

APPENDIX B – SUMMARY OF SELECT UNIT COSTS

The following general notes apply to the unit costs presented below.

- RS Means data applied to:
 - Specific crew (labour and equipment) required to execute reclamation actions required to execute a complete reclamation security.
 - Crew output.
 - Ottawa cost index factor to transform unit costs from US average to Ottawa average.
 - US average costs include worker's compensation, fixed overhead, percent overhead and percent profit.
- Nunavut index factor applied to transform unit costs from Ottawa average to Nunavut average.
- The labour, equipment, output, and unit costs were applied to develop the effective unit cost for reclamation activity.



Table B1: Unit Cost for Fill Application

Fill Application										
- Drilling and blasting rock, open face, over 1000 m3										
- Process aggregate (crush quarried rock) and load; USING BIMC CRUSHING COST ; assumes crushing plant is at quarry.										
- Excavate and load with 2.86 m3 hydraulic excavator (similar to CAT 385C)										
- Haul with 26 m3 haul truck (similar to CAT 740) cycle distance of 3.2 km @ 24km/h; 15 min. load/wait/unload										
- Spread dumped material by dozer										
- Compaction 300mm lifts plus 4 passes; riding vibrating roller										
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
					Hourly	Daily		Hourly		Hourly
Drilling and Blasting Rock 312316300100	Crew	B47	1 Blast Foreman (outside)		\$59.65		1.05	\$62.63	1.6	\$100.21
			1 Driller		\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator (light)		\$71.35		1.05	\$74.92	1.6	\$119.87
			1 Air Track Drill, 4"		\$143.00	\$1,144.00	1.038	\$148.43	2.5	\$371.09
			1 Air Compressor, 600 cfm		\$75.98	\$607.86	1.038	\$78.87	2.5	\$197.17
			2-50' Air Hoses, 3"		\$4.10	\$32.78	1.038	\$4.25	2.5	\$10.63
										\$893.98 /hr
Excavation of Fill Material 312316420305	Crew	B47	Daily Output (Volume) =			1440 Bm3				
			Daily Cost (8 hour day) =			\$7,151.81				
			Cost per m³ =			\$4.97 /m³				
	Crew	B12D	1 Equipment Operator (crane)		\$76.20		1.05	\$80.01	1.6	\$128.02
			1 Labourer		\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Hydraulic Excavator, 3.5 C.Y.		\$335.78	\$2,686.20	1.038	\$348.53	2.5	\$871.34
										\$1,094.36 /hr
Crew	B12D	Daily Output (Volume) =			1835 Bm3					
		Daily Cost (8 hour day) =			\$8,754.85					



Fill Application

- Drilling and blasting rock, open face, over 1000 m3
- Process aggregate (crush quarried rock) and load; **USING BIMC CRUSHING COST**; assumes crushing plant is at quarry.
- Excavate and load with 2.86 m3 hydraulic excavator (similar to CAT 385C)
- Haul with 26 m3 haul truck (similar to CAT 740) cycle distance of 3.2 km @ 24km/h; 15 min. load/wait/unload
- Spread dumped material by dozer
- Compaction 300mm lifts plus 4 passes; riding vibrating roller

				U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Cost per m3 =				\$4.77	/m³				
Haul Fill Material 312323206180	Crew	B34G	1 Truck Driver (heavy)	\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Dump Truck, Off Hwy., 50 Ton	\$245.63	\$1,965.00	1.038	\$254.96	2.5	\$637.40
								\$733.66	/hr
	Crew	B34G	Daily Output (Volume) =	546	Bm3				
			Daily Cost (8 hour day) =	\$5,869.29					
			Cost per m³ =	\$10.75	/m³				
Spread Fill Material 312323145000	Crew	B10M	1 Equipment Operator (medium)	\$74.15		1.05	\$77.86	1.6	\$124.57
			0.5 Labourer	\$28.28		1.05	\$29.69	1.6	\$47.50
			1 Dozer, 300 H.P.	\$249.84	\$1,998.70	1.038	\$259.33	2.5	\$648.33
								\$820.40	/hr
	Crew	B10M	Daily Output (Volume) =	2424	Lm3				
			Daily Cost (8 hour day) =	\$6,563.22					
			Cost per m3 =	\$2.71	/m³				
Compaction 312323235100	Crew	B10Y	1 Equipment Operator (medium)	\$74.15		1.05	\$77.86	1.6	\$124.57
			0.5 Labourer	\$28.28		1.05	\$29.69	1.6	\$47.50



Fill Application

- Drilling and blasting rock, open face, over 1000 m3
- Process aggregate (crush quarried rock) and load; **USING BIMC CRUSHING COST**; assumes crushing plant is at quarry.
- Excavate and load with 2.86 m3 hydraulic excavator (similar to CAT 385C)
- Haul with 26 m3 haul truck (similar to CAT 740) cycle distance of 3.2 km @ 24km/h; 15 min. load/wait/unload
- Spread dumped material by dozer
- Compaction 300mm lifts plus 4 passes; riding vibrating roller

					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Crew	B10Y	1 Vibrating Roller, Towed, 12 Ton			\$76.89	\$615.12	1.038	\$79.81	2.5	\$199.53
										\$371.60 /hr
		Daily Output (Volume) =			1988	Em3				
		Daily Cost (8 hour day) =			\$2,972.83					
		Cost per m³ =			\$1.50	/m³				
TOTAL Cost per m3 =					\$24.69	/m³				
Using BIMC Crushing Cost =					\$4.18	/m³				
Assuming an average depth of 1.5m										
TOTAL Cost per m2 =					\$43.31	/m²				
					Unit Cost Fill Application (ARKTIS) =					\$43.31 /m²



Table B2: Unit Cost for Grade and Re-contour

Grade and Re-Contour													
- Rip medium hard till; 224 kW dozer, ideal conditions													
- 306kW dozer (similar to D8T), 30m haul													
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs		
Rip Areas 312316322830	Crew	B11S	1 Equipment Operator (medium)			Hourly	Daily	1.05	Hourly	1.6	Hourly		
			0.5 Labourer			\$74.15						\$77.86	\$124.57
			1 Dozer, 300 H.P.			\$28.28						\$29.69	\$47.50
			1 Ripper, Beam & 1 Shank			\$249.84	\$1,998.70					\$259.33	\$648.33
				\$11.19	\$89.54	\$11.62	\$29.04						
								\$849.45	/hr				
	Crew	B11S	Daily Output (Volume) =										
			Daily Cost (8 hour day) =										
Cost per m³ =													
Dozing Ripped Material 312316323400	Crew	B10X	1 Equipment Operator (medium)			\$74.15		1.05	\$77.86	1.6	\$124.57		
			0.5 Labourer			\$28.28		1.05	\$29.69	1.6	\$47.50		
			1 Dozer, 410 H.P.			\$81.37	\$650.98	\$84.46	\$211.16				
										\$383.24	/hr		
	Crew	B10X	Daily Output (Volume) =										
			Daily Cost (8 hour day) =										
			Cost per m³ =										
TOTAL Cost per m3 =					\$3.87	/m³							
Assuming an average depth of 0.5m													
TOTAL Cost per m2 =					\$1.93	/m²							
Unit Cost Grade and Re-contour (ARKTIS) =											\$1.93 /m²		

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Table B3: Unit Cost for Grade and Re-contour Significantly Disturbed Areas

Grade and Re-Contour Significantly Disturbed Areas

- Rip medium hard till; 224 kW dozer, ideal conditions
- 306kW dozer (similar to D8T), 30m haul
- Assumed 50% more man-hours and equipment than regular grade and contour.

						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs		
Rip Areas 312316322830	Crew	B11S	1 Equipment Operator (medium)			Hourly	Daily	1.05	Hourly	1.6	Hourly		
			0.5 Labourer			\$74.15	\$1,998.70					\$77.86	\$124.57
			1 Dozer, 300 H.P.			\$28.28						\$29.69	\$47.50
			1 Ripper, Beam & 1 Shank			\$249.84						\$259.33	\$648.33
				\$11.19	\$89.54	\$11.62	\$29.04						
								\$849.45 /hr					
	Crew			B11S	Daily Output (Volume) =	3058.67	Bm3						
			Daily Cost (8 hour day) =	\$6,795.57									
			Cost per m³ =	\$2.22	/m³								
Dozing Ripped Material 312316323400	Crew	B10X	1 Equipment Operator (medium)			\$74.15		1.05	\$77.86	1.6	\$124.57		
			0.5 Labourer			\$28.28		1.05	\$29.69	1.6	\$47.50		
			1 Dozer, 410 H.P.			\$81.37	\$650.98	1.038	\$84.46	2.5	\$211.16		
											\$383.24 /hr		
	Crew			B10X	Daily Output (Volume) =	856.667	Bm3						
				Daily Cost (8 hour day) =	\$3,065.89								
				Cost per m³ =	\$3.58	/m³							
			TOTAL Cost per m3 =	\$5.80	/m³								
			TOTAL Cost per m2 =	\$2.90	/m²								
Unit Cost Grade and Re-contour Significantly Disturbed Areas (ARKTIS) =											\$2.90 /m²		



