

Rusch 33-15

Existing Features	
KB	17

Surface csg shoe at	519
---------------------	-----

Bottom of Foxhills (FHM)	794
--------------------------	-----

Sussex Top	3997
Not producing Sussex w/in 1 mile	
Sussex Bottom	4241

Shannon Base	4624
Not producing Shannon w/in 1 mile	

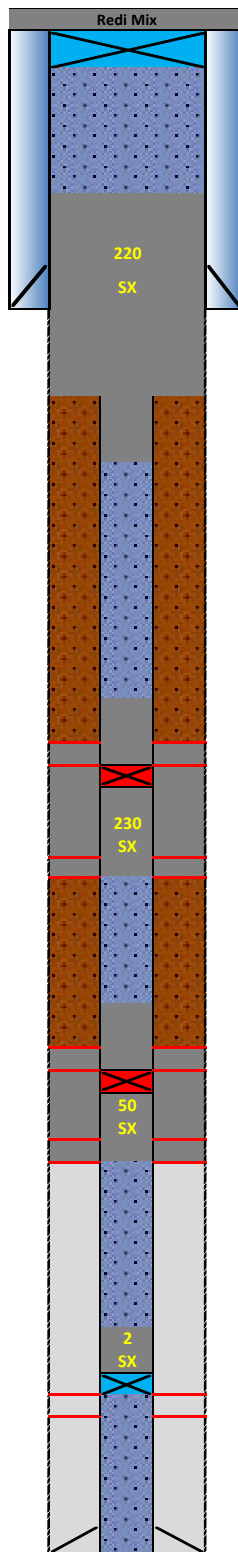
TOC (CBL)	6600
-----------	------

Niobrara Top	6825
--------------	------

Codell Top	7095
------------	------

J Sand Top	7525
Perf Top	7526
Perf Bottom	7580

PBMD	7791
4 1/2" 11.6# CSG	7825



Proposed Additions for P&A

80	CIBP 8 5/8" 24#
----	-----------------

410	TOC
-----	-----

Cement Blend: Type III w/ cello flake and CaCl₂ as necessary, mixed at 14.8 ppg and 1.33 cuft/sk yield.

900	Casing Stub
1000	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.

3600	TOC
------	-----

3800	Top Squeeze Holes
------	-------------------

3830	CICR
------	------

4300	BOC/Bottom Squeeze Holes
------	--------------------------

Cement Blend: 50/50 POZ "G" w/ 20% silica flour, 3% gel, 0.1% sodium metasilicate, 0.4% FL-52, mixed at 13.5 ppg and 1.71 cuft/sk yield.

6200	TOC
------	-----

6400	Top Squeeze Holes
------	-------------------

6430	CICR
------	------

6580	BOC/Bottom Squeeze Holes
------	--------------------------

7450	CIBP 4 1/2" 11.6#
------	-------------------

API#	05-123-21818			
WINS:	88788			
Equipment	Specs.	Depth	Capacity (bbl/ft)	Capacity ft ³ /ft
Surface Casing	8 5/8" (24#)	519	0.0636	0.3575
Production Casing	4 1/2" (11.6#)	7825	0.0155	0.0873
Tubing Size	2 3/8" (4.7#)	7507	0.003870	0.02171
Hole Size (TOP)	9	N/A	0.0787	0.4418
Hole Size (SU/SH)	9	N/A	0.0787	0.4418
Hole Size (NB)	8	N/A	0.0622	0.3491
OH X CSG Annulus (SU/SH)	N/A	N/A	0.0590	0.3313
OH X CSG Annulus (NB)	N/A	N/A	0.0425	0.2386

Cement Calculations				
Section	Volume cu-ft	Cement Sacks	Excess	
Open Hole	201.98	151.87	20%	Foxhills Plug 9 in. hole
Surface casing	38.97	29.30		
Production casing	8.73	6.56		
FX Total	240.95	187.73	220	
OH X CSG Annulus	198.78	172.85	20%	Sussex Squeeze 9 in. hole
Production casing	61.11	53.14		
SU Total	259.89	225.99	230	
OH X CSG Annulus	51.54	30.14	20%	NB Squeeze 8 in. hole
Production	33.17	19.40		
NB/CD Total	84.71	49.54	50	

Cement Yield	1.33	1.15	1.71
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