

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/ocd/contact-us>

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form C-101  
August 1, 2011

Permit 396039

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

|                                                                                      |                                                    |                               |
|--------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------|
| 1. Operator Name and Address<br>MEWBOURNE OIL CO<br>P.O. Box 5270<br>Hobbs, NM 88241 |                                                    | 2. OGRID Number<br>14744      |
|                                                                                      |                                                    | 3. API Number<br>30-015-57328 |
| 4. Property Code<br>337809                                                           | 5. Property Name<br>BUFFALO NICKEL 33 34 STATE COM | 6. Well No.<br>525H           |

**7. Surface Location**

|               |               |                 |              |              |                   |               |                  |               |                |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|------------------|---------------|----------------|
| UL - Lot<br>I | Section<br>32 | Township<br>21S | Range<br>26E | Lot Idn<br>I | Feet From<br>1900 | N/S Line<br>S | Feet From<br>280 | E/W Line<br>E | County<br>Eddy |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|------------------|---------------|----------------|

**8. Proposed Bottom Hole Location**

|               |               |                 |              |              |                   |               |                  |               |                |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|------------------|---------------|----------------|
| UL - Lot<br>I | Section<br>34 | Township<br>21S | Range<br>26E | Lot Idn<br>I | Feet From<br>2030 | N/S Line<br>S | Feet From<br>100 | E/W Line<br>E | County<br>Eddy |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|------------------|---------------|----------------|

**9. Pool Information**

|                      |       |
|----------------------|-------|
| ESPERANZA;BONESPRING | 97755 |
|----------------------|-------|

**Additional Well Information**

|                           |                             |                                        |                         |                                    |
|---------------------------|-----------------------------|----------------------------------------|-------------------------|------------------------------------|
| 11. Work Type<br>New Well | 12. Well Type<br>OIL        | 13. Cable/Rotary                       | 14. Lease Type<br>State | 15. Ground Level Elevation<br>3256 |
| 16. Multiple<br>N         | 17. Proposed Depth<br>17561 | 18. Formation<br>1st Bone Spring Sand  | 19. Contractor          | 20. Spud Date<br>10/26/2025        |
| Depth to Ground water     |                             | Distance from nearest fresh water well |                         | Distance to nearest surface water  |

☒ We will be using a closed-loop system in lieu of lined pits

**21. Proposed Casing and Cement Program**

| Type   | Hole Size | Casing Size | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|--------|-----------|-------------|------------------|---------------|-----------------|---------------|
| Surf   | 26        | 18.625      | 87.5             | 200           | 420             | 0             |
| Int1   | 17.5      | 13.375      | 48               | 648           | 370             | 0             |
| Int2   | 12.25     | 9.625       | 36               | 2080          | 500             | 0             |
| Prod   | 8.75      | 7           | 26               | 6125          | 840             | 673           |
| Liner1 | 6.125     | 4.5         | 13.5             | 17561         | 740             | 5925          |

**Casing/Cement Program: Additional Comments**

MOC proposed to drill & test the Bone Springs formation. H2S rule 118 does not apply because MOC has researched the area & no high concentrations were found. Will have on location & working all H2S safety equipment before Yates formation for safety & insurance purposes. Will stimulate as needed for production.

**22. Proposed Blowout Prevention Program**

| Type       | Working Pressure | Test Pressure | Manufacturer |
|------------|------------------|---------------|--------------|
| Annular    | 5000             | 2500          | SCHAFFER     |
| Double Ram | 5000             | 5000          | SHCAFFER     |
| Annular    | 5000             | 2500          | SHCAFFER     |

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.

I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.

Signature:

Printed Name: Electronically filed by Monty Whetstone

Title: Vice President Operations

Email Address: fking@mewbourne.com

Date: 9/11/2025

Phone: 903-561-2900

**OIL CONSERVATION DIVISION**

Approved By: Jeffrey Harrison

Title: Petroleum Specialist III

Approved Date: 10/3/2025

Expiration Date: 10/3/2027

Conditions of Approval Attached

|                                                          |                                                                                                     |                                     |                      |                                                       |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------|----------------------|-------------------------------------------------------|
| C-102<br><br>Submit Electronically<br>Via OCD Permitting | State of New Mexico<br>Energy, Minerals & Natural Resources Department<br>OIL CONSERVATION DIVISION |                                     | Revised July 9, 2024 |                                                       |
|                                                          |                                                                                                     |                                     | Submittal<br>Type:   | <input checked="" type="checkbox"/> Initial Submittal |
|                                                          |                                                                                                     |                                     |                      | <input type="checkbox"/> Amended Report               |
|                                                          |                                                                                                     | <input type="checkbox"/> As Drilled |                      |                                                       |

30-015-57328

## WELL LOCATION INFORMATION

|                                                                                                                                                        |                                                        |                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| API Number<br>30-015-PENDING                                                                                                                           | Pool Code<br>97755                                     | Pool Name<br>Esperanza, Bone Spring                                                                                                                    |
| Property Code<br><b>337809</b>                                                                                                                         | Property Name<br><b>BUFFALO NICKEL 33/34 STATE COM</b> | Well Number<br><b>525H</b>                                                                                                                             |
| OGRID No.<br>14744                                                                                                                                     | Operator Name<br><b>MEWBOURNE OIL COMPANY</b>          | Ground Level Elevation<br><b>3256'</b>                                                                                                                 |
| Surface Owner: <input type="checkbox"/> State <input checked="" type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal |                                                        | Mineral Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal |

## Surface Location

|                |                      |                        |                     |     |                                 |                                |                                 |                                   |                       |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|
| UL<br><b>I</b> | Section<br><b>32</b> | Township<br><b>21S</b> | Range<br><b>26E</b> | Lot | Ft. from N/S<br><b>1900 FSL</b> | Ft. from E/W<br><b>280 FEL</b> | Latitude<br><b>32.4341472°N</b> | Longitude<br><b>104.3074930°W</b> | County<br><b>EDDY</b> |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|

## Bottom Hole Location

|                |                      |                        |                     |     |                                 |                                |                                 |                                   |                       |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|
| UL<br><b>I</b> | Section<br><b>34</b> | Township<br><b>21S</b> | Range<br><b>26E</b> | Lot | Ft. from N/S<br><b>2030 FSL</b> | Ft. from E/W<br><b>100 FEL</b> | Latitude<br><b>32.4342438°N</b> | Longitude<br><b>104.2721136°W</b> | County<br><b>EDDY</b> |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|

|                             |                                   |                                     |                                                                                                               |                         |
|-----------------------------|-----------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------|
| Dedicated Acres<br>1,121.12 | Infill or Defining Well<br>Infill | Defining Well API<br>30-015-PENDING | Overlapping Spacing Unit (Y/N)<br>N                                                                           | Consolidation Code<br>C |
| Order Numbers. N/A          |                                   |                                     | Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |                         |

## Kick Off Point (KOP)

|                |                      |                        |                     |     |                                 |                                |                                 |                                   |                       |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|
| UL<br><b>I</b> | Section<br><b>32</b> | Township<br><b>21S</b> | Range<br><b>26E</b> | Lot | Ft. from N/S<br><b>2030 FSL</b> | Ft. from E/W<br><b>473 FEL</b> | Latitude<br><b>32.4344743°N</b> | Longitude<br><b>104.3080997°W</b> | County<br><b>EDDY</b> |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|

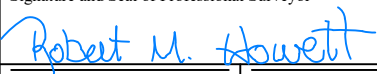
## First Take Point (FTP)

|                |                      |                        |                     |     |                                 |                                |                                 |                                   |                       |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|
| UL<br><b>L</b> | Section<br><b>33</b> | Township<br><b>21S</b> | Range<br><b>26E</b> | Lot | Ft. from N/S<br><b>2030 FSL</b> | Ft. from E/W<br><b>100 FWL</b> | Latitude<br><b>32.4345485°N</b> | Longitude<br><b>104.3062453°W</b> | County<br><b>EDDY</b> |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|

## Last Take Point (LTP)

|                |                      |                        |                     |     |                                 |                                |                                 |                                   |                       |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|
| UL<br><b>I</b> | Section<br><b>34</b> | Township<br><b>21S</b> | Range<br><b>26E</b> | Lot | Ft. from N/S<br><b>2030 FSL</b> | Ft. from E/W<br><b>100 FEL</b> | Latitude<br><b>32.4342438°N</b> | Longitude<br><b>104.2721136°W</b> | County<br><b>EDDY</b> |
|----------------|----------------------|------------------------|---------------------|-----|---------------------------------|--------------------------------|---------------------------------|-----------------------------------|-----------------------|

|                                                  |                                                                                                    |                                  |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------|
| Unitized Area or Area of Uniform Interest<br>N/A | Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical | Ground Floor Elevation:<br>3256' |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                                                                                                                                                                                                                                                                                                                      |                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| <b>OPERATOR CERTIFICATIONS</b><br><br><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i><br><br><i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i><br><br><b>Brett Miller</b> <b>08/15/2025</b> |  | <b>SURVEYOR CERTIFICATIONS</b><br><br><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me under my supervision, and that the same is true and correct to the best of my belief.</i><br><br> |                                     |
| Signature<br><b>Brett Miller</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Signature and Seal of Professional Surveyor<br>                                                                                                                                                                                                                  |                                     |
| Printed Name<br><b>brett.miller@mewbourne.com</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Certificate Number<br><b>19680</b>                                                                                                                                                                                                                                                                                                                   | Date of Survey<br><b>06/04/2025</b> |
| Email Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                                      |                                     |

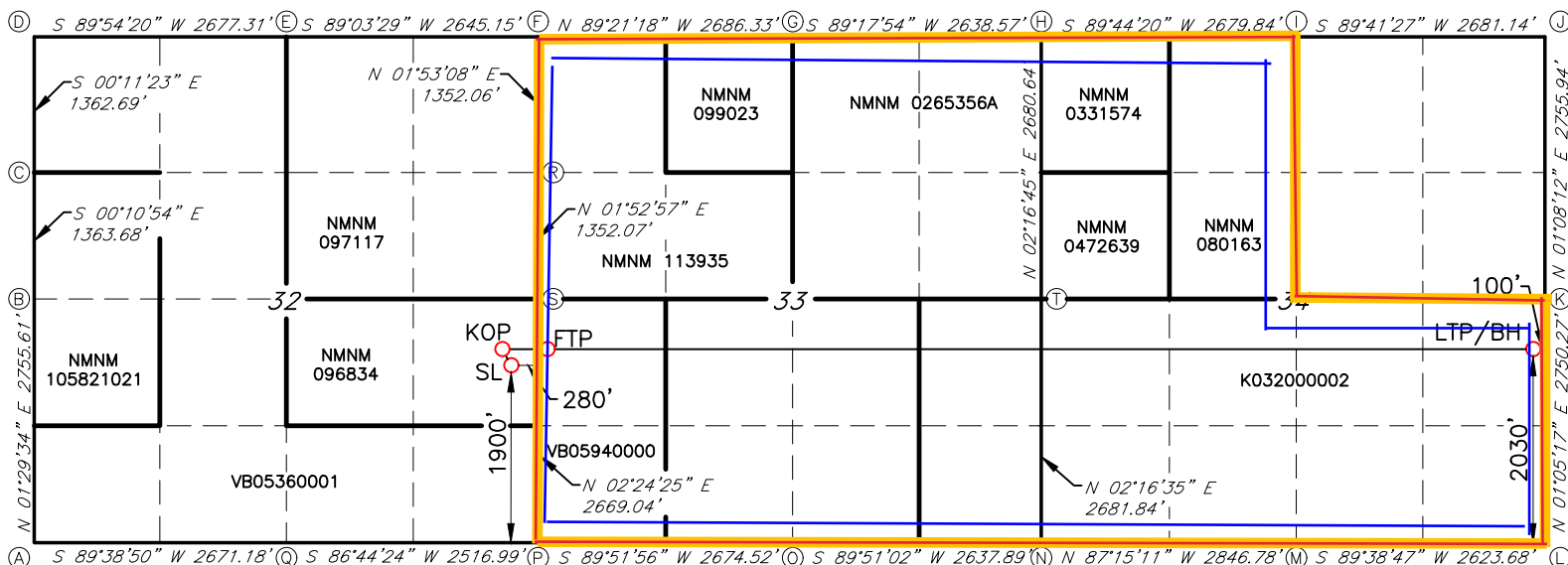
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

## ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is a directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

## BUFFALO NICKEL 33/34 STATE COM #525H



## GEODETIC DATA

NAD 83 GRID - NM EAST

## SURFACE LOCATION (SL)

1900' FSL & 280' FEL (SEC.32)  
N: 521674.8 - E: 549309.7

LAT: 32.4341472° N  
LONG: 104.3074930° W

## KICK OFF POINT (KOP)

2030' FSL & 473' FEL (SEC.32)  
N: 521793.8 - E: 549122.5

LAT: 32.4344743° N  
LONG: 104.3080997° W

## FIRST TAKE POINT (FTP)

2030' FSL & 100' FWL (SEC.33)  
N: 521820.9 - E: 549694.6

LAT: 32.4345485° N  
LONG: 104.3062453° W

## LAST TAKE POINT/BOTTOM HOLE (LTP/BH)

2030' FSL & 100' FEL (SEC.34)  
N: 521714.4 - E: 560224.9

LAT: 32.4342438° N  
LONG: 104.2721136° W

## CORNER DATA

NAD 83 GRID - NM EAST

A: FOUND BRASS CAP "1943"  
N: 519633.4 - E: 544326.6

B: FOUND BRASS CAP "1943"  
N: 522387.4 - E: 544398.4

C: FOUND BRASS CAP "1976"  
N: 523750.7 - E: 544394.1

D: FOUND BRASS CAP "1943"  
N: 525113.1 - E: 544389.6

E: FOUND BRASS CAP "1976"  
N: 525117.5 - E: 547066.2

F: FOUND BRASS CAP "1976"  
N: 525161.0 - E: 549710.4

G: FOUND BRASS CAP "1976"  
N: 525130.7 - E: 552395.9

H: FOUND BRASS CAP "1976"  
N: 525163.0 - E: 555033.6

I: FOUND BRASS CAP "1976"  
N: 525175.3 - E: 557712.8

J: FOUND BRASS CAP "1976"  
N: 525189.7 - E: 560393.2

K: FOUND COTTON SPINDLE  
N: 522435.0 - E: 560338.6

L: FOUND REBAR  
N: 519685.9 - E: 560286.3

M: FOUND BRASS CAP "1943"  
N: 519669.7 - E: 557663.3

N: FOUND BRASS CAP "1943"  
N: 519806.1 - E: 554820.5

O: FOUND ALUM CAP PS & PE  
"5412"  
N: 519799.2 - E: 552183.3

P: FOUND BRASS CAP "1943"  
N: 519792.9 - E: 549509.4

Q: FOUND BRASS CAP "1943"  
N: 519649.8 - E: 546997.1

R: FOUND 1/2" REBAR  
N: 523810.0 - E: 549665.9

S: FOUND BRASS CAP "1976"  
N: 522459.0 - E: 549621.5

T: FOUND BRASS CAP "1976"  
N: 522485.2 - E: 554927.0

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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form APD Conditions

Permit 396039

**PERMIT CONDITIONS OF APPROVAL**

|                                                                                            |                                               |
|--------------------------------------------------------------------------------------------|-----------------------------------------------|
| Operator Name and Address:<br>MEWBOURNE OIL CO [14744]<br>P.O. Box 5270<br>Hobbs, NM 88241 | API Number:<br>30-015-57328                   |
|                                                                                            | Well:<br>BUFFALO NICKEL 33 34 STATE COM #525H |

| OCD Reviewer     | Condition                                                                                                                                                                                                                                                                                      |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| jeffrey.harrison | No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.                                                                                                                               |
| jeffrey.harrison | All logs run on the well must be submitted to NMOCD.                                                                                                                                                                                                                                           |
| jeffrey.harrison | This well is within the designated 4-string area. At least four full casing strings must be utilized for this well.                                                                                                                                                                            |
| jeffrey.harrison | This well is within the Capitan Reef aquifer zone. The first intermediate casing string shall be set and cemented back to surface immediately above the Capitan Reef. The second intermediate string shall be set and cemented back to surface immediately below the base of the Capitan Reef. |
| jeffrey.harrison | Brine water shall not be used in the Capitan Reef. Only fresh water shall be utilized until the Capitan Reef is cased and cemented.                                                                                                                                                            |
| jeffrey.harrison | Administrative order required for non-standard spacing unit prior to production.                                                                                                                                                                                                               |
| jeffrey.harrison | Cement is required to circulate on both surface and intermediate1 strings of casing.                                                                                                                                                                                                           |
| jeffrey.harrison | If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.                                                                                                                                                                                     |
| jeffrey.harrison | Notify the OCD 24 hours prior to casing & cement.                                                                                                                                                                                                                                              |
| jeffrey.harrison | File As Drilled C-102 and a directional Survey with C-104 completion packet.                                                                                                                                                                                                                   |
| jeffrey.harrison | A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud.                                                                                                                                                                                                                         |
| jeffrey.harrison | 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.                          |
| jeffrey.harrison | 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.                                           |
| jeffrey.harrison | Prior to production of this well a change to the well name/number is required to comply with the OCD well naming convention. Spacing unit contains federal mineral ownership and property name should contain Fed or Federal.                                                                  |

