Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

**SUNDRY NOTICES AND REPORTS ON WELLS**

***Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.***

***SUBMIT IN TRIPLICATE*** *- Other instructions on page 2*

5. Lease Serial No. NMNM112935

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No. ALMOST EDDY 30 FED COM/511H

2. Name of Operator EOG RESOURCES INCORPORATED

9. API Well No. 3002551166

3a. Address 1111 BAGBY SKY LOBBY 2, HOUSTON, TX 770

3b. Phone No. *(include area code)* (713) 651-7000

10. Field and Pool or Exploratory Area WC-025 G-08 S253235G/LOWER BONE SPRING

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SEC 30/T25S/R32E/NMP

11. Country or Parish, State LEA/NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☑ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| | ☐ Alter Casing | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ Subsequent Report | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☑ Other |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| ☐ Final Abandonment Notice | ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

EOG respectfully requests an amendment to our approved APD for this well to reflect the following changes:

Almost Eddy 30 Fed Com 511H API #: 30-015-51166

Update casing and cement program to current design.

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)* STAR HARRELL / Ph: (432) 848-9161

Title Regulatory Specialist

Signature

Date 03/16/2023

**THE SPACE FOR FEDERAL OR STATE OFICE USE**

Approved by KEITH P IMMATTY / Ph: (575) 988-4722 / Approved

Title ENGINEER

Date 03/29/2023

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office CARLSBAD

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13:* Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.
ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.
EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.
Response to this request is mandatory.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect ofthis form to U.S. Department ofthe Interior, Bureau ofLand Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

## Additional Information

### Location of Well

0. SHL: LOT 3 / 1886 FSL / 387 FWL / TWSP: 25S / RANGE: 32E / SECTION: 30 / LAT: 32.0992402 / LONG: -103.7218059 ( TVD: 0 feet, MD: 0 feet )

PPP: LOT 3 / 2537 FSL / 840 FWL / TWSP: 25S / RANGE: 32E / SECTION: 20 / LAT: 32.1010331 / LONG: -103.7203428 ( TVD: 9831 feet, MD: 9907 feet )

BHL: LOT 4 / 100 FSL / 840 FWL / TWSP: 25S / RANGE: 32E / SECTION: 31 / LAT: 32.079823 / LONG: -103.7203551 ( TVD: 10096 feet, MD: 17725 feet )

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**Almost Eddy 30 Fed Com 511H**

**Revised Permit Information 01/12/2023:**

Well Name: Almost Eddy 30 Fed Com 511H

Location: SHL: 1886' FSL & 387' FWL, Section 30, T-25-S, R-32-E, Lea Co., N.M.
BHL: 100' FSL & 840' FWL, Section 31, T-25-S, R-32-E, Lea Co., N.M.

**Casing Program A:**

| Hole Size | Interval MD From (ft) | Interval MD To (ft) | Interval TVD From (ft) | Interval TVD To (ft) | Csg OD | Weight | Grade | Conn |
|---|---|---|---|---|---|---|---|---|
| 16" | 0 | 1,170 | 0 | 1,170 | 13-3/8" | 54.5# | J-55 | STC |
| 11" | 0 | 4,071 | 0 | 4,000 | 9-5/8" | 40# | J-55 | LTC |
| 11" | 4,071 | 4,371 | 4,000 | 4,300 | 9-5/8" | 40# | HCK-55 | LTC |
| 6-3/4" | 0 | 17,725 | 0 | 10,096 | 5-1/2" | 17# | HCP-110 | LTC |

Variance is requested to waive the centralizer requirements for the 9-5/8" casing in the 11" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 11" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422'' annulus clearance requirement for the intermediate (salt) section from Onshore Order #2 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

**Cementing Program:**

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|---|---|---|---|---|
| 1,170' 13-3/8" | 350 | 13.5 | 1.73 | Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface) |
| | 100 | 14.8 | 1.34 | Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 970') |
| 4,300' 9-5/8" | 430 | 12.7 | 2.22 | Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface) |
| | 150 | 14.8 | 1.32 | Tail: Class C + 10% NaCL + 3% MagOx (TOC @ 3,440') |
| 17,725' 5-1/2" | 340 | 10.5 | 3.21 | Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 3,800') |
| | 570 | 13.2 | 1.52 | Tail: Class H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ 9690') |

eog resources

**Almost Eddy 30 Fed Com 511H**

| Additive | Purpose |
|---|---|
| Bentonite Gel | Lightweight/Lost circulation prevention |
| Calcium Chloride | Accelerator |
| Cello-flake | Lost circulation prevention |
| Sodium Metasilicate | Accelerator |
| MagOx | Expansive agent |
| Pre-Mag-M | Expansive agent |
| Sodium Chloride | Accelerator |
| FL-62 | Fluid loss control |
| Halad-344 | Fluid loss control |
| Halad-9 | Fluid loss control |
| HR-601 | Retarder |
| Microbond | Expansive Agent |

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

**Mud Program:**

| Depth (TVD) | Type | Weight (ppg) | Viscosity | Water Loss |
|---|---|---|---|---|
| 0 – 1,170' | Fresh - Gel | 8.6-8.8 | 28-34 | N/c |
| 1,170' – 4,300' | Brine | 8.6-8.8 | 28-34 | N/c |
| 4,300’ – 17,725’ | Oil Base | 8.8-9.5 | 58-68 | N/c - 6 |

**Wellhead & Offline Cementing:**

EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards for well control equipment testing of Onshore Order No. 2 (item III.A.2.a.i) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

- Full BOPE test at first installation on the pad.
- Full BOPE test every 21 days per Onshore Order No. 2.
- Function test BOP elements per Onshore Order No. 2.
- Break testing BOP and BOPE coupled with batch drilling operations and option to offline cement and/or remediate (if needed) any surface or intermediate sections, according to attached offline cementing support documentation.
- After the well section is secured, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad.
- TA cap will also be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.
- See attached "EOG BLM Variance 3a -Offline Cement Intermediate Operational Procedure"

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**Almost Eddy 30 Fed Com 511H**

**TUBING REQUIREMENTS**

EOG respectively requests an exception to the following NMOCD rule:

- 19.15.16.10 Casing AND TUBING RQUIREMENTS:
  J (3): "The operator shall set tubing as near the bottom as practical and tubing perforations shall not be more than 250 feet above top of pay zone."

With horizontal flowing and gas lifted wells an end of tubing depth placed at or slightly above KOP is
a conservative way to ensure the tubing stays clean from debris, plugging, and allows for fewer well interventions post offset completion. The deeper the tubulars are run into the curve, the higher the probability is that the tubing will become stuck in sand and or well debris as the well produces over time. An additional consideration for EOT placement during artificial lift installations is avoiding the high dog leg severity and inclinations found in the curve section of the wellbore to help improve reliability and performance. Dog leg severity and inclinations tend not to hamper gas lifted or flowing wells, but they do effect other forms of artificial lift like rod pump or ESP (electric submersible pump).
Keeping the EOT above KOP is an industry best practice for those respective forms of artificial lift.

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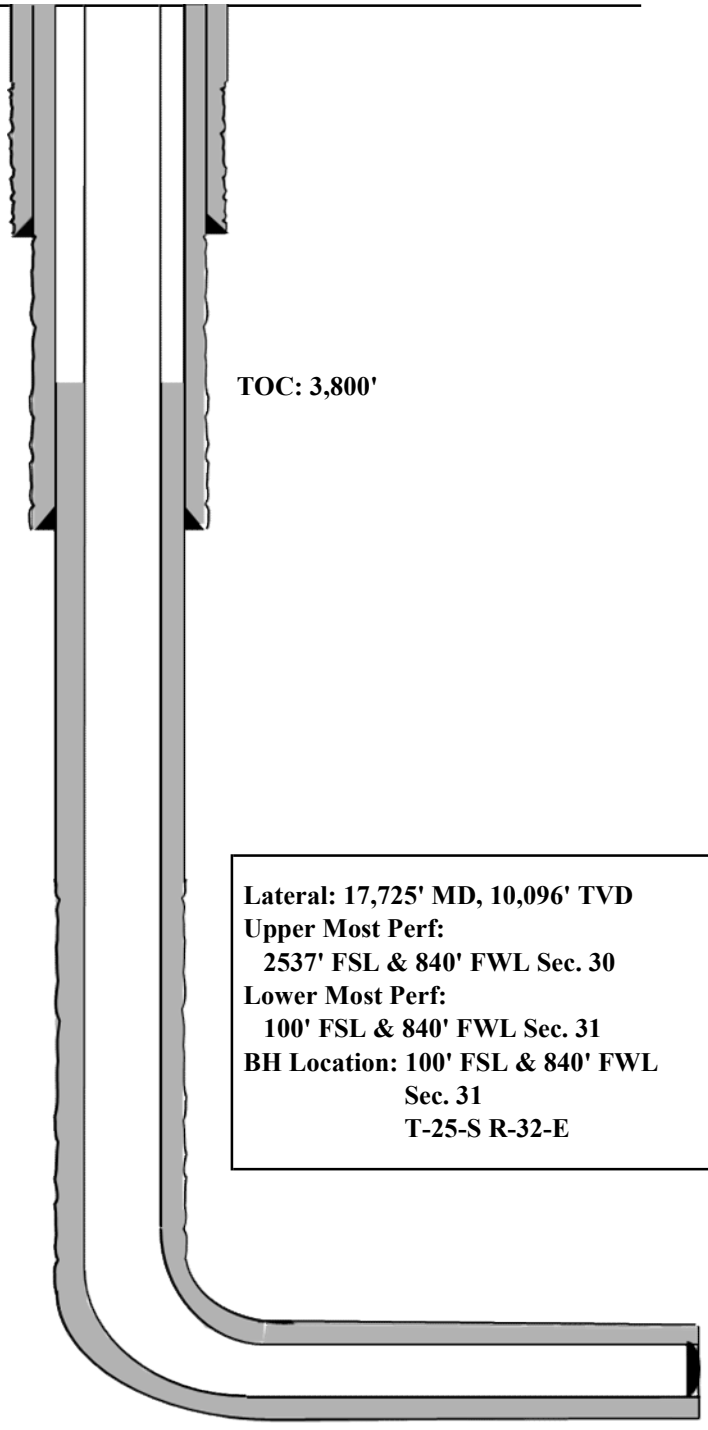
# Almost Eddy 30 Fed Com 511H

1886' FSL
387' FWL
Section 30
T-25-S, R-32-E

**Revised Wellbore A:**

API: 30-015-51166

KB: 3365'
GL: 3340'



**Bit Size: 16"**
13-3/8", 54.5#, J-55, STC
@ 0' - 1,170'

**Bit Size: 11"**
9-5/8", 40.#, J-55, LTC
@ 0' - 4,000'
9-5/8", 40.#, HCK-55, LTC
@ 4,000' - 4,300'

TOC: 3,800'

**Bit Size: 6-3/4"**
5-1/2", 17.#, HCP-110, LTC
@ 0' - 17,725'

Lateral: 17,725' MD, 10,096' TVD
Upper Most Perf:
2537' FSL & 840' FWL Sec. 30
Lower Most Perf:
100' FSL & 840' FWL Sec. 31
BH Location: 100' FSL & 840' FWL
Sec. 31
T-25-S R-32-E

KOP: 9,686' MD, 9,618' TVD
EOC: 10,436' MD, 10,096' TVD

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**Almost Eddy 30 Fed Com 511H**

**Revised Permit Information 01/12/2023:**

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Location: SHL: 1886' FSL & 387' FWL, Section 30, T-25-S, R-32-E, Lea Co., N.M.
BHL: 100' FSL & 840' FWL, Section 31, T-25-S, R-32-E, Lea Co., N.M.