Table B4: Unit Cost for Culvert Removal

Culvert Removal										
- 1.2m to 2m depth; 1.15m ³ excavator										
- Calculation of each based on 0.61m x 1.2m x 20m long excavation										
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
					Hourly	Daily		Hourly		Hourly
Excavate Culvert	Crew	B12B	1 Equip. Operator		\$76.20		1.05	\$80.01	1.6	\$128.02
			1 Labourer		\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Hyd. Excavator, 1.5 C.Y.		\$141.76	\$1,134.10	1.038	\$147.15	2.5	\$367.87
										\$590.89 /hr
			Daily Output (area) =	413 m ³						
			Daily Cost (8 hour day) =	\$4,727.15						
			Cost per m ³ =	\$11.45 /m ³						
			Cost per culvert =	\$549.40 /culvert						
Travel to/from Location (25 km average) (30 km/h)	Crew	B12B	1 Equip. Operator		\$76.20		1.05	\$80.01	1.6	\$128.02
			1 Labourer		\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Hyd. Excavator, 1.5 C.Y.		\$141.76	\$1,134.10	1.038	\$147.15	2.5	\$367.87
										\$590.89 /hr
			Travel Time (return) =	1.67 hr.						
			Daily Cost (8 hour day) =	\$984.82						
			Culverts/day =	9 culverts						
			Cost per culvert =	\$109.42 /culvert						
Long Haul Culvert	Crew	B34D	1 Truck Driver (heavy)		\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 6x4, 380 H.P.		\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65
			1 Dump Trailer, 20 C.Y.		\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03
										\$359.95 /hr



Culvert Removal							
- 1.2m to 2m depth; 1.15m3 excavator							
- Calculation of each based on 0.61m x 1.2m x 20m long excavation							
		U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
		Hourly	Daily		Hourly		Hourly
Culvert/day =			9 culverts				
Daily Cost (8 hour day) =			\$2,879.59				
Cost per culvert =			\$319.95 /culvert				
TOTAL Cost per Culvert =			\$978.78 /culvert				
				Unit Cost Culvert Removal (ARKTIS) =		\$978.78 /culvert	



Table B5: Unit Cost for Liner Removal

Liner Removal										
- Cost data is for installation of 2.0mm HDPE liner										
- For removal it is assumed that removal takes a 1/3 the amount of time as installation										
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Liner Removal	Crew	B47H	1 Skilled Worker Foreman		Hourly	Daily		Hourly		Hourly
25613100730			3 Skilled Workers (\$73.25/hr.)		\$76.35		1.05	\$80.17	1.60	\$128.27
			1 Flat bed Truck, Gas, 3 Ton		\$219.75		1.05	\$230.74	1.60	\$369.18
					\$45.79	\$366.30	1.04	\$47.53	2.50	\$118.82
										\$616.27 /hr
			Daily Output (area) =	1550 m²						
			Daily Cost (8 hour day) =	\$4,930.13						
			Cost per m² =	\$3.18 /m²						
Short Haul Liner	Crew	B34D	1 Truck Driver (heavy)		\$57.30		1.05	\$60.17	1.60	\$96.26
			1 Truck Tractor, 6x4, 380 H.P.		\$84.26	\$674.08	1.04	\$87.46	2.50	\$218.65
			1 Dump Trailer, 20 C.Y.		\$17.35	\$138.82	1.04	\$18.01	2.50	\$45.03
										\$359.95 /hr
			Daily Output (area) =	1550 m2						
			Daily Cost (0.5 hour) =	\$359.95						
			Cost per m² =	\$0.23						
TOTAL Cost per m2 =				\$3.41 /m²						
Unit Cost Liner Removal (ARKTIS) =										\$3.41 /m²



Table B6: Unit Cost for Light Equipment Disposal

Light Equipment Disposal									
				U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
				Hourly	Daily		Hourly		Hourly
Disassemble and Decontaminate	Crew	N/A	0.5 Labor Foreman 1 Skilled Worker	\$29.83		1.05	\$31.32	1.6	\$50.11
				\$73.25		1.05	\$76.91	1.6	\$123.06
	Crew	N/A	Daily Output (Volume) = 1.14 each Daily Cost (8 hour day) = \$1,385.33 Cost each = \$1,212.16 each						\$173.17 /hr
Load	Crew	N/A	1 Labor Foreman (outside)	\$59.65		1.05	\$62.63	1.6	\$100.21
			1 Laborer	\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator (light)	\$71.35		1.05	\$74.92	1.6	\$119.87
			1 Light Equipment	\$50.22	\$401.72	1.038	\$52.12	2.5	\$130.31
	Crew	N/A	Daily Output (Volume) = 8 each Daily Cost (8 hour day) = \$3,563.14 Cost each = \$445.39 each						\$445.39 /hr
Haul	Crew	N/A	1 Truck Driver (heavy)	\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.	\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton	\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
									\$281.24 /hr
Haul (cont'd)	Crew	N/A	Daily Output (Volume) = 17.77777778 each Daily Cost (8 hour day) = \$2,249.88						



Light Equipment Disposal

	U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
	Hourly	Daily		Hourly		Hourly
Cost each =		\$126.56				
TOTAL Cost per m3 =		\$1,784.11	each			
Unit Cost Light Equipment Disposal (ARKTIS) =						\$1,784.11 each



Table B7: Unit Cost of Medium Equipment Disposal

Medium Equipment Disposal											
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Disassemble and Decontaminate	Crew	N/A	0.5 Labor Foreman 1 Skilled Worker			Hourly	Daily	1.05	Hourly	1.6	Hourly
						\$29.83	\$73.25		\$31.32		\$76.91
	Crew	N/A	Daily Output (Volume) = 0.44 each Daily Cost (8 hour day) = \$1,385.33 Cost each = \$3,116.99 each					1.05	\$76.91	1.6	\$123.06
											\$173.17 /hr
Load	Crew	N/A	1 Labor Foreman (outside) 1 Laborer 1 Equipment Operator (light) 1 Medium Equipment			\$59.65		1.05	\$62.63	1.6	\$100.21
						\$56.55		1.05	\$59.38	1.6	\$95.00
						\$74.15		1.05	\$77.86	1.6	\$124.57
						\$51.34	\$410.74	1.038	\$53.29	2.5	\$133.23
	Crew	N/A	Daily Output (Volume) = 4 each Daily Cost (8 hour day) = \$3,624.17 Cost each = \$906.04 each							1.6	\$453.02 /hr
Haul	Crew	N/A	1 Truck Driver (heavy) 1 Truck Tractor, 220 H.P. 1 Flatbed Trailer, 40 Ton			\$57.30		1.05	\$60.17	1.6	\$96.26
						\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
						\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
	Crew	N/A	Daily Output (Volume) = 8.88888889 each Daily Cost (8 hour day) = \$2,249.88 Cost each = \$253.11								\$281.24 /hr



Medium Equipment Disposal			
TOTAL Cost per m3 =		\$4,276.14	each
Unit Cost Medium Equipment Disposal (ARKTIS) =			\$4,276.14 each



Table B8: Unit Cost for Heavy Equipment Disposal

Heavy Equipment Disposal											
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs	
Disassemble and Decontaminate	Crew	N/A	0.5 Labor Foreman			Hourly		Hourly		Hourly	
			1 Skilled Worker			\$29.83	1.05	\$31.32	1.6	\$50.11	
	Crew	N/A	Daily Output (Volume) =		0.05	\$73.25	1.05	\$76.91	1.6	\$123.06	
			Daily Cost (8 hour day) =							\$173.17 /hr	
			Cost each =		\$29,091.89						
Load	Crew	N/A	1 Labor Foreman (outside)			\$59.65	1.05	\$62.63	1.6	\$100.21	
			1 Equipment Operator			\$76.20	1.05	\$80.01	1.6	\$128.02	
			1 Laborer			\$56.55	1.05	\$59.38	1.6	\$95.00	
			1 Crane		\$120.18	\$961.40	1.038	\$124.74	2.5	\$311.85	
	Crew	N/A	Daily Output (Volume) =		0.5					\$635.09 /hr	
			Daily Cost (8 hour day) =			\$5,080.69					
			Cost each =		\$10,161.38						
Haul	Crew	N/A	1 Truck Driver (heavy)			\$57.30	1.05	\$60.17	1.6	\$96.26	
			1 Truck Tractor, 220 H.P.			\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
	Crew	N/A	Daily Output (Volume) =		1					\$335.47 /hr	
			Daily Cost (8 hour day) =			\$2,683.77					



Heavy Equipment Disposal			
	Cost per m3 =	\$2,683.77	
		Unit Cost Heavy Equipment Disposal (ARKTIS) =	\$41,937.03 each



Table B9: Unit Cost for Light Mobile Equipment Disposal

Light Mobile Equipment Disposal				U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
				Hourly	Daily		Hourly		Hourly
Disassemble and Decontaminate	Crew	N/A	1 Skilled Worker	\$73.25		1.05	\$76.91	1.6	\$123.06
									\$123.06 /hr
			Daily Output (Volume) = 1.6 each Daily Cost (8 hour day) = \$984.48 Cost each = \$615.30 each						
Load	Crew	N/A	1 Laborer	\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator Medium	\$74.15		1.05	\$77.86	1.6	\$124.57
			1 F.E. Loader, W.M., 2.5 CY	\$71.89	\$575.08	1.038	\$74.62	2.5	\$186.54
	Crew	N/A							\$406.12 /hr
			Daily Output (Volume) = 24 each Daily Cost (8 hour day) = \$3,248.94 Cost each = \$135.37 each						
Haul	Crew	N/A	1 Truck Driver (heavy)	\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.	\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton	\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
	Crew	N/A							\$281.24 /hr
			Daily Output (Volume) = 12 each Daily Cost (8 hour day) = \$2,249.88 Cost per m3 = \$187.49						

