

PR11 Appendix A

Bonding

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Summary of Costs for Trapper Mine PR11 Bond Determination for Worst Case Year 2023

(Table 1.4-1 in Section 1.4 Bond Determination)

(Table 1.4-1 in Section 1.4 Bond Determination)

Activity	Cost (\$)		Supporting Information	
				Hours
<u>Direct Costs</u>				
Regrade	\$	22,851,633	* Appendix A, Tables A-3 through A-8	29,092
Topsoil Replacement	\$	7,333,420	* Appendix A, Tables A-9 and A-10	1,772
Facilities Removal	\$	945,757	Appendix A, Table A-12	
Revegetation	\$	2,067,465	* Appendix A, Table A-11	
Miscellaneous	\$	859,138	Appendix A, Table A-13	
Total	\$	34,057,434		
<u>Indirect Costs</u>				
<u>Overhead & Profit</u>				
Public Liability Ins (2.02%)	2.02%	\$	687,960	
Contractor Perf Bond (1.05%)	1.05%	\$	357,603	
Contractor Profit (10%)	10.00%	\$	3,405,743	
Job Superintendent @ \$75.13/Hr.	50% of total Task Hours	9,425.32	\$	708,124
DRMS Admin Expense (6.90%) **	6.9%	\$	2,349,963	1.34 X PR9 Task hours adjustment
Total Indirect Cost		\$	7,509,394	
<u>PR11 Worst Case Bond Estimate Total</u>				
Phase I Bond Release	\$	41,566,827	2307.81	* \$ 18,011.40
Phase II Bond Release	\$	2,149,121	298.30	\$ 7,204.56
	\$	1,263,320	467.60	\$ 2,701.71
Grand Total PR11 Bond Estimate:	\$	44,979,268		100.00% 40.00% 15.00%

* Note: Table A-2 contains equipment unit costs and correction factors used in calculations of the above Direct costs.

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Acres	Cost/Acre	%
2307.81	\$ 18,011.40	100.00%
298.30	\$ 7,204.56	40.00%
467.60	\$ 2,701.71	15.00%

Table A-2

Equipment Unit Costs & Correction Factors

Unit costs taken from RM-08 DRMS Circs Estimate dated 9/1/2022

Fleet Cost - Regrading Pits

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Fleet 1 - Dozer Only		Ownership		Oper. Cost		Attachments		Operator		Total	
Equip		Cost/Hour		Cost/Hour							
Triple shift											
D-11T		\$ 257.09	\$	273.21	\$	-	\$	41.55	\$	571.85	
Light Plant (50% of time)		\$ -	\$	-	\$	-	\$	-	\$	-	
Total		\$ 257.09	\$	273.21	\$	-	\$	37.32	\$	571.85	
Dozer Fleet size	8	Dozers						Fleet cost/hour	\$	4,574.80	

Fleet Cost - Regrading Pits

Truck/Trackhoe		Units		Ownership		Oper. Cost		Operator		Ripper Ownership		Ripper Operating		Cost ea.		Total Cost		
Equipment		Required		Cost/Hour		Cost/Hour		(\$/hr)		(\$/hr)		(\$/hr)		(\$/hr)		(\$/hr)		
Single shift																		
CAT 6090		1	\$	23.07	\$	930.15	\$	37.32						\$	990.54	\$	990.54	100%
Komatsu 830E		1	\$	179.05	\$	247.93	\$	34.42						\$	461.40	\$	461.40	100%
Motor Grader (Cat 16M)		1	\$	163.86	\$	27.47	\$	28.56						\$	219.89	\$	219.89	50%
Support (Load Area) Cat D10T-10SU		1	\$	153.67	\$	41.74	\$	41.30				1.81	\$	\$	238.52	\$	238.52	0%
Support (Dump Area) Cat D10T-10SU		1	\$	153.67	\$	41.74	\$	41.30				0	\$	\$	236.71	\$	236.71	100%
Water Truck- Water Tanker, 14000 Gal.		1	\$	105.66	\$	38.37	\$	-						\$	144.03	\$	144.03	50%
Total			\$	778.98	\$	1,327.40	\$	182.90	\$	-	\$	1.81	\$	\$	2,291.09	\$	2,291.09	
														\$	1,829.69		without truck cost	

Circs Unit Cost

Drill and Blast Equipment Costs					
Equip	Ownership		Oper. Cost		Total
	Cost/Hour		Cost/Hour	Attachments	
single shift					
Drilling Equip.	\$ 96.39	\$	131.63	0 \$	\$ 228.02
Cat D10T Dozer	\$ 153.67	\$	166.94	0 \$	\$ 362.16
Bulk Truck	\$ 128.47			41.55	\$ 128.47
Cap Truck	\$ 15.24				\$ 15.24
Total work team cost/hour					\$ 733.89

Fleet Cost	Ownership		Oper. Cost		Attachments*	Operator	Total
	Equipment	Cost/Hour	Cost/Hour	Cost/Hour			
single shift							
Cat D10T w/ripper		\$ 153.67	\$ 0	166.94	0	\$ 41.30	\$ 361.91
Light Plant				0	0	\$ -	\$ -
Total		153.67		166.94	0	41.30	361.91
Dozer Fleet size	4		Dozers			Fleet cost/hour	
Ripping Haulroads	22.74			11.11			
* Ripper costs included for ripping, omitted for grading							

Dozer Cost/Hour

Dozer Cost/Hour + Ripping

Impoundment Regrade Equipment Costs

Fleet Cost	Equip	Ownership		Oper. Cost		Attachments	Operator	Total
		Cost/Hour		Cost/Hour				
Cat D10T w/ripper (semi-U blade)		\$ 153.67	\$	166.94		0 \$	41.30 \$	361.91
Light Plant		0		0		0 \$	- \$	-
Total		153.67		166.94		0 \$	41.30 \$	361.91
Dozer Fleet size	2		Dozers				Fleet cost/hour \$	723.82

Fleet Cost Equip	Ownership		Oper. Cost		Ripper Ownership		Ripper Operating		Operator	Total
	Cost/Hour		Cost/Hour		Cost/Hour		Cost/Hour			
Cat D8T (8SU) (semi -U blade)	\$ 124.85	\$	97.63	\$	13.10	\$	3.65	\$	41.30	\$ 280.53
Cat 16M Finish Grading	163.86		109.86						\$ 28.56	\$ 302.28
Total	\$ 288.71	\$	207.49	\$	13.10	\$	3.65	\$	69.86	\$ 582.81
Dozer Fleet size	4		Dozers						Fleet cost/hour	\$ 2,331.24

Scrapers		Units		Ownership		Oper. Cost		Operator		Cost ea.		Total Cost	
Equipment	Required	Cost/Hour	Cost/Hour	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)
single shift													
Cat 637 G w/push-pull	8	\$ 287.19	\$ 277.83	\$ 30.90	\$ 595.92	\$ 4,767.36	8 Scrapers						
Motor Grader	1	\$ 163.86	\$ 54.93	\$ 28.56	\$ 247.35	\$ 247.35							
Support (Load Area) Cat D10 -10SU	1	\$ 153.67	\$ 83.47	\$ 41.30	\$ 278.42	\$ 278.42							
Support (Dump Area) Cat D10 -10SU	1	\$ 153.67	\$ 83.47	\$ 41.30	\$ 278.42	\$ 278.42							
Water Truck	1	\$ 10.28	\$ 12.19	\$ 21.12	\$ 43.60	\$ 43.60							
Total		\$ 768.67	\$ 511.89	\$ 163.18	\$ 1,443.71	\$ 5,615.15							
												\$ 847.79	\$ 701.89
Truck/Trackhoe Topsoil Replacement													
Equipment		Units		Ownership		Oper. Cost		Operator		Cost ea.		Total Cost	
Equipment	Required	Cost/Hour	Cost/Hour	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)
single shift													
CAT 385D L 18'-1" Stick	1	\$ 219.19	\$ 176.71	\$ 37.32								\$ 433.22	\$ 433.22
CAT 777F	4	\$ 175.01	\$ 139.87	\$ 33.71								\$ 348.59	\$ 1,394.36
Motor Grader (Cat 16M)	1	\$ 163.86	\$ 27.47	\$ 28.56								\$ 219.89	\$ 219.89
Support (Load Area) Cat D10T-10SU	1	\$ 153.67	\$ 41.74	\$ 41.30								\$ 238.52	\$ 238.52
Support (Dump Area) Cat D10T -10SU	1	\$ 153.67	\$ 41.74	\$ 41.30								\$ 236.71	\$ 236.71
Water Truck- Water Tanker, 2500 Gal.	1	\$ 105.66	\$ 38.37	\$ -								\$ 144.03	\$ 144.03
Total		\$ 971.06	\$ 465.90	\$ 182.19	\$ -	\$ 1.81						\$ 1,619.15	\$ 2,666.73
												\$ 1,272.37	\$ 1,272.37

Revegetation Unit Costs	
Rangeland with Shrubs: (Above 6700')	
Total Tilling Cost/Acre	\$ 98.43
Total Seed Mix Cost/Acre	\$ 354.70
Total Seed Application Cost/Acre	\$ 232.00
Total	\$ 685.13
Rangeland without Shrubs: (below 6700')	
Total Tilling Cost/Acre	\$ 98.43
Total Seed Mix Cost/Acre	\$ 86.15
Total Seed Application Cost/Acre	\$ 232.00
Total	\$ 416.58

Correction Factor for Pits	
From TR-124 Circes Est.	
Downhill Push	
Operator skill	0.750
Mat Consistency	1.200
Dozing Method	1.200
Visibility	0.800
Job Efficiency	0.830
Spoil Pile	0.900
Push gradient	1.000
Altitude:	1.000
Material Weight	0.697
Blade Type	1.000
Total	0.450

See Cross-Sections

Correction Factor for Pits	
Uphill Push	
Operator	0.750
Mat Consistency	1.200
Dozing Method	1.200
Visibility	0.800
Job Efficiency	0.830
Spoil Pile	0.900
Grade Adjustment	1.000
Altitude:	1.000
Material Weight	0.697
Blade Type	1.000
Total Correction	0.450

Correction Factor for Roads	
Operator skill	0.750
Mat Consistency	1.000
Dozing Method	1.000
Visibility	1.000
Job Efficiency	0.830
Spoil Pile	0.800
Push gradient	
Altitude:	1.000
Material Weight	0.902
Blade Type	1.00
Total	0.449

Correction Factor for Impoundments and Diversions	
Operator skill	0.750
Mat Consistency	1.200
Dozing Method	1.200
Visibility	0.800
Job Efficiency	0.830
Spoil Pile	0.900
Push gradient	1.00
Altitude:	1.000
Material Weight	0.697
Blade Type	1.00
Total	0.450

Note: In Circes, these correction factors are applied to each task (i.e. Cross-section).
Circes Unit Cost

10'402'081

Table A-4.2

Regrading Pits - C (Coil) Pit (Truck/Excavator)

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Cross Section	BCY	Haul Distance (ft.)	Average Grade (%)	Production (cyd/hr)	Excavator Hours	Fleet Hours	Number of Trucks	Cost (\$/hr)	Total Cost(\$)
1,406,950	506,033	4,528	-2%	4601	110.0	440	4	\$ 3,675.29	\$ 404,183.76
1,407,450	1,035,759	3,998	-2%	4834	214	857	4	\$ 3,675.29	\$ 786,512.06
1,407,950	1,021,019	4,331	-4%	4606	222	887	4	\$ 3,675.29	\$ 815,914.38
1,408,450	956,111	5,028	-8%	4335	221	1103	5	\$ 4,136.69	\$ 914,208.49
1,408,950	738,667	3,596	-6%	4713	157	627.00	4	\$ 3,675.29	\$ 577,020.53
1,408,450	845,574	3,103	-8%	4681	181	723.00	4	\$ 3,675.29	\$ 665,227.49
1,409,950	857,674	2,998	-6%	5099	168	673.00	4	\$ 3,675.29	\$ 617,448.72
Grand Total C Pit	5,960,837	3945	-5.1%	4696	1273	5310.00	4.2	\$ 3,749.30	\$ 4,780,515.43

Table A-4.3

Regrading Pits - D/E Pits (Dozer)

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Cross Section	Cubic Yards	Push Distance	Average Grade (%)	Productivity (bcy/hr)	Correction Factor	Grade Factor	Adjusted Correction Factor	Adjusted Productivity (bcy/hr)	Dozer Hours	Unit Cost (\$/hr)	Total Cost(\$)
407,000	53,933	269	-25%	1200	0.45	1.52	0.68	818	65.9	\$ 571.85	\$ 37,686.79
406,500	79,567	276	-22%	1180	0.45	1.43	0.64	757	105.1	\$ 571.85	\$ 60,109.96
406,000	98,683	334	-22%	1000	0.45	1.43	0.64	641	153.8	\$ 571.85	\$ 87,970.65
405,500	147,325	353	-22%	955	0.45	1.43	0.64	613	240.5	\$ 571.85	\$ 137,520.85
405,000	149,042	361	-22%	950	0.45	1.43	0.64	609	244.6	\$ 571.85	\$ 139,855.82
404,500	136,308	320	-25%	1025	0.45	1.52	0.68	699	195.0	\$ 571.85	\$ 111,509.86
404,000	135,358	327	-25%	1025	0.45	1.52	0.68	699	193.6	\$ 571.85	\$ 110,732.69
403,500	154,692	360	-25%	950	0.45	1.52	0.68	648	238.8	\$ 571.85	\$ 136,540.05
403,000	80,875	344	-18%	1000	0.45	1.33	0.60	598	135.3	\$ 571.85	\$ 77,357.84
Total D/E Pits	1,035,783	335	-23%	1010	0.45	1.46	0.66	663	1572.6	\$ 571.85	\$ 899,284.52

