

REPORT ONAlaska Empire Mine

K+ 112.32

Hawk Inlet, Admiralty Island, AlaskaGENERAL FEATURES

The Alaska Empire Mine, formerly called the Williams Group, is located on the western shore of Hawk Inlet, which penetrates deeply into Admiralty Island from the west side. There are 94 claims in the Williams Group and 12 claims in the Overlook Group on the beach. Howard D. Stabler of Juneau, Alaska is President of the Alaska Empire Gold Mining Co. and W. S. Pekovich is General Manager. There are two million shares of which only a part have been issued. Sixty thousand dollars more is to be paid the original owners. For several years this can be paid at the low rate of \$1200 every six months.

The claims are shown on Plate 1. They extend from sea level to 3000 feet. The property is 80 miles from Juneau by salt water and 16 miles by airplane. The passenger mail boat from Juneau to Sitka stops at the mine wharf once a week, and daily airplanes from Juneau to Sitka will stop when notified. There is a float for landing from airplanes and a 40 by 60 foot wharf with 300 foot approach and plenty of water at extreme low tide for steamships.

The climate is mild and conducive to comfortable year round operation. Timber is abundant for all mining purposes.

The writer did not investigate water power except to note that considerable is available. Plate 2 shows a proposed 2600 foot pipe line and a proposed flume about 1500 feet long with a short tunnel intake. This would furnish power with 600 foot head to a plant on the beach.

The mine and mill camp is situated 1050 feet above sea level and is reached by a tractor road $1\frac{1}{2}$ miles long. Plate 5 shows the size of the mill building and lists the equipment in 1937. Since then a Diesel engine has been installed sufficient to run the mill, but the compressor can be operated only by the direct connected Pelton wheel, and during the months of little rain and part of every winter, the mine is shut down as the compressor can not be operated. The mill could be greatly improved by substituting a standard ball mill for the counter-balance mill. The latter does not grind anywhere near its rated capacity.

GENERAL GEOLOGY

The Williams Group of the Alaska Empire Gold Mining Company is in a belt of Paleozoic schist and phyllite that extends 7 miles from Hawk Inlet to Funter Bay. In this belt there are a great number of large well-defined quartz fissure veins. Dr. Buddington of the United States Geological Survey classifies the schists as greenstone schists, light-colored micaceous quartz schist, and black crinkled graphitic phyllite.

Phyllite is the country rock on the lower claims and quartz mica schist north and northwest of the camp.

In Bulletin 783, U.S.G.S., Plates 2 and 3 show the Williams claims, most of the quartz vein outcrops, and an assay map of the vein in the upper tunnel.

MINING GEOLOGY

In the limited time available no attempt was made by the writer to cover the surface of the property. In 1924 the writer took some samples from the Eagle vein (Williams No. 5 Claim), Iron Swamp vein (Golden Bear No. 1 Claim), Northern Cutz Williams main vein (Batella No. 1 and Mykor Claims), and the Walla Walla vein (Walla Walla No. 1 claim). Of these samples, only one across 17 feet of the Iron Swamp vein yielded any gold. This 17 foot sample assayed 0.12 oz. gold and 0.30 oz. silver. It was taken in the same cut shown on Plate A of this report, where Nos. 1 and 2 samples were taken across five feet each, assaying nil gold, and 0.10 oz. gold respectively.

The writer has seen assay results from samples taken by other engineers from the above veins and also the following veins: Premier (Premier No. 1 Claim); Dam and Nick veins (Williams No. 8 Claim); Camp vein (Batella No. 1 Claim); Beach vein (Overlook No. 10 claim); Summit vein (Brown Nos. 1, 3 and 4 claims); and the Henry vein (Williams Trac. Nos. 2 and 3 claims). With the exception of the Henry vein samples, none of these samples yielded other than negligible gold values. On the Henry vein a 6 foot sample in the lower cut assayed 0.21 oz. gold and 0.31 oz. silver.

Plate A shows the writer's survey of the Henry, New, and Iron Swamp veins with geology mapped and assay results recorded. In the lower Henry cut samples Nos. 5, 6, and 7 assayed 0.06 oz., 0.02 oz., and 0.02 oz. gold across 4 feet, 7 feet and 4 feet. In the upper cut No. 8 assayed 0.04 oz. gold across 1.6 feet. The upper cut had reached bedrock in only one spot. In the New vein the writer's sample across 4 feet assayed 0.02 oz. gold. Three samples cut from the Iron Swamp vein showed only a trace of gold and one sample (No. 2 across five feet) assayed 0.10 oz. gold.

