

**Permit Information:**

Well Name: Magnolia 15 No. 302Y

Location:

SL: 344' FSL &amp; 842' FWL, Section 15, T-26-S, R-33-E, Lea Co., N.M.

BHL: 100' FNL &amp; 330' FWL, Section 15, T-26-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 - 900'       | 13.375" | 54.5#  | J55     | STC  | 1.125                      | 1.25                    | 1.60                      |
| 12.25"    | 0-3,825'       | 9.625"  | 40#    | J55     | LTC  | 1.125                      | 1.25                    | 1.60                      |
| 12.25"    | 3,825' - 4825' | 9.625"  | 40#    | HCL-80  | LTC  | 1.125                      | 1.25                    | 1.60                      |
| 8.75"     | 0'-15,105'     | 5.5"    | 17#    | HCP-110 | LTC  | 1.125                      | 1.25                    | 1.60                      |

**Cement Program:**

| Depth   | No. Sacks | Wt. ppg | Yld Ft <sup>3</sup> /ft | Slurry Description                                                                                                                          |
|---------|-----------|---------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 900'    | 600       | 13.5    | 1.73                    | Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)                                     |
|         | 300       | 14.8    | 1.34                    | Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate                                                                    |
| 4,825'  | 900       | 12.7    | 2.22                    | Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake + 2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Static Free (TOC @ Surface)              |
|         | 225       | 14.8    | 1.32                    | Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free                                                                          |
| 15,105' | 375       | 10.8    | 3.67                    | 60:40:0 Class C + 15.0 pps BA-90 + 4% MPA-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.80% ASA-301 + 2.55% R-21 + 8.0 pps LCM-1 (TOC @ 4325') |
|         | 400       | 11.8    | 2.38                    | 50:50:10 Class H + 0.80% FL-52 + 0.30% ASA-301 + 0.40% SMS + 2.0% Salt + 0.30% R-21 + 3.0 pps LCM-1 + 0.25 pps Celloflake                   |
|         | 1300      | 14.2    | 1.28                    | 50:50:2 Class H + 0.65% FL-52 + 0.45% CD-32 + 0.10% SMS + 2.0% Salt                                                                         |

**Mud Program:**

| Depth                    | Type        | Weight (ppg) | Viscosity | Water Loss |
|--------------------------|-------------|--------------|-----------|------------|
| 0 - 900'                 | Fresh - Gel | 8.6-8.8      | 28-34     | N/c        |
| 900' - 4,825'            | Brine       | 10.0-10.2    | 28-34     | N/c        |
| 4,825' - 9,700'          | Cut Brine   | 8.4-9.0      | 28-34     | N/c        |
| 9,700' - 15,105' Lateral | Cut Brine   | 9.0-9.5      | 40-42     | 8-10       |