Table A-4.4

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Regrading Pits - I (I Pit Middle Extension) Pit (Truck/Excavator)									
Cross Section	BCY	Haul Distance (ft.)	Average Grade (%)	Production (cyds/hr)	Excavator Hours	Fleet Hours	Number of Trucks	Cost (\$/hr)	Total Cost(\$)
1,406,950	477,772	4063	-2%	4810.33	99	397.00	4	\$ 3,675.29	\$ 363,853.71
Grand Total I Pit Middle Extension	477,772	4063	-2%	4810.33	99	397.00	4.00	\$ 3,675.29	\$ 363,853.71

Table A-4.5

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Regrading Pits - J (Jennings Pit West) Pit (Dozer)													
Cross Section	LCY	Push Distance	Average Grade (%)	Productivity (lcy/hr)	Correction Factor	Grade Factor	Correction Factor	Adjusted Productivity (lcy/hr)	Dozer Hours	Unit Cost (\$/hr)	Total Cost(\$)		
1,415,000	67,778	194	-30%	1650	0.45	1.60	0.72	1198	57.07	\$ 571.85	\$ 32,636.11		
	56,093	181	-23%	1700	0.45	1.43	0.64	1094	51.29	\$ 571.85	\$ 29,331.59		
1,414,500	38,111	171	-30%	1775	0.45	1.60	0.72	1278	29.83	\$ 571.85	\$ 17,058.79		
	48,759	168	-22%	1780	0.45	1.42	0.64	1137	42.88	\$ 571.85	\$ 24,522.44		
1,414,000	21,833	145	-23%	2030	0.45	1.43	0.64	1306	16.72	\$ 571.85	\$ 9,560.99		
	55,019	162	-26%	1830	0.45	1.55	0.70	1276	43.12	\$ 571.85	\$ 24,657.05		
1,413,500	61,759	173	-29%	1780	0.45	1.59	0.72	1273	48.51	\$ 571.85	\$ 27,739.58		
	5,833	135	-14%	2200	0.45	1.25	0.56	1237	4.72	\$ 571.85	\$ 2,696.49		
1,403,000	19,815	170	-12%	1785	0.45	1.23	0.55	988	20.06	\$ 571.85	\$ 11,472.60		
	43,222	175	-11%	1700	0.45	1.21	0.54	925	46.71	\$ 571.85	\$ 26,710.86		
1,402,500	108,926	275	-17%	1200	0.45	1.34	0.60	723	151.97	\$ 571.85	\$ 86,901.86		
	25,833	190	-15%	1600	0.45	1.30	0.58	936	27.61	\$ 571.85	\$ 15,788.18		
1,402,000	30,426	157	-30%	1850	0.45	1.60	0.72	1332	22.85	\$ 571.85	\$ 13,066.74		
	83,630	184	-20%	1680	0.45	1.41	0.63	1066	78.48	\$ 571.85	\$ 44,879.37		
Grand Total J Pit West	668,037	191	-22%	1659	0.45	1.44	0.65	1083	641.8	\$ 571.85	\$ 367,022.86		

Table A-4.6 Reproding Pits - L (Lancaster) Pits (Doser)

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Cross Section	LCY	Push Distance	Average Grade (%)	Productivity (tch/hr)	Correction Factor	Grade Factor	Correction Factor	Adjusted Productivity (tch/hr)	Doser Hours	Unit Cost (\$/hr)	Total Cost(\$)
400.200	76,407	223	-30%	820	0.45	1.60	0.72	590	128.5	\$ 571.85	74,031
	66,204	267	-30%	700	0.45	1.60	0.72	504	131.4	\$ 571.85	75,142
	18,500	180	-30%	820	0.45	1.60	0.72	590	31.3	\$ 571.85	17,925
400.700	53,852	124	-30%	1300	0.45	1.60	0.72	936	57.6	\$ 571.85	32,912
	32,463	135	-30%	1200	0.45	1.60	0.72	864	37.6	\$ 571.85	21,493
	24,389	134	-24%	1180	0.45	1.50	0.67	796	30.6	\$ 571.85	17,516
401.200	30,463	129	-30%	1230	0.45	1.60	0.72	885	34.4	\$ 571.85	19,677
	223	163	-26%	820	0.45	1.50	0.67	553	93.6	\$ 571.85	53,531
	25,944	104	-30%	1050	0.45	1.60	0.72	756	34.3	\$ 571.85	19,631
401.700	146,500	130	-30%	1500	0.45	1.60	0.72	1080	136.7	\$ 571.85	77,596
	18,722	130	-30%	1220	0.45	1.60	0.72	878	21.3	\$ 571.85	12,192
402.200	53,074	564	-12%	600	0.45	1.25	0.56	337	157.3	\$ 571.85	89,957
	31,463	154	-30%	1900	0.45	1.60	0.72	1368	23.0	\$ 571.85	13,157
	88,852	201	-3%	1550	0.45	1.03	0.46	718	123.7	\$ 571.85	70,748
402.700	180,259	569	-19%	600	0.45	1.40	0.63	378	424.1	\$ 571.85	242,526
	126,907	301	-18%	1100	0.45	1.37	0.62	678	187.1	\$ 571.85	107,014
	85,648	365	-15%	950	0.45	1.32	0.59	564	151.8	\$ 571.85	86,794
403.200	199,722	474	-15%	710	0.45	1.30	0.59	415	480.9	\$ 571.85	274,975
	57,981	223	-25%	820	0.45	1.50	0.67	553	104.8	\$ 571.85	59,924
	15,611	88	-23%	3100	0.45	1.48	0.67	553	28.2	\$ 571.85	16,134
403.700	74,648	224	-15%	820	0.45	1.30	0.67	2084	36.2	\$ 571.85	20,693
	282,019	688	-18%	550	0.45	1.37	0.58	480	588.1	\$ 571.85	336,307
403.833	93,130	218	-30%	825	0.45	1.60	0.72	594	156.8	\$ 571.85	89,687
	5,685	42	-30%	2500	0.45	1.60	0.72	1799	3.2	\$ 571.85	1,807
	3,130	43	-30%	2900	0.45	1.60	0.72	1789	1.7	\$ 571.85	995
403.932	62,833	163	-30%	1050	0.45	1.60	0.72	756	83.1	\$ 571.85	47,544
	39,382	166	-30%	1020	0.45	1.60	0.72	734	53.6	\$ 571.85	30,662
404.200	1,426	53	-30%	2500	0.45	1.60	0.72	1799	0.8	\$ 571.85	453
	63,352	338	-30%	2500	0.45	1.60	0.72	1799	160.0	\$ 571.85	91,515
	4,167	51	-30%	2500	0.45	1.60	0.72	1799	2.3	\$ 571.85	1,324
404.700	79,463	325	-30%	580	0.45	1.60	0.72	417	190.3	\$ 571.85	108,851
	173,870	393	-12%	480	0.45	1.23	0.55	266	654.7	\$ 571.85	374,364
	73,370	164	-27%	1050	0.45	1.56	0.70	737	99.6	\$ 571.85	56,941
405.200	38,056	140	-18%	1150	0.45	1.38	0.62	533	53.3	\$ 571.85	30,483
	42,111	163	-26%	1050	0.45	1.30	0.58	614	68.6	\$ 571.85	39,217
405.700	234,741	340	-22%	550	0.45	1.42	0.64	351	688.1	\$ 571.85	382,078
	302,130	563	-27%	350	0.45	1.56	0.70	246	1230.1	\$ 571.85	703,422
	181,963	586	-26%	320	0.45	1.55	0.70	223	815.5	\$ 571.85	486,355
406.200	267,722	525	-16%	380	0.45	1.30	0.58	222	1204.7	\$ 571.85	688,926
	134,944	531	-11%	375	0.45	1.21	0.54	204	661.1	\$ 571.85	378,054
406.700	100,963	319	-26%	600	0.45	1.58	0.71	426	236.7	\$ 571.85	135,384
	47,611	257	-23%	640	0.45	1.43	0.64	412	115.6	\$ 571.85	66,131
406.700	36,074	128	-12%	1220	0.45	1.22	0.55	670	53.9	\$ 571.85	30,810
	105,407	316	11%	600	0.45	0.78	0.35	211	500.7	\$ 571.85	296,312
406.700	67,778	330	-16%	575	0.45	1.30	0.58	336	201.6	\$ 571.85	115,263
	154,444	360	-18%	520	0.45	1.39	0.63	325	475.0	\$ 571.85	271,625
407.200	29,089	323	-9%	580	0.45	1.18	0.53	308	94.5	\$ 571.85	54,030
	64,213	324	-18%	580	0.45	1.39	0.61	354	181.5	\$ 571.85	103,789
	4,126,450	378	378	721	0.45	1.41	0.63	375.0	1109.7	\$ 571.85	6,295,877

Regrading Pit - L (Lancaster) Pits (Truck/Excavator)

[illegible]

Table A-4.7 Regrading Pk - N (Nighthawk) Pk (Dozer)

Page No.

16

Cross Section	LCY	Push Distance	Average Grade (%)	Productivity (cy/hr)	Correction Factor	Grade Factor	Correction Factor	Adjusted Productivity (cy/hr)	Dozer Hours	Unit Cost (\$/hr)	Total Cost (\$)
1,426,750	45,750	160	-7%	1900	0.45	1.36	0.62	1180	36.79	\$ 571.85	\$22,180.61
1,427,250	-	0	0%	0	0.45	1.00	0.45	0	0.00	\$ 571.85	\$0.00
		0	0%	0	0.45	1.00	0.45	0	0.00	\$ 571.85	\$0.00
1,427,750	13,426	96	-30%	3100	0.45	1.60	0.72	2231	6.02	\$ 571.85	\$3,440.96
	10,722	98	-17%	3100	0.45	1.34	0.60	1869	5.74	\$ 571.85	\$3,281.14
	16,667	136	-21%	2300	0.45	1.05	0.47	1086	15.34	\$ 571.85	\$8,773.14
1,428,250	91,037	275	-30%	1170	0.45	1.60	0.72	842	108.10	\$ 571.85	\$61,819.73
	65,926	302	-22%	1100	0.45	1.30	0.58	643	102.48	\$ 571.85	\$58,605.14
1,428,750	83,463	227	-30%	1400	0.45	1.60	0.72	1008	82.53	\$ 571.85	\$47,365.37
	104,444	250	-30%	1260	0.45	1.60	0.72	907	102.48	\$ 571.85	\$58,605.14
1,429,250	191,796	381	-30%	875	0.45	1.60	0.72	630	115.17	\$ 571.85	\$66,857.91
	92,685	392	-20%	860	0.45	1.25	0.56	484	304.54	\$ 571.85	\$174,151.22
1,429,750	23,444	567	-14%	600	0.45	1.25	0.56	337	191.66	\$ 571.85	\$109,601.37
	14,630	117	-22%	2470	0.45	1.12	0.50	1244	69.49	\$ 571.85	\$39,736.12
1,430,250	162,481	777	-13%	480	0.45	1.27	0.57	274	592.50	\$ 571.85	\$6,722.71
	43,537	248	-11%	1260	0.45	1.21	0.54	686	63.48	\$ 571.85	\$338,822.80
1,430,750	329,333	747	-15%	400	0.45	1.30	0.58	234	1407.88	\$ 571.85	\$805,094.59
	75,448	324	-8%	300	0.45	1.17	0.53	158	477.83	\$ 571.85	\$273,247.14
Total	1,364,789	464	(0.20)	888	0.45	1.39	0.62	567.89	3593.6	\$ 571.85	\$2,055,000.87

Page No.