The results from surface cut sampling have not been encouraging on the whole. However there are certain facts that minimize these results. Although the main Williams vein ore shoot outcropped strongly, considerable work was done close to the outcrop before it was found. The property was under option to Colonel Perkins of Tacoma. This option was dropped when all the time the men camped and worked within a stone's throw of an outcrop over thirty feet wide that assayed close to an ounce of gold. It seems reasonable to assume that the friable quartz, containing considerable sulphide mineralization, will not be so easy to find and expose in a covered country as the hard barren unmineralized portions of the veins, and the Henry and Iron Swamp veins and many of the others might easily contain important ore shoots.

Plate B shows what is left of the upper level (Neill tunnel extended) beyond the Glory Hole. This map can be superimposed in proper position over the vertical raise near the face of the lower level (Plate C). Plate 3 is a longitudinal section showing the existing work, Mr. Pekovich's proposed development, and the position and assay results of the diamond drill hole started in the main ore shoot of the vein and finished probably in the vein and outside any ore shoot.

Plate 4 shows the assay results obtained by examining engineers for two mining companies in the south end of the upper level. The writer did not sample this level as it exposes only part of the vein and values are low and marginal, compared to the level fifty feet below and also to the first part of the upper level, where 17,767 tons were glory-holed with a mill recovery of \$9.12 gold per ton.

Plate C shows the sampling by the writer of the lower level important new ore shoot found by Mr. Pekovich. According to moiled hand samples by the writer, the weighted average (cutting two high assays in half) is 0.40 oz. gold, 19.1 ft. wide, 90 ft. long. The walls have not been surely reached especially at the face where only a five foot width was available.

An excavation 19.1' x 90' x 7' is about 12,000 cubic feet. Adding 25% more on account of high back at several places, we have 15,000 cubic feet. Peele gives 12.3 cubic feet per ton of quartz and there is enough sulphide (abundant pyrite, some sphalerite, and rare galena and chalcopyrite) to make it safe to use 12 cubic feet per ton giving 1250 tons. For the last 500 tons in the new ore shoot, the free gold recovery has been 0.31 oz. gold (fine ounces) per ton. Forty five or fifty tons of concentrates are on the wharf awaiting shipment. The ratio of free values to concentrate values has been 60.8 to 39.2 on former shipments. Using this ratio there is 0.20 oz. gold per ton mined or 2.00 oz. gold per ton of concentrate. This gives a total of 0.51 oz. gold value for the last 500 tons. The writer's samples for this last 500 tons, from the drift extending 50 feet back from the face, average 0.40 oz. gold, the same as the average for the whole ore shoot. The ore is spotty and hand sampling is apt to be low. Also the concentrates on the wharf are apt to be higher grade than usual as there is considerable sphalerite and galena in the new ore shoot, a sure indication of high grade ore. Mr. Pekovich's last seven samples of the mill heads average 0.90 oz. gold per ton.

PRODUCTION

All production has been from the Williams vein. According to the mine records 17,767 tons have been mined from the glory hole with a recovery of \$9.12 per ton gold. This was done 1931 to 1937 inclusive. Since 1937 the bulk of the ore has come from below the upper level.

According to Mr. Pekovich's mine records 1690 tons were produced in 1938, \$6.63 gold per ton recovered. In 1939 the production was 2307 tons, \$6.20 gold per ton recovered. The writer does not have the 1940 figures for tonnage or concentrate returns due to a misunderstanding as to where they could be obtained. The 1941 concentrates have not yet gone to the smelter due to the difficulty of getting ships to call on account of the large salmon run this year. In 1940 there was received from the mint 216.796 fine ounces free gold. In 1941 there was received from the mint 164.488 fine ounces from 500 tons milled.

According to the mine records up to the end of 1937 costs have been \$6.08 per ton for capital expenditures and \$2.81 for operation. Capital expense will be much lower for larger scale future development and operating expenses will probably be about \$3.50 per ton including development and shaft sinking. No exact figure can be given until the approximate size of the ore body and consequent size of the mill is determined.

CONCLUSION AND RECOMMENDATIONS

The writer believes that this property will be a profitable gold producer and may develop into a bonanza. The new ore shoot found at the south end of the lower level is not fully delimited but appears to be a major ore shoot in size and grade. The large size of the quartz vein and the strength of the fissuring are favorable factors. The larger faults shown in blue on Plates B and C are both pre-mineral and post-mineral and there is quartz breccia, gouge, and graphitic slickensides, and large grooves along these fractures.

(A) RECOMMENDINGS WITH FUNDS SUFFICIENT TO POSTPONE OPERATION

The writer recommends a 300 foot shaft in the footwall with drifting and crosscutting to determine the size of a new mill to be erected on tidewater. Use of the old mill is recommended as a pilot mill to determine the grade of block of ore that appear to be marginal by hand sampling. Replacement of the counter-balance mill by a standard ball mill is recommended and a Diesel engine to operate the compressor when there is not enough water. Stream measurements and further study of the water power development shown on Plate 2 is recommended. Improvement of the tractor road to a good truck road is recommended, to haul the ore to the new mill on the beach. The present water power pipe line will have to be repaired or replaced.