**Casing Program B:**

| Hole Size | Interval MD From (ft) | Interval MD To (ft) | Interval TVD From (ft) | Interval TVD To (ft) | Csg OD | Weight | Grade | Conn |
|---|---|---|---|---|---|---|---|---|
| 13-1/2" | 0 | 1,170 | 0 | 1,170 | 10-3/4" | 40.5# | J-55 | STC |
| 9-7/8" | 0 | 4,071 | 0 | 4,000 | 8-5/8" | 32# | J-55 | BTC-SC |
| 9-7/8" | 4,071 | 4,371 | 4,000 | 4,300 | 8-5/8" | 32# | P110-EC | BTC-SC |
| 6-3/4" | 0 | 17,725 | 0 | 10,096 | 5-1/2" | 17# | HCP-110 | LTC |

**Cementing Program:**

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|---|---|---|---|---|
| 1,170' 10-3/4'' | 380 | 13.5 | 1.73 | Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface) |
| | 110 | 14.8 | 1.34 | Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 970') |
| 4,300' 8-5/8'' | 300 | 12.7 | 2.22 | Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface) |
| | 140 | 14.8 | 1.32 | Tail: Class C + 10% NaCL + 3% MagOx (TOC @ 3,440') |
| 17,725' 5-1/2'' | 590 | 10.5 | 3.21 | Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 3,800') |
| | 590 | 13.2 | 1.52 | Tail: Class H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ 9690') |

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**Almost Eddy 30 Fed Com 511H**

| Additive | Purpose |
|---|---|
| Bentonite Gel | Lightweight/Lost circulation prevention |
| Calcium Chloride | Accelerator |
| Cello-flake | Lost circulation prevention |
| Sodium Metasilicate | Accelerator |
| MagOx | Expansive agent |
| Pre-Mag-M | Expansive agent |
| Sodium Chloride | Accelerator |
| FL-62 | Fluid loss control |
| Halad-344 | Fluid loss control |
| Halad-9 | Fluid loss control |
| HR-601 | Retarder |
| Microbond | Expansive Agent |

**Wellhead & Offline Cementing:**

EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards for well control equipment testing of Onshore Order No. 2 (item III.A.2.a.i) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

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- Break testing BOP and BOPE coupled with batch drilling operations and option to offline cement and/or remediate (if needed) any surface or intermediate sections, according to attached offline cementing support documentation.
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- TA cap will also be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.
- See attached "EOG BLM Variance 3a -Offline Cement Intermediate Operational Procedure"

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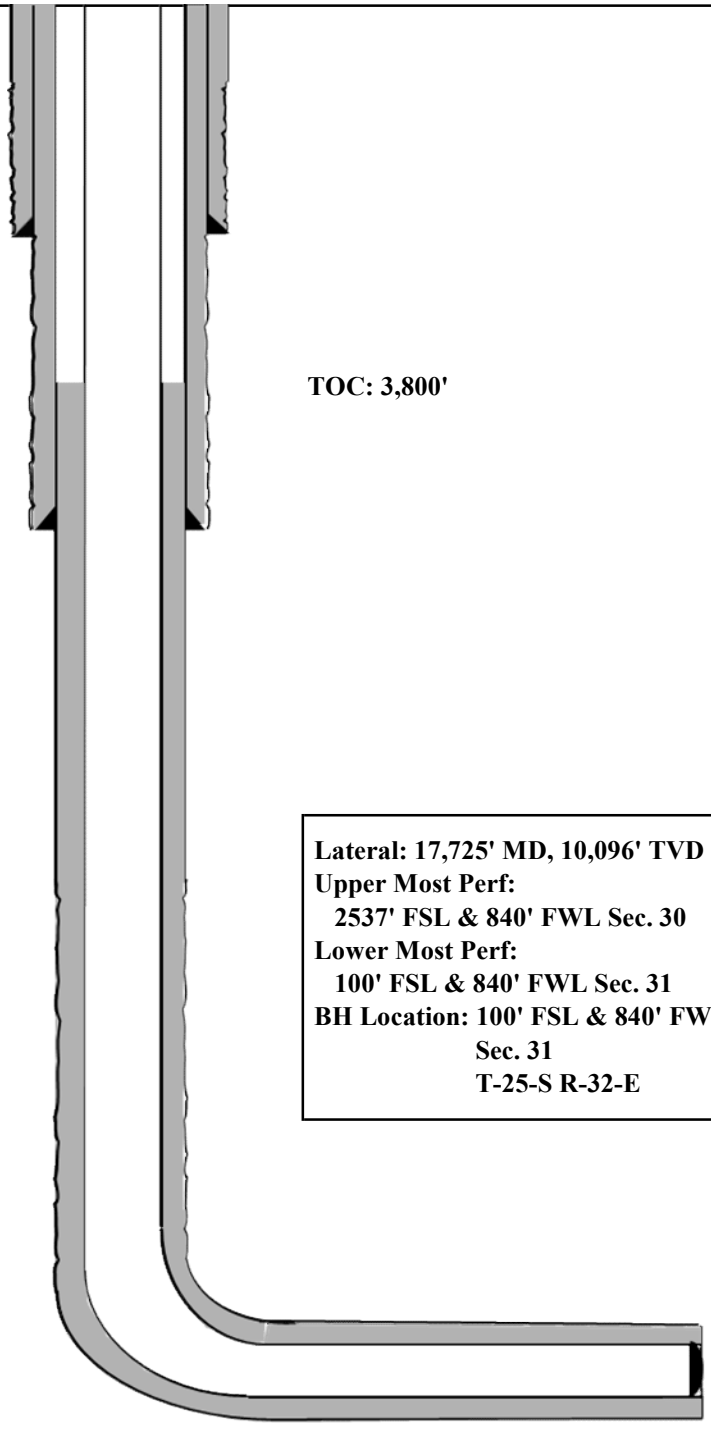
# Almost Eddy 30 Fed Com 511H

1886'
387'
Section 30
T-25-S, R-32-E

**Revised Wellbore B:**

**API: 30-015-51166**

KB: 3365'
GL: 3340'



**Bit Size: 13-1/2"**
10-3/4", 40.5#, J-55, STC
@ 0' - 1,170'

**Bit Size: 9-7/8"**
8-5/8", 32.#, J-55, BTC-SC
@ 0' - 4,000'
8-5/8", 32.#, P110-EC, BTC-SC
@ 4,000' - 4,300'

TOC: 3,800'

**Bit Size: 6-3/4"**
5-1/2", 17.#, HCP-110, LTC
@ 0' - 17,725'

Lateral: 17,725' MD, 10,096' TVD
Upper Most Perf:
2537' FSL & 840' FWL Sec. 30
Lower Most Perf:
100' FSL & 840' FWL Sec. 31
BH Location: 100' FSL & 840' FWL
Sec. 31
T-25-S R-32-E

KOP: 9,686' MD, 9,618' TVD
EOC: 10,436' MD, 10,096' TVD

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**Almost Eddy 30 Fed Com 511H**

**GEOLOGIC NAME OF SURFACE FORMATION**:

Permian

**ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:**

| | |
|---|---|
| Rustler | 1,063' |
| Tamarisk Anhydrite | 1,149' |
| Top of Salt | 1,412' |
| Base of Salt | 4,197' |
| Lamar | 4,404' |
| Bell Canyon | 4,429' |
| Cherry Canyon | 5,416' |
| Brushy Canyon | 6,891' |
| Bone Spring Lime | 8,457' |
| Leonard (Avalon) Shale | 8,563' |
| 1st Bone Spring Sand | 9,419' |
| 2nd Bone Spring Shale | 9,562' |
| 2nd Bone Spring Sand | 10,064' |
| 3rd Bone Spring Carb | 10,687' |
| 3rd Bone Spring Sand | 11,336' |
| TD | 10,096' |

**ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:**

| | | |
|---|---|---|
| Upper Permian Sands | 0- 400’ | Fresh Water |
| Bell Canyon | 4,429' | Oil |
| Cherry Canyon | 5,416' | Oil |
| Brushy Canyon | 6,891' | Oil |
| Leonard (Avalon) Shale | 8,563' | Oil |
| 1st Bone Spring Sand | 9,419' | Oil |
| 2nd Bone Spring Shale | 9,562' | Oil |
| 2nd Bone Spring Sand | 10,064' | Oil |

# Midland

**Lea County, NM (NAD 83 NME)**
**Almost Eddy 30 Fed Com**
**#511H**

**OH**

**Plan: Plan #0.1**

# Standard Planning Report

**11 August, 2022**

# EOG Resources
## Planning Report

| | | | |
|---|---|---|---|
| **Database:** | PEDM | **Local Co-ordinate Reference:** | Well #511H |
| **Company:** | Midland | **TVD Reference:** | KB @ 3365.0usft |
| **Project:** | Lea County, NM (NAD 83 NME) | **MD Reference:** | KB @ 3365.0usft |
| **Site:** | Almost Eddy 30 Fed Com | **North Reference:** | Grid |
| **Well:** | #511H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #0.1 | | |

**Project** Lea County, NM (NAD 83 NME)

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1983 | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | North American Datum 1983 | | |
| **Map Zone:** | New Mexico Eastern Zone | | |

**Site** Almost Eddy 30 Fed Com

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 400,427.00 usft | **Latitude:** | 32° 5' 57.757 N |
| **From:** | Map | **Easting:** | 730,701.00 usft | **Longitude:** | 103° 43' 18.496 W |
| **Position Uncertainty:** | 0.0 usft | **Slot Radius:** | 13-3/16 " | | |

**Well** #511H

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 usft | **Northing:** | 400,377.00 usft | **Latitude:** | 32° 5' 57.262 N |
| | **+E/-W** | 0.0 usft | **Easting:** | 730,701.00 usft | **Longitude:** | 103° 43' 18.499 W |
| **Position Uncertainty** | | 0.0 usft | **Wellhead Elevation:** | usft | **Ground Level:** | 3,340.0 usft |
| **Grid Convergence:** | | 0.32 ° | | | | |

**Wellbore** OH

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2020 | 8/11/2022 | 6.47 | 59.73 | 47,285.06941439 |

**Design** Plan #0.1

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PLAN | **Tie On Depth:** | 0.0 |

| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 176.04 |

**Plan Survey Tool Program** **Date** 8/11/2022

| | Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks |
|---|---|---|---|---|---|
| 1 | 0.0 | 17,725.1 | Plan #0.1 (OH) | EOG MWD+IFR1 | |
| | | | | MWD + IFR1 | |

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# EOG Resources

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | PEDM | **Local Co-ordinate Reference:** | Well #511H |
| **Company:** | Midland | **TVD Reference:** | KB @ 3365.0usft |
| **Project:** | Lea County, NM (NAD 83 NME) | **MD Reference:** | KB @ 3365.0usft |
| **Site:** | Almost Eddy 30 Fed Com | **North Reference:** | Grid |
| **Well:** | #511H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #0.1 | | |

**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 | |
| 1,400.0 | 0.00 | 0.00 | 1,400.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,880.5 | 9.61 | 32.49 | 1,878.3 | 33.9 | 21.6 | 2.00 | 2.00 | 0.00 | 32.49 | |
| 6,405.5 | 9.61 | 32.49 | 6,339.7 | 671.1 | 427.4 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,886.0 | 0.00 | 0.00 | 6,818.0 | 705.0 | 449.0 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 9,686.5 | 0.00 | 0.00 | 9,618.5 | 705.0 | 449.0 | 0.00 | 0.00 | 0.00 | 0.00 | KOP (Almost Eddy 30 |
| 9,907.0 | 26.46 | 180.00 | 9,831.2 | 655.0 | 449.0 | 12.00 | 12.00 | 81.65 | 180.00 | FTP (Almost Eddy 30 |
| 10,436.5 | 90.00 | 179.69 | 10,095.9 | 227.5 | 450.6 | 12.00 | 12.00 | -0.06 | -0.34 | |
| 15,186.1 | 90.00 | 179.69 | 10,096.0 | -4,522.0 | 476.0 | 0.00 | 0.00 | 0.00 | 0.00 | FEDPP (Almost Eddy |
| 17,725.1 | 90.00 | 179.72 | 10,096.0 | -7,061.0 | 489.0 | 0.00 | 0.00 | 0.00 | 87.07 | PBHL (Almost Eddy 3 |

# EOG Resources

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | PEDM | **Local Co-ordinate Reference:** | Well #511H |
| **Company:** | Midland | **TVD Reference:** | KB @ 3365.0usft |
| **Project:** | Lea County, NM (NAD 83 NME) | **MD Reference:** | KB @ 3365.0usft |
| **Site:** | Almost Eddy 30 Fed Com | **North Reference:** | Grid |
| **Well:** | #511H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #0.1 | | |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 0.00 | 0.00 | 500.0 | 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 |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 900.0 | 0.00 | 0.00 | 900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 0.00 | 0.00 | 1,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 0.00 | 0.00 | 1,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 2.00 | 32.49 | 1,500.0 | 1.5 | 0.9 | -1.4 | 2.00 | 2.00 | 0.00 |
| 1,600.0 | 4.00 | 32.49 | 1,599.8 | 5.9 | 3.7 | -5.6 | 2.00 | 2.00 | 0.00 |
| 1,700.0 | 6.00 | 32.49 | 1,699.5 | 13.2 | 8.4 | -12.6 | 2.00 | 2.00 | 0.00 |
| 1,800.0 | 8.00 | 32.49 | 1,798.7 | 23.5 | 15.0 | -22.4 | 2.00 | 2.00 | 0.00 |
| 1,880.5 | 9.61 | 32.49 | 1,878.3 | 33.9 | 21.6 | -32.3 | 2.00 | 2.00 | 0.00 |
| 1,900.0 | 9.61 | 32.49 | 1,897.5 | 36.7 | 23.3 | -35.0 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 9.61 | 32.49 | 1,996.1 | 50.7 | 32.3 | -48.4 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 9.61 | 32.49 | 2,094.7 | 64.8 | 41.3 | -61.8 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 9.61 | 32.49 | 2,193.3 | 78.9 | 50.2 | -75.2 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 9.61 | 32.49 | 2,291.9 | 93.0 | 59.2 | -88.7 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 9.61 | 32.49 | 2,390.5 | 107.1 | 68.2 | -102.1 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 9.61 | 32.49 | 2,489.1 | 121.1 | 77.2 | -115.5 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 9.61 | 32.49 | 2,587.7 | 135.2 | 86.1 | -129.0 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 9.61 | 32.49 | 2,686.2 | 149.3 | 95.1 | -142.4 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 9.61 | 32.49 | 2,784.8 | 163.4 | 104.1 | -155.8 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 9.61 | 32.49 | 2,883.4 | 177.5 | 113.0 | -169.2 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 9.61 | 32.49 | 2,982.0 | 191.5 | 122.0 | -182.7 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 9.61 | 32.49 | 3,080.6 | 205.6 | 131.0 | -196.1 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 9.61 | 32.49 | 3,179.2 | 219.7 | 139.9 | -209.5 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 9.61 | 32.49 | 3,277.8 | 233.8 | 148.9 | -222.9 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 9.61 | 32.49 | 3,376.4 | 247.9 | 157.9 | -236.4 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 9.61 | 32.49 | 3,475.0 | 262.0 | 166.8 | -249.8 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 9.61 | 32.49 | 3,573.6 | 276.0 | 175.8 | -263.2 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 9.61 | 32.49 | 3,672.2 | 290.1 | 184.8 | -276.7 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 9.61 | 32.49 | 3,770.8 | 304.2 | 193.7 | -290.1 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 9.61 | 32.49 | 3,869.4 | 318.3 | 202.7 | -303.5 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 9.61 | 32.49 | 3,968.0 | 332.4 | 211.7 | -316.9 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 9.61 | 32.49 | 4,066.6 | 346.4 | 220.6 | -330.4 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 9.61 | 32.49 | 4,165.2 | 360.5 | 229.6 | -343.8 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 9.61 | 32.49 | 4,263.8 | 374.6 | 238.6 | -357.2 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 9.61 | 32.49 | 4,362.4 | 388.7 | 247.5 | -370.7 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 9.61 | 32.49 | 4,461.0 | 402.8 | 256.5 | -384.1 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 9.61 | 32.49 | 4,559.6 | 416.9 | 265.5 | -397.5 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 9.61 | 32.49 | 4,658.2 | 430.9 | 274.5 | -410.9 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 9.61 | 32.49 | 4,756.8 | 445.0 | 283.4 | -424.4 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 9.61 | 32.49 | 4,855.4 | 459.1 | 292.4 | -437.8 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 9.61 | 32.49 | 4,954.0 | 473.2 | 301.4 | -451.2 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 9.61 | 32.49 | 5,052.6 | 487.3 | 310.3 | -464.7 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 9.61 | 32.49 | 5,151.2 | 501.3 | 319.3 | -478.1 | 0.00 | 0.00 | 0.00 |