16

Cross Section	LCY	Haul Distance (ft.)	Average Grade (%)	Productivity (cy/hr)	Excavator Hours	Fleet Hours	Number of Trucks	Cost (\$/hr)	Total Cost (\$)
1,426,750	0	4432	-8%	936.5	101.0	506.0	5.0	\$ 4,141.26	\$ 418,267.09
	473,933	221	6%	5373.1	22.0	44.0	2.0	\$ 2,752.49	\$ 60,554.78
1,427,250	847,352	4701	-8%	903.1	188.0	938.0	5.0	\$ 4,131.78	\$ 776,774.92
1,427,750	0	5124	0%	1043.9	163.0	653.0	4.0	\$ 3,678.12	\$ 599,533.67
	681,519								
1,428,250	0	5452	-8%	4821.1	51.0	304.0	6.0	\$ 4,580.00	\$ 233,579.79
1,428,750	244,259								
	0	6471	-8%	722.2	36.0	214.0	5.9	\$ 4,572.46	\$ 164,608.44
1,429,250	154,648								
	0								
1,429,750	0								
	0								
1,430,250	0								
	0								
1,430,750	0								
Total	2,519,470	4737		1625	561	2659	28	\$ 4,016.88	\$ 2,253,318.69
N Pk Total	3,884,259								\$4,308,319.56

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16

Cross Section	LCY	Push Distance	Average Grade (%)	Productivity (lcy/hr)	Correction Factor	Grade Factor	Correction Factor	Adjusted Productivity (lcy/hr)	Dozer Hours	Unit Cost (\$/hr)	Total Cost(\$)
Task 001 (Circles 8/27/18)	*	*		*			*	*	*		
	26,112	50	0	972.0	1.0	1.0	1.0	972	27	\$ 571.85	\$ 15,439.95
Total	26,112	50		972			972.0		27.00		\$ 15,439.95

Table A-5.1

Drill & Blast (Highwall Reduction)

Page No.

18

Pit	BCY Blasted (3)	Drill Footage	Drill Hours (1)	Drill \$	Highwall Length	Benching Hrs (2)	Bench \$	Blasting \$ (4)	Total \$
Ash Pit	106,474	3,194	17.75	\$ 4,046.37	1250	20	\$ 7,243.20	\$ 31,942.20	\$ 43,231.77
C Pit	0	0	0.00	\$ -	0	0	\$ -	\$ -	\$ -
I Pit Middle Ext.	0	0	0.00	\$ -	0	0	\$ -	\$ -	\$ -
J West Pit	513,911	15,417	85.65	\$ 19,530.33	3500	56	\$ 20,280.96	\$ 154,173.30	\$ 193,984.59
L Pit	1,776,482	53,294	296.08	\$ 67,512.23	6920	111	\$ 40,098.36	\$ 532,944.53	\$ 640,555.12
N Pit	0	0	0	\$ -	0	0	\$ -	\$ -	\$ -
Total	2,396,867	71,906	399	\$ 91,088.93	11,670	187	\$ 67,622.52	\$ 719,060.03	\$ 877,771.48

(1) based on 30' x 30' burden and spacing and 180 feet per drill hour
 (2) 16 hrs per 1000' of highwall
 (3) from L & N Pit Grading Volumes (de-swelled by 25%)
 (4) \$0.30/cyd from Trapper Budget \$ 0.30

Ash Pit	C Pit	I Pit Middle Ext.	J West Pit	L Pit	N Pit
1250	0	0	3500	6920	0
164	0	0	132	147	0
14	0	0	30	47	0
133,093	0	0	642,389	2,220,602	0
106,474	0	0	513,911	1,776,482	0
3,194	0	0	15,417	53,294	0

Table A-6.1

Regrade Roads

Page No.

19

Road Description	Type	Length (ft)	Volume (bcys)	Volume @25% swell	Ripping Hours	Regrade Hours
BC Road	Walk	9160	166237	207796	246.7	243.5
DMAIN	Walk	6700	121593	151991	180.5	178.1
ASHWEST	Haul	3590	59833	74792	88.8	87.6
ASHEAST	Haul	7765	140920	176150	209.1	206.4
LOM (includes new N Pit Haulroad)	Walk	19980	362600	453250	538.1	531.1
I/J Spoil Road	Haul	1735	28917	36146	42.9	42.4
I Pit Middle	Haul	461	7683	9604	11.4	11.3
I Pit West	Haul	4471	74517	93146	110.6	109.1
C Pit	Haul	8184	136400	170500	202.4	199.8
Middle A Road (N Pit)	Haul	2730	45500	56875	67.5	66.6
North A (N Pit)	Haul	5281	88017	110021	130.6	128.9
N Pit Haulroad (old LOM portion)	Haul	3332	55533	69417	82.4	81.3
N Pit Cross-Over Road	Haul	1775	29583	36979	43.9	43.3
N Pit -Ash Pit Haul Road	Haul	1210	20167	25208	29.9	29.5
					0.0	0.0
K2 Road 1 (EPRL)	Haul	3075	51250	64063	76.1	75.1
K-3 Road	Haul	5822	97033	121292	144.0	142.1
East A Road #2 (formerly North A road)	Haul	4203	70050	87563	104.0	102.6
East A Split	Haul	2083	34717	43396	51.5	50.8
Bridge Road	Haul	3038	50633	63292	75.1	74.2
					0.0	0.0
Mine Access (AR-1)	Access	6600	54022	67528	54.6	79.1
					2490.3	2482.8

Table A-6.2

Regrade Roads (Cont.)

Page No.

20

Road Description	Type	Length (ft)	Volume (bcys)	Volume @25% swell	Ripping Hours	Regrade Hours
No Name #2 (AR-3)	Access	520	4256	5320	6.3	6.2
No Name # 4 (AR-4)	Access	1500	12278	15347	18.2	18.0
No Name 5R	Access	1000	8185	10231	12.1	12.0
Potable Water Well (AR-5)	Access	500	4093	5116	6.1	6.0
W. Pyeatt 1 (AR6)	Access	800	6548	8185	9.7	9.6
W. Pyeatt 2	Access	1200	9822	12278	9.9	9.8
M. Pyeatt 1 (AR7)	Access	650	5320	6650	7.9	7.8
M. Pyeatt 2	Access	450	3683	4604	3.7	3.7
M. Pyeatt 3	Access	750	6139	7674	6.2	6.1
E. Pyeatt 1 (AR-8)	Access	635	5198	6497	7.7	7.6
E. Pyeatt 2 (AR-9)	Access	1000	8185	10231	12.1	12.0
E. Pyeatt 3 (AR-9)	Access	950	7776	9720	11.5	11.4
Grouse (AR10)	Access	1280	10477	13096	15.5	15.3
West Flume 1	Access	750	6139	7674	9.1	9.0
East Flume 1	Access	750	6139	7674	6.2	6.1
Deal 1	Access	750	6139	7674	6.2	6.1
West Horse	Access	750	6139	7674	9.1	9.0
Horse 1	Access	1700	13915	17394	20.7	20.4
Middle Flume 1	Access	600	4911	6139	7.3	7.2
Middle Flume 3	Access	430	3520	4400	5.2	5.2
Oak	Access	950	7776	9720	11.5	11.4
Sage	Access	1250	10231	12789	15.2	15.0
Johnson	Access	3100	25374	31718	37.7	37.2
Total		123,460	1,877,449	2,346,811	2745.6	2734.8
Road Type 1 - Typical Access Road Cross Section - 221 sq ft						
Road Type 2 - Typical Haul Road Cross Section - 450 sq ft						
Road Type 3 - Typical Haul/Walk Rd Cross Section - 490 sq ft						
Ripping Productivity -	1500 bcy/hr	@ sv=5000 fps				
Correction Factor =	0.4492					
Adjusted Productivity =	673.794					
Regrade: Cat D10R, =	1900 lcy/hr	80 feet average push,				
Correction Factor =	0.4492					
Adjusted Productivity =	853.472					

Table A-7.1Regrade Impoundments (Volumes)

Impoundment	Height (ft)	X-Section (sq ft)	Length (ft)	Volume (bcys)	Volume(bcys) @ 25% swell
Coyote	-	-	-	67,000	83,750
Middle Pyeatt #1	13.5	704	190	3,303	4,128
Middle Pyeatt #2	13.5	704	220	3,824	4,780
Middle Pyeatt #3	14	749	280	5,178	6,473
Far E. Buzzard #1	4.5	123	90	273	342
Sage #1	12	576	250	3,556	4,444
Sage #2	11	500	250	3,086	3,858
West Horse	9	358	300	2,652	3,315
Impoundment H	8	296	350	2,558	3,198
Ind Waste Pond	10	425	250	2,623	3,279
Deal # 1	9	380	142	1,999	2,499
Deal # 2	10	2224	69	5,645	7,056
Deacon # 1	15	5006	140	25,966	32,457
Deacon # 2	15	4899	150	27,219	34,024
Jeftway # 1	10	1545	158	9,018	11,273
W. Buzzard # 4	9	1776	60	3,938	4,923
E. Buzzard # 3	10	1124	123	5,131	6,414
Total				172,970	216,212

Table A-7.2

Regrade Impoundments (Costs)

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Impoundment	Volume* (lcys)	Avg Push (ft)	Productivity (lcy/hr)	Correction Factor	Productivity (lcy/hr)	Regrade Hours	Regrade Cost (\$)
Coyote	83750	500	646	0.45	290.1	288.7	\$ 104,479.80
Middle Pyeatt #1	4128	200	661	0.45	297.0	13.9	\$ 5,030.55
Middle Pyeatt #2	4780	200	662	0.45	297.4	16.1	\$ 5,826.75
Middle Pyeatt #3	6473	275	662	0.45	297.4	21.7	\$ 7,853.45
Far E. Buzzard #1	342	100	1351	0.45	606.9	0.6	\$ 202.67
Sage #1	4444	150	977	0.45	439.0	10.1	\$ 3,655.29
Sage #2	3858	150	977	0.45	439.0	8.8	\$ 3,184.81
West Horse	3315	55	2099	0.45	942.8	3.5	\$ 1,266.69
Impoundment H	3198	150	977	0.45	439.0	7.3	\$ 2,641.94
Ind Waste Pond	3279	150	977	0.45	439.0	7.5	\$ 2,714.33
Deal # 1	2499	99	2164	0.45	972.2	2.6	\$ 940.97
Deal # 2	7056	60	2164	0.45	972.2	7.3	\$ 2,641.94
Deacon # 1	32457	150	2164	0.45	972.2	33.4	\$ 12,087.79
Deacon # 2	34024	140	2164	0.45	972.2	35.0	\$ 12,666.85
Jeffway # 1	* 11273	100	2164	0.45	972.2	10.7	\$ 3,872.44
W. Buzzard # 4	4923	78	2140	0.45	963	5.1	\$ 1,849.95
E. Buzzard # 3	6414	70	2140	0.45	963	6.7	\$ 2,410.38
Total	216212	278	1385	0.45	451	478.9	\$ 173,326.59

Diversion	Length (ft)	Bottom Width (ft)	Depth (ft)	X-Sectional Area (sq ft)	Volume (cyds)
Far E. Buzzard No. 1	520	0	2	8.0	154
East Pyeatt No. 1	1880	17	3	69.0	4804
South No. 3	1360	1	2	10.0	504
South No. 4	2400	1	2	10.0	889
No Name No. 1	2000	0	2	8.0	593
No Name No. 2	400	0	2	8.0	119
West Pyeatt No. 1	400	12	3	54.0	800
West Flume 2	750	0	3	18.0	500
Horse	1430	0	3	18.0	953
East Middle Flume	875	0	2	8.0	259
Deal No. 2 Diversion	438	12	1	18.0	291
Grouse Diversion to E. Pyeatt	3605	15	2.5	50.0	6676
No Name East	2083	5	0.25	1.4	106
No Name West	2118	5	0.4	2.3	182
Johnson Stockpile W	1166	0	0.5	0.5	22
Johnson Stockpile E	1109	0	0.5	0.5	21
N-Pit	5319	20	3	78.0	15366
Coyote West	1002	5	2	18.0	668
East C Pit	1580	0	2	8.0	468
J Pit Diversion	5570	0	2	8.0	1650
Total	36005				35025

Table A-8.2

Regrade Diversions (cont.)

