

REPORT ON THE PROPERTY

OF THE

GOLDEN CROWN MINING SYNDICATE

and the ore deposits are closely associated

ASSAY VALUES: For a clearer understanding, the recorded assays are segregated into groups, as appearing by Centennial Mining District -- Offices, Laramie, Wyo. that matter. Gold (Au) is reported at \$2,000 and platinum (Pt) at \$70.00 per ounce.

On account of the amount of snow still remaining in the prospect and discovery shafts on most of the ground examined and because of limited time, this report and recommendation is based upon a surface examination of indications and upon former reports on the property.

Reference will be made to a recent prospectus issued by the syndicate and to a report of an examination of the property made by F. H. Vahrenkamp, Mining Engineer, in September, 1912. The latter is of unusual value because a large number of the samples and assays thus recorded could not be duplicated at the present time on account of the caving in of very old workings.

LOCATION. The holdings of the Golden Crown Syndicate cover approximately nine mining locations of 600 feet by 1500 feet each. They are located in Section 9 of Township 15, in Range 78 West. The town of Centennial is about two miles from the portal of the proposed tunnel.

From Centennial a wagon road to the workings of the Wyoming Gold and Platinum Mining Company passes the Golden Crown proposed tunnel at a distance of not over one mile. Completion of road connection with the town would be a simple matter. Centennial, in turn, is on the line of the Laramie, North-Park and Western Railroad which connects with the main line of the Union Pacific Railroad at Laramie, thirty five miles away.

The site of the portal of the proposed tunnel is well chosen. It is sufficiently sheltered from drifting snow to make year-round operation possible; there is ample fall toward the valley to provide dumping ground for waste rock and the drop necessary for a mill constructed largely on a gravity basis, and there is pure spring water for camp use.

Judging from water conditions encountered in the various openings along the line of the tunnel, the latter probably will supply enough water for milling although a system of water return might be necessary.

Except for the extreme western end the property is not heavily timbered but such as there is is of excellent grade, suitable for sawing into lumber or for use as mine timber.

GEOLOGY AND MINERALIZATION. Centennial Mountain is composed largely of pre-cambrian rocks standing almost vertically on edge and with an east and west trend. This general body is cut by intrusive dykes and by veins having the same general strike. The rocks are basic in character, largely hornblende-schist and hornblende, and the dykes are of quartz-pegmatite and diorite. The extremely basic rocks of the gabbro group, usually associated with the occurrence of the platinum group of metals, are not in evidence.

Because only surface ore thus far has been exposed the predominant mineral occurrence is free gold in honeycombed quartz. At depth this doubtless would become gold-bearing pyrite in quartz, as is shown in the lower Utopia tunnels in ground just north of the Golden Crown claims.

No copper minerals are in evidence.

The form in which the platinum occurs has not been determined.

Mineralization is generally considered to be the result of the intrusive dykes

Between the discovery shaft on the Free Gold claim and that on the Free Gold No. 3 claim is a 10 foot trench on the vein, which in reality is an underground slope and the ore deposits are closely associated therewith.

ASSAY VALUES. For a clearer understanding, the recorded assays are segregated into groups, as appearing by number on the attached sketch map, and are listed below in that matter. Gold (au) is computed at \$20.00 and platinum (pt) at \$70.00 per ounce.

Samples 1 to 6 were taken along the first 300 feet of the line of the proposed tunnel.

DESCRIPTION	Value per T.
No. 1 - Crown Tunnel entrance, face Au 0.52 oz. Pt. 0.72 oz.	60.80
No. 2 - Ledge outcrop, 50 ft. from entrance, Au 0.32 oz., Pt. none	6.40
No. 3 - Old tunnel 150 ft. west of tunnel entrance Au 0.40 oz., Pt. 0.84 oz.	66.80
No. 4 - Ledge outcrop, 250 ft. on strike above tunnel entrance Au 0.24 oz., Pt. none	4.80
No. 5 - Red quartz and schist, 10 ft. shaft on strike 300 ft. above tunnel entrance Au 0.56 oz., Pt. none	11.20

No. 6 - Oatmeal rock, same location, Au trace, Pt. 0.40 oz. 28.00

(N.B. This "oatmeal rock" may be a highly altered, coarse grained diorite)

Samples No. 1 -A and 20 were taken some time ago from the discovery shafts of the outlying claims "Vivian" and "Woodman".