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State of New Mexico  
Energy, Minerals and Natural Resources Department

Submit Electronically  
Via E-permitting

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

## NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

### Section 1 – Plan Description

Effective May 25, 2021

**I. Operator:** Mewbourne Oil Co. **OGRID:** 14744 **Date:** 8/26/25

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name                           | API | ULSTR        | Footages             | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|-------------------------------------|-----|--------------|----------------------|-----------------------|-----------------------|----------------------------------|
| BUFFALO NICKEL 33/34 STATE COM 525H |     | H 32 21S 26E | 2260' FNL x 280' FEL | 1500                  | 2500                  | 2500                             |
|                                     |     |              |                      | Y1-400 Y2-300 Y3-200  | Y1-700 Y2-500 Y3-300  | Y1-700 Y2-500 Y3-300             |

**IV. Central Delivery Point Name:** BUFFALO NICKEL 33/34 STATE COM 525H [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name                           | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|-------------------------------------|-----|-----------|-----------------|------------------------------|------------------------|-----------------------|
| BUFFALO NICKEL 33/34 STATE COM 525H |     | 9/26/25   | 10/26/25        | 11/26/25                     | 12/11/25               | 12/16/25              |
|                                     |     |           |                 |                              |                        |                       |

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

**Section 2 – Enhanced Plan**  
**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

| Well | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|------|-----|--------------------------------------------|----------------------------------------------------------|
|      |     |                                            |                                                          |
|      |     |                                            |                                                          |

**X. Natural Gas Gathering System (NGGS):**

| Operator | System | ULSTR of Tie-in | Anticipated Gathering Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|----------|--------|-----------------|----------------------------------|-----------------------------------------------------------|
|          |        |                 |                                  |                                                           |
|          |        |                 |                                  |                                                           |

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

### **Section 3 - Certifications**

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

### **Section 4 - Notices**

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

Page 8

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

|                                                                                                  |                       |
|--------------------------------------------------------------------------------------------------|-----------------------|
| Signature:                                                                                       | <i>Bradley Bishop</i> |
| Printed Name:                                                                                    | BRADLEY BISHOP        |
| Title:                                                                                           | REGULATORY MANAGER    |
| E-mail Address:                                                                                  | BBISHOP@MEWBOURNE.COM |
| Date:                                                                                            | 8/26/25               |
| Phone:                                                                                           | 575-393-5905          |
| <b>OIL CONSERVATION DIVISION</b><br><b>(Only applicable when submitted as a standalone form)</b> |                       |
| Approved By:                                                                                     |                       |
| Title:                                                                                           |                       |
| Approval Date:                                                                                   |                       |
| Conditions of Approval:                                                                          |                       |

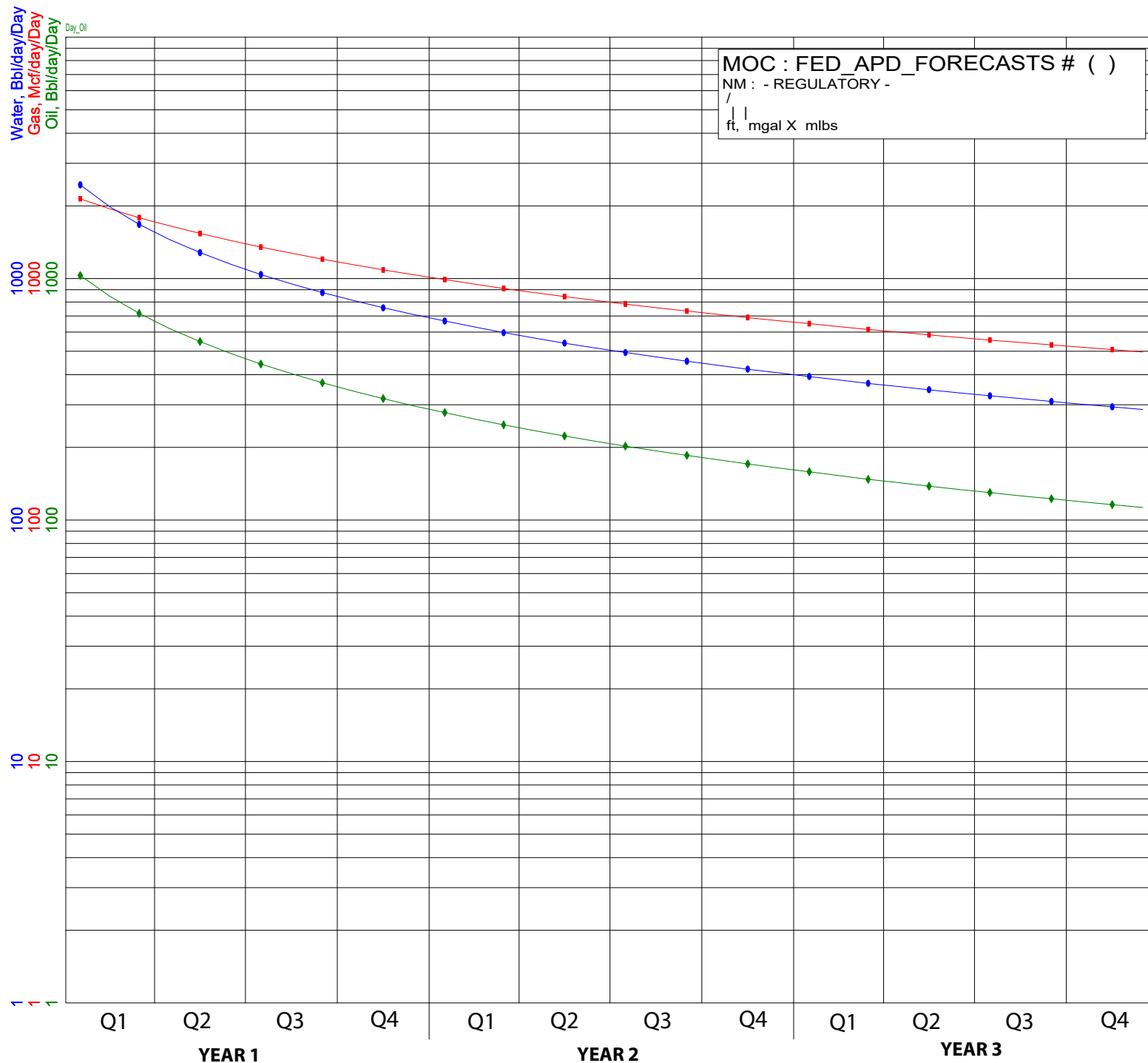
## Mewbourne Oil Company

## Natural Gas Management Plan – Attachment

- VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.
- VII. Mewbourne Oil Company (MOC) will take following actions to comply with the regulations listed in 19.15.27.8 :
- A. MOC will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. MOC will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas. If there is no adequate takeaway for the gas, well(s) will be shut in until the natural gas gathering system is available.
  - B. All drilling operations will be equipped with a rig flare located at least 100 ft from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.
  - C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flow will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, MOC will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner. MOC will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.
  - D. Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D.(1) through (4). If there is no adequate takeaway for the separator gas, well(s) will be shut in until the natural gas gathering system is available with exception of emergency or malfunction situations. Venting and/or flaring volumes will be estimated and reported appropriately.
  - E. MOC will comply with the performance standards requirements and provisions listed in 19.15.27.8 E.(1) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs in order to minimize the waste. Production storage tanks constructed after May 25, 2021 will be equipped with automatic gauging system. Flares constructed after May 25, 2021 will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. MOC will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.
  - F. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared or beneficially used during production operations, will be measured or estimated. MOC will install equipment to measure

the volume of natural gas flared from existing process piping or a flowline piped from equipment such as high pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by an APD issued after May 25, 2021 that has an average daily production greater than 60 Mcf/day. If metering is not practicable due to circumstances such as low flow rate or low pressure venting and flaring, MOC will estimate the volume of vented or flared natural gas. Measuring equipment will conform to industry standards and will not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

- VIII. For maintenance activities involving production equipment and compression, venting will be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production and compression equipment the associated producing wells will be shut in to eliminate venting. For maintenance of VRUs all gas normally routed to the VRU will be routed to flare to eliminate venting.



|              |           |
|--------------|-----------|
| Oil, Bbl/day | ◆         |
| Qual=        | EDDYBS2.0 |
| Ref=         | 1/2025    |
| Cum=         | 0         |
| Rem=         | 321735    |
| EUR=         | 321735    |
| Yrs=         | 3.000     |
| Qi=          | 1150.0    |
| b=           | 0.950000  |
| De=          | 75.000000 |
| Df=          | 23.952479 |
| Qab=         | 111.3     |

|              |           |
|--------------|-----------|
| Gas, Mcf/day | ■         |
| Qual=        | EDDYBS2.0 |
| Ref=         | 1/2025    |
| Cum=         | 0         |
| Rem=         | 1038057   |
| EUR=         | 1038057   |
| Yrs=         | 3.000     |
| Qi=          | 2250.0    |
| b=           | 1.050000  |
| De=          | 55.000000 |
| Df=          | 20.108832 |
| Qab=         | 491.6     |

|              |           |
|--------------|-----------|
| Water, Bbl/d | ●         |
| Qual=        | EDDYBS2.0 |
| Ref=         | 1/2025    |
| Cum=         | 0         |
| Rem=         | 771323    |
| EUR=         | 771323    |
| Yrs=         | 3.000     |
| Qi=          | 2750.0    |
| b=           | 1.050000  |
| De=          | 75.000000 |
| Df=          | 22.260386 |
| Qab=         | 283.6     |

|                                     |             |                |                       |        |               |              |               |
|-------------------------------------|-------------|----------------|-----------------------|--------|---------------|--------------|---------------|
| Mewbourne Oil Company               |             |                |                       |        |               |              |               |
| Buffalo Nickel 33/34 State Com 525H |             |                |                       |        |               |              |               |
| SHL: 1900' FSL & 280' FEL (Sec 32)  |             |                |                       |        |               |              |               |
| BHL: 2030' FSL & 100' FEL (Sec 34)  |             |                |                       |        |               |              |               |
| Casing Type                         | Fluid Type  | Hole Size (in) | Casing Description    | Top MD | Setting Depth | Sacks Cement | Top of Cement |
| Surface                             | Fresh Water | 26             | 18 5/8" 87.5# J55 BTC | 0      | 200           | 420          | 0'            |
| Intermediate 1                      | Brine       | 17.5           | 13.375" 48# H40 STC   | 0'     | 648           | 370          | 0'            |
| Intermediate 2                      | Fresh Water | 12.25          | 9.625" 36# J55 LTC    | 0'     | 2080          | 500          | 0'            |
| Production                          | Cut-Brine   | 8.75           | 7" 26# P110 LTC       | 0'     | 6125          | 840          | 673'          |
| Liner                               | OBM         | 6.125          | 4.5" 13.5# P110 LTC   | 5925'  | 17561         | 740          | 5925'         |

|                |                |                           |                |
|----------------|----------------|---------------------------|----------------|
| Formation      | Est. Top (TVD) | Formation                 | Est. Top (TVD) |
| Rustler        |                | Delaware (Lamar)          |                |
| Castile        |                | Bell Canyon               |                |
| Salt Top       |                | Cherry Canyon             | 2155           |
| Marker Bed 126 |                | Manzanita Marker          |                |
| Salt Base      |                | Basal Brushy Canyon       | 3236           |
| Yates          | 368            | Bone Spring               | 4612           |
| Seven Rivers   |                | 1st Bone Spring Carbonate | 5492           |
| Queen          |                | 1st Bone Spring Sand      | 5843           |
| Capitan        | 723            | 2nd Bone Spring Carbonate | 6093           |
| Grayburg       |                | 2nd Bone Spring Sand      | 6421           |
| San Andres     |                | 3rd Bone Spring Carbonate | 6736           |
| Glorietta      |                | 3rd Bone Spring Sand      | 7908           |
| Yeso           |                | Wolfcamp                  | 8280           |

# **Mewbourne Oil Company**

**Eddy County, New Mexico NAD 83**

**Buffalo Nickel 33/34 State Com #525H**

**Sec 32, T21S, R26E**

**SHL: 1900' FSL & 280' FEL (Sec 32)**

**BHL: 2030' FSL & 100' FEL (Sec 34)**

**Plan: Design #1**

## **Standard Planning Report**

**05 August, 2025**

Planning Report

|           |                                      |                              |                                           |
|-----------|--------------------------------------|------------------------------|-------------------------------------------|
| Database: | Hobbs                                | Local Co-ordinate Reference: | Site Buffalo Nickel 33/34 State Com #525H |
| Company:  | Mewbourne Oil Company                | TVD Reference:               | WELL @ 3284.0usft (Original Well Elev)    |
| Project:  | Eddy County, New Mexico NAD 83       | MD Reference:                | WELL @ 3284.0usft (Original Well Elev)    |
| Site:     | Buffalo Nickel 33/34 State Com #525H | North Reference:             | Grid                                      |
| Well:     | Sec 32, T21S, R26E                   | Survey Calculation Method:   | Minimum Curvature                         |
| Wellbore: | BHL: 2030' FSL & 100' FEL (Sec 34)   |                              |                                           |
| 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                  |          | Buffalo Nickel 33/34 State Com #525H |                 |            |              |
| Site Position:        |          | Northing:                            | 521,674.80 usft | Latitude:  | 32.4341472   |
| From:                 | Map      | Easting:                             | 549,309.70 usft | Longitude: | -104.3074931 |
| Position Uncertainty: | 0.0 usft | Slot Radius:                         | 13-3/16 "       |            |              |

|                      |                    |          |                     |                 |               |              |
|----------------------|--------------------|----------|---------------------|-----------------|---------------|--------------|
| Well                 | Sec 32, T21S, R26E |          |                     |                 |               |              |
| Well Position        | +N/-S              | 0.0 usft | Northing:           | 521,674.80 usft | Latitude:     | 32.4341472   |
|                      | +E/-W              | 0.0 usft | Easting:            | 549,309.70 usft | Longitude:    | -104.3074931 |
| Position Uncertainty |                    | 0.0 usft | Wellhead Elevation: | 3,284.0 usft    | Ground Level: | 3,256.0 usft |
| Grid Convergence:    |                    | 0.01 °   |                     |                 |               |              |

|           |                                    |             |                 |               |                     |
|-----------|------------------------------------|-------------|-----------------|---------------|---------------------|
| Wellbore  | BHL: 2030' FSL & 100' FEL (Sec 34) |             |                 |               |                     |
| Magnetics | Model Name                         | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF2010                           | 12/31/2014  | 7.50            | 60.17         | 48,284.35877403     |

|                   |                         |              |               |               |  |
|-------------------|-------------------------|--------------|---------------|---------------|--|
| 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           | 89.79         |  |

|                          |                 |                   |                                 |         |  |
|--------------------------|-----------------|-------------------|---------------------------------|---------|--|
| Plan Survey Tool Program | Date            | 8/5/2025          |                                 |         |  |
| Depth From (usft)        | Depth To (usft) | Survey (Wellbore) | Tool Name                       | Remarks |  |
| 1                        | 0.0             | 0.0               | Design #1 (BHL: 2030' FSL & 100 |         |  |

|                       |                 |             |                       |              |              |                         |                        |                       |         |        |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|--------|
| 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    |        |

