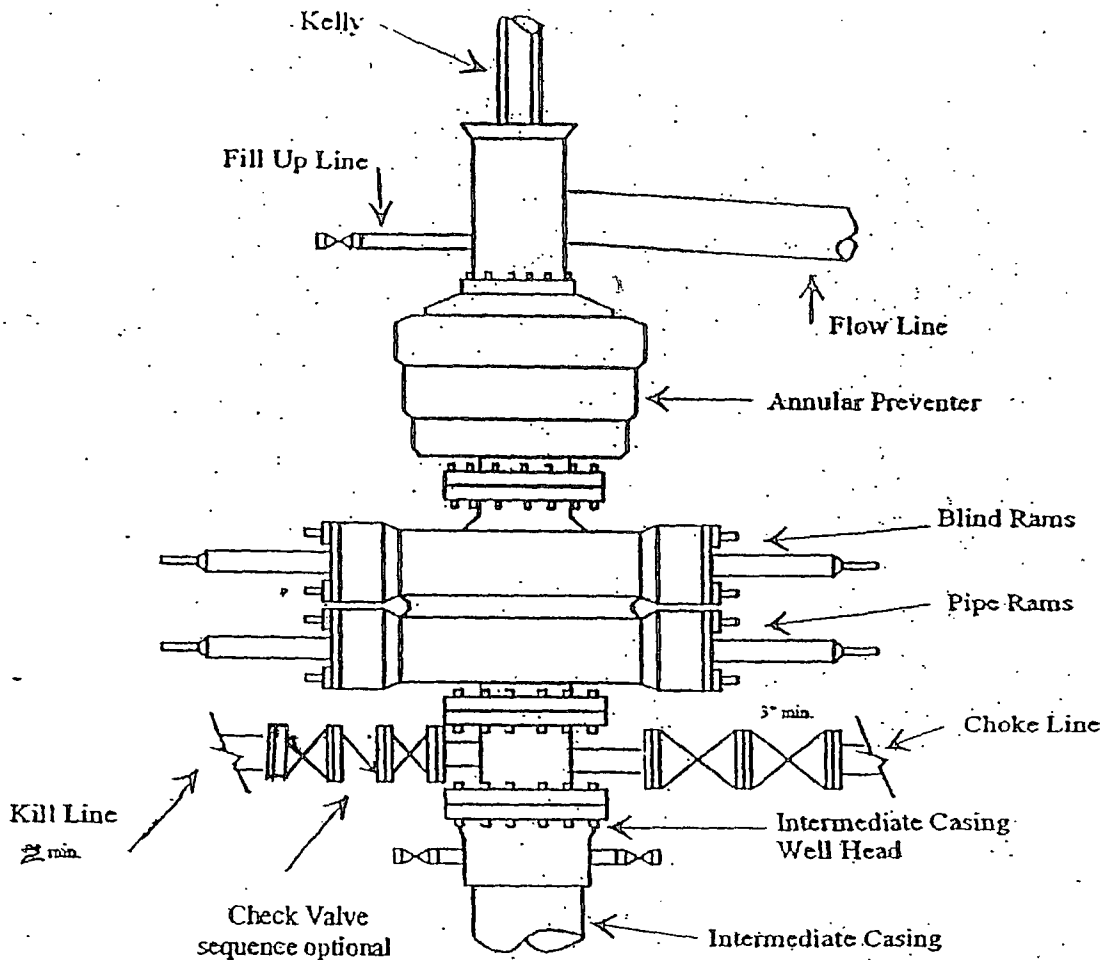
Plans are to drill this well as soon as receiving approval. It should take approximately 60 days to drill the well with completion taking another 30 days.



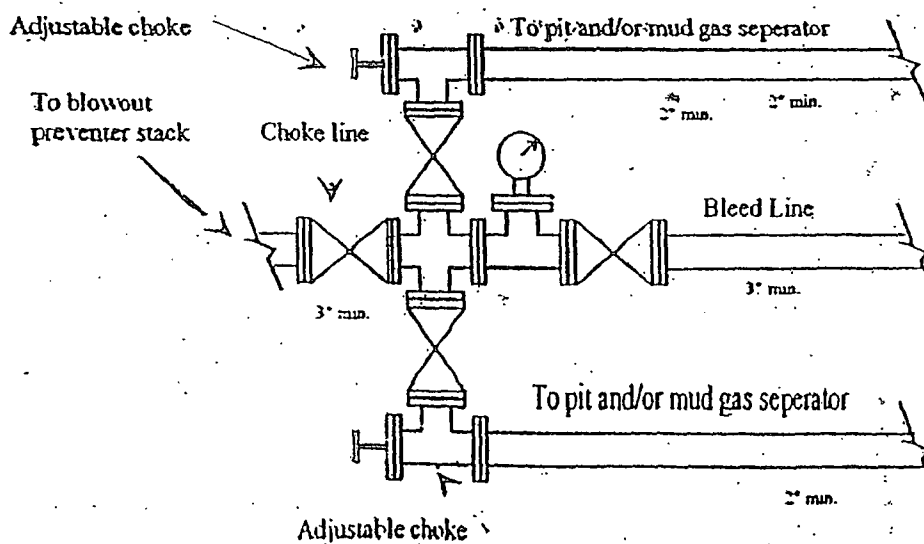
Yates Petroleum Corporation

BOP-3

Typical 3,000 psi Pressure System Schematic Annular with Double Ram Preventer Stack

