PE-077-01

PE 77-1

PRELIMINARY REPORT OF PLACER HOLDINGS OF AHTELL MINING COMPANY,
SLANA MINING DISTRICT
September 4, 1936.

Location and Accessibility:

The Ahtell Mining Company holds and operates upon a group of 23 placer claims located on Ahtell and Grubstake Creeks, approximately 4½ miles north of Mile 69½, Nabesna road. Ahtell Creek joins the Slana River one mile above the latter's mouth where it empties into the Copper River. Ahtell is a medium sized stream, approximately 15 miles in length, and occupies a large and wide U-shaped glacial valley with rugged mountains at its head, through less rugged foothills, out on the wide flat valley of the Slana River. Its course is generally south and a little east, and it meanders considerably over its wide glacial filled valley. Grubstake Creek, a small tributary of Ahtell, flows into Ahtell from the northeast approximately 7 to 8 miles above its junction with Slana River. Its length is a mile and a half and heads well up on a bare mountain above timber line at an elevation of 4800', and flows across a wide glacial valley into a narrow V-shaped valley, 3,000' in length into the glacial valley of Ahtell Creek. At this point it has built up a large alluvial fan. This fan covers several acres, and it was reported to run fine gold colors. It is no doubt underlain by glacial moraine gravels. The elevation of its mouth is 3100', and thus a fall of 1500' over its entire length. Its largest tributary is Rainbow Creek whose length is approximately half a mile and joins Grubstake from the south at a point midway of the latter's length. Rainbow occupies the wide glacial valley to the south which Grubstake crosses. Above the junction of Rainbow, Grubstake is partly fed by underground cold water springs. The sources of these springs is believed to be a small pothole lake located 1200' north and 100' above the creek bed at the point of junction. This lake is small, only 400' in length and 200' in width, and its depth is unknown. It lies in a position in the center of the glacial valley between two talus slopes with no surface drainage into it other than melting snow and rain from the slopes. The presence of this pothole lake together with glacial gravels and silt give positive evidence of a glacial valley. This glacial valley has a length of nearly two miles, heads to the south a mile from Grubstake Creek and extends into the glacial valley of Ahtell to the northwest, as a glacial hanging valley.

A rough caterpillar road has been built from Mile 69, Nabesna road, across to the valley of Ahtell Creek and part way up Grubstake a distance of 7½ miles by the owners with some assistance from the Alaska Road Commission. This road is used only during winter weather, but with a few lengths of corduroy this road could be used during the summer operating season. A trail leads off at Mile 69½, Nabesna

road which is a shorter route, but follows the road up Ahtell Creek valley. One bridge made of log stringers with cross poles and brush on top is maintained across Ahtell Creek.

Owners:

This company, known as the Ahtell Mining Company, consists of four equal share owners. L. Dewitt is president and the remaining three members are Gus Johnson, Chas. Swanson and G. M. Olsen. This company owns 23 placer claims on Ahtell and Grubstake Creeks and the Comstock group of 8 lode claims at the head of Grubstake Creek. The members of the company handle their own operations and no outside labor is hired.

History and Development:

Gold had been found on Grubstake Creek in the early days of this region. Old placer diggings and small boulder piles are in evidence part way up from its mouth. No doubt the conditions of a broken and shattered bedrock, considerable slide rock and scattered pay were the reasons for abandoning this creek at that time. Had the operations at that time been extended further upstream, the discovery of 1934 would have been found. In the summer of 1934, Chas. Swanson and G. M. Olsen, prospecting on Grubstake Creek, found pay gravel a few feet above its junction with Rainbow Creek. They built a small automatic dam and sluiced the remainder of the season. An opencut was made 150' in length and 18' in width. In this cut a small area 18'x20' was found to contain good pay. This was worked to a depth of 14' at which depth a glacial silt was encountered which contained only fine colors. Bedrock was not reached and what occurs below this silt is unknown. From this cut $700 in both fine and coarse rough gold was taken.

Last year operations were moved to No. 1 claim below Discovery, 400' below discovery pit. A pipe line was constructed and one giant was put into operation. A cabin was constructed on Ahtell Creek near the mouth of Grubstake and a caterpillar road was constructed during the winter months. Hydraulicking was started in No. 2 pit (note accompanying sketch) during the first week in June. During the operating season a pit 200' in length and 40' in width was hydraulicked. The depth varies from a few feet in the present creek bed to 15' on the banks. On the north side of this pit the bedrock was found to be dipping north away from the present creek bed. The creek valley narrows to 200' in width at this point with steep rising bedrock sides covered with talus. From this pit 1700 cu. yards were sluiced with some bedrock and $1,800 in gold was recovered.

This season a small cabin was built on No. 1 claim below discovery and a pipe line was extended to 1400' in length. Operations were moved 300' downstream. Thus No. 3 pit was started and bedrock encountered at a depth of 8 to 12 feet. From this pit 150' in length and 40' in width 40 ounces of gold had been recovered on date of visit and 20 ounces more were expected from the remaining concentrates to be cleaned. The amount of ground moved was estimated approximately 1100 cu. yards. Conditions this year were not as favorable due to the facts that some of the tailings of last year had to be reworked and bedrock was found to be considerably fractured, as a result, some gold was lost. The operating season is short, and extends from the first of June to the last of September. The company plans to prospect No. 2 pit with a tunnel on the north bank following the dipping bedrock. Next season a pipe line is proposed from a dam on Rainbow across to Grubstake and thence across to the small lake and thence down to pits, giving a 100' head. The lake is to be used as a reservoir during dry periods of the season.

Machinery:

The company owns a 22 H. P. caterpillar tractor with which supplies are transported to the property during winter months. A 1400' pipe line has been installed, reduced from 15" to 7" with a 50' head, and one giant with 3" nozzle, and several feet of sluice boxes in which pole riffles are used.

Geological Conditions Present:

A brief account of the geology of the region together with an account of operations, and general conditions is given in a report by F. H. Moffit of the U. S. Geological Survey in bulletin 868-C, "Mineral Industry of Alaska in 1934," pp. 139-140. The geology is given as consisting dominantly of lava flows and some sedimentary beds of which part are of Permian age. Lavas and sediments were invaded by granitic intrusives. Moffit further concludes that the rough character of the gold and silver points strongly to local origin. Also that gold is panned to a mineralized zone above the forks and not above the zone. The gravels are unconsolidated material of creek wash and bench deposits. The mineralized zone is believed by the writer to be the source of the placer gold and also the silver and copper nuggets that are found associated in the gravels and wash of Grubstake Creek. This zone is a highly altered and mineralized series of acidic lava flows, located at the head of Grubstake Creek (see accompanying sketch). This series of flows is exposed over a length of 4000' and has a width that varies from 150 to 200'. Their strike is S.35° E. and dip 75 to 80° NE. Along the hanging wall a massive hornblende granite occurs. The footwall is a

fine grained, light colored granite or syenite which appears to be the oldest of the two granites. This granite or syenite is the bedrock of most of the area occupied by Grubstake Creek. It is in places fractured and mineralized and makes several red gossan outcroppings in the district. The flows are oxidized on the surface and can be traced readily with the eye with their red to brownish colored outcroppings. Hand specimens taken along the hanging wall contact show a high content of silica and several granitic contact minerals. Bands of successive flows of various widths can be faintly determined and they vary in color from light green to yellow on freshly broken edges. The mineralization, which occurs as disseminations and small bunches, is more abundant on the hangwall and distributed in areas of more or less intensity. It consists, in order of abundance, of a very yellowish pyrite in fine to large well developed crystals, chalcopyrite, molybdenite and galena. A sample was made up of a few pieces of this mineralized rock and a return of $1.40 per ton in gold and trace of silver. Since gold can be panned along Grubstake Creek up to these lava flows and not above, and further that Rainbow Creek, which does not cut these flows does not pan gold, further that the gold occurs associated with copper and silver nuggets and in vicinities of large green lava boulders, the mineralization carries low gold values and the gold is of a rough character, all points toward the source as the mineralized lava flows.

This company has staked and is holding a group of eight claims, known as the Comstock group on these flows. No work has been done and very little prospecting. Whether or not these flows contain areas of sufficient mineralization to make commercial ore could not be determined.

Description of Gravels:

Generally the gravels do not appear as well worn placer gravels, but occur as unconsolidated materials of accumulated creek wash. They consist of assortments of angular granitic pieces representing the talus of the surrounding formations. Some rounded boulders also occur. Several large greenish boulders occur scattered in the gravels. They appear to be worn and their source apparently is the lava flows above. Other rounded boulders mixed throughout these gravels appear to be foreign and are no doubt deposited by the glacial ice. Generally the material in the cuts is to a high percentage angular. Several massive sulphide pieces were noted. Large to small pieces of magnetite were common and in the concentrates it is abundant.

The placer gold occurs in bunches scattered in the gravels near or on bedrock. Small copper nuggets are associated, they are well worn and the largest average about an ounce. Silver nuggets are common and the largest have weights of 4 pennyweights. The gold is from coarse to fine, the largest amount appears to be fine. It is generally rough and has some pieces of quartz attached.

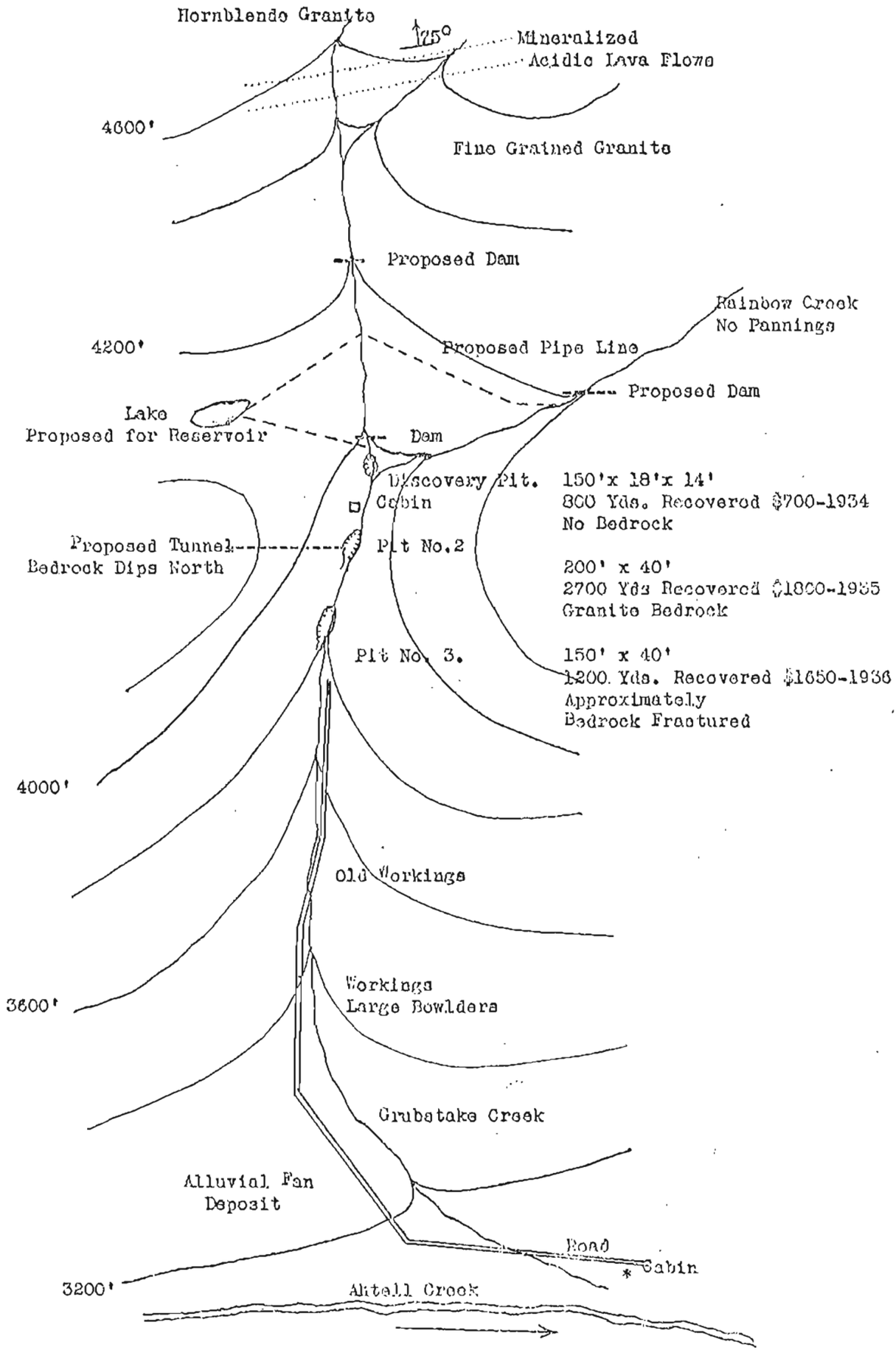
Future Prospects and Values:

The amount of pay gravel is an unknown factor other than the three opencuts. From the total yardage mined the gravel has averaged nearly $1 a cu. yard. Further prospecting is warranted. The large alluvial fan at the mouth of Grubstake has only been prospected to the extent of a few pannings in which fine colors were found. From the mouth to nearly Rainbow Creek the creek valley averages 200' in width and gravels are not extensive or deep. Considerable slide rock and large boulders make up a large percentage of the material. Above Rainbow considerable debris has collected from stream wash. Silt occurs at a depth of 14' and below this is unknown as is also the depth to bedrock. By utilizing the water from both Rainbow and Grubstake with the lake acting as a reservoir this will give a good pressure and aid in operations, however, this volume is not sufficient to operate more than one giant, unless possibly for a short period in early spring. Timber is lacking along this creek, but may be obtained in the valley of Ahtell in small patches and the timber is rather small in size. The operating season is short from June to September. Other factors that must be considered are the fine and roughness of the gold, angular gravel, large amount of black sand and bunchy distribution of the gold. The gold runs $27.50 to the ounce. The fine gold in the black sand concentrates is difficult to recover. A sample taken from a few hundred pounds of panned concentrates ran 57.28 ounces of gold and 23.30 ounces of silver to the ton. This sample also contained 0.93 oz. of platinum to the ton, a heretofore unknown element associated with the placer gold on this creek.

The company plans to drift on the north bank of No. 2 cut during the winter months, following the slightly dipping bedrock in search of a buried channel with hopes of higher values. This will aid as a means of testing ground prior to hydraulicking during the summer.

North

TERRITORIAL DEPARTMENT OF MINES
Juneau, Alaska
Sept. 4, 1936



Sketch of
Placer Workings
of
AHTELL MINING CO.
Grubstake Creek
Nabesna Mining District

Scale 1"= 200'

Arnold & Brunton