

Table S7. Cost calculation for hauling truck (20 tons) - Hauling directly to satellite yard

	A	B	C
1	20 tons Truck	Hauling Truck	
2	Time	Base Year	
3	Production	Non-Frozen	Frozen
4	Annual Production (m ³)	750,000	1,400,000
5	Days	106	80
6	Hours/Day	21	19
7	Input		
8	Annual Available Hours	2,226	1,520
9	Utilization Percentage [42]	80	80
10	Annual Production Hours	1,781	1,216
11	Expected Life (Years) [49]	6.00	
12	Purchase Information		
13	Equipment Purchase Cost (\$) [48]	100,000	
14	Salvage Value (%) [49]	0.15	
15	Fuel Price (\$) [41]	1.00	
16	Oil Lube Costs (%) [41]	0.12	
17	Insurance Costs (%) [41]	0.035	
18	Load Factor	0.25	
19	Salvage Value (\$)	15,000	
20	Rate of Return on Total Capital	57,500	
21	Average Annual Equipment Value (\$)	0.10	
22	Fuel Consumption (lt/hr) [50]	26.20	28.00
23	Ownership Costs		
24	Depreciation (\$/year)	14,167	
25	Insurance (\$/year)	2,013	
26	Return on Capital (\$/year)	5,750	
27	Annual Ownership Costs (\$/year)	21,929	
28	Total Ownership Costs (\$/year)	65,788	
29	Total Ownership Unit Cost (\$/m³)	0.03	
30	Labor Costs		
31	Straight Time	1,908	1,440
32	Overtime Worked	318	80
33	Wage (\$/hr) [32]	28.75	28.75
34	Overtime (\$/hr)	43.13	43.13
35	Seasonal Labor Costs (\$)	68,569	44,850
36	Add Employee Load (Benefits)	17,142	11,213
37	Total Labour Costs (\$)	85,711	56,063
38	Total Labor Unit Costs (\$/m³)	0.18	0.13
39	Operation Costs		
40	Fuel cost (\$/hr)	26.20	28.00
41	Oil/Lube Cost (\$/hr)	3.14	3.36
42	Fuel & Lube Cost (\$/m ³)	0.07	0.03
43	Repair & Maintenance Costs (\$/year)	11,333	
44	Repair & Maintenance Costs (\$/m ³)	0.145	
45	Total Operation Costs (Season)	55,545	40,616
46	Total Operation Unit Costs (\$/m³)	1.11	0.79
47	Total Equipment Unit Costs (seasonal) (\$/m³)¹	1.31	0.95
48	Number of trips	13	25
49	Number of Equipments	2	3
50	Productivity (m ³ /Pmh) (Table S9)	29.05	41.85
51	Availability (%)	0.90	0.90
52	Productivity (m ³ /Smh)	26.14	37.66
53	¹ This total cost includes operation costs and transportation costs calculated in Table S10.		