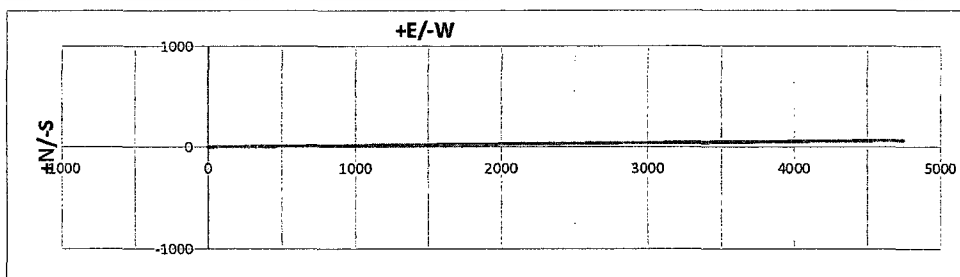
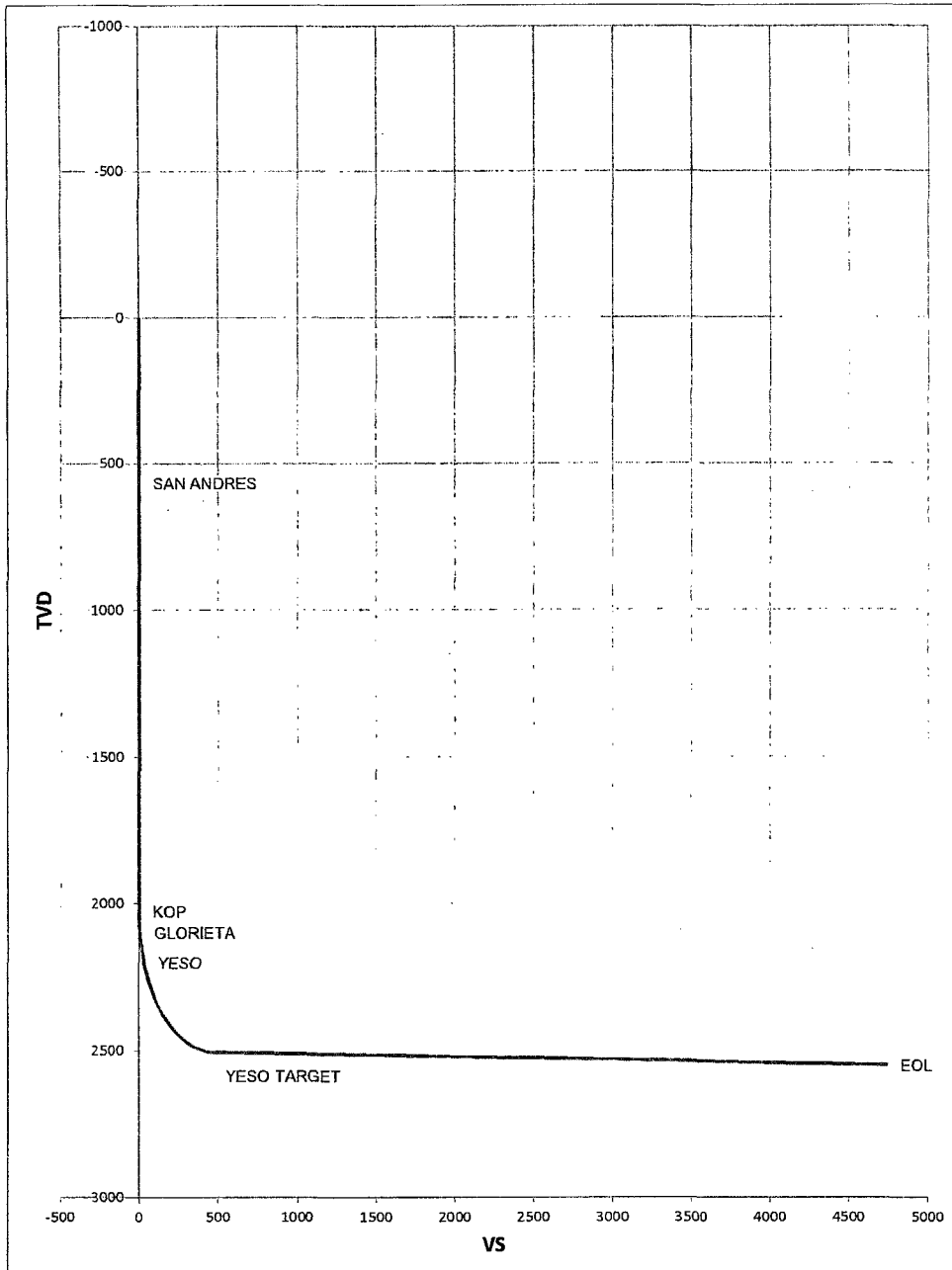


Typical 3,000 psi choke manifold assembly with at least these minimum features



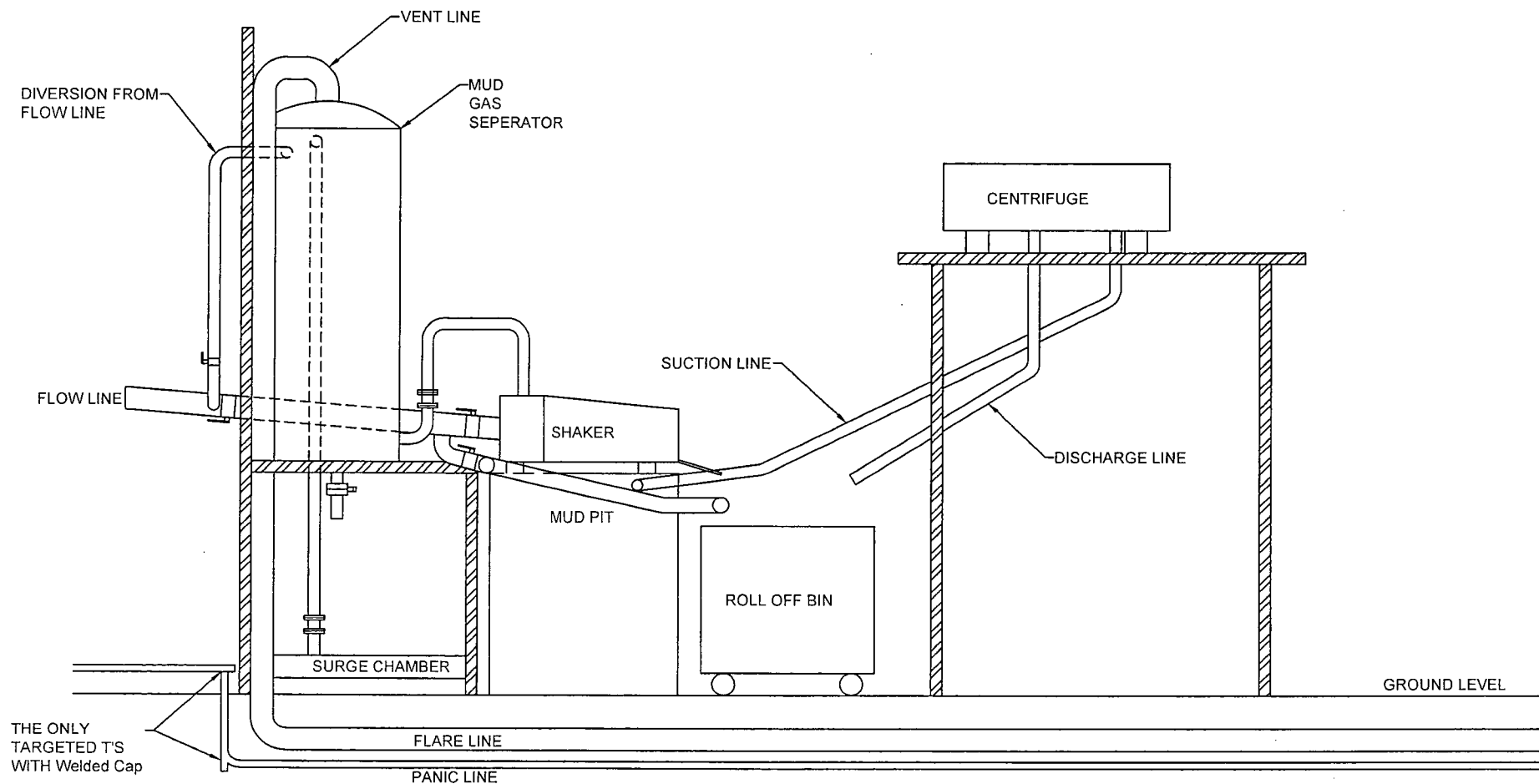
| | | | | |
|---|--|--|------------------|-------------------------------|
| Well Name: Ceniza AGZ Federal Com #7H | | | Tgt N/S: 65.81 | |
| Surface Location: Section 13 , Township 20S Range 24E | | | Tgt E/W: 4744.35 | EOC TVD/MD: 2504.98 / 2772.51 |
| Bottom Hole Location: Section 13 , Township 20S Range 24E | | | VS: 4744.80 | |
| | | | VS Az: 89.21 | EOL TVD/MD: 2550.00 / 7044.88 |

