

# OPATRIL 12-9L

Existing Features	
KB	13
Surface csg shoe at	513
Bottom of Foxhills (FHM)	881

Sussex Top	4238
Sussex Top	4462

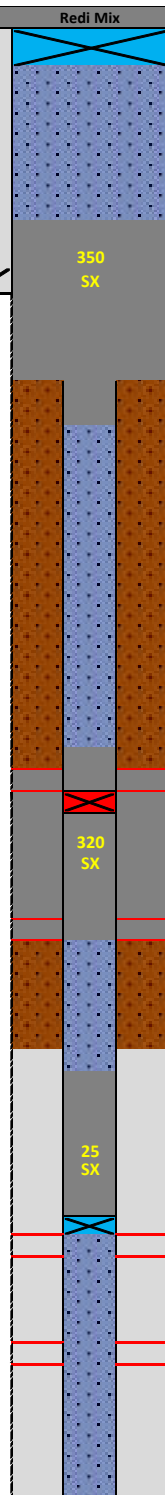
Shannon Base	4816
Not producing Shannon w/in 1 mile	

TOC (CBL)	6460
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Niobrara Top	6975
Perf Top	7004
Perf Bottom	7169

Codell	7293
Perf Top	7297
Perf Bottom	7307

PBMD	7366
4 1/2" 11.6# CSG	7411



Proposed Additions for P&A	
80	CIBP 8 5/8" 23#
310	TOC

Cement Blend: Type III w/cello flake and CaCl<sub>2</sub> as necessary, mixed at 14.8 ppg and 1.33 cuft/sk.

990	Casing Stub
1090	BOC

4030	TOC
4060	CICR

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.

4500	Squeeze perf
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6575	TOC
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Cement Blend: "G" w/silica flour, 0.4% CD-32, 0.4% ASA-301 and R-3 to achieve 2:30 pump time. Mix at 15.8 ppg and 1.38 cuft/sk.

6940	CIBP 4 1/2" 11.6#
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API#	05-123-16250			
Wins:	(H5669)			
Equipment	Specs.	Depth	Capacity (bbl/ft)	Capacity ft <sup>3</sup> /ft
Surface Casing	8 5/8" 23#	513	0.0637	0.3576
Production Casing	4 1/2" (11.6#)	7411	0.0155	0.0873
Tubing Size	2 3/8" (4.7)	7295	0.003870	0.02171
Hole Size (TOP)	11	N/A	0.1175	0.6600
Hole Size (SU/SH)	11	N/A	0.0979	0.5495
Hole Size (NB)	N/A	N/A	N/A	N/A

Cement Calculations				
Section	Volume cu-ft	Cement Sacks	Excess	
Open Hole	377.76	284.03	20%	11 in. hole
Surface casing	72.59	54.58		
Production casing	8.73	6.56		
FX Total	450.35	345.17	350	
Open Hole	309.91	269.4893	20%	11 in. hole
Production casing	41.031	35.67913		
SU Total	350.94	305.1684	320	
Open Hole				
Production	31.86	23.09		
NB/CD Total	31.86	23.09	25	

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