## Planning Report

|                  |                                      |                                     |                                           |
|------------------|--------------------------------------|-------------------------------------|-------------------------------------------|
| <b>Database:</b> | Hobbs                                | <b>Local Co-ordinate Reference:</b> | Site Buffalo Nickel 33/34 State Com #525H |
| <b>Company:</b>  | Mewbourne Oil Company                | <b>TVD Reference:</b>               | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Project:</b>  | Eddy County, New Mexico NAD 83       | <b>MD Reference:</b>                | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Site:</b>     | Buffalo Nickel 33/34 State Com #525H | <b>North Reference:</b>             | Grid                                      |
| <b>Well:</b>     | Sec 32, T21S, R26E                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Wellbore:</b> | BHL: 2030' FSL & 100' FEL (Sec 34)   |                                     |                                           |
| <b>Design:</b>   | Design #1                            |                                     |                                           |

| Planned Survey                     |                    |                |                             |                 |                 |                               |                               |                              |                             |
|------------------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Measured<br>Depth<br>(usft)        | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 0.0                                | 0.00               | 0.00           | 0.0                         | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| SHL: 1900' FSL & 280' FEL (Sec 32) |                    |                |                             |                 |                 |                               |                               |                              |                             |
| 50.0                               | 0.00               | 0.00           | 50.0                        | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 100.0                              | 0.00               | 0.00           | 100.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 150.0                              | 0.00               | 0.00           | 150.0                       | 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                        |
| 250.0                              | 0.00               | 0.00           | 250.0                       | 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                        |
| 350.0                              | 0.00               | 0.00           | 350.0                       | 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                        |
| 450.0                              | 0.00               | 0.00           | 450.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 500.0                              | 0.00               | 0.00           | 500.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 550.0                              | 0.00               | 0.00           | 550.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 600.0                              | 0.00               | 0.00           | 600.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 648.0                              | 0.00               | 0.00           | 648.0                       | 0.0             | 0.0             | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 650.0                              | 0.04               | 302.44         | 650.0                       | 0.0             | 0.0             | 0.0                           | 2.00                          | 2.00                         | 0.00                        |
| 700.0                              | 1.04               | 302.44         | 700.0                       | 0.3             | -0.4            | -0.4                          | 2.00                          | 2.00                         | 0.00                        |
| 750.0                              | 2.04               | 302.44         | 750.0                       | 1.0             | -1.5            | -1.5                          | 2.00                          | 2.00                         | 0.00                        |
| 766.6                              | 2.37               | 302.44         | 766.6                       | 1.3             | -2.1            | -2.1                          | 2.00                          | 2.00                         | 0.00                        |
| 800.0                              | 2.37               | 302.44         | 799.9                       | 2.1             | -3.2            | -3.2                          | 0.00                          | 0.00                         | 0.00                        |
| 850.0                              | 2.37               | 302.44         | 849.9                       | 3.2             | -5.0            | -5.0                          | 0.00                          | 0.00                         | 0.00                        |
| 900.0                              | 2.37               | 302.44         | 899.9                       | 4.3             | -6.7            | -6.7                          | 0.00                          | 0.00                         | 0.00                        |
| 950.0                              | 2.37               | 302.44         | 949.8                       | 5.4             | -8.5            | -8.5                          | 0.00                          | 0.00                         | 0.00                        |
| 1,000.0                            | 2.37               | 302.44         | 999.8                       | 6.5             | -10.2           | -10.2                         | 0.00                          | 0.00                         | 0.00                        |
| 1,050.0                            | 2.37               | 302.44         | 1,049.7                     | 7.6             | -12.0           | -11.9                         | 0.00                          | 0.00                         | 0.00                        |
| 1,100.0                            | 2.37               | 302.44         | 1,099.7                     | 8.7             | -13.7           | -13.7                         | 0.00                          | 0.00                         | 0.00                        |
| 1,150.0                            | 2.37               | 302.44         | 1,149.6                     | 9.8             | -15.5           | -15.4                         | 0.00                          | 0.00                         | 0.00                        |
| 1,200.0                            | 2.37               | 302.44         | 1,199.6                     | 10.9            | -17.2           | -17.2                         | 0.00                          | 0.00                         | 0.00                        |
| 1,250.0                            | 2.37               | 302.44         | 1,249.6                     | 12.1            | -19.0           | -18.9                         | 0.00                          | 0.00                         | 0.00                        |
| 1,300.0                            | 2.37               | 302.44         | 1,299.5                     | 13.2            | -20.7           | -20.7                         | 0.00                          | 0.00                         | 0.00                        |
| 1,350.0                            | 2.37               | 302.44         | 1,349.5                     | 14.3            | -22.5           | -22.4                         | 0.00                          | 0.00                         | 0.00                        |
| 1,400.0                            | 2.37               | 302.44         | 1,399.4                     | 15.4            | -24.2           | -24.1                         | 0.00                          | 0.00                         | 0.00                        |
| 1,450.0                            | 2.37               | 302.44         | 1,449.4                     | 16.5            | -25.9           | -25.9                         | 0.00                          | 0.00                         | 0.00                        |
| 1,500.0                            | 2.37               | 302.44         | 1,499.3                     | 17.6            | -27.7           | -27.6                         | 0.00                          | 0.00                         | 0.00                        |
| 1,550.0                            | 2.37               | 302.44         | 1,549.3                     | 18.7            | -29.4           | -29.4                         | 0.00                          | 0.00                         | 0.00                        |
| 1,600.0                            | 2.37               | 302.44         | 1,599.3                     | 19.8            | -31.2           | -31.1                         | 0.00                          | 0.00                         | 0.00                        |
| 1,650.0                            | 2.37               | 302.44         | 1,649.2                     | 20.9            | -32.9           | -32.9                         | 0.00                          | 0.00                         | 0.00                        |
| 1,700.0                            | 2.37               | 302.44         | 1,699.2                     | 22.0            | -34.7           | -34.6                         | 0.00                          | 0.00                         | 0.00                        |
| 1,750.0                            | 2.37               | 302.44         | 1,749.1                     | 23.2            | -36.4           | -36.3                         | 0.00                          | 0.00                         | 0.00                        |
| 1,800.0                            | 2.37               | 302.44         | 1,799.1                     | 24.3            | -38.2           | -38.1                         | 0.00                          | 0.00                         | 0.00                        |
| 1,850.0                            | 2.37               | 302.44         | 1,849.0                     | 25.4            | -39.9           | -39.8                         | 0.00                          | 0.00                         | 0.00                        |
| 1,900.0                            | 2.37               | 302.44         | 1,899.0                     | 26.5            | -41.7           | -41.6                         | 0.00                          | 0.00                         | 0.00                        |
| 1,950.0                            | 2.37               | 302.44         | 1,949.0                     | 27.6            | -43.4           | -43.3                         | 0.00                          | 0.00                         | 0.00                        |
| 2,000.0                            | 2.37               | 302.44         | 1,998.9                     | 28.7            | -45.2           | -45.1                         | 0.00                          | 0.00                         | 0.00                        |
| 2,050.0                            | 2.37               | 302.44         | 2,048.9                     | 29.8            | -46.9           | -46.8                         | 0.00                          | 0.00                         | 0.00                        |
| 2,100.0                            | 2.37               | 302.44         | 2,098.8                     | 30.9            | -48.7           | -48.5                         | 0.00                          | 0.00                         | 0.00                        |
| 2,150.0                            | 2.37               | 302.44         | 2,148.8                     | 32.0            | -50.4           | -50.3                         | 0.00                          | 0.00                         | 0.00                        |
| 2,200.0                            | 2.37               | 302.44         | 2,198.7                     | 33.1            | -52.1           | -52.0                         | 0.00                          | 0.00                         | 0.00                        |
| 2,250.0                            | 2.37               | 302.44         | 2,248.7                     | 34.3            | -53.9           | -53.8                         | 0.00                          | 0.00                         | 0.00                        |
| 2,300.0                            | 2.37               | 302.44         | 2,298.7                     | 35.4            | -55.6           | -55.5                         | 0.00                          | 0.00                         | 0.00                        |
| 2,350.0                            | 2.37               | 302.44         | 2,348.6                     | 36.5            | -57.4           | -57.3                         | 0.00                          | 0.00                         | 0.00                        |
| 2,400.0                            | 2.37               | 302.44         | 2,398.6                     | 37.6            | -59.1           | -59.0                         | 0.00                          | 0.00                         | 0.00                        |
| 2,450.0                            | 2.37               | 302.44         | 2,448.5                     | 38.7            | -60.9           | -60.7                         | 0.00                          | 0.00                         | 0.00                        |
| 2,500.0                            | 2.37               | 302.44         | 2,498.5                     | 39.8            | -62.6           | -62.5                         | 0.00                          | 0.00                         | 0.00                        |

## Planning Report

|                  |                                      |                                     |                                           |
|------------------|--------------------------------------|-------------------------------------|-------------------------------------------|
| <b>Database:</b> | Hobbs                                | <b>Local Co-ordinate Reference:</b> | Site Buffalo Nickel 33/34 State Com #525H |
| <b>Company:</b>  | Mewbourne Oil Company                | <b>TVD Reference:</b>               | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Project:</b>  | Eddy County, New Mexico NAD 83       | <b>MD Reference:</b>                | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Site:</b>     | Buffalo Nickel 33/34 State Com #525H | <b>North Reference:</b>             | Grid                                      |
| <b>Well:</b>     | Sec 32, T21S, R26E                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Wellbore:</b> | BHL: 2030' FSL & 100' FEL (Sec 34)   |                                     |                                           |
| <b>Design:</b>   | 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) |
| 2,550.0               | 2.37            | 302.44      | 2,548.4               | 40.9         | -64.4        | -64.2                   | 0.00                    | 0.00                   | 0.00                  |
| 2,600.0               | 2.37            | 302.44      | 2,598.4               | 42.0         | -66.1        | -66.0                   | 0.00                    | 0.00                   | 0.00                  |
| 2,650.0               | 2.37            | 302.44      | 2,648.4               | 43.1         | -67.9        | -67.7                   | 0.00                    | 0.00                   | 0.00                  |
| 2,700.0               | 2.37            | 302.44      | 2,698.3               | 44.2         | -69.6        | -69.4                   | 0.00                    | 0.00                   | 0.00                  |
| 2,750.0               | 2.37            | 302.44      | 2,748.3               | 45.4         | -71.4        | -71.2                   | 0.00                    | 0.00                   | 0.00                  |
| 2,800.0               | 2.37            | 302.44      | 2,798.2               | 46.5         | -73.1        | -72.9                   | 0.00                    | 0.00                   | 0.00                  |
| 2,850.0               | 2.37            | 302.44      | 2,848.2               | 47.6         | -74.8        | -74.7                   | 0.00                    | 0.00                   | 0.00                  |
| 2,900.0               | 2.37            | 302.44      | 2,898.1               | 48.7         | -76.6        | -76.4                   | 0.00                    | 0.00                   | 0.00                  |
| 2,950.0               | 2.37            | 302.44      | 2,948.1               | 49.8         | -78.3        | -78.2                   | 0.00                    | 0.00                   | 0.00                  |
| 3,000.0               | 2.37            | 302.44      | 2,998.1               | 50.9         | -80.1        | -79.9                   | 0.00                    | 0.00                   | 0.00                  |
| 3,050.0               | 2.37            | 302.44      | 3,048.0               | 52.0         | -81.8        | -81.6                   | 0.00                    | 0.00                   | 0.00                  |
| 3,100.0               | 2.37            | 302.44      | 3,098.0               | 53.1         | -83.6        | -83.4                   | 0.00                    | 0.00                   | 0.00                  |
| 3,150.0               | 2.37            | 302.44      | 3,147.9               | 54.2         | -85.3        | -85.1                   | 0.00                    | 0.00                   | 0.00                  |
| 3,200.0               | 2.37            | 302.44      | 3,197.9               | 55.4         | -87.1        | -86.9                   | 0.00                    | 0.00                   | 0.00                  |
| 3,250.0               | 2.37            | 302.44      | 3,247.8               | 56.5         | -88.8        | -88.6                   | 0.00                    | 0.00                   | 0.00                  |
| 3,300.0               | 2.37            | 302.44      | 3,297.8               | 57.6         | -90.6        | -90.4                   | 0.00                    | 0.00                   | 0.00                  |
| 3,350.0               | 2.37            | 302.44      | 3,347.8               | 58.7         | -92.3        | -92.1                   | 0.00                    | 0.00                   | 0.00                  |
| 3,400.0               | 2.37            | 302.44      | 3,397.7               | 59.8         | -94.1        | -93.8                   | 0.00                    | 0.00                   | 0.00                  |
| 3,450.0               | 2.37            | 302.44      | 3,447.7               | 60.9         | -95.8        | -95.6                   | 0.00                    | 0.00                   | 0.00                  |
| 3,500.0               | 2.37            | 302.44      | 3,497.6               | 62.0         | -97.6        | -97.3                   | 0.00                    | 0.00                   | 0.00                  |
| 3,550.0               | 2.37            | 302.44      | 3,547.6               | 63.1         | -99.3        | -99.1                   | 0.00                    | 0.00                   | 0.00                  |
| 3,600.0               | 2.37            | 302.44      | 3,597.5               | 64.2         | -101.0       | -100.8                  | 0.00                    | 0.00                   | 0.00                  |
| 3,650.0               | 2.37            | 302.44      | 3,647.5               | 65.3         | -102.8       | -102.6                  | 0.00                    | 0.00                   | 0.00                  |
| 3,700.0               | 2.37            | 302.44      | 3,697.5               | 66.5         | -104.5       | -104.3                  | 0.00                    | 0.00                   | 0.00                  |
| 3,750.0               | 2.37            | 302.44      | 3,747.4               | 67.6         | -106.3       | -106.0                  | 0.00                    | 0.00                   | 0.00                  |
| 3,800.0               | 2.37            | 302.44      | 3,797.4               | 68.7         | -108.0       | -107.8                  | 0.00                    | 0.00                   | 0.00                  |
| 3,850.0               | 2.37            | 302.44      | 3,847.3               | 69.8         | -109.8       | -109.5                  | 0.00                    | 0.00                   | 0.00                  |
| 3,900.0               | 2.37            | 302.44      | 3,897.3               | 70.9         | -111.5       | -111.3                  | 0.00                    | 0.00                   | 0.00                  |
| 3,950.0               | 2.37            | 302.44      | 3,947.2               | 72.0         | -113.3       | -113.0                  | 0.00                    | 0.00                   | 0.00                  |
| 4,000.0               | 2.37            | 302.44      | 3,997.2               | 73.1         | -115.0       | -114.8                  | 0.00                    | 0.00                   | 0.00                  |
| 4,050.0               | 2.37            | 302.44      | 4,047.2               | 74.2         | -116.8       | -116.5                  | 0.00                    | 0.00                   | 0.00                  |
| 4,100.0               | 2.37            | 302.44      | 4,097.1               | 75.3         | -118.5       | -118.2                  | 0.00                    | 0.00                   | 0.00                  |
| 4,150.0               | 2.37            | 302.44      | 4,147.1               | 76.4         | -120.3       | -120.0                  | 0.00                    | 0.00                   | 0.00                  |
| 4,200.0               | 2.37            | 302.44      | 4,197.0               | 77.6         | -122.0       | -121.7                  | 0.00                    | 0.00                   | 0.00                  |
| 4,250.0               | 2.37            | 302.44      | 4,247.0               | 78.7         | -123.8       | -123.5                  | 0.00                    | 0.00                   | 0.00                  |
| 4,300.0               | 2.37            | 302.44      | 4,296.9               | 79.8         | -125.5       | -125.2                  | 0.00                    | 0.00                   | 0.00                  |
| 4,350.0               | 2.37            | 302.44      | 4,346.9               | 80.9         | -127.2       | -127.0                  | 0.00                    | 0.00                   | 0.00                  |
| 4,400.0               | 2.37            | 302.44      | 4,396.9               | 82.0         | -129.0       | -128.7                  | 0.00                    | 0.00                   | 0.00                  |
| 4,450.0               | 2.37            | 302.44      | 4,446.8               | 83.1         | -130.7       | -130.4                  | 0.00                    | 0.00                   | 0.00                  |
| 4,500.0               | 2.37            | 302.44      | 4,496.8               | 84.2         | -132.5       | -132.2                  | 0.00                    | 0.00                   | 0.00                  |
| 4,550.0               | 2.37            | 302.44      | 4,546.7               | 85.3         | -134.2       | -133.9                  | 0.00                    | 0.00                   | 0.00                  |
| 4,600.0               | 2.37            | 302.44      | 4,596.7               | 86.4         | -136.0       | -135.7                  | 0.00                    | 0.00                   | 0.00                  |
| 4,650.0               | 2.37            | 302.44      | 4,646.6               | 87.6         | -137.7       | -137.4                  | 0.00                    | 0.00                   | 0.00                  |
| 4,700.0               | 2.37            | 302.44      | 4,696.6               | 88.7         | -139.5       | -139.2                  | 0.00                    | 0.00                   | 0.00                  |
| 4,750.0               | 2.37            | 302.44      | 4,746.6               | 89.8         | -141.2       | -140.9                  | 0.00                    | 0.00                   | 0.00                  |
| 4,800.0               | 2.37            | 302.44      | 4,796.5               | 90.9         | -143.0       | -142.6                  | 0.00                    | 0.00                   | 0.00                  |
| 4,850.0               | 2.37            | 302.44      | 4,846.5               | 92.0         | -144.7       | -144.4                  | 0.00                    | 0.00                   | 0.00                  |
| 4,900.0               | 2.37            | 302.44      | 4,896.4               | 93.1         | -146.5       | -146.1                  | 0.00                    | 0.00                   | 0.00                  |
| 4,950.0               | 2.37            | 302.44      | 4,946.4               | 94.2         | -148.2       | -147.9                  | 0.00                    | 0.00                   | 0.00                  |
| 5,000.0               | 2.37            | 302.44      | 4,996.3               | 95.3         | -150.0       | -149.6                  | 0.00                    | 0.00                   | 0.00                  |
| 5,050.0               | 2.37            | 302.44      | 5,046.3               | 96.4         | -151.7       | -151.3                  | 0.00                    | 0.00                   | 0.00                  |
| 5,100.0               | 2.37            | 302.44      | 5,096.3               | 97.5         | -153.4       | -153.1                  | 0.00                    | 0.00                   | 0.00                  |
| 5,150.0               | 2.37            | 302.44      | 5,146.2               | 98.7         | -155.2       | -154.8                  | 0.00                    | 0.00                   | 0.00                  |
| 5,200.0               | 2.37            | 302.44      | 5,196.2               | 99.8         | -156.9       | -156.6                  | 0.00                    | 0.00                   | 0.00                  |