Page No. 24

Diversion	Volume (cyds)	Dozer Prod Rate	Correction Factor	Adjusted Prod Rate	Dozer Hours	Dozer Cost/HR	Dozer Cost	Blade Hours	Blade \$/HR	Blade Cost	Blade Cost	Total Cost (\$)
Far E. Buzzard No. 1	154	800	0.450	359.9	0.4	\$ 280.53	\$ 120.10	1.2	\$ 302.28	\$ 372.59	\$ 492.69	
East Pyeatt No. 1	4804	800	0.450	359.9	13.4	\$ 280.53	\$ 3,745.12	13.4	\$ 302.28	\$ 4,035.48	\$ 7,780.60	
South No. 3	504	800	0.450	359.9	1.4	\$ 280.53	\$ 392.64	1.4	\$ 302.28	\$ 423.08	\$ 815.73	
South No. 4	889	800	0.450	359.9	2.5	\$ 280.53	\$ 692.90	2.5	\$ 302.28	\$ 746.62	\$ 1,439.52	
No Name No. 1	593	800	0.450	359.9	1.6	\$ 280.53	\$ 461.93	4.7	\$ 302.28	\$ 1,433.03	\$ 1,894.96	
No Name No. 2	119	800	0.450	359.9	0.3	\$ 280.53	\$ 92.39	0.9	\$ 302.28	\$ 266.61	\$ 378.99	
West Pyeatt No. 1	800	800	0.450	359.9	2.2	\$ 280.53	\$ 623.61	6.4	\$ 302.28	\$ 1,934.59	\$ 2,558.20	
West Flume 2	500	800	0.450	359.9	1.4	\$ 280.53	\$ 389.76	4.0	\$ 302.28	\$ 1,209.12	\$ 3,048.88	
Horse	953	800	0.450	359.9	2.6	\$ 280.53	\$ 743.13	7.6	\$ 302.28	\$ 2,305.39	\$ 3,048.52	
East Middle Flume	259	800	0.450	359.9	0.7	\$ 280.53	\$ 202.10	2.1	\$ 302.28	\$ 626.95	\$ 829.05	
Deal No. 2 Diversion	291	800	0.450	359.9	0.8	\$ 280.53	\$ 227.05	2.3	\$ 302.28	\$ 704.37	\$ 931.42	
Grouse Diversion to E. Pyeatt	6676	800	0.450	359.9	18.6	\$ 280.53	\$ 5,203.96	53.4	\$ 302.28	\$ 16,143.99	\$ 21,347.95	
No Name East	106	800	0.450	359.9	0.3	\$ 280.53	\$ 82.69	0.8	\$ 302.28	\$ 256.52	\$ 339.21	
No Name West	182	800	0.450	359.9	0.5	\$ 280.53	\$ 141.86	1.5	\$ 302.28	\$ 440.10	\$ 581.96	
Johnson Stockpile W	22	800	0.450	359.9	0.1	\$ 280.53	\$ 16.83	0.2	\$ 302.28	\$ 52.22	\$ 69.05	
Johnson Stockpile E	21	800	0.450	359.9	0.1	\$ 280.53	\$ 16.01	0.2	\$ 302.28	\$ 49.66	\$ 65.67	
N Pit	15366	800	0.450	359.9	42.7	\$ 280.53	\$ 11,977.96	122.9	\$ 302.28	\$ 37,158.68	\$ 49,136.64	
East C Pit	668	800	0.450	359.9	1.9	\$ 280.53	\$ 520.71	5.3	\$ 302.28	\$ 1,615.38	\$ 2,136.10	
J Pit Diversion	468	800	0.450	359.9	1.3	\$ 280.53	\$ 364.93	1.3	\$ 302.28	\$ 393.22	\$ 758.15	
Total	33374	800	0.450	359.9	92.7	\$ 280.53	\$ 26,015.68	232.2	\$ 302.28	\$ 70,187.6	\$ 96,203.29	

Table A-8.2A

Finish Grading

Area (Acres)	Productivity Ac/HR	(Hours)	Graders No.	(\$/HR)	Fleet \$/HR	Cost (\$)
2307.81	3.6782	627.43	2.00	\$ 302.28	\$ 604.56	\$ 379,317.93

Table A-9.1

Summary of topsoil replacement costs

Topsoil Replacement Area	Cubic Yards	Rate (cyds/hr)	Task Hours	Fleet Hours	Ave. Fleet		Total (\$)
					Cost (\$/hr)	Rate (\$/hr)	
Ash Pit (Scrapers)	71,254	804	11.1		\$ 5,615.15	\$	62,196.63
Ash Pit (Truck/Excavator)	115,215	1143	100.8	403.0	\$ 2,666.13	\$	268,728.36
Coit Pit	304,436	369	103.2		\$ 5,615.15	\$	579,381.59
Derringer Pit (Scrapers)	69,692	420	21		\$ 5,615.15	\$	116,585.75
Derringer Pit (Truck/Excavator)	470,723	1211	389	1,144	\$ 2,368.90	\$	921,772.12
Ithaca Pit (Scrapers)	56,983	501	15		\$ 5,615.15	\$	82,398.26
Jennings Pit (Scrapers)	11,260	327	4		\$ 5,615.15	\$	24,204.72
Jennings Pit (Truck/Excavator)	94,623	1124	84	253	\$ 2,319.95	\$	195,311.42
Ithaca/Jennings Pit Spoil Dump Stockpile (Truck/Excavator)	49,788	1227	40.0	156.9	\$ 2,647.74	\$	109,043.11
Lancaster Pit (Scrapers)	470,247	400	176.9		\$ 5,615.15	\$	993,256.50
Lancaster Pit (Truck/Excavator)	826,774	2324	355.8	1,045.0	\$ 2,569.52	\$	914,250.25
Nighthawk Pit (Scrapers)	329,830	2667	146.0		\$ 5,615.15	\$	819,831.81
Nighthawk Pit (Truck/Excavator)	135,503	0	1196.2	369.0	\$ 1,139.58	\$	128,629.71
West Panel (Scrapers)	66,713	0	30.2		\$ 5,615.15	\$	169,321.42
West Panel (Truck/Excavator)	171,615	663	571.8	1,715.4	\$ 2,318.14	\$	1,325,549.53
East Panel (Scrapers)	114,647	890	16.1		\$ 5,615.15	\$	90,457.77
East Panel (Truck/Excavator)	244,270	890	192.3	576.9	\$ 2,318.14	\$	445,782.85
Johnson Coal Stockpile (S	20,360	1039	3.7		\$ 5,615.15	\$	20,551.45
Dragline Walk Road	47,379	978	48.6	194.3	\$ 1,362.45	\$	66,166.95
Sub Total	3,671,312	1062	3457.0	5,663.2	\$ 1,294.92	\$	7,333,420.18
Topsoil Piles	52,132						
Total	3,723,444						

Topsoil that remains for the pile's dist. area and is not hauled.

Table A-10.1 Calculations for time required for topsoiling - Ash Pit (with Scrapers) Page No.

Ash Pit	Route	Cubic Yards	Haul Distance (Ft.)	Average Grade (%)	Productivity (cy/hr)	Adjusted Productivity (cy/hr)	Scrapper Hours	Number of Scrapers	Fleet Hours	Fleet Cost (\$/hr)	Total (\$)
	From										
ASH1_2020		11,254	1978	10%	317	317	35	8	4.4	\$ 5,615.15	\$ 24,566.28
ASH2_2020		60,000	711	-12%	1119	1119	54	8	6.7	\$ 5,615.15	\$ 37,630.35
Total		71,254			804	804	89	8	11.1	\$ 5,615.15	\$ 62,196.63
			44.17	Acres							

Table A-10.1A Calculations for time required for topsoiling - Ash Pit (with Truck/Excavator) Page No. 26

Ash Pit	Route	Cubic Yards	Haul Distance (Ft.)	Average Grade (%)	Production Rate (cyds/hr)	Adjusted* Production (cyds/hr)	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost (\$/hr)	Total (\$)
	From										
AS2-4 to Ash Pit		115,215	5147	10%	1143	1143	100.8	4.0	403.0	\$ 2,666.13	\$ 268,728.36
Total		115,215			1143	1143	101	4	403.0	\$ 2,666.13	\$ 268,728.36
			71.41	Acres							
Ash Pit Total		186,469.00								\$ 414.1	\$ 330,924.98
			115.58	Acres							

Table A-10.2 Calculations for time required for topsoiling - Colt Pit - (with Scrapers) Page No.

Colt Pit	Route	Cubic Yards	Haul Distance (Ft.)	Average Grade (%)	Production Rate (cyds/hr)	Adjusted* Production (cyds/hr)	Scrapper/Truck Hours	Number of Scrapers	Fleet Hours	Fleet Cost (\$/hr)	Total (\$)
	From										
C Pit Future TS Pile		304,436	2000	-4.5	369	369	825	8	103	\$ 5,615.15	\$ 579,381.59
Colt Pit Total		304,436			369	369	825	8	103	\$ 5,615.15	\$ 579,381.59
			188.70	Acres							

Route	Cubic Yards	Haul Distance (ft.)	Average Grade (%)	Production Rate (cycds/hr)	Adjusted* Production (cycds/hr)	Scrapper/Truck Hours	Number of Scrapers	Fleet Hours	Fleet Cost (\$/hr)	Total (\$)
D87-1	62,216	1496	0%	417	417	149	8	19	\$ 5,615.15	\$ 104,694.26
D1-07	7,476	1221	3%	441	441	17	8	2	\$ 5,615.15	\$ 11,891.49
Total	69,692				420	166		21	\$ 5,615.15	\$ 116,585.75

Table A-10.3-A Calculations for time required for topsoiling - Derringer Pit (with Truck/Excavator) Page No.

D/E Pits	Route From	Cubic Yards	Haul Distance (ft.)	Average Grade (%)	Production Rate (cycds/hr)	Adjusted* Production (cycds/hr)	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost (\$/hr)	Total (\$)
E79-6		201,548	2,758	-11.8	1,247	1,247	162	3	485	\$ 2,318.46	\$ 374,703.07
E79-4 to D Pit Area 3		34,010	5415	-10.8	1,191	1,191	29	4	114	\$ 2,664.49	\$ 76,060.04
E78-1 to D Pit Area 1		10,000	5157	-9.6	1,248	1,248	8	4	32	\$ 2,664.68	\$ 21,348.85
E87-12 to D Pit Area 3		73,278	4236	-8.9	1,187	1,187	62	3	185	\$ 2,317.10	\$ 143,030.08
E78-2 D Pit Area 3		25,238	4755	-7.3	1,219	1,219	21	3	62	\$ 2,316.67	\$ 47,945.18
A93-1 to D Pit Area 4		101,319	7952	-2.8	1,145	1,145	89	3	266	\$ 2,320.01	\$ 205,340.26
A93-1 D Pit Area 5 Below 6700'		25,330	8920	-4.3	1,266	1,266	20	4	80	\$ 2,666.18	\$ 53,344.65
Total		470,723	4788	-8.6	1,211	1211	389	31	1144	\$ 2,368.90	\$ 921,772.12

Total D/E Pit	540,415	Acres	334.97	Acres below 6700'	15.70	Acres above 6700'	319.27	\$	1,038,367.86
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Page No.

Jennings Pit										
Route	Cubic Yards	Haul Distance (Ft.)	Average Grade (%)	Production Rate (cys/hr)	Adjusted* Production (cys/hr)	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost (\$/hr)	Total (\$)
A9-18 to J Pit	24,728	7749	-2.6%	1163	1163	21.3	3	64.0	\$	2,321.62 \$
ASH-110 J Pit	69,895	7908	-3.5%	1111	1111	62.9	3	189.0	\$	2,319.38 \$
Total	94,623	7866	-3.3%	1124.4	1124	84	3	253	\$	2,319.95 \$
		58.65	Acres							
Jennings Pit Total				105,883.00					\$	219,516.13
		65.63	Acres							

Table A-10.6

Calculations for time required for topsoiling - Ithaca/Jennings Pit Spoil Dump Stockpile- (with Truck/Excavator)

Page No.

Ithaca/Jennings Pit Spoil Dump Stockpile										
Route	Cubic Yards	Haul Distance (ft.)	Average Grade (%)	Production Rate (cyd/hr)	Adjusted* Production (cyd/hr)	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost (\$/hr)	Total (\$)
A91-8 to L Pit Spoil Dump	42,431	4,387	-4.7%	1,301	1,301	33	3	98	2,319.94	75,654.61
NN20-2 to W Spoil dump expansion	7,357	761	0%	800	1,000	7	8	59	4,538.33	33,388.49
Total	49,788	3,851	-4.0%	1,227	1,227	40	3.7	157	2,647.74	109,043.11
		30.86	Acres							

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Table A-10.7

Calculations for time required for topsoiling - Lancaster pit (with Scrapers)

Page No.

Lancaster Pit										
Route	Cubic Yards	Haul Distance (ft.)	Average Grade (%)	Production Rate (cyd/hr)	Adjusted* Production (cyd/hr)	Scrapper/Truck Hours	Number of Scrapers	Fleet Hours	Fleet Cost (\$/hr)	Total (\$)
L21-1 to L Pit Area 1	49,516	2,096	-4.1%	365	365	136	8	17	5,615.15	95,177.38
L21-2 to L Pit Area 1	19,502	2,121	5.4%	337	337	58	8	7	5,615.15	40,616.99
L21-3 to L Pit Area 1	23,815	2,647	2.2%	330	330	72	8	9	5,615.15	50,619.59
L21-5 to L Pit Area 2	1,097	3,041	2.3%	309	309	4	8	0.4	5,615.15	2,492.72
A1-08 to L Pit Area 4	12,632	2,686	8.6%	281	281	45	8	6	5,615.15	31,553.87
A98-3 to L Pit Area 4	195,036	3,552	8.6%	233	233	838	8	105	5,615.15	587,984.49
HRS to L Pit Area 5	12,391	1,796	11.1%	329	329	38	8	5	5,615.15	26,429.53
L5-17 to L Pit Area 6	4,349	739	2.1%	513	513	8	8	1	5,615.15	5,946.88
A99-3 to L Pit Area 6	9,000	1,478	5.1%	398	398	23	8	3	5,615.15	16,143.56
A98-3 to L Pit Area 6	8,988	1,667	6.3%	369	369	24	8	3	5,615.15	16,845.45
L5-17 to L Pit Area 7	87,396	739	2.1%	514	514	170	8	21	5,615.15	119,446.04
L2-17 to L Pit Area 7	21,940	1,145	-9.2%	1,591.68	1,592	14	8	2	5,615.15	9,675.03
L2-17 to L Pit Area 8	24,585	652	0.0%	531.42	531	46	8	6	5,615.15	32,471.60
Total	470,247	2,334	4.2%	400	400	1,415	8	177	5,615.15	993,256.50
		291.5	Acres							

29

Table A-10.7A

Calculations for time required for topsoiling - Lancaster pit (with Truck/Excavator)

Page No.