Further surface prospecting is recommended on the other veins, especially the Henry and Iron Swamp.

(B) RECOMMENDATIONS IF FUNDS ARE INSUFFICIENT FOR PROPER DEVELOPMENT

If the funds are insufficient, the writer would use the present mill and would not develop the water power shown on Plate 2. He would replace the counter-balance mill with a standard ball mill, repair or

replace the present water power pipe line, make the tractor road good for tractors by filling a dozen or more mud holes with coarse gravel, install a Diesel engine to operate the compressor when there is insufficient water, and sink a 50 ft. x 10 ft. shaft in the ore (Mr. Pekovich's idea) in order to explore the ore at depth and at the same time get enough ore to run the mill, thus avoiding extra shaft sinking expense.

This report is not complete without the writer's Plates A, B, and C and Plates 1 to 5 from the mine files.

Respectfully submitted.

(Sgd) HARRY TOWNSEND.

1707 Hoge Building
Seattle, Washington
September 22, 1941

1931
2:10-10-1931

ALASKA EMPIRE GOLD MINING COMPANY

Ore Production
Labor Distribution

1931

TONS MINED, none

MISCELLANEOUS LABOR

Fuel	\$ 54.42	\$ 54.42
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CAPITAL EXPENSE LABOR

Water Power	1,500.00	
Road	327.26	
Hauling	556.50	
Watchman	1,069.00	
Superintendence	574.13	
Diamond Drilling	4,051.48	
Cook	<u>407.65</u>	8,486.02

CAPITAL EXPENSE

Payments to Williams Mining Co.	1,000.00
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CAPITAL EXPENSE SUPPLIES AND EQUIPMENT

All supplies and equipment	<u>1,955.70</u>
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GRAND TOTAL	\$11,496.14
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Overall Loss	\$11,496.14
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ALASKA EMPIRE GOLD MINING COMPANY

Ore Production
Labor Distribution

1932

TONS MINED	200 (Mill Test)			
MINING				Cost Per Ton
Tramming and Mucking		\$ 216.71	\$ 216.71	\$1.08
MILLING				
Crushing		\$ 59.50		.30
Milling		<u>150.87</u>	210.37	.75
				<u>1.05</u>
MINING AND MILLING				2.13
PRODUCTION				Recovery Per Ton
Bullion		776.00		3.88
Concentrates, none				
Total Production		<u>776.00</u>		<u>3.88</u>
Less Mining and Milling		<u>427.08</u>		
MINING AND MILLING PROFIT		<u>348.92</u>		1.75
MISCELLANEOUS LABOR				
Fuel		203.75		
Watchman		150.00		
Cook		<u>60.00</u>	413.75	2.07
CAPITAL EXPENSE LABOR				
Water Power		782.41		
Hauling		250.00		
Watchman		435.00		
Cook		<u>183.52</u>	1,650.93	8.25
CAPITAL EXPENSE				
Payments to Williams Mining Co.			6,000.00	30.00
CAPITAL EXPENSE SUPPLIES AND EQUIPMENT				
Engineer's Report		250.00		
Cascade Machinery Co.		225.00		
Hydraulic Supply Mfg. Co.		541.62		
Alaska Steamship Co.		2.70		
Davis Transportation Co.		25.05		
Scientific Supplies Co.		19.88		
Chas. G. Warner Co.		88.04		
Juneau Young Hardware Co.		<u>7.32</u>	<u>1,159.61</u>	<u>5.80</u>
			\$9,651.37	\$48.25
			\$8,875.37	\$44.37

ALASKA EMPIRE GOLD MINING COMPANY

Ore Production
Labor Distribution

1933

TONS MINED	1,400		Cost Per Ton
MINING			
Drilling	\$ 386		\$.27
Tramming and Mucking	1,030.75		.74
Steel Sharpening	<u>40.38</u>	\$1,457.13	<u>.03</u>
			1.04
MILLING			
Crushing	396.38		.28
Milling	<u>1,498.76</u>	1,895.14	<u>1.07</u>
			1.35
MINING AND MILLING			
			2.39
PRODUCTION			
Bullion	16,143.82		11.53
Silver	47.89		.03
Concentrate	706.74		.51
Total Production	<u>16,898.45</u>		<u>12.07</u>
Less Mining and Milling	3,352.27		
MINING AND MILLING PROFIT	<u>13,546.18</u>		9.67
MISCELLANEOUS LABOR			
Hauling	329.00		
Compressor	32.00		
Fuel	200.00		
Cook	588.00		
Watchman	540.00		
Office	<u>185.00</u>	1,874.00	1.35
CAPITAL EXPENSE LABOR			
Water Power		1,303.25	.93
CAPITAL EXPENSE			
Payments to Williams Mining Co.		6,000.00	4.28
CAPITAL EXPENSE SUPPLIES AND EQUIPMENT			
Davis Transportation Co.	2.65		
Economy Garage	10.00		
Juneau Young Hardware Co.	345.49		
Sam Paul	13.00		
Berney Anderson	28.00		
Scientific Supplies Co.	48.25		
Harri Machine Shop	28.84		
Pacific Testing Laboratories	10.00		
Admiralty Alaska G. M. Co.	3,857.50		
H. J. Armstrong Co.	<u>700.00</u>	5,043.73	<u>3.60</u>
GRAND TOTAL		\$17,573.25	\$12.55
OVERALL LOSS		\$ 674.80	\$.48