## Planning Report

|                  |                                      |                                     |                                           |
|------------------|--------------------------------------|-------------------------------------|-------------------------------------------|
| <b>Database:</b> | Hobbs                                | <b>Local Co-ordinate Reference:</b> | Site Buffalo Nickel 33/34 State Com #525H |
| <b>Company:</b>  | Mewbourne Oil Company                | <b>TVD Reference:</b>               | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Project:</b>  | Eddy County, New Mexico NAD 83       | <b>MD Reference:</b>                | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Site:</b>     | Buffalo Nickel 33/34 State Com #525H | <b>North Reference:</b>             | Grid                                      |
| <b>Well:</b>     | Sec 32, T21S, R26E                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Wellbore:</b> | BHL: 2030' FSL & 100' FEL (Sec 34)   |                                     |                                           |
| <b>Design:</b>   | 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) |
| 5,250.0                               | 2.37            | 302.44      | 5,246.1               | 100.9        | -158.7       | -158.3                  | 0.00                    | 0.00                   | 0.00                  |
| 5,300.0                               | 2.37            | 302.44      | 5,296.1               | 102.0        | -160.4       | -160.1                  | 0.00                    | 0.00                   | 0.00                  |
| 5,350.0                               | 2.37            | 302.44      | 5,346.0               | 103.1        | -162.2       | -161.8                  | 0.00                    | 0.00                   | 0.00                  |
| 5,400.0                               | 2.37            | 302.44      | 5,396.0               | 104.2        | -163.9       | -163.5                  | 0.00                    | 0.00                   | 0.00                  |
| 5,450.0                               | 2.37            | 302.44      | 5,446.0               | 105.3        | -165.7       | -165.3                  | 0.00                    | 0.00                   | 0.00                  |
| 5,500.0                               | 2.37            | 302.44      | 5,495.9               | 106.4        | -167.4       | -167.0                  | 0.00                    | 0.00                   | 0.00                  |
| 5,550.0                               | 2.37            | 302.44      | 5,545.9               | 107.5        | -169.2       | -168.8                  | 0.00                    | 0.00                   | 0.00                  |
| 5,600.0                               | 2.37            | 302.44      | 5,595.8               | 108.6        | -170.9       | -170.5                  | 0.00                    | 0.00                   | 0.00                  |
| 5,650.0                               | 2.37            | 302.44      | 5,645.8               | 109.8        | -172.7       | -172.3                  | 0.00                    | 0.00                   | 0.00                  |
| 5,700.0                               | 2.37            | 302.44      | 5,695.7               | 110.9        | -174.4       | -174.0                  | 0.00                    | 0.00                   | 0.00                  |
| 5,750.0                               | 2.37            | 302.44      | 5,745.7               | 112.0        | -176.2       | -175.7                  | 0.00                    | 0.00                   | 0.00                  |
| 5,800.0                               | 2.37            | 302.44      | 5,795.7               | 113.1        | -177.9       | -177.5                  | 0.00                    | 0.00                   | 0.00                  |
| 5,850.0                               | 2.37            | 302.44      | 5,845.6               | 114.2        | -179.6       | -179.2                  | 0.00                    | 0.00                   | 0.00                  |
| 5,900.0                               | 2.37            | 302.44      | 5,895.6               | 115.3        | -181.4       | -181.0                  | 0.00                    | 0.00                   | 0.00                  |
| 5,950.0                               | 2.37            | 302.44      | 5,945.5               | 116.4        | -183.1       | -182.7                  | 0.00                    | 0.00                   | 0.00                  |
| 6,000.0                               | 2.37            | 302.44      | 5,995.5               | 117.5        | -184.9       | -184.5                  | 0.00                    | 0.00                   | 0.00                  |
| 6,006.9                               | 2.37            | 302.44      | 6,002.4               | 117.7        | -185.1       | -184.7                  | 0.00                    | 0.00                   | 0.00                  |
| 6,050.0                               | 1.51            | 302.44      | 6,045.4               | 118.5        | -186.4       | -185.9                  | 2.00                    | -2.00                  | 0.00                  |
| 6,100.0                               | 0.51            | 302.44      | 6,095.4               | 118.9        | -187.1       | -186.7                  | 2.00                    | -2.00                  | 0.00                  |
| 6,125.6                               | 0.00            | 0.00        | 6,121.0               | 119.0        | -187.2       | -186.8                  | 2.00                    | -2.00                  | 0.00                  |
| KOP: 2030' FSL & 473' FEL (Sec 32)    |                 |             |                       |              |              |                         |                         |                        |                       |
| 6,150.0                               | 2.44            | 90.41       | 6,145.4               | 119.0        | -186.7       | -186.2                  | 9.99                    | 9.99                   | 0.00                  |
| 6,200.0                               | 7.44            | 90.41       | 6,195.2               | 119.0        | -182.4       | -181.9                  | 9.99                    | 9.99                   | 0.00                  |
| 6,250.0                               | 12.44           | 90.41       | 6,244.5               | 118.9        | -173.7       | -173.3                  | 9.99                    | 9.99                   | 0.00                  |
| 6,300.0                               | 17.43           | 90.41       | 6,292.8               | 118.8        | -160.9       | -160.4                  | 9.99                    | 9.99                   | 0.00                  |
| 6,350.0                               | 22.43           | 90.41       | 6,339.8               | 118.7        | -143.8       | -143.4                  | 9.99                    | 9.99                   | 0.00                  |
| 6,400.0                               | 27.43           | 90.41       | 6,385.1               | 118.5        | -122.8       | -122.3                  | 9.99                    | 9.99                   | 0.00                  |
| 6,450.0                               | 32.42           | 90.41       | 6,428.4               | 118.4        | -97.8        | -97.4                   | 9.99                    | 9.99                   | 0.00                  |
| 6,500.0                               | 37.42           | 90.41       | 6,469.4               | 118.2        | -69.2        | -68.8                   | 9.99                    | 9.99                   | 0.00                  |
| 6,550.0                               | 42.42           | 90.41       | 6,507.7               | 117.9        | -37.1        | -36.7                   | 9.99                    | 9.99                   | 0.00                  |
| 6,600.0                               | 47.41           | 90.41       | 6,543.1               | 117.7        | -1.8         | -1.4                    | 9.99                    | 9.99                   | 0.00                  |
| 6,650.0                               | 52.41           | 90.41       | 6,575.3               | 117.4        | 36.4         | 36.8                    | 9.99                    | 9.99                   | 0.00                  |
| 6,700.0                               | 57.41           | 90.41       | 6,604.0               | 117.1        | 77.3         | 77.7                    | 9.99                    | 9.99                   | 0.00                  |
| 6,750.0                               | 62.40           | 90.41       | 6,629.1               | 116.8        | 120.5        | 121.0                   | 9.99                    | 9.99                   | 0.00                  |
| 6,800.0                               | 67.40           | 90.41       | 6,650.3               | 116.5        | 165.8        | 166.2                   | 9.99                    | 9.99                   | 0.00                  |
| 6,850.0                               | 72.40           | 90.41       | 6,667.5               | 116.1        | 212.7        | 213.2                   | 9.99                    | 9.99                   | 0.00                  |
| 6,900.0                               | 77.39           | 90.41       | 6,680.5               | 115.8        | 261.0        | 261.4                   | 9.99                    | 9.99                   | 0.00                  |
| 6,950.0                               | 82.39           | 90.41       | 6,689.3               | 115.4        | 310.2        | 310.6                   | 9.99                    | 9.99                   | 0.00                  |
| 7,000.0                               | 87.39           | 90.41       | 6,693.7               | 115.1        | 360.0        | 360.4                   | 9.99                    | 9.99                   | 0.00                  |
| 7,006.8                               | 88.07           | 90.41       | 6,694.0               | 115.0        | 366.8        | 367.2                   | 9.99                    | 9.99                   | 0.00                  |
| 7,024.9                               | 88.07           | 90.41       | 6,694.6               | 114.9        | 384.9        | 385.3                   | 0.00                    | 0.00                   | 0.00                  |
| FTP/LP: 2030' FSL & 100' FWL (Sec 33) |                 |             |                       |              |              |                         |                         |                        |                       |
| 7,050.0                               | 88.07           | 90.41       | 6,695.5               | 114.7        | 410.0        | 410.4                   | 0.00                    | 0.00                   | 0.00                  |
| 7,100.0                               | 88.07           | 90.41       | 6,697.1               | 114.4        | 459.9        | 460.3                   | 0.00                    | 0.00                   | 0.00                  |
| 7,150.0                               | 88.07           | 90.41       | 6,698.8               | 114.0        | 509.9        | 510.3                   | 0.00                    | 0.00                   | 0.00                  |
| 7,200.0                               | 88.07           | 90.41       | 6,700.5               | 113.7        | 559.9        | 560.3                   | 0.00                    | 0.00                   | 0.00                  |
| 7,250.0                               | 88.07           | 90.41       | 6,702.2               | 113.3        | 609.8        | 610.2                   | 0.00                    | 0.00                   | 0.00                  |
| 7,300.0                               | 88.07           | 90.41       | 6,703.9               | 112.9        | 659.8        | 660.2                   | 0.00                    | 0.00                   | 0.00                  |
| 7,350.0                               | 88.07           | 90.41       | 6,705.5               | 112.6        | 709.8        | 710.2                   | 0.00                    | 0.00                   | 0.00                  |
| 7,400.0                               | 88.07           | 90.41       | 6,707.2               | 112.2        | 759.7        | 760.1                   | 0.00                    | 0.00                   | 0.00                  |
| 7,450.0                               | 88.07           | 90.41       | 6,708.9               | 111.9        | 809.7        | 810.1                   | 0.00                    | 0.00                   | 0.00                  |
| 7,500.0                               | 88.07           | 90.41       | 6,710.6               | 111.5        | 859.7        | 860.1                   | 0.00                    | 0.00                   | 0.00                  |
| 7,550.0                               | 88.07           | 90.41       | 6,712.3               | 111.2        | 909.7        | 910.1                   | 0.00                    | 0.00                   | 0.00                  |
| 7,600.0                               | 88.07           | 90.41       | 6,714.0               | 110.8        | 959.6        | 960.0                   | 0.00                    | 0.00                   | 0.00                  |

Planning Report

|           |                                      |                              |                                           |
|-----------|--------------------------------------|------------------------------|-------------------------------------------|
| Database: | Hobbs                                | Local Co-ordinate Reference: | Site Buffalo Nickel 33/34 State Com #525H |
| Company:  | Mewbourne Oil Company                | TVD Reference:               | WELL @ 3284.0usft (Original Well Elev)    |
| Project:  | Eddy County, New Mexico NAD 83       | MD Reference:                | WELL @ 3284.0usft (Original Well Elev)    |
| Site:     | Buffalo Nickel 33/34 State Com #525H | North Reference:             | Grid                                      |
| Well:     | Sec 32, T21S, R26E                   | Survey Calculation Method:   | Minimum Curvature                         |
| Wellbore: | BHL: 2030' FSL & 100' FEL (Sec 34)   |                              |                                           |
| 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) |  |
| 7,650.0               | 88.07           | 90.41       | 6,715.6               | 110.4        | 1,009.6      | 1,010.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 7,700.0               | 88.07           | 90.41       | 6,717.3               | 110.1        | 1,059.6      | 1,060.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 7,750.0               | 88.07           | 90.41       | 6,719.0               | 109.7        | 1,109.5      | 1,109.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 7,800.0               | 88.07           | 90.41       | 6,720.7               | 109.4        | 1,159.5      | 1,159.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 7,850.0               | 88.07           | 90.41       | 6,722.4               | 109.0        | 1,209.5      | 1,209.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 7,900.0               | 88.07           | 90.41       | 6,724.0               | 108.7        | 1,259.5      | 1,259.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 7,950.0               | 88.07           | 90.41       | 6,725.7               | 108.3        | 1,309.4      | 1,309.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,000.0               | 88.07           | 90.41       | 6,727.4               | 107.9        | 1,359.4      | 1,359.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,050.0               | 88.07           | 90.41       | 6,729.1               | 107.6        | 1,409.4      | 1,409.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,100.0               | 88.07           | 90.41       | 6,730.8               | 107.2        | 1,459.3      | 1,459.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,150.0               | 88.07           | 90.41       | 6,732.4               | 106.9        | 1,509.3      | 1,509.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,200.0               | 88.07           | 90.41       | 6,734.1               | 106.5        | 1,559.3      | 1,559.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,250.0               | 88.07           | 90.41       | 6,735.8               | 106.2        | 1,609.2      | 1,609.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,300.0               | 88.07           | 90.41       | 6,737.5               | 105.8        | 1,659.2      | 1,659.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,350.0               | 88.07           | 90.41       | 6,739.2               | 105.4        | 1,709.2      | 1,709.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,400.0               | 88.07           | 90.41       | 6,740.9               | 105.1        | 1,759.2      | 1,759.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,450.0               | 88.07           | 90.41       | 6,742.5               | 104.7        | 1,809.1      | 1,809.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,500.0               | 88.07           | 90.41       | 6,744.2               | 104.4        | 1,859.1      | 1,859.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,550.0               | 88.07           | 90.41       | 6,745.9               | 104.0        | 1,909.1      | 1,909.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,600.0               | 88.07           | 90.41       | 6,747.6               | 103.7        | 1,959.0      | 1,959.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,650.0               | 88.07           | 90.41       | 6,749.3               | 103.3        | 2,009.0      | 2,009.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,700.0               | 88.07           | 90.41       | 6,750.9               | 102.9        | 2,059.0      | 2,059.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,750.0               | 88.07           | 90.41       | 6,752.6               | 102.6        | 2,108.9      | 2,109.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,800.0               | 88.07           | 90.41       | 6,754.3               | 102.2        | 2,158.9      | 2,159.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,850.0               | 88.07           | 90.41       | 6,756.0               | 101.9        | 2,208.9      | 2,209.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,900.0               | 88.07           | 90.41       | 6,757.7               | 101.5        | 2,258.9      | 2,259.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 8,950.0               | 88.07           | 90.41       | 6,759.4               | 101.1        | 2,308.8      | 2,309.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,000.0               | 88.07           | 90.41       | 6,761.0               | 100.8        | 2,358.8      | 2,359.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,050.0               | 88.07           | 90.41       | 6,762.7               | 100.4        | 2,408.8      | 2,409.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,100.0               | 88.07           | 90.41       | 6,764.4               | 100.1        | 2,458.7      | 2,459.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,150.0               | 88.07           | 90.41       | 6,766.1               | 99.7         | 2,508.7      | 2,509.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,200.0               | 88.07           | 90.41       | 6,767.8               | 99.4         | 2,558.7      | 2,559.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,250.0               | 88.07           | 90.41       | 6,769.4               | 99.0         | 2,608.7      | 2,609.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,300.0               | 88.07           | 90.41       | 6,771.1               | 98.6         | 2,658.6      | 2,659.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,350.0               | 88.07           | 90.41       | 6,772.8               | 98.3         | 2,708.6      | 2,708.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,400.0               | 88.07           | 90.41       | 6,774.5               | 97.9         | 2,758.6      | 2,758.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,450.0               | 88.07           | 90.41       | 6,776.2               | 97.6         | 2,808.5      | 2,808.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,500.0               | 88.07           | 90.41       | 6,777.9               | 97.2         | 2,858.5      | 2,858.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,550.0               | 88.07           | 90.41       | 6,779.5               | 96.9         | 2,908.5      | 2,908.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,600.0               | 88.07           | 90.41       | 6,781.2               | 96.5         | 2,958.4      | 2,958.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,650.0               | 88.07           | 90.41       | 6,782.9               | 96.1         | 3,008.4      | 3,008.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,700.0               | 88.07           | 90.41       | 6,784.6               | 95.8         | 3,058.4      | 3,058.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,750.0               | 88.07           | 90.41       | 6,786.3               | 95.4         | 3,108.4      | 3,108.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,800.0               | 88.07           | 90.41       | 6,787.9               | 95.1         | 3,158.3      | 3,158.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,850.0               | 88.07           | 90.41       | 6,789.6               | 94.7         | 3,208.3      | 3,208.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,900.0               | 88.07           | 90.41       | 6,791.3               | 94.4         | 3,258.3      | 3,258.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 9,950.0               | 88.07           | 90.41       | 6,793.0               | 94.0         | 3,308.2      | 3,308.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,000.0              | 88.07           | 90.41       | 6,794.7               | 93.6         | 3,358.2      | 3,358.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,050.0              | 88.07           | 90.41       | 6,796.4               | 93.3         | 3,408.2      | 3,408.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,100.0              | 88.07           | 90.41       | 6,798.0               | 92.9         | 3,458.1      | 3,458.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,150.0              | 88.07           | 90.41       | 6,799.7               | 92.6         | 3,508.1      | 3,508.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,200.0              | 88.07           | 90.41       | 6,801.4               | 92.2         | 3,558.1      | 3,558.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,250.0              | 88.07           | 90.41       | 6,803.1               | 91.9         | 3,608.1      | 3,608.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,300.0              | 88.07           | 90.41       | 6,804.8               | 91.5         | 3,658.0      | 3,658.3                 | 0.00                    | 0.00                   | 0.00                  |  |