Route	Cubic Yards	Haul Distance (ft.)	Average Grade (%)	Production Rate (cyd/hr)	Adjusted* Production (cyd/hr)	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost (\$/hr)	Total (\$)
K2-15 to L Pit Area 1	67,082	4,419	-2.8%	1,307	1,307	51	3	154	2,318.37	118,983.47
L9-5 to L Area 1	19,488	4,465	4.4%	1,207	1,207	16	3	48	2,308.67	37,276.28
L9-1 to L Area 2	7,261	3,435	8.2%	1,151	1,151	6	3	19	2,322.62	14,647.21
L20-2 to L Pit Area 2	32,400	2,969	7.1%	1,281	1,281	25	3	76	2,319.48	58,684.87
G4-02 to L Pit Area 2	137,784	5,240	7.7%	1,208	1,208	114	4	456	2,665.93	304,090.27
G1-03 to L Pit Area 2	89,822	4,500	9.3%	1,230	1,230	73	4	292	2,666.18	194,708.17
A1-08 to L Area 3	4732	83,827	9.3%	1,204	1,204	70	4	279	2,669.00	185,859.98
A1-08 to L Area 3	87,533	3,185	7.4%	1,248	1,248	70	3	210	2,316.19	162,435.96
HRS to L Pit Area 5	12,390	6,772	-6.7%	1,278	1,278	10	4	39	2,674.58	25,931.20
G1-01 to L Pit Area 5	101,948	5,822	-0.9%	1,280	1,280	80	3	239	2,318.52	184,641.43
N20-2 to L Pit Area 5	10,835	8,467	0.0%	1,107	1,107	10	3	29	2,304.79	22,567.77
N20-4 to L Pit Area 5	8,659	9,915	-1.8%	1,283	1,283	7	4	27	2,667.36	17,996.58
A96-2 to L Pit Area 5	23,419	11,486	1.7%	1,255	1,255	19	5	93	3,009.19	56,168.44
A96-2 to L Pit Area 6	2,797	9,534	1.9%	1,177	1,177	2	4	10	2,739.79	6,508.46
N20-5 to L Pit Area 6	5,620	9,462	1.8%	1,186	1,186	5	4	19	2,670.23	12,651.82
N20-6 to L Pit Area 6	9,970	9,678	3.2%	1,241	1,241	8	5	40	3,008.50	24,162.57
A97-2 to L Pit Area 6	50,972	9,347	0.1%	1,281	1,281	40	4	159	2,664.96	106,066.67
A94-2 to L Pit Area 6	74,977	10,873	3.5%	1,166	1,166	64	5	321	3,012.74	193,704.45
Total	826,774	5925	4.4%	2,324	2,324	356	24	1,045	2,569.52	914,250.25
		512.5	Acres							
Total L Pit		1,297,021		803.94				\$		1,907,506.74

Table A-10.8

Calculations for time required for topsoiling - Nighthawk Pit (with Scrapers)

Page No.

Nighthawk Pit												
Route	Cubic Yards	Haul Distance (ft.)	Average Grade (%)	Production Rate (cys/hr)	Adjusted* Production (cys/hr)	Scaper/Truck Hours	Number of Scrapers	Fleet Hours	Fleet Cost (\$/hr)	Total (\$)		
*A92-1 to N Pit Area 1	123,206	3,281	5.6%	466.0	466.0	264.4	8	33.0	\$ 5,615.15	\$ 185,574.08		
*A92-1 to N Pit Area 2	199,876	2,295	2.2%	566.0	566.0	353.1	8	44.1	\$ 5,615.15	\$ 247,865.22		
N20-7 to N Pit Area 3	1,713	2,097	12.4%	6.0	6.0	285.5	8	35.7	\$ 5,615.15	\$ 200,390.67		
N21-1 to N Pit Area 3	5,035	2,616	10.7%	19.0	19.0	265.0	8	33.1	\$ 5,615.15	\$ 186,001.84		
Total	329,830	2667	266718.6%	517.4	517.4	1168.0	8	146.0	\$ 5,615.15	\$ 819,831.81		

204.4 Acres

Table A-10.8A

Calculations for time required for topsoiling - Nighthawk Pit (with Truck/Excavator)

Page No.

Route	Haul Distance	Average Grade	Production Rate	Adjusted* Production	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost	Total
From	Cubic Yards	(Ft.)	(%)	(cyds/hr)	(cyds/hr)	Hours	Trucks	(\$/hr)	(\$)
A94-2 to N Pit Area 1	45,629	4840	3.8%	1190	1190	38	3	\$ 1,045.19	\$ 40,087.85
*A92-1 to N Area 3	13,347	4120	6.1%	1166	1166	11	3	\$ 1,035.01	\$ 11,852.06
N20-3 to N Pit Area 3	19,770	3220	10.3%	1128	1128	18	3	\$ 1,054.27	\$ 18,475.27
A92-4 to N Area 3	18,602	3167	9.5%	1150	1150	16	3	\$ 1,012.86	\$ 16,383.73
A92-4 to N Area 4	38,155	4169	8.3%	1272	1272	30	4	\$ 1,395.01	\$ 41,830.80
Total	135,503	4114	7.0%	1196	1196	113	3.3	\$ 1,139.58	\$ 128,629.71

83.99

Total N Pit

465,333 Acres

286.4 Acres

\$ 945,461.52

West Panel Ponds, BC Road and Shop	Cubic Yards	Haul Distance (Ft.)	Average Grade (%)	Production Rate (cyds/hr)	Adjusted* Production (cyds/hr)	Scrapper/Truck Hours	Number of Scrapers	Fleet Hours	Fleet Cost (\$/hr)	Total (\$)
EM1	4,566	479	-4.2%	235	235	19	8	2.43	\$ 5,615.15	\$ 13,637.65
JG5	6,209	1,010	5.1%	218	218	28	8	3.56	\$ 5,615.15	\$ 19,991.09
SV1	900	160	15.7%	245	245	4	8	0.46	\$ 5,615.15	\$ 2,578.39
CG1	11,910	2,053	3.6%	64	64	186	8	23.26	\$ 5,615.15	\$ 130,618.04
BUZ-92-1	882	219	-5.5%	248	248	4	8	0.44	\$ 5,615.15	\$ 2,496.25
JG6	13,212	1556	-6.0%	1232	1232	11	8	43.0	\$ 2,788.72	\$ 29,899.27
JG7	16,850	1536	-8.15%	1200	1200	14	8	42.0	\$ 2,788.72	\$ 39,167.42
JG8	1,564	1220	-8.59%	1234	1234	1	8	4.0	\$ 2,788.72	\$ 3,535.26
A77-1	10,620	2882	-3.06%	1142	1142	9	8	19.0	\$ 2,788.72	\$ 25,926.14
Total	66,713	498	1.0%	54.4	54.4	54.4	8	30.15	\$ 5,615.15	\$ 169,321.42

Table A-10.9A Calculations for time required for topsoiling - West Panel Ponds, BC Road and Shop (with Truck/Excavator)										
	41.35									
Route From	Cubic Yards	Haul Distance (Ft.)	Average Grade (%)	Production Rate (cyds/hr)	Adjusted* Production (cyds/hr)	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost (\$/hr)	Total (\$)
WC1 to BC Roads	53,197	4351	-0.01%	461	461	116	3	346.5	\$ 2,318.14	\$ 267,756.85
NN-1 to BC Roads	10,372	7084	0.50%	327	327	32	3	95.2	\$ 2,318.14	\$ 73,573.28
JG-4 to Johnson Gulch #10	25,777	3950	0.40%	400	400	64	3	193.3	\$ 2,318.14	\$ 149,341.93
A92-2 to Mine Access Road	82,269	10441	-2.3%	228	228	360	3	1080.4	\$ 2,318.14	\$ 834,877.47
Total	171,615	7375	-1.02%	663	663	572		1,715	\$ 2,318.14	\$ 1,325,549.53
Total West Panel/BC Roads										
	106.37									
	238.328									
	147.72									
										\$ 1,494,870.94

Table A-10.10

Calculations for time required for topsoiling - East Panel Ponds & A Road (with Scrapers)

Page No.

East Panel Ponds & A Road												
Route From	Cubic Yards	Haul Distance (Ft.)	Average Grade (%)	Production Rate (cyds/hr)	Adjusted* Production (cyds/hr)	Scrapper/Truck Hours	Number of Scrapers	Fleet Hours	Fleet Cost (\$/hr)	Total Cost (\$)		
A92-3	7,632	350	-2.07%	530	530	14	8	1.80	\$ 5,615.15	\$ 10,104.79		
A96-2	26,216	760	-9.68%	961	961	27	8	3.41	\$ 5,615.15	\$ 19,145.41		
A97-3	15,484	480	-7.50%	960	960	16	8	2.02	\$ 5,615.15	\$ 11,315.30		
MP1	4,200	270	7.40%	561	561	7	8	0.94	\$ 5,615.15	\$ 5,252.29		
MP2	12,500	370	-14.90%	961	961	13	8	1.63	\$ 5,615.15	\$ 9,129.92		
G06-DG	4,844	214	-0.05%	961	961	5	8	0.63	\$ 5,615.15	\$ 3,537.84		
H04	6,244	265	-11.10%	961	961	6	8	0.81	\$ 5,615.15	\$ 4,561.53		
SP5-94	6,318	680	-12.12%	961	961	7	8	0.82	\$ 5,615.15	\$ 4,615.16		
SP6-94	12,204	490	-10.00%	961	961	13	8	1.59	\$ 5,615.15	\$ 8,915.12		
G06-DG	3,501	214	-0.05%	961	961	4	8	0.46	\$ 5,615.15	\$ 2,556.98		
Topsoil in Dams	8,341			961	961	9	8	1.08	\$ 5,615.15	\$ 6,091.90		
JW-1 (by pond)	2,807			961	961	3	8	0.37	\$ 5,615.15	\$ 2,050.11		
G06-DG	4,356	214	-0.05%	961	961	5	8	0.57	\$ 5,615.15	\$ 3,181.43		
Total	114,647			890	890	129	8	16.11	\$ 5,615.15	\$ 90,457.77		

71.1

Table A-10.10-A

Calculations for time required for topsoiling - East Panel Ponds & A Road (with Truck/Excavator)

Page No.

East Panel Ponds & A Road												
Route From	Cubic Yards	Haul Distance (Ft.)	Average Grade (%)	Production Rate (cyds/hr)	Adjusted* Production (cyds/hr)	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost (\$/hr)	Total Cost (\$)		
A93-1 to Ash Haulroad	48,736	5,686	-7.70%	1265	1265	39	3	116	\$ 2,318.14	\$ 89,312.60		
A92-5 to Ash Haulroad	23,541	3,500	6.60%	1208	1208	19	3	58	\$ 2,318.14	\$ 45,185.04		
A91-8 to East Panel Roads	67,159	4,914	-0.10%	1245	1245	54	3	162	\$ 2,318.14	\$ 125,020.25		
A94-2 to East Panel Roads	104,834	3,280	-2.40%	1305	1305	80	3	241	\$ 2,318.14	\$ 186,264.96		
	244,270			1305	1305	192	3	577	\$ 2,318.14	\$ 445,782.85		
	151,41											
Total East Panel	358,917									\$ 536,240.63		
	222.47											

Acres

Table A-10.11

Calculations for time required for topsoiling - Johnson Coal Stockpile (with Scrapers)

Page No.

Johnson Coal Stockpile									
Route From	Cubic Yards	Haul Distance (Fl.)	Average Grade (%)	Production Rate (cysd/hr)	Adjusted* Production (cysd/hr)	Scrapper/Truck Hours	Number of Scrapers	Fleet Hours	Fleet Cost (\$/hr)
18-2 to Johnson Coal Stockpile	20,360	625	3.2%	1039	1039	20	8	3.66	\$ 5,615.15
Total	20,360			1039	1039	20	8	3.66	\$ 5,615.15
	12.62								\$ 20,551.45

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Table A-10.12

Calculations for time required for topsoiling - Dragline walk road (with Truck/Excavator)

Page No.

