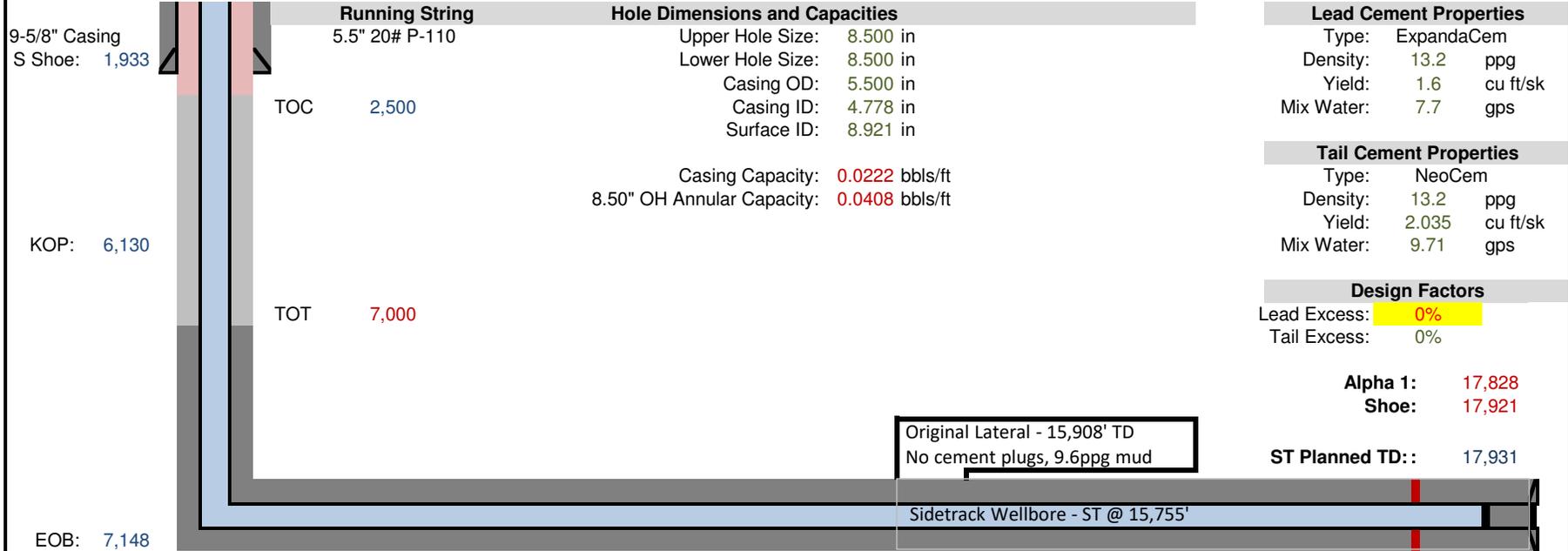


LARSON AA19-624

5-1/2" Production String Cement Job



Note: Be sure to review cement calculations with the cement supervisor based on actual running string, cement yield, and pump time. **These are preliminary estimates only.**

Pump Schedule

Tuned Spacer w/ Surfactant (11.5 ppg)	120.0	bbls		
Lead Cement (13.2 ppg)	183.6	bbls	645	sks
Tail Cement (13.2 ppg)	446.4	bbls	1232	sks
Displacement (FW + Retarder):	397.4	bbls		

Job Time (Estimate only)

Spacer:	120	bbls	6	bpm	20	min
Lead Cement:	184	bbls	7	bpm	26	min
Tail Cement:	446	bbls	7	bpm	64	min
Shutdown:	0	bbls	0	bpm	15	min
Disp:	397	bbls	6	bpm	66	min
TOTAL:	1147	bbls			191	min
					3.2	hrs

Centralizer Program

Type	Frequency	From	To	Amount Required
5-1/2" x 8.5" Halliburton Red-X	1 per 2	2,400	5,131	31
5-1/2" x 8.5" Halliburton Red-X	1 per 1	5,131	7,248	48
5-1/2" x 8.5" Halliburton Red-X	1 per 2	7,248	17,931	122
				Total Centek: 201