OCD Received 12/4/2020

Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM121942

6. If Indian, Allotee or Tribe Name:

1a. Type of work: [✓] DRILL [ ] REENTER

1b. Type of Well: [ ] Oil Well [✓] Gas Well [ ] Other

1c. Type of Completion: [ ] Hydraulic Fracturing [✓] Single Zone [ ] Multiple Zone

7. If Unit or CA Agreement, Name and No.:

8. Lease Name and Well No.: BONANZA 22/15 W1ED FED COM 2H

2. Name of Operator: MEWBOURNE OIL COMPANY

9. API Well No.: 30 015 47829

3a. Address: PO Box 5270, Hobbs, NM 88240

3b. Phone No. *(include area code)*: (575) 393-5905

10. Field and Pool, or Exploratory: WELCH/WOLFCAMP GAS Purple Sage;Wolfcamp

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: NWSW / 2420 FSL / 1130 FWL / LAT 32.1148783 / LONG -104.0800895

At proposed prod. zone: NWNW / 330 FNL / 990 FWL / LAT 32.1364527 / LONG -104.0805343

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 22/T25S/R28E/NMP

14. Distance in miles and direction from nearest town or post office*: 8.5 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 330 feet

16. No of acres in lease: 160

17. Spacing Unit dedicated to this well: 640.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 50 feet

19. Proposed Depth: 9744 feet / 17350 feet

20. BLM/BIA Bond No. in file: FED: NM1693

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3004 feet

22. Approximate date work will start*: 11/09/2019

23. Estimated duration: 60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	BRADLEY BISHOP / Ph: (575) 393-5905	10/30/2019

Title: Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	09/24/2020

Title	Office
Assistant Field Manager Lands & Minerals	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.

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.

Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

- Will require a directional survey with the C-104

Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

SL

KP 12/15/2020 GEO Review

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 09/24/2020

Entered - KMS NMOCD

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30 015 47829	98220	PURPLE SAGE; WOLCAMP GAS POOL

4 Property Code	5 Property Name	6 Well Number
329882	BONANZA 22/15 W1ED FED COM	2H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	2976'

10 Surface Location

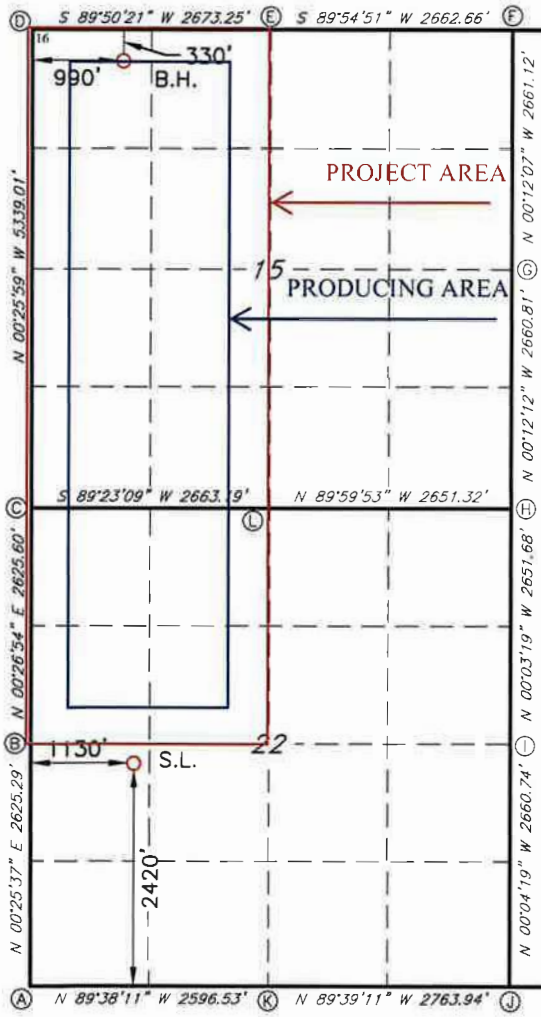
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
L	22	25S	28E		2420	SOUTH	1130	WEST	EDDY

11 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
D	15	25S	28E		330	NORTH	990	WEST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
480			

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.



GEODETIC DATA
NAD 83 GRID – NM EAST

SURFACE LOCATION
N: 405621.1 – E: 619742.2
LAT: 32.1148783° N
LONG: 104.0800895° W

BOTTOM HOLE
N: 413469.0 – E: 619586.4
LAT: 32.1364525° N
LONG: 104.0805330° W

CORNER DATA
NAD 83 GRID – NM EAST

A: FOUND BRASS CAP "1940"
N: 403208.9 – E: 618594.4

B: FOUND BRASS CAP "1940"
N: 405833.5 – E: 618613.9

C: FOUND BRASS CAP "1940"
N: 408458.4 – E: 618634.5

D: FOUND BRASS CAP "1940"
N: 413796.1 – E: 618594.1

E: FOUND BRASS CAP "1940"
N: 413803.6 – E: 621266.8

F: FOUND BRASS CAP "1940"
N: 413807.6 – E: 623928.9

G: FOUND BRASS CAP "1940"
N: 411147.1 – E: 623938.2

H: FOUND BRASS CAP "1940"
N: 408486.9 – E: 623947.7

I: FOUND BRASS CAP "1940"
N: 405835.8 – E: 623950.2

J: FOUND BRASS CAP "1940"
N: 403175.6 – E: 623953.6

K: FOUND BRASS CAP "1940"
N: 403192.4 – E: 621190.3

L: FOUND BRASS CAP "1940"
N: 408487.0 – E: 621296.9

17 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 — Date: 9-6-19

BRADLEY BISHOP
Printed Name

BBISHOP@MEWBOURNE.COM
E-mail Address

18 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.

08-22-2019
Date of Survey

Signature and Seal of Professional Surveyor

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

RRC–Job No: LS19080843

Additional Operator Remarks

Location of Well

0. SHL: NWSW / 2420 FSL / 1130 FWL / TWSP: 25S / RANGE: 28E / SECTION: 22 / LAT: 32.1148783 / LONG: -104.0800895 (TVD: 0 feet, MD: 0 feet)

PPP: SWSW / 0 FSL / 990 FWL / TWSP: 25S / RANGE: 28E / SECTION: 15 / LAT: 32.122708 / LONG: -104.0805374 (TVD: 9727 feet, MD: 12350 feet)

PPP: SWNW / 2304 FNL / 990 FWL / TWSP: 25S / RANGE: 28E / SECTION: 22 / LAT: 32.1163717 / LONG: -104.0805387 (TVD: 9719 feet, MD: 10045 feet)

BHL: NWNW / 330 FNL / 990 FWL / TWSP: 25S / RANGE: 28E / SECTION: 15 / LAT: 32.1364527 / LONG: -104.0805343 (TVD: 9744 feet, MD: 17350 feet)

BLM Point of Contact

Name: Gavin Mickwee
Title: Land Law Examiner
Phone: (575) 234-5972
Email: gmickwee@blm.gov

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mewbourne Oil Company**
LEASE NO.:	**NMNM121942**
WELL NAME & NO.:	BONANZA 22-15 W1ED FED COM 2H
SURFACE HOLE FOOTAGE:	2420'/S & 1130'/W
BOTTOM HOLE FOOTAGE	330'/N & 990'/W
LOCATION:	Section 22, T.25 S., R.28 E., NMP
COUNTY:	EDDY County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **475** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) 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 will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
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.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing which shall be set at approximately **2410** feet is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash. Excess cement calculates to 21%, additional cement might be required.**

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **7** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Excess cement calculates to 4%, additional cement might be required.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

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

    - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL 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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. 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.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on

which the draw works are located, this does not include the dog house or stairway area.

3. 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. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. 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.

2. 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. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. 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. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. 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.

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

6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. 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.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. 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. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. 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. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

    c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

    d. 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.

    e. The results of the test shall be reported to the appropriate BLM office.

    f. 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.

    g. 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.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. 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.

OTA09092020

APD ID: 10400047185 **Submission Date:** 10/30/2019

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BONANZA 22/15 W1ED FED COM **Well Number:** 2H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
533390	UNKNOWN	3004	28	28	OTHER : Top soil	NONE	N
533381	TOP SALT	2034	970	970	SALT	NONE	N
533382	BASE OF SALT	674	2330	2330	SALT	NONE	N
533383	LAMAR	494	2510	2510	LIMESTONE	NATURAL GAS, OIL	N
533384	BELL CANYON	469	2535	2535	SANDSTONE	NATURAL GAS, OIL	N
533391	CHERRY CANYON	-221	3225	3225	SANDSTONE	NATURAL GAS, OIL	N
533392	MANZANITA	-536	3540	3540	LIMESTONE	NATURAL GAS, OIL	N
533385	BONE SPRING	-3081	6085	6085	LIMESTONE, SHALE	NATURAL GAS, OIL	N
533386	BONE SPRING 1ST	-4046	7050	7050	SANDSTONE	NATURAL GAS, OIL	N
533387	BONE SPRING 2ND	-4846	7850	7850	SANDSTONE	NATURAL GAS, OIL	N
533388	BONE SPRING 3RD	-5961	8965	8965	SANDSTONE	NATURAL GAS, OIL	N
533389	WOLFCAMP	-6386	9390	9390	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 17350

Equipment: Annular, Blind Ram, Pipe Ram

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. Anchors are not required by manufacturer. A multi-bowl wellhead is being used. See attached schematic.
Testing Procedure: 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.

Choke Diagram Attachment:

Bonanza_22_15_W1ED_Fed_Com_2H_5M_BOPE_Choke_Diagram_20191028102648.pdf

Bonanza_22_15_W1ED_Fed_Com_2H_Flex_Line_Specs_20191028102648.pdf

Bonanza_22_15_W1ED_Fed_Com_2H_Flex_Line_Specs_API_16C_20200812094158.pdf

BOP Diagram Attachment:

Bonanza_22_15_W1ED_Fed_Com_2H_5M_BOPE_Schematic_20191028102703.pdf

Bonanza_22_15_W1ED_Fed_Com_2H_Multi_Bowl_WH_20191028102703.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	475	0	475	3004	2529	475	H-40	48	ST&C	3.54	7.96	DRY	14.12	DRY	23.73
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2410	0	2410	2982	594	2410	J-55	36	LT&C	1.61	2.81	DRY	5.22	DRY	6.5
3	PRODUCTION	8.75	7.0	NEW	API	N	0	9800	0	9667	2982	-6663	9800	P-110	26	LT&C	1.3	2.08	DRY	2.72	DRY	3.26
4	LINER	6.125	4.5	NEW	API	N	9147	17350	9146	9744	-6142	-6740	8203	P-110	13.5	LT&C	1.76	2.04	DRY	3.05	DRY	3.81

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BONANZA 22/15 W1ED FED COM **Well Number:** 2H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bonanza_22_15_W1ED_Fed_Com_2H_Csg_assumptions_20191028102756.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bonanza_22_15_W1ED_Fed_Com_2H_Csg_assumptions_20191028102842.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bonanza_22_15_W1ED_Fed_Com_2H_Csg_assumptions_20191028103027.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BONANZA 22/15 W1ED FED COM **Well Number:** 2H

Casing Attachments

Casing ID: 4 **String Type:** LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Bonanza_22_15_W1ED_Fed_Com_2H_Csg_assumptions_20191028103136.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	285	190	2.12	12.5	403	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		285	475	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	1728	320	2.12	12.5	678	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		1728	2410	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	3540	2210	2858	60	2.12	12.5	127	25	Class C	Salt, Gel, Extender, LCM
PRODUCTION	Tail		2858	3540	100	1.34	14.8	134	25	Class C	Retarder
PRODUCTION	Lead	3540	3540	7323	340	2.12	12.5	721	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		7323	9800	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		9147	17350	330	2.97	11.2	980	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BONANZA 22/15 W1ED FED COM **Well Number:** 2H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties & meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: Pason/PVT/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	475	SPUD MUD	8.6	8.8							
475	2410	SALT SATURATED	10	10							
2410	9667	WATER-BASED MUD	8.6	9.7							
9667	9744	OIL-BASED MUD	10	12							MW up to 13.0 ppg may be required for shale control. The highest MW needed to balance formation pressure is expected to be 12.0 ppg.