Unit Cost Light Mobile Equipment Disposal (ARKTIS) = \$938.16 each



Table B10: Unit Cost for Medium Mobile Equipment Disposal

Medium Mobile Equipment Disposal									
				U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
				Hourly	Daily		Hourly		Hourly
Disassemble and Decontaminate	Crew	N/A	1 Skilled Worker	\$73.25		1.05	\$76.91	1.6	\$123.06
									/hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost each =		1.14 each \$984.48 \$861.42 each				
Load	Crew	N/A	1 Laborer	\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator Medium	\$74.15		1.05	\$77.86	1.6	\$124.57
			1 F.E. Loader, W.M., 2.5 CY	\$71.89	\$575.08	1.038	\$74.62	2.5	\$186.54
									\$406.12 /hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost each =		24 each \$3,248.94 \$135.37 each				
Haul	Crew	N/A	1 Truck Driver (heavy)	\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.	\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton	\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
									\$281.24 /hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost per m3 = TOTAL Cost per m3 =		4 each \$2,249.88 \$562.47 \$1,559.26 each				
Unit Cost Medium Mobile Equipment Disposal (ARKTIS) =									\$1,559.26 each

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Table B11: Unit Cost for Heavy Mobile Equipment Disposal

Heavy Mobile Equipment Disposal					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
					Hourly	Daily		Hourly		Hourly
Disassemble and Decontaminate	Crew	N/A	2 Skilled Worker		\$146.50		1.05	\$153.83	1.6	\$246.12
										\$246.12 /hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost each =	1.60 each \$1,968.96 \$1,230.60 each						
Load	Crew	N/A	1 Laborer		\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator Medium		\$74.15		1.05	\$77.86	1.6	\$124.57
			1 F.E. Loader, W.M., 2.5 CY		\$71.89	\$575.08	1.038	\$74.62	2.5	\$186.54
										\$406.12 /hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost each =	12 each \$3,248.94 \$270.75 each						
Haul	Crew	N/A	1 Truck Driver (heavy)		\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.		\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton		\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
										\$281.24 /hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost per m3 =	3 each \$2,249.88 \$749.96						
Unit Cost Heavy Mobile Equipment Disposal (ARKTIS) =										\$2,251.31 each



Table B12: Unit Cost for Removal of Non-Fuel Small Storage Tanks

Removal of Non-Fuel Small Storage Tank											
- Steel tank, single wall, above ground, no fdn. Pumps, piping											
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
						Hourly	Daily		Hourly		Hourly
Demolish Small Storage Tank 130505750520	Crew	B34P	1 Pipe Fitter			\$88.35		1.05	\$92.77	1.6	\$148.43
			1 Truck Driver (light)			\$55.70		1.05	\$58.49	1.6	\$93.58
			1 Equipment Operator (crane)			\$74.15		1.05	\$77.86	1.6	\$124.57
			1 Flatbed Trailer, 3 Ton			\$45.79	\$366.30	1.038	\$47.53	2.5	\$118.82
			1 Backhoe Loader, 48 H.P.			\$50.22	\$401.72	1.038	\$52.12	2.5	\$130.31
											\$615.70 /hr
	Crew	B34P	Daily Output =	2	ea.						
			Daily Cost =		\$4,925.62						
			Cost per Tank =		\$2,462.81 /tank						
Unit Cost Small Non-Fuel Tank (ARKTIS) =										\$2,462.81 /tank	

FOR BAFFINLAND IRON MINES CORPORATION'S MARY RIVER
PROJECT ACTIVITIES OCCURRING ON INUIT
OWNED LANDS



Removal of Non-Fuel Medium Storage Tank										
- Steel tank, single wall, above ground, no fdn. Pumps, piping										
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
					Hourly	Daily		Hourly		Hourly
Demolish Medium Storage Tank 130505750530	Crew	B34Q	1 Pipe Fitter		\$88.35		1.05	\$92.77	1.6	\$148.43
			1 Truck Driver (light)		\$55.70		1.05	\$58.49	1.6	\$93.58
			1 Equipment Operator (crane)		\$76.20		1.05	\$80.01	1.6	\$128.02
			1 Flatbed Trailer, 25 Ton		\$15.62	\$124.96	1.038	\$16.21	2.5	\$40.53
			1 Dump Truck, 8 C.Y., 220 H.P.		\$57.37	\$458.92	1.038	\$59.54	2.5	\$148.86
			1 Hydraulic Crane, 25 Ton		\$102.55	\$820.38	1.038	\$106.44	2.5	\$266.11
										\$825.53
	Crew	B34Q	Daily Output =	1	ea.					
			Daily Cost =		\$6,604.21					
			Cost per Tank =		\$6,604.21	/tank				
Unit Cost Small Non-Fuel Tank (ARKTIS) =										\$6,604.21 /tank



Table B14: Unit Cost for Removal Small Diesel Tanks

Small Diesel Tanks (10,000 to 20,000 L)										
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
					Hourly	Daily		Hourly		Hourly
Decontaminate, Load and Dispose 130505750530	Crew	B14	1 Laborer Foreman		\$59.65		1.05	\$62.63	1.6	\$100.21
			4 Laborers		\$226.20		1.05	\$237.51	1.6	\$380.02
			1 Equipment Operator (light)		\$71.35		1.05	\$74.92	1.6	\$119.87
			1 Backhoe Loader, 36 kW		\$50.22	\$401.72	1.038	\$52.12	2.5	\$130.31
										\$730.40 /hr
		Crew	B14	Daily Output = 4 ea.						
Short Haul Tank	Crew	B34D	1 Truck Driver (heavy)		\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 6x4, 380 H.P.		\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65
			1 Dump Trailer, 20 C.Y.		\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03
										\$359.95 /hr



Table B15: Unit Cost for Removal of Medium Diesel Tank

Medium Diesel Tanks (500,000 L to 750,000 L)											
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs	
Demolish Building 130505500600	Crew	L10a	1 Structural Steel Foreman (outside)			Hourly	Daily		Hourly		
			4 Structural Steel Worker			\$93.70		1.05	\$98.39	1.6	\$157.42
			2 Equipment Operator (crane)			\$360.80		1.05	\$378.84	1.6	\$606.14
			2 Hydraulic Crane, 12 Ton			\$152.40		1.05	\$160.02	1.6	\$256.03
				\$182.33	\$1,458.60	1.038	\$189.25	2.5	\$473.13		
										\$1,492.73	/hr
	Crew	L10a	Daily Output =		64.3145	m2	Assuming decontamination reduces productivity by half.				
			Daily Cost =		\$11,941.80						
			Cost per Tank =		\$185.68	/m2					
Short Haul Building	Crew	B34D	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 6x4, 380 H.P.			\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65
			1 Dump Trailer, 20 C.Y.			\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03
	Daily Output (area) =			64.3145	m2						
	Daily Cost (4 Hours) =			\$1,439.79							
			Cost per m² =		\$22.39	/m2					
			Medium Diesel Tank =		82.52	m2					
Unit Cost Medium Diesel Tank (ARKTIS) =										\$17,169.52	each



Table B16: Unit Cost for Removal of Large Diesel Tanks

Large Diesel Tanks (5ML)											
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs	
Demolish Building 130505500600	Crew	L10a	1 Structural Steel Foreman (outside)		Hourly	Daily		Hourly		Hourly	
			4 Structural Steel Worker		\$93.70		1.05	\$98.39	1.6	\$157.42	
			2 Equipment Operator (crane)		\$360.80		1.05	\$378.84	1.6	\$606.14	
			2 Hydraulic Crane, 12 Ton		\$152.40		1.05	\$160.02	1.6	\$256.03	
			\$182.33	\$1,458.60	1.038	\$189.25	2.5	\$473.13			
										\$1,492.73	/hr
	Crew	L10a	Daily Output = 61.133 m2		Assuming decontamination reduces productivity by half.						
			Daily Cost = \$11,941.80								
			Cost per Tank = \$195.34 /m2								
Short Haul Building	Crew	B34D	1 Truck Driver (heavy)		\$57.30		1.05	\$60.17	1.6	\$96.26	
			1 Truck Tractor, 6x4, 380 H.P.		\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65	
			1 Dump Trailer, 20 C.Y.		\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03	
										\$359.95	/hr
			Daily Output (area) = 61.133 m2								
			Daily Cost (4 hours) = \$1,439.79								
			Cost per m² = \$23.55 /m2								
			Large Diesel Tank = 514.72 m2								
Unit Cost Large Diesel Tank (ARKTIS) =										\$112,668.70	each