Queen Anne Dragline Walk Road									
Route From	Cubic Yards	Haul Distance (Fl.)	Average Grade (%)	Production Rate (cysd/hr)	Adjusted* Production (cysd/hr)	Loader Hours	Number of Trucks	Truck Hours	Fleet Cost (\$/hr)
ASH4-2020 to Walk Road	8,695	2,288	2.8%	880	880	10	4	39.5	\$ 1,362.45
ASH1-2020 to Walk Road	38,684	2,130	-3.8%	1000	1000	39	4	154.7	\$ 1,362.45
Total	47,379	2,159.00	-2.6%	978	978	49	4	194.3	\$ 1,362.45
									\$ 66,166.95
									\$ 29.4 Acres

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Postmining Land Use	Location	Acres	Unit Cost (\$/acre) (1)	Total Cost (\$)
Cropland		0	\$ 223.64	\$ -
Rangeland w/o shrubs (below 6700' Elev.)	Facilities Roads etc. Coit Pit Derringer (D) Pit Ithaca Middle Pit Jennings Pit Ithaca/Jennings Spoil Dump Stockpile BC Road Nighthawk Pit Coyote Pond Sage Pond Far East Buzzard Pond Johnson Coal Stockpile Dragline Walk Road topsoil Piles *	75.0 138.1 188.7 15.7 35.3 65.6 30.9 58.2 44.1 14.0 11.5 0.5 12.6 29.4 27.10	\$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58 \$ 416.58	\$ 31,243.50 \$ 57,542.20 \$ 78,608.65 \$ 6,540.48 \$ 14,713.62 \$ 27,340.13 \$ 12,855.80 \$ 24,249.12 \$ 18,350.35 \$ 5,817.49 \$ 4,782.58 \$ 5,257.17 \$ 12,233.77 \$ 11,289.32
	Sub-Total	746.7		\$ 311,051.90
Rangeland w/shrubs (above 6700' Elev.)	Roads etc. Derringer (D) Pit Ash Pit Lancaster Pit Nighthawk Pit Deal 1 Pond West Horse Pond Deal 2 Pond Deacon 1 and 2 Jeffway 1 Proposed Jeffway 2 topsoil Piles *	54.2 319.3 115.6 803.9 244.4 3.0 3.9 2.2 5.17 1.74 2.70 5.1	\$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13 \$ 685.13	\$ 37,140.90 \$ 218,739.78 \$ 79,187.30 \$ 550,802.48 \$ 167,411.52 \$ 2,055.39 \$ 2,672.01 \$ 1,486.73 \$ 3,542.12 \$ 1,192.13 \$ 1,849.85 \$ 3,494.16
	Sub-Total	1561.1		\$ 1,069,574.36
	Total Remaining Regrade	2307.8	Acres	\$ 1,380,626.27
Re-seed For Failure (2)				
Cropland re-seed		0	\$ 137.20	\$ -
Rangeland w/o shrubs re-seed		75.1	\$ 416.58	\$ 31,285.16
Rangeland w/shrubs re-seed		276	\$ 685.13	\$ 189,095.88
	Sub-Total	351.1		\$ 220,381.04
Other Costs				
Erosion Control Ditches	50,000 feet		\$ 38.92 per 100 Feet	\$ 19,458.00
Drainage Stabilization	25.7 acres (3)		\$ 17,393.00 per acre (4)	\$ 447,000.10
TOTAL				\$ 2,067,465.40

(1) Unit Cost from Table 1 & 11

(2) Based on 17.5% failure rate of cropland (0.0 ac), rangeland w/o shrubs (429 ac) and rangeland w/shrubs (2,121 ac).

(3) 37,300 feet of re-established drainage, 30 feet wide.

(4) Trapper's actual cost for the year 2006.

Table A-12.1

Demolition - Structures

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Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Main Office	317,548	Bldg. (MN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	317,548	CF	\$ 0.22	\$ 69,860.56
Office Bldg. floor	15,288	Floor, concrete, demolition only, average reinforcing-10 in. thick	15,288	SF	\$ 1.86	\$ 28,435.68
Reinforced concrete floor office bldg.	251	Demo. And onsite disposal in existing pit, 12 in. thick-Max. 10,000 ft. haul	251	SF	\$ 2.30	\$ 577.30
Office footers	804	Demo. And on -site disposal in existing pit, 1.5 ft. X 2 ft.- Max. 10,000 ft. haul	804	LF	\$ 6.89	\$ 5,539.56
Remove fencing	700	Fencing, chain link, including posts and fabric-8 ft. to 10 ft. high	700	LF	\$ 3.08	\$ 2,156.00
Shop/Warehouse	1,925,700	Bldg. (MN) demo./on- sitedisposal in existing pit or cut- Max. 10,000 ft. haul	1,925,700	CF	\$ 0.22	\$ 423,654.00
Warehouse concrete floor	9,270	Floor, concrete, demolition only, average reinforcing-12 in. thick	9,270	SF	\$ 2.23	\$ 20,672.10
Warehouse 4" concrete floor	7,925	Floor, concrete, demolition only, average reinforcing-4 in. thick	7,925	SF	\$ 0.74	\$ 5,864.50
Warehouse footers	1,822	Demo. And on -site disposal in existing pit, 1.5 ft. X 2 ft.- Max. 10,000 ft. haul	1,822	LF	\$ 6.89	\$ 12,553.58
Silver Storage Trailer	40X10X10	Bldg. (SN) demo./on- sitedisposal in existing pit or cut- Max. 10,000 ft. haul	4,000	CF	\$ 0.22	\$ 880.00
Bldg. Caterpillar parts trailer	35X10X8	Bldg. (SN) demo./on- sitedisposal in existing pit or cut- Max. 10,000 ft. haul	2,800	CF	\$ 0.22	\$ 616.00
Wash/Lube Bay	173,500	Bldg. (MN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	173,500	CF	\$ 0.22	\$ 38,170.00
Wash Bay Concrete floor	9,275	Floor, concrete, demolition only, average reinforcing-6 in. thick	9,275	SF	\$ 1.11	\$ 10,295.25
Wash Bay Footers	480	Demo. And on -site disposal in existing pit, 1.0 ft. X 2 ft.- Max. 10,000 ft. haul	480	LF	\$ 4.59	\$ 2,203.20
Shop Concrete floor	2,400	Floor, concrete, demolition only, average reinforcing-6 in. thick	2,400	SF	\$ 1.11	\$ 2,664.00
Shop footers	290	Demo. And on -site disposal in existing pit, 1.0 ft. X 2 ft.- Max. 10,000 ft. haul	290	LF	\$ 4.59	\$ 1,331.10
Pump House	4,840	Bldg. (MN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	4,840	CF	\$ 0.22	\$ 1,064.80
Pump House floor	484	Bldg. (MN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	484	SF	\$ 1.11	\$ 537.24
Pump House footers	88	Demo. And on -site disposal in existing pit, 1.0 ft. X 2 ft.- Max. 10,000 ft. haul	88	LF	\$ 4.59	\$ 403.92
Old cars & equipment at water tanks	120X10X4	Bldg. (SC) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	4,800	CF	\$ 0.26	\$ 1,248.00

Table A-12.1

Demolition - Structures (Cont.)

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Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Light Duty & Elect. Shop	94,500	Bldg. (SC) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	94,500	CF	\$ 0.26	\$ 24,570.00
Concrete floor	5,250	Floor, concrete, demolition only, average reinforcing-6 in. thick	5,250	SF	\$ 1.11	\$ 5,827.50
Footers	348	Demo. And on -site disposal in existing pit, 1.0 ft. X 2 ft.- Max. 10,000 ft. haul	348	LF	\$ 4.59	\$ 1,597.32
Break up and bury Parking Lot Asphalt	2,448	Pavement, bituminous, demolition only - 4in. To 6 in. thick	2,448	CF	\$ 8.08	\$ 19,779.84
Water Tank	80,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	10,667	CF	\$ 0.22	\$ 2,346.74
Water Tank	80,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	10,667	CF	\$ 0.22	\$ 2,346.74
Diesel Tank	100,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	13,333	CF	\$ 0.22	\$ 2,933.26
Diesel Tank	100,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	13,333	CF	\$ 0.22	\$ 2,933.26
Diesel Tank	20,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	2,667	CF	\$ 0.22	\$ 586.74
Diesel Tank	20,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	2,667	CF	\$ 0.22	\$ 586.74
Diesel Tank	20,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	2,667	CF	\$ 0.22	\$ 586.74
Water Tank	20,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	2,667	CF	\$ 0.22	\$ 586.74
Water Tank	20,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	2,667	CF	\$ 0.22	\$ 586.74
Gasoline Tank	15,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	2,000	CF	\$ 0.22	\$ 440.00
Concrete pads for Storage Tank	6,500	Floor, concrete, demolition only, average reinforcing-6 in. thick	6,500	SF	\$ 1.11	\$ 7,215.00
Fuel Tank Sludge Removal	6300 gal.	Remove sludge, water, and rem. Product form tank - 6000 to 8000 gal.	1	EA	\$ 306.00	\$ 306.00
Disposal of Tank Sludge	26 Tons	Hazardous waste removal - Bulk liquids, large quantities (over 2,500 gal.)	6,300	Gal.	\$ 1.88	\$ 11,844.00
Powerlines	78,704	Powerline or telephone line, overhead, wood -Single pole	78,704	LF	\$ 0.11	\$ 8,657.44
Tire Shed - Skid Mounted	6,000	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	6,000	CF	\$ 0.22	\$ 1,320.00
Main Substation	6,000	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	6,000	CF	\$ 0.22	\$ 1,320.00
Concrete pads	1,200	Floor, concrete, demolition only, average reinforcing-6 in. thick	1,200	SF	\$ 1.11	\$ 1,332.00
4 Portables	4,200	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	4,200	CF	\$ 0.22	\$ 924.00
ANFO Silos and Emulsion Tank	10,940	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	10,940	CF	\$ 0.22	\$ 2,406.80

Table A-12.1

Demolition - Structures (Cont.)

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Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
New 2007 Emulsion tank	15,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	1,600	CF	\$ 0.22	\$ 352.00
Concrete Pad	1,642	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	1,642	SF	\$ 1.11	\$ 1,822.62
Footers	52	Demo. And on -site disposal in existing pit, 1.0 ft. X 2 ft.- Max. 10,000 ft. haul	52	LF	\$ 4.59	\$ 238.68
Explosives storage - 2 magazines	2X853.3	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	1,707	CF	\$ 0.22	\$ 375.54
Explosives storage trailer	2,560	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	2,560	CF	\$ 0.22	\$ 563.20
2 Large Explosives Magazines	2X22.5X8X6	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	2,160	CF	\$ 0.22	\$ 475.20
5 Cargo Containers	5X25 and 8X8	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	8,000	CF	\$ 0.22	\$ 1,760.00
Queen Anne Dragline Repair Pad	70'Lx70'Wx.67'H	Floor, concrete, demolition only, average reinforcing-8 in. thick	4,900	SF	\$ 1.48	\$ 7,252.00
Radio Tower-Skid Mounted	NA	USER PROVIDED ITEM	1	EA	\$ 1,500.00	\$ 1,500.00
Bury Bone Yard Storage Materil	84,000	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	84,000	CF	\$ 0.22	\$ 18,480.00
Lift Poles and Lights	30 Poles	Powerline or telephone line, overhead, wood -Single pole	1,500	LF	\$ 0.11	\$ 165.00
Waste Oil & Antifreeze drum disposal	50 used oil, 20 solvent	Solid pickup-55 gal. drums	70	EA	\$ 240.00	\$ 16,800.00
Waterlines and Waste Solvent Lines	Shop to waste oil pad	Pipe, sewer/water-12 in. diameter pipe	100	LF	\$ 5.05	\$ 505.00
Transformer Pad	225	Floor, concrete, demolition only, average reinforcing-4 in. thick	225	SF	\$ 0.74	\$ 166.50
4 Skid mounted substations	4'X10', 8'X20'	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	6,400	CF	\$ 0.22	\$ 1,408.00
Blaster's Equipment Storage Building concrete foundation	106 CY	Perimeter Foundation, no floor, concrete, demolition only, average reinforcing-3.82' ave. Thickness	106	CY	\$ 96.00	\$ 10,176.00
Blaster's Equipment Storage Building	45X85X22	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	76,022	CF	\$ 0.21	\$ 15,964.59
East Panel RL Concrete Slabs	4,540	Floor, concrete, demolition only, average reinforcing-10 in. thick	4,540	SF	\$ 1.86	\$ 8,444.40
East Panel RL Footings	60	Demo. And on -site disposal in existing pit, 1.5 ft. X 2 ft.- Max. 10,000 ft. haul	60	LF	\$ 6.89	\$ 413.40
3X50,000 gal. Tanks	20,040	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	20,040	CF	\$ 0.22	\$ 4,408.80
MgCl Tank @ H Impoundment	10,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	1,005	CF	\$ 0.22	\$ 221.10
Red Silo @ used oil storage area	15,000 gal.	Bldg. (SN) demo./on-site disposal in existing pit or cut- Max. 10,000 ft. haul	1,600	CF	\$ 0.22	\$ 352.00
Unadjusted Total						\$ 821,604.42