| MD | Inc | AZI | TVD | N/S | E/W | VS | DLS | Comments |
|---------|-------|-------|---------|-------|---------|---------|-------|-------------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 568.00 | 0.00 | 0.00 | 568.00 | 0.00 | 0.00 | 0.00 | 0.00 | SAN ANDRES |
| 2027.54 | 0.00 | 0.00 | 2027.54 | 0.00 | 0.00 | 0.00 | 0.00 | KOP |
| 2050.00 | 2.70 | 89.21 | 2049.99 | 0.01 | 0.53 | 0.53 | 12.00 | |
| 2075.00 | 5.70 | 89.21 | 2074.92 | 0.03 | 2.36 | 2.36 | 12.00 | |
| 2100.00 | 8.70 | 89.21 | 2099.72 | 0.08 | 5.49 | 5.49 | 12.00 | |
| 2100.28 | 8.73 | 89.21 | 2100.00 | 0.08 | 5.53 | 5.53 | 12.00 | GLORIETA |
| 2125.00 | 11.70 | 89.21 | 2124.32 | 0.14 | 9.91 | 9.91 | 12.00 | |
| 2150.00 | 14.70 | 89.21 | 2148.66 | 0.22 | 15.62 | 15.62 | 12.00 | |
| 2175.00 | 17.70 | 89.21 | 2172.67 | 0.31 | 22.59 | 22.59 | 12.00 | |
| 2200.00 | 20.70 | 89.21 | 2196.27 | 0.43 | 30.81 | 30.81 | 12.00 | |
| 2203.99 | 21.17 | 89.21 | 2200.00 | 0.45 | 32.23 | 32.23 | 12.00 | YESO |
| 2225.00 | 23.70 | 89.21 | 2219.42 | 0.56 | 40.25 | 40.25 | 12.00 | |
| 2250.00 | 26.70 | 89.21 | 2242.04 | 0.71 | 50.89 | 50.89 | 12.00 | |
| 2275.00 | 29.70 | 89.21 | 2264.07 | 0.87 | 62.70 | 62.70 | 12.00 | |
| 2300.00 | 32.70 | 89.21 | 2285.45 | 1.05 | 75.64 | 75.65 | 12.00 | |
| 2325.00 | 35.70 | 89.21 | 2306.13 | 1.24 | 89.69 | 89.70 | 12.00 | |
| 2350.00 | 38.70 | 89.21 | 2326.04 | 1.45 | 104.80 | 104.81 | 12.00 | |
| 2375.00 | 41.70 | 89.21 | 2345.13 | 1.68 | 120.93 | 120.94 | 12.00 | |
| 2400.00 | 44.70 | 89.21 | 2363.36 | 1.91 | 138.04 | 138.05 | 12.00 | |
| 2425.00 | 47.70 | 89.21 | 2380.66 | 2.16 | 156.08 | 156.10 | 12.00 | |
| 2450.00 | 50.70 | 89.21 | 2397.00 | 2.43 | 175.00 | 175.02 | 12.00 | |
| 2475.00 | 53.70 | 89.21 | 2412.32 | 2.70 | 194.75 | 194.77 | 12.00 | |
| 2500.00 | 56.70 | 89.21 | 2426.59 | 2.99 | 215.27 | 215.29 | 12.00 | |
| 2525.00 | 59.70 | 89.21 | 2439.76 | 3.28 | 236.51 | 236.54 | 12.00 | |
| 2550.00 | 62.70 | 89.21 | 2451.81 | 3.58 | 258.42 | 258.44 | 12.00 | |
| 2575.00 | 65.70 | 89.21 | 2462.69 | 3.90 | 280.92 | 280.94 | 12.00 | |
| 2600.00 | 68.70 | 89.21 | 2472.38 | 4.22 | 303.96 | 303.99 | 12.00 | |
| 2625.00 | 71.70 | 89.21 | 2480.84 | 4.54 | 327.47 | 327.51 | 12.00 | |
| 2650.00 | 74.70 | 89.21 | 2488.07 | 4.87 | 351.40 | 351.44 | 12.00 | |
| 2675.00 | 77.70 | 89.21 | 2494.04 | 5.21 | 375.67 | 375.71 | 12.00 | |
| 2700.00 | 80.70 | 89.21 | 2498.72 | 5.55 | 400.23 | 400.27 | 12.00 | |
| 2725.00 | 83.70 | 89.21 | 2502.12 | 5.90 | 424.99 | 425.03 | 12.00 | |
| 2750.00 | 86.70 | 89.21 | 2504.21 | 6.24 | 449.90 | 449.94 | 12.00 | |
| 2772.51 | 89.40 | 89.21 | 2504.98 | 6.55 | 472.39 | 472.43 | 12.00 | YESO TARGET |
| 7044.88 | 89.40 | 89.21 | 2550.00 | 65.81 | 4744.35 | 4744.80 | 0.00 | EOL |