Table B17: Unit Cost for Removal of Largest Diesel Tanks

Largest Diesel Tanks (12ML)											
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs	
Demolish Building 130505500600	Crew	L10a	1 Structural Steel Foreman (outside)			Hourly \$93.70	Daily	1.05	Hourly \$98.39	1.6	Hourly \$157.42
			4 Structural Steel Worker			\$360.80		1.05	\$378.84	1.6	\$606.14
			2 Equipment Operator (crane)			\$152.40		1.05	\$160.02	1.6	\$256.03
			2 Hydraulic Crane, 12 Ton			\$182.33	\$1,458.60	1.038	\$189.25	2.5	\$473.13
										\$1,492.73	/hr
	Crew	L10a	Daily Output = 58.762 m2 Daily Cost = \$11,941.80 Cost per Tank = \$203.22 /m2			Assuming decontamination reduces productivity by half.					
Short Haul Building	Crew	B34D	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 6x4, 380 H.P.			\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65
			1 Dump Trailer, 20 C.Y.			\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03
	Daily Output (area) = 58.762 m2 Daily Cost (4 hour) = \$1,439.79 Cost per m² = \$24.50 /m2										
	Largest Diesel Tank = 794.22 m2										
Unit Cost Largest Diesel Tank (ARKTIS) = \$180,864.02 each											



Table B18: Unit Cost for Modular Building Teardown – Not Contaminated

Modular Building Teardown - Not Contaminated										
- Wood framed										
- Load and 8 km haul to dump										
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Dispose Modular Building 024119180500	Crew	B3	1 Labour Foreman (outside)		Hourly	Daily		Hourly		Hourly
			2 Labourers		\$59.65		1.05	\$62.63	1.6	\$100.21
					\$113.10		1.05	\$118.76	1.6	\$190.01
			1 Equipment Operator (medium)		\$74.15		1.05	\$77.86	1.6	\$124.57
			2 Truck Drivers (heavy)		\$114.60		1.05	\$120.33	1.6	\$192.53
			1 Crawler Loader, 3 C.Y.		\$163.76	\$1,310.10	1.038	\$169.99	2.5	\$424.96
	2 Dump Trucks, 12 C.Y., 400 H.P.		\$190.36	\$1,522.84	1.038	\$197.59	2.5	\$493.97		
										\$1,526.25
	Crew	B3	Daily Output (volume) =		198.617	m2				
			Daily Cost =		\$12,210.04					
			Cost per m3 =		\$61.48	/m2				
Unit Cost Modular Teardown - Not Contaminated (ARKTIS) =										\$61.48 /m2



Table B19: Unit Cost for Modular Building Teardown – Contaminated

Modular Building Teardown - Contaminated											
- Wood framed											
- Load and 8 km haul to dump											
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
						Hourly	Daily		Hourly		Hourly
Dispose Modular Building 024119180500	Crew	B3	1 Labour Foreman (outside)			\$59.65		1.05	\$62.63	1.6	\$100.21
			2 Labourers			\$113.10		1.05	\$118.76	1.6	\$190.01
			1 Equipment Operator (medium)			\$74.15		1.05	\$77.86	1.6	\$124.57
			2 Truck Drivers (heavy)			\$114.60		1.05	\$120.33	1.6	\$192.53
			1 Crawler Loader, 3 C.Y.			\$163.76	\$1,310.10	1.038	\$169.99	2.5	\$424.96
			2 Dump Trucks, 12 C.Y., 400 H.P.			\$190.36	\$1,522.84	1.038	\$197.59	2.5	\$493.97
											\$1,526.25
	Crew	B3	Daily Output (volume) =			66.20566667	m2				
			Daily Cost =			\$12,210.04					
			Cost per m3 =			\$184.43	/m2				
Unit Cost Modular Teardown - Contaminated (ARKTIS) =											\$184.43 /m2



Table B20: Unit Cost for Foldaway Building Teardown – Not Contaminated

Foldaway Building Teardown - Not Contaminated												
- 697 to 1162 m2												
- Pre-engineered steel building, rigid frame, clear span and multi post												
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs	
Demolish Building 130505500600	Crew	L10	1 Structural Steel Foreman (outside)			Hourly	Daily	1.05	Hourly	1.6	Hourly	
			1 Structural Steel Worker			\$93.70			\$98.39		\$157.42	
			1 Equipment Operator (crane)			\$90.20			\$94.71		\$151.54	
			1 Hydraulic Crane, 12 Ton			\$76.20			\$80.01		\$128.02	
							\$91.16	\$729.30	1.038	\$94.63	2.5	\$236.57
												\$673.53 /hr
Short Haul Building	Crew	B34D	Daily Output = 139 m2									
			Daily Cost = \$5,388.28									
			Cost per Tank = \$38.76 /m2									
			1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26	
			1 Truck Tractor, 6x4, 380 H.P.			\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65	
			1 Dump Trailer, 20 C.Y.			\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03	
											\$359.95 /hr	
			Daily Output (area) = 139 m2									
			Daily Cost (0.5 hour) = \$359.95									
			Cost per m² = \$2.59 /m2									
Unit Cost Foldaway Building Teardown - Not Contaminated (ARKTIS) =											\$41.35 /m2	



Table B21: Unit Cost for Foldaway Building Teardown – Contaminated

Foldaway Building Teardown - Contaminated											
- 697 to 1162 m2											
- Pre-engineered steel building, rigid frame, clear span and multi post											
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Demolish Building 130505500600	Crew	L10	1 Structural Steel Foreman (outside)			Hourly	Daily		Hourly		Hourly
			1 Structural Steel Worker			\$93.70		1.05	\$98.39	1.6	\$157.42
			1 Equipment Operator (crane)			\$90.20		1.05	\$94.71	1.6	\$151.54
			1 Hydraulic Crane, 12 Ton			\$76.20		1.05	\$80.01	1.6	\$128.02
	Crew	L10	Daily Output = 40 m2			\$91.16	\$729.30	1.038	\$94.63	2.5	\$236.57
			Daily Cost = \$5,388.28								
			Cost per Tank = \$134.71 /m2								
Short Haul Building	Crew	B34D	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 6x4, 380 H.P.			\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65
			1 Dump Trailer, 20 C.Y.			\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03
	Crew	B34D	Daily Output (area) = 40 m2								
			Daily Cost (0.5 hour) = \$359.95								
			Cost per m² = \$9.00 /m2								
Unit Cost Foldaway Building Teardown - Contaminated (ARKTIS) =											\$143.71 /m2



Table B22: Unit Cost for ISO Container Building Removal – Not Contaminated

Iso-Container Buildings – Not Contaminated						U.S. Average	Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
						Hourly Daily		Hourly		Hourly
Disassemble and Decontaminate	Crew	N/A	1 Laborer			\$56.55	1.05	\$59.38	1.6	\$95.00
										\$95.00 /hr
	Crew	N/A	Daily Output (Volume) =	8.00	each					
			Daily Cost (8 hour day) =	\$760.03						
			Cost each =	\$95.00	each					
Load	Crew	N/A	1 Laborer			\$56.55	1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator Medium			\$74.15	1.05	\$77.86	1.6	\$124.57
			1 F.E. Loader, W.M., 2.5 CY			\$71.89	\$575.08	\$74.62	2.5	\$186.54
										\$406.12 /hr
	Crew	N/A	Daily Output (Volume) =	8	each					
			Daily Cost (8 hour day) =	\$3,248.94						
			Cost each =	\$406.12	each					
Haul	Crew	N/A	1 Truck Driver (heavy)			\$57.30	1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.			\$50.38	\$403.04	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	\$21.69	2.5	\$54.24
										\$281.24 /hr
	Crew	N/A	Daily Output (Volume) =	4	each					
			Daily Cost (8 hour day) =	\$2,249.88						
			Cost per m3 =	\$562.47	each					
TOTAL Cost per m3 =				\$1,063.59	each					
Unit Cost Removal of Iso-Container Buildings (ARKTIS) =										\$35.73 /m2



Table B23: Unit Cost for Removal of ISO Container Building Removal – Contaminated

Iso-Container Building - Contaminated						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
						Hourly	Daily		Hourly		Hourly
Disassemble and Decontaminate	Crew	N/A	1 Laborer			\$56.55		1.05	\$59.38	1.6	\$95.00
											\$95.00 /hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost each =	3.00 \$760.03 \$253.34	each each						
Load	Crew	N/A	1 Laborer			\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator Medium			\$74.15		1.05	\$77.86	1.6	\$124.57
			1 F.E. Loader, W.M., 2.5 CY			\$71.89	\$575.08	1.038	\$74.62	2.5	\$186.54
											\$406.12 /hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost each =	3 \$3,248.94 \$1,082.98	each each						
Haul	Crew	N/A	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.			\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
											\$281.24 /hr
	Crew	N/A	Daily Output (Volume) = Daily Cost (8 hour day) = Cost per m3 =	3 \$2,249.88 \$749.96	each each						
TOTAL Cost per m3 =				\$2,086.29	each						



Iso-Container Building - Contaminated			
TOTAL Cost per Iso Container =		\$70.08	m2
Unit Cost Removal of Iso-Container Building - Contaminated (ARKTIS) =			\$70.08 /m2



