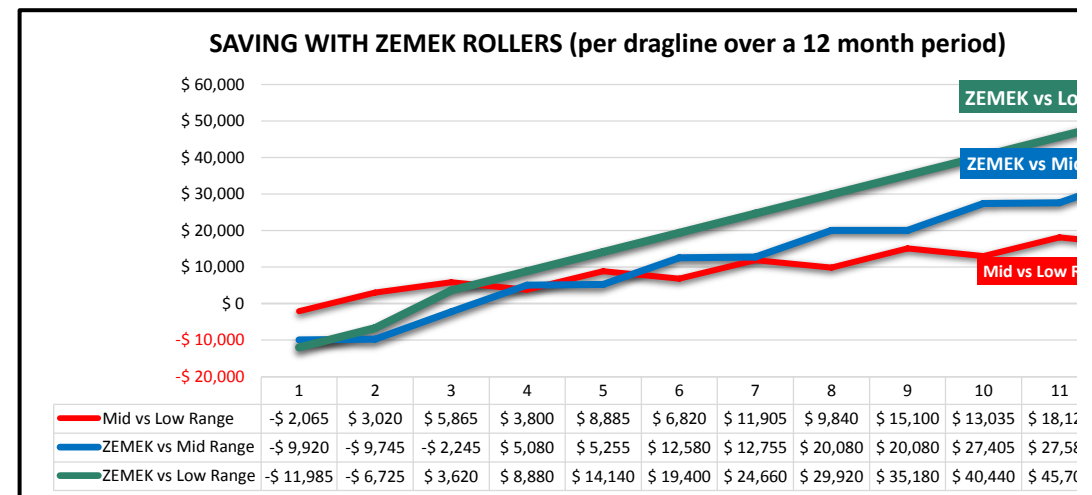
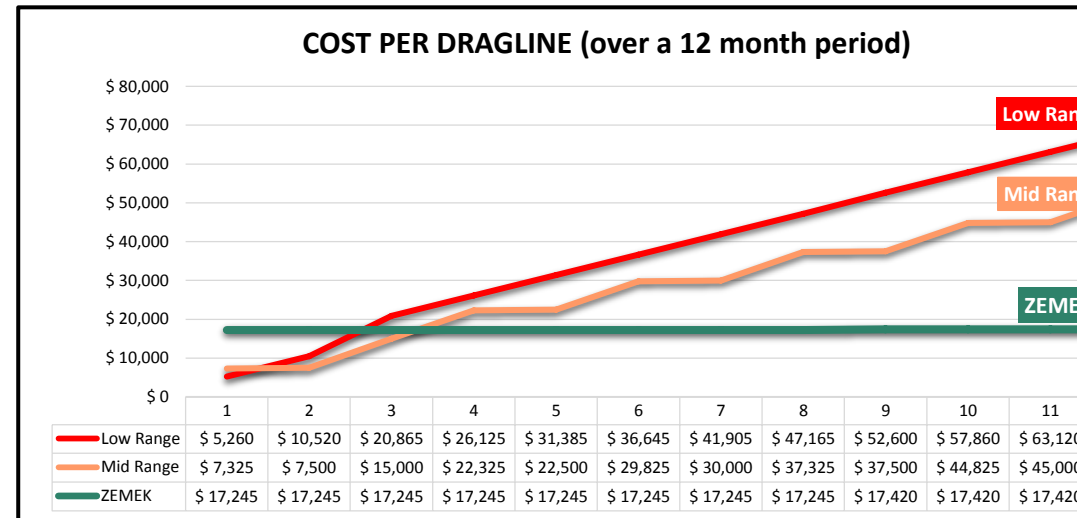


Zemek: Dragline Roller Benefit Analyses

Assumptions

Roller Type	Low Range	Mid Range	Top Range
Physical Characteristics			
Abbrasion Loss (mm ³)	88	60	29
Hardness (Shore A)	93	93	95
Replacement and Rotation of Rollers (per dragline)			
<i>Intervals between Replacements and Rotations (weeks):</i>			
Weeks from replacement to rotation	2	4	36
Weeks from rotation to replacement	2	4	24
Total weeks between replacements	4	8	60
<i>Number of dragtunnel rollers per dragline (set consists of 2 x 4 rollers each side)</i>	16		
<i>Resource time to rotate or replace (hours):</i>			
Hours per rotation or replacement	2.5		
Number of FTEs allocated	2.0		
Total FTE per rotation or replacement (manhours)	5.0		
<i>Resource cost per FTE (per hour)</i>	\$ 35		
Customer Cost at Site (per roller)			
Buy price (ex Supplier)	\$ 300	\$ 440	\$ 1,060
Freight cost from Supplier to Site	\$ 7	\$ 7	\$ 7
Landed cost at site	\$ 307	\$ 447	\$ 1,067



