

Fort Saint Vrain 22

Existing Features	
KB	12

Surface csg shoe at	519
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Bottom of Foxhills (FHM)	667
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Sussex Top	3930
Not producing Sussex w/in 1 mile	
Sussex Bottom	4216

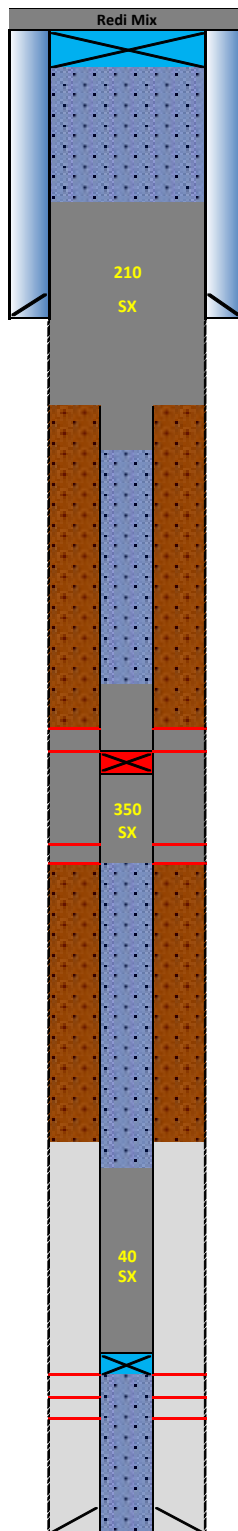
Shannon Base	4601
Not producing Shannon w/in 1 mile	

TOC (CBL)	6360
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Niobrara Top	6832
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Codell Top	7105
Perf Top	7105
Perf Bottom	7125

PBMD	7159
4 1/2" 11.6# CSG	7191



Proposed Additions for P&A

80	CIBP 8 5/8" 24#
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410	TOC
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Cement Blend: Type III w/ cello flake and CaCl₂ as necessary, mixed at 14.8 ppg and 1.33 cuft/sk yield.

770	Casing Stub
870	BOC

Cement Blend: "G" w/ 0.25 pps cello flake, 0.4% CD-32, 0.4% ASA-301, mixed at 15.8 ppg and 1.15 cuft/sk yield.

3530	TOC
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3730	Top Squeeze Holes
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3760	CICR
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4270	BOC/Bottom Squeeze Holes
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6430	TOC
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Cement Blend: "G" w/ 20% silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 to achieve 2:30 pump time, mixed at 15.8 ppg and 1.38 cuft/sk yield.

7050	CIBP 4 1/2" 11.6#
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API#	05-123-15692			
WINS:	75654			
Equipment	Specs.	Depth	Capacity (bbl/ft)	Capacity ft ³ /ft
Surface Casing	8 5/8" (24#)	519	0.0637	0.3576
Production Casing	4 1/2" (11.6#)	7191	0.0155	0.0873
Production Tubing	2 3/8" (4.7#)	7076	0.0039	0.0217
Hole Size (TOP)	10	N/A	0.0971	0.5454
Hole Size (SU/SH)	10	N/A	0.0971	0.5454
OH X CSG Annulus (SU/SH)	N/A	N/A	0.0775	0.4350

Cement Calculations				
Section	Volume cu-ft	Cement Sacks	Excess	
Open Hole	191.66	144.10	40%	Foxhills Plug 10 in. hole
Surface casing	38.98	29.31		
Production casing	8.73	6.56		
FX Total	230.64	179.98	210	
OH X CSG Annulus	328.86	285.97	40%	Sussex Squeeze 10 in. hole
Production casing	64.602	56.18		
SU Total	393.46	342.14	350	
OH X CSG Annulus				
Production	54.13	39.22		
NB/CD Total	54.13	39.22	40	

Cement Yield	1.33	1.15	1.38
	FX	SX/SH	NB

Legend	
	Existing cement with CBL
	New cement
	Assumed cement w/ no CBL
	Cast Iron Cement Retainer
	Cast Iron Bridge Plug
	Mud
	Water + Biocide