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OCD Hobbs

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Form 3160-3
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

## APPLICATION FOR PERMIT TO DRILL OR REENTER

| | |
|---|---|
| 1a. Type of work: ☑ DRILL ☐ REENTER | 5. Lease Serial No. NM 14492 (H) |
| 1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone | 6. If Indian, Allotee or Tribe Name --- |
| 2. Name of Operator BTA Oil Producers, LLC (260297) | 7. If Unit or CA Agreement, Name and No. --- |
| 3a. Address 104 S. Pecos, Midland, TX 79701 | 8. Lease Name and Well No. Mesa 8105 JV-P #16H (305301) |
| 3b. Phone No. (include area code) (432) 682-3753 | 9. API Well No. 30-025 - 42851 |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.*) | 10. Field and Pool, or Exploratory Jennings;Upper Bone Spring Shale (97838) |
| At surface 310' FSL & 2218' FWL SESW Sec. 1 UL-N | 11. Sec., T., R., M., or Blk. and Survey or Area |
| At proposed prod. zone 230' FNL & 2218' FWL NENW Sec. 1 UL-C | Sec. 1, T26S-R32E |
| 14. Distance in miles and direction from nearest town or post office* 25 miles west from Jal, NM | 12. County or Parish Lea / 13. State NM |

UNORTHODOX LOCATION

| | | |
|---|---|---|
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 230' | 16. No. of acres in lease 1960 | 17. Spacing Unit dedicated to this well 160 acres |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1789' BHL to BHL* | 19. Proposed Depth 14,136' MD 9,520' TVD | 20. BLM/BIA Bond No. on file NM1195 NMB000849 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3324' GL | 22. Approximate date work will start* 07/01/2015 | 23. Estimated duration 45 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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the BLM.

| | | |
|---|---|---|
| 25. Signature Kayla McConnell | Name (Printed/Typed) Kayla McConnell | Date 02/10/2015 |
| Title Production Assistant | Email: kmcconnell@btaoil.com | |
| Approved by (Signature) Steve Caffey | Name (Printed/Typed) | Date OCT - 6 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.

*(Instructions on page 2)

Carlsbad Controlled Water Basin

KZ
10/08/15

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

OCT 09 2015

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BTA Oil Producers LLC, Mesa 8105 JV-P #16H

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Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #16H
Sec 1, T26S, R32E
Lea County, NM

## 1. Geologic Formations

| | | | |
|---|---|---|---|
| TVD of target | 9520 | Pilot hole depth | N/A |
| MD at TD: | 14136 | Deepest expected fresh water: | 175 |

**Basin**

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/ Target Zone? | Hazards* |
|---|---|---|---|
| Quaternary Fill | Surface | Water | |
| Rustler | 762 | Water | |
| Top of Salt | 1452 | Salt | |
| Base of Salt | 4512 | Salt | |
| Delaware | 4787 | Oil/Gas | |
| Cherry Canyon | 6062 | Oil/Gas | |
| Brushy Canyon | 7322 | Oil/Gas | |
| Bone Spring | 8997 | Oil/Gas | |
| Atoka | | | |
| Morrow | | | |
| Barnett Shale | | | |
| Woodford Shale | | | |
| Devonian | | | |
| Fusselman | | | |
| Ellenburger | | | |
| Granite Wash | | | |
| | | | |
| | | | |
| | | | |

*H2S, water flows, loss of circulation, abnormal pressures, etc.

See COA

## 2. Casing Program

| Hole Size | Casing Interval From | Casing Interval To | Csg.Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 17.5" | 0 | ~~792~~ 860' | 13.375" | 54.5 | J55 | STC | 1.43 | 1.26 | 2.59 |
| 12.25" | 0 | 4757 | 9.625" | 40 | J55 | LTC | 1.19 | 1.89 | 2.1 |
| 8.75" | 0 | 9793 | 5.5" | 17 | P110 | LTC | 1.56 | 1.6 | 2.63 |
| 7.875" | 9793 | 14136 | 5.5" | 17 | P110 | LTC | 1.56 | 1.6 | 1.91 |
| | | | BLM Minimum Safety Factor | | | | 1.125 | 1 | 1.6 Dry<br>1.8 Wet |