## Planning Report

|                  |                                      |                                     |                                           |
|------------------|--------------------------------------|-------------------------------------|-------------------------------------------|
| <b>Database:</b> | Hobbs                                | <b>Local Co-ordinate Reference:</b> | Site Buffalo Nickel 33/34 State Com #525H |
| <b>Company:</b>  | Mewbourne Oil Company                | <b>TVD Reference:</b>               | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Project:</b>  | Eddy County, New Mexico NAD 83       | <b>MD Reference:</b>                | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Site:</b>     | Buffalo Nickel 33/34 State Com #525H | <b>North Reference:</b>             | Grid                                      |
| <b>Well:</b>     | Sec 32, T21S, R26E                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Wellbore:</b> | BHL: 2030' FSL & 100' FEL (Sec 34)   |                                     |                                           |
| <b>Design:</b>   | 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) |  |
| 10,350.0              | 88.07           | 90.41       | 6,806.4               | 91.1         | 3,708.0      | 3,708.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,400.0              | 88.07           | 90.41       | 6,808.1               | 90.8         | 3,758.0      | 3,758.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,450.0              | 88.07           | 90.41       | 6,809.8               | 90.4         | 3,807.9      | 3,808.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,500.0              | 88.07           | 90.41       | 6,811.5               | 90.1         | 3,857.9      | 3,858.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,550.0              | 88.07           | 90.41       | 6,813.2               | 89.7         | 3,907.9      | 3,908.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,600.0              | 88.07           | 90.41       | 6,814.9               | 89.4         | 3,957.9      | 3,958.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,650.0              | 88.07           | 90.41       | 6,816.5               | 89.0         | 4,007.8      | 4,008.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,700.0              | 88.07           | 90.41       | 6,818.2               | 88.6         | 4,057.8      | 4,058.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,750.0              | 88.07           | 90.41       | 6,819.9               | 88.3         | 4,107.8      | 4,108.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,800.0              | 88.07           | 90.41       | 6,821.6               | 87.9         | 4,157.7      | 4,158.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,850.0              | 88.07           | 90.41       | 6,823.3               | 87.6         | 4,207.7      | 4,208.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,900.0              | 88.07           | 90.41       | 6,824.9               | 87.2         | 4,257.7      | 4,258.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 10,950.0              | 88.07           | 90.41       | 6,826.6               | 86.9         | 4,307.6      | 4,307.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,000.0              | 88.07           | 90.41       | 6,828.3               | 86.5         | 4,357.6      | 4,357.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,050.0              | 88.07           | 90.41       | 6,830.0               | 86.1         | 4,407.6      | 4,407.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,100.0              | 88.07           | 90.41       | 6,831.7               | 85.8         | 4,457.6      | 4,457.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,150.0              | 88.07           | 90.41       | 6,833.4               | 85.4         | 4,507.5      | 4,507.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,200.0              | 88.07           | 90.41       | 6,835.0               | 85.1         | 4,557.5      | 4,557.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,250.0              | 88.07           | 90.41       | 6,836.7               | 84.7         | 4,607.5      | 4,607.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,300.0              | 88.07           | 90.41       | 6,838.4               | 84.4         | 4,657.4      | 4,657.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,350.0              | 88.07           | 90.41       | 6,840.1               | 84.0         | 4,707.4      | 4,707.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,400.0              | 88.07           | 90.41       | 6,841.8               | 83.6         | 4,757.4      | 4,757.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,450.0              | 88.07           | 90.41       | 6,843.4               | 83.3         | 4,807.4      | 4,807.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,500.0              | 88.07           | 90.41       | 6,845.1               | 82.9         | 4,857.3      | 4,857.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,550.0              | 88.07           | 90.41       | 6,846.8               | 82.6         | 4,907.3      | 4,907.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,600.0              | 88.07           | 90.41       | 6,848.5               | 82.2         | 4,957.3      | 4,957.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,650.0              | 88.07           | 90.41       | 6,850.2               | 81.9         | 5,007.2      | 5,007.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,700.0              | 88.07           | 90.41       | 6,851.9               | 81.5         | 5,057.2      | 5,057.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,750.0              | 88.07           | 90.41       | 6,853.5               | 81.1         | 5,107.2      | 5,107.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,800.0              | 88.07           | 90.41       | 6,855.2               | 80.8         | 5,157.1      | 5,157.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,850.0              | 88.07           | 90.41       | 6,856.9               | 80.4         | 5,207.1      | 5,207.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,900.0              | 88.07           | 90.41       | 6,858.6               | 80.1         | 5,257.1      | 5,257.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,950.0              | 88.07           | 90.41       | 6,860.3               | 79.7         | 5,307.1      | 5,307.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,000.0              | 88.07           | 90.41       | 6,861.9               | 79.3         | 5,357.0      | 5,357.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,050.0              | 88.07           | 90.41       | 6,863.6               | 79.0         | 5,407.0      | 5,407.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,100.0              | 88.07           | 90.41       | 6,865.3               | 78.6         | 5,457.0      | 5,457.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,150.0              | 88.07           | 90.41       | 6,867.0               | 78.3         | 5,506.9      | 5,507.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,200.0              | 88.07           | 90.41       | 6,868.7               | 77.9         | 5,556.9      | 5,557.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,250.0              | 88.07           | 90.41       | 6,870.4               | 77.6         | 5,606.9      | 5,607.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,300.0              | 88.07           | 90.41       | 6,872.0               | 77.2         | 5,656.8      | 5,657.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,350.0              | 88.07           | 90.41       | 6,873.7               | 76.8         | 5,706.8      | 5,707.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,400.0              | 88.07           | 90.41       | 6,875.4               | 76.5         | 5,756.8      | 5,757.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,450.0              | 88.07           | 90.41       | 6,877.1               | 76.1         | 5,806.8      | 5,807.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,500.0              | 88.07           | 90.41       | 6,878.8               | 75.8         | 5,856.7      | 5,857.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,550.0              | 88.07           | 90.41       | 6,880.4               | 75.4         | 5,906.7      | 5,906.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,600.0              | 88.07           | 90.41       | 6,882.1               | 75.1         | 5,956.7      | 5,956.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,650.0              | 88.07           | 90.41       | 6,883.8               | 74.7         | 6,006.6      | 6,006.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,700.0              | 88.07           | 90.41       | 6,885.5               | 74.3         | 6,056.6      | 6,056.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,750.0              | 88.07           | 90.41       | 6,887.2               | 74.0         | 6,106.6      | 6,106.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,800.0              | 88.07           | 90.41       | 6,888.9               | 73.6         | 6,156.6      | 6,156.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,850.0              | 88.07           | 90.41       | 6,890.5               | 73.3         | 6,206.5      | 6,206.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,900.0              | 88.07           | 90.41       | 6,892.2               | 72.9         | 6,256.5      | 6,256.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,950.0              | 88.07           | 90.41       | 6,893.9               | 72.6         | 6,306.5      | 6,306.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,000.0              | 88.07           | 90.41       | 6,895.6               | 72.2         | 6,356.4      | 6,356.7                 | 0.00                    | 0.00                   | 0.00                  |  |

## Planning Report

|                  |                                      |                                     |                                           |
|------------------|--------------------------------------|-------------------------------------|-------------------------------------------|
| <b>Database:</b> | Hobbs                                | <b>Local Co-ordinate Reference:</b> | Site Buffalo Nickel 33/34 State Com #525H |
| <b>Company:</b>  | Mewbourne Oil Company                | <b>TVD Reference:</b>               | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Project:</b>  | Eddy County, New Mexico NAD 83       | <b>MD Reference:</b>                | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Site:</b>     | Buffalo Nickel 33/34 State Com #525H | <b>North Reference:</b>             | Grid                                      |
| <b>Well:</b>     | Sec 32, T21S, R26E                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Wellbore:</b> | BHL: 2030' FSL & 100' FEL (Sec 34)   |                                     |                                           |
| <b>Design:</b>   | 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) |  |
| 13,050.0              | 88.07           | 90.41       | 6,897.3               | 71.8         | 6,406.4      | 6,406.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,100.0              | 88.07           | 90.41       | 6,898.9               | 71.5         | 6,456.4      | 6,456.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,150.0              | 88.07           | 90.41       | 6,900.6               | 71.1         | 6,506.3      | 6,506.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,200.0              | 88.07           | 90.41       | 6,902.3               | 70.8         | 6,556.3      | 6,556.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,250.0              | 88.07           | 90.41       | 6,904.0               | 70.4         | 6,606.3      | 6,606.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,300.0              | 88.07           | 90.41       | 6,905.7               | 70.1         | 6,656.3      | 6,656.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,350.0              | 88.07           | 90.41       | 6,907.3               | 69.7         | 6,706.2      | 6,706.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,400.0              | 88.07           | 90.41       | 6,909.0               | 69.3         | 6,756.2      | 6,756.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,450.0              | 88.07           | 90.41       | 6,910.7               | 69.0         | 6,806.2      | 6,806.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,500.0              | 88.07           | 90.41       | 6,912.4               | 68.6         | 6,856.1      | 6,856.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,550.0              | 88.07           | 90.41       | 6,914.1               | 68.3         | 6,906.1      | 6,906.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,600.0              | 88.07           | 90.41       | 6,915.8               | 67.9         | 6,956.1      | 6,956.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,650.0              | 88.07           | 90.41       | 6,917.4               | 67.6         | 7,006.1      | 7,006.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,700.0              | 88.07           | 90.41       | 6,919.1               | 67.2         | 7,056.0      | 7,056.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,750.0              | 88.07           | 90.41       | 6,920.8               | 66.8         | 7,106.0      | 7,106.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,800.0              | 88.07           | 90.41       | 6,922.5               | 66.5         | 7,156.0      | 7,156.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,850.0              | 88.07           | 90.41       | 6,924.2               | 66.1         | 7,205.9      | 7,206.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,900.0              | 88.07           | 90.41       | 6,925.8               | 65.8         | 7,255.9      | 7,256.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,950.0              | 88.07           | 90.41       | 6,927.5               | 65.4         | 7,305.9      | 7,306.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,000.0              | 88.07           | 90.41       | 6,929.2               | 65.1         | 7,355.8      | 7,356.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,050.0              | 88.07           | 90.41       | 6,930.9               | 64.7         | 7,405.8      | 7,406.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,100.0              | 88.07           | 90.41       | 6,932.6               | 64.3         | 7,455.8      | 7,456.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,150.0              | 88.07           | 90.41       | 6,934.3               | 64.0         | 7,505.8      | 7,505.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,200.0              | 88.07           | 90.41       | 6,935.9               | 63.6         | 7,555.7      | 7,555.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,250.0              | 88.07           | 90.41       | 6,937.6               | 63.3         | 7,605.7      | 7,605.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,300.0              | 88.07           | 90.41       | 6,939.3               | 62.9         | 7,655.7      | 7,655.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,350.0              | 88.07           | 90.41       | 6,941.0               | 62.6         | 7,705.6      | 7,705.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,400.0              | 88.07           | 90.41       | 6,942.7               | 62.2         | 7,755.6      | 7,755.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,450.0              | 88.07           | 90.41       | 6,944.3               | 61.8         | 7,805.6      | 7,805.8                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,500.0              | 88.07           | 90.41       | 6,946.0               | 61.5         | 7,855.5      | 7,855.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,550.0              | 88.07           | 90.41       | 6,947.7               | 61.1         | 7,905.5      | 7,905.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,600.0              | 88.07           | 90.41       | 6,949.4               | 60.8         | 7,955.5      | 7,955.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,650.0              | 88.07           | 90.41       | 6,951.1               | 60.4         | 8,005.5      | 8,005.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,700.0              | 88.07           | 90.41       | 6,952.8               | 60.1         | 8,055.4      | 8,055.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,750.0              | 88.07           | 90.41       | 6,954.4               | 59.7         | 8,105.4      | 8,105.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,800.0              | 88.07           | 90.41       | 6,956.1               | 59.3         | 8,155.4      | 8,155.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,850.0              | 88.07           | 90.41       | 6,957.8               | 59.0         | 8,205.3      | 8,205.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,900.0              | 88.07           | 90.41       | 6,959.5               | 58.6         | 8,255.3      | 8,255.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,950.0              | 88.07           | 90.41       | 6,961.2               | 58.3         | 8,305.3      | 8,305.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,000.0              | 88.07           | 90.41       | 6,962.8               | 57.9         | 8,355.3      | 8,355.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,050.0              | 88.07           | 90.41       | 6,964.5               | 57.6         | 8,405.2      | 8,405.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,100.0              | 88.07           | 90.41       | 6,966.2               | 57.2         | 8,455.2      | 8,455.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,150.0              | 88.07           | 90.41       | 6,967.9               | 56.8         | 8,505.2      | 8,505.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,200.0              | 88.07           | 90.41       | 6,969.6               | 56.5         | 8,555.1      | 8,555.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,250.0              | 88.07           | 90.41       | 6,971.3               | 56.1         | 8,605.1      | 8,605.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,300.0              | 88.07           | 90.41       | 6,972.9               | 55.8         | 8,655.1      | 8,655.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,350.0              | 88.07           | 90.41       | 6,974.6               | 55.4         | 8,705.0      | 8,705.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,400.0              | 88.07           | 90.41       | 6,976.3               | 55.0         | 8,755.0      | 8,755.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,450.0              | 88.07           | 90.41       | 6,978.0               | 54.7         | 8,805.0      | 8,805.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,500.0              | 88.07           | 90.41       | 6,979.7               | 54.3         | 8,855.0      | 8,855.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,550.0              | 88.07           | 90.41       | 6,981.3               | 54.0         | 8,904.9      | 8,905.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,600.0              | 88.07           | 90.41       | 6,983.0               | 53.6         | 8,954.9      | 8,955.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,650.0              | 88.07           | 90.41       | 6,984.7               | 53.3         | 9,004.9      | 9,005.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,700.0              | 88.07           | 90.41       | 6,986.4               | 52.9         | 9,054.8      | 9,055.0                 | 0.00                    | 0.00                   | 0.00                  |  |

Planning Report

|           |                                      |                              |                                           |
|-----------|--------------------------------------|------------------------------|-------------------------------------------|
| Database: | Hobbs                                | Local Co-ordinate Reference: | Site Buffalo Nickel 33/34 State Com #525H |
| Company:  | Mewbourne Oil Company                | TVD Reference:               | WELL @ 3284.0usft (Original Well Elev)    |
| Project:  | Eddy County, New Mexico NAD 83       | MD Reference:                | WELL @ 3284.0usft (Original Well Elev)    |
| Site:     | Buffalo Nickel 33/34 State Com #525H | North Reference:             | Grid                                      |
| Well:     | Sec 32, T21S, R26E                   | Survey Calculation Method:   | Minimum Curvature                         |
| Wellbore: | BHL: 2030' FSL & 100' FEL (Sec 34)   |                              |                                           |
| Design:   | Design #1                            |                              |                                           |