YATES PETROLEUM CORPORATION

Piping from Choke Manifold to the Closed Loop Drilling Mud System



The flare discharge must be 100' from wellhead for non H₂S wells and 150' from wellhead for wells expected to encounter H₂S.

Yates Petroleum Corporation

Closed Loop System

Equipment Design Plan

Closed Loop System will consist of:

1 – double panel shale shaker

1 – (minimum) Centrifuge, certain wells and flow rates may require 2 centrifuges

On certain wells, the Centrifuge will be replaced by a Clackco Settling Tank System

1 – minimum centrifugal pump to transfer fluids

2- 500 bbl. FW Tanks

1 – 500 bbl. BW Tank

1 – half round frac tank – 250 bbl. capacity as necessary to catch cement / excess mud returns generated during a cement job.

1 Set of rail cars / catch bins

Certain wells will use an ASC Auger Tank

Operation Plan

All equipment will be inspected at least hourly by rig personnel and daily by contractors' personnel.

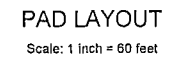
Any spills / leaks will be reported to YPC, NMOCD, and cleaned up without delay.

Closure Plan

Drilling with Closed Loop System, haul off bins will be taken to Gandy Marley, Lea Land Farm, CRI or Sundance Services Inc.

06-24-13

Lenzia AGZ
FED Com
#7H



Yates Petroleum Corporation

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

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

1. The effects of H₂S on metal components. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and H₂S Contingency Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operation Plan and the H₂S Contingency Plan. **The location of this well does not require a Public Protection Plan.**

II. 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.

1. Well Control Equipment:

- A. Flare line
- B. Choke manifold will have a remotely operated adjustable choke system.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.
- E. Mud/Gas Separator.

2. Protective equipment for essential personnel:

- A. Mark II Survive Air (or equivalent) 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

- A. 3 portable H2S monitors positioned at: Shale Shaker, Bell Nipple, and Rig Floor. These units have warning lights and audible sirens when H2S levels of 10 PPM are reached.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram (attached).
- B. Caution/Danger signs (attached) shall be posted on roads providing direct access to location. Signs will be painted with high visibility yellow with black lettering of a sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

- A. The mud program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- B. All elastomers used for packing and seals shall be H2S trim.

7. Communication:


- A. Cellular communications in company vehicles.
- B. Land line (telephone) communication at the Office.


8. Well testing:


- A. There will be no drill stem testing.