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

| | Y or N |
|---|---|
| Is casing new? If used, attach certification as required in Onshore Order #1 | Y |
| Does casing meet API specifications? If no, attach casing specification sheet. | Y |
| Is premium or uncommon casing planned? If yes attach casing specification sheet. | N |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y |
| Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing? | Y |
| | |
| Is well located within Capitan Reef? | N |
| If yes, does production casing cement tie back a minimum of 50' above the Reef? | N/A |
| Is well within the designated 4 string boundary. | N |
| | |
| Is well located in SOPA but not in R-111-P? | Y |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing? | Y |
| | |
| Is well located in R-111-P and SOPA? | N |
| If yes, are the first three strings cemented to surface? | N/A |
| Is 2nd string set 100' to 600' below the base of salt? | N/A |
| | |
| Is well located in high Cave/Karst? | N |
| If yes, are there two strings cemented to surface? | N/A |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs? | N/A |
| | |
| Is well located in critical Cave/Karst? | N |
| If yes, are there three strings cemented to surface? | N/A |

**3. Cementing Program**

| Casing | #Sks | Wt. lb/ Gal | Yld ft3/ sack | $H_20$ gal/ sk | 500# Comp. Strength (hours) | Slurry Description |
|---|---|---|---|---|---|---|
| Surf. | 570 | 13.5 | 1.75 | 8 | 10 | Lead: Class C |
| | 200 | 14.8 | 1.34 | 8 | 8 | Tail: Class C, circ to surf, 100% excess |
| Inter. | 950 | 12.7 | 1.94 | 8 | 15 | 1st stage Lead: Class C Blend |
| | 250 | 14.8 | 1.33 | 8 | 10 | 1st stage Tail: Class C, circ to surf, 65% excess |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Prod. | 1000 | 11.3 | 2.92 | 8 | 14 | 1stLead: 50:50 Blend Class H |
| | 950 | 14.4 | 1.22 | 8 | 10 | 1stTail: 50:50 Blend Class H |
| | | | | | | |
| | | | | | | |

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DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

| Casing String | TOC | % Excess |
|---|---|---|
| Surface | 0' | 100% |
| Intermediate | 0' | 65% |
| Production | 4257' | 20% |

Include Pilot Hole Cementing specs:
**Pilot hole depth** N/A
**KOP** 9043

| Plug top | Plug Bottom | % Excess | No. Sacks | Wt. lb/gal | Yld ft3/sack | Water gal/sk | Slurry Description and Cement Type |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |

## 4. Pressure Control Equipment

| | |
|---|---|
| NO | A variance is requested for the use of a diverter on the surface casing. See attached for schematic. |

| BOP installed and tested before drilling which hole? | Size? | Min. Required WP | Type | ✓ | Tested to: |
|---|---|---|---|---|---|
| 12-1/4" | 13-5/8" | 3M | Annular | x | 50% of working pressure |
| | | | Blind Ram | x | 3M |
| | | | Pipe Ram | x | |
| | | | Double Ram | | |
| | | | Other* | | |
| | | | Annular | | |
| | | | Blind Ram | | |
| | | | Pipe Ram | | |
| | | | Double Ram | | |
| | | | Other * | | |
| | | | Annular | | |
| | | | Blind Ram | | |
| | | | Pipe Ram | | |
| | | | Double Ram | | |
| | | | Other * | | |

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*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

| | |
|---|---|
| X | Formation integrity test will be performed per Onshore Order #2.<br>On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. |
| NO | A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart. |
| | Y /N — Are anchors required by manufacturer? |
| NO | A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.<br>• N/A<br>See attached schematic. |

**5. Mud Program**

| Depth | | Type | Weight (ppg) | Viscosity | Water Loss |
|---|---|---|---|---|---|
| From | To | | | | |
| 0 | ~~792~~ 8100' | FW Spud | 8.5-8.8 | 35-45 | N/C |
| 792 | 4757 | Saturated Brine | 10.0-10.2 | 28-34 | N/C |
| 4757 | TD | Cut Brine | 8.6-9.2 | 28-34 | N/C |

See COA

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

| | |
|---|---|
| What will be used to monitor the loss or gain of fluid? | PVT/Pason/Visual Monitoring |