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BONANZA 22/15 W1ED FED COM **Well Number:** 2H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Will run GR/CNL in deeper offset Bonanza 22/15 W1FC Fed Com #2H

List of open and cased hole logs run in the well:

COMPENSATED NEUTRON LOG,GAMMA RAY LOG,MEASUREMENT WHILE DRILLING,MUD LOG/GEOLOGIC LITHOLOGY LOG,DIRECTIONAL SURVEY,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6080 **Anticipated Surface Pressure:** 3936

Anticipated Bottom Hole Temperature(F): 165

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Bonanza_22_15_W1ED_Fed_Com_2H_H2S_Plan_20191028104014.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Bonanza_22_15_W1ED_Fed_Com_2H_Dir_plot_20191028104041.pdf

Bonanza_22_15_W1ED_Fed_Com_2H_Dir_plan_20191028104041.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Bonanza_22_15_W1ED_Fed_Com_2H_Add_Info_20191028104058.pdf

Bonanza_22_15_W1ED_Fed_Com_2H_Drlg_Program_20191028140742.doc

Other Variance attachment:

ENGINEERING & SERVICES

GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: *Tim.Cantu@gates.com*
WEB: www.gates.com

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER

Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

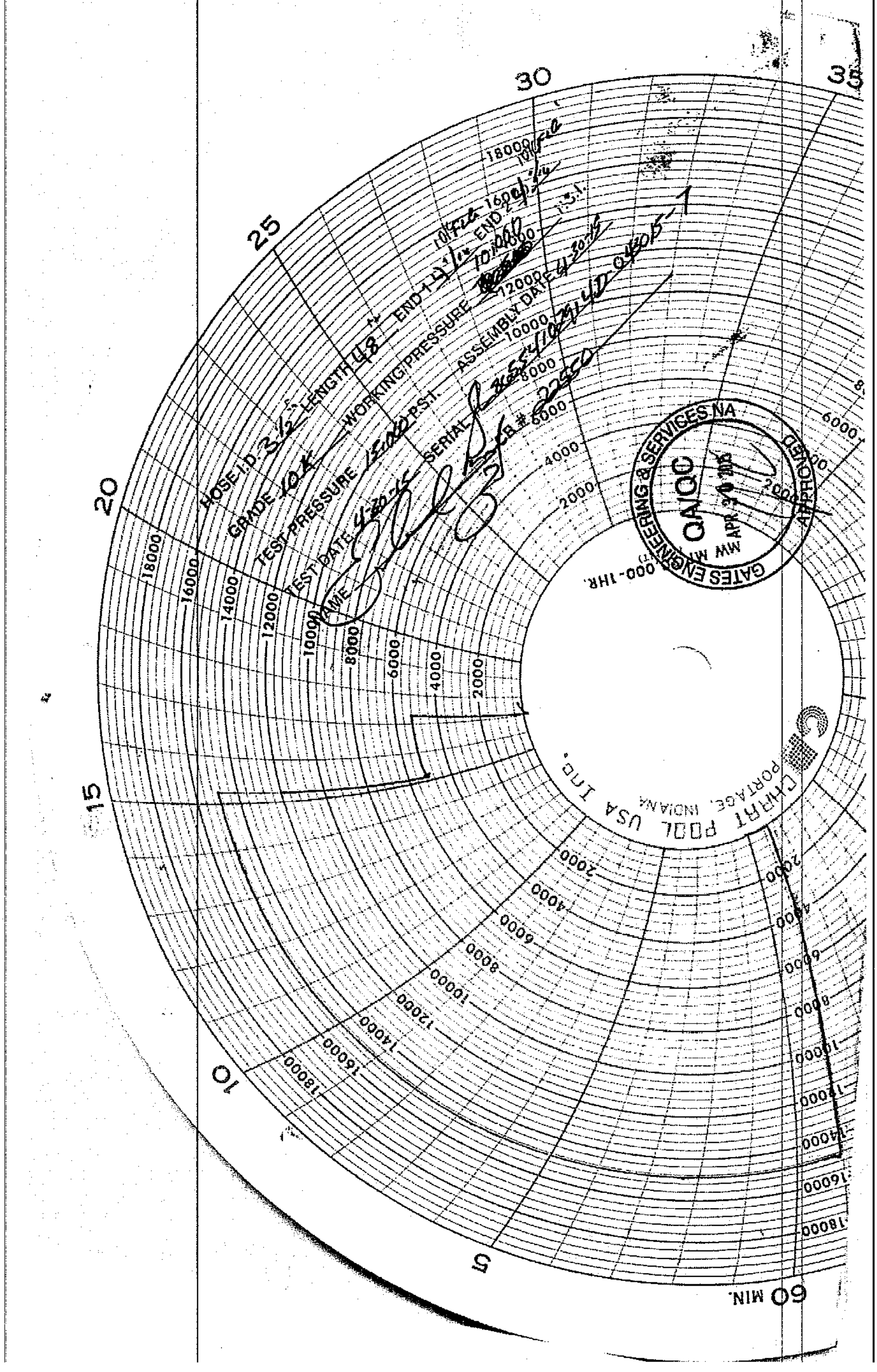
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

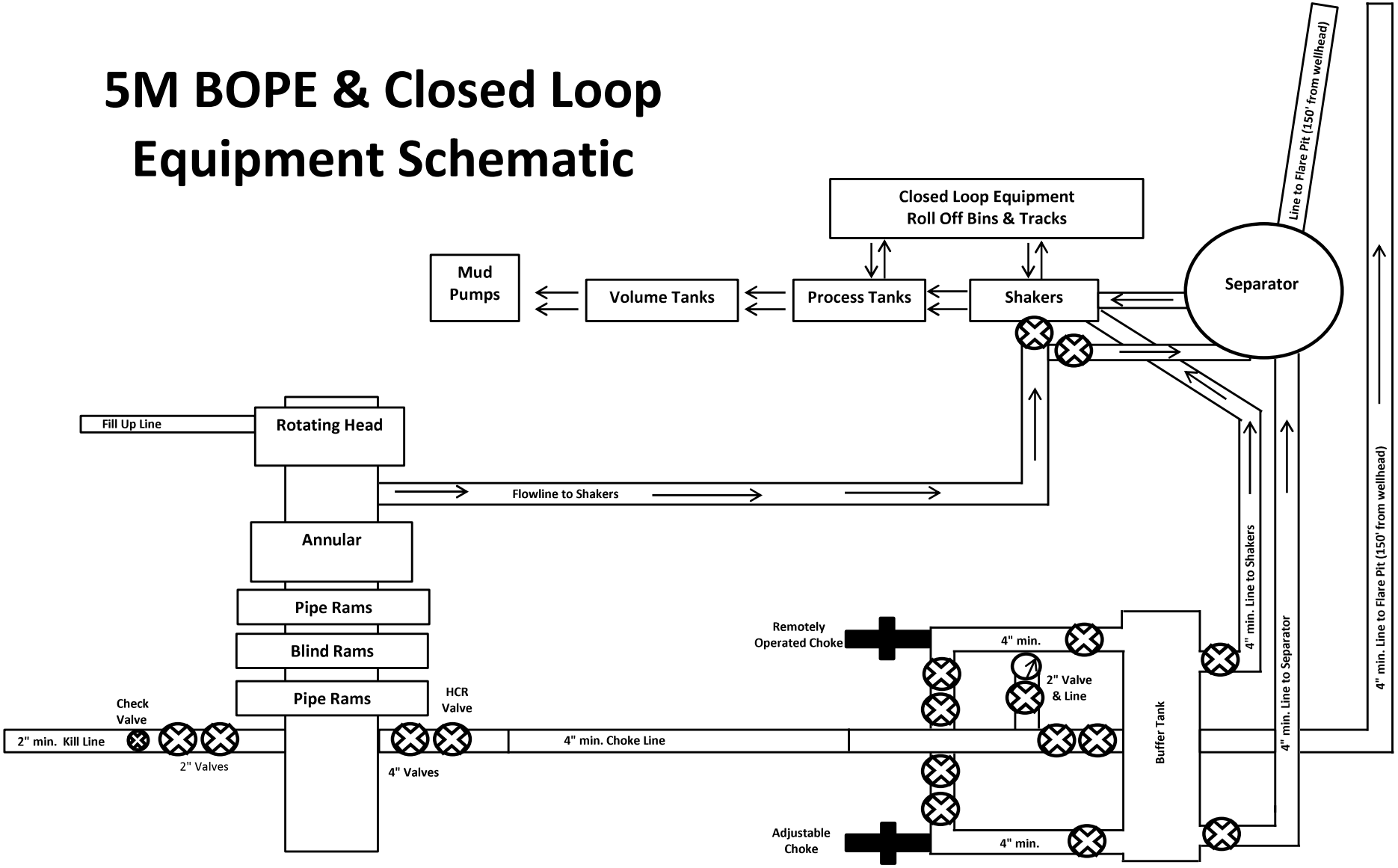
Quality Manager :	QUALITY	Produciton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :	Justin Cropper	Signature :	

Form-PTC - 01 Rev.0 2

Gates BLACK GOLD


HOSE I.D. 3½ LENGTH 48" END 1 END 2
GRADE 10K WORKING PRESSURE P.S.I.
TEST PRESSURE 15,000 P.S.I.
TEST DATE 4-30-15
ASSEMBLY DATE 4-30-15
NAME
SERIAL #
CB #
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED
APR 30 2015
CHART POOL USA Inc.
PORTAGE, INDIANA
60 MIN.
5
10
15
20
25
30
35

5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.

