

Shaft Assumptions for LBNF (December 2016)

Specifications		Yates Shaft		Ross Shaft	
		South Cage	North Work Deck	Service Hoist	Production Hoist
		Conical DD	Conical DD	Conical DD	Conical DD
Payload	Mass (lbs)	10,600	3,000 lbs top deck 4,000 lbs bottom deck	13,000	22,000
	Personnel	30	16	60	N/A
Rope mass	Mass (lbs)	32,441	32,441	21,785	31,415
Conveyance mass	Mass (lbs)	12,800	14,300	8,200	15,000
Number of ropes		1	1	1	1
Rope size	inch dia.	1.875	1.875	1.625	1.875
Rope strength	lbs	338,000	338,000	258,000	348,000
Cage inside dimensions	No. of Decks	1	2	1	N/A
	No. of Cages	1	1	1	N/A
	height (ft)	8' 5 1/2"	Varies per deck See Drawing	11' 6"	N/A
	width (ft)	4'-8 1/2"		4'-7"	N/A
length (ft)	12'-4 1/2"		12'-1/2"	N/A	
Slinging Dimensions Under Cage	height (ft)	See Chart on Slung Load Work Sheet	See Chart on Slung Load Work Sheet	See Chart on Slung Load Work Sheet	N/A
	width (ft)				N/A
	length (ft)				N/A
Guides		wood	wood	wood	wood
	Length (ft)	4,934	4,934	5,129	5,129
Shaft	From	surface	surface	surface	surface
	To	4850L	4850L	5000L	5000L
Typical Set spacing	ft	6	6	18	18
Hoisting speed	ft/min	500-800	500-800	1300-2800	1300-2800
Hoist Power Rated	HP	2,500	2,500	1,500	2,400
Motor Speed	rpm	360	360	340	375
Skip cycle time (one-way)	mins	N/A	N/A	N/A	3.60
Cage travel time (one-way)	mins	10.00	10.00	3.50	N/A
Cage load/unload time	mins	5.00	5.00	5.00	N/A
Cage total time (one-way)	mins	15.00	15.00	8.50	N/A
Cage total time (return)	mins	30.00	30.00	17.00	N/A
Slinging capacity at 150fpm	tons	5	2	6.5	
Slung Load travel time (one-way)	mins	33.00	33.00	33.00	N/A
Slung Load load/unload time	mins	15.00	15.00	15.00	N/A
Slung Load total time (one-way)	mins	48.00	48.00	48.00	N/A
Slung Load total time (return)	mins	73.00	73.00	66.50	N/A
Availability (after all planned maintenance)	hours/day	11hrs/dy - 4 dys/wk	11hrs/dy - 4 dys/wk	20	20
Production capacity	tons/day	N/A	N/A	N/A	3,000

	Yates Shaft (metric units)		Ross Shaft (metric units)	
	South Cage	North Work Deck	Service Hoist	Production Hoist
	Conical DD	Conical DD	Conical DD	Conical DD
Mass (kgs)	3,956	1,119 kgs top deck 1,493 kgs bottom deck	4,852	8,211
	30	16	60	N/A
Mass (kgs)	12,108	12,108	8,131	11,725
Mass (kgs)	4,777	5,337	3,061	5,599
	1	1	1	1
mm dia.	47.625	47.625	41.275	47.625
kgs	126,155	126,155	96,296	129,888
	1	2	2	N/A
	1	1	1	N/A
height (m)	2.58	Varies per deck See Drawing	3.50	N/A
width (m)	1.43		1.40	N/A
length (m)	3.77		3.67	N/A
height (m)	See Chart on Slung Load Work Sheet	See Chart on Slung Load Work Sheet	See Chart on Slung Load Work Sheet	N/A
width (m)				N/A
length (m)				N/A
	wood	wood	wood	wood
length (m)	1,504	1,504	1,563	1,563
	surface	surface	surface	surface
	4850L	4850L	5000L	5000L
m	1.83	1.83	5.49	5.49
m/sec	2.54-4.06	2.54-4.06	6.60-14.22	6.60-14.22
KW	1,865	1,865	1,119	1,790
rpm	360	360	340	375
mins	N/A	N/A	N/A	3.60
mins	10.00	10.00	3.50	N/A
mins	5.00	5.00	5.00	N/A
mins	15.00	15.00	8.50	N/A
mins	30.00	30.00	17.00	N/A
Tonnes	4.54	1.81	5.90	
mins	33.00	33.00	33.00	N/A
mins	15.00	15.00	15.00	N/A
mins	48.00	48.00	48.00	N/A
mins	73.00	73.00	66.50	N/A
hours/day	11hrs/dy - 4 dys/wk	11hrs/dy - 4 dys/wk	20	20
Tonnes/day	N/A	N/A	N/A	FALSE