# EOG Resources

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | PEDM | **Local Co-ordinate Reference:** | Well #511H |
| **Company:** | Midland | **TVD Reference:** | KB @ 3365.0usft |
| **Project:** | Lea County, NM (NAD 83 NME) | **MD Reference:** | KB @ 3365.0usft |
| **Site:** | Almost Eddy 30 Fed Com | **North Reference:** | Grid |
| **Well:** | #511H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #0.1 | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 5,300.0 | 9.61 | 32.49 | 5,249.8 | 515.4 | 328.3 | -491.5 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 9.61 | 32.49 | 5,348.4 | 529.5 | 337.2 | -504.9 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 9.61 | 32.49 | 5,447.0 | 543.6 | 346.2 | -518.4 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 9.61 | 32.49 | 5,545.6 | 557.7 | 355.2 | -531.8 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 9.61 | 32.49 | 5,644.1 | 571.7 | 364.1 | -545.2 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 9.61 | 32.49 | 5,742.7 | 585.8 | 373.1 | -558.7 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 9.61 | 32.49 | 5,841.3 | 599.9 | 382.1 | -572.1 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 9.61 | 32.49 | 5,939.9 | 614.0 | 391.0 | -585.5 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 9.61 | 32.49 | 6,038.5 | 628.1 | 400.0 | -598.9 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 9.61 | 32.49 | 6,137.1 | 642.2 | 409.0 | -612.4 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 9.61 | 32.49 | 6,235.7 | 656.2 | 417.9 | -625.8 | 0.00 | 0.00 | 0.00 |
| 6,405.5 | 9.61 | 32.49 | 6,339.7 | 671.1 | 427.4 | -640.0 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 7.72 | 32.49 | 6,433.2 | 683.1 | 435.1 | -651.4 | 2.00 | -2.00 | 0.00 |
| 6,600.0 | 5.72 | 32.49 | 6,532.5 | 693.0 | 441.3 | -660.8 | 2.00 | -2.00 | 0.00 |
| 6,700.0 | 3.72 | 32.49 | 6,632.1 | 699.9 | 445.8 | -667.4 | 2.00 | -2.00 | 0.00 |
| 6,800.0 | 1.72 | 32.49 | 6,732.0 | 703.9 | 448.3 | -671.3 | 2.00 | -2.00 | 0.00 |
| 6,886.0 | 0.00 | 0.00 | 6,818.0 | 705.0 | 449.0 | -672.3 | 2.00 | -2.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,832.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 6,932.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,032.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,132.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,232.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,332.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,432.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,532.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,632.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,732.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,832.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 7,932.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,032.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,132.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,232.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,332.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,432.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,532.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,632.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,732.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,832.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,932.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 9,032.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,132.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,232.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,332.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,432.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,532.0 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,686.5 | 0.00 | 0.00 | 9,618.5 | 705.0 | 449.0 | -672.3 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 1.62 | 180.00 | 9,632.0 | 704.8 | 449.0 | -672.1 | 12.00 | 12.00 | 0.00 |
| 9,725.0 | 4.62 | 180.00 | 9,657.0 | 703.4 | 449.0 | -670.7 | 12.00 | 12.00 | 0.00 |
| 9,750.0 | 7.62 | 180.00 | 9,681.8 | 700.8 | 449.0 | -668.1 | 12.00 | 12.00 | 0.00 |
| 9,775.0 | 10.62 | 180.00 | 9,706.5 | 696.8 | 449.0 | -664.1 | 12.00 | 12.00 | 0.00 |
| 9,800.0 | 13.62 | 180.00 | 9,730.9 | 691.6 | 449.0 | -658.9 | 12.00 | 12.00 | 0.00 |
| 9,825.0 | 16.62 | 180.00 | 9,755.1 | 685.1 | 449.0 | -652.4 | 12.00 | 12.00 | 0.00 |
| 9,850.0 | 19.62 | 180.00 | 9,778.8 | 677.3 | 449.0 | -644.6 | 12.00 | 12.00 | 0.00 |
| 9,875.0 | 22.62 | 180.00 | 9,802.1 | 668.3 | 449.0 | -635.7 | 12.00 | 12.00 | 0.00 |

# EOG Resources

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | PEDM | **Local Co-ordinate Reference:** | Well #511H |
| **Company:** | Midland | **TVD Reference:** | KB @ 3365.0usft |
| **Project:** | Lea County, NM (NAD 83 NME) | **MD Reference:** | KB @ 3365.0usft |
| **Site:** | Almost Eddy 30 Fed Com | **North Reference:** | Grid |
| **Well:** | #511H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #0.1 | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 9,900.0 | 25.62 | 180.00 | 9,825.0 | 658.1 | 449.0 | -625.5 | 12.00 | 12.00 | 0.00 |
| 9,907.0 | 26.46 | 180.00 | 9,831.2 | 655.0 | 449.0 | -622.4 | 12.00 | 12.00 | 0.00 |
| 9,925.0 | 28.62 | 179.97 | 9,847.2 | 646.7 | 449.0 | -614.1 | 12.00 | 12.00 | -0.15 |
| 9,950.0 | 31.62 | 179.94 | 9,868.8 | 634.1 | 449.0 | -601.6 | 12.00 | 12.00 | -0.13 |
| 9,975.0 | 34.62 | 179.91 | 9,889.8 | 620.5 | 449.0 | -587.9 | 12.00 | 12.00 | -0.11 |
| 10,000.0 | 37.62 | 179.89 | 9,909.9 | 605.7 | 449.1 | -573.2 | 12.00 | 12.00 | -0.09 |
| 10,025.0 | 40.62 | 179.87 | 9,929.3 | 589.9 | 449.1 | -557.5 | 12.00 | 12.00 | -0.08 |
| 10,050.0 | 43.62 | 179.85 | 9,947.9 | 573.2 | 449.1 | -540.8 | 12.00 | 12.00 | -0.07 |
| 10,075.0 | 46.62 | 179.84 | 9,965.5 | 555.5 | 449.2 | -523.1 | 12.00 | 12.00 | -0.06 |
| 10,100.0 | 49.62 | 179.82 | 9,982.2 | 536.9 | 449.2 | -504.5 | 12.00 | 12.00 | -0.06 |
| 10,125.0 | 52.62 | 179.81 | 9,997.9 | 517.4 | 449.3 | -485.1 | 12.00 | 12.00 | -0.05 |
| 10,150.0 | 55.62 | 179.80 | 10,012.5 | 497.1 | 449.4 | -464.9 | 12.00 | 12.00 | -0.05 |
| 10,175.0 | 58.62 | 179.79 | 10,026.1 | 476.1 | 449.4 | -444.0 | 12.00 | 12.00 | -0.05 |
| 10,200.0 | 61.62 | 179.78 | 10,038.6 | 454.5 | 449.5 | -422.3 | 12.00 | 12.00 | -0.04 |
| 10,225.0 | 64.62 | 179.77 | 10,049.9 | 432.2 | 449.6 | -400.1 | 12.00 | 12.00 | -0.04 |
| 10,250.0 | 67.62 | 179.76 | 10,060.0 | 409.3 | 449.7 | -377.3 | 12.00 | 12.00 | -0.04 |
| 10,275.0 | 70.62 | 179.75 | 10,068.9 | 386.0 | 449.8 | -354.0 | 12.00 | 12.00 | -0.04 |
| 10,300.0 | 73.62 | 179.74 | 10,076.6 | 362.2 | 449.9 | -330.2 | 12.00 | 12.00 | -0.04 |
| 10,325.0 | 76.62 | 179.73 | 10,083.0 | 338.0 | 450.0 | -306.1 | 12.00 | 12.00 | -0.03 |
| 10,350.0 | 79.62 | 179.72 | 10,088.1 | 313.6 | 450.1 | -281.7 | 12.00 | 12.00 | -0.03 |
| 10,375.0 | 82.62 | 179.71 | 10,092.0 | 288.9 | 450.3 | -257.1 | 12.00 | 12.00 | -0.03 |
| 10,400.0 | 85.62 | 179.71 | 10,094.6 | 264.0 | 450.4 | -232.2 | 12.00 | 12.00 | -0.03 |
| 10,425.0 | 88.62 | 179.70 | 10,095.8 | 239.0 | 450.5 | -207.3 | 12.00 | 12.00 | -0.03 |
| 10,436.5 | 90.00 | 179.69 | 10,095.9 | 227.5 | 450.6 | -195.9 | 12.00 | 12.00 | -0.03 |
| 10,500.0 | 90.00 | 179.69 | 10,095.9 | 164.0 | 450.9 | -132.5 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.00 | 179.69 | 10,095.9 | 64.0 | 451.5 | -32.7 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.00 | 179.69 | 10,095.9 | -36.0 | 452.0 | 67.1 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.00 | 179.69 | 10,095.9 | -136.0 | 452.5 | 166.9 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.00 | 179.69 | 10,095.9 | -236.0 | 453.1 | 266.7 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.00 | 179.69 | 10,096.0 | -336.0 | 453.6 | 366.5 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.00 | 179.69 | 10,096.0 | -436.0 | 454.1 | 466.3 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.00 | 179.69 | 10,096.0 | -536.0 | 454.7 | 566.1 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.00 | 179.69 | 10,096.0 | -636.0 | 455.2 | 665.9 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 90.00 | 179.69 | 10,096.0 | -736.0 | 455.7 | 765.7 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 90.00 | 179.69 | 10,096.0 | -836.0 | 456.3 | 865.5 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.00 | 179.69 | 10,096.0 | -936.0 | 456.8 | 965.3 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.00 | 179.69 | 10,096.0 | -1,036.0 | 457.3 | 1,065.1 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.00 | 179.69 | 10,096.0 | -1,136.0 | 457.9 | 1,164.9 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.00 | 179.69 | 10,096.0 | -1,236.0 | 458.4 | 1,264.7 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 90.00 | 179.69 | 10,096.0 | -1,336.0 | 458.9 | 1,364.5 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 90.00 | 179.69 | 10,096.0 | -1,436.0 | 459.5 | 1,464.3 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 90.00 | 179.69 | 10,096.0 | -1,536.0 | 460.0 | 1,564.1 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 90.00 | 179.69 | 10,096.0 | -1,635.9 | 460.6 | 1,663.9 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 90.00 | 179.69 | 10,096.0 | -1,735.9 | 461.1 | 1,763.7 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 90.00 | 179.69 | 10,096.0 | -1,835.9 | 461.6 | 1,863.5 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 90.00 | 179.69 | 10,096.0 | -1,935.9 | 462.2 | 1,963.2 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 90.00 | 179.69 | 10,096.0 | -2,035.9 | 462.7 | 2,063.0 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 90.00 | 179.69 | 10,096.0 | -2,135.9 | 463.2 | 2,162.8 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 90.00 | 179.69 | 10,096.0 | -2,235.9 | 463.8 | 2,262.6 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 90.00 | 179.69 | 10,096.0 | -2,335.9 | 464.3 | 2,362.4 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 90.00 | 179.69 | 10,096.0 | -2,435.9 | 464.8 | 2,462.2 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 90.00 | 179.69 | 10,096.0 | -2,535.9 | 465.4 | 2,562.0 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 90.00 | 179.69 | 10,096.0 | -2,635.9 | 465.9 | 2,661.8 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 90.00 | 179.69 | 10,096.0 | -2,735.9 | 466.4 | 2,761.6 | 0.00 | 0.00 | 0.00 |

**EOG Resources**

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | PEDM | **Local Co-ordinate Reference:** | Well #511H |
| **Company:** | Midland | **TVD Reference:** | KB @ 3365.0usft |
| **Project:** | Lea County, NM (NAD 83 NME) | **MD Reference:** | KB @ 3365.0usft |
| **Site:** | Almost Eddy 30 Fed Com | **North Reference:** | Grid |
| **Well:** | #511H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #0.1 | | |

