Crow Flat 20-4

Well name:
Operator: **Devon Energy**
String type: Surface

Design parameters:

Collapse
Mud weight: 10.100 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface
pressure: 809 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 869 psi

No backup mud specified.

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.00

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)

Tension is based on air weight.
Neutral point: 426 ft

Environment:
H2S considered? No
Surface temperature: 75 °F
Bottom hole temperature: 82 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 500 ft

Non-directional string.

Re subsequent strings:
Next setting depth: 2,000 ft
Next mud weight: 10.100 ppg
Next setting BHP: 1,049 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,000 ft
Injection pressure 2,000 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)	Est. Cost ($)
1	500	13.375	48.00	H-40	ST&C	500	500	12.59	6199

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	262	740	2.82	869	1730	1.99	24	322	13.42 J

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Oklahoma City, Oklahoma

Remarks:
Collapse is based on a vertical depth of 500 ft, a mud weight of 10.1 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.