ENGINEERING & SERVICES

GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: *Tim.Cantu@gates.com*
WEB: www.gates.com

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER

Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

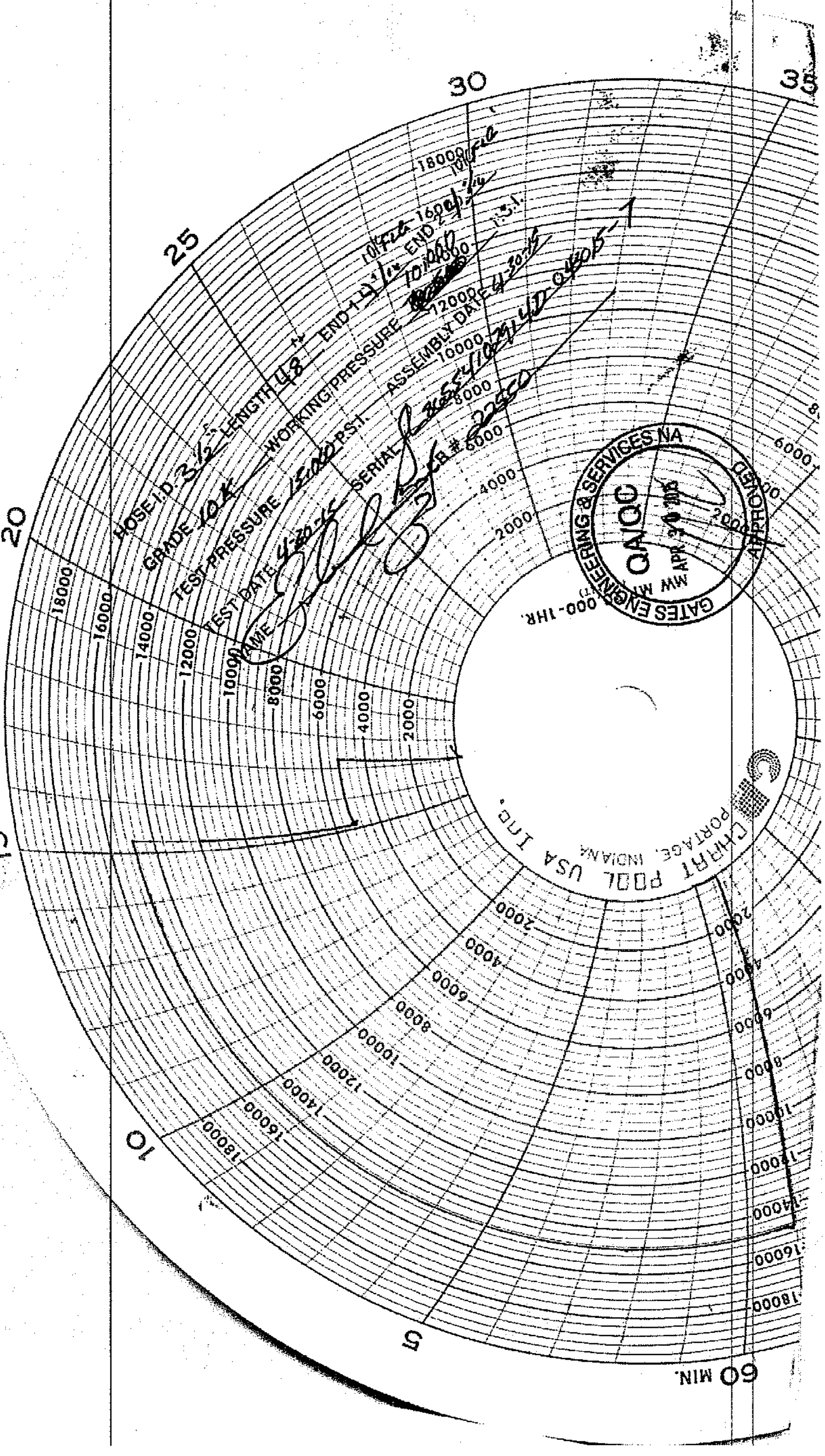
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

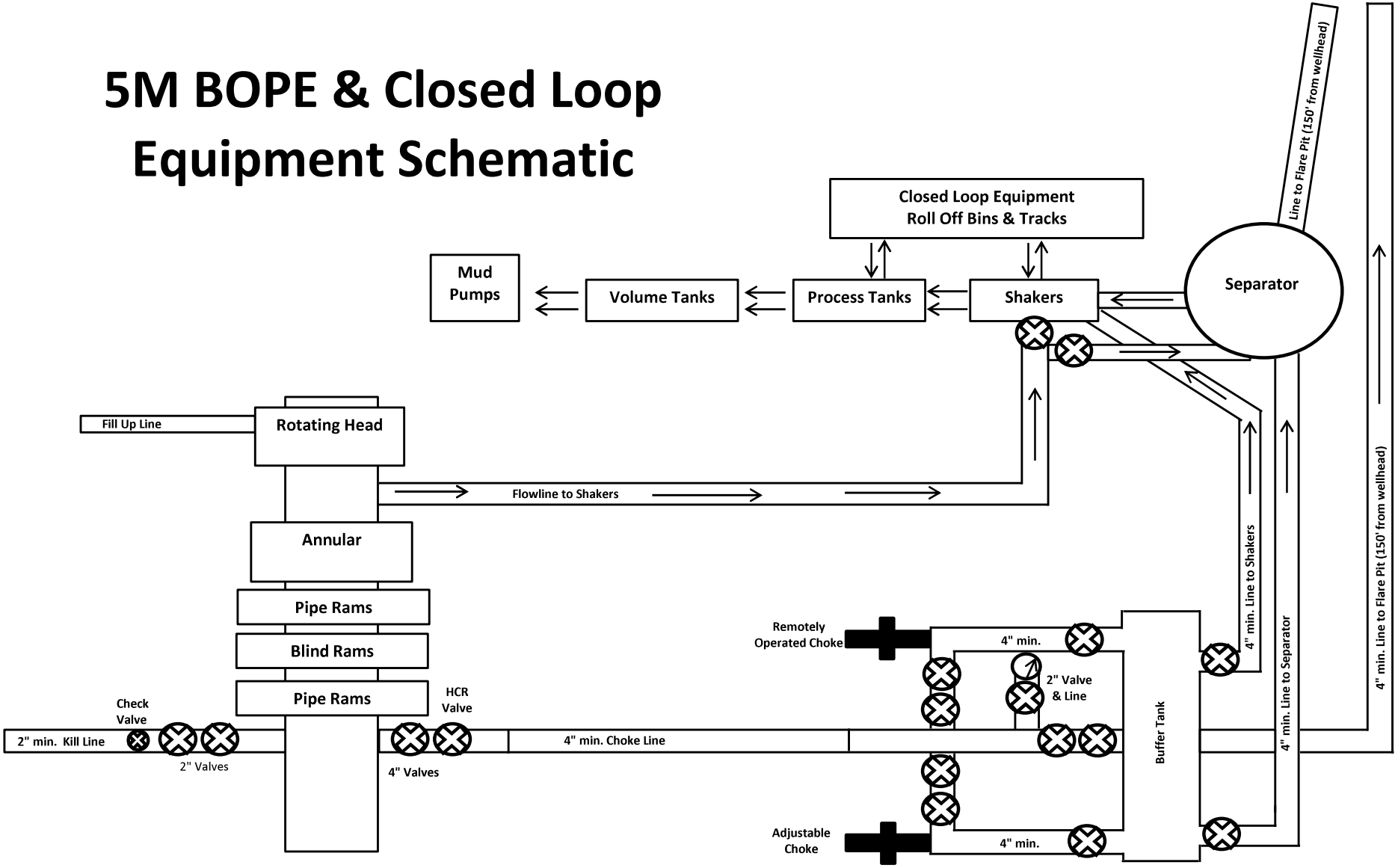
Quality Manager :	QUALITY	Produciton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :	Justin Cropper	Signature :	

Form-PTC - 01 Rev.0 2

Gates BLACK GOLD


HOSE I.D.
LENGTH
END 1
GRADE
WORKING PRESSURE
END 2
TEST PRESSURE
P.S.I.
TEST DATE
ASSEMBLY DATE
NAME
SERIAL #
CB #
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED
APR 30 2015
CHART POOL USA Inc.
PORTAGE, INDIANA
60 MIN.

5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.

ENGINEERING & SERVICES

GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: *Tim.Cantu@gates.com*
WEB: www.gates.com

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER

Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

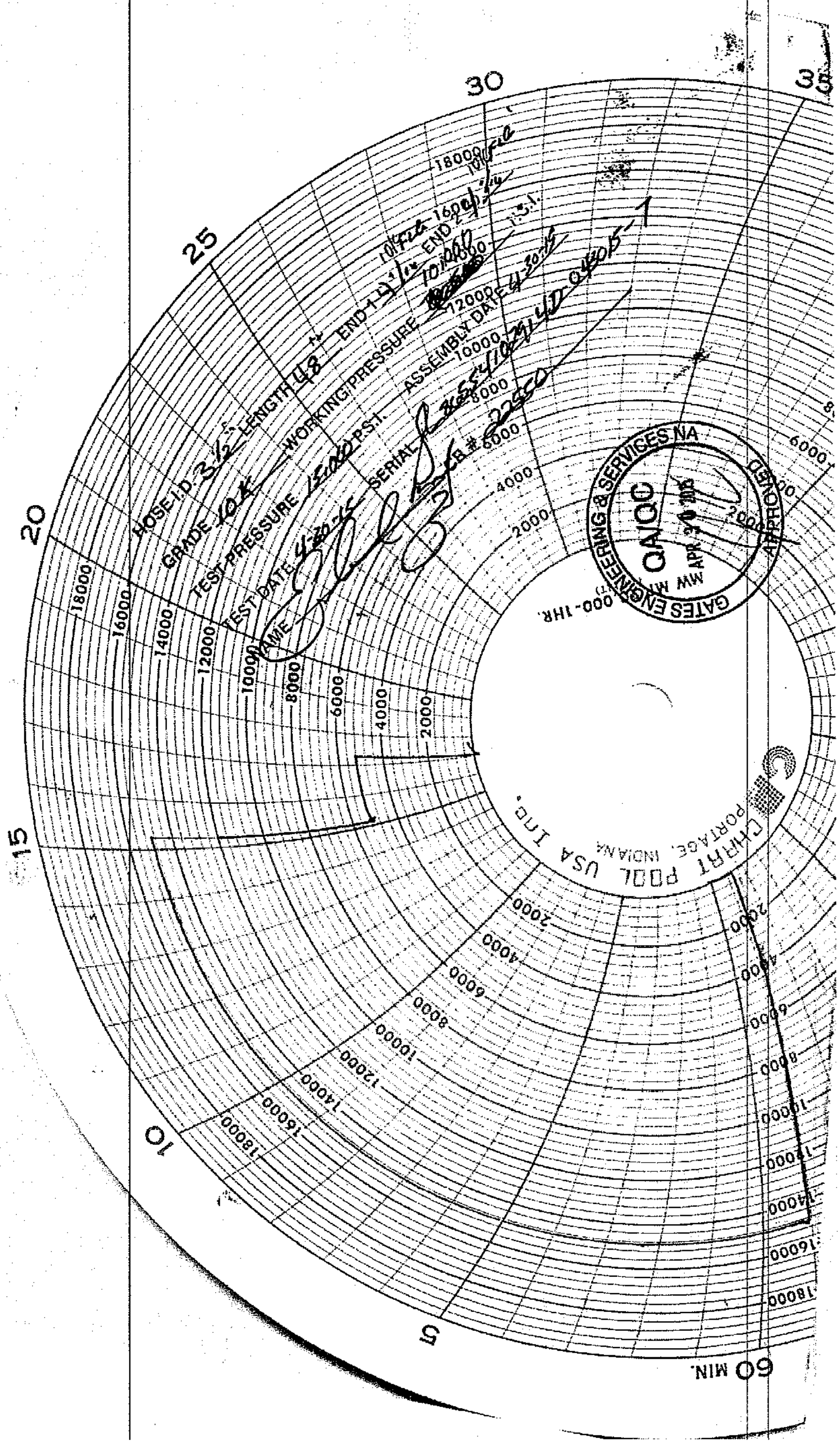
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality Manager :	QUALITY	Produciton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :	Justin Cropper	Signature :	

