

Well name: **Old Ranch Knoll 8-6**
 Operator: **Devon-SFS Operating, Inc.**
 String type: **Production**
 Location: **BHL: 1905' FNL & 660' FEL Sec. 8, T22S, R24E**

Design parameters:**Collapse**

Mud weight: 9.000 ppg
 Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? Yes
 Surface temperature: 75 °F
 Bottom hole temperature: 143 °F
 Temperature gradient: 0.80 °F/100ft
 Minimum section length: 1,000 ft

Burst

Max anticipated surface pressure: 3,974 psi
 Internal gradient: 0.000 psi/ft
 Calculated BHP: 3,974 psi
 Annular backup: 9.00 ppg

Tension:

8 Round STC: 1.80 (J)
 8 Round LTC: 1.80 (J)
 Buttress: 1.60 (J)
 Premium: 1.50 (J)
 Body yield: 1.60 (B)

Directional Info - Build & Hold

Kick-off point: 5000 ft
 Departure at shoe: 964 ft
 Maximum dogleg: 1.5 °/100ft
 Inclination at shoe: 18.52 °

Tension is based on air weight.
 Neutral point: 7,433 ft

Estimated cost: 62,677 (\$)

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
3	1000	7	23.00	L-80	LT&C	1000	1000	6.25	8969
2	4600	7	23.00	J-55	LT&C	5598	5600	6.25	24136
1	3046	7	23.00	HCL-80	LT&C	8500	8646	6.25	29572

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
3	468	3315	7.09	3974	6340	1.60	195.5	435	2.23 J
2	2617	3002	1.15	3506	4360	1.24	172.5	313	1.81 J
1	3974	5650	1.42	1357	6340	4.67	66.7	485	7.27 J

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Remarks:

Collapse is based on a vertical depth of 8500 ft, a mud weight of 9 ppg. The casing is considered to be evacuated for collapse purposes.
 Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.