ALASKA EMPIRE GOLD MINING COMPANY

Ore Production
Labor Distribution

1934

TONS MINED	2,476		Cost Per Ton
MINING			
Drilling	\$ 993.33		\$.40
Tramming and Mucking	1,048.75		.42
Steel Sharpening	<u>68.12</u>	\$2,110.20	<u>.03</u>
			.85
MILLING			
Crushing	697.50		.28
Milling	<u>2,169.19</u>	2,866	<u>.88</u>
			1.16
MINING AND MILLING			
			2.01
PRODUCTION			
Bullion	21,718.03		8.77
Concentrate	2,107.45		.85
Silver	<u>67.08</u>		<u>.03</u>
Total Production	23,892.56		9.65
Less Mining and Milling	<u>4,976.89</u>		
MINING AND MILLING PROFIT	18,915.67		7.64
MISCELLANEOUS LABOR			
Hauling	708.69		
Blacksmithing	122.25		
Bunkhouse Repair	4.25		
Office	273.00		
Assaying	274.00		
Watchman	318.00		
Cook	734.50		
Boat Repair	25.00		
Fuel	<u>38.87</u>	2,498.56	1.01
CAPITAL EXPENSE LABOR			
Mill Construction	864.94		
Water Power	70.25		
Hauling	21.50		
Buildings	2.49		
Roads	<u>53.00</u>	1,012.18	.41
CAPITAL EXPENSE			
Payments to Williams Mining Co.		6,000.00	2.42
CAPITAL EXPENSE SUPPLIES AND EQUIPMENT			
Admiralty Alaska G. M. Co.	500.00		
H. J. Armstrong Co.	3,478.19		
Alaska Steamship Co.	368.66		
Bolkon Canal Lumber Co.	124.49		
Columbia Lumber Co.	164.18		
W. W. Gibson	200.00		
Harri Machine Shop	27.76		
Juneau Lumber Co.	40.06		
Wills Navigation Co.	107.39		
Standard Oil Co. of Calif.	<u>8.10</u>	5,018.83	<u>2.03</u>

GRAND TOTAL	\$19,506.46	\$ 7.88
OVERALL PROFIT	\$ 4,386.10	\$ 1.77

ALASKA EMPIRE GOLD MINING COMPANY

Ore Production
Labor Distribution

1935

TONS MINED	3,958		Cost Per Ton
MINING			
Drilling	\$ 928.32		\$.23
Tramming and Mucking	941.73		.24
Steel Sharpening	<u>99.75</u>	1,969.80	<u>.03</u>
			.50
MILLING			
Crushing	687.81		.17
Milling	<u>2,878.57</u>	3,566.38	<u>.73</u>
			.90
MINING AND MILLING			1.40
PRODUCTION			Recovery Per Ton
Bullion	30,943.85		7.82
Silver	160.08		.04
Concentrate	7,474.78		1.89
Total Production	<u>38,578.71</u>		<u>9.75</u>
Less Mining and Milling	<u>5,536.18</u>		
MINING AND MILLING PROFIT	33,042.53		8.35
MISCELLANEOUS LABOR			
Hauling	711.29		
Boat Repair	113.00		
Bunkhouse Repair	56.63		
Watchman	282.50		
Dump	8.25		
Fuel	237.50		
Hospital Fund	96.00		
Cook	988.68		
Office	<u>35.43</u>	2,529.28	.64
CAPITAL EXPENSE LABOR			
Mill Construction	3,864.62		
Hauling	1,072.95		
Water Power	61.19		
Road	116.38		
Wharf	<u>187.58</u>	5,302.73	1.34
CAPITAL EXPENSE			
Payments to Williams Mining Co.		6,000.00	1.51