## 6. Logging and Testing Procedures

| Logging, Coring and Testing. | |
|---|---|
| X | Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. |
| | No Logs are planned based on well control or offset log information. |
| X | Drill stem test? If yes, explain – will be run based on geological sample shows |
| | Coring? If yes, explain |

| Additional logs planned | | Interval |
|---|---|---|
| | Resistivity | |
| | Density | |
| | CBL | |
| X | Mud log | Intermediate shoe to TD |
| | PEX | |

## 7. Drilling Conditions

| Condition | Specify what type and where? |
|---|---|
| BH Pressure at deepest TVD | 4130 psi |
| Abnormal Temperature | Yes/No |

Mitigation measure for abnormal conditions. Describe. No abnormal pressures or temperatures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

| Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM. | |
|---|---|
| | H2S is present |
| X | H2S Plan attached |

## 8. Other facets of operation

Is this a walking operation? If yes, describe.
Will be pre-setting casing? If yes, describe.

Attachments
_x_ Directional Plan
___ Other, describe

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# BTA Oil Producers, LLC

Lea County, NM
Sec 1 & 12, T26S, R32E (Mesa)
Mesa 16H

Wellbore #1

Plan: Design #1

# Standard Planning Report

03 December, 2014

Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #16H
Sec 1, T26S, R32E
Lea County, NM

# BTA
## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1 Single User Db | **Local Co-ordinate Reference:** | Well Mesa 16H |
| **Company:** | BTA Oil Producers, LLC | **TVD Reference:** | GL @ 3324.0usft (Original Well Elev) |
| **Project:** | Lea County, NM | **MD Reference:** | GL @ 3324.0usft (Original Well Elev) |
| **Site:** | Sec 1 & 12, T26S, R32E (Mesa) | **North Reference:** | Grid |
| **Well:** | Mesa 16H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Design #1 | | |

| | | | |
|---|---|---|---|
| **Project** | Lea County, NM, Lea County, NM | | |
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Ground Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | New Mexico East 3001 | | |

| | | | | | |
|---|---|---|---|---|---|
| **Site** | Sec 1 & 12, T26S, R32E (Mesa) | | | | |
| **Site Position:** | | **Northing:** | 388,357.80 usft | **Latitude:** | 32° 3' 56.723 N |
| **From:** | Map | **Easting:** | 718,031.00 usft | **Longitude:** | 103° 37' 46.202 W |
| **Position Uncertainty:** | 0.0 usft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 0.37 ° |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well** | Mesa 16H | | | | | |
| **Well Position** | **+N/-S** | 0.4 usft | **Northing:** | 388,358.20 usft | **Latitude:** | 32° 3' 56.725 N |
| | **+E/-W** | 39.9 usft | **Easting:** | 718,070.90 usft | **Longitude:** | 103° 37' 45.738 W |
| **Position Uncertainty** | | 0.0 usft | **Wellhead Elevation:** | 0.0 usft | **Ground Level:** | 3,324.0 usft |

| | | | | | |
|---|---|---|---|---|---|
| **Wellbore** | Wellbore #1 | | | | |
| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
| | IGRF200510 | 8/27/2014 | 7.21 | 59.98 | 48,245 |

| | | | | | |
|---|---|---|---|---|---|
| **Design** | Design #1 | | | | |
| **Audit Notes:** | | | | | |
| **Version:** | | **Phase:** | PROTOTYPE | **Tie On Depth:** | 0.0 |
| **Vertical Section:** | **Depth From (TVD) (usft)** | **+N/-S (usft)** | **+E/-W (usft)** | **Direction (°)** | |
| | 0.0 | 0.0 | 0.0 | 358.43 | |

**Plan Sections**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 9,042.5 | 0.00 | 0.00 | 9,042.5 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 9,792.5 | 90.00 | 358.43 | 9,520.0 | 477.3 | -13.1 | 12.00 | 12.00 | 0.00 | 358.43 | |
| 14,136.2 | 90.00 | 358.43 | 9,520.0 | 4,819.3 | -132.2 | 0.00 | 0.00 | 0.00 | 0.00 | Mesa 16H PBHL |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 9,042.5 | 0.00 | 0.00 | 9,042.5 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 9,792.5 | 90.00 | 358.43 | 9,520.0 | 477.3 | -13.1 | 477.5 | 12.00 | 12.00 | 0.00 |