**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) |
|---|---|---|---|---|---|---|---|---|---|
| 13,500.0 | 90.00 | 179.69 | 10,096.0 | -2,835.9 | 467.0 | 2,861.4 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 90.00 | 179.69 | 10,096.0 | -2,935.9 | 467.5 | 2,961.2 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 90.00 | 179.69 | 10,096.0 | -3,035.9 | 468.0 | 3,061.0 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 90.00 | 179.69 | 10,096.0 | -3,135.9 | 468.6 | 3,160.8 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 90.00 | 179.69 | 10,096.0 | -3,235.9 | 469.1 | 3,260.6 | 0.00 | 0.00 | 0.00 |
| 14,000.0 | 90.00 | 179.69 | 10,096.0 | -3,335.9 | 469.7 | 3,360.4 | 0.00 | 0.00 | 0.00 |
| 14,100.0 | 90.00 | 179.69 | 10,096.0 | -3,435.9 | 470.2 | 3,460.2 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 90.00 | 179.69 | 10,096.0 | -3,535.9 | 470.7 | 3,560.0 | 0.00 | 0.00 | 0.00 |
| 14,300.0 | 90.00 | 179.69 | 10,096.0 | -3,635.9 | 471.3 | 3,659.8 | 0.00 | 0.00 | 0.00 |
| 14,400.0 | 90.00 | 179.69 | 10,096.0 | -3,735.9 | 471.8 | 3,759.6 | 0.00 | 0.00 | 0.00 |
| 14,500.0 | 90.00 | 179.69 | 10,096.0 | -3,835.9 | 472.3 | 3,859.4 | 0.00 | 0.00 | 0.00 |
| 14,600.0 | 90.00 | 179.69 | 10,096.0 | -3,935.9 | 472.9 | 3,959.2 | 0.00 | 0.00 | 0.00 |
| 14,700.0 | 90.00 | 179.69 | 10,096.0 | -4,035.9 | 473.4 | 4,059.0 | 0.00 | 0.00 | 0.00 |
| 14,800.0 | 90.00 | 179.69 | 10,096.0 | -4,135.9 | 473.9 | 4,158.8 | 0.00 | 0.00 | 0.00 |
| 14,900.0 | 90.00 | 179.69 | 10,096.0 | -4,235.9 | 474.5 | 4,258.6 | 0.00 | 0.00 | 0.00 |
| 15,000.0 | 90.00 | 179.69 | 10,096.0 | -4,335.9 | 475.0 | 4,358.4 | 0.00 | 0.00 | 0.00 |
| 15,100.0 | 90.00 | 179.69 | 10,096.0 | -4,435.9 | 475.5 | 4,458.2 | 0.00 | 0.00 | 0.00 |
| 15,186.1 | 90.00 | 179.69 | 10,096.0 | -4,522.0 | 476.0 | 4,544.1 | 0.00 | 0.00 | 0.00 |
| 15,200.0 | 90.00 | 179.69 | 10,096.0 | -4,535.9 | 476.1 | 4,558.0 | 0.00 | 0.00 | 0.00 |
| 15,300.0 | 90.00 | 179.69 | 10,096.0 | -4,635.9 | 476.6 | 4,657.8 | 0.00 | 0.00 | 0.00 |
| 15,400.0 | 90.00 | 179.70 | 10,096.0 | -4,735.9 | 477.1 | 4,757.6 | 0.00 | 0.00 | 0.00 |
| 15,500.0 | 90.00 | 179.70 | 10,096.0 | -4,835.9 | 477.7 | 4,857.3 | 0.00 | 0.00 | 0.00 |
| 15,600.0 | 90.00 | 179.70 | 10,096.0 | -4,935.9 | 478.2 | 4,957.1 | 0.00 | 0.00 | 0.00 |
| 15,700.0 | 90.00 | 179.70 | 10,096.0 | -5,035.9 | 478.7 | 5,056.9 | 0.00 | 0.00 | 0.00 |
| 15,800.0 | 90.00 | 179.70 | 10,096.0 | -5,135.9 | 479.3 | 5,156.7 | 0.00 | 0.00 | 0.00 |
| 15,900.0 | 90.00 | 179.70 | 10,096.0 | -5,235.9 | 479.8 | 5,256.5 | 0.00 | 0.00 | 0.00 |
| 16,000.0 | 90.00 | 179.70 | 10,096.0 | -5,335.9 | 480.3 | 5,356.3 | 0.00 | 0.00 | 0.00 |
| 16,100.0 | 90.00 | 179.70 | 10,096.0 | -5,435.9 | 480.8 | 5,456.1 | 0.00 | 0.00 | 0.00 |
| 16,200.0 | 90.00 | 179.70 | 10,096.0 | -5,535.9 | 481.3 | 5,555.9 | 0.00 | 0.00 | 0.00 |
| 16,300.0 | 90.00 | 179.71 | 10,096.0 | -5,635.9 | 481.8 | 5,655.7 | 0.00 | 0.00 | 0.00 |
| 16,400.0 | 90.00 | 179.71 | 10,096.0 | -5,735.9 | 482.4 | 5,755.5 | 0.00 | 0.00 | 0.00 |
| 16,500.0 | 90.00 | 179.71 | 10,096.0 | -5,835.9 | 482.9 | 5,855.3 | 0.00 | 0.00 | 0.00 |
| 16,600.0 | 90.00 | 179.71 | 10,096.0 | -5,935.9 | 483.4 | 5,955.1 | 0.00 | 0.00 | 0.00 |
| 16,700.0 | 90.00 | 179.71 | 10,096.0 | -6,035.9 | 483.9 | 6,054.9 | 0.00 | 0.00 | 0.00 |
| 16,800.0 | 90.00 | 179.71 | 10,096.0 | -6,135.9 | 484.4 | 6,154.7 | 0.00 | 0.00 | 0.00 |
| 16,900.0 | 90.00 | 179.71 | 10,096.0 | -6,235.9 | 484.9 | 6,254.5 | 0.00 | 0.00 | 0.00 |
| 17,000.0 | 90.00 | 179.71 | 10,096.0 | -6,335.9 | 485.4 | 6,354.3 | 0.00 | 0.00 | 0.00 |
| 17,100.0 | 90.00 | 179.71 | 10,096.0 | -6,435.9 | 485.9 | 6,454.1 | 0.00 | 0.00 | 0.00 |
| 17,200.0 | 90.00 | 179.71 | 10,096.0 | -6,535.9 | 486.4 | 6,553.9 | 0.00 | 0.00 | 0.00 |
| 17,300.0 | 90.00 | 179.72 | 10,096.0 | -6,635.9 | 486.9 | 6,653.7 | 0.00 | 0.00 | 0.00 |
| 17,400.0 | 90.00 | 179.72 | 10,096.0 | -6,735.9 | 487.4 | 6,753.5 | 0.00 | 0.00 | 0.00 |
| 17,500.0 | 90.00 | 179.72 | 10,096.0 | -6,835.9 | 487.9 | 6,853.3 | 0.00 | 0.00 | 0.00 |
| 17,600.0 | 90.00 | 179.72 | 10,096.0 | -6,935.9 | 488.4 | 6,953.0 | 0.00 | 0.00 | 0.00 |
| 17,700.0 | 90.00 | 179.72 | 10,096.0 | -7,035.9 | 488.9 | 7,052.8 | 0.00 | 0.00 | 0.00 |
| 17,725.1 | 90.00 | 179.72 | 10,096.0 | -7,061.0 | 489.0 | 7,077.9 | 0.00 | 0.00 | 0.00 |

eog resources

**EOG Resources**
Planning Report

| | | | |
|---|---|---|---|
| **Database:** | PEDM | **Local Co-ordinate Reference:** | Well #511H |
| **Company:** | Midland | **TVD Reference:** | KB @ 3365.0usft |
| **Project:** | Lea County, NM (NAD 83 NME) | **MD Reference:** | KB @ 3365.0usft |
| **Site:** | Almost Eddy 30 Fed Com | **North Reference:** | Grid |
| **Well:** | #511H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #0.1 | | |

**Design Targets**

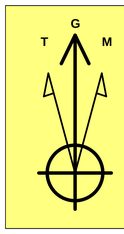
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| KOP (Almost Eddy 30 F<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 9,618.5 | 705.0 | 449.0 | 401,082.00 | 731,150.00 | 32° 6' 4.214 N | 103° 43' 13.233 W |
| FTP (Almost Eddy 30 Fe<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 9,831.2 | 655.0 | 449.0 | 401,032.00 | 731,150.00 | 32° 6' 3.719 N | 103° 43' 13.236 W |
| PBHL (Almost Eddy 30 F<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 10,096.0 | -7,061.0 | 489.0 | 393,316.00 | 731,190.00 | 32° 4' 47.361 N | 103° 43' 13.281 W |
| FEDPP (Almost Eddy 30<br>- plan hits target center<br>- Point | 0.00 | 0.00 | 10,096.0 | -4,522.0 | 476.0 | 395,855.00 | 731,177.00 | 32° 5' 12.487 N | 103° 43' 13.264 W |

# eog resources

## Lea County, NM (NAD 83 NME)

## Almost Eddy 30 Fed Com #511H

## Plan #0.1




Azimuths to Grid North
True North: -0.32°
Magnetic North: 6.14°

Magnetic Field
Strength: 47285.1nT
Dip Angle: 59.73°
Date: 8/11/2022
Model: IGRF2020

To convert a Magnetic Direction to a Grid Direction, Add 6.14°
To convert a Magnetic Direction to a True Direction, Add 6.47° East
To convert a True Direction to a Grid Direction, Subtract 0.32°

**PROJECT DETAILS: Lea County, NM (NAD 83 NME)**

| | |
|---|---|
| Geodetic System: | US State Plane 1983 |
| Datum: | North American Datum 1983 |
| Ellipsoid: | GRS 1980 |
| Zone: | New Mexico Eastern Zone |
| System Datum: | Mean Sea Level |

**WELL DETAILS: #511H**

3340.0
KB @ 3365.0usft

| Northing | Easting | Latittude | Longitude |
|---|---|---|---|
| 400377.00 | 730701.00 | 32° 5' 57.262 N | 103° 43' 18.499 W |

**SECTION DETAILS**

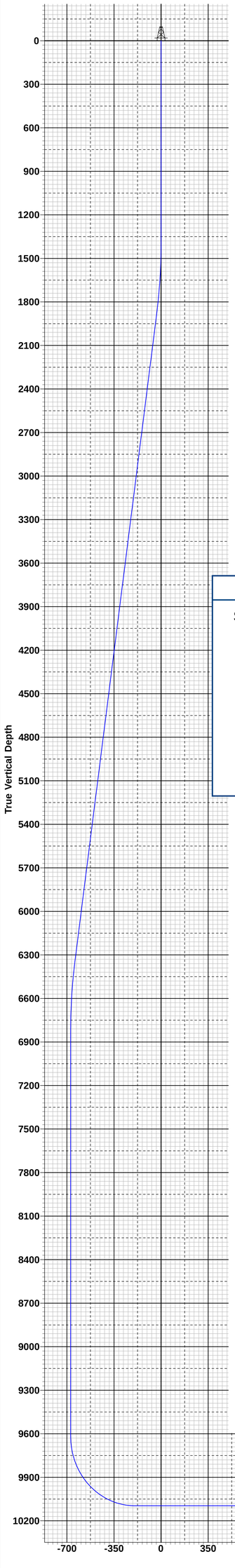
| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 2 | 1400.0 | 0.00 | 0.00 | 1400.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1880.5 | 9.61 | 32.49 | 1878.3 | 33.9 | 21.6 | 2.00 | 32.49 | -32.3 | |
| 4 | 6405.5 | 9.61 | 32.49 | 6339.7 | 671.1 | 427.4 | 0.00 | 0.00 | -640.0 | |
| 5 | 6886.0 | 0.00 | 0.00 | 6818.0 | 705.0 | 449.0 | 2.00 | 180.00 | -672.3 | |
| 6 | 9686.5 | 0.00 | 0.00 | 9618.5 | 705.0 | 449.0 | 0.00 | 0.00 | -672.3 | KOP (Almost Eddy 30 Fed Com #511H) |
| 7 | 9907.0 | 26.46 | 180.00 | 9831.2 | 655.0 | 449.0 | 12.00 | 180.00 | -622.4 | FTP (Almost Eddy 30 Fed Com #511H) |
| 8 | 10436.5 | 90.00 | 179.69 | 10095.9 | 227.5 | 450.6 | 12.00 | -0.34 | -195.9 | |
| 9 | 15186.1 | 90.00 | 179.69 | 10096.0 | -4522.0 | 476.0 | 0.00 | 0.00 | 4544.1 | FEDPP (Almost Eddy 30 Fed Com #511H) |
| 10 | 17725.1 | 90.00 | 179.72 | 10096.0 | -7061.0 | 489.0 | 0.00 | 87.07 | 7077.9 | PBHL (Almost Eddy 30 Fed Com #511H) |

