

Well name:		Typical Well Surface	
Operator:	Devon Energy Corporation (Nevada)		
String type:	Surface		
Location:	T23S, R31E, Eddy County, New Mexico		

Design parameters:**Collapse**

Mud weight: 8.500 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 82 °F
Temperature gradient: 0.80 °F/100ft
Minimum section length: 850 ft
Minimum Drift: 2.559 in

Burst

Max anticipated surface pressure: 468 psi
Internal gradient: 0.021 psi/ft
Calculated BHP: 486 psi
Annular backup: 8.50 ppg

Tension:

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

Non-directional string.

Tension is based on buoyed weight.
Neutral point: 744 ft

Re subsequent strings:

Next setting depth: 4,400 ft
Next mud weight: 10.000 ppg
Next setting BHP: 2,286 psi
Fracture mud wt: 11.000 ppg
Fracture depth: 850 ft
Injection pressure: 486 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	850	13.375	48.00	H-40	ST&C	850	850	12.59	79.8

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
1	375	740	1.97	468	1730	3.70	36	322	9.01 J

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Remarks:

Collapse is based on a vertical depth of 850 ft, a mud weight of 8.5 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.

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