

**Permit Information:**

Well Name: Ophelia 27 No. 703H

## Location:

SL: 2420' FNL &amp; 1645' FEL, Section 27, T-26-S, R-33-E, Lea Co., N.M.

BHL: 2080' FSL &amp; 1620' FEL, Section 22, 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
12.25"	0 - 860'	9.625"	40#	J55	STC	1.125	1.25	1.60
8.75"	0-10,750'	7"	26#	HCL-80	LTC	1.125	1.25	1.60
6.125"	0'-16,995'	4.5"	13.5#	HCP-110	BTC	1.125	1.25	1.60

**Cement Program:**

Depth	No. Sacks	Wt. ppg	Yld Ft <sup>3</sup> /ft	Slurry Description
860'	250	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)
	150	14.8	1.34	Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
10,750' DV Tool @ 5,000'	200	10.8	3.68	Stage 1 Lead: Class C + 15.00 lbs/sk BA-90 + 4.00% MPA-5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80% ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sx Static Free
	150	14.2	1.32	Stage 1 Tail: Class H + 0.65% FL-52 + 0.6% CD-32 + 1.0% EC-1 + 0.65% SMS + 2.0% Salt + 0.2% R-21 + 0.005 gps FP-6L + 0.005 pps Static Free
	275	12.7	2.22	Stage 2 Lead: Class 'C' + 2.0% SMS + 10.0% Slat + 0.55% R-21 + 0.25 pps Celloflake + 0.005 pps Static Free (TOC @ Surface)
	150	14.8	1.35	Stage 2 Tail: Class 'C' + 0.60% FL-62 + 0.7% CD-32 + 0.3% SMS + 2.0% Salt + 0.10% R-3 + 0.005 pps Static Free + 0.005 gps FP-6L
16,995'	575	11.9	2.36	50:50:6 Class H + 0.20% FL-52 + 0.75% CD-32 + 1.0% EC-1 + 0.15% ASA-301 + 1.60% SMS + 5.0% Salt + 0.50% R-21 + 5.0 pps LCM-1 (TOC @ 10,250')
	450	14.2	1.35	50:50:2 Class H + 0.65% FL-52 + 0.70% CD-32 + 1.0% EC-1 + 0.40% SMS + 2.0% Salt + 0.05% R-3 + 0.005 pps Static Free + 0.005 gps FP-6L

**Mud Program:**

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 860'	Fresh - Gel	8.6-8.8	28-34	N/c
860' - 10,750'	Oil Base	8.7-9.4	58-68	N/c - 6
10,750' - 12,222'	Oil Base	8.7-9.4	58-68	N/c - 6
12,222' - 16,995' Lateral	Oil Base	9.0-9.5	58-68	N/c - 6