Table A-12.2 Culvert Removal and Disposal

Structure or Item Description	Dimensions Diameter (Inches)	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
A-1	48	Pipe, Corrugated metal (CMP)	360	LF	\$ 17.76	\$ 6,393.60
A-2	60	Pipe, Corrugated metal (CMP)	280	LF	\$ 23.89	\$ 6,689.20
A-3	48	Pipe, Corrugated metal (CMP)	190	LF	\$ 17.76	\$ 3,374.40
A-4	48	Pipe, Corrugated metal (CMP)	320	LF	\$ 17.76	\$ 5,683.20
A-5	2 at 48"	Pipe, Corrugated metal (CMP)	450	LF	\$ 17.76	\$ 7,992.00
A-7	36	Pipe, Corrugated metal (CMP)	120	LF	\$ 12.24	\$ 1,468.80
A-9	48	Pipe, Corrugated metal (CMP)	144	LF	\$ 17.76	\$ 2,557.44
A-10	48	Pipe, Corrugated metal (CMP)	195	LF	\$ 17.76	\$ 3,463.20
A-11	18	Pipe, Corrugated metal (CMP)	150	LF	\$ 5.90	\$ 885.00
A-12	36	Pipe, Corrugated metal (CMP)	130	LF	\$ 12.24	\$ 1,591.20
A-13	24	Pipe, Corrugated metal (CMP)	210	LF	\$ 7.68	\$ 1,612.80
A-14	36	Pipe, Corrugated metal (CMP)	150	LF	\$ 12.24	\$ 1,836.00
A-15	48	Pipe, Corrugated metal (CMP)	223	LF	\$ 17.76	\$ 3,960.48
AE-4	24	Pipe, Corrugated metal (CMP)	210	LF	\$ 7.68	\$ 1,612.80
AE-7	24	Pipe, Corrugated metal (CMP)	300	LF	\$ 7.68	\$ 2,304.00
AE-8	42	Pipe, Corrugated metal (CMP)	240	LF	\$ 17.76	\$ 4,262.40
AE-10	48	Pipe, Corrugated metal (CMP)	260	LF	\$ 17.76	\$ 4,617.60
AE-11	48	Pipe, Corrugated metal (CMP)	120	LF	\$ 17.76	\$ 2,131.20
AE-12	36	Pipe, Corrugated metal (CMP)	173	LF	\$ 12.24	\$ 2,117.52
AE-13A	24	Pipe, Corrugated metal (CMP)	175	LF	\$ 7.68	\$ 1,344.00
AE-13B	36	Pipe, Corrugated metal (CMP)	170	LF	\$ 12.24	\$ 2,080.80
ASH-1	24	Pipe, Corrugated metal (CMP)	190	LF	\$ 7.68	\$ 1,459.20
AX-3	60	Pipe, Corrugated metal (CMP)	160	LF	\$ 23.89	\$ 3,822.40
AX-4	36	Pipe, Corrugated metal (CMP)	115	LF	\$ 12.24	\$ 1,407.60
AX-5	36	Pipe, Corrugated metal (CMP)	135	LF	\$ 12.24	\$ 1,652.40
BC-1	3 at 24"	Pipe, Corrugated metal (CMP)	420	LF	\$ 7.68	\$ 3,225.60
BC-2	60	Pipe, Corrugated metal (CMP)	280	LF	\$ 23.89	\$ 6,689.20
BC-5	24	Pipe, Corrugated metal (CMP)	130	LF	\$ 7.68	\$ 998.40
BC-6	36	Pipe, Corrugated metal (CMP)	75	LF	\$ 12.24	\$ 918.00
BC-7	36	Pipe, Corrugated metal (CMP)	192	LF	\$ 12.24	\$ 2,350.08
D-9	24	Pipe, Corrugated metal (CMP)	300	LF	\$ 7.68	\$ 2,304.00
D-10	18	Pipe, Corrugated metal (CMP)	235	LF	\$ 5.90	\$ 1,386.50
D-12	18	Pipe, Corrugated metal (CMP)	320	LF	\$ 5.90	\$ 1,888.00

Table A-12.2

Culvert Removal and Disposal (Cont.)

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Structure or Item Description	Dimensions Diameter (inches)	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
D-15	36	Pipe, Corrugated metal (CMP)	135	LF	\$ 12.24	\$ 1,652.40
D-16	24	Pipe, Corrugated metal (CMP)	170	LF	\$ 7.68	\$ 1,305.60
D-17	24	Pipe, Corrugated metal (CMP)	300	LF	\$ 7.68	\$ 2,304.00
EMF-1	2 at 36"	Pipe, Corrugated metal (CMP)	120	LF	\$ 12.24	\$ 1,468.80
*FEB-1	24	Pipe, Corrugated metal (CMP)	60	LF	\$ 7.68	\$ 460.80
FT-1	24	Pipe, Corrugated metal (CMP)	110	LF	\$ 7.68	\$ 844.80
GRS-1	24	Pipe, Corrugated metal (CMP)	180	LF	\$ 7.68	\$ 1,382.40
GRS-2	48	Pipe, Corrugated metal (CMP)	150	LF	\$ 17.76	\$ 2,664.00
IH-1	18	Pipe, Corrugated metal (CMP)	130	LF	\$ 5.90	\$ 767.00
IWP-1	6	Pipe, Corrugated metal (CMP)	80	LF	\$ 3.31	\$ 264.80
JGag-1	24	Pipe, Corrugated metal (CMP)	20	LF	\$ 7.68	\$ 153.60
JG-2	24	Pipe, Corrugated metal (CMP)	40	LF	\$ 7.68	\$ 307.20
MC-1	10	Pipe, Corrugated metal (CMP)	40	LF	\$ 4.34	\$ 173.60
MC-3	24	Pipe, Corrugated metal (CMP)	160	LF	\$ 7.68	\$ 1,228.80
MC-5	18	Pipe, Corrugated metal (CMP)	120	LF	\$ 5.90	\$ 708.00
NN-5	24	Pipe, Corrugated metal (CMP)	30	LF	\$ 7.68	\$ 230.40
OH-3	24	Pipe, Corrugated metal (CMP)	60	LF	\$ 7.68	\$ 460.80
OH-5	24	Pipe, Corrugated metal (CMP)	96	LF	\$ 7.68	\$ 737.28
OH-6	18	Pipe, Corrugated metal (CMP)	78	LF	\$ 5.90	\$ 460.20
RW-1	12	Pipe, Corrugated metal (CMP)	60	LF	\$ 4.34	\$ 260.40
SA-1	2 at 48"	Pipe, Corrugated metal (CMP)	435	LF	\$ 17.76	\$ 7,725.60
SA-7	36	Pipe, Corrugated metal (CMP)	130	LF	\$ 12.24	\$ 1,591.20
SAH-1	24	Pipe, Corrugated metal (CMP)	120	LF	\$ 7.68	\$ 921.60
						\$ 124,152.30

Facilities Removal Total

\$ 821,604.42

Total for Culvert Removal

\$ 124,152.30

Facilities Removal Grand Total

\$ 945,756.72

Table A-12.3 Haul Road Culvert Sizing.

Existing Culvert No.	Peak Flow (cfs)	Diameter (in)	Quantity
A-1	24	48	1
A-2	133	60	1
A-3	72	48	1
A-4	77	48	1
A-5	138	48	2
A-7	47	36	1
A-9	51	48	1
A-10	99	48	1
A-11	21	18	1
A-12	29	36	1
A-13	2.4	24	1
A-14	35	36	1
A-15	2.4	48	1
AE-4	14	24	1
AE-7	12	24	1
AE-8	37	42	1
AE-10	99	48	1
AE-11	47	48	1
AE-12	0.5	36	1
AE-13A	7.1	24	1
AE-13B	7.1	36	1
ASH-1	18	24	1
AX-3	125	60	1
AX-4	35	36	1
AX-5	35	36	1
BC-1	37	24	3
BC-2	57	60	1
BC-5	2	24	1
BC-6	34	36	1
BC-7	30	36	1
BH-1	18	30	1
D-9	14	24	1
D-10	8	18	1
D-12	2	18	1
D-15	33	36	1
D-16	2	24	1
D-17	2	24	1
EMF-1	51	36	2
FEB-1	2	24	1
FT-1	13	24	1
GRS-1	9	24	1
GRS-2	45	48	1
IH-1	6.5	18	1
IWP-1	-	-	1
JGag-1	13	24	1
JG-2	13	24	1
MC-1	4	10	1
MC-3	13	24	1
MC-5	8	18	1
NN-5	13	24	1
OH-6	7	18	1
RW-1	2.3	12	1
SA-1	156	48	2
SA-7	28	36	1
SAH-1	13	24	1

Table A-13.1

Miscellaneous Cost Summary

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Activity	Table	Comments
Mob/Demob, No assembly/Disassembly		\$ 40,445.81
Mob/Demob, No assembly/Disassembly		\$ 40,445.81
Equipment Assembly/Disassembly Cost		\$ 436,636.00
Contractor Overhead		\$ -
Site Maintenance	A-13.2	* Accounted for on A-1 Summary sheet
Bore Hole Sealing Work	A-13.3	
Sealing Exploration Drill Holes	A-13.4	
Landslide Monitoring Stations	A-13.5	
Reseed Light Use Roads		\$ 3,000.00
Total		\$ 859,138.29

Table A-13.2

Site Maintenance: Rill and Gully Repair and Pond Cleaning

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Maintenance Item	Type	Hours	\$/hour	Total Cost	
Rill/Gully Repair 32 HRS/YR for first 5 years	CAT D/YR DS Series II LGP	160	\$ 213.41	\$ 34,145.60	from Circes run 7/21/2022
Rill/Gully Repair 32 HRS/YR for first 5 years	Cat 324 D L 9'-8" Stick	160	\$ 179.56	\$ 28,729.60	from Circes run 7/21/2022
Rill/Gully Repair 16 HRS/YR for last 5 years	Cat D3K XL - 3P	80	\$ 96.39	\$ 7,711.20	from Circes run 7/21/2022
Pond Cleaning: Pond Cleaning: weeks	1st year, 8 weeks 2nd year, 3 weeks Cat 324 D L 9'-8" Stick	320 120	\$ 179.56 \$ 179.56	\$ 57,459.20 \$ 21,547.20	from Circes run 7/1/2017 + 8% from Circes run 7/1/2017 + 8%
Haul Truck: cleaning	1st year, pond Cat 725	320	\$ 132.99	\$ 42,557.18	from Circes run 7/1/2017 + 8%
Haul Truck: pond cleaning	2nd year, Cat 725	120	\$ 132.99	\$ 15,958.94	from Circes run 7/1/2017 + 8%
Total				\$ 208,108.93	

Equipment Costs:

Table A-13.3

Bore Hole Sealing Work - Seal Monitoring Wells

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Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Costs
81-03A	Portland cement grout - 2 in. (labor, equip, materials)	2	650	650	LF	\$ 5.29	\$ 3,438.50
COY-A	Portland cement grout - 2 in. (labor, equip, materials)	2	59	59	LF	\$ 5.29	\$ 312.11
COY-B	Portland cement grout - 2 in. (labor, equip, materials)	2	49	49	LF	\$ 5.29	\$ 259.21
COY	Portland cement grout - 4 in. (labor, equip, materials)	4	54	54	LF	\$ 5.55	\$ 299.70
GC1	Portland cement grout - 2 in. (labor, equip, materials)	2.5	180	180	LF	\$ 5.29	\$ 952.20
GC2	Portland cement grout - 2 in. (labor, equip, materials)	2.5	165	165	LF	\$ 5.29	\$ 872.85
GC3	Portland cement grout - 2 in. (labor, equip, materials)	2.5	64	64	LF	\$ 5.29	\$ 338.56
GC3A	Portland cement grout - 2 in. (labor, equip, materials)	2	50	50	LF	\$ 5.29	\$ 264.50
GC3B	Portland cement grout - 2 in. (labor, equip, materials)	2	67	67	LF	\$ 5.29	\$ 354.43
GD2	Portland cement grout - 4 in. (labor, equip, materials)	4	210	210	LF	\$ 5.55	\$ 1,165.50
GD3	Portland cement grout - 4 in. (labor, equip, materials)	4	198	198	LF	\$ 5.55	\$ 1,098.90
GF-1	Portland cement grout - 4 in. (labor, equip, materials)	4	640	640	LF	\$ 5.55	\$ 3,552.00
GF4	Portland cement grout - 4 in. (labor, equip, materials)	4	270	270	LF	\$ 5.55	\$ 1,498.50
GF5	Portland cement grout - 4 in. (labor, equip, materials)	4.25	153.5	153.5	LF	\$ 5.55	\$ 851.93
GF6	Portland cement grout - 4 in. (labor, equip, materials)	4	200	200	LF	\$ 5.55	\$ 1,110.00
GF7	Portland cement grout - 4 in. (labor, equip, materials)	4.25	127	127	LF	\$ 5.55	\$ 704.85
GF11	Portland cement grout - 4 in. (labor, equip, materials)	4.25	220	220	LF	\$ 5.55	\$ 1,221.00
GP2	Portland cement grout - 4 in. (labor, equip, materials)	4	307	307	LF	\$ 5.55	\$ 1,703.85

Table A-13.3

Bore Hole Sealing Work - Seal Monitoring Wells (Cont.)

Page No.

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Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Costs
GP3	Portland cement grout - 4 in. (labor, equip, materials)	4	154	154	LF	\$ 5.55	\$ 854.70
GP3A	Portland cement grout - 2 in. (labor, equip, materials)	2	143	143	LF	\$ 5.29	\$ 756.47
GP4	Portland cement grout - 4 in. (labor, equip, materials)	4	261	261	LF	\$ 5.55	\$ 1,559.55
GP5	Portland cement grout - 4 in. (labor, equip, materials)	4	284	284	LF	\$ 5.55	\$ 1,576.20
GP7	Portland cement grout - 4 in. (labor, equip, materials)	4	99	99	LF	\$ 5.55	\$ 549.45
GP8	Portland cement grout - 4 in. (labor, equip, materials)	4	198	198	LF	\$ 5.55	\$ 1,098.90
GP9	Portland cement grout - 4 in. (labor, equip, materials)	4	202	202	LF	\$ 5.55	\$ 1,121.10
J1	Portland cement grout - 4 in. (labor, equip, materials)	4	30	30	LF	\$ 5.55	\$ 166.50
P1	Portland cement grout - 4 in. (labor, equip, materials)	4	21	21	LF	\$ 5.55	\$ 116.55
P2	Portland cement grout - 4 in. (labor, equip, materials)	4	21	21	LF	\$ 5.55	\$ 116.55
P4	Portland cement grout - 4 in. (labor, equip, materials)	4	80	80	LF	\$ 5.55	\$ 444.00
P5	Portland cement grout - 4 in. (labor, equip, materials)	4	21	21	LF	\$ 5.55	\$ 116.55
P6	Portland cement grout - 4 in. (labor, equip, materials)	4	51	51	LF	\$ 5.55	\$ 283.05
P7	Portland cement grout - 4 in. (labor, equip, materials)	4	37	37	LF	\$ 5.55	\$ 205.35
P8	Portland cement grout - 4 in. (labor, equip, materials)	4	33	33	LF	\$ 5.55	\$ 183.15
GMP-1	Portland cement grout - 4 in. (labor, equip, materials)	4	200	200	LF	\$ 5.55	\$ 1,110.00
GD1	Portland cement grout - 6 in. (labor, equip, materials)	6	1132	1132	LF	\$ 6.32	\$ 7,154.24
GD1(2)	Portland cement grout - 6 in. (labor, equip, materials)	6	1144	1144	LF	\$ 6.32	\$ 7,230.08

Table A-13.3

Bore Hole Sealing Work - Seal Monitoring Wells (Cont.)

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Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Costs
GLEV-1	Portland cement grout - 4 in. (labor, equip, materials)	4.5	238	238	LF	\$ 5.55	\$ 1,320.90
GLEV-2	Portland cement grout - 4 in. (labor, equip, materials)	4.5	27	27	LF	\$ 5.55	\$ 149.85
GLEV-3	Portland cement grout - 4 in. (labor, equip, materials)	4.5	45	45	LF	\$ 5.55	\$ 249.75
CY-A	Portland cement grout - 4 in. (labor, equip, materials)	4.5	35	35	LF	\$ 5.55	\$ 194.25
CY-1	Portland cement grout - 4 in. (labor, equip, materials)	4.5	165	165	LF	\$ 5.55	\$ 915.75
CY-2	Portland cement grout - 4 in. (labor, equip, materials)	4.5	285	285	LF	\$ 5.55	\$ 1,581.75
CY-3	Portland cement grout - 4 in. (labor, equip, materials)	4.5	430	430	LF	\$ 5.55	\$ 2,386.50
GX1	Portland cement grout - 4 in. (labor, equip, materials)	4.5	318	318	LF	\$ 5.55	\$ 1,764.90
Plug for 2" Diam. Holes	PVC plug - 2in. Diameter borehole	2-2.5	NA	9	EA	\$ 24.59	\$ 221.31
Plug for 4"-6" Diam. Holes	PVC plug - 4 in. Diameter borehole	4	NA	34	EA	\$ 33.98	\$ 1,155.32

Table A-13.4

Sealing Exploration Drill Holes

Up to 20 Per Year

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Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Costs
Plug & Seal Boreholes	Portland cement grout - 6 in. (labor, equip, materials)	6	4000	4000	LF	\$ 6.32	\$ 25,280.00
Bore Hole Plug	PVC plug - 6 in. diameter borehole	6	NA	20	EA	\$ 33.98	\$ 679.60
Total A-13.4							\$ 25,959.60

Table A-13.5

Landslide Monitoring Stations

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[illegible]

Table A-14.1

Equipment Mobilization/Demobilization

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PROJECT IDENTIFICATION

Task:

001

Mob/Demob. Equipment Requiring Assembly/Disassembly

EQUIPMENT TRANSPORT RIG COST

Shift Basis

1

per day

Truck/Tractor Description:

Generic on-highway truck/tractor, 6X4, Diesel Powered, 400 HP,

Truck/Trailer Description:

Generic Folding Gooseneck, Drop Deck Equipment Trailer, (25T, 50T, and 100T)

Cost Breakdown:

Available Rig Capacities		0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour		\$ 21.28	\$ 37.94	\$ 47.67
Operating Cost/Hour		\$ 26.55	\$ 50.48	\$ 56.21
Operator Cost/Hour		\$ 20.54	\$ 20.54	\$ 20.54
Helper Cost/Hour		\$ -	\$ 23.53	\$ 23.53
Total Unit Cost/Hour		\$ 68.37	\$ 132.49	\$ 147.95

NON ROADABLE EQUIPMENT

Machine Description	Weight/Unit (Tons)	Ownership Cost/hr/unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/fleet	Return Trip cost/hr/fleet	DOT Permit Cost/fleet
Cat D3K XL - 3P	9.22	\$ 27.67	\$ 68.37	5	\$ 480.20	\$ 341.85	\$ 1,250.00
Cat D7R DS Series II LGP	34.57	\$ 81.02	\$ 132.49	5	\$ 1,067.55	\$ 662.45	\$ 1,250.00
Cat 324D L 9'-8" Stick	27.33	\$ 72.52	\$ 132.49	5	\$ 1,025.05	\$ 662.45	\$ 1,250.00
Cat 904H	4.93	\$ 14.66	\$ 68.37	4	\$ 332.12	\$ 273.48	\$ 1,000.00
Cat 16M	28.73	\$ 70.80	\$ 132.49	4	\$ 813.16	\$ 529.96	\$ 250.00
Water Tanker 14000 Gal.	58.5	\$ 103.16	\$ 147.95	1	\$ 251.11	\$ 147.95	\$ 250.00
Atlas Copco DML/SP -9-7/8"	0	\$ 306.46	\$ 68.37	1	\$ 374.83	\$ 68.37	\$ 250.00
Light Plant 30 ft. tower, 4 lights-13.5 HP	1.46	\$ 6.32	\$ 68.37	4	\$ 298.76	\$ 273.48	\$ 1,000.00
Subtotals					\$ 4,642.78	\$ 2,959.99	\$ 6,500.00

ROADABLE EQUIPMENT

Machine Description	Total Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/fleet	Return Trip cost/hr/fleet
Water Tanker, 2500 Gal.	\$ 29.70	1	\$ 29.70	\$ 29.70
ANFO Bulk Delivery Truck	\$ 236.70	1	\$ 236.70	\$ 236.70
Cap Delivery Truck	\$ 25.35	1	\$ 25.35	\$ 25.35
Fuel Tanker, 6 X 4, 210 HP	\$ 46.35	1	\$ 46.35	\$ 46.35
Lube Truck, 6 X 4, 210 HP	\$ 46.35	1	\$ 46.35	\$ 46.35
Subtotals			\$ 384.45	\$ 384.45

Table A-14.1A

Equipment Mobilization/Demobilization

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<u>EQUIPMENT HAUL DISTANCE and TIME</u>		Task	001	Mob/Demob. Equipment Requiring Assembly/Disassembly	
Nearest Major City or Town within project area region				HAYDEN	
Total One way Travel Distance				25	miles
Average Travel Speed				45	mph
Total Non- Roadable mob-demob cost*				Round Trips	
*two round trips with haul rig				2	
Total Roadable mob-demob Cost**					
** one round trip, no haul rig					
Transportation Cycle Time					
				Non Roadable	Roadable
				Equipment ¹	Equipment
Haul Time (Hours)				0.56	0.56
Return Time (Hours)				0.56	0.56
Loading Time (Hours)				1	NA
Unloading Time (Hours)				1	NA
Subtotals				3.11	1.11
JOB TIME and COST					
Total Job Time (Hours)				6.22	* Costs from Wagner Rentals; Mob/demob is from Aurora, Colorado
Total Job Cost (\$)				\$ 40,445.81	

Table A-14.1B

Equipment Mobilization/Demobilization

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Task 002 Mob/Demob. Equipment, No Assembly/Disassembly Required

Truck Tractor Description:
Truck Trailer Description:

GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP
GENERIC FOLDING COOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$ 16.63	\$ 18.37	\$ 22.33
Operating Cost/Hour:	\$ 44.38	\$ 46.13	\$ 50.07
Operator Cost/Hour:	\$ 27.66	\$ 27.66	\$ 27.66
Helper Cost/Hour:	\$ -	\$ 25.39	\$ 25.39
Total Unit Cost/Hour:	\$ 88.67	\$ 117.55	\$ 125.45

Non Roadable Equipment:

Machine Description	Weight/Unit (Tons)	Ownership Cost/hr/unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/fleet	Return Trip cost/hr/fleet	DOT Permit Cost/fleet
Cat D3K XL - 3P	9.22	\$ 27.67	\$ 68.37	5	\$ 480.20	\$ 341.85	\$ 1,250.00
Cat D7R DS Series II LGP	34.57	\$ 81.02	\$ 132.49	5	\$ 1,067.55	\$ 662.45	\$ 1,250.00
Cat 324D : 9' -8" Stick	27.33	\$ 72.52	\$ 132.49	5	\$ 1,025.05	\$ 662.45	\$ 1,250.00
Cat 904H	4.93	\$ 14.66	\$ 68.37	4	\$ 332.12	\$ 273.48	\$ 1,000.00
Cat 16M	28.73	\$ 70.80	\$ 132.49	4	\$ 813.16	\$ 529.96	\$ 250.00
Water Tanker 14000 Gal.	58.5	\$ 103.16	\$ 147.95	1	\$ 251.11	\$ 147.95	\$ 250.00
Atlas Copco DML/SP -9-7/8"	0	\$ 306.46	\$ 68.37	1	\$ 374.83	\$ 68.37	\$ 250.00
Light Plant 30 ft. tower, 4 lights-13.5 HP	1.46	\$ 6.32	\$ 68.37	4	\$ 298.76	\$ 273.48	\$ 1,000.00
Subtotals					\$ 4,642.78	\$ 2,959.99	\$ 6,500.00

Roadable Equipment:

Machine Description	Total Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/fleet	Return Trip cost/hr/fleet
Water Tanker, 2500 Gal.	\$ 29.70	1	\$ 29.70	\$ 29.70
ANFO Bulk Delivery Truck	\$ 236.70	1	\$ 236.70	\$ 236.70
Cap Delivery Truck	\$ 25.35	1	\$ 25.35	\$ 25.35
Fuel Tanker, 6 X 4, 210 HP	\$ 46.35	1	\$ 46.35	\$ 46.35
Lube Truck, 6 X 4, 210 HP	\$ 46.35	1	\$ 46.35	\$ 46.35
Subtotals			\$ 384.45	\$ 384.45

Table A-14.1C

Equipment Mobilization/Demobilization

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<u>EQUIPMENT HAUL DISTANCE and TIME</u>		Task	002	<u>Mob/Demob. Equipment, No Assembly/Disassembly Required</u>
Nearest Major City or Town within project area region				HAYDEN
Total One way Travel Distance				25 miles
Average Travel Speed				45 mph
Total Non- Roadable mob-demob cost*			Round Trips	
*two round trips with haul rig			2	\$ 40,018.64
Total Roadable mob-demob Cost**				\$ 427.17
** one round trip, no haul rig				
<u>Transportation Cycle Time</u>				
				Non Roadable Roadable
				Equipment ¹ Equipment
Haul Time (Hours)				0.56 0.56
Return Time (Hours)				0.56 0.56
Loading Time (Hours)				1 NA
Unloading Time (Hours)				1 NA
Subtotals				3.11 1.11
<u>JOB TIME and COST</u>				
Total Job Time (Hours)			6.22	* Costs from Wagner Rentals; Mob/demob is from Aurora, Colorado
Total Job Cost (\$)			\$	40,446

Table A-14.1D

Equipment Mobilization/Demobilization

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Task 003					
Machine Description	Fleet Size	Assembly \$/Unit	Disassembly \$/Unit	\$/Unit	
Cat D10T - 10SU	4	\$ -	\$ -	\$ -	1*
Cat D11T-11SU	5	\$ -	\$ -	\$ -	1*
Cat 637G w/push-pull	8	\$ -	\$ -	\$ -	1*
Cat 777F	4	\$ 20,579.50	\$ 13,104.25	\$ 134,735.00	1*
Kom45 00U 830E	4	\$ 20,579.50	\$ 13,104.25	\$ 134,735.00	1*
Cat 389	1	\$ -	\$ -	\$ -	1*
Cat 385D L 18' - 1" Stick	1	\$ 49,150.00	\$ 34,433.00	\$ 83,583.00	
Cat 6090	1	\$ 49,150.00	\$ 34,433.00	\$ 83,583.00	
Total Cost :				\$ 436,636.00	

1* Minimal Assembly/Disassembly; additional cost accounted for in load/unload time in Task 001

2* Estimate of assembly and disassembly cost per unit source Appendix A; Table A-14.1

Grand Total: \$ 517,527.61

Talpac Haul Simulations Regrade Cross-Sections