EXHIBIT

DANGER
POISONS GAS
HYDROGEN SULFIDE

 **NORMAL OPERATIONS**
(GREEN)

 **CAUTION POTENTIAL DANGER**
(YELLOW)

 **DANGER POISONS GAS ENCOUNTERED**
(RED) **AUTHORIZED PERSONAL ONLY.**
LOCATION SECURED.

1-575-746-1096
1-877-879-8899

EDDY COUNTY EMERGENCY NUMBERS

ARTESIA FIRE DEPT. 575-746-5050
ARTESIA POLICE DEPT. 575-746-5000
EDDY CO. SHERIFF DEPT. 575-746-9888

LEA COUNTY EMERGENCY NUMBERS

HOBBS FIRE DEPT. 575-397-9308
HOBBS POLICE DEPT. 575-397-9285
LEA CO. SHERIFF DEPT. 575-396-1196

JUN 15 2015

RECEIVED

Yates Petroleum Corporation
105 S. Fourth Street
Artesia, NM 88210

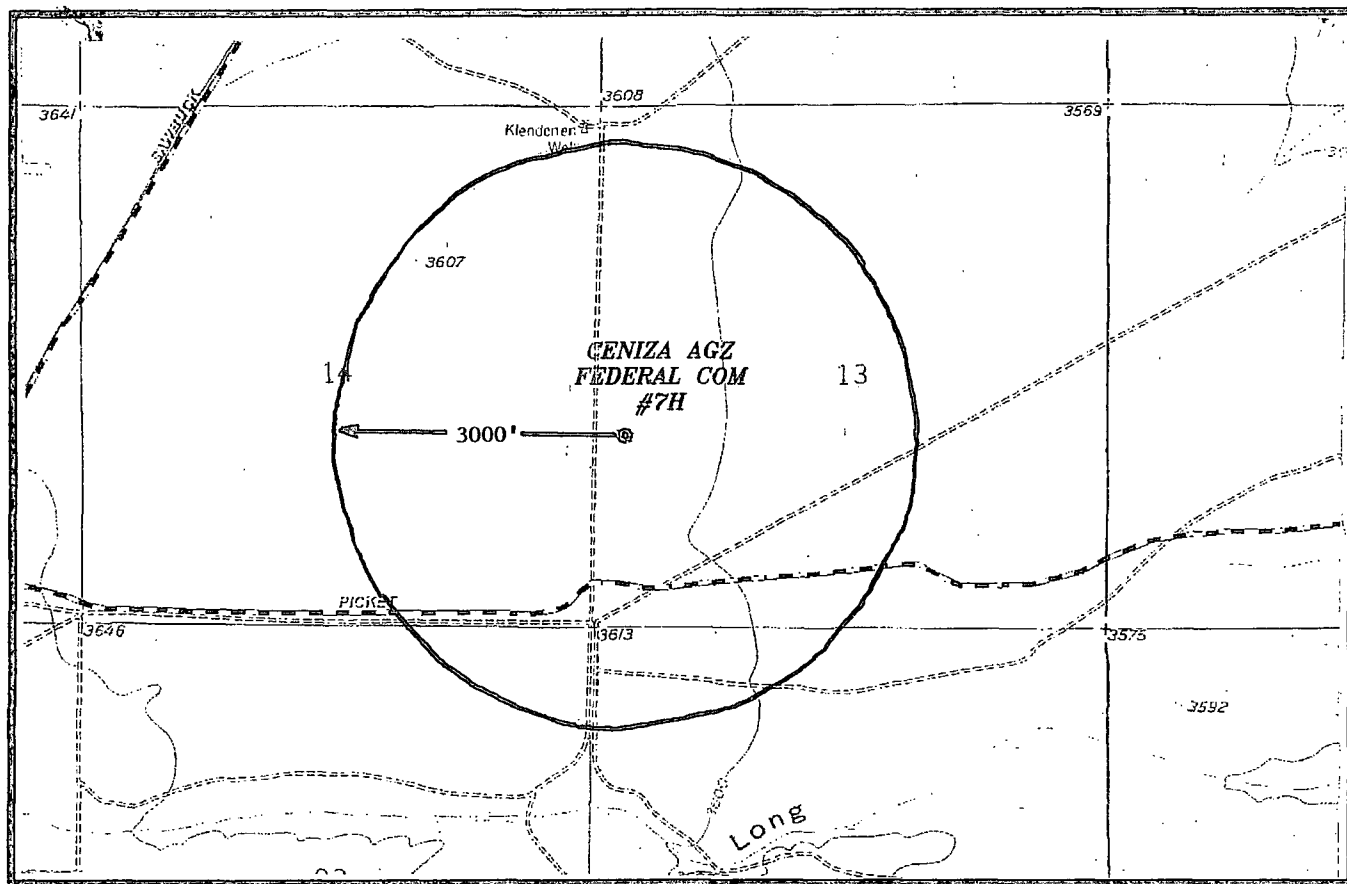
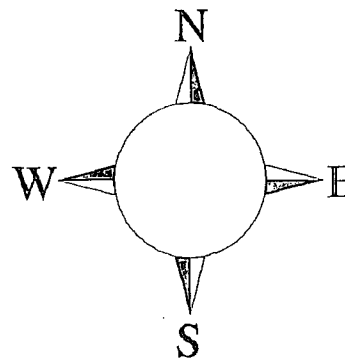
Hydrogen Sulfide (H₂S) Contingency Plan

For

Ceniza "AGZ" Federal Com #7-H
1845' FSL and 270' FWL Surface Hole Location
1980' FSL and 330' FEL Bottom Hole Location
Section 13, T-20S, R-24E
Eddy County NM

Ceniza "AGZ" Federal Com #7-H

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.



Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the case of a release of gas containing H₂S, 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 H₂S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H₂S 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 (SO₂). 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 H₂S and SO₂

| Common Name | Chemical Formula | Specific Gravity | Threshold Limit | Hazardous Limit | Lethal Concentration |
|------------------|------------------|------------------|-----------------|-----------------|----------------------|
| Hydrogen Sulfide | H ₂ S | 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 | (575) 748-1471 |
| Pinson McWhorter/Operations Manager | (575) 748-4189 |
| LeeRoy Richards/Prod Superintendent | (575) 748-4228 |
| Joe Chaves/Assistant Prod Superintendent | (575) 748-4212 |
| Bruce Noles/Drilling | (575) 748-4224 |
| Paul Hanes/Prod. Foreman/Roswell | (575) 624-2805 |
| Tim Bussell/Drilling Superintendent | (575) 748-4221 |
| Artesia Answering Service | (575) 748-4302 |
| (During non-office hours) | |

Agency Call List

Eddy County (575)

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 | (575) 746-2757 |
| B. J. Services..... | (575) 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, Albuq, NM | (505) 842-4433 |
| S B Air Med Svc 2505 Clark Carr Loop SE, Albuq, NM | (505) 842-4949 |

CENIZA AGZ
FED Com #7H



Warning
Sign

Exit
17A

JUN 15 2015

RECEIVED



7. Communication:

- A. Cellular communications in company vehicles.
- B. Land line (telephone) communication at the Office.

8. Well testing:

- A. There will be no drill stem testing.

EXHIBIT

| |
|--|
| <p>DANGER POISONS GAS HYDROGEN SULFIDE NORMAL OPERATIONS</p> <p>(GREEN)</p> <p> CAUTION POTENTIAL DANGER</p> <p>(YELLOW)</p> <p>DANGER POISONS GAS ENCOUNTERED</p> <p>(RED) AUTHORIZED PERSONAL ONLY.</p> <p> LOCATION SECURED.</p> <p>1-575-746-1096 1-877-879-8899</p> |
|--|