AUG 19 2014

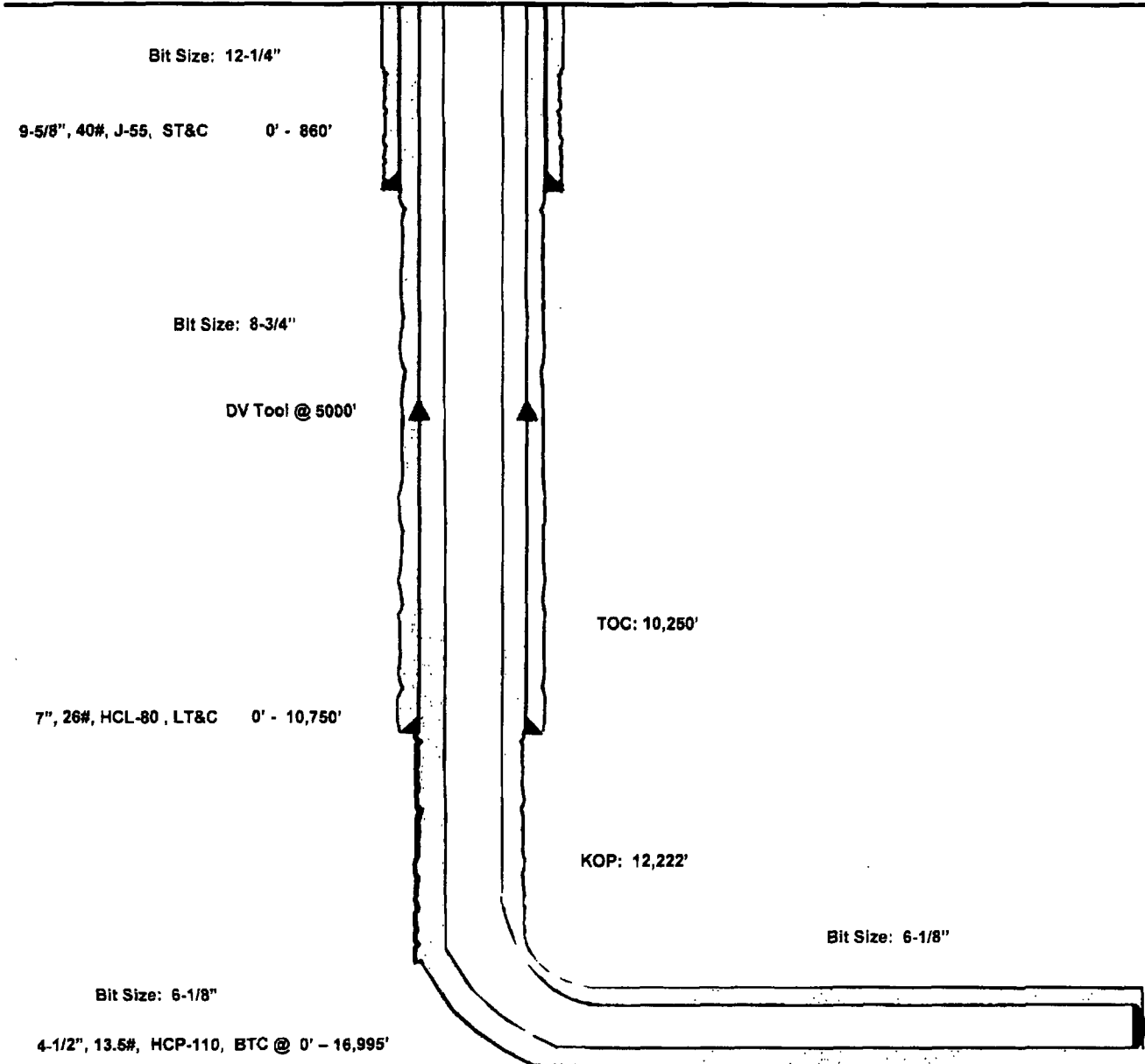
Ophelia 27 #703H

Lea County, New Mexico  
Proposed Wellbore

2420' FNL  
1645' FEL  
Section 27  
T-26-S, R-33-E

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

KB: 3,307'  
GL: 3,282'



Lateral: 16,995' MD, 12,700' TVD  
BH Location: 2080' FSL & 1620' FEL  
Section 22  
T-26-S, R-33-E



**PROJECT DETAILS: Lea County, NM (NAD 27 NME)**  
 Geodetic System: US State Plane 1227 (Exact solution)  
 Datum: NAD 1983 (NAD83 CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: New Mexico East 5001  
 System Datum: Mean Sea Level

**Lea County, NM (NAD 27 NME)**  
**Ophelia 27 #703H**  
**H&P 415**  
**Plan #1**

**Azimuths to Grid North**  
 True North: 3.41°  
 Magnetic North: 8.71°  
 Magnetic Field  
 Strength: 48173.6nT  
 Dip Angle: 58.83°  
 Date: 04/13/2016  
 Model: IGRF2015A

To convert a Magnetic Direction to a Grid Direction, Add 8.71°  
 To convert a Magnetic Direction to a True Direction, Add 7.17° East  
 To convert a True Direction to a Grid Direction, Subtract 8.41°

**WELL DETAILS: Ophelia 27 #703H**

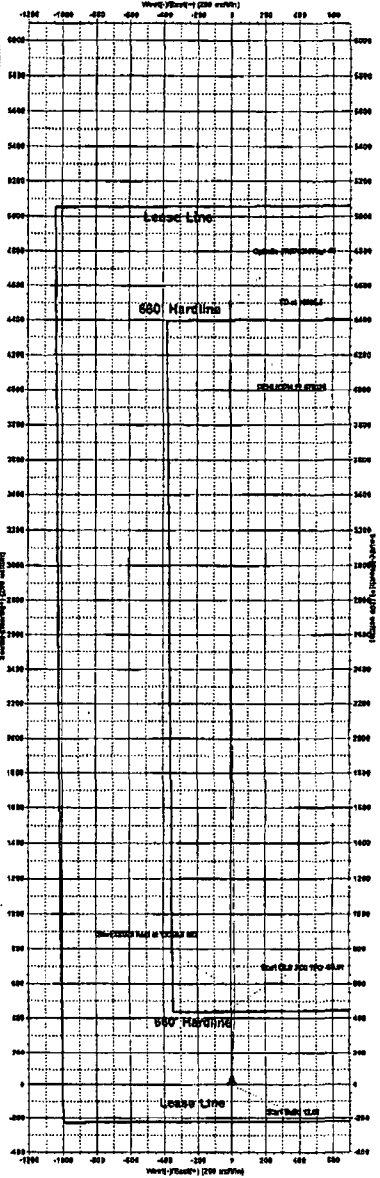
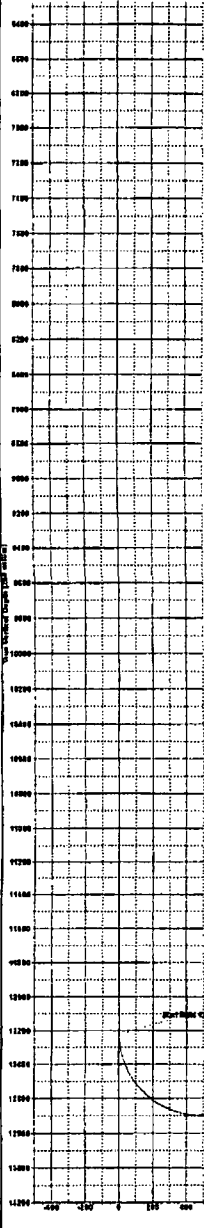
Offset	Offset	Offset	Offset	Offset	Offset	Offset	Offset
N-S	E-W	Northing	Easting	Latitude	Longitude	Spot	
0.0	0.0	370000.00	740700.00	32° 0' 55.715" N	103° 37' 53.324" W		

**SECTION DETAILS**

Sec	ID	Loc	Azi	TVD	HW-S	HW-W	Deg	TFace	VEct	Target	Annotations
1	0.0	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0		
2	12722.6	0.00	0.00	12722.6	0.0	0.0	0.00	0.00	0.0		
3	12872.6	90.00	2.20	12700.0	477.1	18.5	13.00	2.30	477.1		
4	12958.0	90.00	288.88	12700.0	866.5	18.7	3.00	-90.01	866.5		
6	18996.5	90.00	385.66	12700.0	4004.0	-8.0	0.00	0.00	4000.0	PEHL(CPM 27 #703H)	

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

Name	TVD	HW-S	HW-W	Northing	Easting	Shape
PEHL(CPM 27 #703H)	12700.0	4000.0	-8.0	374550.00	740770.00	Point



Scale: 1" = 1000'