

**Well Name:** Doe Canyon #22

**Well Configuration Type:** Directional

**Account Category/Property ID:**

**Surface Location:** 962' FSL & 1567' FWL, SEC 8, T 40 N, R 17 W, NMPM

**County:** Dolores

**State:** Colorado

**Lat/Long Datum:** NAD 83

**Latitude (°):** 37.737199

**Longitude (°):** -108.751609

**Field Name:** DOE CANYON

**API/UWI:**

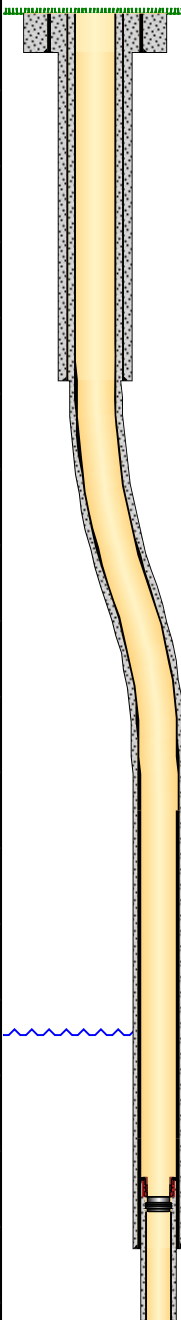
**Objective:** Leadville

**Bottom Hole Location:** 1379' FSL & 1118' FWL, SEC 8, T 40 N, R 17 W, NMPM

**Estimated KB Elevation (ft):** 7,576.00

**Ground Elevation (ft):** 7,560.00

**A FOCUSED EFFORT WILL BE EXPECTED BY ALL PARTIES TO ELIMINATE ANY/ALL ACCIDENTS DURING THE EXECUTION OF THIS DRILLING PROJECT. H2S IS ANTICIPATED WHILE DRILLING THE PARADOX SALTS**

Directional - Proposed Original Hole, 7/23/2018 5:48:17 PM				DRILLING PROCEDURE: (add KB to measurements below)
Formations	TVD (ftKB)	MD (ftKB)	Directional schematic (actual)	Objective
Dakota Morrison				16" conductor pipe will be set at ~80' prior to moving in the drilling rig.
Entrada	500	500		A 12-1/4" hole drilled from surface to 2685' TVD, ~100' below the top of the Cutler, set 9-5/8" casing run to 2685' with cement to surface.
Chinle	1,000	1,000		An 8-3/4" hole drilled out from surface casing point to 7" casing point at 8725' TVD. Run 7" carbon steel casing set with last 200' comprised of 13-Chrome.
Cutler	1,500	1,500		A 6" production hole will be drilled out from the 7" casing point to ~500' below the Leadville Top. The production hole will be logged from TD to ~500' inside 7" casing shoe. A 4-1/2" 13-Chrome liner will then be run and cemented in place.
	2,000	2,000		<b>CASING/CEMENTING DETAILS:</b>
	2,500	2,500		Comment
	2,999	3,000		9-5/8" 36# J-55 LTC => 0'-2685' TVD/ 2685' MD
	3,478	3,500		Cement: Conventional => Lead 900sx Light + Tail 300sx Class G + Displacement ~200bbls Fresh Water
	3,951	4,000		Comment
Honaker Trail (Upper Hermosa)	4,424	4,500		7" 29# L-80 LTC => 0'-5774' TVD/5868' MD
	4,913	5,000	Cement: Conventional => Lead 1800sx HalCem + Tail 300sx HalCem + Cap 100sx Premium + Displacement ~300bbls Fresh Water	
Paradox	5,412	5,500	Comment	
Desert Creek	5,912	6,000	7" 32# RytWrap L-80 LTC => 5774'-8508' TVD/5868'-8602' MD	
Paradox Salt	6,412	6,500	Comment	
	6,912	7,000	7" 29# L-80 LTC => 8508'- 8725' TVD/8602'-8819' MD CR13 BEAR	
	7,412	7,500	Comment	
	7,912	8,000	4 1-2" 12.6# CR13 VamTop => 8650'-9146' TVD/8744'-9240' MD	
Base of Paradox Salt	8,412	8,500	Cement: Conventional => Lead 100sx HalCem + Displacement ~60bbls Fresh Water	
Lower Hermosa			<b>DRILLING FLUIDS:</b>	
Leadville (Base of Karst)	8,912	9,000	Description	
	9,412	9,500	12-1/4" Surface (9-5/8" Casing Point)	
			Comment	
			Spud 12-1/4" surface hole with spud mud and circulate. Use paper for seepage and LCM sweeps for lost circulation problems. Pump viscous sweeps if tight connections are encountered and prior to running the 9-5/8" casing.	
			Description	
			8-3/4" (100' above Desert Creek)	
			Comment	
			Drill out of the 9-5/8" casing with clean spud mud and circulate. Sweep for hole cleaning or lost circulation problems and use paper for seepage.	
			Description	
			8-3/4" (25' in Leadville top/7" Casing Point)	
			Comment	
			Displace the spud mud system with salt saturated brine 100' above the Desert Creek formation. Pre-treat mud for H2S prior to drilling the P4 Shale.	
			Description	
			6" Production	
			Comment	
			During the production hole drill, fresh water will be treated so that the Cl2 content is <b>r &amp; \$ % Z \$ \$ d d a</b> . Do not use LCM in production section	
			<b>SURVEY INFORMATION:</b>	
			Comment	
			~500' intervals from spud to the 9-5/8" casing point and	
			~1000' intervals from below the 9-5/8" casing point to the top of the Paradox Salt	
			Do not drop surveys while drilling below the Paradox Salt due to potential sticking	
			~500' intervals from below the Paradox Salt to TD	
			<b>EVALUATION PROGRAM:</b>	
			Evaluation Program	
			6" Production Hole:	
			1st run dual laterolog	
			2nd run triple combo, monopole sonic	
			Cased Hole:	
			1st run GR, pulse neutron log	
			2nd run CBL over 7" casing	
			3rd run CBL over 4-1/2" liner	

Not to Scale

Not to Scale

**Expected Bottom Hole Pressure = 2000 psi (2500 psi max if compartmentalized)**

- Objectives:**
1. Maintain a focused effort by everyone on location to eliminate all accidents.
  2. Drill, evaluate, case and complete the well at or under AFE cost estimate.
  3. Run the 7" intermediate casing to ~25' TVD into the Leadville formation.
  4. Isolate the 7" to surface with high quality cement.
  5. Run the 4 1/2" 13- Chrome liner through the Leadville formation.
  6. Isolate the 4-1/2" 13-Chrome liner with high quality cement.