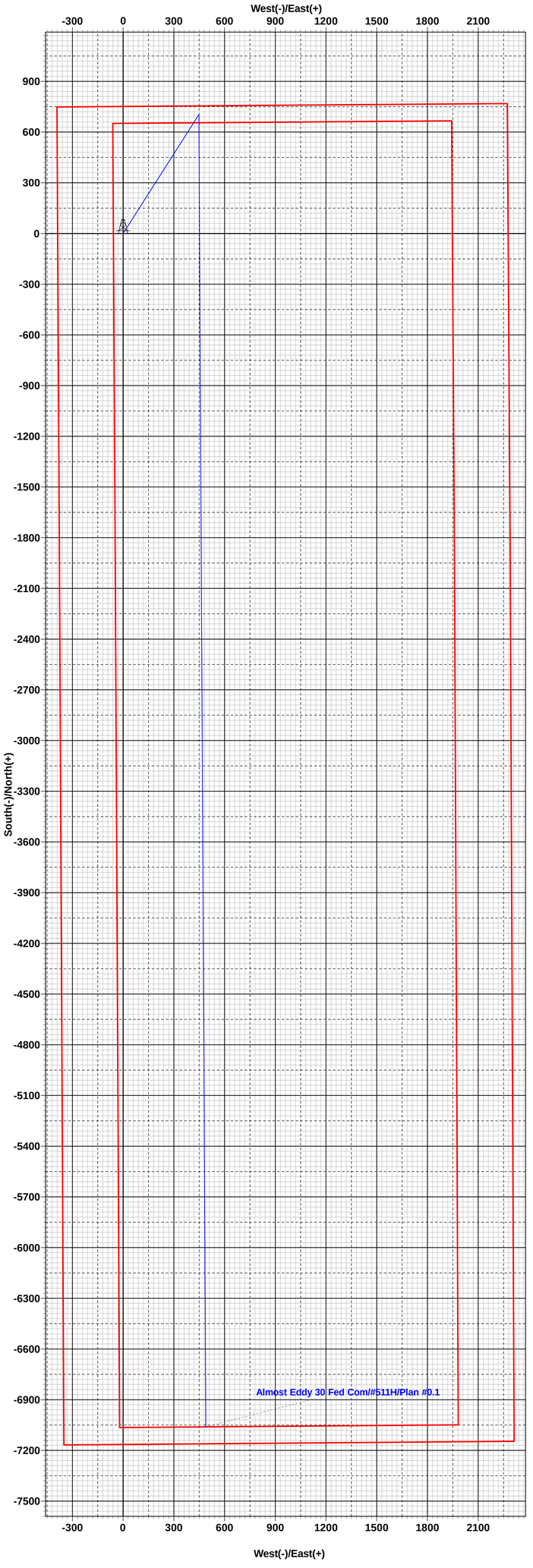
CASING DETAILS

No casing data is available

**WELLBORE TARGET DETAILS (MAP CO-ORDINATES)**

| Name | TVD | +N/-S | +E/-W | Northing | Easting |
|---|---|---|---|---|---|
| KOP (Almost Eddy 30 Fed Com #511H) | 9618.5 | 705.0 | 449.0 | 401082.00 | 731150.00 |
| FTP (Almost Eddy 30 Fed Com #511H) | 9831.2 | 655.0 | 449.0 | 401032.00 | 731150.00 |
| FEDPP (Almost Eddy 30 Fed Com #511H) | 10096.0 | -4522.0 | 476.0 | 395855.00 | 731177.00 |
| PBHL (Almost Eddy 30 Fed Com #511H) | 10096.0 | -7061.0 | 489.0 | 393316.00 | 731190.00 |




Lea County, NM (NAD 83 NME)
Almost Eddy 30 Fed Com
#511H
OH
Plan #0.1
14:48, August 11 2022

eog resources

Offline Intermediate Cementing Procedure 2/24/2022

## Cement Program

1. No changes to the cement program will take place for offline cementing.

## Summarized Operational Procedure for Intermediate Casing

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment back pressure valves.
    a. Float equipment is equipped with two back pressure valves rated to a minimum of 5,000 psi.
2. Land production casing on mandrel hanger through BOP.
    a. If casing is unable to be landed with a mandrel hanger, then the **casing will be cemented online**.
3. Break circulation and confirm no restrictions.
    a. Ensure no blockage of float equipment and appropriate annular returns.
    b. Perform flow check to confirm well is static.
4. Set pack-off
    a. If utilizing a fluted/ported mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid, remove landing joint, and set annular packoff through BOP. Pressure test to 5,000 psi for 10 min.
    b. If utilizing a solid mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid. Pressure test seals to 5,000 psi for 10 min. Remove landing joint through BOP.
5. After confirmation of both annular barriers and the two casing barriers, install TA plug and pressure test to 5,000 psi for 10 min. Notify the BLM with intent to proceed with nipple down and offline cementing.
    a. Minimum 4 hrs notice.
6. With the well secured and BLM notified, nipple down BOP and secure on hydraulic carrier or cradle.
    a. **Note, if any of the barriers fail to test, the BOP stack will not be nippled down until after the cement job has concluded and both lead and tail slurry have reached 500 psi.**
7. Skid/Walk rig off current well.
8. Confirm well is static before removing TA Plug.
    a. Cementing operations will not proceed until well is under control. (If well is not static, notify BLM and proceed to kill)
    b. Casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing.
    c. Well control plan can be seen in Section B, Well Control Procedures.
    d. If need be, rig can be moved back over well and BOP nippled back up for any further remediation.

e. Diagram for rig positioning relative to offline cementing can be seen in Figure 4.

9. Rig up return lines to take returns from wellhead to pits and rig choke.
    a. Test all connections and lines from wellhead to choke manifold to 5,000 psi high for 10 min.
    b. If either test fails, perform corrections and retest before proceeding.
    c. Return line schematics can be seen in Figure 3.
10. Remove TA Plug from the casing.
11. Install offline cement tool.
    a. Current offline cement tool schematics can be seen in Figure 1 (Cameron) and Figure 2 (Cactus).
12. Rig up cement head and cementing lines.
    a. Pressure test cement lines against cement head to 80% of casing burst for 10 min.
13. Break circulation on well to confirm no restrictions.
    a. If gas is present on circulation, well will be shut in and returns rerouted through gas buster.
    b. Max anticipated time before circulating with cement truck is 6 hrs.
14. Pump cement job as per plan.
    a. At plug bump, test casing to 0.22 psi/ft or 1500 psi, whichever is greater.
    b. If plug does not bump on calculated, shut down and wait 8 hrs or 500 psi compressive strength, whichever is greater before testing casing.
15. Confirm well is static and floats are holding after cement job.
    a. With floats holding and backside static:
        i. Remove cement head.
    b. If floats are leaking:
        i. Shut-in well and WOC (Wait on Cement) until tail slurry reaches 500 psi compressive strength and the casing is static prior to removing cement head.
    c. If there is flow on the backside:
        i. Shut in well and WOC until tail slurry reaches 500 psi compressive strength. Ensure that the casing is static prior to removing cement head.
16. Remove offline cement tool.
17. Install night cap with pressure gauge for monitoring.
18. Test night cap to 5,000 psi for 10 min.

**Example Well Control Plan Content**

## A. Well Control Component Table

The table below, which covers the cementing of the **5M MASP (Maximum Allowable Surface Pressure) portion of the well**, outlines the well control component rating in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nippled up to the wellhead.

Intermediate hole section, 5M requirement

| Component | RWP |
|---|---|
| Pack-off | 10M |
| Casing Wellhead Valves | 10M |
| Annular Wellhead Valves | 5M |
| TA Plug | 10M |
| Float Valves | 5M |
| 2” 1502 Lo-Torque Valves | 15M |

## B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating and cementing through the Offline Cement Adapter.

General Procedure While Circulating

1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut-in.
5. Notify tool pusher/company representative.

6. Read and record the following:
    a. SICP (Shut in Casing Pressure) and AP (Annular Pressure)
    b. Pit gain
    c. Time
    d. Regroup and identify forward plan to continue circulating out kick via rig choke and mud/gas separator. Circulate and adjust mud density as needed to control well.

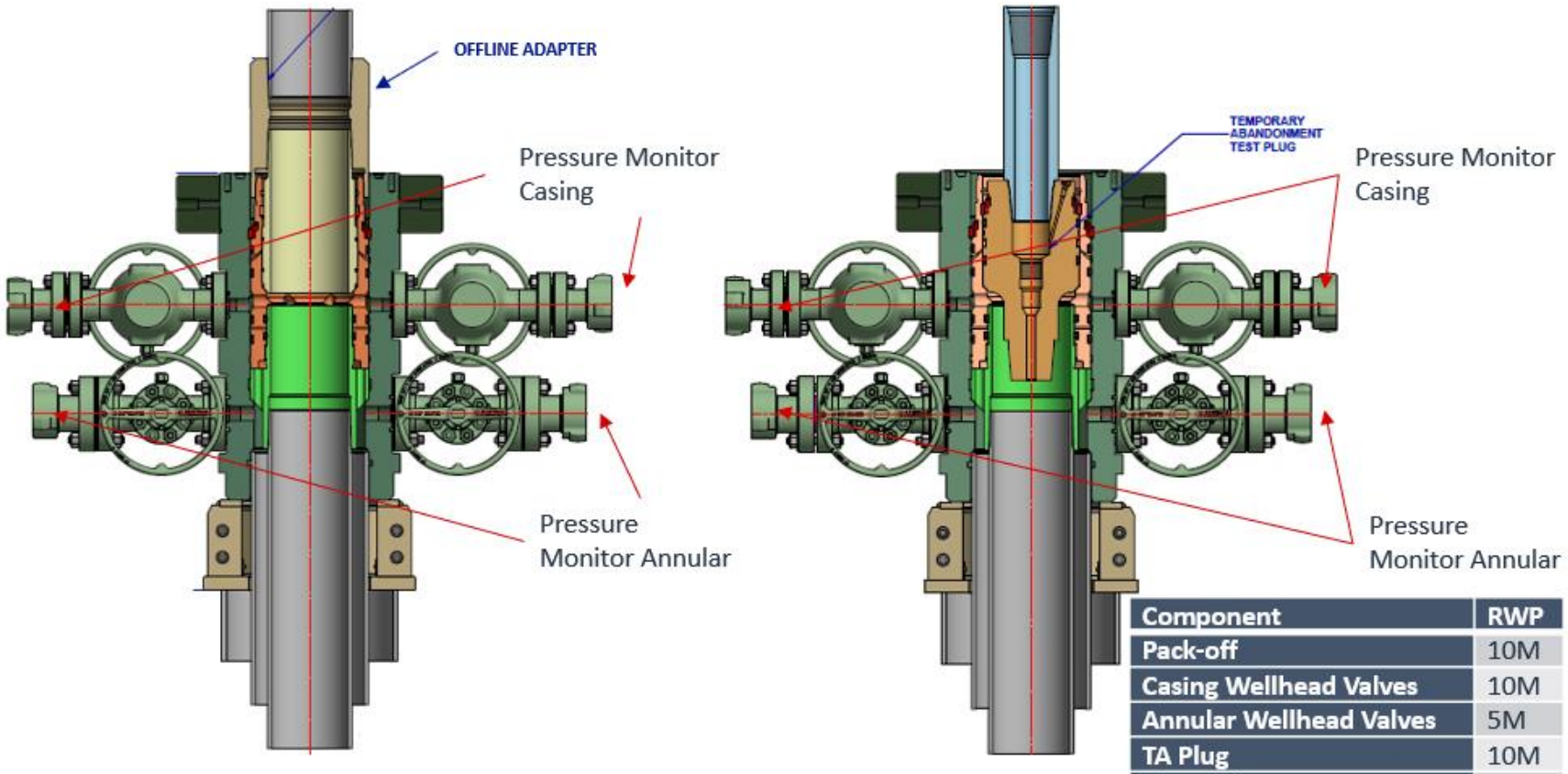
## General Procedure While Cementing

1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut-in.
5. Notify tool pusher/company representative.
6. Open rig choke and begin pumping again taking returns through choke manifold and mud/gas separator.
7. Continue to place cement until plug bumps.
8. At plug bump close rig choke and cement head.
9. Read and record the following
    a. SICP and AP
    b. Pit gain
    c. Time
    d. Shut-in annulus valves on wellhead

## General Procedure After Cementing

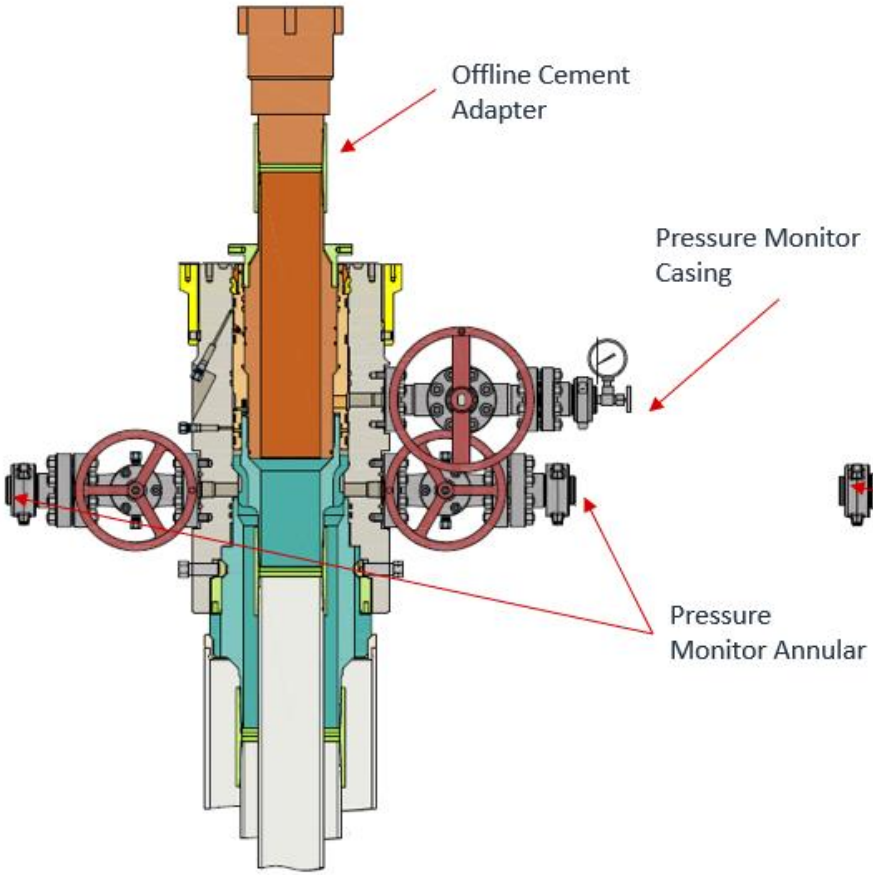
1. Sound alarm (alert crew).
2. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
3. Confirm shut-in.
4. Notify tool pusher/company representative.
5. Read and record the following:
    a. SICP and AP
    b. Pit gain
    c. Time
    d. Shut-in annulus valves on wellhead