Table B24: Unit Cost for Timber Cribbing Removal

Timber Cribbing Removal						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Disassemble/Load	Crew	N/A	1 Laborer			Hourly	Daily	1.05	Hourly \$59.38	1.6	Hourly \$95.00
						\$56.55					\$95.00 /hr
	Crew	N/A	Daily Output (Volume) =	118.67	m2						
			Daily Cost (8 hour day) =	\$760.03							
			Cost each =	\$6.40	/m2						
Haul	Crew	N/A	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.			\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
											\$281.24 /hr
	Crew	N/A	Daily Output (Volume) =	158.5422222	m2						
			Daily Cost (8 hour day) =	\$2,249.88							
			Cost each =	\$14.19							
Unit Cost Timber Cribbing Removal (ARKTIS) =											\$20.60 /m²

QIA 2014 COMPREHENSIVE SECURITY ESTIMATE

FOR BAFFINLAND IRON MINES CORPORATION'S MARY RIVER
PROJECT ACTIVITIES OCCURRING ON INUIT
OWNED LANDS



Table B25: Unit Cost for Precast Concrete Foundation Removal

Precast Concrete Foundations											
- Remove whole pieces up to 2 tonnes											
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Remove and Load Precast Block	Crew	B80B	3 Labourers			Hourly	Daily	1.05	Hourly	1.6	Hourly
			1 Equipment Operator (Light)			\$169.65			\$178.13		\$285.01
			1 Crane, Flatbed Mounted, 3 Ton			\$71.35			\$74.92		\$119.87
						\$34.16	\$273.24		1.038		\$35.45
	Crew	B80B	Daily Output = 57.61 m3								\$493.51 /hr
			Daily Cost = \$3,948.10								
			Cost per m3 = \$68.53 /m3								
			Cost per m2 = \$17.82 /m2								
Short Haul Precast Blocks	Crew	B34D	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 6x4, 380 H.P.			\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65
			1 Dump Trailer, 20 C.Y.			\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03
											\$359.95 /hr
			Daily Output (area) = 40 m3								
			Daily Cost = \$2,879.59								
			Cost per m3 = \$71.99 /m3								
			Cost per m2 = \$18.72 /m2								
Unit Cost Precast Foundation (ARKTIS) =											\$140.52 /m3



Table B26: Unit Cost for Bridge Removal

Bridge Removal											
- Bridge area is 9.3m x 46m long; A = 427.8 m2											
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Demolish Bridge	Crew	B21C	1 Labor Foreman (outside)			Hourly	Daily		Hourly		Hourly
			4 Laborers			\$59.65		1.05	\$62.63	1.6	\$100.21
			1 Equipment Operator (crane)			\$226.20		1.05	\$237.51	1.6	\$380.02
			1 Equipment Operator (oiler)			\$76.20		1.05	\$80.01	1.6	\$128.02
			2 Cutting Torches			\$66.00		1.05	\$69.30	1.6	\$110.88
			2 Sets of Gases			\$76.20	\$25.08	1.038	\$79.10	2.5	\$197.74
			1 Lattice Boom Crane, 90 Ton			\$76.20	\$334.40	1.05	\$80.01	2.5	\$200.03
	Crew	B21C	Daily Output =			23.23	m2				
			Daily Cost =			\$13,299.63					
			Cost per Tank =			\$572.52	/m2				
Short Haul Building	Crew	B34D	1 Truck Driver (heavy)			\$210.24	\$1,681.90	1.038	\$218.23	2.5	\$545.57
			1 Truck Tractor, 6x4, 380 H.P.								
			1 Dump Trailer, 20 C.Y.								
Unit Cost Bridge Removal (ARKTIS) = \$251,552.72 /bridge											



Table B27: Unit Cost Removal of Incinerators

Remove Incinerators											
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Disassemble and Decontaminate	Crew	N/A	1 Labor Foreman			Hourly	Daily	1.05	Hourly	1.6	Hourly
			1 Skilled Worker			\$59.65	\$73.25		\$62.63		\$76.91
			2 Laborers			\$113.10	\$118.76		\$190.01		
									\$413.28 /hr		
	Crew	N/A	Daily Output (Volume) = 0.62 each								
			Daily Cost (8 hour day) = 3306.24								
			Cost each = 5372.64 each								
Load	Crew	N/A	1 Labor Foreman (outside)			\$59.65		1.05	\$62.63	1.6	\$100.21
			1 Laborer			\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator (medium)			\$74.15		1.05	\$77.86	1.6	\$124.57
			1 Medium Equipment			\$71.89	\$575.08	1.038	\$74.62	2.5	\$186.54
											\$506.33 /hr
	Crew	N/A	Daily Output (Volume) = 2.666666667 each								
			Daily Cost (8 hour day) = 4050.64								
			Cost each = 1518.99 each								
Haul	Crew	N/A	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.			\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
											\$281.24 /hr
		Crew	N/A	Daily Output (Volume) = 0.888888889 each							
			Daily Cost (8 hour day) = 2249.88								



Remove Incinerators			
	Cost each =	2531.12	
		Unit Cost Remove Incinerators (ARKTIS) =	\$9,422.75 each



Table B28: Unit Cost for Removal Potable Water

Removal Potable Water														
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs			
Disassemble and Decontaminate	Crew	N/A	1 Labor Foreman			Hourly	Daily	1.05	Hourly	1.6	Hourly			
			1 Skilled Worker			\$59.65	\$73.25					\$62.63	\$76.91	\$100.21
			2 Laborers			\$113.10	\$118.76					\$123.06		
											\$190.01			
											\$413.28 /hr			
	Crew	N/A	Daily Output (Volume) = 0.62 each											
			Daily Cost (8 hour day) = \$3,306.24											
			Cost each = \$5,372.64 each											
Load	Crew	N/A	1 Labor Foreman (outside)			\$59.65		1.05	\$62.63	1.6	\$100.21			
			1 Laborer			\$56.55		1.05	\$59.38	1.6	\$95.00			
			1 Equipment Operator (medium)			\$74.15		1.05	\$77.86	1.6	\$124.57			
			1 Medium Equipment			\$71.89	\$575.08	1.038	\$74.62	2.5	\$186.54			
											\$506.33 /hr			
	Crew	N/A	Daily Output (Volume) = 2.666666667 each											
			Daily Cost (8 hour day) = \$4,050.64											
			Cost each = \$1,518.99 each											
Haul	Crew	N/A	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26			
			1 Truck Tractor, 220 H.P.			\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74			
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24			
											\$281.24 /hr			
		Crew	N/A	Daily Output (Volume) = 0.888888889 each										
			Daily Cost (8 hour day) = \$2,249.88											



Removal Potable Water			
	Cost each =	\$2,531.12	
		Unit Cost Removal Potable Water (ARKTIS) =	\$9,422.75 each



Table B29: Unit Cost Removal Sewage Treatment Plants

Removal Sewage Treatment Plants											
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
						Hourly	Daily		Hourly		Hourly
Disassemble and Decontaminate	Crew	N/A	1 Labor Foreman			\$59.65		1.05	\$62.63	1.6	\$100.21
			1 Skilled Worker			\$73.25		1.05	\$76.91	1.6	\$123.06
			2 Laborers			\$113.10		1.05	\$118.76	1.6	\$190.01
											\$413.28 /hr
	Crew	N/A	Daily Output (Volume) = 0.62 each								
						Daily Cost (8 hour day) = \$3,306.24					
						Cost each = \$5,372.64 each					
Load	Crew	N/A	1 Labor Foreman (outside)			\$59.65		1.05	\$62.63	1.6	\$100.21
			1 Laborer			\$56.55		1.05	\$59.38	1.6	\$95.00
			1 Equipment Operator (light)			\$74.15		1.05	\$77.86	1.6	\$124.57
			1 Medium Equipment			\$71.89	\$575.08	1.038	\$74.62	2.5	\$186.54
											\$506.33 /hr
Crew	N/A	Daily Output (Volume) = 2 each									
						Daily Cost (8 hour day) = \$4,050.64					
						Cost each = \$2,025.32 each					
Haul	Crew	N/A	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Truck Tractor, 220 H.P.			\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24
											\$281.24 /hr
	Crew	N/A	Daily Output (Volume) = 0.666666667 each								
						Daily Cost (8 hour day) = \$2,249.88					



Removal Sewage Treatment Plants			
	Cost each =	\$3,374.83	
		Unit Cost Removal Sewage Treatment Plants (ARKTIS) =	\$10,772.79 each

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Table B30: Unit Cost for Piping Removal

Piping Removal										
- 250mm diameter piping removal, cleaning and plugging										
- Machine loaded, hauling up to 3.2 km										
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Clean and Disassemble 024113381700	Crew	B20	1 Labour Foreman (outside)		Hourly	Daily		Hourly		Hourly
			1 Skilled Worker		\$59.65		1.05	\$62.63	1.6	\$100.21
			1 Labourer		\$73.25		1.05	\$76.91	1.6	\$123.06
			\$56.55		1.038	\$58.70	1.6	\$93.92		
										\$317.19 /hr
	Crew	B20	Daily Output =		45.72	m				
			Daily Cost =		\$2,537.52					
			Cost per m =		\$55.50	/m				
Loading and Hauling 024119193080	Crew	B17	2 Labourers		\$113.10		1.05	\$118.76	1.6	\$190.01
			1 Equipment Operator (Light)		\$71.25		1.05	\$74.81	1.6	\$119.70
			1 Truck Driver (Heavy)		\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Backhoe Loader, 48 H.P.		\$50.22	\$401.72	1.038	\$52.12	2.5	\$130.31
			1 Dump Truck, 8 C.Y., 220 H.P.		\$57.37	\$458.92	1.038	\$59.54	2.5	\$148.86
									\$685.14 /hr	
	Crew	B17	Daily Output (volume) =		91.75	m3				
Daily Output (length) =			1869	m						
Daily Cost =			\$5,481.14							
Cost per m3 =			\$2.93	/m						
Unit Cost Piping Removal (ARKTIS) =										\$58.43 /m