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| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1 Single User Db | **Local Co-ordinate Reference:** | Well Mesa 16H |
| **Company:** | BTA Oil Producers, LLC | **TVD Reference:** | GL @ 3324.0usft (Original Well Elev) |
| **Project:** | Lea County, NM | **MD Reference:** | GL @ 3324.0usft (Original Well Elev) |
| **Site:** | Sec 1 & 12, T26S, R32E (Mesa) | **North Reference:** | Grid |
| **Well:** | Mesa 16H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Design #1 | | |

**Design Targets**

| Target Name<br>- hit/miss target<br>- Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| Mesa 16H PBHL | 0.00 | 0.01 | 9,520.0 | 4,819.3 | -132.2 | 393,177.50 | 717,938.70 | 32° 4' 44.424 N | 103° 37' 46.909 W |
| - plan misses target center by 4343.6usft at 9792.5usft MD (9520.0 TVD, 477.3 N, -13.1 E)<br>- Point | | | | | | | | | |

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Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #16H
Sec 1, T26S, R32E
Lea County, NM

T G M

Azimuths to Grid North
True North: -0.37°
Magnetic North: 6.83°

Magnetic Field
Strength: 48245.4snT
Dip Angle: 59.98°
Date: 8/27/2014
Model: IGRF200510

## WELL DETAILS: Mesa 16H

Ground Level: 3324.0

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|---|---|---|---|---|---|
| 0.0 | 0.0 | 388358.20 | 718070.90 | 32° 3' 56.725 N | 103° 37' 45.738 W |