CAPITAL EXPENSE SUPPLIES AND EQUIPMENT		Cost Per Ton
Alaska Steamship Co.	14.23	
F. J. Balzer	2,585.45	
Bolcom Canal Lumber Co.	110.00	
Collins Radio Co.	639.93	
Columbia Lumber Co.	194.20	
W. P. Fuller Co.	238.87	
Juneau Lumber Co.	50.00	
Hydraulic Supply Mfg. Co.	1,185.60	
Juneau Motor Co.	210.00	
Lockwood Lumber Co.	380.71	
Linde Air Products Co.	227.15	
Arthur LaCasa	12.00	
Survey	1,317.00	
Seattle Steel Co.	222.78	
Star Machinery Co.	115.00	
Wills Navigation Co.	748.79	
Chas. G. Warner Co.	35.00	
R. C. A.	69.50	
Union Oil Co. of Calif.	354.61	
Pan-American Eng. Corp. Ltd.	<u>1,053.90</u>	<u>2.47</u>
GRAND TOTAL	\$29,132.90	\$ 7.36
OVERALL PROFIT	\$ 9,445.81	\$ 2.39

ALASKA EMPIRE GOLD MINING COMPANY

Ore Production
Labor Distribution

1936

TONS MINED	5,037		Cost Per Ton
MINING			
Drilling	\$1,232.91		\$.24
Tramming and Mucking	1,643.94		.33
Steel Sharpening	<u>430.48</u>	3,307.33	<u>.09</u>
			.66
MILLING			
Crushing	1,230.05		.24
Milling	<u>4,855.15</u>	6,085.20	<u>.97</u>
			1.21
MINING AND MILLING			
			1.87
PRODUCTION			
Bullion	16,563.58		Recovery Per Ton 3.29
Silver	72.44		.01
Concentrates	<u>14,731.85</u>		<u>2.93</u>
Total Production	<u>31,367.87</u>		<u>6.23</u>
Less Mining and Milling	<u>9,392.53</u>		
MINING AND MILLING PROFIT	21,975.34		4.36
MISCELLANEOUS LABOR			
Hauling	732.24		Cost Per Ton
Fuel	497.94		
Shoveling Snow	157.61		
Bunkhouse Repair	130.43		
Cook	1,576.46		
General Expense	506.49		
Bonus	205.00		
Office	<u>154.03</u>	3,960.30	.79
CAPITAL EXPENSE LABOR			
Mill Construction	3,826.17		
Hauling	1,258.32		
Buildings	1,084.64		
Water Power	182.25		
Road	602.46		
Wharf	<u>409.73</u>	<u>7,363.57</u>	<u>1.46</u>
SUB-TOTAL		20,716.30	4.12

		Cost Per Ton
SUB-TOTAL BROUGHT FORWARD	20,716.30	4.12
CAPITAL EXPENSE		
Payments to Williams Mining Co.	6,000.00	1.19
CAPITAL EXPENSE SUPPLIES AND EQUIPMENT		
Alaska Mine Equipment Co.	1,748.75	
American Pulley Co.	52.98	
Alaska Steamship Co.	91.60	
Alaska Transportation Co.	1,578.93	
J. A. Bulger	43.87	
Bolcom Canal Lumber Co.	394.80	
Hugh Baird	256.20	
Bethlehem Steel Co.	699.16	
Crane Company	1,241.42	
Carrington and Jones	33.00	
C. S. Card Iron Works Co.	292.00	
Columbia Lumber Co.	1,001.35	
Diamond K. Packing Co.	750.00	
Adolf Floe	200.00	
D. B. Femmer	4.95	
Farrel Lumber Company	126.83	
W. P. Fuller & Co.	491.25	
P. E. Harris Co.	750.00	
Juneau Young Hardware Co.	152.50	
Ingersoll Rand	946.80	
Kenworth Motor Truck Corp.	190.31	
Pan-American Eng. Corp. Ltd.	170.48	
Seattle Steel Co.	26.90	
O. P. Williams Co.	149.88	
Washington Belting Co.	164.09	
F. J. Balzer Co.	5,849.15	
Union Oil Co. of Calif.	<u>351.37</u>	
	<u>18,758.57</u>	<u>3.72</u>
GRAND TOTAL	\$45,474.87	\$9.03
OVERALL LOSS	\$14,107.00	\$2.80