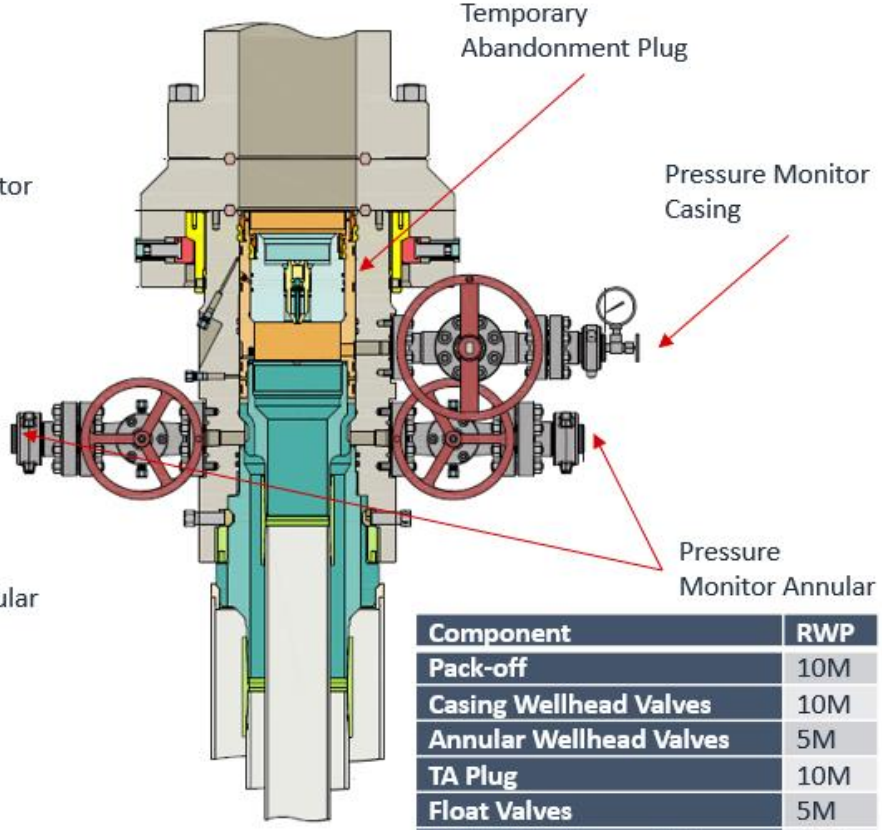
**Figure 1: Cameron TA Plug and Offline Adapter Schematic**




| Component | RWP |
|---|---|
| Pack-off | 10M |
| Casing Wellhead Valves | 10M |
| Annular Wellhead Valves | 5M |
| TA Plug | 10M |
| Float Valves | 5M |
| 2" 1502 Lo-Torque Valves | 15M |

**Figure 2: Cactus TA Plug and Offline Adapter Schematic**




| Component | RWP |
|---|---|
| Pack-off | 10M |
| Casing Wellhead Valves | 10M |
| Annular Wellhead Valves | 5M |
| TA Plug | 10M |
| Float Valves | 5M |
| 2" 1502 Lo-Torque Valves | 15M |

**Figure 3: Back Yard Rig Up**

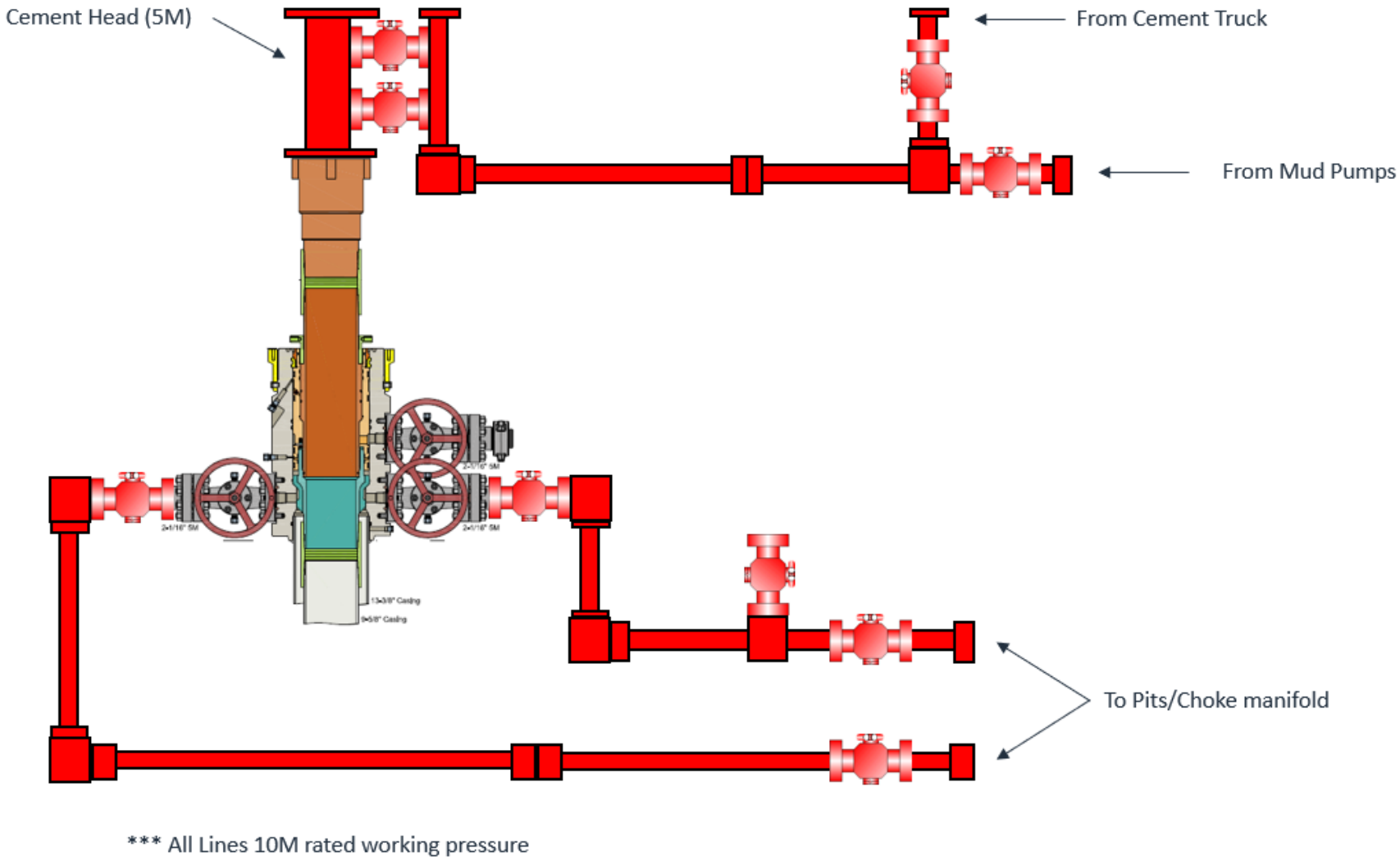
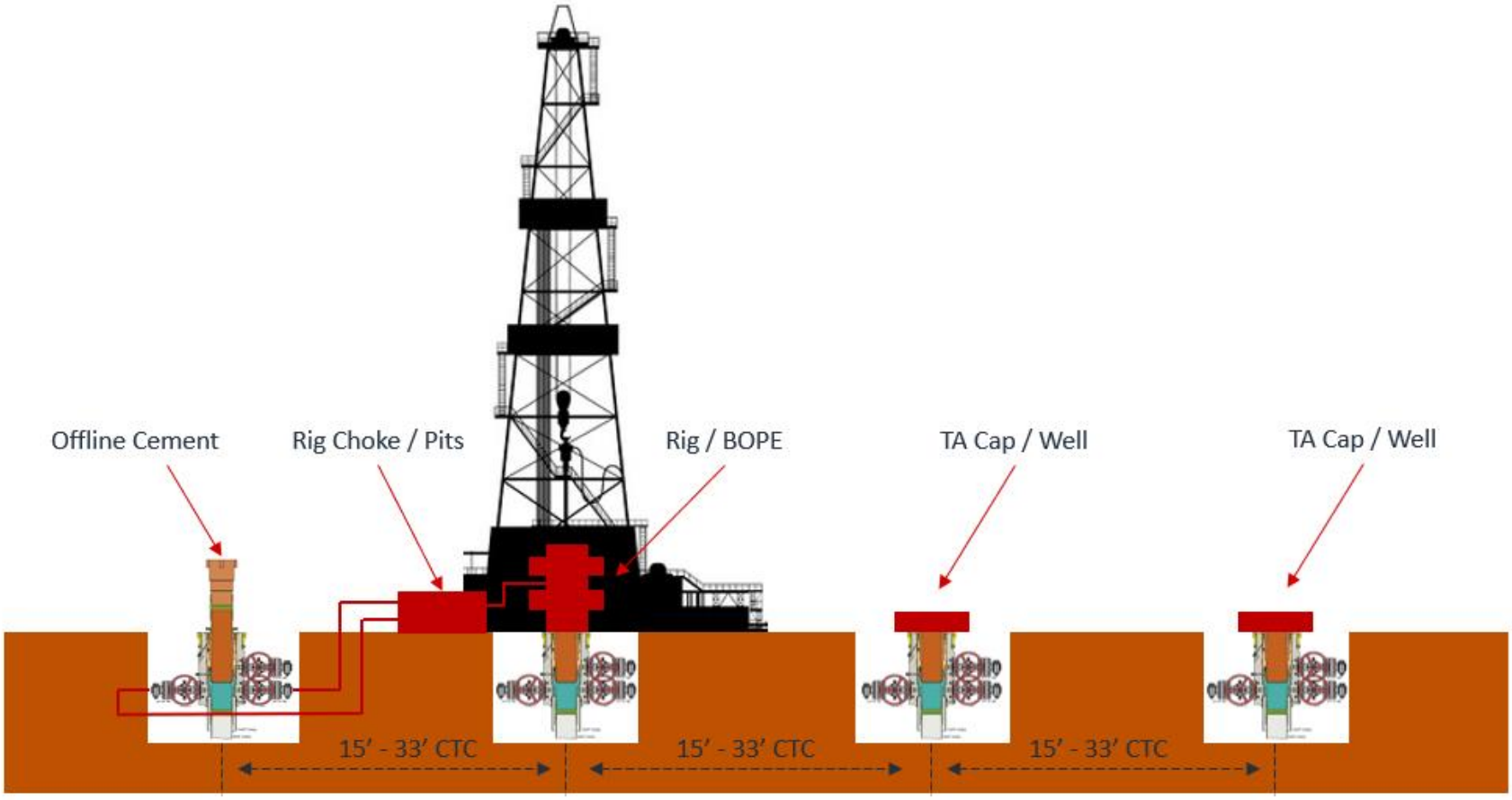


**Figure 4: Rig Placement Diagram**



# Salt Section Annular Clearance Variance Request

Daniel Moose

# Current Design (Salt Strings)

## 0.422” Annular clearance requirement

> - Casing collars shall have a minimum clearance of 0.422 inches on all sides in the hole/casing annulus, with recognition that variances can be granted for justified exceptions.