Table B31: Unit Cost for Cabling Removal

Cabling Removal					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs	
Disassemble 024113381700	Crew	B20	1 Labour Foreman (outside)		Hourly	Daily	1.05	Hourly	1.6	Hourly	
			1 Skilled Worker		\$59.65	\$73.25				\$62.63	\$100.21
			1 Labourer		\$56.55	\$76.91				\$58.70	\$123.06
					1.038	\$93.92					
											\$317.19 /hr
	Crew	B20	Daily Output =	91.44 m							
			Daily Cost =	\$2,537.52							
			Cost per m =	\$27.75 /m							
Loading and Hauling 024119193080	Crew	B17	2 Labourers		\$113.10		1.05	\$118.76	1.6	\$190.01	
			1 Equipment Operator (Light)		\$71.25		1.05	\$74.81	1.6	\$119.70	
			1 Truck Driver (Heavy)		\$57.30		1.05	\$60.17	1.6	\$96.26	
			1 Backhoe Loader, 48 H.P.		\$50.22	\$401.72	1.038	\$52.12	2.5	\$130.31	
			1 Dump Truck, 8 C.Y., 220 H.P.		\$57.37	\$458.92	1.038	\$59.54	2.5	\$148.86	
										\$685.14 /hr	
	Crew	B17	Daily Output (volume) =	91.75 m3							
		Daily Output (length) =	186900 m								
		Daily Cost =	\$5,481.14								
		Cost per m3 =	\$0.03 /m								
Unit Cost Cabling Removal (ARKTIS) = \$27.78 /m											



Table B32: Unit Cost for Removal of Miscellaneous

Removal Miscellaneous												
						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs	
Load	Crew	N/A	1 Laborer			Hourly	Daily		Hourly		Hourly	
	Crew	N/A	Daily Output (Volume) =	50	each							
			Daily Cost (8 hour day) =									
			Cost each =	\$35.21	each							
Haul	Crew	N/A	1 Truck Driver (heavy)									
	Crew	N/A	Daily Output (Volume) =	50	each							
			Daily Cost (8 hour day) =									
			Cost each =	\$45.00								
Unit Cost Removal Miscellaneous (ARKTIS) =											\$80.21	each



Table B33: Unit Cost Removal of Airstrip Lighting

Remove Airstrip Lighting											
					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs	
Disassemble 024113381700	Crew	B20	1 Labour Foreman (outside)		Hourly	Daily	1.05	Hourly	1.6	Hourly	
			1 Skilled Worker		\$59.65					\$62.63	\$100.21
			1 Labourer		\$73.25					\$76.91	\$123.06
					\$56.55		1.038	\$58.70	1.6	\$93.92	
										\$317.19	/hr
		Crew	B20	Daily Output =	91.44	m					
			Daily Cost =	\$2,537.52							
			Cost per m =	\$27.75	/m						
Loading and Hauling 024119193080	Crew	B17	2 Labourers		\$113.10		1.05	\$118.76	1.6	\$190.01	
			1 Equipment Operator (Light)		\$71.25		1.05	\$74.81	1.6	\$119.70	
			1 Truck Driver (Heavy)		\$57.30		1.05	\$60.17	1.6	\$96.26	
			1 Backhoe Loader, 48 H.P.		\$50.22	\$401.72	1.038	\$52.12	2.5	\$130.31	
			1 Dump Truck, 8 C.Y., 220 H.P.		\$57.37	\$458.92	1.038	\$59.54	2.5	\$148.86	
										\$685.14	/hr
	Crew	B17	Daily Output (volume) =	91.75	m3						
		Daily Output (length) =	186900	m							
		Daily Cost =	\$5,481.14								
		Cost per m3 =	\$0.03	/m							
Unit Cost Airstrip Lighting Removal (ARKTIS) = \$27.78 /m											

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Table B34: Unit Costs for Removal of Localized Contaminated Soil

Contaminated Soil Removal

- Assuming excavation of contaminated soils using dozer (149 kW, 45m haul, sand and gravel); RS Means 312316464200

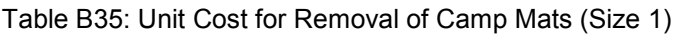
- 1.9m3 loader moving soil up to 45.5 m on-site to load into trucks; RS Means 025613100200

					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
					Hourly	Daily		Hourly		Hourly
Strip Contaminated Soil RS Means 312316464200	Crew	B10B	1 Equip. Operator		\$74.15		1.05	\$77.86	1.6	\$124.57
			0.5 Labour (\$56.55/hr.)		\$28.28		1.05	\$29.69	1.6	\$47.50
			1 Dozer (200 H.P.)		\$182.19	\$1,457.50	1.038	\$189.11	1.35	\$255.30
										\$427.37 /hr
			Daily Output (volume) =	455 m ³						
Load Contaminated Soil RS Means 025613100200	Crew	B10T	1 Equip. Operator		\$74.15		1.05	\$77.86	1.6	\$124.57
			0.5 Labourer (\$54.60)		\$28.28		1.05	\$29.69	1.6	\$47.50
			1 Loader (W.M., 2.5 C.Y.)		\$71.89	\$575.08	1.038	\$74.62	2.5	\$186.54
										\$358.62 /hr
			Daily Output (volume) =	229 m ³						
Haul Fill Material 312323206180	Crew	B34G	1 Truck Driver (heavy)		\$57.30		1.05	\$60.17	1.6	\$96.26
			1 Dump Truck, Off Hwy., 50 Ton		\$245.63	\$1,965.00	1.038	\$254.96	2.5	\$637.40
										\$733.66 /hr
			Daily Output (Volume) =	546 Bm3						
			Daily Cost (8 hour day) =	\$5,869.29						
	Crew	B34G	Cost per m ³ =	\$10.75 /m ³						



Contaminated Soil Removal					
- Assuming excavation of contaminated soils using dozer (149 kW, 45m haul, sand and gravel); RS Means 312316464200					
- 1.9m3 loader moving soil up to 45.5 m on-site to load into trucks; RS Means 025613100200					
Unit Cost Contaminated Soil Removal (ARKTIS) =				\$30.79	/m³

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Appendix B



Table B36: Unit Cost for Removal of Camp Mats (Size 2)

Remove Camp Mats (Size 2)						U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs		
Load	Crew	N/A	1 Labor Foreman (outside)			Hourly	Daily	1.05	Hourly	1.6	Hourly		
			1 Laborer			\$59.65	\$410.74					\$62.63	\$100.21
			1 Equipment Operator (light)			\$56.55						\$59.38	\$95.00
			1 Medium Equipment			\$74.15						\$77.86	\$124.57
	Crew	N/A	Daily Output (Volume) = 18 each					1.038	\$53.29	2.5	\$133.23		
			Daily Cost (8 hour day) = \$3,624.17										
			Cost Load = \$201.34 each										
			Cost Unload = \$201.34 each										
			Cost= \$402.69 each										
Haul	Crew	N/A	1 Truck Driver (heavy)			\$57.30		1.05	\$60.17	1.6	\$96.26		
			1 Truck Tractor, 220 H.P.			\$50.38	\$403.04	1.038	\$52.29	2.5	\$130.74		
			1 Flatbed Trailer, 40 Ton			\$20.90	\$167.20	1.038	\$21.69	2.5	\$54.24		
	Crew	N/A	Daily Output (Volume) = 18 each								\$281.24 /hr		
			Daily Cost (8 hour day) = \$2,249.88										
			Cost each = \$124.99										
TOTAL Cost per m3 =			\$326.34	each	Unit Cost Removal of Camp Mats (Size 2) (ARKTIS) = \$729.02 each								



Table B37: Unit Cost for Container Crossing Removal

Removal Container Crossings					U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs
Excavate Culvert	Crew	B12B	1 Equip. Operator 1 Labourer 1 Hyd. Excavator, 1.5 C.Y.		Hourly	Daily	1.05 1.05 1.038	Hourly \$80.01 \$59.38 \$147.15	1.6 1.6 2.5	Hourly
					\$76.20					\$128.02
					\$56.55					\$95.00
					\$141.76	\$1,134.10				\$367.87
										\$590.89 /hr
				Daily Output (area) =		413 m ³				
				Daily Cost (8 hour day) =		\$4,727.15				
				Cost per m ³ =		\$11.45 /m ³				
				Cost per culvert =		\$915.67 /cont.				
Travel to/from Location (25 km average) (30 km/h)	Crew	B12B	1 Equip. Operator 1 Labourer 1 Hyd. Excavator, 1.5 C.Y.		\$76.20		1.05	\$80.01	1.6	\$128.02
					\$56.55		1.05	\$59.38	1.6	\$95.00
					\$141.76	\$1,134.10	1.038	\$147.15	2.5	\$367.87
										\$590.89 /hr
				Travel Time (return) =		1.67 hr.				
				Daily Cost (8 hour day) =		\$984.82				
				Culverts/day =		12 Cont.				
				Cost per culvert =		\$82.07 /cont.				
Long Haul Culvert	Crew	B34D	1 Truck Driver (heavy) 1 Truck Tractor, 6x4, 380 H.P. 1 Dump Trailer, 20 C.Y.		\$57.30		1.05	\$60.17	1.6	\$96.26
					\$84.26	\$674.08	1.038	\$87.46	2.5	\$218.65
					\$17.35	\$138.82	1.038	\$18.01	2.5	\$45.03
										\$359.95 /hr
				Culvert/day =		2 Cont.				
				Daily Cost (8 hour day) =		\$2,879.59				



Removal Container Crossings			
	Cost per culvert =	\$1,439.79	/cont.
		Unit Cost Removal of Container Crossings (ARKTIS) =	\$2,437.53 /cont.