ALASKA EMPIRE GOLD MINING COMPANY

Ore Production
Labor Distribution

1937

TONS MINED	4,696		Cost Per Ton
MINING			
Drilling	\$ 784.72		.17
Tramming and Mucking	2,769.36		.59
Steel Sharpening	<u>115.08</u>	3,669.16	<u>.02</u>
			.78
MILLING			
Crushing	1,593.51		.33
Milling	<u>4,778.05</u>	6,371.56	<u>1.02</u>
			1.35
MINING AND MILLING			
			2.13
PRODUCTION			
Bullion	23,764.99		Recovery Per Ton 5.06
Silver	51.02		.01
Concentrates	<u>12,709.05</u>		<u>2.71</u>
Total Production	<u>36,525.06</u>		<u>7.78</u>
Less Mining and Milling	<u>10,040.64</u>		
MINING AND MILLING PROFIT	<u>26,484.42</u>		5.64
MISCELLANEOUS LABOR			
Hauling	1,393.15		Cost Per Ton
Fuel	508.66		
Boat Repair	44.25		
Cook	1,350.00		
Office	178.50		
Shoveling Snow	166.38		
Blacksmithing	137.50		
Watchman	296.25		
Assaying	166.19		
Superintendence	<u>600.00</u>	4,840.88	1.03
CAPITAL EXPENSE LABOR			
Shaft	433.00		
Hauling	254.75		
Mill Construction	203.77		
Buildings	474.81		
Water Power	82.95		
Road	72.53		
Creek Tunnel	<u>52.87</u>	1,574.68	.34

		Cost Per Ton
CAPITAL EXPENSE		
Payments to Williams Mining Co.	6,000.00	1.28
CAPITAL EXPENSE SUPPLIES AND EQUIPMENT		
Ingersoll Rand	400.00	
Alaska Transportation Co.	105.78	
Victor Equipment Co.	338.00	
The Mining & Smelting Supply Co.	484.00	
C. E. Gordon	41.00	
Westinghouse Electric Supply Co.	163.80	
Columbia Lumber Co.	4.94	
Goodyear Tire & Rubber Co.	211.39	
Juneau Lumber Mills Inc.	27.50	
Engineer's Report	25.00	
Davis Transportation Co.	2.35	
Alaska Steamship Co.	39.28	
	<u>1,843.24</u>	<u>.39</u>
GRAND TOTAL	\$24,304.69	\$5.17
OVERALL PROFIT	\$12,220.37	\$2.60

ALASKA EMPIRE GOLD MINING CO.

Up to October 10, 1938

TONS MINED 12.90

PRODUCTION

Gold and Silver	\$6,920.70	
Concentrates	2,998.34	\$9,919.04

These figures are not absolutely correct as for individual year because some of the actual production may be in one year while the payments by the mint or/and smelter in another year. These figures have been arranged to agree with the government and smelter's certificates as of the date appearing on same. The total tonnage and recovery per ton to October 10, 1938, is essentially correct for all practical purpose although it might contain some errors.

The October 10th date here is used for the reason that up to that date all the disbursement of the proceeds to that date was made by Mr. Henry Roden, President and Treasurer of the Company during that period. The production since October 10, 1938, follows:

1938, from October 10th

TONS MINED 400

PRODUCTION

Gold and Silver	\$1,591.88	
Concentrates		

ALASKA EMPIRE GOLD MINING COMPANY

1939

TONS MINED	2,307	
PRODUCTION		
Bullion		\$10,915.11
Concentrates		<u>3,389.73</u>
Total		\$14,304.84
Average per ton		6.21

1940

TONS MINED	Approx. 950	
PRODUCTION		
Bullion		\$7,567.30
Concentrates		<u> </u>
Total		\$
Average per ton		7.96

1941

TONS MINED	650	
PRODUCTION		
Bullion		\$8,616.57
Concentrates		<u>4,670.42</u>
Total		\$13,288.99
Average Recovery per Ton		20.44

1942

TONS MINED		
PRODUCTION		
Bullion		\$1,949.15
Concentrates		<u>3,909.43</u>
Total		\$5,858.58
Average per ton		23.43

NOTE:

The high recovery for 1942 and the low recovery of the bullion in proportion to the concentrates is not properly reflected for the reason that during 1942 it was impossible to get sufficient supply of quicksilver; therefore a large portion of the recoverable free gold went into concentrates. Also considerable of the concentrates were left over from 1941 operation so that the two years' tonnage and recovery should be correct as to the total but somewhat lower gold as a bullion.