- 12.25” Hole x 9.625”40# J55/HCK55 LTC Casing
  - 1.3125” Clearance to casing OD
  - 0.8125” Clearance to coupling OD
- 9.875” Hole x 8.75” 38.5# P110 Sprint-SF Casing
  - 0.5625” Clearance to casing OD
  - 0.433” Clearance to coupling OD

# Annular Clearance Variance Request

**EOG request permission to allow deviation from the 0.422” annulus clearance requirement for the intermediate (salt) section from Onshore Order #2 under the following conditions:**

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues

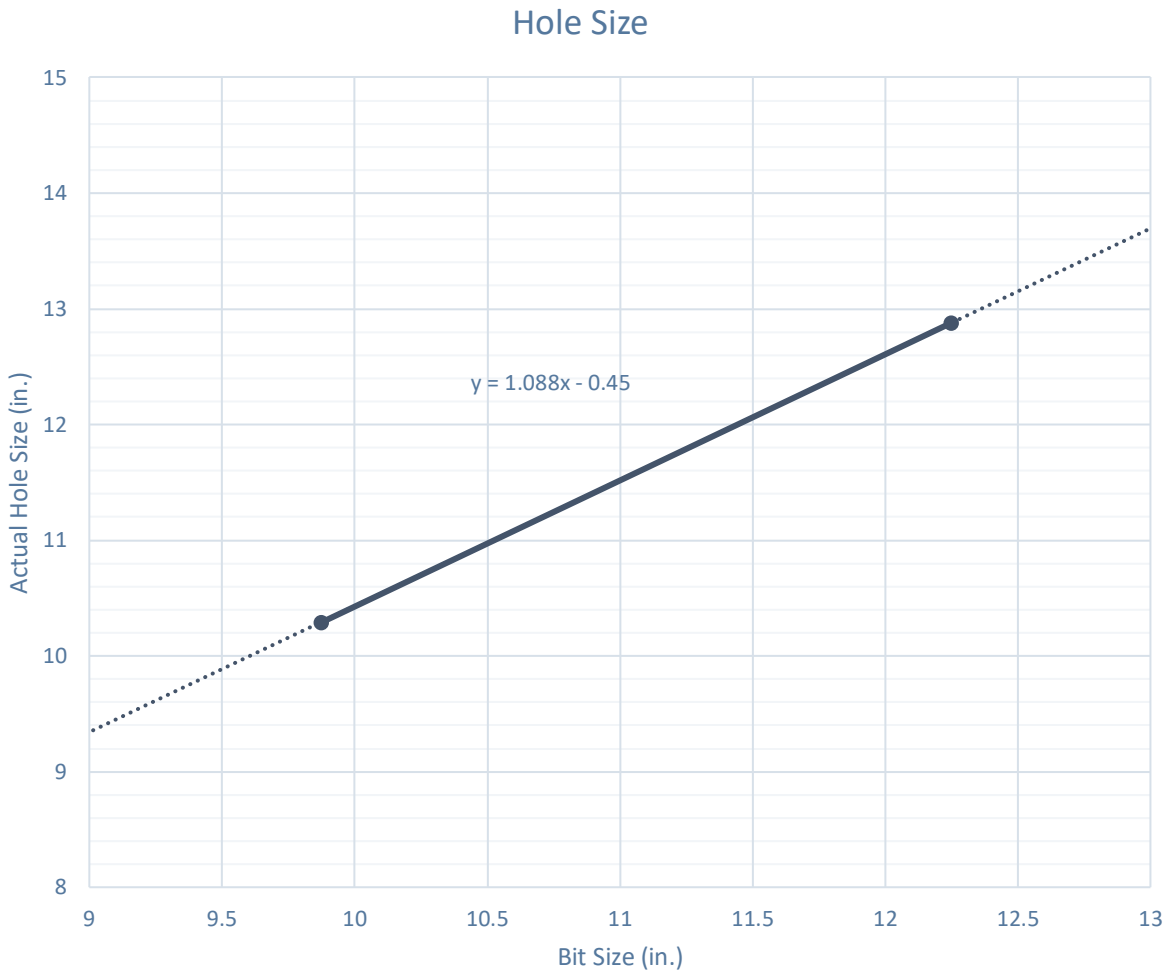
# Volumetric Hole Size Calculation

## Hole Size Calculations Off Cement Volumes

- Known volume of cement pumped
- Known volume of cement returned to surface
- Must not have had any losses
- Must have bumped plug

## Average Hole Size

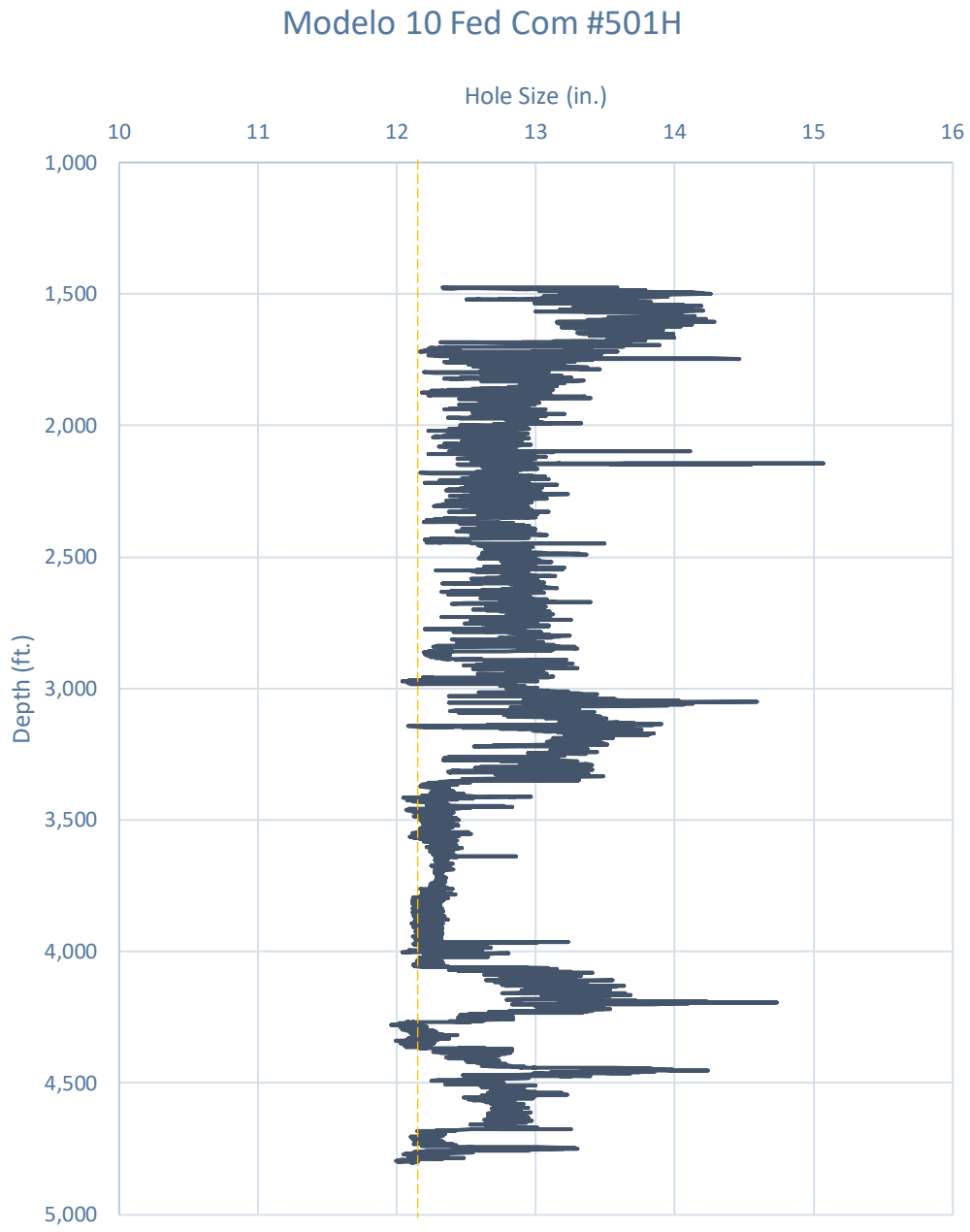
- 12.25” Hole
  - 12.88” Hole
    - 5.13% diameter increase
    - 10.52% area increase
  - 0.63” Average enlargement
  - 0.58” Median enlargement
  - 179 Well Count
- 9.875” Hole
  - 10.30” Hole
    - 4.24% diameter increase
    - 9.64% area increase
  - 0.42” Average enlargement
  - 0.46” Median enlargement
  - 11 Well Count



# Caliper Hole Size (12.25”)

## Average Hole Size

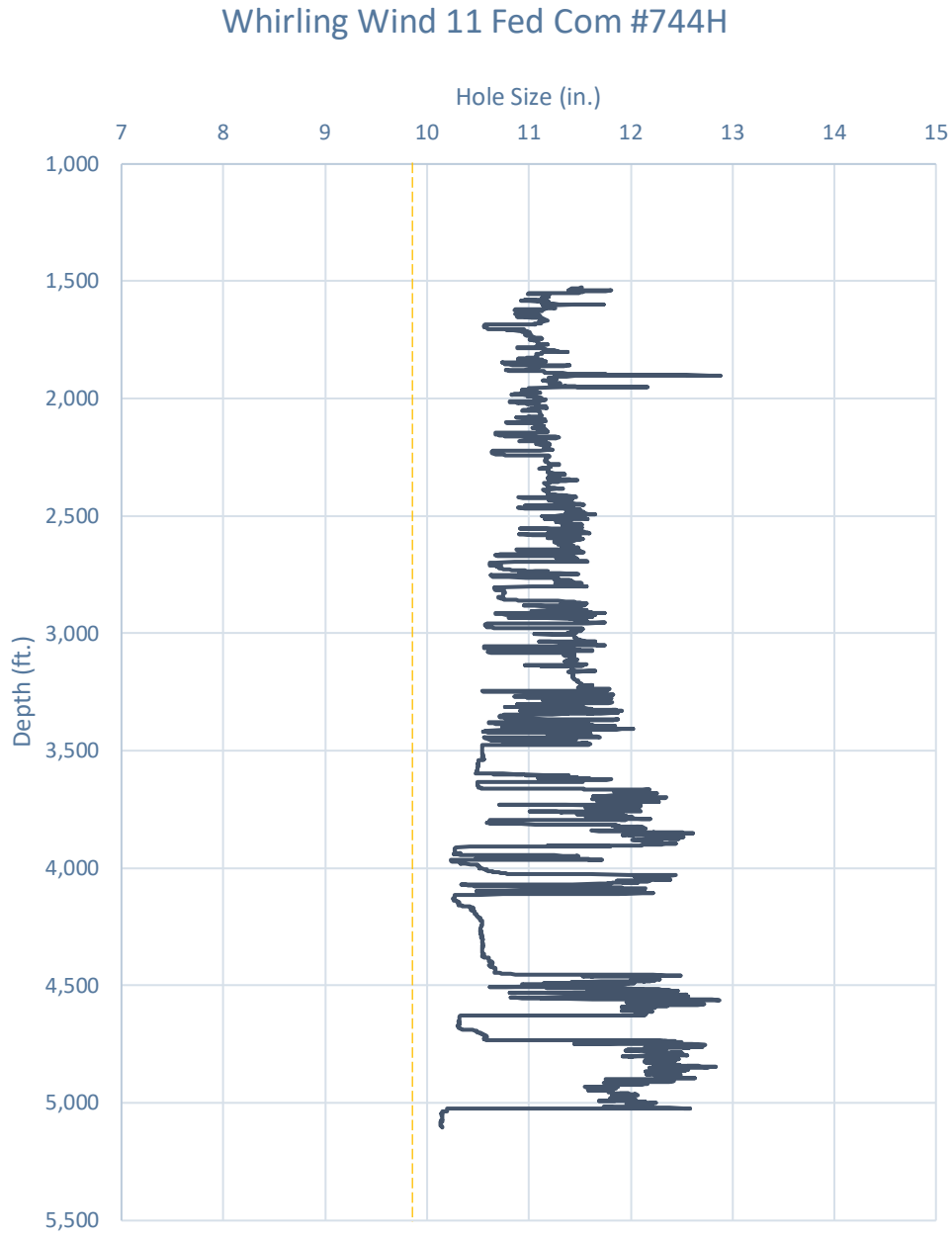
- 12.25” Bit
  - 12.76” Hole
    - 4.14% diameter increase
    - 8.44% area increase
  - 0.51” Average enlargement
  - 0.52” Median enlargement
  - Brine



# Caliper Hole Size (9.875”)

## Average Hole Size

- 9.875” Hole
  - 11.21” Hole
    - 13.54% diameter increase
    - 28.92% area increase
  - 1.33” Average enlargement
  - 1.30” Median enlargement
  - EnerLite



# Design A

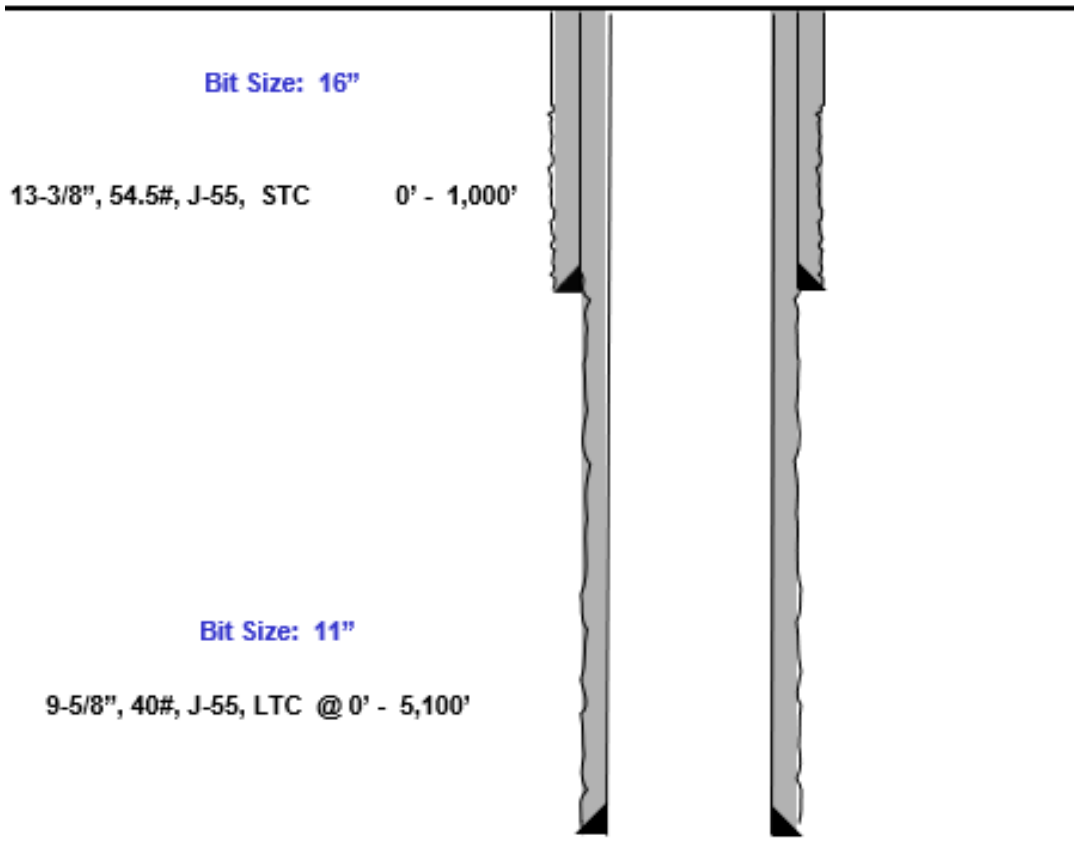
## Proposed 11” Hole with 9.625” 40# J55/HCK55 LTC Casing