EDDY COUNTY EMERGENCY NUMBERS

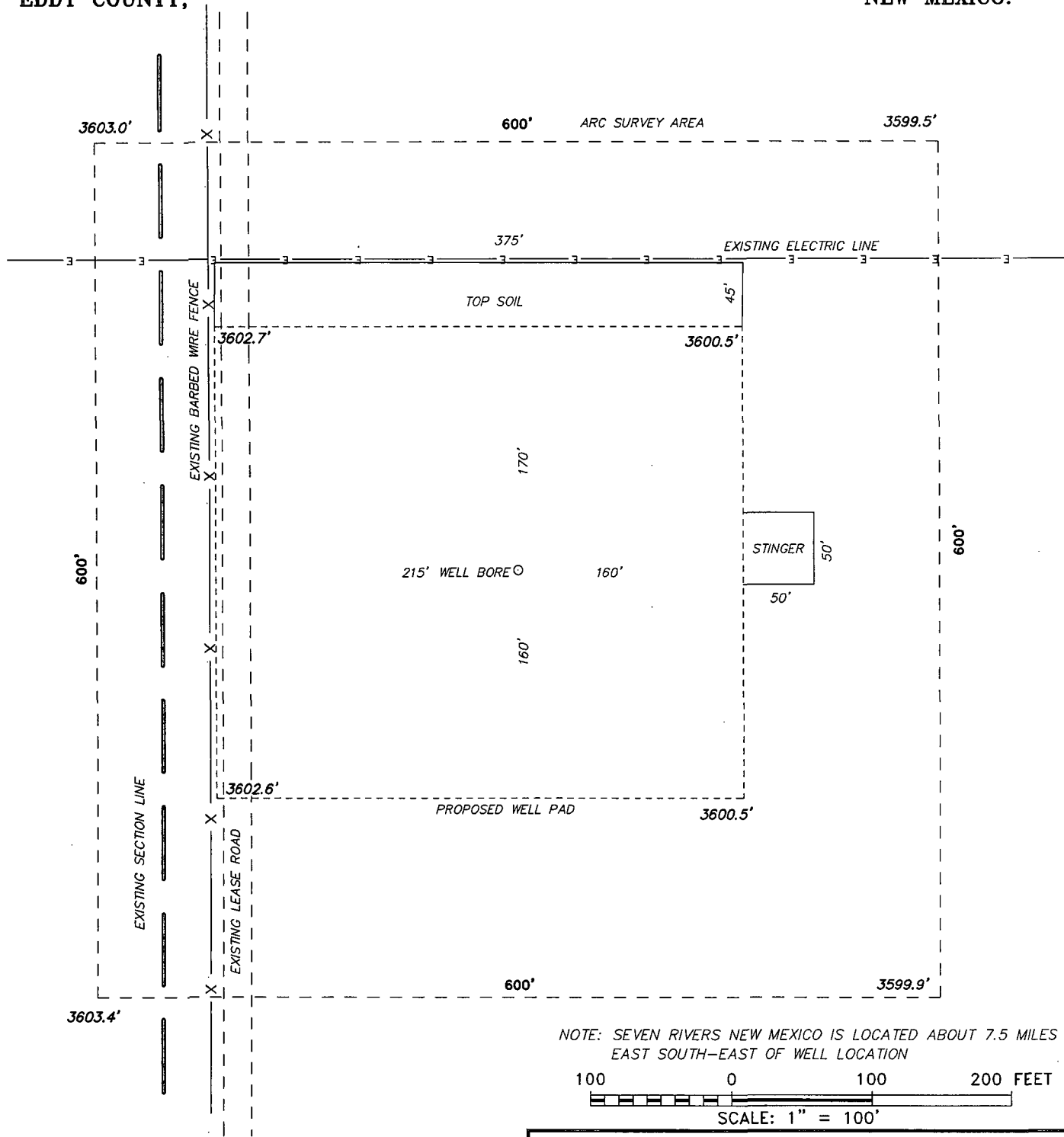
NUMBERS

ARTESIA FIRE DEPT. 575-746-5050
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9285
EDDY CO. SHERIFF DEPT. 575-746-9888
396-1196

LEA COUNTY EMERGENCY

HOBBS FIRE DEPT. 575-397-
HOBBS POLICE DEPT. 575-397-
LEA CO. SHERIFF DEPT. 575-

SECTION 13, TOWNSHIP 20 SOUTH, RANGE 24 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



DRIVING DIRECTIONS:
FROM INTERSECTION OF COUNTY ROADS SAWBUCK AND PICKETT;
GO EAST ON PICKETT FOR 1.4 MILES TO EXISTING LEASE ROAD
GOING NORTH; GO NORTH ON LEASE ROAD FOR 0.2 MILES TO
PROPOSED WELL PAD.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 29094

Drawn By: D. JONES

Date: 07-26-2013

Disk: DAJ - 29094WELL

YATES PETROLEUM CORP.

REF: CENIZA AGZ FEDERAL COM #7H / WELL PAD TOPO

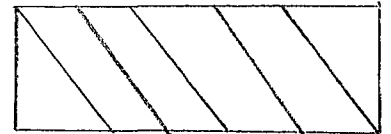
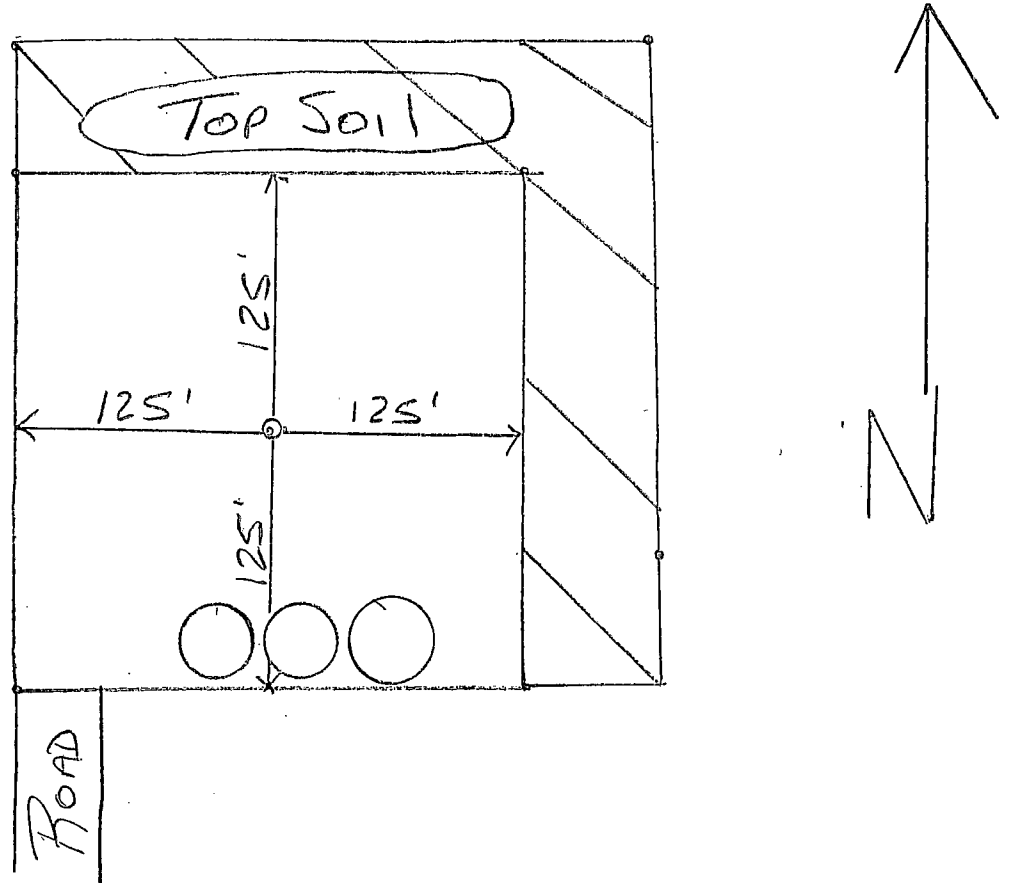
THE CENIZA AGZ FEDERAL COM #7H LOCATED 1845'
FROM THE SOUTH LINE AND 270' FROM THE WEST LINE OF
SECTION 13, TOWNSHIP 20 SOUTH, RANGE 24 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 07-25-2013