# BTA Oil Producers, LLC

### SITE DETAILS: Sec 1 & 12, T26S, R32E (Mesa)

Site Centre Northing: 388357.80
Easting: 718031.00

Positional Uncertainity: 0.0
Convergence: 0.37
Local North: Grid

### PROJECT DETAILS: Lea County, NM

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

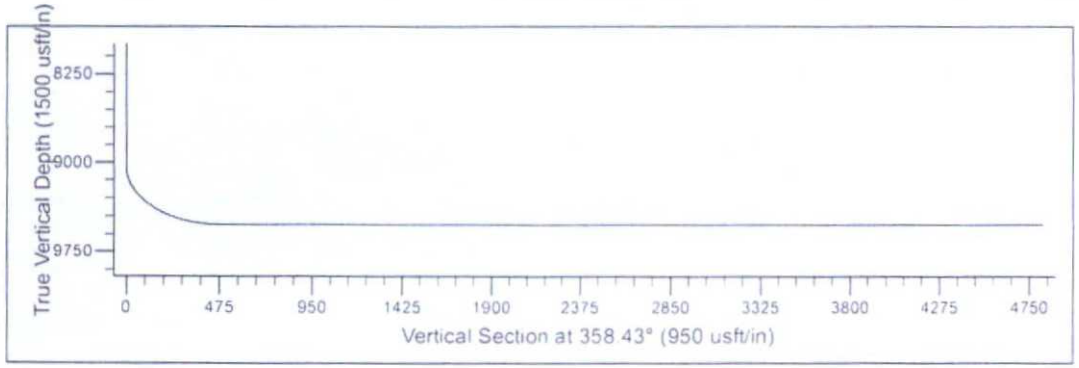
System Datum: Ground Level

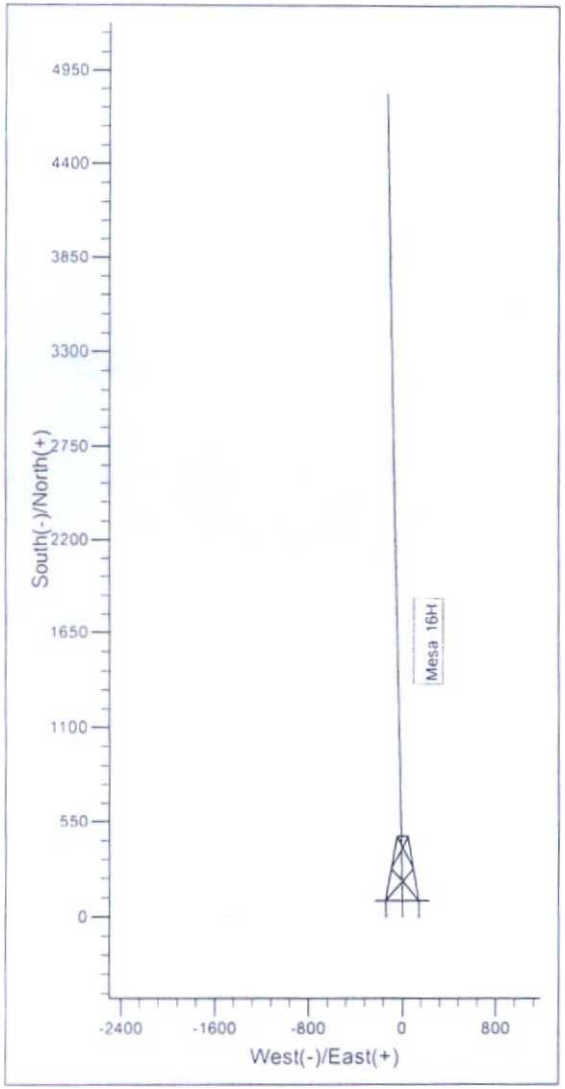
### CASING DETAILS

No casing data is available

### SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | Annotation |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 9042.5 | 0.00 | 0.00 | 9042.5 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 9792.5 | 90.00 | 358.43 | 9520.0 | 477.3 | -13.1 | 12.00 | 358.43 | 477.5 | |
| 14136.2 | 90.00 | 358.43 | 9520.0 | 4819.3 | -132.2 | 0.00 | 0.00 | 4821.1 | Mesa 16H PBHL |



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Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #16H
Sec 1, T26S, R32E
Lea County, NM

The 13-5/8" blowout preventer equipment (BOP) shown in exhibit A will consist of a (3M system) double ram type (3000 psi WP) preventer and a bag type (Hydril) preventer (3000 psi WP). Will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and 4-1/2" drill pipe rams on bottom. The BOP's will be installed don the 13-3/8" casing and utilized continuously until TD is reached. All BOP's and associated equipment will be tested as per BLM drilling operations order No 2.

Pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drillers log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having a 3000 psi WP rating.

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Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #16H
Sec 1, T26S, R32E
Lea County, NM