- 11” Bit + 0.52” Average hole enlargement = 11.52” Hole Size
  - 0.9475” Clearance to casing OD

    $= \frac{11.52 - 9.625}{2}$
  - 0.4475” Clearance to coupling OD

    $= \frac{11.52 - 10.625}{2}$
- Previous Shoe – 13.375” 54.5# J55 STC
  - 0.995” Clearance to coupling OD (~1,200’ overlap)

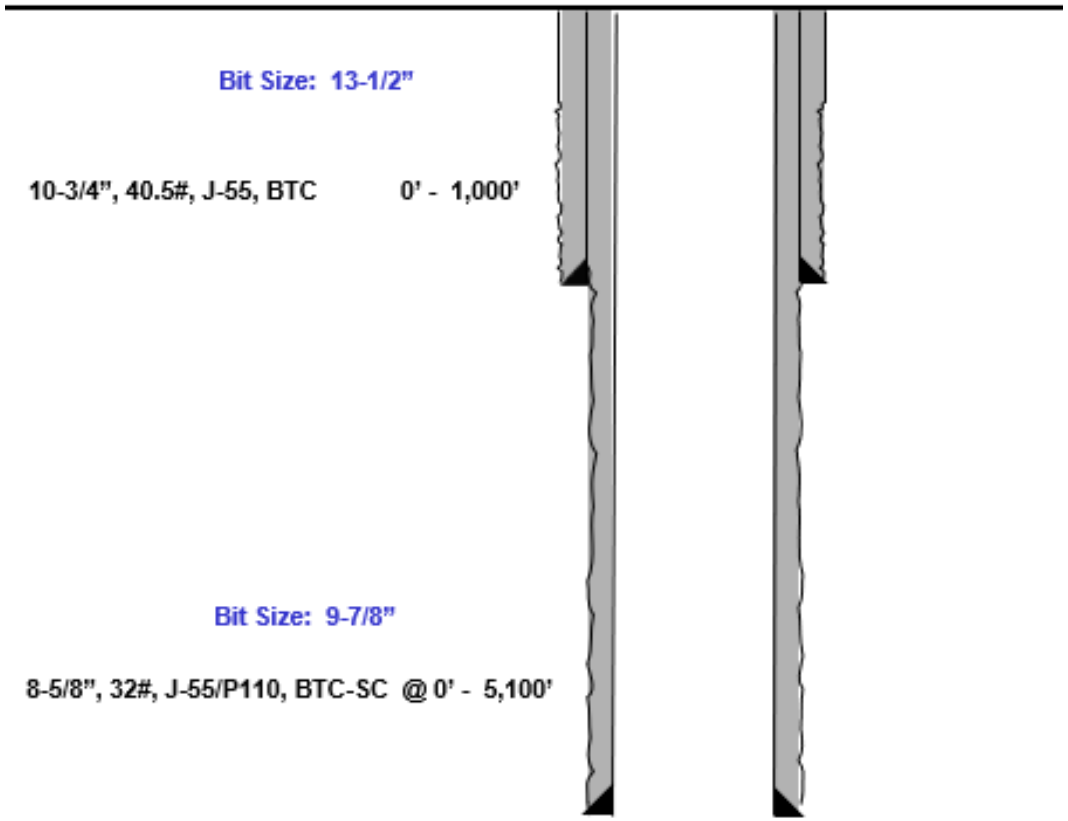
    $= \frac{12.615 - 10.625}{2}$



# Design B

## Proposed 9.875” Hole with 8.625” 32# J55/P110 BTC-SC Casing

- 9.875” Bit + 0.42” Average hole enlargement = 10.295” Hole Size
  - 0.835” Clearance to casing OD
    $$= \frac{10.295 - 8.625}{2}$$
  - 0.585” Clearance to coupling OD
    $$= \frac{10.295 - 9.125}{2}$$
- Previous Shoe – 10.75” 40.5# J55 STC
  - 0.4625” Clearance to coupling OD (~1,200’ overlap)
    $$= \frac{10.05 - 9.125}{2}$$



# Index

# Casing Spec Sheets

## PERFORMANCE DATA

**API LTC** **9.625 in** **40.00 lbs/ft** **K55 HC**

**Technical Data Sheet**

### Tubular Parameters

| | | | | | |
|---|---|---|---|---|---|
| Size | 9.625 | in | Minimum Yield | 55 | ksi |
| Nominal Weight | 40.00 | lbs/ft | Minimum Tensile | 95 | ksi |
| Grade | K55 HC | | Yield Load | 629 | kips |
| PE Weight | 38.94 | lbs/ft | Tensile Load | 1088 | kips |
| Wall Thickness | 0.395 | in | Min. Internal Yield Pressure | 3,950 | psi |
| Nominal ID | 8.835 | in | Collapse Pressure | 3600 | psi |
| Drift Diameter | 8.750 | in | | | |
| Nom. Pipe Body Area | 11.454 | in² | | | |

### Connection Parameters

| | | |
|---|---|---|
| Connection OD | 10.625 | in |
| Coupling Length | 10.500 | in |
| Threads Per Inch | 8 | tpi |
| Standoff Thread Turns | 3.50 | turns |
| Make-Up Loss | 4.750 | in |
| Min. Internal Yield Pressure | 3,950 | psi |

## Pipe Body and API Connections Performance Data

13.375 54.50/0.380 J55 PDF

New Search »

« Back to Previous List

USC Metric

6/8/2015 10:04:37 AM

| Mechanical Properties | Pipe | BTC | LTC | STC | |
|---|---|---|---|---|---|
| Minimum Yield Strength | 55,000 | -- | -- | -- | psi |
| Maximum Yield Strength | 80,000 | -- | -- | -- | psi |
| Minimum Tensile Strength | 75,000 | -- | -- | -- | psi |
| **Dimensions** | **Pipe** | **BTC** | **LTC** | **STC** | |
| Outside Diameter | 13.375 | 14.375 | -- | 14.375 | in. |
| Wall Thickness | 0.380 | -- | -- | -- | in. |
| Inside Diameter | 12.615 | 12.615 | -- | 12.615 | in. |
| Standard Drift | 12.459 | 12.459 | -- | 12.459 | in. |
| Alternate Drift | -- | -- | -- | -- | in. |
| Nominal Linear Weight, T&C | 54.50 | -- | -- | -- | lbs/ft |
| Plain End Weight | 52.79 | -- | -- | -- | lbs/ft |
| **Performance** | **Pipe** | **BTC** | **LTC** | **STC** | |
| Minimum Collapse Pressure | 1,130 | 1,130 | -- | 1,130 | psi |
| Minimum Internal Yield Pressure | 2,740 | 2,740 | -- | 2,740 | psi |
| Minimum Pipe Body Yield Strength | 853.00 | -- | -- | -- | 1000 lbs |
| Joint Strength | -- | 909 | -- | 514 | 1000 lbs |
| Reference Length | -- | 11,125 | -- | 6,290 | ft |
| **Make-Up Data** | **Pipe** | **BTC** | **LTC** | **STC** | |
| Make-Up Loss | -- | 4.81 | -- | 3.50 | in. |
| Minimum Make-Up Torque | -- | -- | -- | 3,860 | ft-lbs |
| Maximum Make-Up Torque | -- | -- | -- | 6,430 | ft-lbs |

# Casing Spec Sheets

## Pipe Body and API Connections Performance Data

10.750 40.50/0.350 J55 PDF

New Search »

« Back to Previous List

USC Metric

6/8/2015 10:14:05 AM

| Mechanical Properties | Pipe | BTC | LTC | STC | |
|---|---|---|---|---|---|
| Minimum Yield Strength | 55,000 | -- | -- | -- | psi |
| Maximum Yield Strength | 80,000 | -- | -- | -- | psi |
| Minimum Tensile Strength | 75,000 | -- | -- | -- | psi |
| **Dimensions** | **Pipe** | **BTC** | **LTC** | **STC** | |
| Outside Diameter | 10.750 | 11.750 | -- | 11.750 | in. |
| Wall Thickness | 0.350 | -- | -- | -- | in. |
| Inside Diameter | 10.050 | 10.050 | -- | 10.050 | in. |
| Standard Drift | 9.894 | 9.894 | -- | 9.894 | in. |
| Alternate Drift | -- | -- | -- | -- | in. |
| Nominal Linear Weight, T&C | 40.50 | -- | -- | -- | lbs/ft |
| Plain End Weight | 38.91 | -- | -- | -- | lbs/ft |
| **Performance** | **Pipe** | **BTC** | **LTC** | **STC** | |
| Minimum Collapse Pressure | 1,580 | 1,580 | -- | 1,580 | psi |
| Minimum Internal Yield Pressure | 3,130 | 3,130 | -- | 3,130 | psi |
| Minimum Pipe Body Yield Strength | 629.00 | -- | -- | -- | 1000 lbs |
| Joint Strength | -- | 700 | -- | 420 | 1000 lbs |
| Reference Length | -- | 11,522 | -- | 6,915 | ft |
| **Make-Up Data** | **Pipe** | **BTC** | **LTC** | **STC** | |
| Make-Up Loss | -- | 4.81 | -- | 3.50 | in. |
| Minimum Make-Up Torque | -- | -- | -- | 3,150 | ft-lbs |
| Maximum Make-Up Torque | -- | -- | -- | 5,250 | ft-lbs |

VALLOUREC STAR 8.625 32# J55 S S2L2 DA 7.875 W/O# SLN # PO# MADE IN USA FT LB

vallourec

API 5CT, 10th Ed. Connection Data Sheet

| O.D. (in) | WEIGHT (lb/ft) | WALL (in) | GRADE | *API DRIFT (in) | RBW % |
|---|---|---|---|---|---|
| 8.625 | Nominal: 32.00<br>Plain End: 31.13 | 0.352 | J55 | 7.796 | 87.5 |

| Material Properties (PE) | |
|---|---|
| **Pipe** | |
| Minimum Yield Strength: | 55 ksi |
| Maximum Yield Strength: | 80 ksi |
| Minimum Tensile Strength: | 75 ksi |
| **Coupling** | |
| Minimum Yield Strength: | 55 ksi |
| Maximum Yield Strength: | 80 ksi |
| Minimum Tensile Strength: | 75 ksi |

| Pipe Body Data (PE) | |
|---|---|
| **Geometry** | |
| Nominal ID: | 7.92 inch |
| Nominal Area: | 9.149 $in^2$ |
| *Special/Alt. Drift: | 7.875 inch |
| **Performance** | |
| Pipe Body Yield Strength: | 503 kips |
| Collapse Resistance: | 2,530 psi |
| Internal Yield Pressure: (API Historical) | 3,930 psi |

| API Connection Data<br>Coupling OD: 9.625" | |
|---|---|
| **STC Performance** | |
| STC Internal Pressure: | 3,930 psi |
| STC Joint Strength: | 372 kips |
| **LTC Performance** | |
| LTC Internal Pressure: | 3,930 psi |
| LTC Joint Strength: | 417 kips |
| **SC-BTC Performance - Cplg OD = 9.125"** | |
| BTC Internal Pressure: | 3,930 psi |
| BTC Joint Strength: | 503 kips |

| API Connection Torque | | | | | |
|---|---|---|---|---|---|
| **STC Torque (ft-lbs)** | | | | | |
| Min: | 2,793 | Opti: | 3,724 | Max: | 4,655 |
| **LTC Torque (ft-lbs)** | | | | | |
| Min: | 3,130 | Opti: | 4,174 | Max: | 5,217 |
| **BTC Torque (ft-lbs)** | | | | | |
| *follow API guidelines regarding positional make up* | | | | | |

*Alt. Drift will be used unless API Drift is specified on order.

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

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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

CONDITIONS

Action 201926

## CONDITIONS

| | |
|---|---|
| Operator:<br>EOG RESOURCES INC<br>P.O. Box 2267<br>Midland, TX 79702 | OGRID:<br>7377 |
| | Action Number:<br>201926 |
| | Action Type:<br>[C-103] NOI Change of Plans (C-103A) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| pkautz | None | 3/30/2023 |