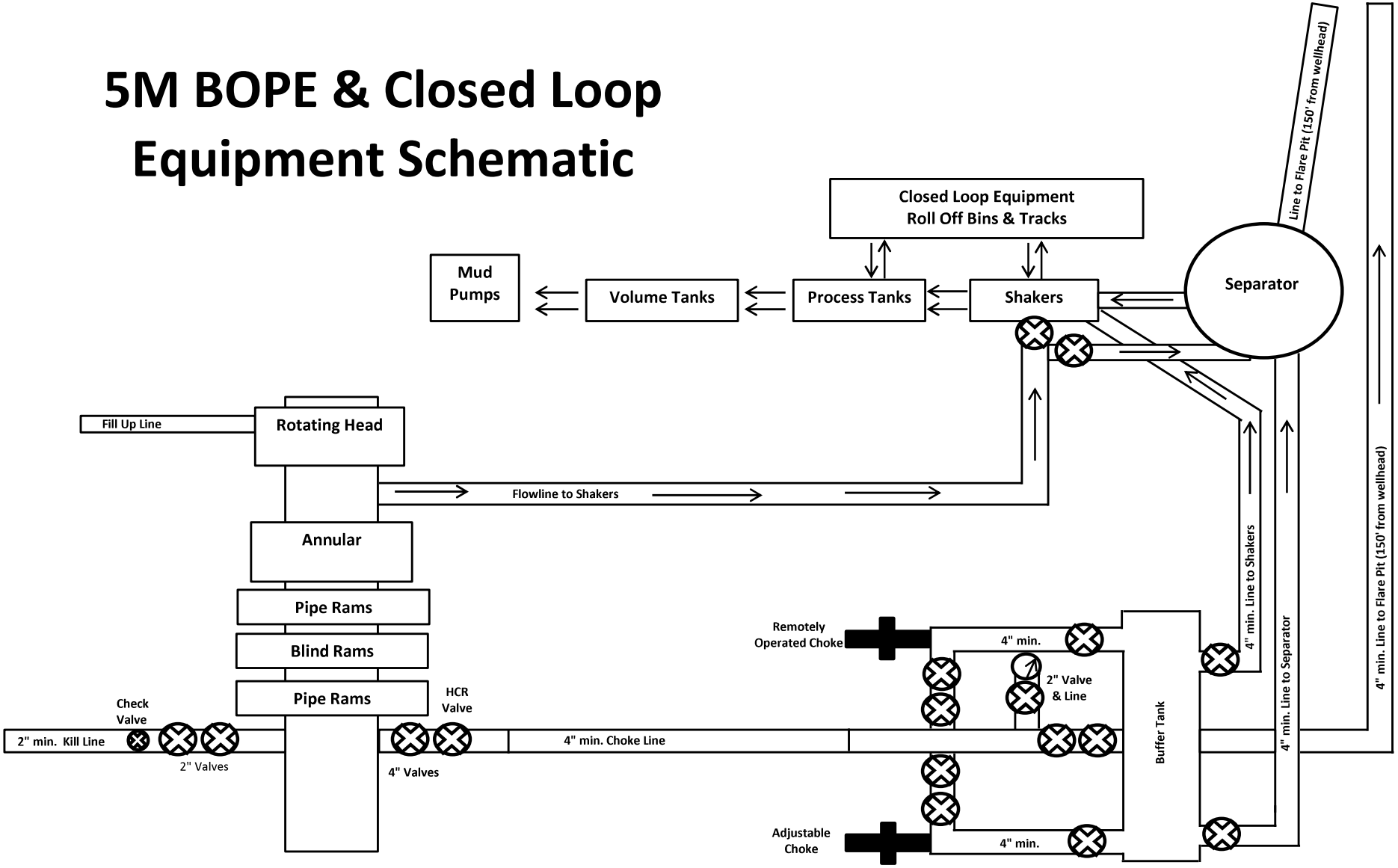
Form-PTC - 01 Rev.0 2

Gates BLACK GOLD



HOSE I.D. 3 1/2" LENGTH 48 ft END 1 END 2
GRADE 10K WORKING PRESSURE P.S.I.
TEST PRESSURE 15,000 P.S.I. ASSEMBLY DATE 4-30-15
TEST DATE 4-30-15 SERIAL #
NAME CB # 22550
GATES ENGINEERING & SERVICES NA
QA/QC
APR 30 2015
APPROVED
CHART POOL USA INC.
PORTAGE, INDIANA
60 MIN.

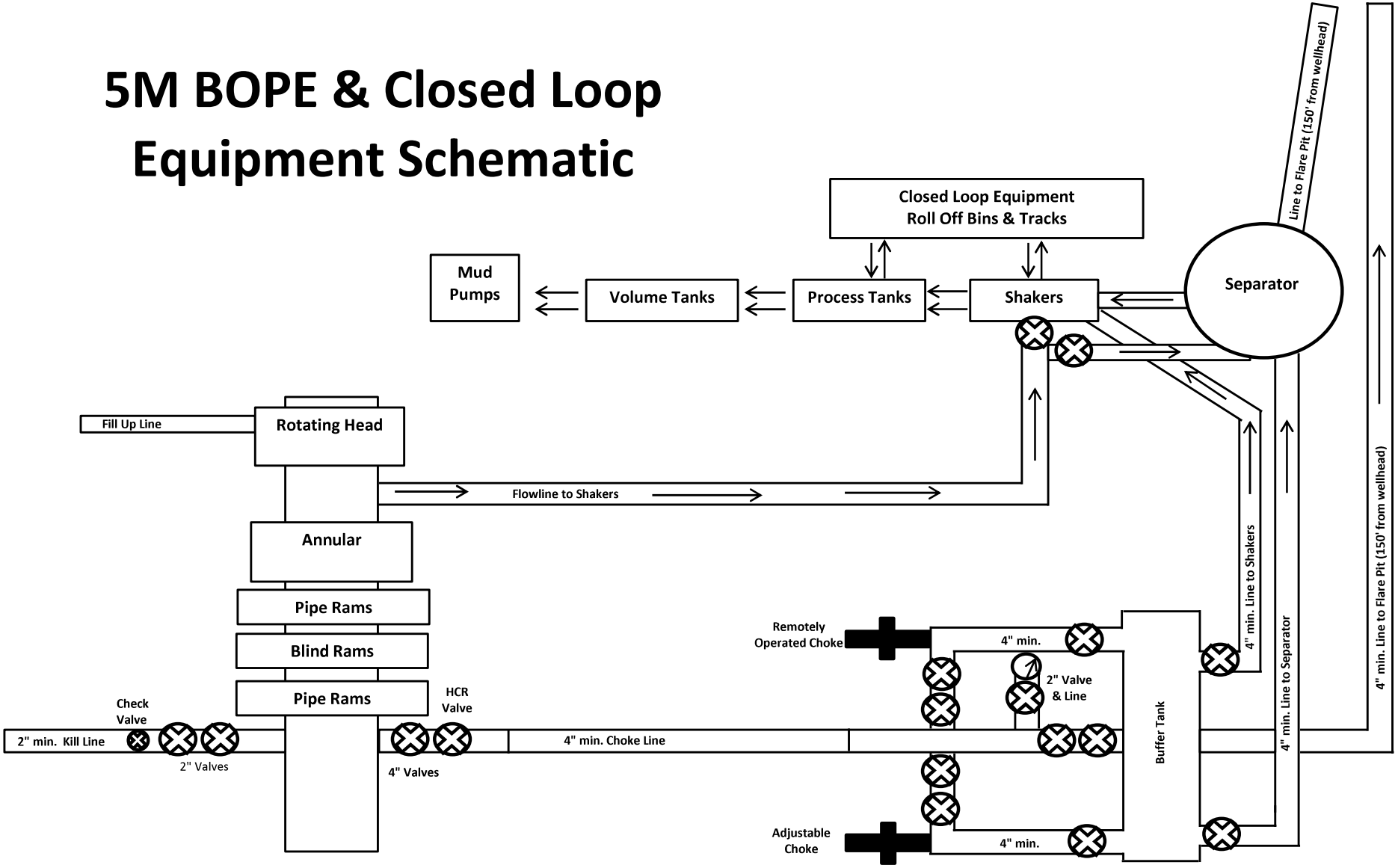
5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.

5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.

ENGINEERING & SERVICES

GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: *Tim.Cantu@gates.com*
WEB: www.gates.com