| Planned Survey                     |                    |                |                             |                 |                 |                               |                               |                              |                             |  |
|------------------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|--|
| Measured<br>Depth<br>(usft)        | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |  |
| 15,750.0                           | 88.07              | 90.41          | 6,988.1                     | 52.5            | 9,104.8         | 9,104.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 15,800.0                           | 88.07              | 90.41          | 6,989.8                     | 52.2            | 9,154.8         | 9,154.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 15,850.0                           | 88.07              | 90.41          | 6,991.4                     | 51.8            | 9,204.7         | 9,204.9                       | 0.00                          | 0.00                         | 0.00                        |  |
| 15,900.0                           | 88.07              | 90.41          | 6,993.1                     | 51.5            | 9,254.7         | 9,254.8                       | 0.00                          | 0.00                         | 0.00                        |  |
| 15,950.0                           | 88.07              | 90.41          | 6,994.8                     | 51.1            | 9,304.7         | 9,304.8                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,000.0                           | 88.07              | 90.41          | 6,996.5                     | 50.8            | 9,354.7         | 9,354.8                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,050.0                           | 88.07              | 90.41          | 6,998.2                     | 50.4            | 9,404.6         | 9,404.8                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,100.0                           | 88.07              | 90.41          | 6,999.8                     | 50.0            | 9,454.6         | 9,454.7                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,150.0                           | 88.07              | 90.41          | 7,001.5                     | 49.7            | 9,504.6         | 9,504.7                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,200.0                           | 88.07              | 90.41          | 7,003.2                     | 49.3            | 9,554.5         | 9,554.7                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,250.0                           | 88.07              | 90.41          | 7,004.9                     | 49.0            | 9,604.5         | 9,604.6                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,300.0                           | 88.07              | 90.41          | 7,006.6                     | 48.6            | 9,654.5         | 9,654.6                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,350.0                           | 88.07              | 90.41          | 7,008.3                     | 48.3            | 9,704.5         | 9,704.6                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,400.0                           | 88.07              | 90.41          | 7,009.9                     | 47.9            | 9,754.4         | 9,754.5                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,450.0                           | 88.07              | 90.41          | 7,011.6                     | 47.5            | 9,804.4         | 9,804.5                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,500.0                           | 88.07              | 90.41          | 7,013.3                     | 47.2            | 9,854.4         | 9,854.5                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,550.0                           | 88.07              | 90.41          | 7,015.0                     | 46.8            | 9,904.3         | 9,904.4                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,600.0                           | 88.07              | 90.41          | 7,016.7                     | 46.5            | 9,954.3         | 9,954.4                       | 0.00                          | 0.00                         | 0.00                        |  |
| 16,650.0                           | 88.07              | 90.41          | 7,018.3                     | 46.1            | 10,004.3        | 10,004.4                      | 0.00                          | 0.00                         | 0.00                        |  |
| 16,700.0                           | 88.07              | 90.41          | 7,020.0                     | 45.8            | 10,054.2        | 10,054.3                      | 0.00                          | 0.00                         | 0.00                        |  |
| 16,750.0                           | 88.07              | 90.41          | 7,021.7                     | 45.4            | 10,104.2        | 10,104.3                      | 0.00                          | 0.00                         | 0.00                        |  |
| 16,800.0                           | 88.07              | 90.41          | 7,023.4                     | 45.0            | 10,154.2        | 10,154.3                      | 0.00                          | 0.00                         | 0.00                        |  |
| 16,850.0                           | 88.07              | 90.41          | 7,025.1                     | 44.7            | 10,204.2        | 10,204.3                      | 0.00                          | 0.00                         | 0.00                        |  |
| 16,900.0                           | 88.07              | 90.41          | 7,026.8                     | 44.3            | 10,254.1        | 10,254.2                      | 0.00                          | 0.00                         | 0.00                        |  |
| 16,950.0                           | 88.07              | 90.41          | 7,028.4                     | 44.0            | 10,304.1        | 10,304.2                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,000.0                           | 88.07              | 90.41          | 7,030.1                     | 43.6            | 10,354.1        | 10,354.2                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,050.0                           | 88.07              | 90.41          | 7,031.8                     | 43.3            | 10,404.0        | 10,404.1                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,100.0                           | 88.07              | 90.41          | 7,033.5                     | 42.9            | 10,454.0        | 10,454.1                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,150.0                           | 88.07              | 90.41          | 7,035.2                     | 42.5            | 10,504.0        | 10,504.1                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,200.0                           | 88.07              | 90.41          | 7,036.8                     | 42.2            | 10,554.0        | 10,554.0                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,250.0                           | 88.07              | 90.41          | 7,038.5                     | 41.8            | 10,603.9        | 10,604.0                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,300.0                           | 88.07              | 90.41          | 7,040.2                     | 41.5            | 10,653.9        | 10,654.0                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,350.0                           | 88.07              | 90.41          | 7,041.9                     | 41.1            | 10,703.9        | 10,703.9                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,400.0                           | 88.07              | 90.41          | 7,043.6                     | 40.8            | 10,753.8        | 10,753.9                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,450.0                           | 88.07              | 90.41          | 7,045.3                     | 40.4            | 10,803.8        | 10,803.9                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,500.0                           | 88.07              | 90.41          | 7,046.9                     | 40.0            | 10,853.8        | 10,853.8                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,550.0                           | 88.07              | 90.41          | 7,048.6                     | 39.7            | 10,903.7        | 10,903.8                      | 0.00                          | 0.00                         | 0.00                        |  |
| 17,561.5                           | 88.07              | 90.41          | 7,049.0                     | 39.6            | 10,915.2        | 10,915.3                      | 0.00                          | 0.00                         | 0.00                        |  |
| BHL: 2030' FSL & 100' FEL (Sec 34) |                    |                |                             |                 |                 |                               |                               |                              |                             |  |

Planning Report

|                  |                                      |                                     |                                           |
|------------------|--------------------------------------|-------------------------------------|-------------------------------------------|
| <b>Database:</b> | Hobbs                                | <b>Local Co-ordinate Reference:</b> | Site Buffalo Nickel 33/34 State Com #525H |
| <b>Company:</b>  | Mewbourne Oil Company                | <b>TVD Reference:</b>               | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Project:</b>  | Eddy County, New Mexico NAD 83       | <b>MD Reference:</b>                | WELL @ 3284.0usft (Original Well Elev)    |
| <b>Site:</b>     | Buffalo Nickel 33/34 State Com #525H | <b>North Reference:</b>             | Grid                                      |
| <b>Well:</b>     | Sec 32, T21S, R26E                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Wellbore:</b> | BHL: 2030' FSL & 100' FEL (Sec 34)   |                                     |                                           |
| <b>Design:</b>   | Design #1                            |                                     |                                           |

| Design Targets            |           |          |         |        |          |            |            |            |              |
|---------------------------|-----------|----------|---------|--------|----------|------------|------------|------------|--------------|
| Target Name               |           |          |         |        |          |            |            |            |              |
| - hit/miss target         | Dip Angle | Dip Dir. | TVD     | +N/-S  | +E/-W    | Northing   | Easting    | Latitude   | Longitude    |
| - Shape                   | (°)       | (°)      | (usft)  | (usft) | (usft)   | (usft)     | (usft)     |            |              |
| SHL: 1900' FSL & 280' F   | 0.00      | 0.00     | 0.0     | 0.0    | 0.0      | 521,674.80 | 549,309.70 | 32.4341472 | -104.3074931 |
| - plan hits target center |           |          |         |        |          |            |            |            |              |
| - Point                   |           |          |         |        |          |            |            |            |              |
| KOP: 2030' FSL & 473' F   | 0.00      | 0.00     | 6,121.0 | 119.0  | -187.2   | 521,793.80 | 549,122.50 | 32.4344744 | -104.3080997 |
| - plan hits target center |           |          |         |        |          |            |            |            |              |
| - Point                   |           |          |         |        |          |            |            |            |              |
| FTP/LP: 2030' FSL & 10    | 0.00      | 0.00     | 6,694.6 | 114.9  | 384.9    | 521,789.71 | 549,694.60 | 32.4344628 | -104.3062454 |
| - plan hits target center |           |          |         |        |          |            |            |            |              |
| - Point                   |           |          |         |        |          |            |            |            |              |
| BHL: 2030' FSL & 100' F   | 0.00      | 0.00     | 7,049.0 | 39.6   | 10,915.2 | 521,714.40 | 560,224.90 | 32.4342438 | -104.2721136 |
| - plan hits target center |           |          |         |        |          |            |            |            |              |
| - Point                   |           |          |         |        |          |            |            |            |              |



## Mewbourne Oil Co.

### BOP Break Testing Variance

Mewbourne Oil Company requests a variance from the minimum standards for well control equipment testing of 43 CFR 3172 to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with batch drilling & offline cementing operations. Modern rig upgrades which facilitate pad drilling allow the BOP stack to be moved between wells on a multi-well pad without breaking any BOP stack components apart. Widespread use of these technologies has led to break testing BOPE being endorsed as safe and reliable. American Petroleum Institute (API) best practices are frequently used by regulators to develop their regulations. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (5<sup>th</sup> Ed., Dec. 2018) Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component."

### Procedures

1. Full BOPE test at first installation on the pad.
  - Full BOPE test at least every 21 days.
  - Function test BOP elements per 43 CFR 3172.
  - Contact the BLM if a well control event occurs.
2. After the well section is secured and the well is confirmed to be static, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad. Two breaks on the BOPE will be made (Fig. 1).
  - Connection between the flex line and the HCR valve
  - Connection between the wellhead and the BOP quick connect (Fig. 5 & 6).
3. A capping flange will be installed after cementing per wellhead vendor procedure & casing pressure will be monitored via wellhead valve.
4. The BOP will be removed and carried by a hydraulic carrier (Fig. 3 & 4).
5. The rig will then walk to the next well.
6. Confirm that the well is static and remove the capping flange.
7. The connection between the flex line and HCR valve and the connection between the wellhead and the BOP quick connect will be reconnected.
8. Install a test plug into the wellhead.
9. A test will then be conducted against the upper pipe rams and choke, testing both breaks (Fig. 1 & 2).
10. The test will be held at 250 psi low and to the high value submitted in the APD, not to exceed 5000 psi.
11. The annular, blind rams and lower pipe rams will then be function tested.
12. If a pad consists of three or more wells, steps 4 through 11 will be repeated.



13. A break test will only be conducted if the intermediate section can be drilled and cased within 21 days of the last full BOPE test.

## **Barriers**

### **Before Nipple Down:**

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff

### **After Nipple Down:**

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff
- Offline cementing tool and/or cement head
- Capping flange after cementing

## **Summary**

A variance is requested to only test broken pressure seals on the BOPE when moving between wells on a multi-well pad if the following conditions are met:

- A full BOPE test is conducted on the first well on the pad. API Standard 53 requires testing annular BOP to 70% of RWP or 100% of MASP, whichever is greater.
- If the first well on the pad is not the well with the deepest intermediate section, a full BOPE test will also be performed when moving to a deeper well.
- The hole section being drilled has a MASP under 5000 psi.
- If a well control event occurs, Mewbourne will contact BLM for permission to continue break testing.
- If significant (>50%) losses occur, full BOPE testing will be required going forward.
- Full BOPE test will be required prior to drilling the production hole.

While walking the rig, the BOP stack will be secured via hydraulic winch or hydraulic carrier. A full BOPE test will be performed at least every 21 days.