Sheet 1 of 1 Sheets

Ceniza AGZ
FED Com. 7H

Reclamation PLAT



~~POSSIBLE~~
Reclaimed
Area

VB
9-16-2013

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
YATES PETROLEUM CORPORATION
Cenzia AGZ Federal Com. #7H
1845' FSL & 270' FWL, Surface Hole
1980' FSL & 330' FEL, Bottom Hole
Section 13-T20S-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 southwest of Artesia, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS: Go south of Artesia on Highway 285 for approximately 17.7 miles to the intersection of Highway 285 and White Pine Road. Turn right on White Pine Road and go approximately 3.8 miles to Pickett Road. Turn right on Pickett Road and go approximately 4.1 miles. There will be a caliche pit on the right side of the road. On the west side of the caliche pit turn right on an existing two track lease road and go .3 of a mile to the southwest corner of the proposed well location.

2. PLANNED ACCESS ROAD:

- A. The existing lease road will be up graded so there will not be any new access road.
- B. The existing roads will be 14 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The existing road will be upgraded. Traffic turnouts may be needed.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL:

- A. There is drilling activity within a one-mile radius of the well site.
- B. The Exhibit 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 until an electric line can be built, if needed.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a brine 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.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a brine 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:

The dirt contractor will be responsible for finding a source of material for construction of road and pad and will obtain any permits that may be required.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. A closed loop system will be used to drill this well.
- B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the “Pit Rule” 19.15.17 NMAC.
- 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. A closed loop system will be used to drill this well.
- B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the “Pit Rule” 19.15.17 NMAC.
- 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.

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 well site in as aesthetically pleasing a condition as possible.
- B. Unguarded pits, if any, containing fluids will be fenced until they have dried and have been leveled.
- C. If the proposed well is plugged and abandoned, 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, if any, will be filled level after they have evaporated and dried. Pit reclamation will meet 19.15.17 requirements. The access road will be left in place to serve other wells and uses by the surface owner.

11. SURFACE OWNERSHIP:

Private surface owned by COG Operating LLC.

2208 West Main Street

Artesia, NM 88210

A surface access and damage agreement was met with Mr. Jimbob Burnett of COG Operating. Mr, Burnett can be reached at (575) 748-6940.

Federal Minerals: Lease numbers NM-86241

Lands: Bureau of Land Management

620 East Greene Street

Carlsbad, New Mexico 88220.

Other Minerals: Fee

12. OTHER INFORMATION:

A. The primary use of the surface is for grazing.

B. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, and historical and cultural sites.

JUN 15 2015

PECOS DISTRICT CONDITIONS OF APPROVAL

RECEIVED

| | |
|-----------------------|------------------------------------|
| OPERATOR'S NAME: | Yates Petroleum Corp |
| LEASE NO.: | NM86241 |
| WELL NAME & NO.: | 7H Ceniza AGZ Federal Com |
| SURFACE HOLE FOOTAGE: | 1845' FSL & 270' FWL |
| BOTTOM HOLE FOOTAGE: | 1980' FSL & 330' FEL |
| LOCATION: | Section 13, T. 20 S., R24 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**
 - karst**
 - Aplomado Falcon**
 - Communitization Agreement
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Casing/Cement Requirements
 - H2S – Requirements
 - Logging Requirements
 - High Cave/Karst
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **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)

In order to minimize impacts to aplomado falcon, the following Conditions of Approval will apply:

- No yuccas or trees over 5 feet in height will be damaged, to protect nesting structures.
- All active raptor nests will be avoided by a minimum of 400 meters by all activities or curtail activities until fledging is complete. All inactive raptor nests will be avoided by a minimum of 200 meters by all activities.
- Well pad size will not exceed 300 ft. x 390 ft or a configuration not to exceed 117,000 sq ft in size.
- All roads associated with well development will not exceed 30 ft in width
- Reserve pits for drilling and disposal are not allowed unless the pit can be effectively netted to the satisfaction of the BLM. Steel tank circulation system must be used if the reserve pit is not netted.
- All unused portions of the well pad associated with producing wells will be reclaimed following the abandoned well protocol below
- Final abandonment protocol: Remove all caliche from well pads and roads that are plugged and abandoned. Reclamation will consist of disking, mulching, seeding with a drill (See seed mixture below), and application of water to encourage seed germination.

| | |
|---|------------|
| Buffalograss (<i>Buchloe dactyloides</i>) | 4 lbs/acre |
| Blue grama (<i>Bouteloua gracilis</i>) | 1 lbs/acre |
| Cane bluestem (<i>Bothriochloa barbinodis</i>) | 5 lbs/acre |
| Sideoats grama (<i>Bouteloua curtipendula</i>) | 5 lbs/acre |
| Plains bristlegrass (<i>Setaria macrostachya</i>) | 6 lbs/acre |

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

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

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

Tank Battery Liners and Berms:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, siting valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

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

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

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

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Communitization Agreement

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

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 (575) 234-5909 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

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 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. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. 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 twenty-five (25) 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

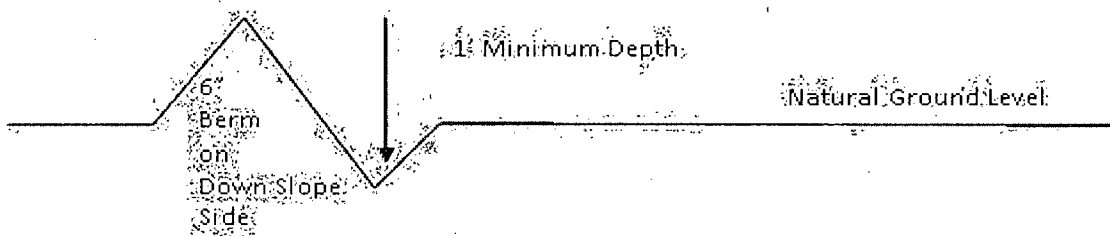
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing 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 culverts shall be installed at deep waterway channel flow crossings through the road.