Table B38: Unit Cost for Contaminated Soil Treatment

Contaminated Soil Treatment												
- Rip medium hard till; 224 kW dozer, ideal conditions												
- 306kW dozer (similar to D8T), 30m haul												
				U.S. Average		Ottawa Cost Index	Ottawa Costs	Nunavut Index	Nunavut Costs			
Rip Areas 312316322830	Crew	B11S	1 Equipment Operator (medium)	Hourly	Daily	1.05	Hourly	1.6	Hourly			
				\$74.15			\$77.86		\$124.57			
			0.5 Labourer	\$28.28			\$29.69		\$47.50			
			1 Dozer, 300 H.P.	\$249.84	\$1,998.70		1.038		\$259.33	\$648.33		
			1 Ripper, Beam & 1 Shank	\$11.19	\$89.54		1.038		\$11.62	\$29.04		
									\$849.45			
Dozing Ripped Material 312316323400	Crew	B10X	1 Equipment Operator (medium)	\$74.15		1.05	\$77.86	1.6	\$124.57			
			0.5 Labourer	\$28.28		1.05	\$29.69	1.6	\$47.50			
			1 Dozer, 410 H.P.	\$81.37	\$650.98	1.038	\$84.46	2.5	\$211.16			
												\$383.24
			Hourly Rate =	\$1,232.68								
			Total Hours =	200								
			Total Cost =	\$246,536.50								
			Total Soil =	18325								
			Total Soil =	\$13.45								
Unit Cost Contaminated Soil Treatment (ARKTIS) =									\$13.45 /m³			

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Table B39: Nunavut Cost Index – Labour Rates Comparison

	RS Means U.S. Avg. (Union), incl. O&P (ALL)	Ottawa City Cost Index	Ottawa	Nunavut	Ref. Location	Nunavut, incl. 20% O&P	Nunavut Location Factor
Foreman	\$74.50	1.052	\$78.37	\$105.00	Sanikiluaq	\$126.00	1.6
Labourer	\$56.55	1.052	\$59.49	\$80.00	Sanikiluaq	\$96.00	1.6
Labourer	\$56.55	1.052	\$59.49	\$80.00	Sanikiluaq	\$96.00	1.6
Carpenter	\$69.15	0.925	\$63.96	\$80.00	Sanikiluaq	\$96.00	1.5
Electrician	\$78.40	0.961	\$75.34	\$100.00	Hall Beach	\$120.00	1.6
Welder	\$89.30	0.929	\$82.96	\$105.00	Sanikiluaq	\$126.00	1.5
Mechanical	\$81.30	0.856	\$69.59	\$93.75	Hall Beach	\$112.50	1.6
Plumbers	\$84.05	0.856	\$71.95	\$93.75	Hall Beach	\$112.50	1.6
Average =							1.6
Excavator (2 CY)	\$129.50	1.035	\$134.03	\$275.00	Sanikiluaq	\$330.00	2.5
Skytrack				\$185.00	Sanikiluaq	\$222.00	
Back Hoe	\$50.00	1.035	\$51.75	\$245.00	Sanikiluaq	\$294.00	5.7
Generator				\$125.00	Sanikiluaq	\$150.00	
Camp Room/Board				\$285.00	Hall Beach	\$342.00	

Notes:

Average for Nunavut labour index calculated to be 1.6.

Limited equipment comparisons available. Nunavut equipment index of 2.5 applied to ARKTIS estimate based on an excavator; calculated index for the backhoe was not considered reasonable.

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Table B40: Shipping rates for general cargo, hazardous materials, and fuel

Type	Direction	Unit Cost	Base Rate	Insurance Premium	Total	Notes
General Cargo	Northbound	per revenue tonne	\$377.78	\$12.00	\$389.78	Costs obtained from NEAS 2014 General Cargo Freight Shipping Rates
General Cargo	Northbound	m ³	\$151.11	\$4.80	\$155.91	Costs obtained from NEAS 2014 General Cargo Freight Shipping Rates divided by 2.5m ³
General Cargo	Northbound	TEU	\$5,817.74	\$184.80	\$6,002.54	Costs obtained from NEAS 2014 General Cargo Freight Shipping Rates
General Cargo	Retrograde	per revenue tonne	\$245.55	\$12.00	\$257.55	Costs obtained from NEAS 2014 General Cargo Freight Shipping Rates
General Cargo	Retrograde	m ³	\$98.22	\$4.80	\$103.02	Costs obtained from NEAS 2014 General Cargo Freight Shipping Rates divided by 2.5m ³
General Cargo	Retrograde	TEU	\$3,781.47	\$184.80	\$3,966.27	Derived from \$12.00 per revenue tonne insurance from NEAS. 1 rev. tonne is 2.5m ³ . So insurance is \$12/2.5 = \$4.80
General Cargo	Retrograde	TEU	\$694.00		\$694.00	
Hazardous	Northbound	per revenue tonne			\$467.74	
Hazardous	Northbound	m ³			\$187.09	
Hazardous	Northbound	TEU			\$7,203.05	
Hazardous	Retrograde	per revenue tonne			\$309.06	
Hazardous	Retrograde	m ³			\$123.62	
Hazardous	Retrograde	TEU			\$4,759.52	

Notes:

- Transys Research report indicates fuel vessel tanker costs are estimated at 1.85 x retrograde rate for general cargo.
- Fuel for transportation to Milne in barrels or container tank are direct from TranSys Research report.

Type	Direction	Unit Cost	Base Rate	Insurance Premium	Total	Notes
Fuel (Vessel)	Retrograde	per revenue tonne	\$454.27	\$22.20	\$476.47	Factor of 1.85 obtained from 2009 TranSys Research Ltd. Report and cost obtained from NEAS 2013
Fuel (Barrels)	Northbound	per revenue tonne			\$582.00	Cost obtained from 2009 TranSys Research Ltd. Report
Fuel (Barrels)	Northbound	m ³			\$232.80	
Fuel (Isocontainer)	Northbound	per revenue tonne			\$592.00	Cost obtained from 2009 TranSys Research Ltd. Report
Fuel (Isocontainer)	Northbound	TEU			\$9,122.55	
Fuel (Isocontainer)	Retrograde	TEU			\$6,027.86	

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Table B41: Summary of Reclamation Crews – Labour, Output and Person Days

Reclamation Activity	Sub-Activity	Crew	Number of Persons	Daily Output	Unit3	No. of Crew	Total Persons	Total Output	Quantity	Unit2	Days	Person Days
Bridge Removal	Demolition	B21C	7	29.0375	m2	2	14	58.075	1643.4	m2	29	406
	Short Haul	B34D	1	29.0375	m2	2	2	58.075	1643.4	m2	29	58
Contaminated Soil Removal	Strip Contaminated Soil	B10B	1.5	568.75	m3	1	1.5	568.75	2862	m3	6	9
	Load Contaminated Soil	B10T	1.5	286.25	m3	1	1.5	286.25	2862	m3	10	15
	Haul Fill Material	B34G	1	682.5	m3	3	3	2047.5	2862	m3	2	6
Culvert Removal	Excavate Culvert	B12B	2	516.25	m3	2	4	1032.5	2850.29	m3	3	12
	Long Haul Culvert	B34D	1	9	culverts	2	2	18	383	culverts	22	44
Demobilize Hazardous Materials	Load	ARK7	1.5	40	each	2	3	80	7389	each	93	279
	Short Haul	ARK8	1	80	each	2	2	160	7389	each	47	94
Fill Application	Spread Fill Material	B10M	1.5	3030	m3	1	1.5	3030	30726	m3	11	16.5
	Compaction	B10Y	1.5	2485	m3	1	1.5	2485	30726	m3	13	19.5
	Excavation of Fill Material	B12D	2	2293.75	m3	1	2	2293.75	30726	m3	14	28
	Haul Fill Material	B34G	1	682.5	m3	3	3	2047.5	30726	m3	16	48
	Drilling and Blasting Rock	B47	3	1440	m3	2	6	2880	30726	m3	11	66
Foldaway Building Teardwon - Contaminated	Short Haul Building	B34D	1	50	m2	2	2	100	8567	m2	86	172
	Demolition and Load	L10	3	50	m2	3	9	150	8567	m2	58	522
Foldaway Building Teardwon - Not Contaminated	Short Haul Building	B34D	1	173.75	m2	2	2	347.5	1672	m2	5	10
	Demolition and Load	L10	3	173.75	m2	3	9	521.25	1672	m2	4	36
Grade and Contour	Dozing Ripped Material	B10X	1.5	3212.5	m3	6	9	19275	2881069	m2	150	1350
	Rip Areas	B11S	1.5	11470	m3	6	9	68820	2881069	m2	42	378
Grade and Contour Significantly Disturbed Areas	Dozing Ripped Material	B10X	1.5	2141.6625	m3	6	9	12850	188533	m2	15	135
	Rip Areas	B11S	1.5	7646.675	m3	6	9	45880	188533	m2	5	45
Incinerator	Disassemble/Decontaminate	ARK4	4	0.62	each	4	16	2.48	2	each	1	16

