1930

G.I. Juneau

1915

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REPORT

GREAT MINE--FREE GOLD--ROWE PROPERTIES

ALASKA BOND & INVESTMENT CO.

The properties under consideration are large deposits of low-grade ore. The natural advantages of their location, combined with the nearness to tidewater, an excellent harbor, good climate, abundant water power, cheap mining and ease of extracting the values from the ore make the claims very advantageous for development.

The large-scale production necessary to successfully operate these properties will require considerable capital and several years of active development work before actual production will be able to start.

Location

The Great Mine, Free Gold and Rowe lode mining groups are located at Windham Bay, Alaska, 65 miles southeast of Juneau. The properties lie on the mountain 2 miles from the Windham Bay P. O. at an elevation of 1350 feet to 4400 feet and are reached by a corduroy wagon road.

The groups consist of 20 full claims: The Great Mine Group, 11 claims, owned by G. Jensen and E. J. Dailey; the Free Gold Group, 6 claims also owned by G. Jensen and E. J. Dailey; and the Rowe Group, 3 claims, two of which are owned by R. V. Rowe and E. C. Rowe, the other being owned by R. V. Rowe and M. M. Taylor. The claims are all contiguous and are at present bonded to the Alaska Bond & Investment Company. KK 115-8 KR 115-24

History

The Windham Bay placers were discovered 45 years ago and were the first placers to be worked in Alaska. The small creeks have been worked from tidewater to the mountain tops. Many thousands of dollars have been taken out of the district which is not over 6 miles square. An ounce a day to the man was the average yield in the early days. Placering still continues though in a desultory and half-hearted manner, sniping around in places that have been overlooked. The camp has dwindled from a population of two hundred to eleven.

In 1900 considerable activity was commenced in quartz mining. Five separate companies were organized which attempted to mine the largest of the numerous high-grade quartz stringers. The large stringers would pinch and disappear in a few hundred feet

and while there were plenty of small stringers present, the cost of mining so much country rock was too excessive for their small units.

KX115-22 The Windham Bay Consolidated Mining Company, known as the Red Wing Group, had 7 claims and a fraction, of patented ground. The property is three-quarters of a mile from the beach and on the first zone of mineralization. Their mill consisting of ten stamps with accompanying plates and vanners was operated by water power. The 4-foot high-grade quartz stringer they were mining pinched out after going in 400 feet and they ceased operations. In their endeavor to find the stringer again a drift was driven across the mineralized zone for 200 feet, showing numerous small quartz stringers in slate. The small quartz stringers carried values, but they were not numerous enough to consider the whole mass ore and mine and mill at a profit according to their small plant.

KX115-25 The California Alaska Mining Company, one and one-quarter miles from the beach and on the second zone of mineralization, had a high-grade free gold stringer on the side of the mountain at an elevation of 2350 feet. A mill of two batteries of four rotary stamps each, with plates and Wilfley tables was built in the basin below, and an aerial tram 3,000 feet long constructed to connect the prospect with the mill. Mining started on the high grade stringer, but the vein was lost in 25 feet and operations ceased. This stringer is located on the Great Mine Claim No. 10.

Adjoining to the northwest on this same mineralized zone is the Helvetia Mining Company's property of three patented claims now owned by C. W. Fries. Forty thousand dollars was spent here, mostly for surface improvements. A short drift of 25 feet was driven into the formation on a high-grade stringer and a longer drift of 350 feet was driven cutting the formation at an angle which exposed about 200 feet of slightly mineralized quartz stringers in schist. Assay returns did not warrant further development according to their equipment at hand and operations ceased. This property is on the extension of the Big Ledge exposed on the Great Mine Claims.

KX115-27 115-28

Three miles back from the beach appears the third zone of mineralization. Here the Windham Chief Gold Mining Company has two patented claims at an elevation of 2,300 feet. A mill was built consisting of two 300-lb. stamps with plates, with which they milled the ore taken from a 3-ft. high-grade quartz stringer. The stringer was lost after going in 300 feet and operations ceased. The small quartz stringers on this property were not numerous enough to mine and mill at a profit with their small equipment.

KX115-26

The development of the Mildred Group, opposite the float on the bay, by 600 feet of drifts and crosscuts did not show enough values to mine at that time, although there were 30 feet of quartz stringers in slate.

The Great Mine Group and Free Gold Group of claims are located on the top of Spruce Mountain, the elevation ranging from 2,350 feet to 4,400 feet. The Great Mine Group is located on the second zone of mineralization and consists of eleven full unpatented claims. The Big Ledge exposed on these claims by the melting of the snow, shows an outcrop 110 feet wide and over 2,000 feet long. The orebody consists of a mica schist full of small quartz stringers. Small ledges and stringers flank the big ledge for 100 feet on the hanging wall side and for 200 feet on the footwall side.

There are no surface improvements on the property. The development work consists of two trenches on No. 1 claim; one 20 feet long and 3 feet deep, the other 54 feet long and 3 feet deep.

KK 115-8

The Free Gold Group is located on the third zone of mineralization and consists of six full unpatented claims. The ledge here is not exposed as clearly as the showings on the Great Mine Group, talus and glaciers covering parts of it. The ledge is over 150 feet wide and consists of quartz stringers in schist. There are a few small stringers in schist on the footwall side and over 200 feet of stringers in slate on the hanging wall side.

There are no surface improvements. Development work consists of a 20-foot shaft at the summit of the mountain which was sunk on a high-grade stringer, and one trench 150 feet long and 3 feet deep crosscutting the vein. This high-grade stringer shows galena, sphalerite, pyrite and free gold.

The Howe Group of claims is on the extension of the Great Mine Group, the claims lying lower down the side of the mountain. The elevation here ranges from 1,350 feet to 2,350 feet. Vegetation covers the rocks, so exposures are noted only where streams have cut the formation or trenches have been dug. There are no surface improvements on the property. A 25-foot drift on the lower claim exposes slate with a few quartz stringers. On the middle claim a drift 215 feet long driven with the formation and then crosscutting it shows 30 feet of quartz stringers in slate. On the upper claim a short drift exposes stringers up to 4 inches wide in slate carrying galena, sphalerite, pyrite, and free gold. Further up on this claim an 8-inch quartz stringer carrying free gold is exposed along the surface for 600 feet. It does not strike and dip with the rest of the formation, but cuts it at an angle.

KK 115-24

Geology

The Windham Bay district is on the lower end of the Juneau Gold Belt. The Juneau Gold Belt is a band of alternating schists, slates and greenstones extending along the coast of Southeastern Alaska for 120 miles, from Eagle River on the north to Windham Bay on the south. The rocks in this belt have been greatly fractured during their period of metamorphism. The fractures that were opened up have been filled with quartz by aqueous solutions, which also carried with them minerals of value, mainly gold, but some silver, lead, zinc and iron.

The fractures appear in the slates and schists as small stringers of quartz varying in width from a fraction of an inch up to several feet in several instances. Their length is generally but a few feet, yet the larger ones have been traced for several hundred feet before they gradually pinched out. Where fracturing has been intense in the slates and schists, a zone of numerous small quartz stringers occurs. These zones of small quartz stringers form the present orebodies. To mine the high-grade stringers themselves has been found impracticable since they are so small and indefinite, but by taking in the whole zone of mineralized stringers and mining the whole mass, both stringers and intervening country rock, it becomes an extensive orebody of low grade.

There are three known zones of mineralization in this district. The first one is three quarters of a mile from the beach; the second one and one-quarter miles and the third one about three miles. The width of each zone varies from about 300 feet to 600 feet. They are approximately parallel, each one striking N. 20° W. The outcrops can be traced for over four miles to where they go under Endicott Arm.

Some of the mines which are in the Juneau Gold Belt are the Treadwell Group, the Alaska Gastineau, the Alaska Juneau, the Ebner, and Eagle River Mines.

Future Operation

The surface showings on these properties fully warrant further development. A complete scheme of development will have to be outlined for them, from a viewpoint of extensive low-grade deposits. First, the orebody will have to be proved, additional claims located and surrounding ones taken over. Tunnel sites, mill sites and dock sites will have to be located so as to give the greatest advantages. Water for both power and mill purposes will have to be decided upon.

Proving the Orebody

The outcrops on the Free Gold, Great Mine and Rowe properties indicate large deposits which from their nature should extend to depth.

The surface samples taken on these properties are not reliable as snows and glaciers have scraped over the rocks year after year, but they show the presence of values. From some of the high-grade stringers specimens can be taken carrying galena, sphalerite, pyrite, and free gold, but to surface sample a property of this size would not lead to any definite conclusion since the samples are not reliable. The expenditure of money would also be too great.

A diamond drill would be very adaptable for this property since it would prove both the extent and value of the orebody. Development by tunnels and shafts would be too expensive—tunneling costs from $10 to $20 per foot, shaft sinking $30 to $40 per foot—while diamond drilling in this kind of rock would not cost over $2.75 per foot. The speed of diamond drilling is from 25 to 35 feet per day of 24 hours. The number of holes and the depth of each one will depend upon the assay value of the core. A few short holes 400 to 500 feet in length should be put in first on top of the mountain to determine the exact extent and value of the orebody. Then longer and deeper holes should be put in lower down on the side of the mountain, which lower holes would prove the extent and value of the orebody at depth.

Additional Locations

There are few surrounding claims at present. The taking over of these and the location of additional adjoining claims would increase the extent of the orebody and effectually block all conflicting claim litigation.

When the first few diamond drill holes have proven the orebody a definite plan will have to be worked out whereby the ore can be mined cheaply and the required tonnage produced every day. The caving system now used at the Alaska Gastineau so successfully whereby the ore is mined for 14 cents per ton would be adaptable to this ore.

Methods of Milling

Experimental mill tests will have to be run on the ore to determine the exact flow sheet of the mill to be erected. But as the ore is very similar to that of the Alaska Gastineau the general requirements for treating it are known. The mill will have to be of large tonnage and constructed of the best material and machinery that can be bought, in order to reduce the operating expenses and tailing losses to a minimum. The milling costs at the Alaska Gastineau now milling 5,000 tons per day is 25 cents per ton. The tailings losses run from 16 cents to 25 cents per ton. This mill is modern in every respect and is now only running at half capacity due to the

lack of ore from the mine. When the full tonnage of 10,000 tons is reached the cost will be considerably lowered.

Tunnel Sites

There are three possible tunnel sites with adjacent mill sites available. These can be easily seen from the map of the district and their advantage and disadvantage noted.

Endicott Arm

The location of a mill on Endicott Arm on the extension of the orebody would give a good mill site, good water transportation the year round and ample water for mill purposes. There are no claims staked here at present. The objection would be the long drive of over two miles to the property we now hold and the intervening patented claims.

Windham Bay

The location of a mill on the side of Spruce Mountain at Windham Bay would give a good mill site, a short drive of 5,000 feet to the orebody and water for milling purposes. The objections would be the necessity of driving through the Red Wing Group of claims, a harbor that is frozen for two months in winter and an extensive mud flat. A tram of about one mile long would have to be built to the dock.

Sylva Creek

A mill site located on the hill at the mouth of Sylva Creek would afford a good mill site and a drive of 7,000 feet to the orebody. The objections would be poor wharfage facilities, a long tram and insufficient water for milling purposes in winter.

Water Power

There are numerous water power sites in this district. Two adjacent ones, Shuck River and Sylva Creek, were located upon and are included with these properties.

Shuck River

The Shuck River, which flows into Windham Bay, runs through a narrow canyon for two miles near its mouth. The stream is 45 to 50 feet wide, 4 feet deep and fairly constant the year round. By taking the water out of the stream at the head of the canyon and fluming it down the side about 100 feet of head is obtained. Roughly measured the stream has a flow of 853 cu. ft. per second which gives 6,300 H.P. available at 65 per cent efficiency. By building a dam in the canyon

the head of the water could be raised another 100 feet and a large storage lake 7 miles long made. This would double the available horse-power.

Sylva Creek

Sylva Creek is a small creek 15 feet wide and 2 feet deep which flows into Shuck River near its mouth. For the first 1¼ miles the stream has a series of cascades, after which it flattens out. By taking the water out of the stream at the head of the cascades and fluming it along the side of the hill for 1¼ miles a head of 525 feet is possible. The stream had a flow of 97 cu. feet per second when measured which would give 3,575 H. P. available at 65 per cent efficiency. The stream was measured in September and is high at this time of the year. The volume decreases during the winter months due to the freezing of the glaciers at its head.

Employees

The employees naturally divide themselves into two classes, the surface men and the underground men. The surface men including millmen, mechanics, etc. are mostly Americans, while the underground men are mostly foreigners from Europe. There are no mine labor unions. Working hours for miners are fixed at 8 hours by law. Everybody but office men work Sundays.

Scale of wages

Surface	Wages	Hours
Carpenters	$6.00	9
Mechanics	5.00	9
Amalgamators	4.00	8
Repairmen	4.00	8
Millmen	3.50	8
Clean up men	3.00	9
Underground		
Shift bosses	5.00	8
Hoistmen	4.00	8
Pump men	3.50	8
Machine men	3.50	8
Machine helpers	3.25	8
Trammers	3.25	8
Muckers	3.00	8

Possible Tonnage

Big Ledge, Great Mine Group.....	98,800,000	tons
Ledge, Free Gold Group.....	114,700,000	"
Ledge, Rowe Group.....	32,200,000	"
	245,700,000	"

Gives a life of 67 years at 10,000 tons per day. This tonnage is all above the 700-foot development tunnel and requires no hoisting.

Estimated Cost

Mining.....	25¢
Tramming.....	4¢
Milling.....	25¢
Tailing loss...	30¢
	84¢

Rock carrying 92 cents per ton in value will be ore by including interest on capital and depreciation of plant.

Costs at Alaska Gastineau

Mining.....	14¢	Caving system
Tramming.....	3¢	2-mile tunnel and 2-mile surface tram
Milling.....	25¢	High, not running full capacity
Tailings.....	23¢	Run from 16 to 25 cents
	65¢	Heads average $1.50, milling 5,300 tons per day

Estimates on mining and milling at the Alaska Juneau by Fred Bradley, 80 cents per ton.

Costs at Alaska Treadwell Mine, 1914, P. R. Bradley

Mining.....	68.9¢	per ton,	Overhead stoping
Milling.....	25.7¢	" "	Stamps and vanners
Tailing loss...	36.0¢	" "	
	$1.306		

Samples

Sample No.	Gold Value	Where taken
1	—	Dump at shaft on Free Gold Group.
2	—	15' crosscut footwall side of Silent Friend claim--Rowe Group.
3	—	15' crosscut hanging wall side of Silent Friend claim--Rowe Group.
4	—	150 ft. trench, Free Gold Group.
5	—	54 ft. trench, Great Mine, No. 1 claim.
6	—	20 ft. " " " " " "
7	—	110 ft. crosscut, Red Wing upper tunnel.

References

Bull. 287, U. S. G. S., The Juneau Gold Belt, Arthur Spencer and C. W. Wright, 1906.

Mining and Scientific Press, Alaska Treadwell Report, July 17, 1915.

Alaska Juneau Report, Fred Bradley.

Map of district and stratigraphic section.

Photographs.

Note: Spent 8 days on property, August 31 to September 7, 1915.

(Sgd)

Sept. 29, 1915 Thane, Alaska.

Gudmund Jensen
Juneau Alaska
P.O. Box 703

R E P O R T.

GREAT MINE---FREE GOLD --- ROWE PROPERTIES.

ALASKA GOLD AND INVESTMENT CO.,

The properties under consideration are large deposits of low grade ore. The natural advantages of their location, combined with the nearness to tidewater, an excellent harbor, good climate, abundant water power, cheap mining and ease of extracting the values from the ore make the claims very advantageous for development.

The large scale production necessary to successfully operate these properties will require considerable capital and several years of active development work before actual production will be able to start.

LOCATION.

The Great Mine, Free Gold and Rowe lode mining groups are located at Windham Bay, Alaska; 65 miles southeast of Juneau. The properties lie on the mountain 2 miles from the Windham Bay P.O. at an elevation of 1350 ft. to 4400 ft. and are reached by a corduroy wagon road.

The Groups consist of 20 full claims; the Great Mine Group, 11 claims, owned by G. Jensen and ~~E.J. Dailey,~~ the Free Gold Group, 6 claims also owned by G. Jensen and ~~E.J. Dailey,~~ and the Rowe Group, 3 claims, two of which are owned by R.V. Rowe ~~and~~

~~D.C.Rowe,~~ the other being owned by R.V.Rowe ~~and [illegible] Taylor.~~ The claims are all contiguous and are at present bonded to the Alaska Bond and Investment Co. ~~was~~ in 1916 was cancelled and they was forced to quit and now all went back to the owners.

HISTORY.

The Windham Bay placers were discovered 45 years ago and were the first placers to be worked in Alaska. The small creeks have been worked from tidewater to the mountain tops. Many thousands of dollars have been taken out of the district which is not over 6 mi. square. An ounce a day to the man was the average yield in the early days. Placering still continues though in a desultory and half hearted manner, sniping around in places that have been overlooked. The camp has dwindled from a population of Two hundred to eleven.

In 1900 considerable activity was commenced in quartz mining. Five seperate companies were organized which attempted to mine the largest of the numerous high grade quartz stringers. The large stringers would pinch and disappear in a few hundred feet and while there were plenty of small stringers present, the cost

of mining so much country rock was too excessive for their small units.

The Windham Bay Consolidated Mining Co., known as the Red Wing Group had seven claims and a fraction,of patented ground. The property is three quarters of a mile from the beach and on the first zone of mineralization. Their mill consisting of ten stamps with accompanying plates and vanners was operated by water power. The 4 ft. high grade quartz stringer they were mining pinched out after going in 400 ft. and they ceased operations. In their endeavor to find the stringer again a drift was driven across the mineralized zone for 200 ft. showing numerous small quartz stringers in slate. The small quartz stringers carried values but they were not numerous enough to consider the whole mass ore and mine and mill at a profit according to their small plant.

The ~~California Alaska~~ Mining Co., one and one quarter miles from the beach and on the second zone of mineralization had a high grade free gold stringer on the side of the mountain at an elevation of 2350 ft. A mill of two batteries of four rotary stamps each,with plates and Wilfley tables was built in the basin below,and an aerial tram 3000 ft. long constructed to connect the prospect with the mill. Mining started on the high grade stringer but the vein was lost in 25 ft. and opperations ceased. This stringer is located on the Great Mine Claim No.10.

Adjoining to the northwest on this same mineralized zone is the Helvetia Mining Co's property of three patented claims now owned by C...fries, Forty thousand dollars was spent here, mostly for surface improvements. A short drift of 25 ft. was driven into the formation on a high grade stringer and a longer drift of 350 ft. was driven cutting the formation at an angle which exposed about 200 ft of slightly mineralized quartz stringers in schist. Assay returns did not warrant further development according to their equipment at hand and operations ceased. This property is on the extension of the Big Ledge exposed on the Great Mine Claims.

Three miles back from the beach appears the third zone of mineralization. Here the Windham Chief Gold Mining Co. has two patented claims at an elevation of 2300 ft. A mill was built consisting of two 300 lb. stamps with plates; with which they milled the ore taken from a 3 ft high grade quartz stringer. The stringer was lost after going in 300 ft. and operations ceased. The small quartz stringers on this property were not numerous enough to mine and mill at a profit with their small equipment.

The development of the Mildred Group, opposite the float on the bay, by 600 ft. of drifts and crosscuts did not show enough values to mine at that time, although there were 30 ft. of quartz stringers in slate.

The Great Mine Group and Free Gold Group of claims are located on the top of Spruce Mt. the elevation ranging from 2350 ft. to 4400 ft. The Great Mine Group is located on the second zone of mineralization and consists of eleven full unpatented claims. The Big Ledge exposed on these claims by the melting of snow, shows an outcrop 110 ft wide and over 2000 ft long. The ore body consists of a mica schist full of small quartz stringers, small ledges and stringers flank the big ledge for 100 ft. on the hangingwall side and for 200 ft on the footwall side.

There are no surface improvements on the property. The development work consists of two trenches on No.1 claim; one 20 ft. long and 3 ft deep, the other 54 ft.long and 3 ft. deep.

The Free Gold Group is located on the third zone of mineralization and consists of six full unpatented claims. The ledge here is not exposed as clearly as the showings on the Great Mine Group, talus and glaciers covering part of it. The ledge is over 150 ft.wide and consists of quartz stringers in schist. There are a few small stringers in schist on the footwall side and over 200 ft.of stringers in slate on the hangingwall side.

There are no surface improvements. Development work consists of a 20 ft.shaft at the summit of the mountain which was sunk on a high grade stringer, and one trench 150 ft.long and 3 ft. deep cross cutting the vein. This high grade stringer shows

galena, sphalerite, pyrite and free gold.

The Rowe Group of claims is on the extension of the Great Mine Group, the claims lying lower down the side of the mountain. The elevation here ranges from 1350 ft to 2350 ft. vegetation covers the rocks, so exposures are noted only where streams have cut the formation or trenches have been dug. There are no surface improvements on the property. A 25 ft. drift on the lower claim exposes slate with a few quartz stringers. On the middle claim a drift 215 ft. long driven with the formation and then cross cutting it, shows 30 ft of quartz stringers in slate. On the upper claim a short drift exposes stringers up to 4" wide in slate, carrying, galena, sphalerite, pyrite and free gold, further up on this claim an 8" quartz stringer carrying free gold is exposed along the surface for 600 ft. It does not strike and dip with the rest of the formation but cuts it at an angle.

GEOLOGY.

The Windham Bay District is on the lower end of the Juneau Gold Belt. The Juneau Gold Belt is a band of alternating schists, slates and greenstones extending along the coast of Southeastern Alaska for 120 miles, from Eagle River on the north to

Windham Bay on the south. The rocks in this belt have been greatly fractured during their period of metamorphism. The fractures that were opened up have been filled with quartz by aqueous solutions, which also carried with them minerals of value, mainly gold but some silver, lead, zinc and iron.

The fractures appear in the slates and schists as small stringers of quartz, varying in width from a fraction of an inch up to several feet in several instances. Their length is generaly but a few feet yet the longer ones have been traced for several hundred feet before they gradually pinched out. Where fractureing has been intense in the slates and schists, a zone of numerous small quartz stringers occurs. These zones of small quartz stringers form the present ore bodies. To mine the high grade stringers themselves has been found impracticable since they are so small and indefinate. But by taking in the whole zone of mineralized stringers and mining the whole mass, both stringers and intervening country rock, it becomes an extensive ore body of low grade.

There are three known zones of mineralization in this district. The first one is three quarters of a mile from the beach the second one and one quarter miles and the third one about 3 miles.

The width of each zone varies from about 300 ft. to 600 ft. They are aproximately parallel,each one striking North 20° West. The outcrops can be traced for over four miles to where they go under Endicott Arm.

Some of the mines which are in the Juneau Gold Belt are the Treadwell Group,the Alaska Gastineau,The Alaska Juneau,the Ebner,and Eagle River Mines.

FUTURE OPERATION.

The surface showings on these properties fully warrant further development. A complete scheme of development will have to be outlined for them, from a viewpoint of extensive low grade deposits. First the orebody will have to be proved; additional claims located and surrounding ones taken over. Tunnel sites,Mill sites, and Dock sites will have to be located so as to give the greatest advantages. Water for both power and mill purposes decided upon.

PROVING THE ORE BODY.

The outcrops on the Free Gold, Great Nine and Howe properties indicate large deposits which from their nature should extend to depth. The surface samples taken on these properties are not reliable as snows and glaciers have scraped over the rocks year after year but they show the presence of values. From some of the high grade stringers specimens can be taken carrying galena, shpalerite, pyrite and free gold. But to surface sample a property of this size would not lead to any definate conclusion since the samples are not reliable. The expenditure of money would also be too great.

A diamond drill would be very adaptable for this property since it would prove both the extent and value of the ore body. Development by tunnels and shafts would be too expensive; trenching costs from $10 to $20 per foot, shafting sinking $30 to $40 per ft. while diamond drilling in this kind of rock would not cost over $2.75 per ft. The speed of diamond drilling is from 25 to 35 ft per day of 24 hours. The number of holes and depth of each one will depend upon the assay value of the core. A few short holes 400 to 500 ft. in length should be put in first on top of the mountain, to determine the exact extent and value of the ore body. Then longer and deeper holes should be put in lower down on the side of the mountain, which lower holes would prove the extent and value of the ore body at depth.

ADDITIONAL LOCATIONS.

There are few surrounding claims at present. The taking over of them and the location of additional adjoining claims would increase the extent of the ore body and effectually block all conflicting claim litigation.

MINING THE ORE.

When the first few diamond drill holes have proven the ore body a definate plan will have to be worked out whereby the ore can be mined cheaply and the required tonnage produced every day. The caring system now used at the Alaska Gastineau so successfully whereby the ore is mined for 14¢ per ton would be adaptable to this ore.

METHODS OF MILLING.

Experimental mill tests will have to be run on the ore to determine the exact flow sheet of the mill to be erected. But as the ore is very similar to that of the Alaska Gastineau the general requirements for treating it are known. The mill will have to be of large tonnage and constructed of the best material and machinery that can be bought, in order to reduce the operating expenses and tailing

losses to a minimum.

The milling costs at the Alaska Gastineau now milling 5000 tons per day is 25¢ per ton. The tailings losses run from 16¢ to 25¢ per ton. The mill is modern in every respect and is now only running at half capacity due to lack of ore from the mine. When the full tonnage of 10,000 tons is reached the cost will be considerably lowered.

TUNNEL SITES.

There are three possible tunnel sites with adjacent Mill sites available. These can be easily seen from the map of the district and their advantage and disadvantages noted.

ENDICOTT ARM.

The location of a mill on Endicott Arm on the extension of the ore body would give a good millsite, good water transportation the year round and ample water for mill purposes. There are no claims staked here at present. The objections would be the long drive of over two miles to the property we now hold and the intervening patented claims.

WINDHAM BAY.

The location of a mill on the side of Spruce Mountain at Windham Bay would give a good millsite, a short drive of 5000 ft. to the ore body and water for milling purposes. The objections would be the necessity of driving through the Red Wing Group of claims, a harbor that is frozen for two months in winter and an extensive mud flat. A tram of about one mile long would have to be built to the dock.

SYLVA CREEK.

A Millsite located on the hill at the mouth of Sylva Creek would afford a good millsite and a drive of 7000 ft to the ore body, The objections would be poor wharfage facilities, a long tram and insufficient water for milling purposes in winter.

WATER POWER.

There are numerous water power sites in this district, Two adjacent ones Shuck River and Sylva Creek were located upon and are included with these properties. The Shuck R. which flows into Windham Bay runs through a narrow canyon for 2 miles near its mouth. The stream is 45 to 50 ft wide and 4 ft deep, and fairly constant the year round. By taking the water out of the stream at the head of the canyon and fluming it down the side about 100 ft of head is obtained.

Roughly measured the stream has a flow of 853 cu.ft.per second which gives 6300 H.P. available at 65% effeciency. By building a dam in the canyon the head of the water could be raised another 100 ft.and a large storage lake 7 miles long made. This would double the available horse-power.

SYLVA CREEK.

Sylva Creek is a small creek 15 ft wide and 2 ft deep which flows into Schuck R. near its mouth. For the first 1¼ miles the stream has a series of cascades after which it flattens out. By taking the water out of the stream at the head of the cascades and fluming it along the side of the hill for 1¼ mi. a head of 525 ft.is possible. The stream had a flow of 97 cu.ft.per second when measured,which would give 3575 H.P. available at 65% efficiency. The stream was measured in September and is high at this time of the year. The volume decreases during the winter months due to the freezing of the glaciers at its head

EMPLOYEES.

The employees naturally divide themselves into two classes, the surface men and the underground men. The surface men including millmen,mechanics etc are mostly Americans while the underground men are mostly foreigners from Europe. There are no mine labor unions.

Working hours for miners are fixed at 8 hrs. by law. Everybody but office men work Sundays.

SCALE OF WAGES.

SURFACE.

Carpenters	$6.00	9 hours.
Mechanics	5.00	9 "
Amalgamators	4.00	8 "
Repairmen	4.00	8 "
Millmen	3.50	8 "
Clean up men	3.00	9 "

UNDERGROUND.

Shift Bosses	5.00	8 "
Pump men	3.50	8 "
Hoistmen	4.00	8 "
Machine men	3.50	8 "
Machine helpers	3.25	8 "
Trammers	3.25	8 "
Muckers	3.00	8 "

POSSIBLE TONNAGE.

Big Ledge- Great Line Group	96,800,000	tons.
Ledge - Free Gold Group	114,700,000	"
Ledge - Rowe Group	32,200,000	"
TOTAL,	245,700,000	"

Gives a life of 67 years at 10,000 tons per day. This tonnage is all about the 700 ft. development tunnel and requires no hoisting.

ESTIMATED COST.

Mining,	25¢
Tramming	4¢
Milling	25¢
Tailing loss	30¢
Total,	84¢

Rock carrying 92¢ per ton in value will be ore by including interest on capital and depreciation of plant.

COSTS AT ALASKA GASTINEAU.

Mining 14¢, Caring System,
Tramming, 3¢- 2 mi. tunnel and 2 mi. surface tram.
Milling, 25¢- High; not running full capacity.
Tailings, 23¢- Run from 16 to 25¢
Total 65¢ Heads average $1.50; milling 5300 tons per day.

Estimates on mining and milling at the Alaska Juneau by Fred Bradley, 80¢ per ton.

Cost at Alaska Treadwell Mines 1914, J.A.Bradley.

Mining	$ .689	per ton	overhead stoping.
Milling	.257	" "	stamps and vanners.
Tailing loss	.360		
	1.306		

SAMPLES.

	Where taken.
No. 1	Dump at shaft on Free Gold Group.
2	15' cross cut footwall side of Silent Friend claim; Rowe Group.
3	15' crosscut hanging wall side of S.F.clm.
4	150 ft tunnel Free Gold Group.
5	54 ft trench, Great Mine glclaim
6	20 ft " " " "
7	100 ft crosscut Red Wing upper tunnel.

REFERENCES,

Bull.287- U.S.G.S. -The Juneau Gold Belt, Arthur Spencer and C.W.Wright, 1906.
Mining and Scientific Press, Alaska Treadwell Report, July 17, 1915. Alaska Juneau Report-Fred Bradley.
Map of district and Stratigraphic Section Photographs.

Note. Spent 8 days on property, Aug.31 to Sept.7th.1915.

(Signed)

Sept.29,1915. Thane Alaska.

One Copy of

Report

Great Mine - - - Free Gold - - - Rowe Properties

Alaska Bond & Investment Co.

by (?) ~~(Art Thorne~~ (?) - 1915

NO.

One Copy of

KX115.8
I15.24

Agreement

Between G. Jenson / Ed. Dailey

and Alaska Bond & Investment Co.

A G R E E M E N T.

THIS AGREEMENT made and entered into this 21st day of August, A. D., 1915, between G. Jensen, of Juneau, Alaska, E. J. Dailey, of Juneau, Alaska, parties of the first part; and the ALASKA BOND AND INVESTMENT COMPANY, a corporation, of the same place, party of the second part;

WITNESSETH: That the parties of the first part, for and in consideration of the covenants, promises, and agreements upon the part of the said party of the second part to be kept and performed as hereinafter stated, do by these presents, grant unto the said party of the second part, the option to purchase those seventeen (17) certain lode claims, mill sites and water rights, situated in the Juneau Recording Precinct, Harris Mining District, Territory of Alaska, which said lode claims, mill sites and water rights are recorded in the Recorder's Office for the Juneau Precinct, as follows:

No. 1	Free	Gold	Shaft	Mine	- on	page	25	Book	23	Lodes.
No. 2	"	"	"	"		"	25	"	23	"
No. 3	"	"	"	"		"	26	"	23	"
No. 4	"	"	"	"		"	27	"	23	"
No. 5	"	"	"	"		"	27	"	23	"
No. 6	"	"	"	"		"	28	"	23	"
No. 1	Great	Mine				page	29	"	23	"
No. 2	"	"				"	29	"	23	"
No. 3	"	"				"	30	"	23	"
No. 4	"	"				"	31	"	23	"
No. 5	"	"				"	31	"	23	"
No. 6	"	"				"	32	"	23	"
No. 7	"	"				"	33	"	23	"
					Located May 25, 1915.					
No. 8	on the Great Mine					page	523	"	23	"
					Located May 15, 1915.					
No. 9	on the Great Mine					page	522	"	23	"
					Located July 11, 1915.					
~~No. 6a on the Great Mine~~						~~page~~	~~12~~	~~"~~	~~24~~	~~"~~
No. 9 (9A) to the Great Mine						"	12	"	24	"

Terminal claim Bk 23 pg 450

Water Rights.

Water 50,000 inches — April 17, 1915.
Junction of Silver Creek & Shuck River.
Page 177 - Book 20 Misc.

Water 50,000 inches — April 19, 1915.
On Shuck River Windham Bay
Page 177 - Book 20 Misc.

Proofs of Labor Free Gold Mine
Page 10--Book 24

Proofs of Labor - Great Mine
Page 11--Book 24

Mill Sites.

2½ acres Great Mine Mill Sites — April 9, 1915.
Page 178 - Book 20 Misc.

2½ acres Power Site — April 9, 1915.
Page 178 - Book 20 Misc.

Said claims were located by G. Jensen August 11, 1914, part in May 25, 1915, part in May 15, 1915, part in July 11, 1915.

Water rights were located in April 17, 1915 and April 19, 1915.

Mill sites were located April 9, 1915.

The records of the above have been duly recorded in the office of the Recorder for the Juneau Recording District, Territory of Alaska. Said claims consolidated being now known as the Windham Consolidated Mines, at such times as hereinafter stated and for the performance of such work and the payment of certain sums as hereinafter stated;

And it is agreed between the parties of the first part and the party of the second part that said option shall

become effective on the 1st day of August, 1915.

And it is further agreed that the life of the option shall be conditioned on the continuous employment of three men (Sunday's excepted) upon said claims in such assessment work as shall be a permanent improvement to said claims, beginning with the first day of May 1916, and continuing until the last day of September 1916, or until such time as the assessment work is completed.

And it is agreed that the work of said three men shall constitute over seventeen hundred dollars ($1,700.00) worth of assessment work on said claims, and the second party agrees to have the affidavit of annual labor required by law made and filed within the time required by law.

And it is further agreed between said parties that upon the failure of the party of the second part to keep three men thus continuously employed upon said claims, save under conditions over which said party of the second part has no control, said second party shall inform within fifteen (15) days of the failure to fulfil the obligation said first parties of this fact and relinquish all rights to this option.

And it is agreed between said parties that upon the performance of the above conditions the party of the second part shall pay on the 1st day of October 1916, the sum of one thousand dollars ($1,000.00) in gold coin of the United States or its equivalent to each of the parties of the first part at the B. M. Behrends Bank, Juneau, Alaska.

And it is agreed between said parties that upon the performance of the above conditions and the completion of the proper assessment work, the party of the second part shall pay an additional sum on the 1st day of October,1917, of five thousand dollars ($5,000.00) to each of the two parties of the first part at the B. M. Behrends Bank at Juneau, Alaska.

And it is agreed between said parties that upon the performance of the above conditions and the completion of the proper assessment work, the party of the second part shall pay an additional sum on the 1st day of October,1918, of ten thousand dollars ($10,000.00) to each of the two parties of the first part at the B. M. Behrends Bank at Juneau, Alaska.

And it is agreed between said parties that upon the performance and fulfilment of the above conditions and the completion of the proper assessment work, the party of the second part shall pay an additional sum on the first day of October 1919, of twenty thousand dollars ($20,000.00) in gold coin of the United States or its equivalent to each of the two parties of the first part at the B. M. Behrends Bank at Juneau, Alaska.

And it is further agreed between said parties that upon the performance and fulfilment of the above conditions and the completion of the proper assessment work, the party of the second part shall pay an additional sum on the first day of October, 1920, thirty thousand dollars ($30,000.00) in gold coin of the United States or its equivalent to each

of the parties of the first part at the B. M. Behrends Bank at Juneau, Alaska.

And it is agreed between the parties of the first part and the party of the second part that the sum or total of the amounts paid in gold coin or its equivalent for said mining claims to the parties of the first part by the party of the second part shall not exceed one hundred thirty two thousand dollars ($132,000.00).

And it is further agreed between said parties that upon the organization of an operating company on the part of the Alaska Mines and Development Company, to mine and mill the ores of said claims, each of the parties of the first part, shall receive in value fifty thousand dollars ($50,000.00) non-assessable stock stock in said mining and milling company.

And it is further agreed that the said parties of the first partcocovenants and agree upon the receipt of the above said payments and upon the performance of proper assessment work, to execute and deliver to said party of the second part,their heirs or assigns, a good and sufficient deed of grant, bargain and sale of said mining claims, free and clear of any liens or incumbrances made or suffered by them.

The party of the second part further covenants and agrees that upon the failure to perform the covenants set forth herein they will quit and surrender said premises in as good order and condition as the same are now in.

And it is further agreed by the party of the second part that upon the surrender of the option, such records of assay values of the ore as have been obtained on the claims shall be turned over in a proper and comprehensive state for the use of the parties of the first part.

WITNESS our hands and seals the day and year first above written.

Signed,Sealed and Delivered in presence of:

L. J. Wynne

D. S. Shoars

G. Jensen (Seal)

E. J. Dailey (Seal)

Parties of First Part.

ALASKA BOND AND INVESTMENT CO.

By H. H. Smith.

President. Sing.

Party of Second Part.

UNITED STATES OF AMERICA
TERRITORY OF ALASKA } ss

This is to certify that on this 21st day of August, A. D., 1915, before me the undersigned, personally appeared, G. Jensen, and E. J. Dailey, and they and each of them did then and there acknowledge to me that they made, executed and delivered the above and foregoing instrument as their free act and deed for the uses and purposes therein set forth; and also at the same time appeared before me H. H. Smith, to me known to be the agent of the Alaska Bond And Investment Company, a corporation, and the said H. H. Smith then and there acknowledged to me that he made, executed and delivered the above and foregoing instrument in writing as the free act and deed of said Alaska Bond and

Investment Company, and for and on its behalf, for the uses and purposes in said agreement set forth.

Simm Hellenthal

Notary Public in and for the
Territory of Alaska.

My commission expires Nov 30. 1917.