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings.

Any existing cattleguards on the access road route 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 cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted 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 fences.

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

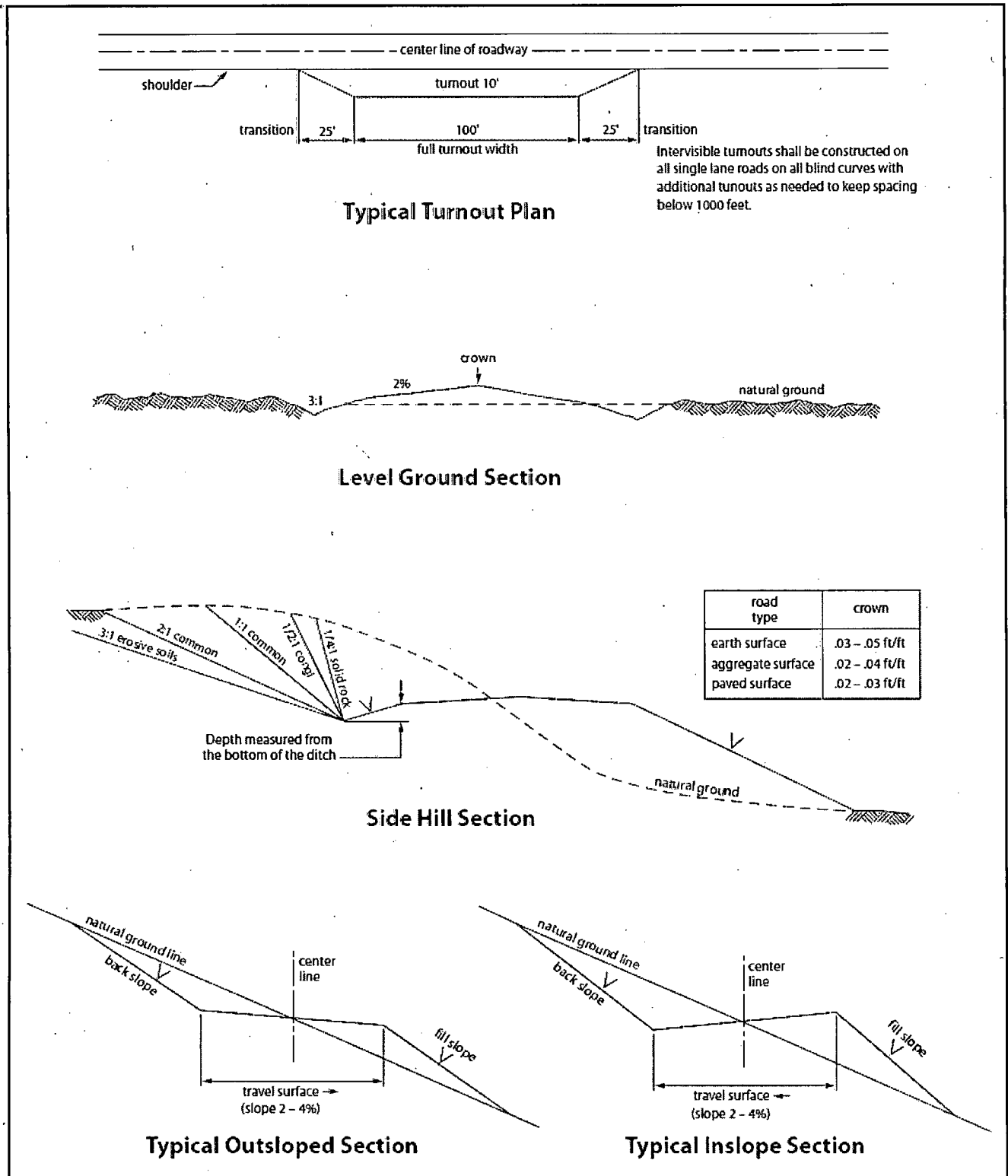


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ **Eddy County**

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

1. **Hydrogen Sulfide has been reported as a hazard in formations deeper than the proposed depth. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe. If Hydrogen Sulfide is encountered, report measurements and formations to the BLM; and Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items.**
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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
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 is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the

approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Potash Areas:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

HIGH Cave/Karst

Possibility of water flows in the San Andres and Artesia Group.

Possibility of lost circulation in the San Andres and Grayburg.

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH.

ON TWO STRING DESIGN – CONTINGENCY CASING WILL BE REQUIRED IF LOST CIRCULATION (TOTAL LOSS) OCCURS WHILE DRILLING THE SURFACE HOLE. THE SURFACE HOLE WILL HAVE TO BE REAMED AND

A LARGER CASING INSTALLED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. NOTE: A DEEP CONDUCTOR WILL BE TREATED AND CEMENTED AS A CONTINGENCY CASING.

ON TWO STRING DESIGN WHERE THE SURFACE CASING HAD A SUCCESSFUL CEMENT JOB; IF LOST CIRCULATION (TOTAL LOSS) OCCURS WHILE DRILLING THE PRODUCTION 8-3/4" HOLE, THE CEMENT PROGRAM FOR THE PRODUCTION 5-1/2" CASING WILL NEED TO BE MODIFIED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. A DV TOOL WILL BE REQUIRED.

1. The 9-5/8 inch surface casing shall be set at approximately 700 feet and cemented to the surface.
 - 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 surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
 - 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.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

2. The minimum required fill of cement behind the 7 X 5-1/2 inch production casing is:
 - ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.
3. 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 **3000 (3M)** psi.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. 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.**
 - f. 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. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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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.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

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** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES (no pipelines were applied for in the APD)

C. ELECTRIC LINES (no electric lines were applied for in the APD)

IX. 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.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation 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 that is free of contaminants 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.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 1, for Loamy 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 authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper 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 (small/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 lovegrass (<i>Eragrostis intermedia</i>) | 0.5 |
| Sand dropseed (<i>Sporobolus cryptandrus</i>) | 1.0 |
| Sideoats grama (<i>Bouteloua curtipendula</i>) | 5.0 |
| Plains bristlegrass (<i>Setaria macrostachya</i>) | 2.0 |

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed