

JAN 09 2018

## Permit Information:

Well Name: Hemlock 32 State No. 701H

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## Location:

SL: 364' FSL &amp; 627' FWL, Section 32, T-23-S, R-33-E, Lea Co., N.M.

BHL: 230' FNL &amp; 330' FWL, Section 32, T-23-S, R-33-E, Lea Co., N.M.

## Casing Program:

| Hole Size | Interval        | Csg OD  | Weight | Grade   | Conn | DF <sub>min</sub> Collapse | DF <sub>min</sub> Burst | DF <sub>min</sub> Tension |
|-----------|-----------------|---------|--------|---------|------|----------------------------|-------------------------|---------------------------|
| 17.5"     | 0 - 1,220'      | 13.375" | 54.5#  | J55     | STC  | 1.125                      | 1.25                    | 1.60                      |
| 12.25"    | 0-4,000'        | 9.625"  | 40#    | J55     | LTC  | 1.125                      | 1.25                    | 1.60                      |
| 12.25"    | 4,000' - 5,000' | 9.625"  | 40#    | HCK55   | LTC  | 1.125                      | 1.25                    | 1.60                      |
| 8.75"     | 0 - 11,400'     | 7.625"  | 29.7#  | HCP110  | FXL  | 1.125                      | 1.25                    | 1.60                      |
| 6.75"     | 0'-17,309'      | 5.5"    | 17#    | HCP-110 | LTC  | 1.125                      | 1.25                    | 1.60                      |

## Cement Program:

| Depth   | No. Sacks | Wt. lb/gal | Yld Ft <sup>3</sup> /ft | Slurry Description                                                                                       |
|---------|-----------|------------|-------------------------|----------------------------------------------------------------------------------------------------------|
| 1,220'  | 697       | 13.5       | 1.74                    | Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl <sub>2</sub> (TOC @ Surface)                              |
|         | 333       | 14.8       | 1.35                    | Tail: Class 'C' + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate + 2.0% KCl (1.06 lb/sk) |
| 5,000'  | 692       | 12.7       | 2.22                    | Lead: Class C + 0.15% C-20 + 11.63 pps Salt + 0.1% C-51 + 0.75% C-41P (TOC @ Surface)                    |
|         | 303       | 14.8       | 1.32                    | Tail: Class C + 0.13% C-20                                                                               |
| 11,400' | 375       | 10.8       | 3.67                    | Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 4,500')                         |
|         | 400       | 14.8       | 2.38                    | Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800                        |
| 17,309' | 950       | 14.8       | 1.31                    | Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,900')                           |

## Mud Program:

| Depth                        | Type        | Weight (ppg) | Viscosity | Water Loss |
|------------------------------|-------------|--------------|-----------|------------|
| 0 - 1,220'                   | Fresh - Gel | 8.6-8.8      | 28-34     | N/c        |
| 1,220' - 5,000'              | Brine       | 10.0-10.2    | 28-34     | N/c        |
| 5,000' - 11,400'             | Oil Base    | 8.7-9.4      | 58-68     | N/c - 6    |
| 11,400' - 17,309'<br>Lateral | Oil Base    | 10.0-11.5    | 58-68     | 3 - 6      |

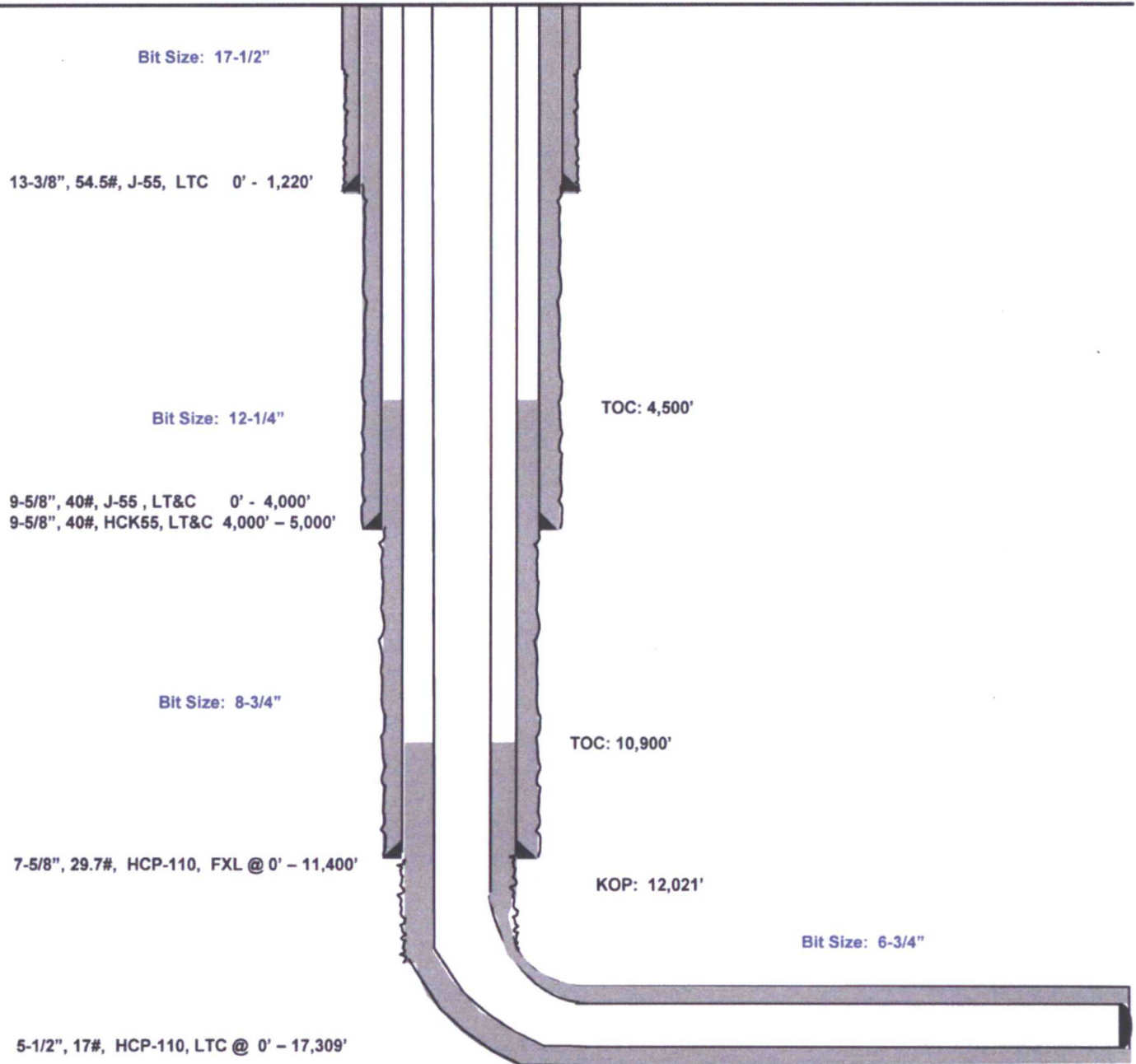
Hemlock 32 State #701H  
Lea County, New Mexico

364' FSL  
627' FWL  
Section 32  
T-23-S, R-33-E

Proposed Wellbore

API: 30-025-\*\*\*\*\*

KB: 3,685'  
GL: 3,660'



Lateral: 17,309' MD, 12,506' TVD

BH Location: 230' FNL & 330' FWL  
Section 32  
T-23-S, R-33-E