

Revised Permit Information 3/5/18:

Well Name: Gem 36 State Com No. 708H

Location:

SL: 220' FSL & 1226' FWL, Section 36, T-25-S, R-32-E, Lea Co., N.M.

BHL: 230' FNL & 1002' FWL, Section 36, T-25-S, R-32-E, Lea Co., N.M.

Casing Program:

| Hole Size | Interval | Csg OD | Weight | Grade | Conn | DF _{min} Collapse | DF _{min} Burst | DF _{min} Tension |
|-----------|-----------------|---------|--------|---------|------|----------------------------|-------------------------|---------------------------|
| 17.5" | 0 – 810' | 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' – 4,700' | 9.625" | 40# | HCK55 | LTC | 1.125 | 1.25 | 1.60 |
| 8.75" | 0 – 11,200' | 7.625" | 29.7# | HCP110 | FXL | 1.125 | 1.25 | 1.60 |
| 6.75" | 0'-17,126' | 5.5" | 17# | HCP-110 | LTC | 1.125 | 1.25 | 1.60 |

Cement Program:

| Depth | No. Sacks | Wt. lb/gal | Yld Ft ³ /ft | Slurry Description |
|---------|-----------|------------|-------------------------|--|
| 810' | 697 | 13.5 | 1.74 | Lead: Class 'C' + 4.00% Bentonite + 2.00% CaCl ₂ (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) |
| 4,700' | 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 |
| 11,200' | 375 | 10.8 | 3.67 | Lead: Class C + 0.40% D013 + 0.20% D046 + 0.10% D065 + 0.20% D167 (TOC @ 4,200') |
| | 400 | 14.8 | 2.38 | Tail: Class H + 94.0 pps D909 + 0.25% D065 + 0.30% D167 + 0.02% D208 + 0.15% D800 |
| 17,126' | 950 | 14.8 | 1.31 | Class H + 0.1% C-20 + 0.05% CSA-1000 + 0.20% C-49 + 0.40% C-17 (TOC @ 10,700') |

Mud Program:

| Depth | Type | Weight (ppg) | Viscosity | Water Loss |
|------------------------------|-------------|--------------|-----------|------------|
| 0 – 810' | Fresh - Gel | 8.6-8.8 | 28-34 | N/c |
| 810' – 4,700' | Brine | 10.0-10.2 | 28-34 | N/c |
| 4,700' – 11,200' | Oil Base | 8.7-9.4 | 58-68 | N/c - 6 |
| 11,200' – 17,126' Lateral | Oil Base | 10.0-11.5 | 58-68 | 3 - 6 |