1941 and 1942

TONS MINED	900	
PRODUCTION		\$19,147.57
AVERAGE		\$21.23

ALASKA EMPIRE GOLD MINING COMPANY
Ore Production
Labor Distribution
1931-1937

TONS MINED	17,767		Cost Per Ton
MINING			
Drilling	\$4,325.28		.25
Tramming and Mucking	7,651.24		.43
Steel Sharpening	<u>735.73</u>	12,730.25	<u>.04</u>
			.72
MILLING			
Crushing	4,664.75		.26
Milling	<u>16,330.59</u>	20,995.34	<u>.92</u>
			1.18
MINING AND MILLING			
			1.90
PRODUCTION			
Bullion	109,910.27		6.19
Silver	398.51		.02
Concentrate	<u>37,729.87</u>		<u>2.12</u>
Total Production	148,038.65		<u>8.33</u>
Less Mining and Milling	<u>33,725.59</u>		
MINING AND MILLING PROFIT	114,313.06		6.43
MISCELLANEOUS LABOR			
Hauling	3,874.37		
Cook	5,297.64		
Fuel	1,741.14		
Watchman	1,586.75		
Blacksmithing	259.75		
Bunkhouse Repair	191.31		
Compressor	32.00		
Shoveling Snow	323.99		
Boat Repair	182.75		
Dump	8.25		
Hospital Fund	96.00		
Assaying	440.19		
Office	825.96		
General Expense	506.49		
Bonus	205.00		
Superintendence	<u>600.00</u>	16,171.59	.91
CAPITAL EXPENSE LABOR			
Water Power	3,983.22		
Road	1,171.63		
Hauling	3,414.02		
Cook	591.17		
Watchman	1,504.00		
Diamond Drilling	4,051.48		
Superintendence	574.13		
Mill Construction	8,759.50		
Buildings	<u>1,581.94</u>		
Wharf	597.31		
Shaft	433.00		
Creek Tunnel	<u>52.87</u>	26,714.27	1.54

CAPITAL EXPENSE

Payments to Williams Mining Co.

37,000.00

2.08

CAPITAL EXPENSE SUPPLIES AND EQUIPMENT

All supplies and equipment, 1931	1,995.70
Engineer's Report	275.00
Cascade Machinery	225.00
Hydraulic Mfg. Co.	1,726.62
Alaska Steamship Co.	516.47
Davis Transportation Co.	30.05
Scientific Supplies Co.	68.13
Charles G. Warner Co.	123.04
Juneau Young Hardware Co.	481.71
Economy Garage	10.00
Sam Paul	13.00
Barney Anderson	28.00
Harri Machine Shop	56.60
Pacific Testing Laboratories	10.00
Admiralty Alaska G. M. Co.	4,357.50
H. J. Armstrong	4,178.19
Bolcom Canal Co.	629.29
Columbia Lumber Co.	1,364.67
W. W. Gibson	200.00
Juneau Lumber Co.	117.56
Wills Navigation Co.	856.18
Standard Oil Co. of California	8.10
F. J. Balzer	8,434.60
Collins Radio Co.	639.93
W. P. Fuller Co.	730.12
Juneau Motor Co.	210.00
Lockwood Lumber Co.	380.71
Linde Air Products Co.	227.15
Arthur LaCasa	12.00
Survey	1,317.00
Seattle Steel Co.	249.68
Star Machinery Co.	115.00
R. C. A.	69.50
Union Oil Co. of Calif.	705.98
Pan-American Eng. Corp. Ltd.	2,224.38
Alaska Mine Equipment Co.	1,748.75
American Pulley Co.	52.98
Alaska Transportation Co.	1,684.71
J. A. Bulger	43.87
Hugh Baird	256.20
Bethlehem Steel Co.	699.16
Crane Co.	1,241.42
Carrington and Jones	33.00
C. S. Card Iron Works Co.	292.00
Diamond X Packing Co.	750.00
Adolf Floe	200.00
Farrel Lumber Co.	126.83
P. E. Harris Co.	750.00
Ingersoll Rand	1,347.00

Kenworth Motor Truck Corp.	190.31		
O. B. Williams Co.	149.08		
Washington Belting Co.	164.09		
Victor Equipment Co.	338.00		
The Mine and Smelter Supply Co.	585.00		
C. E. Gordon	41.00		
West inghouse Elec. Supply Co.	163.80		
Goodyear Tire and Rubber Co.	<u>211.39</u>	<u>43,620.40</u>	<u>2.46</u>

TOTAL CAPITAL EXPENSES \$107,334.67

GRAND TOTAL	\$157,231.85	\$8.89
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OVERALL LOSS	\$ 9,193.20	\$.52
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ALASKA EMPIRE GOLD MINING COMPANY

BULLION SUMMARY

	TONS MINED	ACTUAL RETURNS	ACTUAL RECOVERY PER TON	AU AT \$35.00 PER OZ. PER TON	
1931	No Production				
1932	200	776.00	3.88	Mill test only. Mill was not cleaned up. No concentrate recovered.	
1933	1,400	16,898.45	12.07	Very little concentrate recovered dur to lack of concentrating equip- ment. The mining was confined to the full width of the vein.	
1934	2,476	23,892.52	9.65	Only table concentrate recovered and that not in efficient proportion due to condition of table. Mining was confined to the full width of the vein.	
1935	3,958	38,576.71	9.75	First flotation unit of four cells added to milling equipment. Mining confined to the full width of the vein.	
1936	5,037	31,367.87	6.23	Second flotation unit of four cells added to the milling equipment. Mining carried out so as to include much wider zone into lower grade ore. All ore milled from development and occasional wall caves, except a small portion of the caves was eliminated.	
1937	4,696	36,525.06	7.78	Mining carried out so as to include much wider zone into lower grade ore. All ore milled from development and occasional wall caves, except a small portion of the caves was eliminated.	
		net		\$35.00	\$35.00
TOTAL	17,767	148,038.65	8.33	161,388.84	8.98
Bullion		109,910.27	6.19	119,068.19	6.70
Silver		398.51	.02	398.51	.02
Concentrate		<u>37,729.87</u>	<u>2.12</u>	<u>41,922.14</u>	<u>2.26</u>
		148,038.65	8.33	161,388.84	