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER

Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

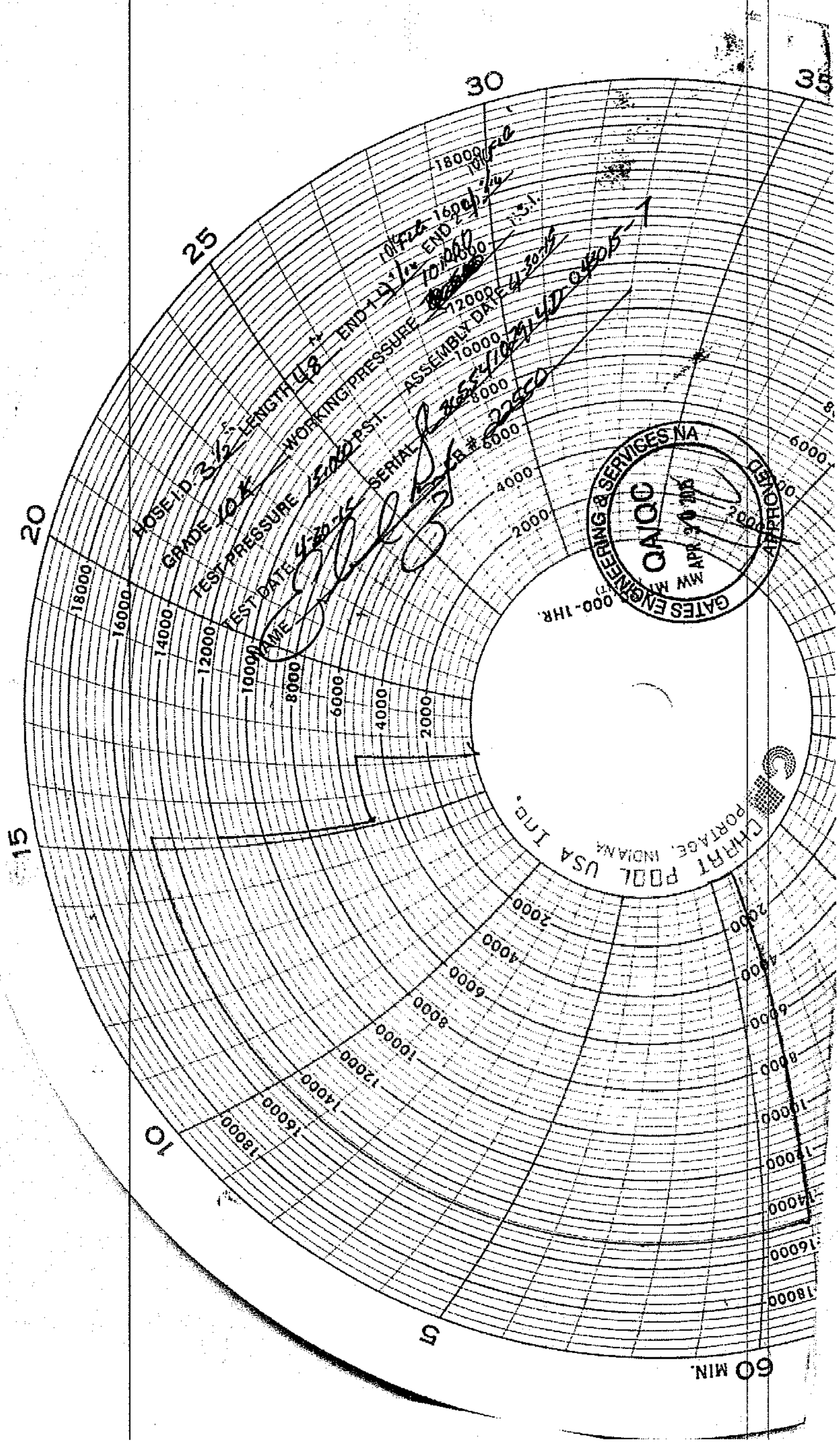
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality Manager :	QUALITY	Produciton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :	Justin Cropper	Signature :	

Form-PTC - 01 Rev.0 2

Gates BLACK GOLD


HOSE I.D. 3 1/2 LENGTH 48"
END
GRADE 10K WORKING PRESSURE
TEST PRESSURE 15,000 P.S.I.
TEST DATE 4-30-15
SERIAL
ASSEMBLY DATE 4-30-15
NAME
CB #
GATES ENGINEERING & SERVICES NA
QA/QC
APR 30 2015
APPROVED
CHART POOL USA Inc.
PORTAGE, INDIANA
60 MIN.

Mewbourne Oil Company,
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SL: 2420' FSL & 1130' FWL (Sec 22, T25S, R28E)
BHL: 330' FNL & 990' FWL (Sec 15, T25S, R28E)

Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	475'	13.375"	48	H40	STC	3.54	7.96	14.12	23.73
12.25"	0'	2410'	9.625"	36	J55	LTC	1.61	2.81	5.22	6.50
8.75"	0'	9800'	7"	26	P110	LTC	1.30	2.08	2.72	3.26
6.125"	9147'	17350'	4.5"	13.5	P110	LTC	1.76	2.04	3.05	3.81
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 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
Is casing API approved? 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 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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company,
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SL: 2420' FSL & 1130' FWL (Sec 22, T25S, R28E)
BHL: 330' FNL & 990' FWL (Sec 15, T25S, R28E)

Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	475'	13.375"	48	H40	STC	3.54	7.96	14.12	23.73
12.25"	0'	2410'	9.625"	36	J55	LTC	1.61	2.81	5.22	6.50
8.75"	0'	9800'	7"	26	P110	LTC	1.30	2.08	2.72	3.26
6.125"	9147'	17350'	4.5"	13.5	P110	LTC	1.76	2.04	3.05	3.81
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 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
Is casing API approved? 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 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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company,
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SL: 2420' FSL & 1130' FWL (Sec 22, T25S, R28E)
BHL: 330' FNL & 990' FWL (Sec 15, T25S, R28E)

Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	475'	13.375"	48	H40	STC	3.54	7.96	14.12	23.73
12.25"	0'	2410'	9.625"	36	J55	LTC	1.61	2.81	5.22	6.50
8.75"	0'	9800'	7"	26	P110	LTC	1.30	2.08	2.72	3.26
6.125"	9147'	17350'	4.5"	13.5	P110	LTC	1.76	2.04	3.05	3.81
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 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
Is casing API approved? 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 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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company,
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SL: 2420' FSL & 1130' FWL (Sec 22, T25S, R28E)
BHL: 330' FNL & 990' FWL (Sec 15, T25S, R28E)

Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	475'	13.375"	48	H40	STC	3.54	7.96	14.12	23.73
12.25"	0'	2410'	9.625"	36	J55	LTC	1.61	2.81	5.22	6.50
8.75"	0'	9800'	7"	26	P110	LTC	1.30	2.08	2.72	3.26
6.125"	9147'	17350'	4.5"	13.5	P110	LTC	1.76	2.04	3.05	3.81
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 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
Is casing API approved? 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 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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Hydrogen Sulfide Drilling Operations Plan
Mewbourne Oil Company

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H2S were found. MOC will have on location and working all H2S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

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

Additionally, supervisory personnel will be trained in the following areas:

1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9 5/8" intermediate casing.

1. Well Control Equipment
   - A. Choke manifold with minimum of one adjustable choke/remote choke.
   - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
   - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel
   Thirty minute self contained work unit located in the dog house and at briefing areas.

Additionally: If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H2S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment

Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. Visual Warning Systems

A. Wind direction indicators as indicated on the wellsite diagram.

B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. Communications

State & County Officials phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

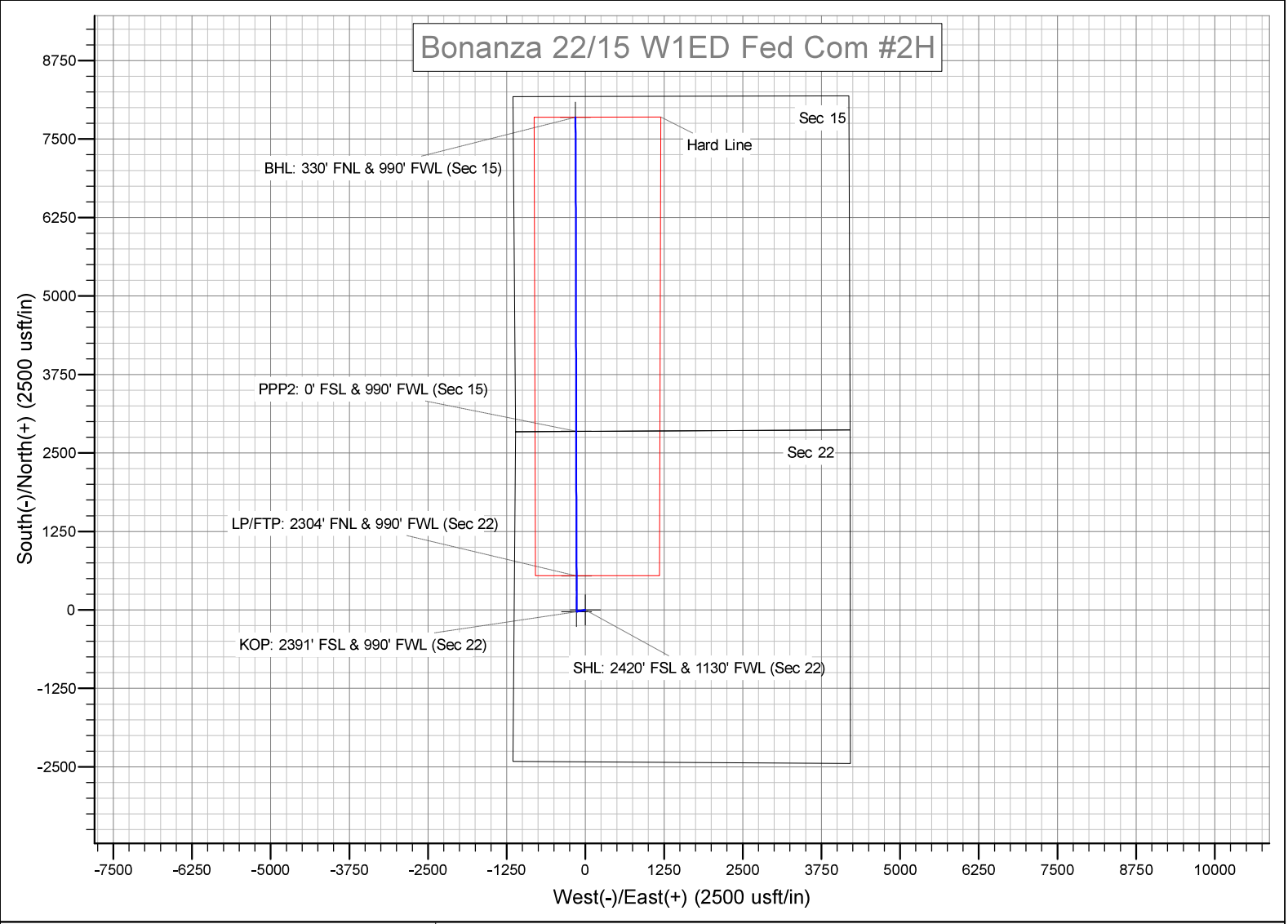
7. Well Testing

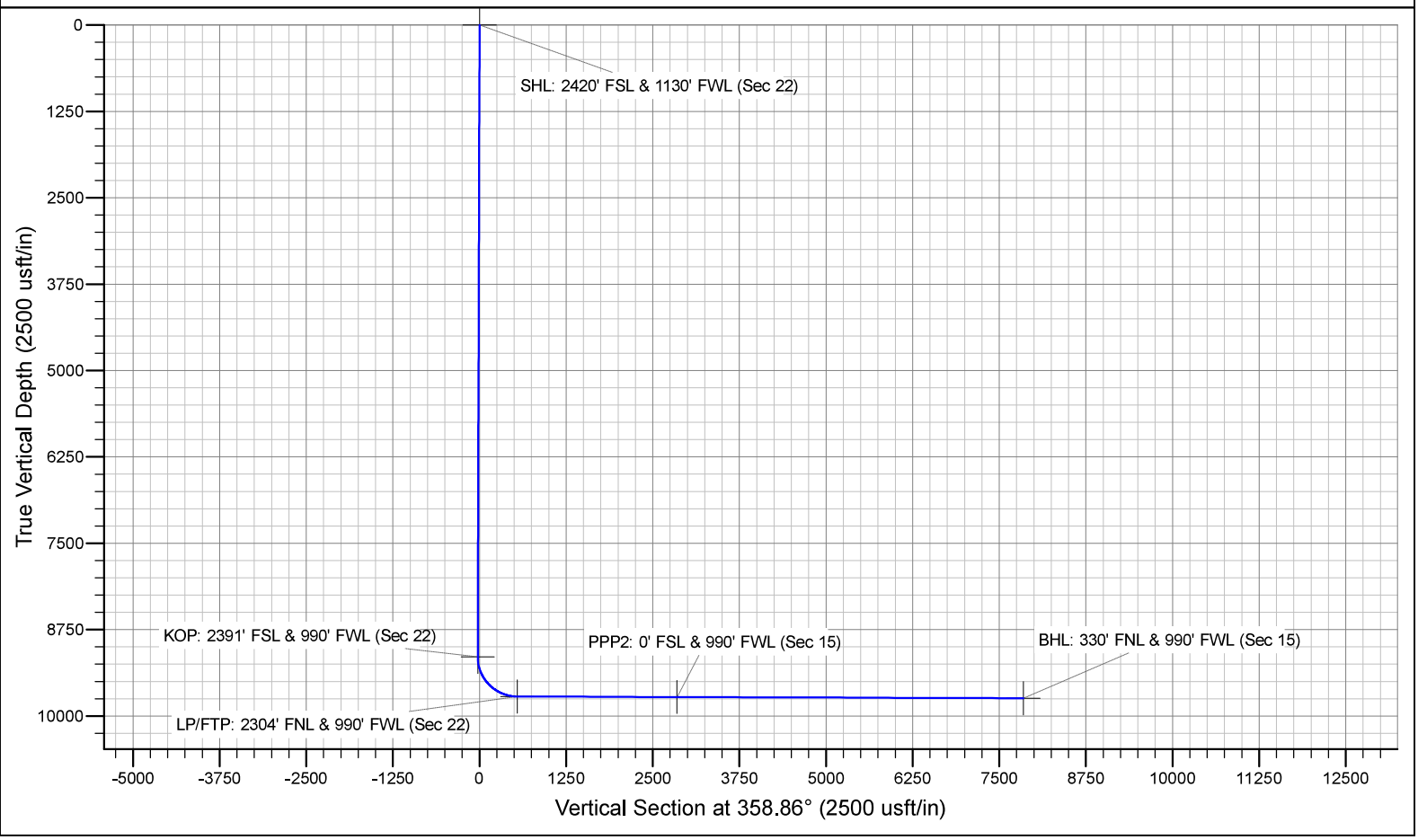
Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

Eddy County Sheriff's Office	**911 or 575-887-7551**
Ambulance Service	**911 or 575-885-2111**
Carlsbad Fire Dept	**911 or 575-885-2111**
Loco Hills Volunteer Fire Dept.	**911 or 575-677-3266**
Closest Medical Facility - Columbia Medical Center of Carlsbad	**575-492-5000**

Mewbourne Oil Company	**Hobbs District Office**	**575-393-5905**
	Fax	**575-397-6252**
	2nd Fax	**575-393-7259**
District Manager	**Robin Terrell**	**575-390-4816**
Drilling Superintendent	**Frosty Lathan**	**575-390-4103**
	Bradley Bishop	**575-390-6838**
Drilling Foreman	**Wesley Noseff**	**575-441-0729**


Bonanza 22/15 W1ED Fed Com #2H
Sec 15
Hard Line
BHL: 330' FNL & 990' FWL (Sec 15)
PPP2: 0' FSL & 990' FWL (Sec 15)
Sec 22
LP/FTP: 2304' FNL & 990' FWL (Sec 22)
KOP: 2391' FSL & 990' FWL (Sec 22)
SHL: 2420' FSL & 1130' FWL (Sec 22)
South(-)/North(+) (2500 usft/in)
West(-)/East(+) (2500 usft/in)


SHL: 2420' FSL & 1130' FWL (Sec 22)
KOP: 2391' FSL & 990' FWL (Sec 22)
PPP2: 0' FSL & 990' FWL (Sec 15)
BHL: 330' FNL & 990' FWL (Sec 15)
LP/FTP: 2304' FNL & 990' FWL (Sec 22)
True Vertical Depth (2500 usft/in)
Vertical Section at 358.86° (2500 usft/in)

Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SHL: 2420' FSL & 1130' FWL, Sec 22
BHL: 330' FNL & 990' FWL, Sec 15

Plan: Design #1

Standard Planning Report

28 October, 2019

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Bonanza 22/15 W1ED Fed Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Site:	Bonanza 22/15 W1ED Fed Com #2H	**North Reference:**	Grid
Well:	Sec 22, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 990' FWL, Sec 15		
Design:	Design #1		

Project	Eddy County, New Mexico NAD 83		
Map System:	US State Plane 1983	**System Datum:**	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Bonanza 22/15 W1ED Fed Com #2H				
Site Position:		**Northing:**	405,621.00 usft	**Latitude:**	32.1148781
From:	Map	**Easting:**	619,742.00 usft	**Longitude:**	-104.0800899
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.13 °

Well	Sec 22, T25S, R28E					
Well Position	**+N/-S**	0.0 usft	**Northing:**	405,621.00 usft	**Latitude:**	32.1148781
	+E/-W	0.0 usft	**Easting:**	619,742.00 usft	**Longitude:**	-104.0800899
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,004.0 usft	**Ground Level:**	2,976.0 usft

Wellbore	BHL: 330' FNL & 990' FWL, Sec 15			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	10/25/2019	6.78	59.79	47,643

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	358.86

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	
475.0	0.00	0.00	475.0	0.0	0.0	0.00	0.00	0.00	0.00	
537.9	0.94	258.61	537.9	-0.1	-0.5	1.50	1.50	0.00	258.61	
9,084.3	0.94	258.61	9,083.1	-27.9	-138.5	0.00	0.00	0.00	0.00	
9,147.2	0.00	0.01	9,146.0	-28.0	-139.0	1.50	-1.50	0.00	180.00	KOP: 2391' FSL & 99
10,045.3	89.80	359.88	9,719.0	543.0	-140.2	10.00	10.00	0.00	-0.12	
17,350.3	89.80	359.88	9,744.0	7,848.0	-156.0	0.00	0.00	0.00	0.00	BHL: 330' FNL & 990'

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Bonanza 22/15 W1ED Fed Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Site:	Bonanza 22/15 W1ED Fed Com #2H	**North Reference:**	Grid
Well:	Sec 22, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 990' FWL, Sec 15		
Design:	Design #1		

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
SHL: 2420' FSL & 1130' FWL (Sec 22)									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
475.0	0.00	0.00	475.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.38	258.61	500.0	0.0	-0.1	0.0	1.50	1.50	0.00
537.9	0.94	258.61	537.9	-0.1	-0.5	-0.1	1.50	1.50	0.00
600.0	0.94	258.61	600.0	-0.3	-1.5	-0.3	0.00	0.00	0.00
700.0	0.94	258.61	700.0	-0.6	-3.1	-0.6	0.00	0.00	0.00
800.0	0.94	258.61	800.0	-1.0	-4.7	-0.9	0.00	0.00	0.00
900.0	0.94	258.61	899.9	-1.3	-6.4	-1.2	0.00	0.00	0.00
1,000.0	0.94	258.61	999.9	-1.6	-8.0	-1.4	0.00	0.00	0.00
1,100.0	0.94	258.61	1,099.9	-1.9	-9.6	-1.7	0.00	0.00	0.00
1,200.0	0.94	258.61	1,199.9	-2.3	-11.2	-2.0	0.00	0.00	0.00
1,300.0	0.94	258.61	1,299.9	-2.6	-12.8	-2.3	0.00	0.00	0.00
1,400.0	0.94	258.61	1,399.9	-2.9	-14.4	-2.6	0.00	0.00	0.00
1,500.0	0.94	258.61	1,499.9	-3.2	-16.0	-2.9	0.00	0.00	0.00
1,600.0	0.94	258.61	1,599.9	-3.6	-17.7	-3.2	0.00	0.00	0.00
1,700.0	0.94	258.61	1,699.8	-3.9	-19.3	-3.5	0.00	0.00	0.00
1,800.0	0.94	258.61	1,799.8	-4.2	-20.9	-3.8	0.00	0.00	0.00
1,900.0	0.94	258.61	1,899.8	-4.5	-22.5	-4.1	0.00	0.00	0.00
2,000.0	0.94	258.61	1,999.8	-4.9	-24.1	-4.4	0.00	0.00	0.00
2,100.0	0.94	258.61	2,099.8	-5.2	-25.7	-4.7	0.00	0.00	0.00
2,200.0	0.94	258.61	2,199.8	-5.5	-27.3	-5.0	0.00	0.00	0.00
2,300.0	0.94	258.61	2,299.8	-5.8	-29.0	-5.3	0.00	0.00	0.00
2,400.0	0.94	258.61	2,399.7	-6.2	-30.6	-5.5	0.00	0.00	0.00
2,500.0	0.94	258.61	2,499.7	-6.5	-32.2	-5.8	0.00	0.00	0.00
2,600.0	0.94	258.61	2,599.7	-6.8	-33.8	-6.1	0.00	0.00	0.00
2,700.0	0.94	258.61	2,699.7	-7.1	-35.4	-6.4	0.00	0.00	0.00
2,800.0	0.94	258.61	2,799.7	-7.5	-37.0	-6.7	0.00	0.00	0.00
2,900.0	0.94	258.61	2,899.7	-7.8	-38.6	-7.0	0.00	0.00	0.00
3,000.0	0.94	258.61	2,999.7	-8.1	-40.3	-7.3	0.00	0.00	0.00
3,100.0	0.94	258.61	3,099.6	-8.4	-41.9	-7.6	0.00	0.00	0.00
3,200.0	0.94	258.61	3,199.6	-8.8	-43.5	-7.9	0.00	0.00	0.00
3,300.0	0.94	258.61	3,299.6	-9.1	-45.1	-8.2	0.00	0.00	0.00
3,400.0	0.94	258.61	3,399.6	-9.4	-46.7	-8.5	0.00	0.00	0.00
3,500.0	0.94	258.61	3,499.6	-9.7	-48.3	-8.8	0.00	0.00	0.00
3,600.0	0.94	258.61	3,599.6	-10.1	-49.9	-9.1	0.00	0.00	0.00
3,700.0	0.94	258.61	3,699.6	-10.4	-51.6	-9.4	0.00	0.00	0.00
3,800.0	0.94	258.61	3,799.6	-10.7	-53.2	-9.7	0.00	0.00	0.00
3,900.0	0.94	258.61	3,899.5	-11.0	-54.8	-9.9	0.00	0.00	0.00
4,000.0	0.94	258.61	3,999.5	-11.4	-56.4	-10.2	0.00	0.00	0.00
4,100.0	0.94	258.61	4,099.5	-11.7	-58.0	-10.5	0.00	0.00	0.00
4,200.0	0.94	258.61	4,199.5	-12.0	-59.6	-10.8	0.00	0.00	0.00
4,300.0	0.94	258.61	4,299.5	-12.3	-61.2	-11.1	0.00	0.00	0.00
4,400.0	0.94	258.61	4,399.5	-12.7	-62.9	-11.4	0.00	0.00	0.00
4,500.0	0.94	258.61	4,499.5	-13.0	-64.5	-11.7	0.00	0.00	0.00
4,600.0	0.94	258.61	4,599.4	-13.3	-66.1	-12.0	0.00	0.00	0.00
4,700.0	0.94	258.61	4,699.4	-13.6	-67.7	-12.3	0.00	0.00	0.00
4,800.0	0.94	258.61	4,799.4	-14.0	-69.3	-12.6	0.00	0.00	0.00
4,900.0	0.94	258.61	4,899.4	-14.3	-70.9	-12.9	0.00	0.00	0.00
5,000.0	0.94	258.61	4,999.4	-14.6	-72.6	-13.2	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Bonanza 22/15 W1ED Fed Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Site:	Bonanza 22/15 W1ED Fed Com #2H	**North Reference:**	Grid
Well:	Sec 22, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 990' FWL, Sec 15		
Design:	Design #1		