# 3,000 psi BOP Schematic

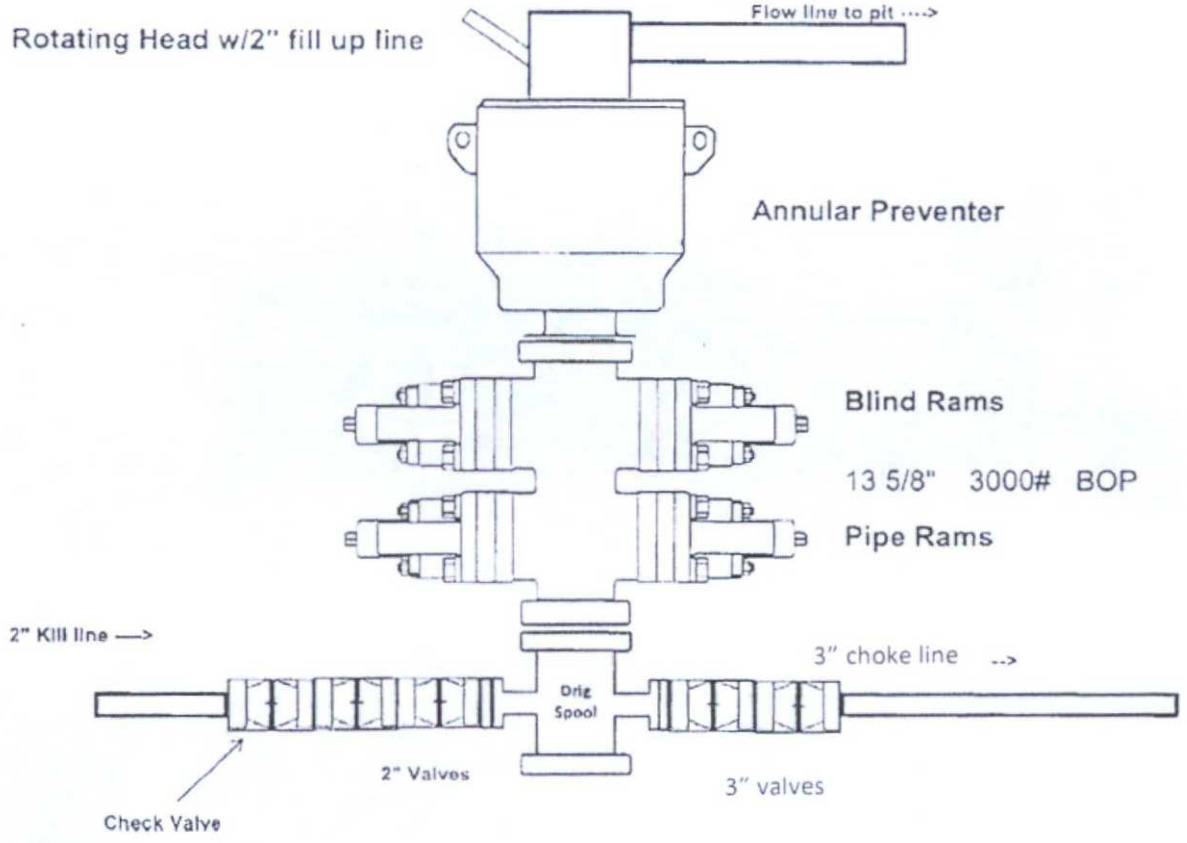


Exhibit A

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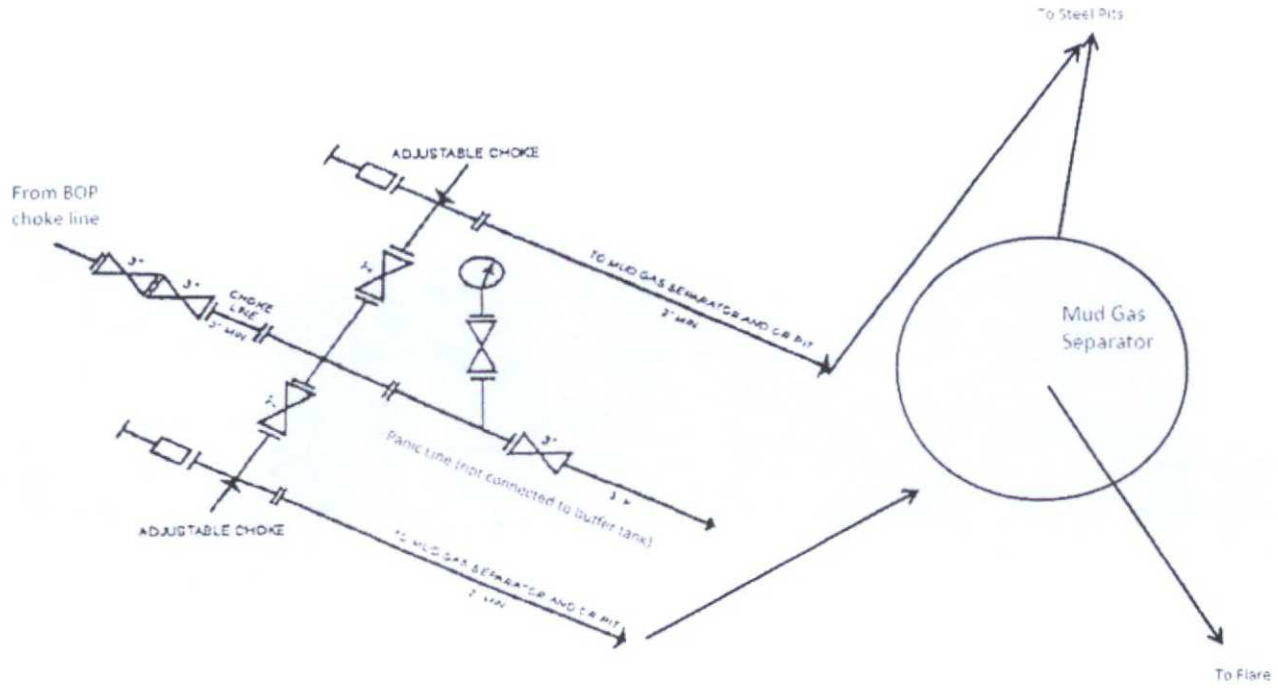
Attachment to APD
BTA Oil Producers, LLC
Mesa 8105 JV-P #16H
Sec 1, T26S, R32E
Lea County, NM




3M choke manifold design

Exhibit A1