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Statement of mining costs in the Butte district three months ending June first 1910

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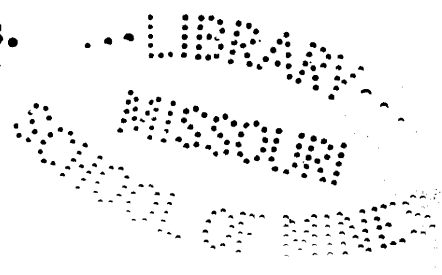
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STATEMENT OF MINING COSTS IN THE BUTTE DISTRICT
THREE MONTHS ENDING JUNE FIRST 1910.

BY
CLIFFORD LEROY CONWAY.
GEORGE SYLVESTER THOMAS.
GEORGE FRANCIS CONDON.



A THESIS
SUBMITTED TO THE FACULTY OF THE SCHOOL OF MINES AND
METALLURGY OF THE UNIVERSITY OF MISSOURI IN PARTIAL FUL-
FILLMENT OF THE WORK REQUIRED FOR THE DEGREES OF
BACHELOR OF SCIENCE IN MINE ENGINEERING
AND
BACHELOR OF SCIENCE IN METALLURGICAL ENGINEERING.

ROLLA, MISSOURI.
1912

APPROVED BY

C. R. Forbes

ASST. PROFESSOR OF MINING.

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Data obtained from files of The Anaconda Copper
Mining Company. General Mines Office, Butte Montana.

-INTRODUCTION-

The following cost data were compiled from the monthly cost sheets of the several mines, through a period of three months, April, May and June 1910. These figures were obtained from the cost sheets of The Anaconda Copper Mining Co. and are exact in every instance. The scale of wages and the cost of supplies which prevailed during the period that these figures were created were as follows:-

Labor

Miners	\$3.50
Muckers	"
Trammers	"
Pumpmen	4.00
Station tenders	"
Timbermen	3.50

Supplies

Coal-fuel	\$ 5.00/ton at mine
Pine	18.00/M " "
Fir	20.00 " " "
Stulls	.30 each " "
Posts	.50 " " "
Caps	.40 " " "
Girts	.25 " " "

Phoenix Copper Mining Co. (Red Metal Dept.)
 Summary of Mining Costs, Three Months ending June 30th 1910.

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Total Operating Expenses.						
Corra Mine	166861					
Rarus Mine	4337549					
Minnie Healy Mine	19341869	2.9026				
Tramway Mine	17333327	3.4090				
Red Penn. Ore by B. + M. Dept.	1644513	3.5360				
Snohomish Ore by B + B Dept.	234126	3.5000				
Parnell Ore by A.C.M. Co.	2819644	3.5000	588089	3.7828		
General Expense						
Rarus Mine	1890					
Minnie Healy Mine	5790.81	0.869				
Tramway Mine	4125.76	0.812	9925.47	0.819		
Total					46880636	3.8647
Total Mining Expenses						
Corra Mine	166861					
Rarus Mine	4341139					
Minnie Healy Mine	199209.50	2.9875				
Tramway Mine	177481.03	3.4706				
Red Penn Ore by B + M Dept.	1644513	3.3360				
Snohomish Ore by B + B Dept.	234126	3.5000				
Parnell Ore by A.C.M. Co.	28196.44	3.5000	68806.36	3.8647		
Less B + B proportion			42132.87	3.973		
Total			126673.49	3.5174		
Construction and Improvement			1977.06	0.165		
Total					428672.55	3.6339

Corra Mine Expenses Three Months ending June 30, 1910

	Amount	Amount	Amount
Draining			
Sundries	1275 00	1275 00	
Total Draining			1275 00
Miscellaneous			
Sundries	393 61	393 61	
Total Miscellaneous			393 61
Total Operating Expenses			1668 61

Corra Mine Expenses, Three Months ending June 30, 1910

	Amount	Amount
Total Operating Expenses Divided		1668.61
Total Sundries	1668.61	
Total Operating Expenses		1668.61
13.570 tons precipitates from A.C.M. Co		57.545 % Cu
<u>Statistics</u>		
Mine not working.		

Planus Mine Expenses, Three Months ending June 30 1910

	Amount	Amount	Amount
<i>Development</i>			
<i>Breaking Ground:</i>			
<i>Labor</i>	3847 38		
<i>Supplies</i>	787 52		
<i>Sundries</i>	659 25	5299 15	
<i>Tramming</i>			
<i>Labor</i>	1809 88		
<i>Supplies</i>	199 71		
<i>Sundries</i>	19 63	2029 17	
<i>Timbering</i>			
<i>Labor</i>	445 89		
<i>Supplies</i>	630 99		
<i>Sundries</i>	99 1	981 79	
<i>Total Development:</i>			8305 11
<i>Draining</i>			
<i>Labor</i>		4917 13	
<i>Supplies</i>		1705 81	
<i>Sundries</i>		23157 42	
<i>Total Draining:</i>		29377 36	
<i>Less Minnie Healy + Tramway proportion</i>		9752 31	
<i>Net Draining:</i>			19645 05

	Amount	Amount	Amount
Hoisting + Lowering			
Labor	5298 05		
Supplies	2340 07		
Sundries	8406 38	11043 50	
Less Minnie Healy + Tramway proportion		4181 62	
Net Hoisting + Lowering			6861 98
Repairs and Alterations			
Levels and Shafts			
Labor	3352 61		
Supplies	278 33		
Sundries	122 53	3753 47	
Timbering			
Labor	1292 52		
Supplies	407 51		
Sundries	1 91	1701 94	
Total Repairs + Alterations			5455 91
Miscellaneous			
Labor	1325 25		
Supplies	191 51		
Sundries			
Assaying	136 08		
Electric Light	627 20		
Surface	63 83		
Change House	210 53		
Teaming	2 46		
Precipitating	632 05		
Shops	35 78		
Ready Bill B+M Dept.	3 15	1611 08	
Total Miscellaneous		3127 94	3127 94
Total Operating Expenses			43365 49

Rolls Expenses Three Months ending June 30, 1910

	Amount	Amount
Total Operating Expenses		43395 49
Divided		
Total Labor	22298 76	
Total Supplies	6041 45	
Total Sundries	15065 28	
Total Operating Expenses		43395 49
General Expense		18 90
Total Mining Expenses		43414 39

Statistics

	2 nd Class	Total
Tons Ore Mined	79,310	79,310
Copper Assay	3.900 %	3,900 %
Silver Assay	2.300 oz.	2,300 oz.

Mine worked 89 days
 Average shifts per day 60.750
 Average tons " " .8911
 " " " shift .0177

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Minnekaalu Mine Expenses, Three Months ending June 30, 1910.

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Development						
Breaking Ground						
Labor	7935 48	1191				
Supplies	1876 19	0285				
Sundries	5048 67	0757	14980 36		2233	
Tramming						
Labor	1349 49	0203	1349 49		0203	
Timbering						
Labor	601 90	0091				
Supplies	834 82	0125				
Sundries	3646 41	0547	5088 13		0763	
Shaft Sinking						
Sundries	2990 35	0448	2990 35		0448	
Total Development					24303 33	3697
Draining						
Labor			730 22		0110	
Supplies			76 84		0012	
Sundries			4008 31		0601	
Total Draining					4815 37	0723
Mining						
Breaking Ground						
Labor	9956 80	1494				
Supplies	13223 54	1985				
Sundries	10365 22	1556				
Miners breaking ground	59457 36	5921	73002 91		10956	
Tramming						
Labor	12208 20	1832				
Supplies	1486 61	0223				
Sundries	606 73	0071	14301 54		2176	

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Timbering						
Labor	17960 87	2695				
Supplies	19358 28	2905				
Sundries	409 85	0062	37728	5662		
Fire Protection						
Sundries	466 64	0070	466 64	0070		
Total Mining					125499 29	1 8839
Hoisting + Lowering						
Sundries			24389 46	3660		
Total Hoisting + Lowering					24389 46	3660
Repairs + Alterations						
Levels + Shaft						
Labor	1186 53	0178				
Supplies	74 19	0011				
Sundries	961 04	0149	2221 76	0353		
Tramming						
Labor	42 00	0006	42 00	0006		
Timbering						
Labor	7032 37	1055				
Supplies	285 28	0043				
Sundries	474 78	0072	7792 43	1170		
Total Repairs + Alterations					10056 19	1507
Miscellaneous						
Labor			1304 45	0196		
Supplies			16 71	0002		
Sundries						
Electric Light	498 31					
Tramway Electric Light	394 40					
Tramway Surface	348 24					

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Tramway Change House	958.58					
Assaying	818.92					
People Tramway Misc.	18.60					
Tramway Shops	94		3034.89		0455	
Total Miscellaneous					4355.05	0658
Total Operating Expenses					173418.69	2.9026

Minnie Hooley Mine Expenses, Three Months ending June 30, 1910

	Amount	Per Ton	Amount	Per Ton
Total Operating Expenses			19378.69	2.9026
Divided				
Total Labor	99997.78	1.5007		
Total Supplies	40063.05	.6012		
Total Sundries	53357.86	.8007		
Total Operating Expense			193418.69	2.9026
General Expense			5790.81	.0869
Net Mining Expenses			199209.50	2.9895

Statistics

	1 st Class	2 nd Class	Total
Tons ore mined	1,424.75	65,210.39	66,635.14
Copper assay	8.283 %	4.538 %	4.617 %
Silver assay	2.419 oz.	1.428 oz.	1.449 oz.
Days worked		69	
Average shifts per day		465.2712	
" tons		1129.4092	
" shift		2.4257	

Tram Mine Expenses, Three Months ending June 30, 1910

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Development						
Breaking Ground						
Labor	2464.99	.2452				
Supplies	2686.36	.0572				
Sundries	2400.43	.0472	1751.78	.3452		
Tramming						
Labor	3421.19	.0673				
Supplies	2875	.0706	3049.94	.0679		
Timbering						
Labor	1799.84	.0354				
Supplies	7088.24	.1394				
Sundries	1064.7	.0021	894.53	.1769		
Shaft Sinking						
Labor	3281.11	.0645				
Supplies	1423.80	.0280				
Sundries	7485.8	.0147	5453.49	.1072		
Total			25449.76	.6972		
Less amount charged Minnie Healy			5704.48	.1122		
Total Development, Net					29745.28	.5850
Draining						
Labor			1361.11	.0268		
Supplies			192.68	.0038		
Sundries			6517.95	.1280		
Total Draining					8066.74	.1586
Mining - Breaking ground						
Labor	8145.04	.1602				
Supplies	6740.40	.1320				
Sundries	10016.04	.1970				
Total Mining ground	10681.85	.6030	5558.83	1.0932		

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Tramming						
Labor	10358.19	.2037				
Supplies	1627.22	.0320				
Sundries	421.17	.0083	1244.58	.2440		
Timbering						
Labor	14556.31	.2863				
Supplies	1857.25	.3656				
Sundries	310.00	.0060	3345.56	.6579		
Fire Protection						
Sundries	116.66	.0023	116.66	.0023		
Total Mining					10156.63	1.9974
Hoisting + Lowering						
Labor	11455.40	.2351				
Supplies	3965.24	.0780				
Sundries	2484.45	.4886	4076.64	.8017		
Less amount charged Minnie Healy			2309.18	.4547		
Total Hoisting + Lowering, Net					1766.46	.3475
Repairs + Alterations						
Levels + Shafts						
Labor	4450.97	.0974				
Supplies	716.42	.0141				
Sundries	114.56	.0022	5781.95	.1137		
Tramming						
Labor	100.26	.0020	100.26	.0020		
Timbering						
Labor	4967.07	.0977				
Supplies	256.26	.0050	5713.33	.1071		
Total Repairs + Alterations			1105.54	.2184		
Less charged Minnie Healy			1415.67	.0276		

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Total Repairs + Alterations, Net					9499.87	.1908
Amount Forward					11139.98	3.2793
Miscellaneous						
Labor			4376.68	.0831		
Supplies			475.11	.0083		
Sundries						
A.C.M. Co. M.O. Bill	12.11					
Electric Light	687.26					
Surface	307.28					
Change House	1467.51					
Shops	211.29					
Assaying	290.50					
Power House	64.05					
Teaming	69.69					
A.C.M. Co. (B+M. Dept) Bill	258.4		2830.17	.0551		
Total Miscellaneous			6633.79	.1305		
Less amount charged Minnie Healy			18.50	.0004		
Net Miscellaneous					6615.29	.1301
Total Operating Expenses					11335.27	3.4094

Transvaal Mine Expenses, Three Months ending June 30, 1910

	Amount	Per Ton	Amount	Per Ton
Total Operating Expenses			1733527	3.4094
Divided				
Total Labor	1122981	2.2080		
Total Supplies	428906	.8435		
Total Sundries	181540	.3579		
Total Operating Expenses			1733527	3.4094
General Expense			412576	.8112
Total Mining Expense			17748103	3.4906
Less B+B Proportion			443287	.8822
Total Mining Expenses, Net				

Statistics

	1 st class	2 nd class	Total	Total
Tons ore mined	885006	4196107	5081113	
Less B+B Proportion	386269	1 st 604847 2 nd 991146	991146	
Copper Assay	502232	1.847591260	4.4981092497	4.90892
Silver Assay		2.76703	1.2503	1.55002
Days worked		8850		
Average shifts per day		33.6	2768	
Average tons per day		574.6	5225	
Average tons per shift			1.7034	
Time per ounce				

All Mines Expenses, Three Months ending June 30, 1910

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Development						
Breaking Ground						
Labor	20247.85	.2062				
Supplies	5370.07	.0457				
Sundries	5471.2	.0461	35035.04	.2980		
Tramming						
Labor	6580.51	.0560				
Supplies	228.46	.0019				
Sundries	19.63	.0002	68286.0	.0581		
Timbering						
Labor	3080.55	.0262				
Supplies	11265.64	.0958				
Sundries	221.49	.0019	145736.8	.1239		
Shaft Sinking						
Labor	3281.11	.0279				
Supplies	1423.80	.0121				
Sundries	1211.49	.0103	5916.40	.0503		
Total Development					62537.2	.5303
Draining						
Tramming						
Labor	7008.46	.0596				
Supplies	1575.33	.0134				
Sundries	2521.87	.0215				
Total Draining					33802.16	.2875
Mining						
Breaking Ground						
Labor	88241.04	.7505				
Supplies	19960.44	.1698				
Sundries	2038.26	.0173	128526.74	1.0937		

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Mining						
Labor	2258139	.1919				
Supplies	311383	.0265				
Sundries	107290	.0088	249012	.2177		
Timbering						
Labor	3251638	.2966				
Supplies	3794553	.3227				
Sundries	71985	.0061	711876	.6054		
Fire Protection						
Sundries	58330	.0049	58330	.0049		
Total Mining Expenses					2705992	1.9312
Hoisting & Lowering						
Labor			1715345	.1468		
Supplies			630536	.0536		
Sundries			2536009	.2157		
Total Hoisting & Lowering					4891890	.4161
Repairs & Alterations						
Levels & Shafts						
Labor	949011	.0807				
Supplies	106894	.0091				
Sundries	26318	.0023	1082223	.0921		
Trimming						
Labor	14226	.0012	14226	.0012		
Supplies						
Sundries						
Timbering						
Labor	1329196	.1131				
Supplies	94905	.0081				
Sundries	547	.0005	1424698	.1217		

	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Total Repairs + Alterations					2521147	.2145
Miscellaneous						
Labor	685628	.0583				
Supplies	21589	.0017				
Sundries	785150	.0668				
Total Miscellaneous					1149189	.1232
Total Operating Expenses					4118306	.35028

All Mines Expenses Three Months ending June 30, 1910

	Amount	Per Ton	Amount	Per Ton
Total Operating Expenses	41183606		35028	
Divided				
Total Labor	23455635	19950		
Total Supplies	8899456	7569		
Total Sundries	6628715	7509		
Total Operating	41183606		35028	
General Expenses	493547		.0845	
Total Mining Expenses	4217353		35873	
Less B+B Proportion	4213287		3584	
Total Mining Expenses, Net	3796066		32289	
Add.				
4915 Tons Red Penn. Ore by B+M Dept.	1649513		33560	
66893 Tons Snokomish Ore by B+B Dept.	234426		35000	
8056.13 Tons Parnell Ore by A.C.M. Co.	2819644		35000	
Grand Total Mining Expenses	41667349		35174	

Statistics

Tonnes Mined	1 st class	2 nd class	Precipitates	Total
Ore mined by Red Metal Dept	10309.81	107250.77	12.57	117574.15
Less B+B proportion	3862.69	6048.47		9911.16
Copper Assay	7.943%	4.573%	57.545%	4.731%
Silver Assay	2.690oz	1.412oz		1.488oz
Parnell Ore	7.00	8049.12		8056.12
Copper Assay	7.440%	3.419%		3.422%
Silver Assay	2.100oz	1.831oz		1.832oz
Snahomish Ore		668.92		668.92
Copper Assay		4.171%		4.171%
Silver Assay		.552oz		.552oz
Red Penn Ore		4915.00		4915.00
Copper Assay		5.082%		5.082%
Silver Assay		1.292oz		1.292oz
* All Mines	6454.12	114825.36	12.57	121302.05
Copper Assay	7.943%	4.468%	57.545%	4.656%
Silver Assay	2.691oz	1.431oz		1.497oz
Mine worked	86.50 days			
Aver shifts per day	724.9364			
" tons	1259.2387			
" " shift	1.8750			
* Assays Red Metal proportion only				

Classification of Supplies, Three Months ending June 30, 1910

	Rarus	Minnie Healy	Tramway	All Mines
	Amount	Amount Per Ton	Amount Per Ton	Amount Per Ton
Candles	132.65	1842.31	.0217	116202 .0229 313648 .0267
Cable and Wire	1887.92	45.56	.0010	11704 .0023 208521 .0177
Drills (Air)	63.49	5040.53	.0756	113546 .0773 625471 .0532
Explosives	841.83	7600.62	.1141	645105 .1367 1534350 .1305
Guides	123.43			13497 .0027 25840 .0022
Iron and Steel	344.85	67154	.0101	190912 .0375 292551 .0249
Lumber	685.52	20418.83	.3064	2297071 .4518 4407506 .3749
Machinery	539.87	388.50	.0058	274296 .0549 372133 .0317
Oil, grease, and waste	325.81	162.87	.0025	77846 .0153 136714 .0116
Packing	170.29			4402 .0009 21431 .0018
Picks and shovels	62.39	194.13	.0029	20406 .0040 46058 .0039
Pipe and fittings	121.82	27.61	.0004	73957 .0047 38900 .0033
Poles	38.25	344.57	.0058	43537 .0086 85819 .0073
Stulls	76.49	7680.6	.0115	211366 .0416 295821 .0252
Tools	55.07	35088	.0053	34407 .0068 75002 .0063
Tracks		63582	.0095	46609 .0091 110191 .0094
Water	60.00			4000 .0017 15000 .0013
Sundry supplies	479.51	149846	.0225	211568 .0416 404415 .0348
Total	6059.19	4008079	.6015	4400431 .8654 9010029 .7667
Less supplies sold	17.74	1774	.0003	111423 .0214 110973 .0098
	6041.45	4006305	.6012	4289006 .8435 889956 .7564

Rarus Mine Classification of Labor Three Months ending June 30, 1910

	Days	Amount
Operating		
Engineers	215	1237.00
Laborers	47	140.82
Miners (Development)	677	3445.50
" (Other labor)	677.75	2372.10
Oilers and Wipers	92.50	282.00
Pumpmen	807	3365.00
Station Tenders	644	2596.00
Shaftmen	311	1244.00
Toolmen and boys	4	31.21
Timbermen	419	1467.48
Trammers	378	1323.00
Teamsters and stablemen	61	212.50
Sawyers	7.75	24.47
Powdermen	4	14.74
Shops		
Blacksmiths and helpers	84 ³ / ₈	344.75
Boilermakers " "	83	321.44
Carpenters " "	44	194.44
Cable Repairers " "	112.75	416.45
^{Electricians} Machinists " "	19	81.50
Tool Sharpeners " "	111.50	447.61
Painters	6	22.50
Superintendence	5	23.75
Foremen	465 ⁵ / ₈	1857.54
Shift-bosses	91	400.00
Timekeepers	136	680.00
Samplers	31	154.00
Surveyors	83	290.50
	2.25	11.85

Watchmen

Total

Days	Amt
182	637.00
51525	2673.35
5406 ¹¹⁸	2228.76

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Minnie Healy Classification of Labor, Three Months ending June 30, 1910

	Days	Amount	Per Ton
Operating			
Laborers	285.75	854.06	.0128
Motormen	138.75	485.60	.0073
Miners (Development)	1424.00	9240.15	.1044
" (Breaking ground)	1127.50	3445.35	.5721
" (Other labor)	2136.00	7444.10	.1123
Oilers and Wipers	87.50	306.25	.0046
Toolmen	213.00	456.07	.0143
Timbermen	646.00	2260.51	.3401
Trammers	3340.75	11712.31	.1754
Teamsters and stablemen	62	217.00	.0033
Sawyers	148.25	713.35	.0107
Powdermen	34.00	136.18	.0020
Shops	25724.00	92278.93	1.3848
Blacksmiths and helpers	185.50	773.17	
Boiler makers " "	122.25	475.46	
Carpenters " "	141.75	834.72	
Cable Repairers " "	54.00	213.76	
Electricians " "	17.00	73.00	
Machinists " "	154.00	614.39	
Tool sharpeners " "	183.50	684.17	
Superintendence	913.00	3673.67	.0552
Foremen	93.75	525.48	
Shift-bosses	444.50	2477.50	
Timekeepers	40.00	146.00	
Samplers	55.00	142.50	
Surveyors	130.75	613.70	
	810	4045.18	.0607
Totals	27451.00	94497.76	1.5007

Tramway Line Classification of Labor, Three Months ending June 30, 1910

	Days	Amount	Per Ton
Operating			
Engineers	783	3337 00	.0656
Laborers	1277	4793 40	.0844
Motormen	110 50	386 75	.0076
Miners (Development)	2243 75	11818 45	.2324
(Breaking ground)	876 25	30681 85	.6034
(Other labor)	2374 75	8329 60	.1638
Oilers and wipers	358 50	1254 90	.0247
Pumpmen	81 50	326 00	.0064
Station Tenders	887	3548 00	.0698
Shaftmen	706	3036 25	.0597
Toolmen	225	787 22	.0155
Timbermen	5178	18160 26	.3572
Trammiers	3503 25	12278 64	.2415
Stablemen and Teamsters	69	254 00	.0050
Sawyers	230	831 06	.0164
Powdermen	45	157 03	.0031
Shops	26843 50	94484 21	.19565
Blacksmiths and helpers	342 78	1400 13	
Boilermakers " "	383 25	1506 10	
Carpenters " "	361	1658 93	
Cable repairers " "	116 75	456 69	
Electricians " "	27 50	119 25	
Mechanists " "	450 25	1794 65	
Tool sharpeners " "	154	576 33	
Painters	22	104 50	
Pipemen	57	226 00	
Superintendence	1915 76	7852 58	.1544
Foreman	82 25	490 52	

	Days	Amount	Per Ton
Shift-bosses	136	2185 00	
Time keepers	132	548 00	
Samplers	27	94 50	
Surveyors	140	663 50	
Watchmen	273	955 50	
	1090 25	4937 02	.0471
Total	29849 ⁵ / ₈	112269 81	2.2280

All Mines. Classification of Labor Three Months ending June 30, 1900

	Days	Amount	Per Ton
Operating			
Engineers	1058	4514.50	.0389
Laborers	160425	528828	.0450
Motormen	24925	87235	.0074
Miners (Development)	434475	2255410	.1918
" (Breaking ground)	2003975	7013920	.5966
" (Other labor)	514350	1818580	.1547
Oilers & wipers	53950	180295	.0157
Pumpmen	88850	34100	.0314
Station Tenders	1536	61000	.0523
Shaftmen	1017	428025	.0364
Toolmen & boys	507	177450	.0151
Timbermen	12063	4228825	.3597
Trammers	7222	2531995	.2153
Teamsters & stablemen	192	68450	.0058
Sawyers	436	156938	.0133
Powdermen	88	30800	.0026
Shops	5678350	20951701	1.7820
Blacksmiths & helpers	612	251805	
Boilermakers	58850	230205	
Carpenters	57675	269214	
Cable repairers	28350	108690	
Electricians	6250	27275	
Machinists	72075	285665	
Tool sharpeners	34250	128800	
Painters	23	10925	
Pipemen	63	25500	
Superintendence	329450	1338374	.1138
Foremen	267	195600	

	Days	Amount	Per Ton
Shift-bosses	1066.50	5342.50	
Time keepers	203	898.00	
Samplers	165	577.50	
Surveyors	273	1289.05	
Watchmen	455	1592.50	
	2429.50	11655.55	0.492
Total	6210.50	23055.35	1.9950

Parus Mine Repairs to Rock Drills Three Months ending June 30, 1910

	Amount	Per Drill	Amount	Per Drill
Labor	2065	14750		
Supplies	8651	6.1793		
Total			10716	7.6543
Total number of drill hours		1338		
Average number of drills in use		14		

Minnie Healy Repairs to Rock Drills Three Months ending June 30, 1916

	Amount	Per Drill	Amount	Per Drill
Labor	632 38	37642		
Supplies	1478 73	119781		
Total			2611 11	155423
Total number of drill hours				29226
Average number of drills in use				168
Cost per ton of ore for repairs of drills				0342

Tramway Repairs to Rock Drills Three Months ending June 30, 1910

Labor
Supplies
Total

	Amount Per Drill	Amount Per Drill
Labor	50247	31802
Supplies	129693	82084
Total	179940	113886

Total number of drill hours	23953
Average number of drills in use	158
Cost per ton of ore for repairs of drills	0004

All Mines Repairs of Rock Drills Three Months ending June 30, 1910

	Amount	Per Drill	Amount	Per Drill
Labor	1155.50	3.3486		
Supplies	3362.17	9.8887		
Total			4517.67	13.2873

Total number of drill hours 54517
 Average number of drills in use 340
 Cost per ton of ore for repairs of drills .0384

Ramus Power House Expenses, Three Months ending June 30, 1910

	Amount	Per HP Month	Amount	Per HP Month
Sundries	3170.05	10.6736		
Total Power House Expenses, 297 HP.			3170.05	10.6736
Distributed into Hoisting & Lowering	H.P. 247	Amount 3170.05		

Tramway Power House Expenses, Three Months ending June 30, 1910

	Amount	Per HP Month	Amount	Per HP Month
Labor	4063	17500		
Supplies	1338	5763		
Sundries (Fuel, coal)	1438	8.3484		
4869.5 tons				
Total Power House Expenses 2322 HP.	24186	58	10.6747	
Furnished outside				
Rarus Mine 297 HP	3170	05	10.6747	
Net Power House Expenses, 2025HP	21616	53	10.6747	

Distributed into	H.P.	Amount	Per Ton
Hastings Lowering	1977	2104	56.4151
Miscellaneous	6	64	05.0012
Change house	36	384	35.0076
Shops	6	63	57.0012

All Mines Power House Expenses, Three Months ending June 30, 1910

	Amount	Per HP Month	Amount	Per HP Month
Labor	4063.45	17.500		
Supplies	1338.17	5.763		
Sundries (Fuel, Coal)	1438.496	8.3484		
4869.5 tons				
Total All Mines Power House Expenses			2476.56	10.6747
2322 H.P.				

	H.P.	Amount	Per Ton
Distributed into			
Hoisting & Lowering	2274	2074.61	2.065
Miscellaneous	6	64.05	0.005
Change house	36	384.35	0.033
Shops	6	63.57	0.005

Rorus Compressed Air Expenses, Three Months ending June 30, 1910

	Amount	Per HP Month	Amount	Per HP Month
Labor	1828.85	3.323		
Supplies	1038.71	.1888		
Sundries	2070.01	3.7632		
Total Compressed Air Expenses			7357.657	4.2843
5503 H.P.				
Furnished outside		H.P. Amount		
Minnie Healy	2609.4	11084.00		
Tramway	2566.1	11075.51		
	5175.5		22159.51	
Net Compressed Air Expenses	327.5		147.06	4.2843
Distributed into				
Development - breaking ground	91.41	341.58		
Hoisting & Lowering	204.94	410.45		
Repairs & Alterations				
Levels & Shafts	25.65	111.03		

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Minnie Healy Compressed Air Expenses, Three Months ending June 30

	Amount	Per HP Month	Amount	Per HP Month
Labor	464.13	1.774		
Supplies	549.25	2.105		
Sundries	1108.00	4.2477		
Total Compressed Air Expenses 2609.44			1249.38	4.6361

Distributed into	H.P	Amount	Per Ton
Development - breaking ground	504.30	2337.96	.6351
" - timbering	14	64.86	.0010
Mining - breaking ground	2062.15	9524.73	.1435
" - timbering	22.39	103.74	.0016
Repair & Alterations (Levels & Shafts)	5.56	26.09	.0023

All Mines Compressed Air Expenses, Three Months ending June 30, 1910

	Amount	Per H.P. Month	Amount	Per H.P. Month
Labor	2466.55	5391		
Supplies	268.97	4116		
Sundries	2071.04	3765.4		
Total All Mines Compressed Air Expenses.			25952.61	47161
		5503 H.P.		

Distributed into	H.P.	Amount	Per Ton
Development - breaking ground	1086.29	5092.61	.0433
- timbering	20.96	9436	.0008
Shaft sinking - station cutting	45.63	4447.4	.0038
Draining	356.89	1612.44	.0137
Mining - breaking ground	3660.48	17362.00	.0477
- timbering	33.55	1590.6	.0014
Hoisting & lowering	44.81	2221.0	.0019
Repairs & alterations (Level & shafts)	44.84	2024.8	.0017
Shops	159.55	7578.2	.0064

All Mines Electric Light Expenses, Three Months ending June 30, 1910.

	Amount	Per Light
Labor	648 20	.1654
Supplies	772 88	.1979
Sundries	783 09	.2005
Total 3906 lights	2204 17	.5643

Cost per light	Number of lights	Amount	Per light
Rarus Mine	2088	627 20	3004
Minnie Healy Mine	266	445 31	1862
Tramway Mine	1552	1081 66	6969

Distributed into	Amount
Rarus Miscellaneous	627 20
Minnie Healy "	889 71
Tramway "	687 26

Corra Mine Precipitating Expenses, Three Months ending June 30, 1910

Sundries
Total

Amount Per lb. Amount Per lb.
Cu. Cu.

343.61 0.418 343.61 0.418

Statistics

Tons Precipitates Shipped 13.570
Percent Moisture 34.665
" Copper 51.545
Pounds of Copper 94.23.

Rarus Mine Precipitating Expenses, Three Months ending June 30

	Amount	Amount
Labor	425 10	
Supplies	78 35	
Sundries	28 60	
Total		532 05
Statistics		
No Precipitates shipped.		

All Mines Precipitating Expenses, Three Months ending June 30, 1910

	Amount	Per 1b Cu.	Amount	Per 1b Cu.
Labor	42510	0451		
Supplies	7835	0083		
Sundries	42271	0448		
Total			92566	0482

Statistics

Tons Precipitates Shipped	13,570
Percent Moisture	39.665
Percent Copper	57.545
Pounds of Copper	9423.

All Mines Traming Expenses, Three Months ending June 30, 1910

	Amount	Amount
Labor	31850	
Supplies	25838	
Sundries	1480	
Total		59668
Furnished outside		
Rarus Air Shaft	1110	
Assay Plant	1311	
Tramway Lumber Stock	1844	
" Ice "	1822	
Rented Property	1581	7722
Net All Mines Traming Expenses		51946
Distributed into		
Rarus Mine		
Development - traming	840	
Draining	2283	
Hoisting + Lowering	3905	
Repairs + Alterations - timbering	123	
Miscellaneous	246	
Compressed Air	794	8191
Minnie Healy Mine		
Mining - traming	1364	1364
Tramway Mine		
Draining	718	
Mining - traming	2252	
" - breaking ground	4965	
" - timbering	2660	
Hoisting + Lowering	1706	
Miscellaneous	6964	
Surface	20266	

Change House
Shops
Compressed air

AMT AMT

1429

118

1208 42391

All Mines Surface Expenses, Three Months ending June 30, 1910.

	Amount	Amount
Labor	49800	
Supplies	492	
Sundries	21143	
Total		71435
Distributed into		
Rarus Mine Miscellaneous	6363	
Minnie Healy Mine "	30824	
Tramway " "	30228	

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All Mine Change House Expenses, Three Months ending June 30

	Amount	Amount
Labor	1079.10	
Supplies	744.63	
Sundries	462.89	
Total		2336.62
Distributed into		
Rarus Mine Miscellaneous	210.53	
Minnie Healy Mine "	958.58	
Tramway " "	1167.51	

All Mines Shop Expenses Three Months ending June 30, 1910

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	Amount	Amount	Amount
Labor	276.43		
Supplies	1435.02		
Sundries	1359.09		
Total		2671.04	2671.04
Furnished outside			
Rarus Air Shaft		76.42	
Tramway Storehouse		281.84	358.26
Net Shop Expenses			3312.78
Distributed into			
Rarus Mine			
Development - breaking ground	6.19		
" - tramping	7.27		
" - timbering	4.91		
Draining	87.44		
Hoisting + Lowering	193.78		
Repairs + Alterations - levels + shafts	11.50		
" - timbering	68		
Miscellaneous	35.78		
Precipitating	28.60		
Surface	3.83	379.98	
Minnie Healy Mine			
Development - breaking ground	19.48		
" - timbering	51.25		
Mining - breaking ground	279.76		
" - tramping	224.39		
" - timbering	306.11		
Repairs + Alterations - levels + shafts	4.06		
Miscellaneous	9.4	885.99	

	Amount	Amount	Amount
Tramway Mine			
Development - breaking ground	3736		
" - tramming	2839		
" - timbering	4358		
Shaft sinking - station cutting	7238		
Draining	8378		
Mining - breaking ground	31420		
" - tramming	34505		
" - timbering	8240		
Hoisting & Lowering	61099		
Repairs & Alterations - levels & shafts	4920		
Miscellaneous	21129		
Surface	394		
Change House	6425	194681	

Rarus H. Shaft Expenses, Three Months ending June 30, 1910.

	Amount	Amount	
Shaft Sinking			
Labor	116745		
Supplies	121018		
Sundries	37447		
Total		275210	
No Advance			
Distributed into			
Minnie Healy Mine	98364		
Tramway Mine	176846		

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Tramway Mine Shaft Sinking Expenses, Three Months ending June 30.

	Amount	Per Ton	Amount	Per Ton
Station Cutting				
Labor	32811	.0645		
Supplies	142280	.0280		
Sundries	5112	.0102		
Total			52203	.1027
Lineal feet advanced		4		
Cost lineal foot advanced		\$ 1305.5075		
Cubic feet excavated		11430		
Cost per cubic foot.		\$.4569		

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All Mines Shaft Sinking Expenses, Three Months ending June 30.

	Amount	Per Ton	Amount	Per Ton
Shaft Sinking				
Labor	53530	.0046		
Supplies	12660	.0011		
Sundries	3247	.0002		
Total			64437	.0059
No Advance				
Station Cutting				
Labor	32811	.0279		
Supplies	14280	.0171		
Sundries	5172	.0044		
Total			52203	.0444
Lineal feet advanced				
Cost per lineal foot			4	
Cubic feet excavated			\$1305.5075	
Cost per cubic foot			11430	
			\$4569	

Assay Plant Expenses, Three Months ending June 30, 1910.

	Amount	Per Assay	Amount	Per Assay
Labor	903.55	.1650		
Supplies	248.59	.0545		
Sundries	423.60	.0080		
Total 5475 ASSAYS			1245.50	.2275

	Number of Assays	Amount
Distributed into		
Rarus Mine Miscellaneous	630	136.08
Minnie Healy "	3226	818.92
Tramway "	1619	290.50

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Construction + Improvement, Three Months ending June 30, 1910

	Supplies	Total	Less B+O Pym.	Net Total
<u>Tramway Mine</u>				
Electric Trolley Line	9866	9866	3289	6577
Ore Bins	43874	43874	31243	62586
Cages, Skips, + Cars	124430	124430	43143	86287
Total Construction + Improvement	233175	233175	77725	155450
<u>Rarus Mine</u>				
Rarus Mine Pumps	68100	68100		68100
Live Stock				
Horses Sold	23644	23644		23644
Grand Total	277631	277631	77725	199906

-SUMMARY-

The Total Costs of Mining Were as Follows:-

DEVELOPMENT		
Breaking Ground	\$.2980	
Tramming	.0581	
Timbering	.1289	
Shaft Sinking	.0503	
TOTAL DEVELOPMENT		\$.5303
DRAINING		.2875
MINING		
Breaking Ground	1.0937	
Tramming	.2272	
Timbering	.6054	
Fire Protection	.0049	
TOTAL MINING		1.9312
HOISTING AND LOWERING		.4161
REPAIRS AND ALTERATIONS		
Levels and Shafts	.0921	
Tramming	.0012	
Timbering	.1212	
TOTAL REPAIRS AND ALTERATIONS		.2145
MISCELLANEOUS		.1232
TOTAL OPERATING EXPENSES		<u>\$3.5028</u>

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Anaconda Copper Mining Company. (Red Metal Dept.)

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