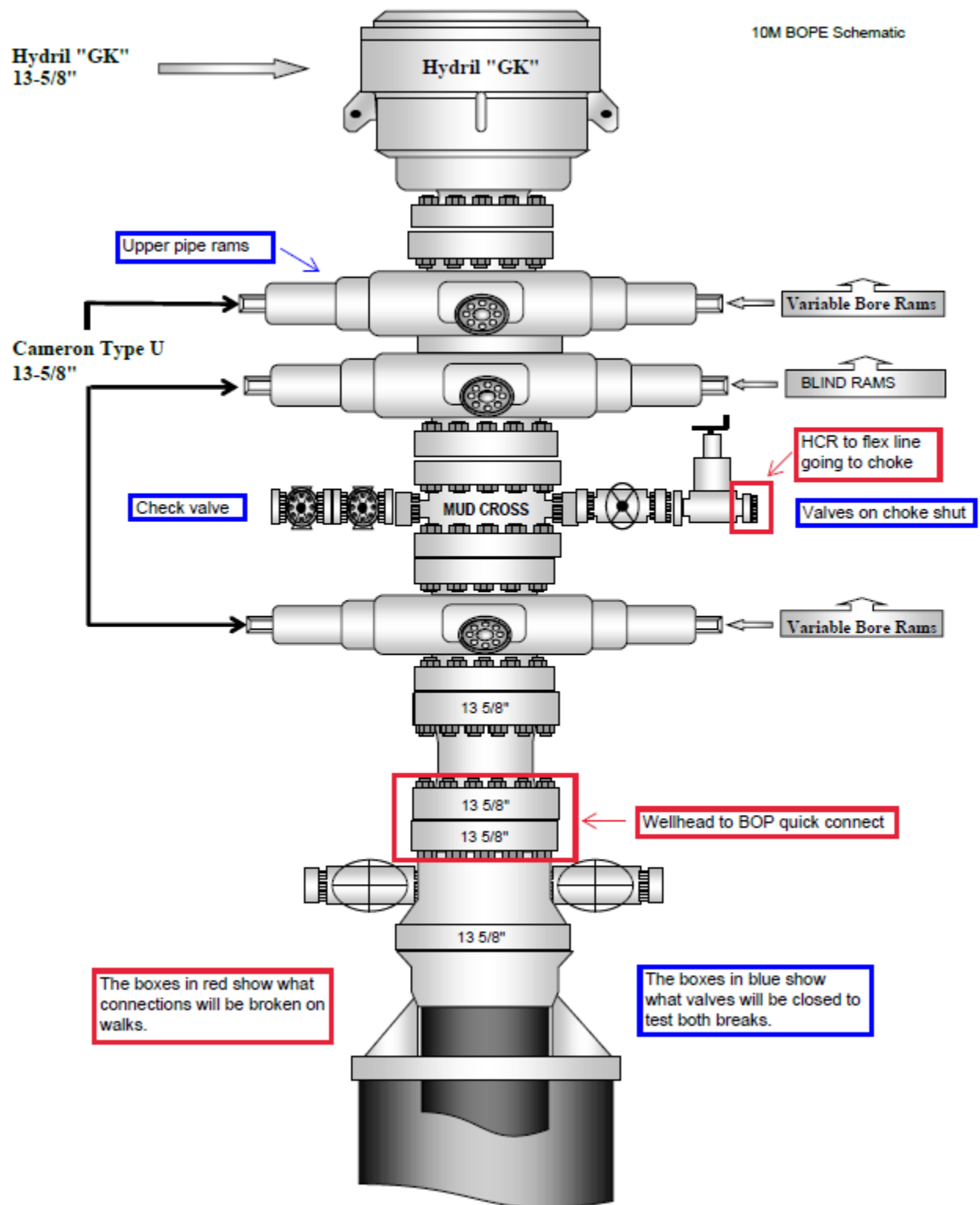


Figure 1. BOP diagram



## 5M BOPE & Closed Loop Equipment Schematic

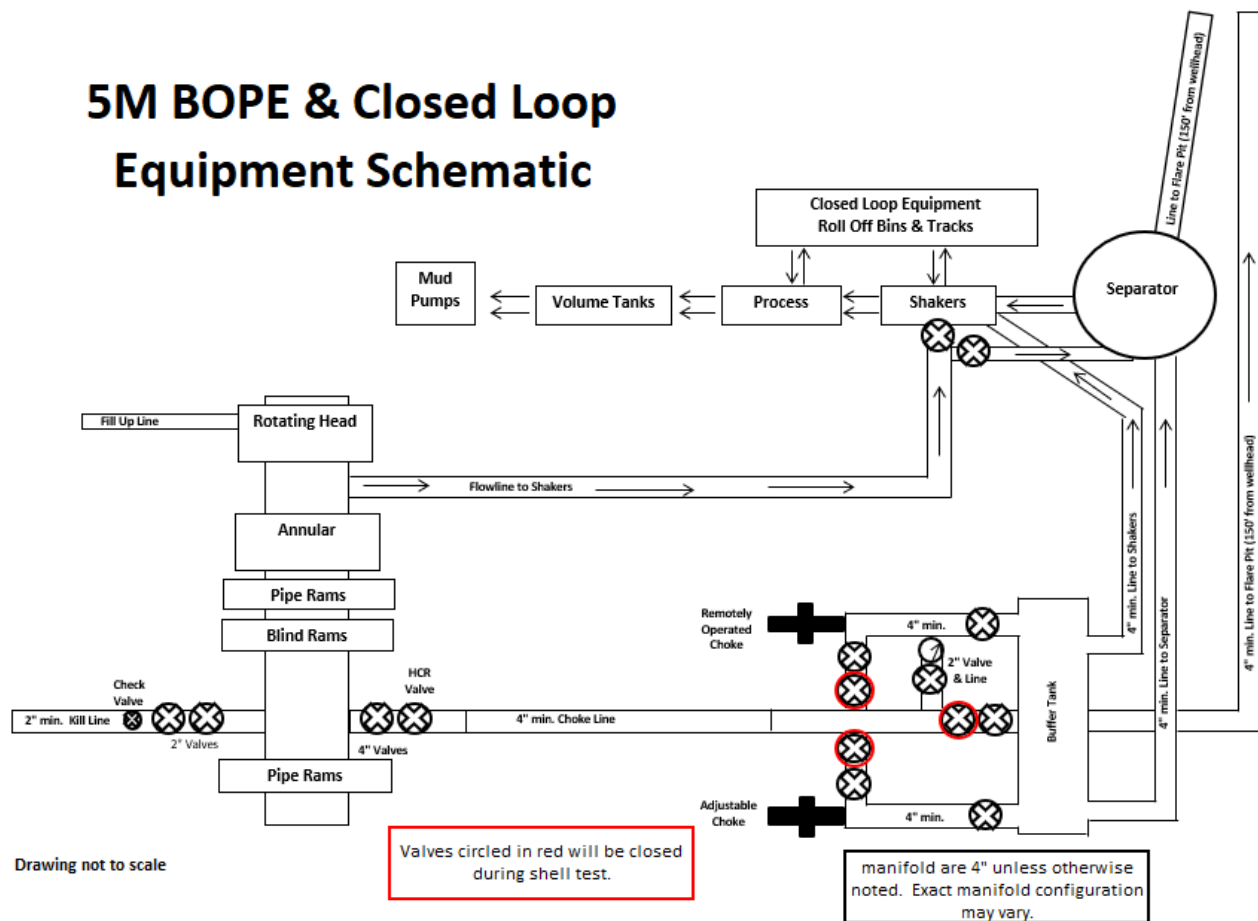


Figure 2. BOPE diagram



Figure 3. BOP handling system



Figure 4. BOP handling system

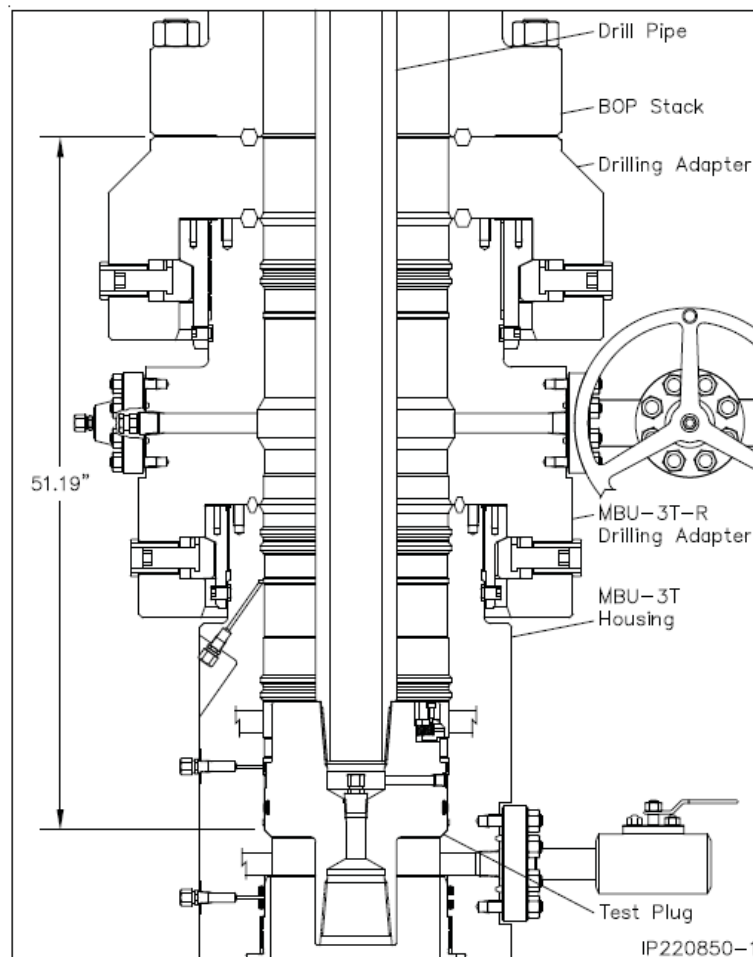


Figure 5. Cactus 5M wellhead with BOP quick connect

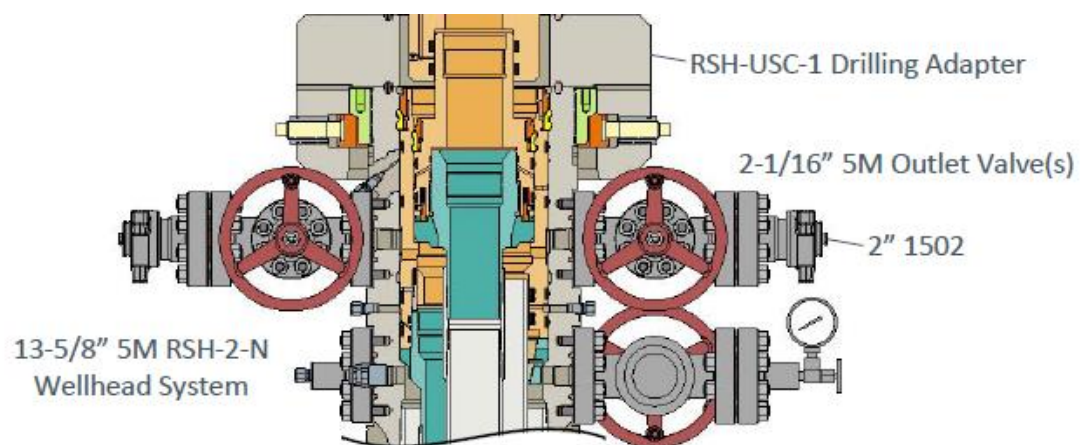


Figure 6. Vault 5M wellhead with BOP quick connect



## Mewbourne Oil Co.

### Surface & Intermediate Offline Cementing Variance

Mewbourne Oil Company requests a variance to perform offline cementing for surface and intermediate casing strings with the following conditions:

- Offline cementing will not be performed on production casing.
- Offline cementing will not be performed on a hole section with MASP > 5000 psi.
- Offline cementing will not be performed concurrently with offset drilling.

### Surface Casing Order of Operations:

1. Run 13 3/8" surface casing as per normal operations (TPGS and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Confirm well is static.
4. Make up 13 5/8" wellhead or wellhead landing ring assembly and land on 20" conductor.
5. Fill pipe, circulate casing capacity and confirm float(s) are still holding.
6. Confirm well is static.
7. Back out landing joint and pull to rig floor. Lay down landing joint.
8. Walk rig to next well on pad with cement crew standing by to rig up.
9. Make up offline cement tool with forklift per wellhead manufacturer (Fig. 1 & 2).
10. Make up cement head on top of offline cement tool with forklift.
11. Commence cement operations.
12. If cement circulates, confirm well is static and proceed to step 16.
13. If cement does not circulate, notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
14. Use 1" pipe for remedial cement job until the surface casing is cemented to surface.
15. Confirm well is static.
16. Once cement job is complete, the cement head and offline cementing tool are removed. The wellhead technician returns to cellar to install wellhead/valves.
17. Install wellhead capping flange.

### Barriers

#### Before Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus

**After Walk:**

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Offline cementing tool tested to 5000 psi and cement head
- Capping flange after cementing

**20" Surface Casing Order of Operations (4 string area):**

1. Run 20" surface casing as per normal operations (TPGS and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Fill pipe, circulate casing capacity and confirm float(s) are still holding.
4. Confirm well is static.
5. Back out landing joint and pull to rig floor. Lay down landing joint.
6. Make up cement head.
7. Walk rig to next well on pad with cement crew standing by to rig up.
8. Commence cement operations.
9. If cement circulates, confirm well is static and proceed to step 13.
10. If cement does not circulate, notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
11. Use 1" pipe for remedial cement job until the surface casing is cemented to surface.
12. Confirm well is static.
13. Once cement job is complete, remove cement head and install cap.

**Barriers****Before Walk:**

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Cement Head

**After Walk:**

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Cement head
- Capping flange after cementing



## **Intermediate Casing Order of Operations:**

1. Run casing as per normal operations (float shoe and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Confirm well is static (if running SBM).
4. Land casing.
5. Fill pipe, circulate casing capacity and confirm floats are still holding.
6. Confirm well is static.
7. Back out landing joint and pull to rig floor. Lay down landing joint. Install packoff & test.
8. Nipple down BOP.
9. Walk rig to next well on pad with cement crew standing by to rig up.
10. Make up offline cement tool using forklift per wellhead manufacturer (Fig. 3 - 8).
11. Make up cement head on top of offline cement tool.
12. Commence cement operations.
13. If cement circulates, confirm well is static and proceed to step 16.
14. If cement does not circulate (when required), notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
15. Pump remedial cement job if required.
16. Confirm well is static.
17. Remove cement head and offline cementing tool.
18. Install wellhead capping flange and test.

## **Barriers**

### **Before Nipple Down:**

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff

### **After Nipple Down:**

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff
- Offline cementing tool tested to 5000 psi and cement head
- Capping flange after cementing

**Risks:**

- Pressure build up in annulus before cementing
  - Contact BLM if a well control event occurs.
  - Rig up 3<sup>rd</sup> party pump or rig pumps to pump down casing and kill well.
  - Returns will be taken through the wellhead valves to a choke manifold (Fig 9 & 10).
  - Well could also be killed through the wellhead valves down the annulus.

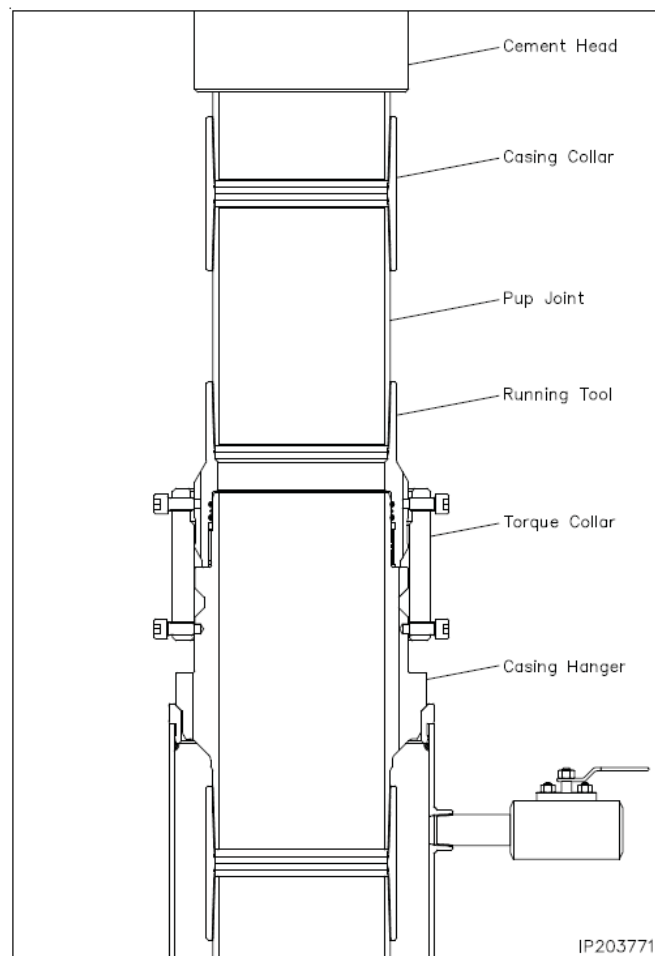


Figure 1. Cactus 13 3/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 13 3/8" pup joint and casing.

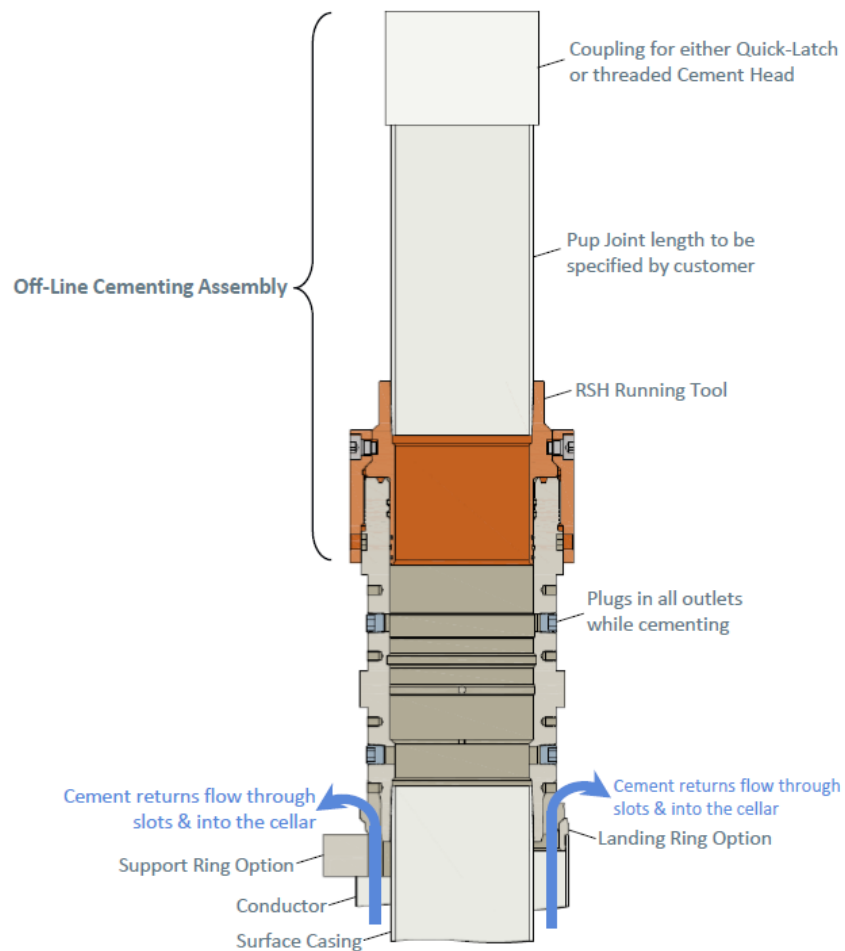


Figure 2. Vault 13 3/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 13 3/8" pup joint and casing.

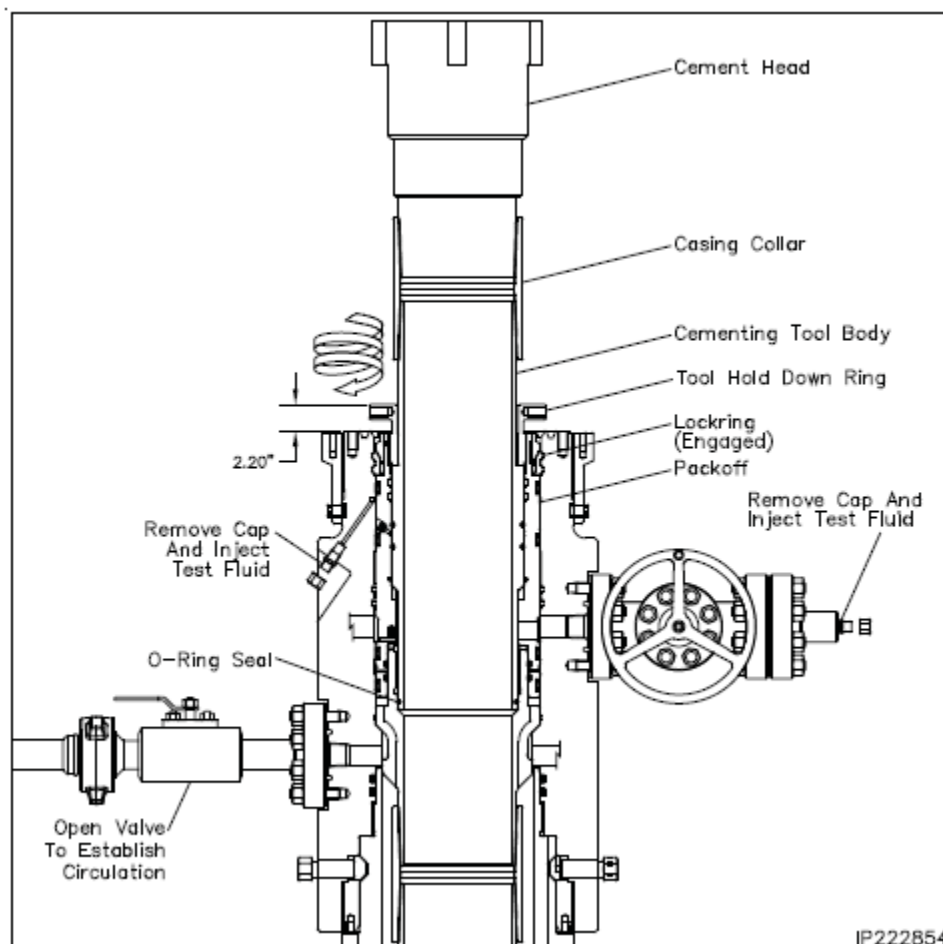


Figure 3. Cactus 9 5/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 9 5/8" pup joint and casing.

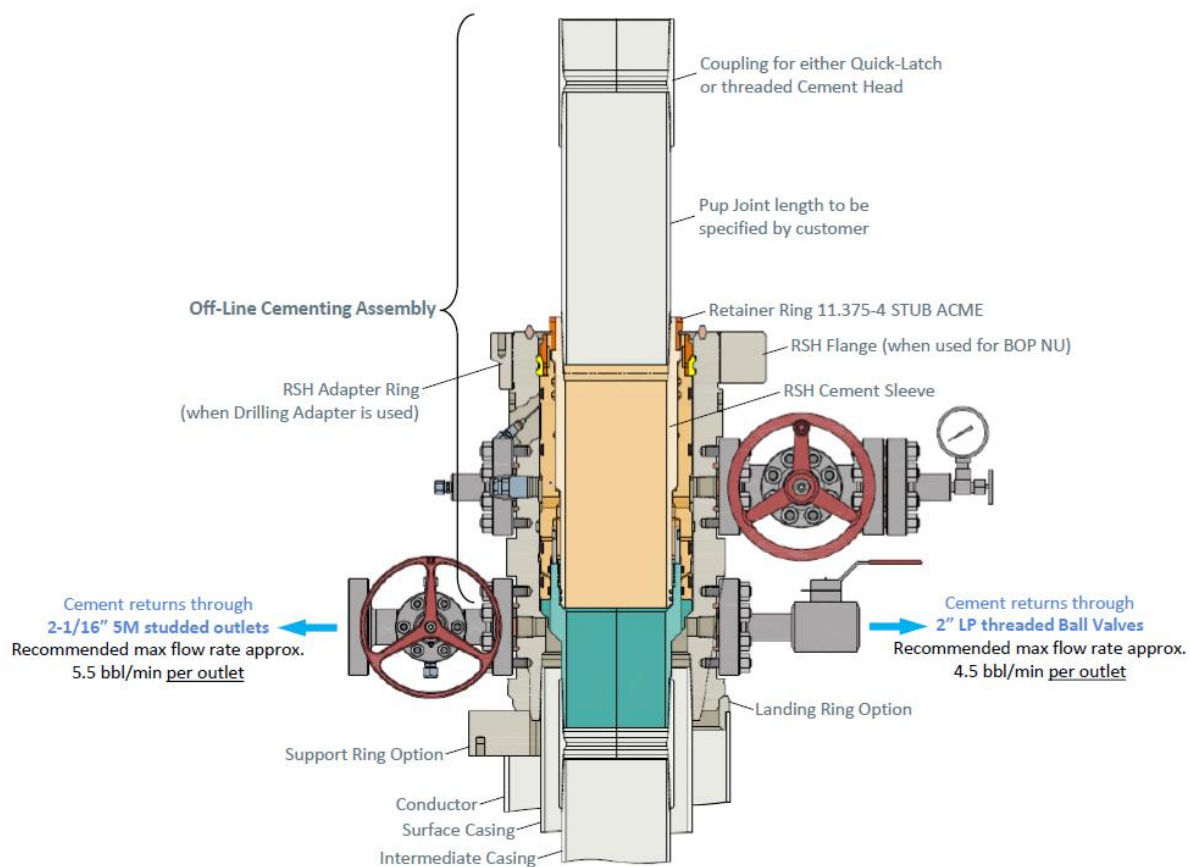


Figure 4. Vault 9 5/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 9 5/8" pup joint and casing.