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)
5,100.0	0.94	258.61	5,099.4	-14.9	-74.2	-13.5	0.00	0.00	0.00
5,200.0	0.94	258.61	5,199.4	-15.3	-75.8	-13.8	0.00	0.00	0.00
5,300.0	0.94	258.61	5,299.4	-15.6	-77.4	-14.0	0.00	0.00	0.00
5,400.0	0.94	258.61	5,399.3	-15.9	-79.0	-14.3	0.00	0.00	0.00
5,500.0	0.94	258.61	5,499.3	-16.2	-80.6	-14.6	0.00	0.00	0.00
5,600.0	0.94	258.61	5,599.3	-16.6	-82.2	-14.9	0.00	0.00	0.00
5,700.0	0.94	258.61	5,699.3	-16.9	-83.9	-15.2	0.00	0.00	0.00
5,800.0	0.94	258.61	5,799.3	-17.2	-85.5	-15.5	0.00	0.00	0.00
5,900.0	0.94	258.61	5,899.3	-17.5	-87.1	-15.8	0.00	0.00	0.00
6,000.0	0.94	258.61	5,999.3	-17.9	-88.7	-16.1	0.00	0.00	0.00
6,100.0	0.94	258.61	6,099.2	-18.2	-90.3	-16.4	0.00	0.00	0.00
6,200.0	0.94	258.61	6,199.2	-18.5	-91.9	-16.7	0.00	0.00	0.00
6,300.0	0.94	258.61	6,299.2	-18.8	-93.5	-17.0	0.00	0.00	0.00
6,400.0	0.94	258.61	6,399.2	-19.2	-95.2	-17.3	0.00	0.00	0.00
6,500.0	0.94	258.61	6,499.2	-19.5	-96.8	-17.6	0.00	0.00	0.00
6,600.0	0.94	258.61	6,599.2	-19.8	-98.4	-17.9	0.00	0.00	0.00
6,700.0	0.94	258.61	6,699.2	-20.1	-100.0	-18.2	0.00	0.00	0.00
6,800.0	0.94	258.61	6,799.1	-20.5	-101.6	-18.4	0.00	0.00	0.00
6,900.0	0.94	258.61	6,899.1	-20.8	-103.2	-18.7	0.00	0.00	0.00
7,000.0	0.94	258.61	6,999.1	-21.1	-104.8	-19.0	0.00	0.00	0.00
7,100.0	0.94	258.61	7,099.1	-21.4	-106.5	-19.3	0.00	0.00	0.00
7,200.0	0.94	258.61	7,199.1	-21.8	-108.1	-19.6	0.00	0.00	0.00
7,300.0	0.94	258.61	7,299.1	-22.1	-109.7	-19.9	0.00	0.00	0.00
7,400.0	0.94	258.61	7,399.1	-22.4	-111.3	-20.2	0.00	0.00	0.00
7,500.0	0.94	258.61	7,499.1	-22.7	-112.9	-20.5	0.00	0.00	0.00
7,600.0	0.94	258.61	7,599.0	-23.1	-114.5	-20.8	0.00	0.00	0.00
7,700.0	0.94	258.61	7,699.0	-23.4	-116.1	-21.1	0.00	0.00	0.00
7,800.0	0.94	258.61	7,799.0	-23.7	-117.8	-21.4	0.00	0.00	0.00
7,900.0	0.94	258.61	7,899.0	-24.0	-119.4	-21.7	0.00	0.00	0.00
8,000.0	0.94	258.61	7,999.0	-24.4	-121.0	-22.0	0.00	0.00	0.00
8,100.0	0.94	258.61	8,099.0	-24.7	-122.6	-22.3	0.00	0.00	0.00
8,200.0	0.94	258.61	8,199.0	-25.0	-124.2	-22.5	0.00	0.00	0.00
8,300.0	0.94	258.61	8,298.9	-25.3	-125.8	-22.8	0.00	0.00	0.00
8,400.0	0.94	258.61	8,398.9	-25.7	-127.4	-23.1	0.00	0.00	0.00
8,500.0	0.94	258.61	8,498.9	-26.0	-129.1	-23.4	0.00	0.00	0.00
8,600.0	0.94	258.61	8,598.9	-26.3	-130.7	-23.7	0.00	0.00	0.00
8,700.0	0.94	258.61	8,698.9	-26.6	-132.3	-24.0	0.00	0.00	0.00
8,800.0	0.94	258.61	8,798.9	-27.0	-133.9	-24.3	0.00	0.00	0.00
8,900.0	0.94	258.61	8,898.9	-27.3	-135.5	-24.6	0.00	0.00	0.00
9,000.0	0.94	258.61	8,998.8	-27.6	-137.1	-24.9	0.00	0.00	0.00
9,084.3	0.94	258.61	9,083.1	-27.9	-138.5	-25.1	0.00	0.00	0.00
9,100.0	0.71	258.61	9,098.8	-27.9	-138.7	-25.2	1.50	-1.50	0.00
9,147.2	0.00	0.01	9,146.0	-28.0	-139.0	-25.2	1.50	-1.50	0.00
KOP: 2391' FSL & 990' FWL (Sec 22)									
9,200.0	5.28	359.88	9,198.8	-25.6	-139.0	-22.8	10.00	10.00	0.00
9,300.0	15.28	359.88	9,297.0	-7.7	-139.0	-5.0	10.00	10.00	0.00
9,400.0	25.28	359.88	9,390.7	26.9	-139.1	29.6	10.00	10.00	0.00
9,500.0	35.28	359.88	9,477.0	77.2	-139.2	80.0	10.00	10.00	0.00
9,600.0	45.28	359.88	9,553.1	141.8	-139.4	144.6	10.00	10.00	0.00
9,700.0	55.28	359.88	9,617.0	218.6	-139.5	221.4	10.00	10.00	0.00
9,800.0	65.28	359.88	9,666.5	305.4	-139.7	308.1	10.00	10.00	0.00
9,900.0	75.28	359.88	9,700.2	399.4	-139.9	402.1	10.00	10.00	0.00
10,000.0	85.28	359.88	9,717.1	497.8	-140.1	500.5	10.00	10.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Bonanza 22/15 W1ED Fed Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Site:	Bonanza 22/15 W1ED Fed Com #2H	**North Reference:**	Grid
Well:	Sec 22, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 990' FWL, Sec 15		
Design:	Design #1		

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)
10,045.2	89.80	359.88	9,719.0	543.0	-140.2	545.7	10.00	10.00	0.00
LP/FTP: 2304' FNL & 990' FWL (Sec 22)									
10,100.0	89.80	359.88	9,719.2	597.8	-140.4	600.4	0.01	0.01	0.00
10,200.0	89.80	359.88	9,719.5	697.8	-140.6	700.4	0.00	0.00	0.00
10,300.0	89.80	359.88	9,719.9	797.8	-140.8	800.4	0.00	0.00	0.00
10,400.0	89.80	359.88	9,720.2	897.8	-141.0	900.4	0.00	0.00	0.00
10,500.0	89.80	359.88	9,720.6	997.8	-141.2	1,000.4	0.00	0.00	0.00
10,600.0	89.80	359.88	9,720.9	1,097.8	-141.4	1,100.4	0.00	0.00	0.00
10,700.0	89.80	359.88	9,721.2	1,197.8	-141.6	1,200.3	0.00	0.00	0.00
10,800.0	89.80	359.88	9,721.6	1,297.8	-141.9	1,300.3	0.00	0.00	0.00
10,900.0	89.80	359.88	9,721.9	1,397.8	-142.1	1,400.3	0.00	0.00	0.00
11,000.0	89.80	359.88	9,722.3	1,497.8	-142.3	1,500.3	0.00	0.00	0.00
11,100.0	89.80	359.88	9,722.6	1,597.8	-142.5	1,600.3	0.00	0.00	0.00
11,200.0	89.80	359.88	9,723.0	1,697.8	-142.7	1,700.3	0.00	0.00	0.00
11,300.0	89.80	359.88	9,723.3	1,797.8	-142.9	1,800.2	0.00	0.00	0.00
11,400.0	89.80	359.88	9,723.6	1,897.8	-143.2	1,900.2	0.00	0.00	0.00
11,500.0	89.80	359.88	9,724.0	1,997.8	-143.4	2,000.2	0.00	0.00	0.00
11,600.0	89.80	359.88	9,724.3	2,097.8	-143.6	2,100.2	0.00	0.00	0.00
11,700.0	89.80	359.88	9,724.7	2,197.8	-143.8	2,200.2	0.00	0.00	0.00
11,800.0	89.80	359.88	9,725.0	2,297.8	-144.0	2,300.2	0.00	0.00	0.00
11,900.0	89.80	359.88	9,725.3	2,397.8	-144.2	2,400.1	0.00	0.00	0.00
12,000.0	89.80	359.88	9,725.7	2,497.7	-144.5	2,500.1	0.00	0.00	0.00
12,100.0	89.80	359.88	9,726.0	2,597.7	-144.7	2,600.1	0.00	0.00	0.00
12,200.0	89.80	359.88	9,726.4	2,697.7	-144.9	2,700.1	0.00	0.00	0.00
12,300.0	89.80	359.88	9,726.7	2,797.7	-145.1	2,800.1	0.00	0.00	0.00
12,350.3	89.80	359.88	9,726.9	2,848.0	-145.2	2,850.3	0.00	0.00	0.00
PPP2: 0' FSL & 990' FWL (Sec 15)									
12,400.0	89.80	359.88	9,727.1	2,897.7	-145.3	2,900.1	0.00	0.00	0.00
12,500.0	89.80	359.88	9,727.4	2,997.7	-145.5	3,000.0	0.00	0.00	0.00
12,600.0	89.80	359.88	9,727.7	3,097.7	-145.7	3,100.0	0.00	0.00	0.00
12,700.0	89.80	359.88	9,728.1	3,197.7	-146.0	3,200.0	0.00	0.00	0.00
12,800.0	89.80	359.88	9,728.4	3,297.7	-146.2	3,300.0	0.00	0.00	0.00
12,900.0	89.80	359.88	9,728.8	3,397.7	-146.4	3,400.0	0.00	0.00	0.00
13,000.0	89.80	359.88	9,729.1	3,497.7	-146.6	3,500.0	0.00	0.00	0.00
13,100.0	89.80	359.88	9,729.5	3,597.7	-146.8	3,599.9	0.00	0.00	0.00
13,200.0	89.80	359.88	9,729.8	3,697.7	-147.0	3,699.9	0.00	0.00	0.00
13,300.0	89.80	359.88	9,730.1	3,797.7	-147.3	3,799.9	0.00	0.00	0.00
13,400.0	89.80	359.88	9,730.5	3,897.7	-147.5	3,899.9	0.00	0.00	0.00
13,500.0	89.80	359.88	9,730.8	3,997.7	-147.7	3,999.9	0.00	0.00	0.00
13,600.0	89.80	359.88	9,731.2	4,097.7	-147.9	4,099.9	0.00	0.00	0.00
13,700.0	89.80	359.88	9,731.5	4,197.7	-148.1	4,199.9	0.00	0.00	0.00
13,800.0	89.80	359.88	9,731.8	4,297.7	-148.3	4,299.8	0.00	0.00	0.00
13,900.0	89.80	359.88	9,732.2	4,397.7	-148.6	4,399.8	0.00	0.00	0.00
14,000.0	89.80	359.88	9,732.5	4,497.7	-148.8	4,499.8	0.00	0.00	0.00
14,100.0	89.80	359.88	9,732.9	4,597.7	-149.0	4,599.8	0.00	0.00	0.00
14,200.0	89.80	359.88	9,733.2	4,697.7	-149.2	4,699.8	0.00	0.00	0.00
14,300.0	89.80	359.88	9,733.6	4,797.7	-149.4	4,799.8	0.00	0.00	0.00
14,400.0	89.80	359.88	9,733.9	4,897.7	-149.6	4,899.7	0.00	0.00	0.00
14,500.0	89.80	359.88	9,734.2	4,997.7	-149.8	4,999.7	0.00	0.00	0.00
14,600.0	89.80	359.88	9,734.6	5,097.7	-150.1	5,099.7	0.00	0.00	0.00
14,700.0	89.80	359.88	9,734.9	5,197.7	-150.3	5,199.7	0.00	0.00	0.00
14,800.0	89.80	359.88	9,735.3	5,297.7	-150.5	5,299.7	0.00	0.00	0.00
14,900.0	89.80	359.88	9,735.6	5,397.7	-150.7	5,399.7	0.00	0.00	0.00
15,000.0	89.80	359.88	9,736.0	5,497.7	-150.9	5,499.6	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Bonanza 22/15 W1ED Fed Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3004.0usft (Original Well Elev)
Site:	Bonanza 22/15 W1ED Fed Com #2H	**North Reference:**	Grid
Well:	Sec 22, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 990' FWL, Sec 15		
Design:	Design #1		