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Reclamation Activity	Sub-Activity	Crew	Number of Persons	Daily Output	Unit3	No. of Crew	Total Persons	Total Output	Quantity	Unit2	Days	Person Days
	Load	ARK5	3	2.667	each	2	6	5.334	2	each	1	6
	Haul	ARK8	1	0.889	each	2	2	1.778	2	each	2	4
Liner Removal	Short Haul Liner	B34D	1	1550	m2	2	2	3100	111350	m2	36	72
	Liner Removal	B47H	4	1550	m2	2	8	3100	111350	m2	36	288
Modular Building Teardown - Contaminated	Demolition, Load and Dispose	B3	6	82.7625	m3	6	36	496.575	2828	m2	6	216
Modular Building Teardown - Not Contaminated	Demolition, Load and Dispose	B3	6	248.275	m2	6	36	1489.65	14401	m2	10	360
Remove Airstrip Lighting	Loading and Hauling	B17	4	114.6875	m3	1	4	114.6875	4000	m	35	140
	Disassemble	B20	3	114.3	m	4	12	457.2	4000	m	9	108
Remove Cabling	Loading and Hauling	B17	4	114.6875	m3	1	4	114.6875	13.4	m3	1	4
	Clean and Disassemble	B20	3	114.3	m	4	12	457.2	27300	m	60	720
Remove Camp Mats (Size 1)	Load/Unload	ARK5	3	25	each	2	6	50	36	each	1	6
	Haul	ARK8	1	25	each	2	2	50	36	each	1	2
Remove Camp Mats (Size 2)	Load/Unload	ARK5	3	18	each	2	6	36	67	each	2	12
	Haul	ARK8	1	18	each	2	2	36	67	each	2	4
Remove Concrete SOG Foundation	Short Haul	B34D	1	64	m2	2	2	128	9751	m2	77	154
	Demolish and Load	E18	5	64	m2	1	5	64	9751	m2	153	765
Remove Container Crossings	Excavate Container	B12B	2	20	each	2	4	40	50	containers	2	8
	Long Haul Container	B34D	1	2	containers	2	2	4	50	containers	13	26
Remove Iso-Container	Disassemble/Decontaminate	ARK2	1	8	each	4	4	32	1158	each	37	148
	Load	ARK6	2	8	each	2	4	16	1158	each	73	292
	Haul	ARK8	1	4	each	2	2	8	1158	each	145	290
Remove Large Diesel Tanks	Short Haul Tank	B34D	1	61.133	m2	2	2	122.266	1029	m2	9	18
	Demolition, Load and Dispose	L10a	7	61.133	m2	1	7	61.133	1029	m2	17	119
Remove Large Equipment	Disassemble/Decontaminate	ARK1	1.5	0.05	each	4	6	0.2	27	each	135	810

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	Load	ARK5	3	0.5	each	2	6	1	27	each	27	162
	Haul	ARK8	1	1	each	2	2	2	27	each	14	28
Remove Large Equipment (Assumed 3rd Party)	Load	ARK5										
	Haul	ARK8										
Remove Large Mobile Equipment	Disassemble/Decontaminate	ARK3	2	1.6	each	4	8	6.4	122	each	20	160
	Load	ARK6	2	12	each	2	4	24	122	each	6	24
	Haul	ARK8	1	3	each	2	2	6	122	each	21	42
Remove Large Mobile Equipment (Assumed 3rd Party)	Load	ARK6										
	Haul	ARK8										
Remove Largest Diesel Tanks	Short Haul Tank	B34D	1	58.762	m2	2	2	117.524	3177	m2	28	56
	Demolition, Load and Dispose	L10a	7	58.762	m2	1	7	58.762	3177	m2	55	385
Remove Light Equipment	Disassemble/Decontaminate	ARK1	1.5	1.14	each	4	6	4.56	175	each	39	234
	Load	ARK5	3	8	each	2	6	16	175	each	11	66
	Haul	ARK8	1	17.78	each	2	2	35.56	175	each	5	10
Remove Light Equipment (Assumed 3rd Party)	Load	ARK5										
	Haul	ARK8										
Remove Light Mobile Equipment	Disassemble/Decontaminate	ARK2	1	1.6	each	4	4	6.4	180	each	29	116
	Load	ARK6	2	24	each	2	4	48	180	each	4	16
	Haul	ARK8	1	12	each	2	2	24	180	each	8	16
Remove Light Mobile Equipment (Assumed 3rd Party)	Load	ARK6										
	Haul	ARK8										
Remove Medium Diesel Tanks	Short Haul Tank	B34D	1	64.3145	m2	2	2	128.629	467	m2	4	8

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Reclamation Activity	Sub-Activity	Crew	Number of Persons	Daily Output	Unit3	No. of Crew	Total Persons	Total Output	Quantity	Unit2	Days	Person Days
	Demolition, Load and Dispose	L10a	7	64.3145	m2	1	7	64.3145	467	m2	8	56
Remove Medium Equipment	Disassemble/Decontaminate	ARK1	1.5	0.44	each	4	6	1.76	130	each	74	444
	Load	ARK5	3	4	each	2	6	8	130	each	17	102
	Haul	ARK8	1	8.89	each	2	2	17.78	130	each	8	16
Remove Medium Mobile Equipment	Disassemble/Decontaminate	ARK2	1	1.14	each	4	4	4.56	84	each	19	76
	Load	ARK6	2	24	each	2	4	48	84	each	2	8
	Haul	ARK8	1	4	each	2	2	8	84	each	11	22
Remove Medium Mobile Equipment (Assumed 3rd Party)	Load	ARK6										
	Haul	ARK8										
Remove Miscellaneous	Load	ARK7	1.5	50	each	2	3	100	385	each	4	12
	Haul	ARK8	1	50	each	2	2	100	385	each	4	8
Remove Non-Fuel Medium Storage Tanks	Demolition, Load and Dispose	B34Q	3	1	each	1	3	1	16	each	16	48
Remove Non-Fuel Small Storage Tanks	Demolition, Load and Dispose	B34P	3	2	each	1	3	2	32	each	16	48
Remove Piping	Loading and Hauling	B17	4	114.6875	m3	1	4	114.6875	110.51	m3	1	4
	Clean and Disassemble	B20	3	57.15	m	4	12	228.6	19623	m	86	1032
Remove Potable Water	Disassemble/Decontaminate	ARK4	4	0.62	each	4	16	2.48	2	each	1	16
	Load	ARK5	3	2.67	each	2	6	5.34	2	each	1	6
	Haul	ARK8	1	0.89	each	2	2	1.78	2	each	2	4
Remove Precast Concrete Foundations	Short Haul	B34D	1	50	m3	2	2	100	6032	m3	61	122
	Remove and Load	B80B	4	72.0125	m3	1	4	72.0125	6032	m3	84	336
Remove Sewage Treatment Plant	Disassemble/Decontaminate	ARK4	4	0.62	each	4	16	2.48	2	each	1	16
	Load	ARK5	3	2	each	2	6	4	2	each	1	6

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	Haul	ARK8	1	0.67	each	2	2	1.34	2	each	2	4
Remove Small Diesel Tanks	Demolition, Load and Dispose	B14	6	4	each	1	6	4	29	each	8	48
	Short Haul Tank	B34D	1	1.78	each	2	2	3.56	29	each	9	18
Remove Timber Cribbing	Disassemble/Decontaminate	ARK2	1	118.67	m2	4	4	474.68	16068	m2	34	136
	Haul	ARK8	1	158.54	m2	2	2	317.08	16068	m2	51	102
Soft Walled Building Teardwon - Contaminated	Short Haul Building	B34D	1	50	m2	2	2	100	2562	m2	26	52
	Demolition and Load	L10	3	50	m2	3	9	150	2562	m2	18	162
Soft Walled Building Teardwon - Not Contaminated	Short Haul Building	B34D	1	173.75	m2	2	2	347.5	9279	m2	27	54
	Demolition and Load	L10	3	173.75	m2	3	9	521.25	9279	m2	18	162
Truck Wash Building	Short Haul Building	B34D	1	50	m2	2	2	100	1004	m2	11	22
	Demolition and Load	L10	3	50	m2	3	9	150	1004	m2	7	63
											2434	12865