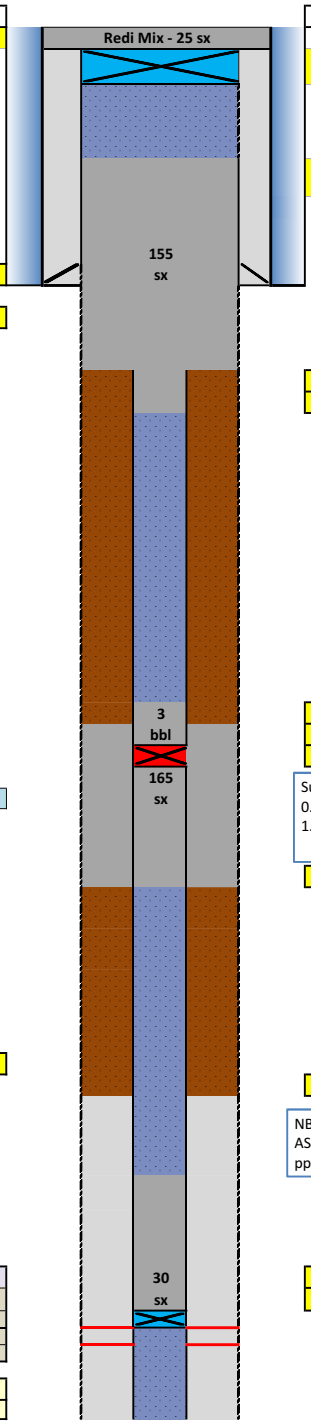
HSR-B/R B 4-21

Existing Features	
KB	10
8-5/8" 24# Surface csg shoe	546
Bottom of Foxhills (FHM)	698
Sussex Top	4108
SX & SH non productive within 1 mile	
TOC Primaryt existing (CBL)	5940
Nibrara Top	6793
Nio Perf Top	6853
Perf Bottom	6855
Codell Perf Top	7064
Perf Bottom	7071
PBMD	7176
4-1/2" CSG 11.6#	7210



Proposed Additions for P&A	
80	CIBP (8-5/8")
446	TOC

Cement Blend: Type III w/ cello flake and CaCl2, mixed at 14.8 ppg and 1.33 cuft/sk. with 20%

800	Csg Stub
900	Bottom of Cement
3750	TOC in csg
3900	TOC in annulus
3930	CICR

Sussex 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, with 20% excess and 8.5" hole size.

4310	BOC
6300	TOC in csg

NB 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

6740	BOC in csg
6740	CIBP

API#	05-123-18117			
Well:	HSR-B/R B 4-21			
Equipment	Specs.	Depth	Capacity (bbl/ft)	Capacity ft^3/ft
Surface Casing	8 5/8" 24#	546	0.0637	0.3576
Production Casing	4.50 (11.6#)	7210	0.0155	0.0872
Tubing Size				
Bit Size	7 7/8		0.0602	0.3382
Hole Size	8		0.0622	0.3491
Hole Size	8.5		0.0702	0.3941
Hole Size	12		0.1399	0.7854

Cement Calculations				
Section	Volume cu-ft	Cement Sacks	Excess	Top Plug
8-5/8" csg	71.52	53.77		
OH	120.11	90.31	20%	8.5"
4-1/2" csg	8.72	6.56		
Total Top Plug	200.35	150.64	155	
	206.15	cu-ft		
top CICR	15.70	13.65		SX/ SH Plug
annulus	139.54	121.34	20%	8.5"
Casing	33.14	28.81		
Total	188.37	163.80	165	Caliper
	189.75	cu-ft		
NB/CD Csg	38.37	27.80		NB/CD Plug
Total	38.37	27.80	30	
	41.4			
Cement Yield	1.33	1.15	1.71	1.38
	Top Plug	SX/SH	NB/Cd Squeeze	NB/Cd in pipe

Legend	
	New cement
	Existing cement with CBL
	assumed cement w/ no CBL
	cast iron cement retainer
	cast iron bridge plug
	mud
	2% KCL Water