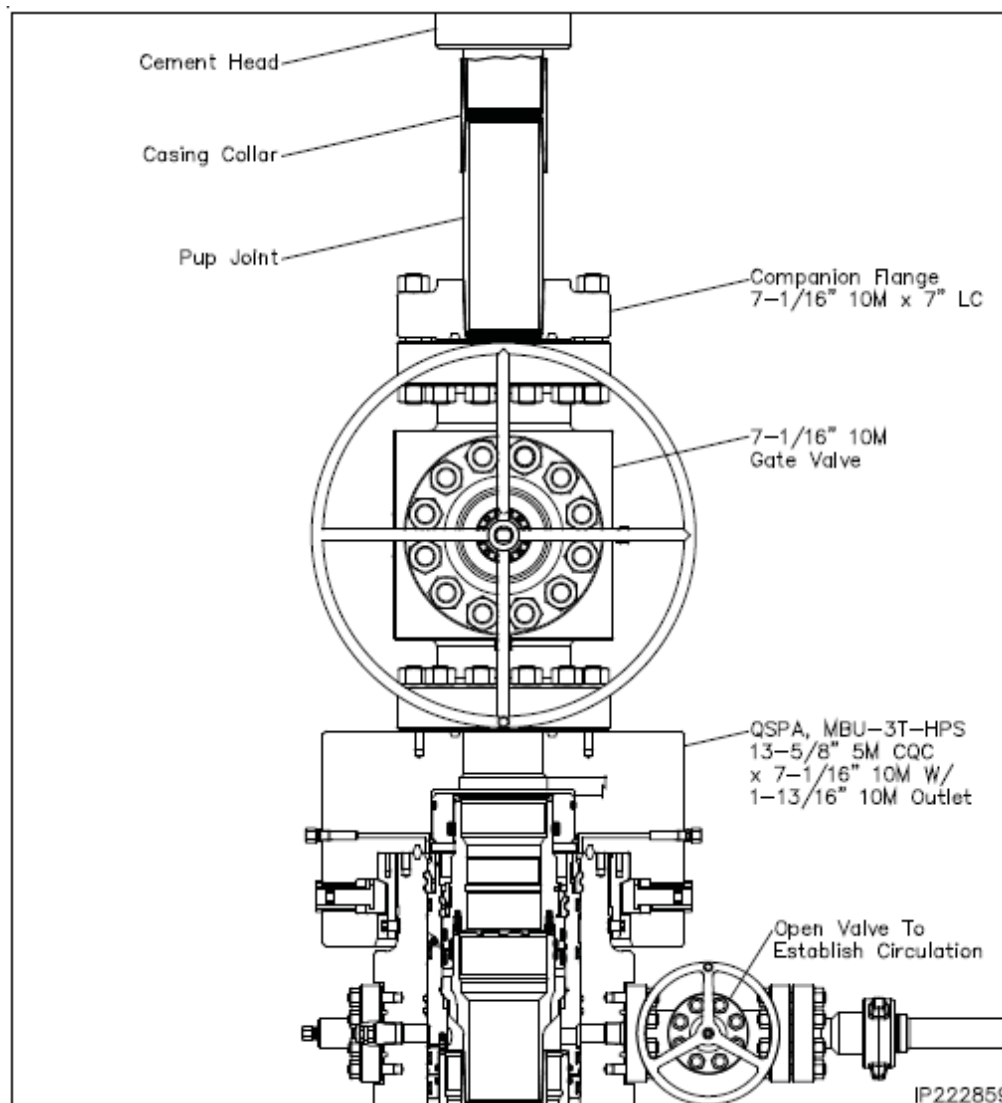


Figure 5. Cactus 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

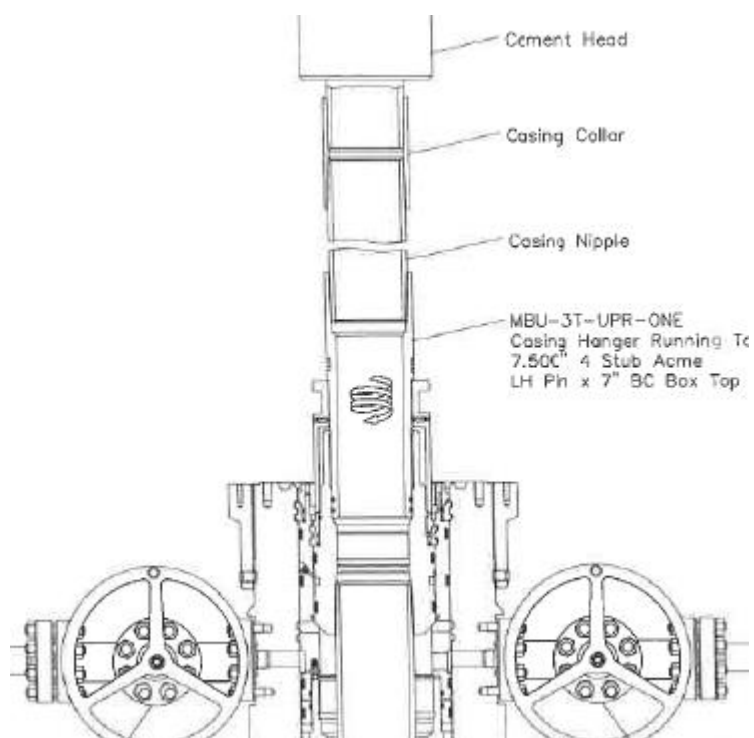


Figure 6. Cactus 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

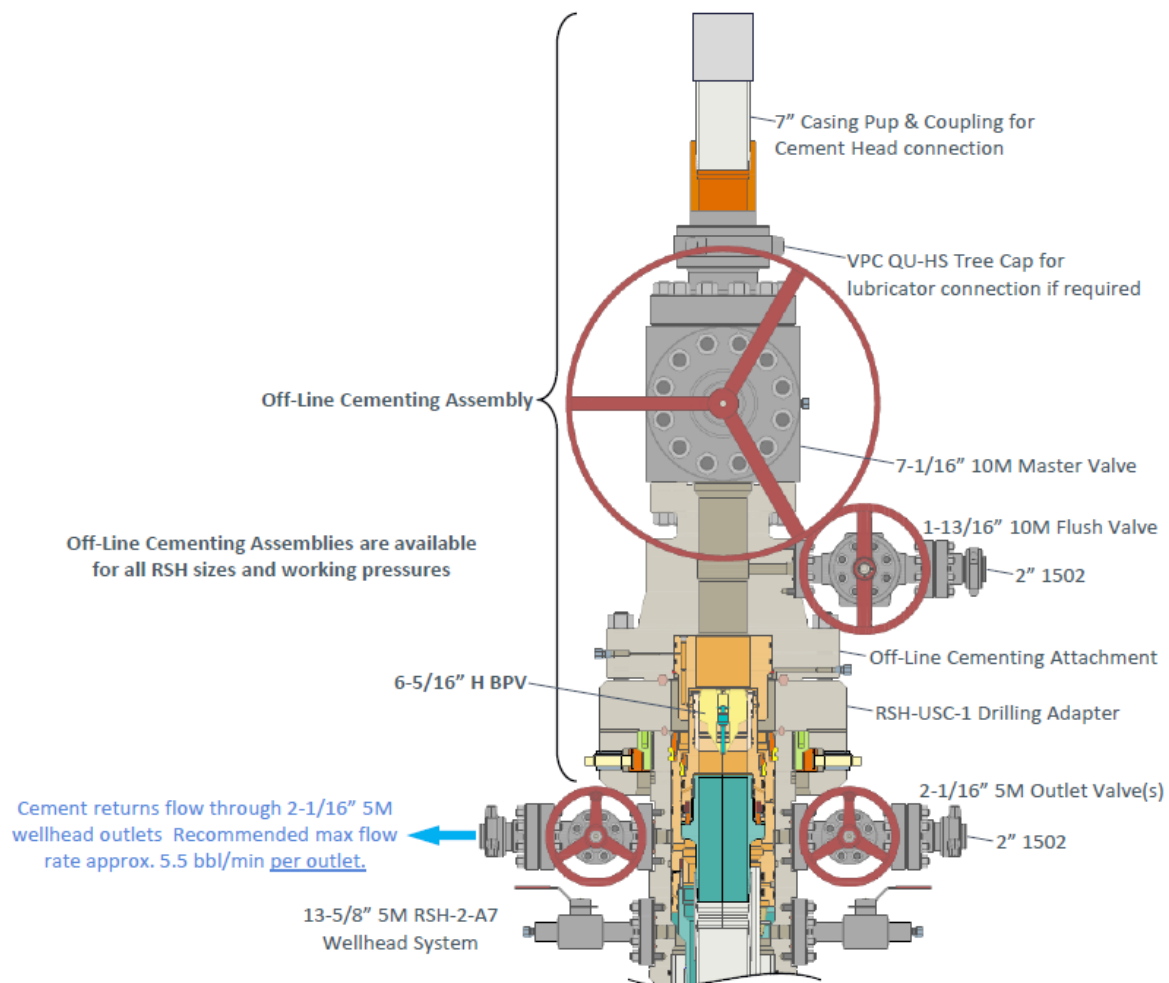


Figure 7. Vault 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

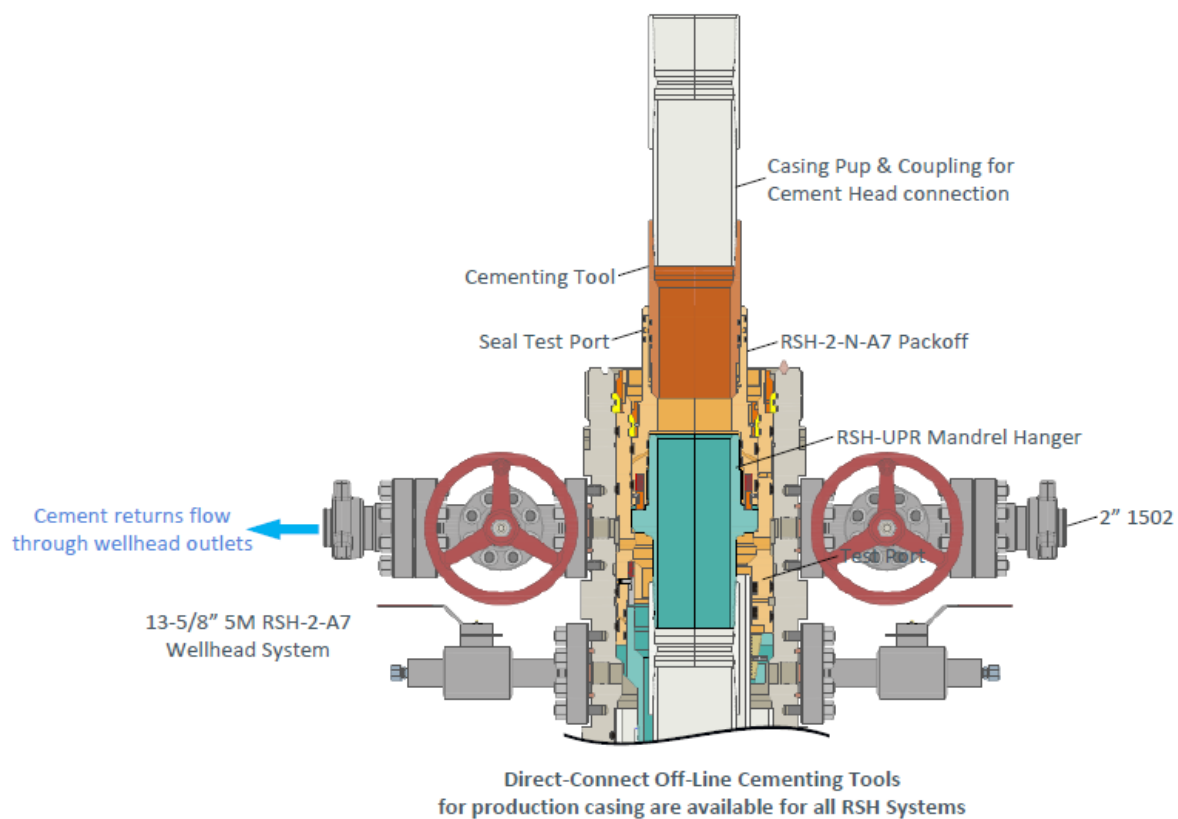


Figure 8. Vault 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

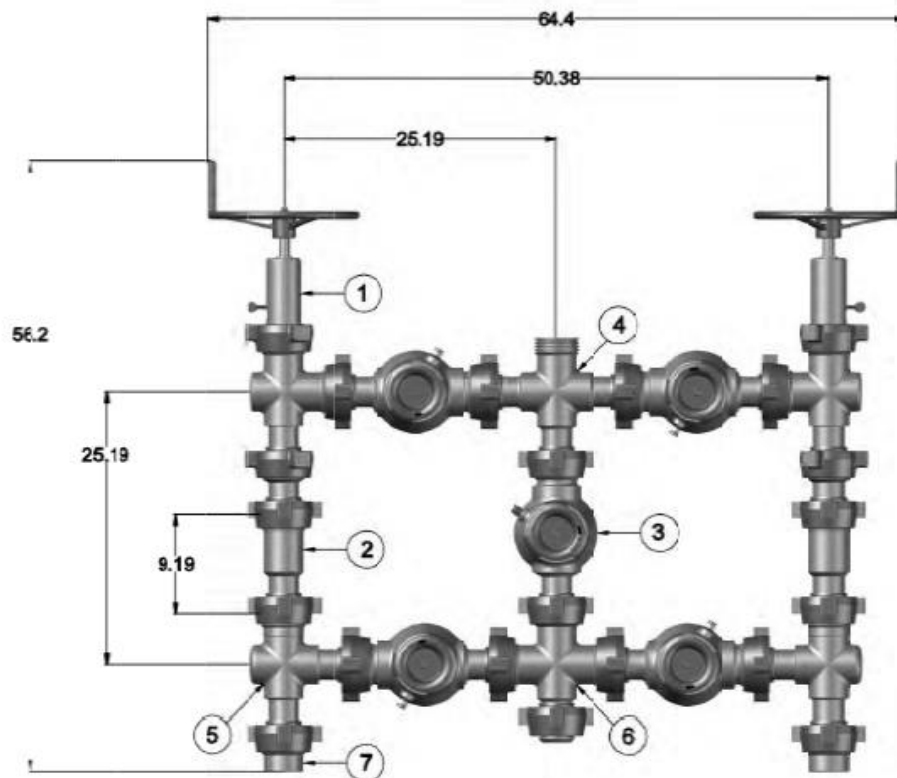


Figure 9. Five valve 15k choke manifold.

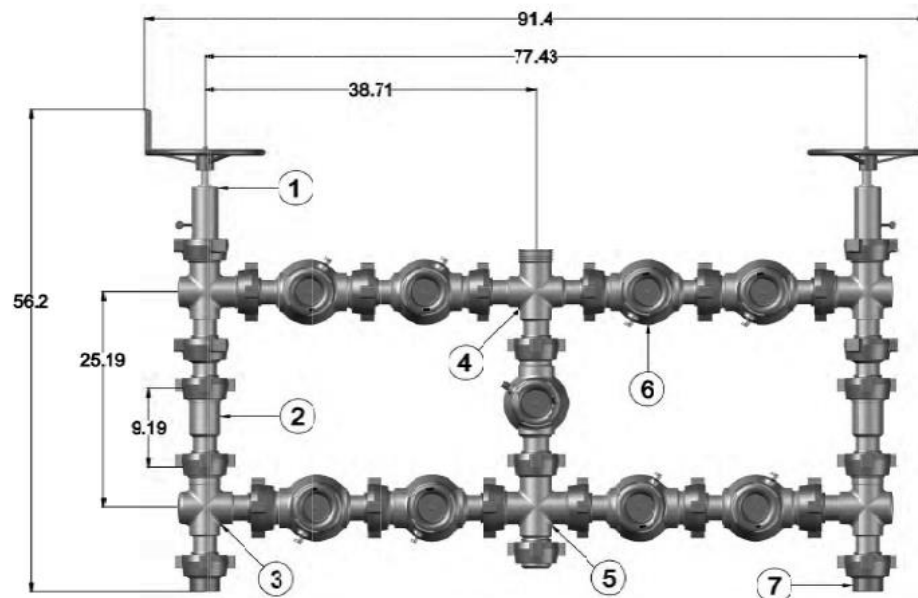


Figure 10. Nine valve 15k choke manifold.