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)
15,100.0	89.80	359.88	9,736.3	5,597.7	-151.1	5,599.6	0.00	0.00	0.00
15,200.0	89.80	359.88	9,736.6	5,697.7	-151.4	5,699.6	0.00	0.00	0.00
15,300.0	89.80	359.88	9,737.0	5,797.7	-151.6	5,799.6	0.00	0.00	0.00
15,400.0	89.80	359.88	9,737.3	5,897.7	-151.8	5,899.6	0.00	0.00	0.00
15,500.0	89.80	359.88	9,737.7	5,997.7	-152.0	5,999.6	0.00	0.00	0.00
15,600.0	89.80	359.88	9,738.0	6,097.7	-152.2	6,099.5	0.00	0.00	0.00
15,700.0	89.80	359.88	9,738.4	6,197.7	-152.4	6,199.5	0.00	0.00	0.00
15,800.0	89.80	359.88	9,738.7	6,297.7	-152.7	6,299.5	0.00	0.00	0.00
15,900.0	89.80	359.88	9,739.0	6,397.7	-152.9	6,399.5	0.00	0.00	0.00
16,000.0	89.80	359.88	9,739.4	6,497.7	-153.1	6,499.5	0.00	0.00	0.00
16,100.0	89.80	359.88	9,739.7	6,597.7	-153.3	6,599.5	0.00	0.00	0.00
16,200.0	89.80	359.88	9,740.1	6,697.7	-153.5	6,699.4	0.00	0.00	0.00
16,300.0	89.80	359.88	9,740.4	6,797.7	-153.7	6,799.4	0.00	0.00	0.00
16,400.0	89.80	359.88	9,740.7	6,897.7	-153.9	6,899.4	0.00	0.00	0.00
16,500.0	89.80	359.88	9,741.1	6,997.7	-154.2	6,999.4	0.00	0.00	0.00
16,600.0	89.80	359.88	9,741.4	7,097.7	-154.4	7,099.4	0.00	0.00	0.00
16,700.0	89.80	359.88	9,741.8	7,197.7	-154.6	7,199.4	0.00	0.00	0.00
16,800.0	89.80	359.88	9,742.1	7,297.7	-154.8	7,299.3	0.00	0.00	0.00
16,900.0	89.80	359.88	9,742.5	7,397.7	-155.0	7,399.3	0.00	0.00	0.00
17,000.0	89.80	359.88	9,742.8	7,497.7	-155.2	7,499.3	0.00	0.00	0.00
17,100.0	89.80	359.88	9,743.1	7,597.7	-155.5	7,599.3	0.00	0.00	0.00
17,200.0	89.80	359.88	9,743.5	7,697.7	-155.7	7,699.3	0.00	0.00	0.00
17,300.0	89.80	359.88	9,743.8	7,797.7	-155.9	7,799.3	0.00	0.00	0.00
17,350.3	89.80	359.88	9,744.0	7,848.0	-156.0	7,849.6	0.00	0.00	0.00
BHL: 330' FNL & 990' FWL (Sec 15)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL: 2420' FSL & 1130' - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	405,621.00	619,742.00	32.1148781	-104.0800899
KOP: 2391' FSL & 990' F - plan hits target center - Point	0.00	0.01	9,146.0	-28.0	-139.0	405,593.00	619,603.00	32.1148020	-104.0805391
LP/FTP: 2304' FNL & 99 - plan hits target center - Point	0.00	0.00	9,719.0	543.0	-140.2	406,164.00	619,601.80	32.1163717	-104.0805387
PPP2: 0' FSL & 990' FW - plan hits target center - Point	0.00	0.00	9,726.9	2,848.0	-145.2	408,469.00	619,596.80	32.1227080	-104.0805374
BHL: 330' FNL & 990' FV - plan hits target center - Point	0.00	0.00	9,744.0	7,848.0	-156.0	413,469.00	619,586.00	32.1364527	-104.0805343

Intent [X] As Drilled [ ]

API #

Operator Name:	Property Name:	Well Number
Mewbourne Oil Co.	Bonanza 22/15 W1ED Fed Com	2H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
L	22	25S	28E		2391	S	990	W	Eddy

Latitude	Longitude	NAD
32.1148020	-104.0805391	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
E	22	25S	28E		2304	N	990	W	Eddy

Latitude	Longitude	NAD
32.1163717	-104.0805387	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	15	25S	28E		330	N	990	W	Eddy

Latitude	Longitude	NAD
32.1364527	-104.0805343	83

Is this well the defining well for the Horizontal Spacing Unit? [Y]

Is this well an infill well? [N]

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

Mewbourne Oil Company,
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SL: 2420' FSL & 1130' FWL (Sec 22, T25S, R28E)
BHL: 330' FNL & 990' FWL (Sec 15, T25S, R28E)

1. Geologic Formations

TVD of target	9,744'	Pilot hole depth	NA
MD at TD:	17,350'	Deepest expected fresh water:	45'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler	375		
Top of Salt	970		
Base of Salt	2330		
Delaware (Lamar)	2510		
Bell Canyon	2535		
Cherry Canyon	3225		
Manzanita Marker	3540		
Brushy Canyon			
Bone Spring	6085	Oil/Gas	
1st Bone Spring Sand	7050	Oil/Gas	
2nd Bone Spring Sand	7850	Oil/Gas	
3rd Bone Spring Sand	8965	Oil/Gas	
Abo			
Wolfcamp	9390	Target Zone	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

Mewbourne Oil Company,
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SL: 2420' FSL & 1130' FWL (Sec 22, T25S, R28E)
BHL: 330' FNL & 990' FWL (Sec 15, T25S, R28E)

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	475'	13.375"	48	H40	STC	3.54	7.96	14.12	23.73
12.25"	0'	2410'	9.625"	36	J55	LTC	1.61	2.81	5.22	6.50
8.75"	0'	9800'	7"	26	P110	LTC	1.30	2.08	2.72	3.26
6.125"	9147'	17350'	4.5"	13.5	P110	LTC	1.76	2.04	3.05	3.81
BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 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
Is casing API approved? 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 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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	

Mewbourne Oil Company,
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SL: 2420' FSL & 1130' FWL (Sec 22, T25S, R28E)
BHL: 330' FNL & 990' FWL (Sec 15, T25S, R28E)

Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	190	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Inter.	320	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Prod. Stg 1	340	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	400	15.6	1.18	5.2	10	Tail: Class H + Retarder + Fluid Loss + Defoamer
ECP/DV Tool @ 3625'						
Prod. Stg 2	60	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	100	14.8	1.34	6.3	8	Tail: Class C + Retarder
Liner	330	11.2	2.97	18	16	Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent

A copy of cement test will be available on location at time of cement job providing pump times & compressive strengths.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	2210'	25%
Liner	9147'	25%

Mewbourne Oil Company,
Bonanza 22/15 W1ED Fed Com #2H
Sec 22, T25S, R28E
SL: 2420' FSL & 1130' FWL (Sec 22, T25S, R28E)
BHL: 330' FNL & 990' FWL (Sec 15, T25S, R28E)

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	5M	Annular	X	2,500#
			Blind Ram	X	5,000#
			Pipe Ram	X	
			Double Ram		
			Other*		

*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. 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.
Y	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.
N	Are anchors required by manufacturer?
Y	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. • Provide description here: See attached schematic.

5. Mud Program

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	475	FW Gel	8.6-8.8	28-34	N/C
475	2410	Saturated Brine	10.0	28-34	N/C
2410	9667	Cut Brine	8.6-9.5	28-34	N/C
9667	9744	OBM	10.0-12.0	30-40	<10cc

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?	Pason/PVT/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from KOP (9,147') 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.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Gamma Ray	9,147' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6080 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole. Weighted mud for possible over-pressure in Wolfcamp formation.

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
___ Directional Plan
___ Other, describe

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 9-6-19

☒ Original
☐ Amended - Reason for Amendment:

Operator & OGRID No.: Mewbourne Oil Company - 14744

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
BONANZA 22/15 W1ED FED COM #2H		L-22-25S-28E	2420 FSL & 1130 FWL	0	NA	ONLINE AFTER FRAC

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services and will be connected to Enterprise Field Services low/high pressure gathering system located in LEA County, New Mexico. It will require 500 ' of pipeline to connect the facility to low/high pressure gathering system. Mewbourne Oil Company provides (periodically) to Enterprise Field Services a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Mewbourne Oil Company and Enterprise Field Services have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enterprise Field Services Processing Plant located in Sec. 17, Twn. 19S, Rng. 31E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enterprise Field Svc system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines