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PIT OPERATION SUMMARY

	TOTAL	Pit Mining	Pit Stripping	Waste Dumps Expense	Sampling and Assaying	Breaking Ground	Loading	Disposal	Water and Air L.	Track Crew	Drill Repairs	Steel and Sharp'g	Pit Explos. and Handling	Pit Drainage	Pit Dep't Expense
Operating Labor	\$ 247206.11	57.24	839.34	7691.75	2268.02	67863.20	27298.14	55201.29	4582.05	22044.37	3110.92	13566.98	315.55	3822.14	38545.12
Repair Labor	77429.55			94.50		1756.69	22859.99	42325.14	72.40	514.42	39.71	526.21			9240.49
Salaries	25260.61				3435.32										21825.29
Total Labor	349896.27	57.24	839.34	7786.25	5703.34	69619.89	50158.13	97526.43	4654.45	22558.79	3150.63	14093.19	315.55	3822.14	69610.90
Operating Supplies	48073.82	142.16	1168.11	1159.95	177.81	10506.41	2419.12	10283.05	2008.70	196.83	6053.15	685.15	435.31	478.14	12359.83
Inventory Adjustment	680.59														680.59
Reserve for Obsolete Supplies	5734.72														5734.72
Reserve for Safety Supply Refunds	511.39														511.39
Explosives	52108.72												52108.72		
Explosives & Handling	3210.89			56.68		48267.39		8735.12					53848.30		
Fuel Oil	28494.65							26302.62				1536.94			655.09
Repair Supplies	30136.94			56.07		2545.47	38174.77	35388.06	9.57	392.74	27.59	463.43			3079.24
Total Supplies	218951.72	142.16	1168.11	1272.70	177.81	61319.27	40593.89	80708.85	2013.27	589.57	6080.74	2685.52	1304.27	478.14	23020.96
Auto Truck Operation	12029.72			24.00	209.50	6067.92	1125.52	1177.86	217.02	24.17			973.71	416.23	1793.79
Locomotive Crane Operations	6356.39	46.00	141.32	114.21		119.27	2093.23	980.69		5.97	4.41			83.13	2768.16
Electric Power	14023.19			1130.49		582.43	7743.67				92.76	419.50			4054.34
Compressed Air	17829.69			368.22		13605.78		674.11			341.01	2070.50			770.87
Water	3118.85					374.05	130.37	1928.18							686.25
Equipment & Track Rental	7362.39			1236.39				6126.00							
Telephone & Telegrams	1208.10														1208.10
State Compensation Premiums	11228.57														11228.57
Water & Air Lines	-					6012.87		846.35	6859.22						
Track Crew	-		5608.66	11020.05				5096.51		21848.90				73.78	49.90
Drill Repairs	-					7683.14		588.75			8271.89				
Drill Steel & Sharpening	-					15893.88		837.32				16731.20			
Breaking Ground	-	97081.89	84239.58			181321.47									
Loading	-	37105.11	59963.71				98154.73							1085.91	
Disposal	-	91973.95	149236.73	1146.56		42.97	127.05	243110.73					40.09	529.35	14.03
Sundry - Miscellaneous	2099.70			2.19			2.02	144.55				53.41	25.08		2029.09
Trans. - 15-C drift 160' L. from Development	833.64													833.64	
" - Drifting for raises to handle pit ore through mine	682.42							682.42							
" - Raises do. do.	3736.30							3736.30							
" - Hopewell Tunnel Haulage	42848.48							42848.48							
" - Prop. Smelter Assay Office	6248.96				6248.96										
" - Miscellaneous	27399.19						3819.15	792.41	30.52	1329.60	1397.66	2434.10			17545.75
Total	671055.20	226406.35	301197.45	24101.06	12339.61									7322.32	99688.41
Transfer - Ore Stock in Dumps	39222.39	32072.46	5004.66	301.86	147.86									204.41	1491.14
Total Pit Mining charged to Operation	631832.81	194333.89	296192.79	23799.20	12191.75									7117.91	98197.27
Cost per ton ore - this year	669,641*	1.002	.338	.450	.036	.018								.011	.149
Cost per yd. waste	773,875	.420	.389	.031											
Cost per yd. Ore & Waste this year	1044,775	.642													

sent thru smelter.

PIT OPERATIONS

Breaking Ground

	Cost per Yard	Total Cost	Machine Drilling and Blasting	Churn Drilling and Blasting
Operating Labor	.065	67863.20	57963.40	9899.80
Repair Labor	.002	1756.69	227.84	1528.85
Total Labor	.067	69619.89	58191.24	11428.65
Operating Supplies	.010	10506.41	7865.73	2640.68
Explosives & Handling	.047	48267.39	35668.06	12599.33
Repair Supplies	.002	2545.47	78.04	2467.43
Total Supplies	.059	61319.27	43611.83	17707.44
Auto Truck	.006	6067.92	4762.76	1305.16
Locomotive Crane		119.27	4.32	114.95
Electric Power	.001	582.43		582.43
Compressed Air	.013	13605.78	13605.78	
Water		374.05	273.67	100.38
Water & Air Lines	.006	6012.87	5514.37	498.50
Drill Repairs	.007	7683.14	7683.14	
Drill Steel & Sharpening	.015	15893.88	11754.04	4139.84
Locomotive Operation		42.97		42.97
Total	.174	181321.47	145401.15	35920.32

Yards

Cost per yard-Year 1,044,775 .174

PIT OPERATIONS
LOADING

	TOTAL COST		50-B ELECTRIC SHOVELS		120-B ELECTRIC SHOVELS		490-MARION ELECTRIC SHOVEL		GASOLINE SHOVEL	
	Amount	Per Yard	Amount	Per Yard	Amount	Per Yard	Amount	Per Yard	Amount	Per yard
Operating Labor	27298.14	.025	10770.22	.032	12251.64	.019	2164.53	.026	2111.75	.049
Repair Labor	22859.99	.020	12913.39	.038	7825.58	.012	1319.95	.016	801.47	.019
Total Labor	50158.13	.045	23683.61	.070	20077.22	.031	3484.48	.042	2913.22	.068
Operating Supplies	2419.12	.002	844.61	.003	916.96	.002	147.04	.002	510.51	.012
Repair Supplies	38174.77	.035	19464.20	.058	15399.61	.024	2237.35	.027	1973.91	.024
Total Supplies	40593.89	.037	20308.81	.061	16316.57	.026	2384.39	.029	1584.42	.036
Auto Trucks	1125.52	.001	721.12	.002	317.60	-	26.42	-	60.38	.001
Locomotive Crane	2093.23	.002	1173.32	.003	730.30	.001	50.63	.001	138.98	.003
Electric Power	7743.67	.007	3505.77	.011	3702.42	.006	535.48	.006		
Water	130.37	-	118.68	-	11.69	-				
Sundry - Miscellaneous	2.02	-	2.02	-						
Transfer	3819.15	.003	431.71	.001					3387.44	.078
Locomotive Operation	127.05	-	38.62	-	88.43	-				
Total	98154.73	.089	49120.24	.146	41244.23	.064	6481.00	.078	1309.26	.030
Yards Ore & Waste this year	1,103,141		336,737		640,367		82,622		43,415	
Cost per yard - this year		.092		.147		.064		.078		.108
Tons Ore & Waste this year	2,378,238		797,024		1,315,451		165,760		100,003	
Cost per ton - this year		.043		.062		.031		.039		.047

PIT OPERATIONS
Disposal

	Total Amount	Handling Pit Tng. Thru Mine		Plymouth Gas Locomotive	Truck Trimming		Locomotive Operation		Caterpillar Tractor #75 Oper.	
		Amount	Per Ton		Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Operating Labor	55201.29	11299.20	.015	596.32	16660.82	.029	25064.66	.017	1578.29	
Repair Labor	42725.14	5275.03	.007	523.56	9429.61	.016	26451.02	.017	645.92	
Total Labor	97526.43	16574.23	.022	1121.88	26090.43	.045	51515.68	.034	2224.21	.040
Operating Supplies	10283.05	1126.13	.001	521.58	5656.41	.010	2486.28	.002	492.65	
Fuel Oil	26302.62						26165.52	.017	137.10	
Explosives	8735.12	8735.12	.012							
Repair Supplies	35388.06	1394.18	.002	148.50	15377.98	.026	16444.13	.011	2023.47	
Total Supplies	80708.85	11255.43	.015	669.88	21034.39	.036	45095.93	.030	2653.22	.048
Auto Trucks	1177.86	19.94			47.10		1050.85	.001	59.97	.001
Locomotive Crane	980.69	3.71			37.53		913.29	.001	26.16	.001
Compressed Air	674.11	674.11	.001							
Water	1928.18	98.07			451.13	.001	1378.98	.001		
Equipment Rental	6126.00						6126.00	.004		
Water & Air Lines	846.35						846.35			
Track Crew	5096.51						5096.51	.003		
Drill Repairs	588.75	588.75	.001							
Drill Steel & Sharpening	837.32	837.32	.001							
Sundry - Miscellaneous	144.55			49.29	72.25		121.59			
Transfers	3626.76	4456.12	.006	427.76			316.76		84.84	.002
Locomotive Operation	96.35						96.35			
Transfer-Hopewell Tunnel Haulage	42848.48	42848.48	.058							
Caterpillar Tractor Operation	74.97						74.97			
TOTAL	243282.16	77356.16	.104	1314.71	47732.83	.082	111999.74	.074	4878.72	.088
Less-Caterpillar Tractor Charges to Loco.Operation	74.97						74.97			
Less-LoCo,Oper.Chgd.Loco.Oper.	96.35						96.35			
	243110.84	77356.16		1314.71	47732.83		111828.42		4878.72	
Tons - this year		744,266			583,823		1,513,512		55,750	
Cost per Ton - this year			.104			.082		.074		.090

Phelps Dodge Corporation
United Verde Branch

PIT DEPARTMENT EXPENSE

Mine Department
Costs: Year - 1935

	<u>TOTAL</u>	<u>Change House Expense</u>	<u>Safety & Rescue Expense</u>	<u>Mechanical Department Overhead</u>	<u>Sup't and Office Expense</u>	<u>Engr'g and Geology</u>	<u>State Compen. Premium</u>	<u>Yards Expense</u>	<u>Misc'l Expense</u>
Operating Labor	38545.12	2052.16	3105.36	12622.21	7949.35	1843.54		3963.56	7008.94
Repair Labor	9240.49	595.94	101.32	8166.57	145.19	35.50			195.97
Salaries	21825.29		2502.74	118.79	6055.64	10586.23			2561.89
Total Labor	69610.90	2648.10	5709.42	20907.57	14150.18	12465.27		3963.56	9766.80
Inventory Adjustment	680.59								680.59
Operating Supplies	9547.57	222.90	1016.07	5733.84	370.11	575.68		58.15	1270.82
Reserve for Safety Supply Refunds	511.39								511.39
Reserve for Obsolete Supplies	5734.72								5734.72
Diesel Oil	655.09			655.09					
Coal & Coke	2812.36	1822.46		619.80	338.29				31.81
Repair Supplies	3079.24	369.90	92.77	2440.89	110.94	5.32			59.42
Total Supplies	23020.96	2415.26	1108.84	9449.62	1119.34	581.00		58.15	8288.75
Auto Trucks	1793.79	192.10	27.41	968.25	59.87	10.00		521.05	15.11
Locomotive Operation	14.03							14.03	
Locomotive Crane	2768.16	48.48		2456.82				236.82	26.04
Track Crew Operation	49.90								49.90
Electric Power	4054.34	50.45		1490.05	245.57				2268.27
Compressed Air	770.07			770.07					
Water	686.25	479.41		206.84					
Telephones & Telegrams	1208.10								1208.10
State Compensation Premiums	11228.57						11228.57		
Inj. & Damages not covered by Ind. Comp.	175.91								175.91
Travel Expense	868.19		243.39	136.61	293.02	144.17			51.00
Sundry - Miscellaneous	984.99		577.57	70.00	286.43	694.55			645.49
Total	117234.16	5833.80	7766.63	36455.83	16154.46	12505.89	11228.57	4793.61	22495.37
Transfer to Underground Mining	17545.75	1152.04	1290.14	6778.68	176.51	2326.55	1078.53	732.98	3992.32
Total Pit Department Expense	99688.41	4681.76	6476.49	29677.15	15077.95	10179.34	10152.04	4040.63	18503.05
Transfer Ore Stock in Dumps	1491.14								
Net Total Pit Dep't. Expense	98197.27								

Smelter Depreciation

	Book value	Depreciate	
December 31, 1924	8922.721.40	670.611.95	7.51%
December 31, 1925	8652.323.86	748.821.64	8.65%
December 31, 1926	8524.779.09	607.698.53	7.12%
December 31, 1927	8239.070.12	592.705.29	7.20%
December 31, 1928	7594.202.25	564.614.72	7.43%

Capital Exp into Repairs (See Memo)

1925 -	90 side dump cars	\$ 23,360.19
1923 -	24 ore cars	\$ 56,831.93
1924 -	59 side dumps	15,829.01

Summary of Mine Expenditures

	<u>Book value</u> <u>before depletion</u>	<u>General Mine Repair</u>	<u>Depletion</u>	<u>TOTAL</u>
December 31 1924	2989.41x.18	191770.92	9767.	558705.12
December 31 1925	3073.18x.20	311,629.65	10,407.	597,082.59
December 31 1926	3145.689.38	265895.02	8457.	527,051.96
December 31 1927	3150277.15	261177.15	8297.	497881.52
December 31 1928	2858.04x.10	289262.72	10,127.	512922.85
				18197.

Graphs in 500' level

Bank value	Before depreciation	Value of graphs	Net Bank value	Depreciation	% Depreciation	± Bank value	Relative numbers
December 31. 1924	1.578.206.90	-	1578.206.90	122.108.47	7.80%	2536.53	
December 31. 1925	1.617.716.38	-	1617.716.38	131.278.92	8.11%	360.00	
December 31. 1926	1.620.362.49	-	1620.362.49	126.647.51	7.82%	8147.11	
December 31. 1927	1.623.126.27	-	1623.126.27	127.357.25	7.85%	2552.19	
December 31. 1928	1.675.565.51	32.80	1675.532.71	126.279.93	7.54%	17516.72	

Graphs in 300' level

December 31. 1924	916.533.24	-	916.533.24	102.808.26	11.11%	647.91	
December 31. 1925	960.711.20	14.486.15	966.197.35	119.012.08	12.58%	-	
December 31. 1926	1031.460.73	7635.84	1023.824.89	124.248.76	12.13%	5477.19	
December 31. 1927	1063.949.33	130,960.99	933.088.34	76.913.79	8.24%	245660.94	
December 31. 1928	718.247.32	75.284.38	642.962.94	63,847.95	9.93%	58,396.41	

Thompson's Garbage

December 31, 1924	242.727.37	-	242.727.37	17900.27	7.38%
December 31, 1925	243.112.95	-	243.112.95	12.750.28	5.24%
December 31, 1926	263.624.94	-	263.624.94	17322.71	6.57%
December 31, 1927	278.528.14	651.25	277.926.99	18.550.01	6.68%
December 31, 1928	274.106.49	-	274.106.49	18.252.06	6.70%

Handy Man's Garbage

December 31, 1924	251.644.67	-	251.644.67	22.114.20	9.18%
December 31, 1925	251.644.67	1126.50	250.508.17	22421.66	8.95%
December 31, 1926	250.221.22	-	250.221.22	12967.92	5.13%
December 31, 1927	184.613.41	-	184.613.41	12.872.22	7.51%
December 31, 1928	190.128.78	-	190.128.78	16.181.19	8.51%

Amurray & Mann's Garbage

December 31, 1924	2989412.18	-	2989412.18	266.924.20	8.93%
December 31, 1925	3073.185.20	15622.65	3057.522.55	225452.94	9.33%
December 31, 1926	3145.689.28	7625.84	3128.052.22	221.186.90	8.96%
December 31, 1927	3150.277.15	121512.24	3018.764.91	226.704.27	7.84%
December 31, 1928	2858.048.10	75317.18	2782720.92	224.661.12	8.07%

United Vaude 1931 $\frac{1}{2}$

11 June 1931

ORE RESERVES.

Definitely Established as of June 27, 1931.

CLASS	1000 TONS	%CU	- open Pit -		1000# Cu	OZ AU	1000 oz AG
			OZ AU	OZ AG			
M.S.	2357	4.05	.031	1.498	191,000		
B.B.	682	3.77	.031	1.498	51,400		
S.I.	492	5.45	.031	1.498	53,600		
Phy.	248	2.35	.031	1.498	11,650	118400	5,660
C.S.	105	1.63	.073	1.890	3,420	7660	199
TOTAL	3884	4.00	.0326	1.51	311,070	126060	5,859
Pit Ores							
Less Mined	146	4.46	.039	1.18	13,000	5725	172
Net Reserve	3738	3.99	.0322	1.52	298,070	120335	5,687
1935	3437	4.38					

DUMP ORES

OX #24	192	.53 .50	.100	2.83	2,035	19,288	546
C #28-34	894	.92 .79	.071	2.51	16,450	63,639	2,243
C.#25-26	25	1.12	.116	3.22	560	2,900	81
S.Bed.	61	4.32	.033	1.27	5,260	1,910	78
S #4	59	5.13	.032	1.41	6,070	1,873	83
TOTAL	1231	1.23	.073	2.46	30,375	89,610	3,030
Less Mined	21	1.17	.081	2.53	494	1,717	54
Net Reserve	1211	1.23	.073	2.46	29,881	87,893	2,976
	1113	.73	.077	2.61			

3000
MINE ORES ABOVE 3000 LEVEL

MASSIVE SULPHIDE

Sulphide	3885	5.55	.02	1.48	431,235	77,700	5,750
Iron	651	5.43	.02	1.90	70,700	13,020	1,237
TOTAL	4536	5.53	.02	1.54	501,935	90,720	6,987

SCHIST & POPYRY

Schist	3387	4.93	.01	.89	334,000	33,870	3,014
Porphyry	914	4.19	.01	.89	76,593	9,140	813
TOTAL	4301	4.77	.01	.89	410,593	43,010	3,827
TOTAL Mine Ore	8837	5.16	.015	1.22	912,528	133,730	10,814

RECAPITULATION OF PROVEN ORE

Pit Ores	3738	3.99	.073	2.46	298,070	120,335	5,687
Dump Ore	1211	1.23	.020	1.54	501,935	87,893	2,976
Sul & Iron	4536	5.53	.010	.89	410,593	90,720	6,987
Sch & Phy	4301	4.77	.0248	.0141	1,240,479	43,010	3,827
TOTAL	13786	4.50			2,451,077	341,958	19,477

Below 3000 1175 3.69

* Does not include Lat Extensions or Ext in depth

Does include Harriet.

PROBABLE ORES

(Grade)

Computation of Grade of Ore on 3000

<u>TYPE ORE</u>	<u>AREA</u>	<u>GRADE</u>	<u>AREA X GRADE</u>
Sulphide	12,840	5.09 %	653 ✓
	4,800	3.51	168 ✓
	1,760	4.51	79 ✓
	<u>19,400</u>	4.64 % ✓	<u>900</u> ✓
Schist	27,900	4.39 %	1226 ✓
	1,220	4.00	49 ✓
	5,320	4.70	250 ✓
	<u>34,440</u>	4.43 % ✓	<u>1525</u> ✓

Grade of Ore on 3450 level established by curve---Sulphide 3%
Schist 3.25% ✓

Average Grade $\frac{4.64 + 3.00}{2} = 3.82$ % for Sulphide

Average Grade $\frac{4.43 + 3.25}{2} = 3.84$ % for Schist

Computation for Grade Lateral Extensions:

<u>CLASS</u>	<u>tons</u>	<u>%Cu</u>	<u>ozAu</u>	<u>ozAg</u>	<u>1000 # Cu</u>	<u>ozAu</u>	<u>1000 ozAg</u>
All M.O.	8,837	5.16	.015	1.22	912,528	133,730	10,814
Below 3000	2,000	3.83	.014	1.13	153,280	28,000	2,252
TOTAL	<u>10,837</u>	<u>4.92</u>	<u>.0149</u>	<u>1.21</u>	<u>1,065,808</u>	<u>161,730</u>	<u>13,066</u>

PROBABLE ORE

(Tonnage)

Ore below 3000 level estimated at 2,000,000 Tons ✓
Lateral Extensions estimated at 1,500,000 Tons ✓
TOTAL TONNAGE PROBABLE ORE 3,500,000 Tons

RECAPITULATION PROBABLE ORE

<u>CLASS</u>	<u>1000 TONS</u>	<u>%CU</u>	<u>ozAU</u>	<u>ozAG</u>	<u>1000 # CU</u>	<u>ozAU</u>	<u>1000 ozAG</u>
below 3000	2000	3.83	.014	1.13	153,280	28,000	2.252
Lateral Ext.	1500	4.92	.015	1.21	147,600	22,350	1.815
TOTAL	<u>3500</u>	<u>4.30</u>	<u>.014</u>	<u>1.16</u>	<u>300,880</u>	<u>50,350</u>	<u>4.067</u>

SEGREGATION OF ORES AS TO TREATMENT

Below 3000 Level	60%	Schist,	40%	Sulphide
Lateral Extensions	49%	Schist,	51%	Sulphide

SCHIST & PORPHYRY ORES FOR SMELTING DIRECT

<u>Location</u>	<u>1000 Tons</u>	<u>% Cu</u>	<u>oz Au</u>	<u>ozAg</u>	<u>1000 # Cu</u>	<u>oz Au</u>	<u>1000 ozAg</u>
1650-1800	172	7.05	.01	.89	24,500		
1800-1950	103	7.27	.01	.89	14,800		
1950-2100	109	7.19	.01	.89	15,700		
TOTAL	<u>384</u>	<u>7.14</u>	<u>.01</u>	<u>.89</u>	<u>55,000</u>	<u>3,841</u>	<u>342</u>

SCHIST & PORPHYRY ORES FOR CONCENTRATING

Below 3000	1200	3.83	.014	1.13	91,968	16,800	1,351
Lateral Ext	735	4.92	.015	1.21	72,324	11,041	889
Proven ores	4301	4.77	.010	.89	410,593	43,010	3,827
TOTAL	<u>6236</u>	<u>4.61</u>	<u>.011</u>	<u>.97</u>	<u>574,885</u>	<u>70,851</u>	<u>6,067</u>
less 7%	384	7.14	.010	.89	55,000	3,841	342
Balance	<u>5852</u>	<u>4.44</u>	<u>.011</u>	<u>.98</u>	<u>519,885</u>	<u>67,010</u>	<u>5,725</u>
Less 20%	1170	4.44	.011	.98	103,973	13,402	1,145
Balance	<u>4682</u>	<u>4.44</u>	<u>.011</u>	<u>.98</u>	<u>415,912</u>	<u>53,608</u>	<u>4,580</u>

RECAPITULATION SMELTING MINE ORES

7% Schist	384	7.14	.01	.89	55,000	3,841	342
20% Bal	1170	4.44	.01	.98	103,973	13,402	1145
Sul M.O.	4536	5.53	.02	1.54	501,935	90,720	6987
40% Ext	800	3.83	.01	1.13	61,312	11,200	901
51% L. Ext	765	4.92	.01	1.21	75,276	11,399	926
TOTAL	<u>7655</u>	<u>5.21</u>	<u>.02</u>	<u>1.34</u>	<u>797,496</u>	<u>130,562</u>	<u>10301</u>

RECAPITULATION ALL ORES

Direct Smelting

Pit	3738	3.99	.032	1.52	298,070	120,335	5,687
Dump	1211	1.23	.073	2.46	29,881	87,893	2,976
Sulp	7655	5.21	.020	1.34	797,496	130,562	10,301
TOTAL	<u>12604</u>	<u>4.67</u>	<u>.027</u>	<u>1.50</u>	<u>1125,447</u>	<u>338,790</u>	<u>18,964</u>
27.07% → Conc.	4682	4.44	.011	.98	415,912	53,608	4,580
All Ores	17286	4.46	.023	1.36	1541,356	392,398	23,544

SEGREGATION OF MINE ORE AS TO COST

(Based on size of panels)

	<u>High Cost</u>	<u>Low Cost</u>
Below 3000	1,000,000	1,000,000
Above 1500	1,189,000	
Pillars below 1500	3,866,000	
Fire Stopes	1,243,000	
Open Stopes		2,539,000
Extensions	750,000	750,000
TOTALS	<u>8,048,000</u>	<u>4,289,000</u>
Percent	65%	35%

SEGREGATION AS TO WORKING PERIODS

1st Period---6 Years.

<u>CLASS</u>	<u>ANNUAL TONS</u>	<u>TOTAL TONS</u>	<u>% of RESERVE</u>
Pit Ores	623,000	3,738,000	100.00
Dump Ores	97,667	586,000	48.39
High Cost Mine Ores	346,667	2,080,000	
Low Cost Mine Ores	89,966	539,800	21.25
TOTAL	1,157,300	6,943,800	

2nd Period---9 Years.

		625,000	
Dump Ores	69,440	5,969,000	51.61
High Cost Mine Ore	663,311	3,747,000	
Low Cost Mine Ore	416,356		78.75
TOTAL	1,149,111	10,342,000	

1st Period
 Pit & dump ores 62% of production
2nd Period
 Dump ores 6%
 Average grade not pd.

METAL RECOVERIES

TREATMENT RECORD

Iron Production Record pg 5.

<u>YEAR</u>	<u>TONS TREATED</u>	<u>TONS MILLED</u>	<u>% MILLED</u>
1927	1,304,000	277,413	20.6
1928	1,590,000	433,151	27.2
1929	1,737,000	473,295	27.4
1930	938,000	256,540	27.3
<i>Future</i>	17,286,000 ✓	4,682,000 ✓	<u>27.1</u>

Ave 27.3%

RECOVERY OF COPPER (*Kuzall's Figures pg. 20-21*)

<u>YEAR</u>	<u>PRODUCED</u>	<u>RECOVERY</u>	<u>CONTENT</u>
1927	99,969,654	92.80	107,726,000 pounds
1928	118,151,126	91.94	128,509,000
1929	142,290,460	91.64	155,271,000
1930	70,720,014	91.57	77,231,000
Average	431,131,250		468,737,000
Refinery	432,211,900	91.79	469,674,000

RECOVERY OF GOLD

<u>YEAR</u>	<u>PRODUCED</u>	<u>RECOVERY</u>	<u>CONTENT</u>
1927	55,897	95.00	58,839 oz
1928	55,395	93.80	59,056
1929	62,096	93.35	66,519
1930	42,938	92.35	46,495
	216,326	93.68	230,909

RECOVERY OF SILVER

1927	2,096,681	93.00	2,254,496
1928	2,113,174	91.03	2,321,405
1929	2,092,418	89.39	2,340,774
1930	1,413,333	88.69	1,593,566
	7,715,606	90.66	8,510,241

NET RECOVERIES

Copper 91.79%-----Gold 93.68%-----Silver 90.66%

Above recoveries based upon figures submitted by C R Kuzall (pg 20-21) losses include slag stack + tailings losses.

METAL RECOVERIES

PIT ORES

	<u>Pounds Cu.</u>		<u>Ounces Au.</u>		<u>Ounces Ag.</u>
Metals Contained	298,070,000		120,335		5,687,000
Recovery	91.79%		93.68%		90.66%
Total Recovery	273,598,000		112,730		5,156,000

DUMP ORES

Metals Contained	29,881,000		87,893		2,976,000
Recovery	91.79%		93.68%		90.66%
Total Recovery	27,434,000		82,338		2,698,000
48.39% 1st period	13,275,000		39,843		1,306,000
51.61 % 2nd "	14,159,000		42,495		1,392,000

MINE ORES

Metals Contained	1,213,408,000		184,170		14,881,000
Recovery	91.79%		93.68%		90.66%
Total Recovery	1,113,787,000		172,530		13,491,000
21.25% 1st Period	236,680,000		36,663		2,867,000
78.75% 2nd Period	877,107,000		135,867		10,624,000

SUMMARY OF METAL RECOVERIES

<u>PERIOD</u>	<u># COPPER</u>	<u>#/TON</u>	<u>OZ GOLD</u>	<u>OZ SILVER</u>
1st Period	523,553,000	75.4	189,236	9,329,000
2nd Period	891,266,000	86.2	178,362	12,016,000
TOTAL RECOVERY	1,414,819,000		367,598	21,345,000
Per Ton		81.8	.0213	1.235
Annual Prod 1st	87,259,000	31.540	31,546	1,554,834
Annual Prod 2nd	99,030,000	19.818	19,818	1,335,111

STOPE COST DETAILS

CHART #7

1925

<u>TYPE STOPE</u>	<u>TONNAGE</u>	<u>% TOTAL TONS</u>	<u>AVE. COST</u>
Sq. Set	137,500	14.9	\$ 1.77 ✓
Top Slice	68,253	7.4	2.26 ✓
TOTAL	205,753	21.4	1.94 ✓
C & F	489,000	52.9	1.11 ✓
Shrinkage	122,000	13.2	.61 ✓

1926

Sq. S.	125,500	16.4	1.78
T. S.	98,114	12.8	1.80
TOTAL	223,614	29.2	1.79
C & F.	442,000	57.6	1.08
Shr.	43,400	5.7	.73

1927

Sq. S.	130,500	18.8	1.60
T. S.	172,000	24.8	1.74
TOTAL	302,500	43.6	1.68
C. & F.	378,000	54.4	1.04
Shr.	9,076	1.3	1.89

1928

Sq. S.	154,000	20.6	1.61
T. S.	141,000	18.8	1.67
TOTAL	295,000	39.4	1.64
C. & F.	446,000	59.5	1.04
Shr.	7,600	1.0	1.79

1929

Sq. S.	181,500	26.1	1.94
T. S.	47,000	6.9	2.00
TOTAL	228,500	33.0	1.96
C. & F.	446,000	65.2	1.20
Shr.	9,300	1.4	1.05

1930

High Cost Open Stopes	89,500	1.11	
Low Cost Timber	151,000	1.78	
		37.5	1.82
		62.5	1.16

Ave High Cost Stopes 1.78
 " Low Cost Stopes 1.11

Total H.C. = 1406,000 Tons = 35.5%
 " L.C. = 2543,000 = 64.5%
 Total Tons = 3949,000
 Actual 4,339,000

DETAILS OF COSTS

ITEMS CHARGEABLE TO MINE ORES

<u>ITEM</u>	<u>YEAR</u>	<u>AVE.</u>	<u>FUTURE COST</u>
1. High Cost	25-29	\$ 1.78	\$ 1.61
Space → 2. Low Cost Stope	25-29	1.11	1.05
→ 3. Service to Stope	24-29	.69	.60
→ 4. Hoisting	23-29	.13	.15
Development	23-30	.40	.20
Diamond Drill	"	.07	.02
Drainage	"	.06	.08
Ventilation	"	.12	.18
Mine Fires	"	.03	.03
General Repairs	"	.36	.25
Shafts & stations	"	.09	.05
TOTAL GENERAL MINE CHARGES		\$ 1.26	\$.96

ITEMS CHARGEABLE TO ALL ORES

5. Hopewell hlg	23-30	.09	.07
Frt to Clarkdale	"	.17	.13
Gen Mine exp	"	.21	.15
Mine Superintendence	"	.17	.15
Injuries & damages	"	.05	.05
Insurance	"	.01	.01
TOTAL		.70	.56

ITEMS CHARGEABLE TO PIT ORES

6. Shovel Mining and D. R.	23-30	.48	.36
* Deferred Charges	"	1.19	.14
TOTAL		.67	.43

ITEMS CHARGEABLE TO DUMP ORES

7. Reclamation (future estimate) F.O.B. Hopewell			.30
--	--	--	-----

ITEMS CHARGEABLE TO ALL ORES

8. Treatment	27-31	1.90	1.65
Frt, rfg, selling	23-30	1.75	1.75
Administration	"	.21	.15
Depreciation	"	.56	.56
Hosp & dwelling	"	.01	.01
TOTAL		4.43	4.12
		2.12	1.81

* Striping

TOTAL CHARGES AGAINST ORES

LOW COST ORES

<u>ITEM</u>	<u>PAST AVERAGE</u>		<u>FUTURE COSTS</u>	
Stopping	1.11	-06	1.05	} # 3.17
Service	.69	-09	.60	
General Mining	1.26	-30	.96	
Haulage, etc.	.70	-14	.56	
Treatment	4.43	-31	4.12	
TOTAL	<u>8.19</u>		<u>7.29</u>	

OK

-12 0/0

\$ 3.17

HIGH COST STOPES

Stopping	1.78		1.61	} 3.73
Service	.69		.60	
General Mg	1.26		.96	
Haulage, etc	.70		.56	
Treatment, etc	4.43		4.12	
TOTAL	<u>8.86</u>		<u>7.85</u>	

OK

-11 30/0

PIT ORES

Shoveling	.48		.29	} F.O.B. Dark
Deferral Charges	.19		.14	
Hauling, etc	.70		.56	
Treatment, etc	4.43		4.12	
TOTAL	<u>5.80</u>		<u>5.11</u>	

F.O.B. Mine Bins.

*99¢ F.O.B. Dark
-11.7 0/0*

DUMP ORES

Reclamation	.30		.30	} 2.12
Hlg (less Hopewell)	.61		.49	
Treatment, etc	4.43		4.12	
TOTAL	<u>5.39</u>		<u>4.91</u>	

-9 1/0

*5.80
1.75
4.05
5.80*

*6.21
1.75
5.46
8.52*

*5.36
1.75
5.6
7.62*

2.30

TEST OF AVERAGES

(1926-1929)

Low Cost	1,781,000	@ 8.19	\$ 14,586,390
High Cost	1,051,000	@ 8.86	9,311,860
Pit Ores	<u>3,000,000</u>	@ 5.80	<u>17,400,000</u>
	5,832,000		\$ 41,298,250 ✓
Taxes			4,018,000 ✓
Deferred Chgs. (0.15 bet 7.50 and .19 x 3,000,000)			3,930,000 ✓
Difference in hgle			<u>991,000</u> ✓
TOTAL SPENT			50,237,250 ✓
Actual experience		8.50	<u>49,834,000</u> ✓
Difference			\$ 403,250 ✓
% Accuracy			0.8%

REPLACEMENTS

Plant & Equipment

Smelter	7,528,000
Mine	<u>2,686,000</u>
Total	10,214,000

Replacements .59 x 85% .50 per ton

UNITED COSTS OF OPERATIONS

Before Taxes & Selling

	<u>LOW COST ORES</u>	<u>HIGH COST ORES</u>	<u>PIT ORES</u>	<u>DUMP ORES</u>
Less selling	\$ 7.29	\$ 7.85	\$ 5.11	\$ 4.91
Less past depreciation	1.75	1.75	1.75	1.75
Less past depreciation	.56 } .06	.56	.56	.56
Add future depreciation	<u>.50</u>	<u>.50</u>	<u>.50</u>	<u>.50</u>
	\$ 5.48	\$ 6.04	\$ 3.30	\$ 3.10
	5.19 5.62	5.54 6.12		

FUTURE TAXES

State & County

5.11
2.31
2.80

FIRST PERIOD

SECOND PERIOD

Average Assessment

Average Assessment

\$26,500,000
@ 1.79135
\$ 0.0055
per lb.
\$ 0.414
per ton

\$12,500,000
@ 1.79135
\$ 0.0023
per lb.
\$.198
per ton

729
231
4.98

CAPITAL CHARGES

OPEN PIT

372,442 yds	@ 50¢	\$ 186,221
4458 000 00 "	@ 75¢	3,343,500
TOTAL		<u>\$3,529,721</u>
Defer 1/2 yr	@ 5% .97619	\$3,445,678

#7 SHAFT

Estimate to 3000 level	\$1,035,000	\$ 985,714
Defer 1 year @ 5%		
Estimate 3000-3600	\$ 233,000	117,683
Defer 13 years @ 5%		

SHUT DOWN EXPENSE

1931.

\$33,852,425 x 1.79 x .976	591,407
Other Shut down expense	272,515
TOTAL shut down expense	864,022

LEACHING PLANT

<u>TONS</u>	<u>COPPER</u>	<u>TONS RECOVERABLE CU</u>
2,604,000	.61	16,244
Recovered to July 1, 1931		1,190
Balance		<u>15,054</u>
Estimated recoverable		7,500
Estimated profit @ 8¢		\$1,200,000
Life 12 years--discount 7-4		.610277
Present worth		\$ 732,000
Less all taxes 14%		102,480
Net worth June 27, 1931		<u>\$ 629,520</u>

Values will bring to date

SALVAGE OF EQUIPMENT

Mine & smelter equipment	\$10,661,000
Junk value at 6%	639,660
Present worth (16 years, disc @ 5% factor) 1/21829	---\$293,000

SUMMARY OF VALUATION

UNITED VERDE MINE

June 27, 1931.

ORE RESERVES	17,286,000	Tons		
ASSAY VALUE	<u>COPPER</u>	<u>GOLD</u>		<u>SILVER</u>
	446%	.023 oz		1.36 oz
Metal Content	1,541,356,000#	392,398 oz		23,544,000 oz
% Recovery	91.79	93.68		90.66
Metals Recoverable	1,414,811,000#	367,598 oz		21,345,000 oz
Per Ton (average)	81.8 #	.0213 oz		1.235 oz

Life of Enterprise-----1st period 6 years
2nd period 9 years
Deferment 1 year
TOTAL 16 years

Annual Production	<u>1st period</u>	<u>2nd period</u>
Tons ore	1,157,465	1,149,111
# Copper	87,259,000	99,030,000

Prices---copper 12¢/#;	Gold \$20.50/oz;	Silver 35¢/oz
Average Value copper	\$9.82 per ton	12.00¢ per lb
Gross cost production	6.82 per ton	8.33¢ per lb
Gold Credit \$.44		.53¢
Silver Credit <u>.43</u>	<u>.87</u> "	<u>.51¢</u> <u>1.04</u> "
Net Cost before Fed tax	5.95	7.29¢ "
Profit before Fed taxes	3.87	4.71¢ "

VALUATION DETAILS

(Cont'd)

Total profit before federal taxes:

1st period

Total profit before fed. tax	\$ 28,115,096
Federal tax after depletion 12%	837,685
Profit after federal tax	\$ 27,277,411

Deferment Period:

Discount 6yrs @ 7% ⁴ & 4% f	.754961	(Hoskold)
Defer 1 " @ 5% f	1/1.0500	
Combined factor	.71901	
Present worth 1st period		19,612,731

2nd period

Total profit before fed. taxes	39,373,062
Federal tax after depletion 12%	356,506
Profit after Federal tax	\$ 39,016,556

Deferment Period:

Discount 9 yrs @ 7% ⁴ & 4% f	.675476
Defer 7 yrs @ 5% f	1/1.4071
Combined factor	.480048
Present worth 2nd period	18,729,829

Present worth before capital charges \$ 38,342,560

Add salvage value plant & equipment 293,000
Leaching dump at Hopewell 629,520

TOTAL 39,265,080

Deduct Capital Expenditures:

Open Pit expense	\$3,445,678
#7 Shaft to 3000 lev	985,714
# to 3600 lev	117,683
1931 tax deferred	591,407
Shut down expense	272,515
	<u>5,412,997</u>

Net present worth ore Reserves & Plant \$ 33,852,083

Deduct Assessed value at plant 7,339,000

Worth producing mine June 27, 1931 \$ 26,513,083

KONSELMAN

The original net profits of his valuation, adjusted for the correct Federal taxes, and discounted and deferred at 7% risk

1st Period:

Factors - discount 7/4 for 6 years	.754961
deferment 1 year at 7%	.934579
Combined factor	.705571

$$\text{Fed Tax Factor} = \frac{1 - .12}{1 - (.12 \times .705571)} = \frac{.88}{1 - .08466852} = \frac{.88}{.91533148} = .961400$$

Net profit before deducting Fed. Taxes	\$28,115,096
Net profit after deducting Fed. Taxes	
\$28,115,096 x .961400	27,029,853
Federal Tax	\$ 1,085,243

Discount:- \$27,029,853 @ .705571 = \$19,071,480

2nd Period:

Factors - discount 7/4 for 9 years	.675476
deferment 7 years at 7%	.622750
Combined factor	.420653

$$\text{Fed. Tax Factor} = \frac{1 - .12}{1 - (.12 \times .420653)} = \frac{.88}{1 - .05047836} = \frac{.88}{.94952164} = .926782$$

Net profit before deducting Federal Taxes	\$39,373,062
Net Profit after deducting Federal Taxes	36,490,245
Federal Taxes	\$ 2,882,817

Discount: - 36,490,245 x .420653	\$15,349,731
Add present value for first period, above	19,071,480
Total present value	\$34,421,211
(Both Periods)	

Total present value, above	\$34,421,211
Add salvage value of plant	293,000
Value of leach dumps	629,520

	\$35,343,731
Deduct preliminary expense	5,412,997
Present Value 6/27/31 of equipped reserves	\$29,930,734
Less assessed value of plant	7,339,000
Value of producing mine 6/27/31	\$22,591,734

VALUATION DETAILS

1ST PERIOD TO EXTEND OVER LIFE OF OPEN PIT

MINING SCHEDULE 6 YEARS

<u>CLASS</u>	<u>ANNUAL TONS</u>	<u>TOTAL TONS</u>	<u>COST/TON</u>	<u>TOTAL</u>
Pit	623,000	3,738,000	3.30	12,335,400
dump	97,833	586,000	3.10	1,816,600
High Cost	346,666	2,080,000	6.04	12,563,200
Low cost	<u>89,966</u>	<u>539,800</u>	<u>5.48</u>	<u>2,958,104</u>
TOTAL	1,157,465	6,943,800	4.27	29,673,304
Freight, refining & selling			1.32	9,162,177
State & County taxes			<u>.41</u>	<u>2,846,958</u>
Total Gross Cost			6.00	<u>41,682,439</u>
Cr 189,236 oz Au @ \$20.50				3,879,338
Cr 9,329,000 oz Ag @ .35				<u>3,164,950</u>
TOTAL CREDITS			<u>1.01</u>	<u>7,044,288</u>
Cost before Federal tax			4.99	\$34,638,151
Per pound for 523,553,000#				.0662 <i>cost</i>
Estimated Selling price				<u>.1200</u>
Profit before Federal taxes				.0538 ✓
Depletion allowance				<u>.0407</u>
Excess profit for Federal Tax				.0131
Federal tax estimated @ 12%				<u>.0016</u>
Net profit after all charges				.0522
TOTAL profit on 523,553,000#				<u>\$27,277,411</u>
Worth 6 years 7%--4% f.754961 ✓				
Defer 1 year @ 5% factor 1/1.05 ✓				
Combined factor .71901				
WORTH JUNE 27, 1931				\$19,612,731

VALUATION DETAILS

2ND PERIOD TO EXTEND FROM TIME OPEN PIT IS EXHAUSTED

MINING SCHEDULE 9 YEARS

<u>CLASS OF ORE</u>	<u>ANNUAL TONS</u>	<u>TOTAL TONS</u>	<u>COST/TON</u>	<u>TOTAL COST</u>
Dump	69,444	625,000	\$3.10	1,937,500
High cost mine	663,311	5,969,800	6.04	36,057,592
Low cost mine	<u>416,356</u>	<u>3,747,200</u>	<u>5.48</u>	<u>20,534,656</u>
TOTALS	1,149,111	10,342,000	5.66	58,529,698
Frts, refining & selling			1.51	15,597,155
State & County taxes			<u>.20</u>	<u>2,068,400</u>
TOTAL gross cost			\$7.37	<u>76,195,253</u>
Credit 178,362 oz Au @ \$20.50				3,656,421
" 12,016,000 oz Ag @ .35				<u>4,205,600</u>
TOTAL CREDITS			<u>.76</u>	<u>7,862,021</u>
Cost before Federal tax			\$6.61	68,333,232
Per pound for 891,266,000#				.0767
Estimated Selling price				<u>.1200</u>
Profit before Federal taxes				.0443
Depletion allowance				<u>.0407</u>
Excess for Federal taxes				.0036
Federal tax estimated @ 12%				<u>.0004</u>
Net profit after all charges				.0439
TOTAL profit on 891,266,000#				\$39,016,556
Worth 9 years 7%-4% factor ¹⁶ .675487 ✓				
Defer 7 years @ 5% " 1/1.4071 ✓				
Combined factor .480057 48				\$18,730,171 729,829

VALUATION DETAILS

(Cont'd)

CASH VALUE JUNE 27, 1931.

First period	\$ 19,612,731
Second period	^{129,829} <u>18,730,171</u>
Cash Value	38,542,902 38,342,560
Value Leaching Dump	629,520
Salvage Value equipment	<u>293,000</u>
TOTAL VALUE	\$39,265,422 39,265,080

DEDUCTIONS

Open Pit Expense	\$ 3,445,678
#7 Shaft to 3000 level	985,714
#7 Shaft 3000-3600 level	117,683
1931 taxes deferred $\frac{1}{2}$ yr.	593,407
Estimated shut down exp.	<u>272,515</u>
TOTAL	\$ 5,412,997

Full Cash Value June 27, 1931	33,852,425 33,852,083
Less assessed value plant "	<u>7,339,000</u>
Cash Value Producing Mine "	\$26,513,425 26,513,083 083

1217 000

PHELPS DODGE CORPORATION
United Verde Branch

MISCELLANEOUS COSTS - Feb. 19 to June 30, 1935, Incl.

GENERAL DEPARTMENT EXPENSE

February 19-28	\$ 1602.11
March	3482.78
April	5862.03
May	6623.55
June	<u>4195.21</u>
TOTAL	21765.68

WESTERN OVERHEAD

February 19-28	4865.96
March	15951.58
April	11203.63
May	11269.03
June	<u>11946.32</u>
TOTAL	55236.52

EASTERN OVERHEAD

February 19-28	3971.13
March	12881.02
April	15201.16
May	15443.30
June	<u>16199.94</u>
TOTAL	63696.55

Note: Eastern Overhead varies according to production, being based on .4¢ per lb. copper produced.

Miscellaneous Costs Feb. 18 to June 30, 1935, Incl. - Page 2

<u>TAXES</u>	<u>TOTAL</u>	<u>State, County and Local</u>	<u>Sales</u>	<u>Misc'l.</u>
Feb. 19-28	\$ 10307.02	\$ 9508.18	\$ 798.84	
March	33432.42	30840.11	2591.15	1.16
April	39554.21	36487.39	3065.62	1.20
May	40184.27	37068.67	3114.45	1.15
June	42153.10	38884.98	3267.04	1.08
TOTAL	\$ 165631.02	\$ 152789.33	\$ 12837.10	\$ 4.59

Freight, Refining & Selling varies according to production.
Rate is 1.385¢ per lb. copper produced.

Depreciation rate is .95¢ per lb. copper produced.

Ore Transportation costs paid V. T. & S. RR Co.

Freight rate, Hopewell to Clarkdale	18¢ per ton
" " Jerome " "	28¢ " "

SMELTING & CONVERTING
Plant Summary

	TOTAL COST	Preparation of Ore	Roasters	Reverberatories	Converters	Smelter Dep't Expense	Assaying
Operating Labor	18875.87	4448.91	3005.77	3690.63	5852.46	1503.08	375.02
Repair Labor	6089.49	2347.09	1298.22	1030.05	984.32	345.07	84.74
Salaries	4179.57	375.00	86.66	86.67	286.67	2284.57	1060.00
Total Labor	29144.93	7171.00	4390.65	4807.35	7123.45	4132.72	1519.76
Operating Supplies	3815.11	92.41	20.39	354.94	2967.84	169.37	210.16
Pulverized Coal	19907.26			19907.26			
Fuel Oil	310.71		222.44		47.36		40.91
Repair Supplies	5932.67	1502.75	736.77	1020.33	2560.07	92.69	20.03
Total Supplies	29965.75	1595.19	979.60	21282.53	5575.27	262.06	271.10
Power	10616.99	1727.57	1626.32	1314.36	5340.74	385.32	222.68
Water	103.68	25.92	25.92	19.44	32.40		
Light	370.60	110.27	105.94	97.78	52.81	3.80	
V.T. & S. Engine Service & Switching	210.20	210.20					
Industrial Transportation System	962.63	746.77			210.03	5.83	
State Compensation Premiums	600.00					600.00	
Sundry - Miscellaneous	341.47	125.50		6.20		209.77	
Transfer-Smelter Assay Office	844.18	439.35	222.36	136.50	371.05		2013.54
Transfer - Fuel Credit	11426.77			11426.77			
Transfers - Miscellaneous	3896.45	3549.11	857.73	245.07	612.66	347.74	
Direct Process	56148.85	8602.66	6493.06	16482.36	19318.41	5252.16	
Revert Treatment Debit	5107.75			88.11	5019.64		
Total Process	61256.60	8602.66	6493.06	16570.67	24338.05	5252.16	
Revert Treatment Credit	5107.75	541.01		4566.74			
Smelting & Converting	56148.85	8061.65	6493.06	12003.93	24338.05	5252.16	
Total Process Unit Cost	N.M.B.M.	N.M.B.M.	Charge Proper	Solid Charge Proper	Copper	N.M.B.M.	
Apparatus Unit Tonnage this month	30,691	30,691	31,047	28,215	2030,1145	30,691	
" " " year to date	137,199	137,199	135,317	126,242	7976,881	137,199	
Unit Cost this month		.263	.209	.425	11.989	.171	
" " " year to date		.281	.211	.412	11.996	.172	.012
Total Smelting & Converting Cost							
Per ton N.M.B.M. this month	1.829	.263	.211	.391	.793	.171	
" " " year to date	1.750	.281	.208	.379	.698	.172	.012
Pounds Salable Copper	Pounds Copper						
Per lb. cu. this month	4,049,986	1.386	.199	.160	.296	.601	.130
" " " year to date	15,924,135	1.508	.242	.179	.327	.601	.148

TOTAL SMELTING & CONVERTING COST

Cost by Processes

	Amount	Cost per Ton N.M.B.M.		Cost per Lb. Salable Copper Produced		Cost per Ton Copper in Bullion Produced	
		This Month	Year Date	This Month	Year Date	This Month	Year Date
Unloading	638.00	.021	.019			.314	.331
Crushing	4595.66	.150	.177			2.264	3.053
Stockpiling	34.07	.001	.004			.017	.061
Bedding	481.73	.016	.010			.237	.167
Sampling & Assaying	399.72	.013	.009			.197	.160
Reclaiming	1912.47	.062	.062			.942	1.061
Preparation Total	8061.65	.263	.281	.199	.242	3.971	4.833
Assaying			.012				.212
Roasters	6493.06	.211	.208			3.198	3.576
Reverberatories	12003.93	.391	.379			5.913	6.521
Converters	24338.05	.793	.698			11.989	11.996
Reduction Total	42835.04	1.395	1.297	1.057	1.118	21.100	22.305
Total Preparation & Reduction	50896.69	1.658	1.578	1.256	1.360	25.071	27.138
Smelter Departmental Expense	5252.16	.171	.172	.130	.148	2.587	2.963
Total Smelting & Converting	\$ 56148.85	1.829	1.750	1.386	1.508	27.658	30.101

Cost by Elements

Payroll	\$ 29144.93	.950	.862			14.356	14.821
Supplies issued	9747.78	.317	.352			4.802	6.046
Fuel	20217.97	.659	.672			9.959	11.567
Total Supplies	29965.75	.976	1.024			14.761	17.613
Power	10616.99	.346	.302			5.230	5.202
Water & Light	474.28	.015	.010			.234	.176
V.T. & S. Engine Service & Switching	210.20	.007	.010			.104	.165
Industrial Transportation System	962.63	.031	.017			.474	.294
State Compensation Premium	600.00	.019	.017			.295	.286
Sundry - Miscellaneous	341.47	.011	.013			.168	.224
Transfer - Smelter Assay Office	844.18	.027	.020			.416	.344
" - Sales & non-operating			.001				.020
" - Fuel Credit	11426.77	.372	.354			5.629	6.082
" - Miscellaneous	3896.45	.127	.130			1.919	2.234
Total Smelting & Converting	\$ 56148.85	1.829	1.750	1.386	1.508	27.658	30.101

This Month Year to Date

Tons N.M.B.M. Treated	30,691	137,199
Tons Copper Produced in Bullion	2030.1145	7976.381
<u>Pounds Salable Copper</u> Actual Production	4,049,986	15,924,135

PREPARATION of ORES

	<u>TOTAL</u>	<u>Unloading</u>	<u>Crushing</u>	<u>Stockpiling</u>	<u>Stocking Crushed Ore</u>	<u>Bedding</u>	<u>Reclaiming</u>	<u>Sampling and Assaying</u>
Operating Labor	4048.91	244.91	2139.38	110.90	414.78	144.93	1220.76	173.25
Repair Labor	2347.09	11.37	1099.10	49.78	587.63	165.44	430.02	3.75
Salaries	375.00		375.00					
Total Labor	7171.00	256.28	3613.48	160.68	1002.41	310.37	1650.78	177.00
Operating Supplies	92.41		16.02		1.39		75.00	
Repair Supplies	1502.78	3.09	1364.54	17.54	3.26	23.17	91.18	
Total Supplies	1595.19	3.09	1380.56	17.54	4.65	23.17	166.18	
Electric Power	1408.17	.37	1118.04	89.90		182.35	17.51	
High Pressure Air	319.40		252.83				66.57	
Industrial Transportation System	746.77	735.10	11.67					
Water	25.92		25.92					
Lights	110.27		110.27					
V.T. & S. Eng. Service & Switching	210.20	210.20						
Sundry - Miscellaneous	125.50		1.50				124.00	
Total Direct	11712.42	1205.04	6514.27	268.12	1007.06	515.89	2025.04	177.00
Proportion Smelter Assay Office	439.35							439.35
Total Process	12151.77	1205.04	6514.27	268.12	1007.06	515.89	2025.04	616.35
Revert Treatment Credit	541.01	64.95	329.33			34.16	112.57	
Silica " "	63.06	5.65	57.41					
Transfer - Handling Concentrator Ore	473.29	104.26	321.73	47.30				
Transfer - Ore Stock in Dumps	302.76	392.18	1210.14	186.75	1007.06			216.63
Net Process	8061.65	638.00	4595.66	34.07	-	481.73	1912.47	399.72

	<u>Unloaded</u>	<u>Crushed</u>	<u>Stockpiled</u>	<u>Bedded</u>	<u>Reclaimed</u>	<u>N.M.B.M. Sampled</u>
Total Process Unit Cost						
Apparatus Unit Tons this month	30,433	31,600	3,360	28,989	31,539	30,691
" " " year to date	146,878	147,640	20,355	87,148	138,107	94,193
Unit Cost this month	.021	.145	.010	.017	.061	.013
" " year to date	.018	.165	.024	.015	.061	.014
	<u>Tons</u>					
Total Smelting & Converting Cost						
Per ton N.M.B.M. this month	30,691	.263	.021	.150	.001	.016
" " N.M.B.M. year to date	137,199	.281	.019	.177	.004	.010
Pounds Salable Copper	<u>Lbs. Copper</u>					
Per lb. Cu. this month	4,049,986	.199	.016	.113	.001	.012
" " " year to date	15,924,135	.242	.017	.153	.003	.008

Phelps Dodge Corporation
 United Verde Branch

Clarkdale Smelter
 Costs: June, 1935

UNLOADING & STOCKPILING & STOCKING CRUSHED ORE

	<u>UNLOADING</u>		<u>STOCKPILING</u>		<u>STOCKING CRUSHED ORE</u>	
	<u>Amount</u>	<u>Per Ton</u>	<u>Amount</u>	<u>Per Ton</u>	<u>Amount</u>	<u>Per Ton</u>
Operating Labor	244.91	.004	110.90	.004	414.78	.022
Repair Labor	11.37		49.78	.002	587.63	.032
Operating Supplies					1.39	
Repair Supplies	3.09		17.54	.001	3.26	
Electric Power	.37		89.90	.003		
Industrial Trans. Sys. (Prop.)	735.10	.013				
V.T. & S. Engine Service	210.20	.004				
Total Process	1205.04	.021	268.12	.010	1007.06	.054
Revert. Treatment Credit	64.95	.021				
Silica " "	5.65	.021				
Cr. Unload. & Stockpiling concentrator ore	104.26	.021	47.30	.010		
Cr. Ore Stock in Dumps	392.18	.021	186.75	.010	1007.06	.054
Net Process	638.00	.021	34.07	.010		
Total Tons Handled	57,435		26,765		18,675	
Revert. " "	3,093					
Silica " "	269					
Concentrator Tons Handled	4,965		4,730			
Cr. Ore Stock in Dumps	18,675		18,675		18,675	
Smeltr. tons handled	30,433		3,360			
Total Tons Handled - Year	237,531		61,180		27,860	
Cost per ton - this month		.021		.010		.054
Cost per ton - this year		.019		.021		.058

CRUSHING

	<u>TOTAL COST</u>		<u>COARSE CRUSHING</u>		<u>FINE CRUSHING</u>		<u>Crusher Plant Expense</u>	<u>Dust Collecting Expense</u>
	<u>Amount</u>	<u>Per Ton</u>	<u>Amount</u>	<u>Per Ton</u>	<u>Amount</u>	<u>Per Ton</u>		
Operating Labor	2139.38	.037	1004.70	.018	587.14	.033	367.14	180.40
Repair Labor	1099.10	.019	538.36	.009	416.09	.023	15.30	129.15
Salaries	375.00	.007					375.00	
Operating Supplies	16.02		.52		1.18		14.32	
Repair Supplies	1364.54	.024	849.05	.015	431.98	.024	80.95	2.56
Electric Power	1118.04	.020	385.73	.007	525.30	.029		207.01
Lights	110.27	.002					110.27	
High Pressure Air	252.83	.004	172.95	.003	79.88	.005		
Water	25.92	.001					25.92	
Industrial Transportation System (Prop.)	11.67						11.67	
Sundry Miscellaneous	1.50						1.50	
Transfer - Crusher Expense			501.03	.009	501.04	.028	1002.07	
" - Dust Collecting			259.56	.004	259.56	.015		519.12
Total Process	6514.27	.114	3712.10	.065	2802.17	.157		
Revert Treatment Credit	329.33	.189	112.95	.065	216.38	.157		
Silica " "	57.41	.213	17.43	.065	39.98	.157		
Concentrator " "	321.73	.065	321.73	.065				
Ore Stock in Dumps "	1210.14	.065	1210.14	.065				
Net Process	4595.66	.145	2049.85	.065	2545.81	.157		
Total Tons Handled	57,252		57,252		17,870			
Revert. " "	1,743		1,743		1,380			
Silica " "	269		269		255			
Concentrate Tons Handled	4,965		4,965		-			
Ore Stock in Dumps	18,675		18,675					
Smelter Dumps Handled	31,600		31,600		16,235			
Total Tons handled - year	236,943		236,943		159,410			
Cost per ton this month		.114		.065		.157		
" " " " year		.159		.069		.134		

Repair Supplies Include -

- 1 Bushing for jaw crusher
- Stationary jaw plate
- 12 Hammer Screens
- Disc #10 for Symons Crusher
- Roll Shell Heart
- 2 sheets for Feeders
- Babbitt for Motors

\$ 167.72
244.09
200.41
175.94
94.50
108.71
81.94
\$ 1073.31

Phelps Dodge Corporation
 United Verde Branch

Clarkdale Smelter
 Costs: June, 1935

BEDDING

	<u>Amount</u>	<u>Per ton</u>
	\$	
Operating Labor	144.93	.005
Repair Labor	165.44	.005
Repair Supplies	23.17	.001
Electric Power	182.35	.006
Total Process	<u>515.89</u>	<u>.017</u>
Revert Treatment Credit	34.16	.017
Net Process	481.73	.017
Total Tons Handled	31,047	
Revert " "	2,058	
Smelter " "	28,989	
Total Tons Handled - Year	92,642	
Cost per ton - this month		.017
" " " - " year		.015

SAMPLING and ASSAYING

Operating Labor	173.25
Repair Labor	3.75
Prop. Smelter Assay Office	<u>439.35</u>
Total Process	616.35
Transfer - Ore Stock in Dumps	<u>216.63</u>
Net Process	\$ <u><u>399.72</u></u>

Phelps Dodge Corporation
 United Verde Branch

Clarkdale Smelter
 Costs: June, 1935

RECLAIMING

	<u>TOTAL COST</u>		<u>RECLAIMING FOR ROASTERS</u>		<u>RECLAIMING FOR CONVERTERS</u>	
	<u>Amount</u>	<u>Per Ton</u>	<u>Amount</u>	<u>Per Ton</u>	<u>Amount</u>	<u>Per Ton</u>
Operating Labor	\$ 1220.76	.036	1065.24	.034	155.52	.061
Repair Labor	430.02	.013	296.00	.010	134.02	.052
Operating Supplies	75.00	.002	73.68	.002	1.32	.001
Repair Supplies	91.18	.003	55.55	.002	35.63	.014
Electric Power	17.51	.001	17.51	.001		
High Pressure Air	66.57	.002	66.57	.002		
Sundry Miscellaneous	124.00	.003	124.00	.004		
Total Process	2025.04	.060	1698.55	.055	326.49	.128
Revert Treatment Credit	112.57	.055	112.57	.055		
Net Process	1912.47	.061	1585.98	.055	326.49	.128
Total Tons Handled	33,597		31,047		2,550	
Revert " "	2,058		2,058			
Smelter " "	31,539		28,989		2,550	
Total Tons handled - Year	145,960		135,317		10,643	
Cost per ton - this month		.060		.055		.128
" " " - " year		.061		.057		.109

Phelps Dodge Corporation
 United Verde Branch

Clarkdale Smelter Division
 Costs: June, 1935

ASSAYING

	<u>Total</u>	<u>Assay Office</u>	<u>Bucking Room</u>
	\$		
Salaries	1060.00	1060.00	
Operating Labor	375.02	204.61	170.41
Repair Labor	84.74	76.11	8.63
Operating Supplies	210.16	208.40	1.76
Diesel Oil	40.91	40.91	
Repair Supplies	20.03	16.67	3.36
Power-Electric 13,900 k.w.h. @ 1.143¢	159.57	159.57	
Steam 119 thous. lbs. @ \$.4719	56.16	56.16	
Prop. Heating Plant Expense	6.95	6.95	
Total Process	2013.54	1829.38	184.16

DISTRIBUTION

	<u>Determi- nations</u>	<u>Units of Service</u>	<u>Cost</u>
			\$
N.M.B.M.	2009	59885	439.35
Pit Mining	3232	52465	429.96
Concentrator	225	5065	37.58
Roasters	914	27565	202.55
Cottrell Plant	63	1840	19.81
Reverberatories	716	18565	136.60
Converters	947	50510	371.05
Supply Department	13	810	5.87
Foundry	129	15000	120.39
Coal Plant	134	5880	65.06
Boiler Plant	353	3970	44.06
Power House	50	2545	28.39
Leaching Plant	286	15375	113.11
Accounts Receivable	85	870	9.76
	9156	266345	2013.54

Cost per determination, incl. bucking \$.220
 " " " excl. " .200

Cost per Unit of service .7560¢

Phelps Dodge Corporation
 United Verde Branch

ROASTER PROCESS

Clarksdale Smelter
 Costs: June, 1935

	\$	<u>Per Ton</u>	<u>Total Cost</u>	<u>Operating Roasters</u>	<u>Hauling Calcines</u>	<u>Cottrells</u>	
Salaries		.003	86.66	86.66			
Operating Labor		.097	3005.77	1473.01	861.94	670.82	
Repair Labor		.042	1298.22	654.65	241.16	402.41	
Operating Material		.001	20.39	6.47	5.45	8.47	
Repair Material		.024	736.77	411.15	96.49	229.13	
Fuel Oil 118-bbls @ 1.885		.007	222.44	222.44			
Power - Electric 124,269 k.w.h. @ 1.148¢		.046	1426.61	376.04	128.61	921.96	
High Pressure Air 6,225 thou.s. cu.ft. @ .032		.006	199.71	66.57		133.14	
Water		.003	25.92	12.96		12.96	
Lights		.003	105.94	53.99		51.95	
Prop. Smelter Assay Office Expense		.007	222.36	202.55		19.81	
Total Process Cost		<u>.237</u>	<u>7350.79</u>	<u>3566.49</u>	<u>1333.65</u>	<u>2450.65</u>	
Transferred to Reverberatories		.008	245.07			245.07	
Transferred to Converters		.020	612.66			612.66	
Net Process Cost		<u>.209</u>	<u>6493.06</u>	<u>3566.49</u>	<u>1333.65</u>	<u>1592.92</u>	
			<u>Tons Charge</u>				
			<u>Proces</u>				
Cost per ton this month			31.047	.209	.115	.043	.051
" " " year date			135.317	.211	.129	.038	.044

COTTRELL DUST PRECIPITATION

	Per Ton Dust \$	TOTAL	Power House Operation	Smoke Treaters Operation
Operating Labor	.388	670.82	313.80	357.02
Repair Labor	.233	402.41	207.79	194.62
Operating Supplies	.005	8.47	1.73	6.74
Repair Supplies	.133	229.13	116.37	112.76
Electric Power 80,310 kwh @ 1.148¢	.534	921.96		921.96
High.Press. Air 4150 thous.cu.ft.@.032	.077	133.14		133.14
Lights	.030	51.95		51.95
Water	.007	12.96		12.96
Prop.Smelter Assay Office Expense	.011	19.81		19.81
	<u>1.418</u>	<u>2450.65</u>	<u>639.69</u>	<u>1810.96</u>
Transferred to Reverberatories		245.07		
" " Converters		<u>612.66</u>		
		<u>1592.92</u>		
		<u>Tons Dust Precipitated</u>		
Cost per Ton Dust - this month	1.728	1.418		
" " " " - year to date	6.173	1.426		

REVERBERATORY PROCESS

	Per Ton	Total Cost	Operating Furnaces	Tramming all Slag	Mudmill Operation	16-oz. Air
Operating Labor	.131	3690.63	2898.86	783.13		8.64
Repair Labor	.037	1030.05	771.47	199.91	58.67	
Salaries	.003	86.67	86.67			
Operating Supplies	.005	137.92	132.62	5.30		
Repair Supplies	.036	1020.33	758.56	226.23	35.54	
Limerock - 180-tons @ \$1.21	.008	217.02	217.02			
Slack Coal 3,992-T @ \$4.987	.705	19907.26	19907.26			
Power - Electric 61,045 k.w.h. @ 1.148¢	.025	700.79	150.13	100.08	8.60	441.98
High Pressure Air 2,075 thous. cu.ft. @ .032	.002	66.57	66.57			
Converter Air 59,916 thous. cu.ft. @ .008	.018	502.25	502.25			
Pumping Plant Operation	.002	44.75	44.75			
Reverberatory 16-oz. Air 364,176 thous. cu.ft. @ .00124			450.62			450.62
Water	.001	19.44	19.44			
Lights	.003	97.78	97.78			
Transfer Fuel Credits	.405	11426.77	11426.77			
Sundry-Miscellaneous		6.20	6.20			
Total Direct	.571	16100.59	14683.43	1314.65	102.81	0
Prop. Cottrell Plant Operation	.008	245.07	245.07			
" Smelter Assay Office Expense	.005	136.60	136.60			
Revert. Debit	.003	88.11	88.11			
Total Process	.587	16570.67	15153.21	1314.65	102.81	
Revert. Treatment Credit	.096	2704.20	2704.20			
Converter Slag Disposal	.066	1862.54	1387.19	475.35		
Net Process	.425	12003.93	11061.82	839.30	102.81	
		<u>Tons Charge Proper</u>				
Cost per ton this month		28,215	.425	.392	.030	.003
" " " year date		126,242	.412	.382	.027	.003
		<u>Tons Slag</u>				
Cost per ton slag this month		22,380		.059		
" " " " year date		102,348		.055		

Phelps Dodge Corporation
United Verde Branch

CONVERTER PROCESS

Clarkdale Smelter
Costs: June, 1935

	Per Ton Copper	Total Cost	Operating Cranes	Operating Converters	Lining	Handling Bullion	Converters Expense
Operating Labor	2.883	5852.46	583.43	2924.54	611.61	1200.02	532.86
Repair Labor	.485	984.32	279.31	355.80	160.46	84.14	104.61
Salaries	.141	286.67					286.67
Operating Supplies	.095	193.71		10.84	15.15	163.36	4.36
Periclase	1.367	2774.13			2774.13		
Diesel Oil	.023	47.36		47.36			
Repair Supplies	1.261	2560.07	173.17	144.33	2189.85	21.39	31.33
Power - Electric 35,426 k.w.h. @ 1.148¢	.200	406.69	340.14	22.90	35.21	8.44	
High Pressure Air 2,075 thous. cu.ft. @ .032	.033	66.57		66.57			
Converter Air 580,668 thous. cu.ft. @ .008	2.398	4867.48		4867.48			
Water	.016	32.40					32.40
Light	.026	52.81					52.81
Industrial Transportation System	.103	210.03				210.03	
Direct Process	9.031	18334.70	1376.05	8439.82	5786.41	1687.38	1045.04
Prop. - Smelter Assay Office Expense	.183	371.05					
" - Cottrell Operation	.302	612.66					
Revert. Treatment Debit - Unloading	.017	33.70					
- Crushing	.144	291.58					
- Bedding	.035	29.71					
- Reclaiming	.048	97.91					
- Reverberatories	1.332	2704.20					
Slag Disposal Debit - do.	.917	1862.54					
Total Process	11.989	24338.05					
	<u>This Month</u>	<u>Year Date</u>					
Tons Copper Produced		7976.881	2030.1145			2030.1145	
Tons Oxygen Utilized		16,806		3850			
Tons handled by cranes		98,424		24,795			
Tons Iron in Matte		17,558			4150		
Tons Skulls & Cleanings	3,780	12,631.5					
Tons Liquid Slag	8,098	33,691					
<u>Per Apparatus Unit</u>							
Per Ton this month	11.989	6.322	.055	2.034		.831	
" " " year	11.996	5.694	.063	2.210		.861	

Repair Supplies Include -
Magnesite Brick \$2184.69

SMELTER DEPARTMENT EXPENSE

	<u>TOTAL</u>	<u>Mechanical Department Overhead</u>	<u>Chief Engr. and Office Exp.</u>	<u>Smelter Superin- tendence</u>	<u>Yards Expense</u>	<u>Change House Expense</u>	<u>Sewer & Drainage Sys. Oper</u>	<u>Employment & Safety 1st Expense</u>	<u>Fire Protection Expense</u>	<u>Misc'l Smelter Expense</u>
Salaries	2284.57	3.24	240.00	970.00				302.58		168.75
Operating Labor	1503.08	497.82	98.80		386.51	83.05	42.00	41.80		353.10
Repair Labor	345.07	239.76			9.81	33.37	33.10		29.23	
Total Labor	4132.72	740.62	938.80	970.00	396.32	116.42	75.10	344.38	29.23	521.85
Operating Material	169.37	125.76	17.58	12.61	.38			6.63	14.90	1.51
Repair Material	92.69	74.80			7.52	2.26	.80	1.44		5.87
Total Material	262.06	190.56	17.58	12.61	7.90	2.26	.80	8.07	14.90	7.38
Power - Electric	92.98	66.05			7.00	7.17				12.76
High Pressure Air	199.67	199.67								
Prop. Heating Plant Expense	86.23	51.46				34.77				
Photostats & Blueprints	38.41		38.41							
Telephones	93.90		10.00							83.90
Rent	60.00									60.00
Lights & Water	3.80									3.80
Industrial Transportation System	5.83	5.83								
Converter Air	6.44	6.44								
Miscellaneous	94.28			52.30	16.00			16.02		42.00
Transfer	347.34		347.34							
	4652.16	1260.63	580.63	1034.91	427.22	160.62	75.90	336.43	44.13	731.69
State Compensation Premiums	600.00									
TOTAL -	\$ 5252.16									

Phelps Dodge Corporation
United Verde Branch

CONCENTRATING COSTS - RECAPITULATION

Concentrating Costs
June, 1935

<u>Cost by Processes</u>	<u>Amount</u>	<u>Cost per Ton</u>		<u>Cost per Pound</u>	
		<u>Mill</u>	<u>Feed</u>	<u>Salable</u>	<u>Copper</u>
		<u>This</u>	<u>Year</u>	<u>This</u>	<u>Year</u>
		<u>Month</u>	<u>Date</u>	<u>Month</u>	<u>Date</u>
Preparation of Ores (Proportion)	\$ 473.29				
Bedding Concentrating Ore	30.20				
Conveying & Feeding	17.36				
Grinding	314.64				
Flotation	249.58				
Concentrate Thickening	123.96				
Filtering	168.27				
Concentrate Handling	120.09				
Tailings Disposal	21.80				
Mill Water	27.11				
Sampling & Assaying	156.04				
Concentrator Expense	1141.75				
Total Direct Cost	2844.09		.814		0.012107 .011896
Mill Feed - dry tons - this month		-		-	
" " " " - year to date			56,273		
Pounds Salable Copper ^{delivered} this month		-		84,885	
" " " " year to date					3,765,442 3,850,328

Note: Concentrator did not operate during June, 1935.

CONCENTRATING COSTS

	<u>TOTAL</u>	<u>Prepa- ration of Ore</u>	<u>Bedding Concen- trating Ore</u>	<u>Convey- ing and Feeding</u>	<u>Grinding</u>	<u>Flota- tion</u>	<u>Concen- trate Thick- ening</u>	<u>Filter- ing</u>	<u>Concen- trate Handling</u>	<u>Tail- ings Disp.</u>	<u>Mill Water</u>	<u>Smpl. and Assay^g</u>	<u>Concen- trator Expense</u>	<u>32-oz. Air</u>
Operating Labor	1056.94		20.35	3.85	11.55	1.10	100.10	102.30	99.55	16.50		98.85	602.79	
Repair Labor	326.24			11.28	34.42	230.58	5.23	32.13		4.76		7.84		
Salaries	400.00												400.00	
Total Labor	1783.18		20.35	15.13	45.97	231.68	105.33	134.43	99.55	21.26		106.69	1002.79	
<u>Supply Department Issues</u>														
Operating	8.00							1.22		.27			6.51	
Repair	69.26		.51		40.02	13.42		13.34		.27			1.70	
Liners	194.25				194.25									
Total Supplies	271.51		.51		234.27	13.42		14.56		.54			8.21	
Electric Power	121.86		9.34	2.23	34.40	2.16	18.63	19.21	20.54		1.19	11.77		2.39
Lights	8.69												8.69	
Water	25.92										25.92			
High Pressure Air	13.31												13.31	
Prop. Unloading Ore	104.26	104.26												
" Coarse Crush. Oper.	321.73	321.73												
" Stock Piling Expense	47.30	47.30												
" Assay Office Expense	37.58											37.58		
State Compensation Premiums	100.00												100.00	
Sundry Miscellaneous	8.75												8.75	
Transfer 32-oz. Air						2.32		.07						2.39
Net Process Cost	\$ 2344.09	473.29	30.20	17.36	314.64	249.58	123.96	168.27	120.09	21.80	27.11	156.04	1141.75	

Stopping Details

diff bet T.S. + 0.5

1929 1930

Year	Description	Quantity	Rate	Cost	Rate	Cost	Diff	%
1925	Square Set	137 500	T @ 1.77	242 275	14 2/3	0/0		
	Top Slice	68 253	T @ 2.26	154 250	7 1/4			
	Ave Timber Slope	205 753	T @ 1.94	399 161	21 1/4			
	Cut + Fill	489 000	T @ 1.11	542 790	52 2/3		.83	74%
	Shrinkage	122 000	" .61	74 420	13 1/2			
1926	Square Set	125 500	T @ 1.78	223 390	16 1/4			
	T.S.	98 114	" 1.80	176 606	12 1/2			
	Ave Timber St.	223 614	1.79	399 289	29 2/3		.71	66%
	Cut + Fill	442 000	1.08	477 360	57 1/2			
	Shrinkage	43 400	.73	31 682	5 1/2			
1927	Square Set	130 500	1.60	208 800	18 1/2			
	Top Slice	172 000	1.74	299 280	24 1/2			
	Ave Timber Slope	302 500	1.68	508 200	43 1/2		.64	62%
	Cut + Fill	378 000	1.04	393 120	54 1/4			
	Shrinkage	9 070	1.89	17 032	1 3/4			
1928	Square Set	154 000	1.67	257 180	20 1/2			
	Top Slice	141 000	1.67	234 470	18 1/2			
	Ave Timber Slopes	295 000	1.64	483 800	39 1/2		.60	56%
	Cut + Fill	446 000	1.04	463 840	59 1/2			
	Shrinkage	7 600	1.79	13 604	1 1/2			
1929	Square Set	181 500	1.94	354 110	26 1/2			
	T.S.	47 000	2.00	94 000	6 1/2			
	Average Cos T. Slope	222 500	1.96	436 100	33 1/2		.76	63%
	Cut + Fill	446 000	1.20	535 200	65 1/2			
	Shrinkage	9 300	1.05	9 765	1 1/4			
1930	Square Set	21 420	1.74	37 270	8 1/4			
	H.C. + F	151 000	1.16	175 060	57 1/2		.58	50%
Pillar Mg. <small>Sq. 31.4% T.S. 1.8% H.C.F. 2.1% T.S. 1.3% Sp.</small>		89 500	1.82	162 890				
Average Cost Timb S			1.78					
" " O.S.			1.11					
1934	Squares set	153 209	2.19	335 508				
	Top Slice	17 207	3.12	53 686				
	Ave Timber St							
	Cut + Fill	488 532	1.18	576 468				
Shrinkage		219 355	.60	131 613				

Year	Realization	Total Cost	Profit	Realization	Cost	Net
1917	17 650 000	7 803 000	9 847 000		10.88	Pr. Inc
18	18 246 000	13 051 000	5 195 000		16.14	
19	9 793 000	10 600 000	- 800 000		24.69	
20	9 897 000	9 239 000	658 000	15.20	14.23	.97
21	2 399 000	3 953 000	- 554 000	17.80	29.10	11.30
22	5 440 000	4 316 000	1 103 000	13.20	10.56	2.64
23	15 554 000	11 802 000	3 749 000	15.95	12.10	3.85
24	15 097 000	11 313 000	3 784 000	15.36	11.51	4.85
25	15 779 000	11 618 000	4 160 000	14.55	10.74	3.81
26	16 012 000	11 203 000	4 809 000	14.92	10.43	4.49
27	15 257 000	11 607 000	3 650 000	15.26	11.61	3.65
28	17 745 000	12 299 000	5 446 000	15.00	10.41	4.59
29	24 095 000	14 725 000	9 370 000	16.92	10.35	5.57
30	9 189 000	8 353 000	836 000	12.96	11.81	1.15

Year	T.S. %	Cost	O.S. Cost	Stopping Costs
1925	22 1/2	1.93	77 1/2	34 1/2 1.91
1926	29 1/2	1.79	70 1/2	34 1/2 1.77
1927				
1928	39 1/2	1.65	60 1/2	34 1/2 1.70
1929	33 1/2	1.95	66 1/2	Open 1.05
1930				

Stopping Details

Type	Tons	Cost
Square Set	137 500	
Top Slice	68 300	
Inc Sq.S		
Hor Cut F	489 400	
Inc Cut F		
Shrinkage		
U.H. Slope		

Actual Cost Less Deferred + Donat. per 10.

Total Cost	Deferred Ch.	Net Cost	# Cu.	Price	Net
11 203 000	669 000	10 634 000	107 400 000	9.89 - 2.37	7.52
11 607 000	735 000	10 872 000	100 000 000	10.87 2.34	8.53
12 299 000	963 000	11 336 000	118 000 000	9.52 2.00	7.52
14 725 000	1185 000	13 540 000	142 000 000	9.50 1.65	7.85
8 353 000	659 000	7 694 000	71 000 000	10.85 1.95	8.90

$$\begin{array}{r} 713 \\ \underline{189} \\ 904 \\ \underline{624} \\ 280 \\ \underline{113} \\ 167 \end{array}$$

$$\begin{array}{r} 87258 \\ \underline{1523553} \\ 99029 \\ \underline{15989126} \\ 81 \end{array}$$

Cost Details

Line Items?

	Stoping	Devel	Dia Dr.	Shaft Skg R*	Stations + Pockets	Hoisting	Drainage	Mine Fire	Ventilation	Hopewell Tunn	Line Repairs	Total U.G. Costs	Deferred Costs	P.T. Mining	Reclaim. Dumps	Total Shovel Costs	Plot & Leach	Subst & Genl. Occy	Injuries Damages	Genl. Expense	
1925	1585 727 165	305 000 .32	41 773 04	09 864 07	6 075 .01	110 961 14	47 271 05	294 -	102 834 11	110 844 08	311 629 32	2 919 287 275	568 440	150	300 562 110	69 097 122	938 099 265	3 497 -	218 096 .23	107 825 11	388 294 41
1926	1 448 178 182	284 000 .36	39 217 06	37 169 05	34 631 04	112 108 14	37 341 05	19 815 03	157 517 17	100 399 07	265 895 33	2 652 326 276	664 026	150	363 475 182	60 976 129	1088 477 222	5 920 01	244 519 31	87 318 11	297 439 38
1927	1 403 869 196	212 000 .30	53 390 07	25 588 04	27 154 04	99 636 14	41 087 06	37 364 05	115 019 16	119 247 09	261 177 36	2 474 748 311	736 120	150	366 154 48	120 930 142	1123 205 177	17 798 .05	254 112 19	139 234 10	307 720 23
1928	1 416 109 181	316 796 .41	68 327 09	14 732 02	22 576 03	99 548 13	43 408 06	55 392 07	93 735 12	110 459 07	289 262 37	2 500 147 320	941 979	150	306 342 42	70 498 105	1318 820 105	32 700 04	269 720 17	104 888 .07	304 339 22
1929	1 560 786 215	445 703 .61	66 581 09	80 864 11	28 737 04	116 577 16	67 787 09	82 856 11	106 728 15	161 773 09	386 859 53	2 943 483 406	1140 366	150	487 257 46	49 788 .55	1677 406 156	30 031 02	312 946 17	57 664 03	387 335 22
1930	725 064 201	270 397 .75	60 389 17	41 673 12		52 788 15	51 215 14	15 157 04	62 700 18	43 876 12	52 104 15	1 511 901 410	384 777	90	211 067 .50	37 929 .25	633 774 109	21 610 03	207 419 22	3 382 -	277 648 30
Total	8,140,000 187	1,834,000 .42	328,000 .08	271,000	119,000	593,000 14	287,000 07	210,000 05	620,000 14	646,000 09	1,567,000 36	15,001,000 34	4,435,000		1,935,000 49	409,000	6,779,000 174	111,556.03	151,800	491 - .09	2,002 -

	Insus. Exp.	Total Direct Mining Costs	Adminis.	Deprecia	Taxes	Freight	Grand Total	Ser. Hoist	UG Haul.	Tonnage Mined UG	Mined Pct	
1925	3832 -	4 308 374 334	243 000 19	285 452 22	494 749 .38	229 692 18	5 439 884 429			960 000	339 000	
1926	3982 01	4 196 485 327	292 000 22	281 186 22	465 280 .36	234 941 18	5 324 075 414			796 000	490 000	
1927	10 846 01	4 188 741 310	310 000 23	236 704 18	561 577 .42	257 049 19	5 393 115 399			717 000	636 000	
1928	22 805 01	4 560 716 289	286 000 18	224 661 14	574 877 .37	284 483 18	5 787 647 366			782 000	799 000	
1929	16 455 01	5 493 190 305	386 000 21	199 988 11	702 050 39	286 340 16	6 874 513 389			725 000	1075 000	
1930	11 919 02	2 667 656 284	308 000 32	114 745 12	690 884 .74	155 104 17	3 628 391 384	28 751 08	107 782 30	361 000	580 000	
Totals	70 000.	25,415.	1 825 -	1 348 -	3 490 - 42	1 441 - 17	32 448 -			4 341,000	3 909,000	8,250,000

7 Shaft

Raising	20,000
Enlarging	52,000
Concrete	92,000
Structuring	4,000
Smelting	11,235
Ladders	3,615
Total	183,000 - 2700'

Dr. Yards	14,300' @ 100%	15,4,000
Hoist House & Mach		601,000
Head Frame etc		47,000
Change Rooms		100,000
Ice Bin & Unloading P.		187,000
Trans. Rs. Loading P.		134,000
Mining Dumps		167,000
Total		1,884,000

Total Est	2 330 000
Less spent. to 1/1/31	831 000
Bal.	1 268 000

Height R.R.

1923	2 276 -
1924	2 074 -
1925	2 183 -
1926	2 186 -
1927	2 503 -
1928	2 546 -
1929	2 782 -
1930	1 731 -

13,931,000

5324
281
5043
5443

65 000 000
65 800 000 00

110 000 000

Total	18382 000
Cost per Ton	# 1.75
Cost per Cb.	# .0218
Tons treated	10,495,000
# Cops per.	842,537,000

12415
1500
105
1211

17231

01989
00192

02181

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00281
00258

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Smelter Details

	1924		1925		1926		1927		1928	1929	1930	
	1,320,404											
Receiving Eff	.27	.34	.19	.23	.16	.19	.18	.19	.18	.15	.15	.18
BF + Revent.	1.41	1.74	1.17	1.40	1.15	1.39	.92	1.01	1.12	.96		.84
Cour.	.50	.62	.59	.70	.51	.61	.52	.57	.56	.57		.57
Cottrell	.04	.05							.06	.04		.06
Smelting	30	.37			.34	.28	(35)		.12			.53
Concentrating							197		36	.33	.75	
Total Sm. + Conc.									27	25		
Depreciation	.55	.68	.58	.69	.47	.56	.54	.59	.48	.38		.44
Fares	.12	.15	.11	.14	.09	.10	.13	.14	.12	.09		
Administration	.08	.10	.09	.11	.11	.14	.14	.15	.12	.13		
Total	3.27	4.05	2.98	3.55	2.71	3.28	2.85	3.10	3.27	2.90		2.89
% Losses												
Gold	5.83	3.57	6.73	5.85	1.94	+ 1.94	6.28					
Silver	5.45	4.46	4.37	5.99	2.27	1.57	7.04					
Cu	6.13	4.58	3.70	7.13	8.01	3.48	11.28					

Recapitulation

121	8165	222	8022	133	846	394	7920	243	2755	63	787%
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