1938, up to October 10th

1,290 tons \$9,612.05

Total Mined to October 10, 1938

19,057 tons

Actual net recovered \$157,650.70
less not handled by Mr. Roden 776.00
Net handled by Mr. Roden 156,874.70

PRODUCTION SINCE OCTOBER, 1938

	TONS			
1938	400	\$ 1,591.88	whole year average,	\$6.62
1939	2,307	14,304.84		\$6.21
1940	950 approx.	7,567.30	average	7.96
1941	650	13,288.99	average	20.44
1942	<u>250</u>	<u>5,858.58</u>	average	23.45
TOTAL	4,550	\$41,019.71	average	9.02
		<u>157,650.70</u>		
TO DATE 23,607		\$198,670.41	Net average recovered,	\$8.42
All at \$35.00 actually recovered before charges		222,202.24		\$9.40

ALASKA EMPIRE GOLD MINING COMPANY

MINING COSTS

1931-1937

TONS MINED 17,767

			Cost Per Ton
MINING			
Drilling	4,325.28		.25
Tramming and Mucking	7,651.24		.43
Steel Sharpening	<u>753.73</u>	12,730.25	<u>.04</u>
			.72
LESS DEVELOPMENT			
Raises	173 Feet		
Drifting	300 Feet		
	<u>473 Feet</u> assumed at \$10.00 per foot		
		<u>4,730.00</u>	<u>.27</u>
TOTAL MINING, TRAMMING AND MUCKING		\$8,000.25	.45

By reading the report so far one would be led to a wrong conclusion unless further explanation be made as follows:

The cost herein considered does not include the overhead interest on the investment, non-depreciation, and depletions which would add considerable amount to the net loss.

Similarly one must consider that the original purchase price of the property, \$250,000, had been reduced to less than \$60,000 and about 90 per cent of that reduction was made by cash payments and capital expenditures on the property, all of which has been charged in the above figures and that most of that must be considered asset to the property in the usual sense.

Buildings, equipment, dock, road, and so forth, aside from that considerable ore reserves have been added to the then known supply the milling of the ore had demonstrated not only the value but the proper treatment as well.

The mining done prior to January 1, 1938, all of it, was from the upper or Glory-Hole level. Practically all the work and production since then has been done from the new or shaft level on which there was no work done prior to 1938. This new level is continuous in ore for its entire length of about 650 feet, out of which since January 1, 1938, approximately 5,750 tons have been produced, practically all milled and actually recovered \$50,631.76.

From the yearly production one can readily see that the pick of the values as far as known now was not passed. A wrong inference might be drawn from the tonnage and that the ore body is rich but smaller. The facts are that the ore body is the widest so far known where the values are shown best, in place the mining reached widths of more than 30 feet and on both walls, that the face of the drift shows no tendency to contract when considered that on the surface work has been done on quartz (supposedly some vein) thousands of feet. In advance of the present workings there is good reason to expect the vein to continue for a considerable distance along its course, that the values and the width of the vein had increased greatly from the upper workings to the shaft level, and that the walls shown indicate further widening in the depth is very encouraging. When compared with the fact that diamond drill hole had indicated more than 130 feet as the width of the vein some 500 feet below the shaft level, would seem to give additional reason to hope for continuation in depth.

The small tonnage handled is due in most part to the scarcity of power for continuous development, and in addition for the last two years, the war and labor situation, while lack of proper finances was always evident and present working together with other hazards. When this is all considered together, one could not fail to appreciate the fact that with proper financing and management, this property should be second to none as to the finances needed.

Summarized from facts and Engineer's Reports by

W. S. Pekovich

McHawk Bulet 6/11/45
Heuser

Storage crew - 809 - ^{conference with MS} Notes taken from ^{conference with MS} (Tables)

Surface:

Pipe line - 20" to 12" -
700' - detached and stored

for power for mill
fire protection etc.

525' = Ball Mill = 135-ton
delivered but not installed -

2 - diesel table & motors

2 = Inter-diesel - power units 100 HP each

2 - Portable compressors

Eng. Road 315 kw
with engine

Power 315
Auto Eng.

16-ton - TV 18 - Bulldozer -
(10 ft blade)