Zemek: Dragline Roller Benefit Analyses

PER DRAGLINE												
Month	1	2	3	4	5	6	7	8	9	10	11	12
LOW RANGE												
Number of Replacements	1	1	2	1	1	1	1	1	1	1	1	1
Number of Rotations	1	1	1	1	1	1	1	1	2	1	1	1
Total number of Rotations and Replacements	2	2	3	2	2	2	2	2	3	2	2	2
Resource hours for rotations and replacements	10	10	15	10	10	10	10	10	15	10	10	10
Estimated Roller Cost												
Cost for sets of rollers (landed)	\$ 4,910	\$ 4,910	\$ 9,820	\$ 4,910	\$ 4,910	\$ 4,910	\$ 4,910	\$ 4,910	\$ 4,910	\$ 4,910	\$ 4,910	\$ 4,910
Resource cost	\$ 350	\$ 350	\$ 525	\$ 350	\$ 350	\$ 350	\$ 350	\$ 350	\$ 525	\$ 350	\$ 350	\$ 350
Monthly Total Cost	\$ 5,260	\$ 5,260	\$ 10,345	\$ 5,260	\$ 5,260	\$ 5,260	\$ 5,260	\$ 5,260	\$ 5,435	\$ 5,260	\$ 5,260	\$ 5,260
Cumulative Cost <i>Low Range</i>	\$ 5,260	\$ 10,520	\$ 20,865	\$ 26,125	\$ 31,385	\$ 36,645	\$ 41,905	\$ 47,165	\$ 52,600	\$ 57,860	\$ 63,120	\$ 68,380
MID RANGE												
Number of Replacements	1	0	1	1	0	1	0	1	0	1	0	1
Number of Rotations	0	1	1	0	1	0	1	0	1	0	1	0
Total number of Rotations and Replacements	1	1	2	1	1	1	1	1	1	1	1	1
Resource hours for rotations and replacements	5	5	10	5	5	5	5	5	5	5	5	5
Estimated Roller Cost												
Cost for sets of rollers (landed)	\$ 7,150	\$ 0	\$ 7,150	\$ 7,150	\$ 0	\$ 7,150	\$ 0	\$ 7,150	\$ 0	\$ 7,150	\$ 0	\$ 7,150
Resource cost	\$ 175	\$ 175	\$ 350	\$ 175	\$ 175	\$ 175	\$ 175	\$ 175	\$ 175	\$ 175	\$ 175	\$ 175
Monthly Total Cost	\$ 7,325	\$ 175	\$ 7,500	\$ 7,325	\$ 175	\$ 7,325	\$ 175	\$ 7,325	\$ 175	\$ 7,325	\$ 175	\$ 7,325
Cumulative Cost <i>Mid Range</i>	\$ 7,325	\$ 7,500	\$ 15,000	\$ 22,325	\$ 22,500	\$ 29,825	\$ 30,000	\$ 37,325	\$ 37,500	\$ 44,825	\$ 45,000	\$ 52,325
Estimated Cost SAVING!												
Cumulative Saving <i>Mid vs Low Range</i>	-\$ 2,065	\$ 3,020	\$ 5,865	\$ 3,800	\$ 8,885	\$ 6,820	\$ 11,905	\$ 9,840	\$ 15,100	\$ 13,035	\$ 18,120	\$ 16,055
TOP RANGE (ZEMEK)												
Number of Replacements	1	0	0	0	0	0	0	0	0	0	0	0
Number of Rotations	0	0	0	0	0	0	0	0	1	0	0	0
Total number of Rotations and Replacements	1	0	0	0	0	0	0	0	1	0	0	0
Resource hours for rotations and replacements	5	0	0	0	0	0	0	0	5	0	0	0
Estimated Roller Cost												
Cost for sets of rollers (landed)	\$ 17,070	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Resource cost	\$ 175	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 175	\$ 0	\$ 0	\$ 0
Monthly Total Cost	\$ 17,245	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 175	\$ 0	\$ 0	\$ 0
Cumulative Cost <i>ZEMEK</i>	\$ 17,245	\$ 17,245	\$ 17,245	\$ 17,245	\$ 17,245	\$ 17,245	\$ 17,245	\$ 17,245	\$ 17,420	\$ 17,420	\$ 17,420	\$ 17,420
Estimated Cost SAVING!												

Zemek: Dragline Roller Benefit Analyses

<i>Cumulative Saving</i>	<i>ZEMEK vs Low Range</i>	-\$ 11,985	-\$ 6,725	\$ 3,620	\$ 8,880	\$ 14,140	\$ 19,400	\$ 24,660	\$ 29,920	\$ 35,180	\$ 40,440	\$ 45,700	\$ 50,960
<i>Cumulative Saving</i>	<i>ZEMEK vs Mid Range</i>	-\$ 9,920	-\$ 9,745	-\$ 2,245	\$ 5,080	\$ 5,255	\$ 12,580	\$ 12,755	\$ 20,080	\$ 20,080	\$ 27,405	\$ 27,580	\$ 34,905

Range, \$ 68,380

Range, \$ 52,325

EEK, \$ 17,420

	12
0	\$ 68,380
0	\$ 52,325
0	\$ 17,420

ow Range, \$ 5

d Range, \$ 34,5

Range, \$ 16,055

	12
20	\$ 16,055
80	\$ 34,905
00	\$ 50,960

Annual
13
13
26
130
\$ 63,830
\$ 4,550
\$ 68,380
7
6
13
65
\$ 50,050
\$ 2,275
\$ 52,325
1
1
2
10
\$ 17,070
\$ 350
\$ 17,420