DESCRIPTION	Value
No. 1-A, Marked schist, Au 0.46	9.20
No. 20 Au 0.94	18.80
Samples 15, 16, and "G.C.P." are from the Golden Eagle discovery. This claim is not in the Golden Crown group but certain "strikes" indicated on the map would tend to show that migration due to topography carries its outcrop into the Free Gold No. 3 claim to the west and the Vivian to the east.	
No. 15 - Dump ore, fine, Au. 2.49 oz.	49.80
No. 16 - Dump ore, coarse, Au 0.72 oz.	14.40
G.C.P. - Bottom of shaft, Au 3.12 oz. silver*0.20 @ 63¢	62.53

Samples 53, 54, 55 and 56 came from a 30 foot shaft on the Free Gold claim. It is said that excessive surface water, under the primitive methods then employed, prevented sinking deeper than 30 feet in this locality although these workings are not far down on the very easy slope of the west side of Centennial Mountain.

	Au.	Value
No. 53 - Quartz and schist vein, 30 ft. shaft, 2 1/2 ft. wide	1.84	36.80
No. 54 - Same shaft, 15 ft. depth, 2 1/2 ft. wide	1.06	21.20
No. 55 - Same shaft, 20 ft., 2 1/2 wide	0.52	10.40
No. 56 - Same shaft, 30 feet, 2 1/2 ft. wide	0.62	12.40

Between the discovery shaft on the Free Gold claim and that on the free Gold No. 3 claim is a 10 foot trench, on the vein, which in reality is an underhand stope from surface, opened because of excessive water encountered in sinking. Samples 61 through 68 are taken from the quartz formation, and samples 69 through 74 from a contacting "hornblende".

	Gold	Value
No. 61 - Open Cut, 10 ft. depth, 2 1/2 ft. wide	0.40	8.00
No. 62 - " " 10 " " 2 1/2 " "	0.62	12.40
No. 63 - " " 10 " " 2 1/2 " "	0.08	1.60
No. 64 - " " 10 " " 2 1/2 " "	0.26	5.20
No. 65 - " " 10 " " 2 1/2 " "	2.84	56.80
No. 66 - " " 10 " " 2 1/2 " "	2.00	40.00
No. 67 - " " 10 " " 2 1/2 " "	0.28	5.60
No. 68 - " " 10 " " 2 1/2 " "	0.66	13.20
No. 69 - Hornblende vein, 6 ft. wide	0.20	4.00
No. 70 - " " 6 " shaft, entire bottom	0.46	9.20
No. 71 - " " 5 " wide	0.12	2.40
No. 72 - " " 4 " surface	0.10	2.00
No. 73 - " " 4 " " "	0.18	3.60
No. 74 - " " 5 " depth, 4 ft. wide	0.28	5.60

Sample No. 77 is from an open cut just west of the Free Gold shaft.

No. 77 - 10 ft. depth, 3 ft. wide 2.54 50.80

DISCUSSION. Beyond doubt the best ore to be encountered along, or near to, the line of the proposed tunnel lies in the western end of this property -- in the "Free Gold" claims. Reference to the map consequently raises a question as to why not a shorter and better approach than the one proposed. The following arguments in favor of the present plan may be offered.

1. It appears evident from former work done that the cost of working by a shaft on the Free Gold claims would be prohibitive on account of pumping costs.
2. To approach the ground in question by a shorter tunnel would require working from the south-west, with only 150 to 200 feet of "backs" (overhead stopping ground) to be gained by driving a tunnel fully half the distance now proposed. On the other hand, reference to the "approximate vertical section thru hill", appearing below and "tied to" the plan map, reveals a maximum depth gained by the proposed tunnel of about 1000 feet and a depth at the Free Gold claims of about 700 feet. (By photostatic reduction the attached map has a scale of about 700 feet to the inch.)
3. The present proposal offers a camp site within two miles of railroad with all fuel, timber and supplies delivered over easy grade, by short haul, under all-winter working conditions. To reach a feasible tunnel site south of the Free Gold claims would require construction of more than five miles of road over which haulage would at least be costly and beyond doubt very difficult, or impossible, during the six to eight winter months.
4. Should such be proven later to be warranted there is neither the necessary gravity fall nor water for milling operations in the high land south of the Free Gold claims.

RECOMMENDATIONS. On both sides of the proposed line of tunnel, surface indications are good. This is particularly true of the Utopia Tunnel shown to the north of tunnel portal in the Struggler claim. At not too frequent intervals diamond drill prospecting (probably by contract) should be done to test any possible favorable formation off the line of tunnelling.

No consideration should be given at present to the construction of a mill or

"pilot plant". The first thought must be the development of the ore known to exist in the territory to be prospected.

Although every possibly valuable formation should be assayed it will be found that "custom" assaying is cheaper than the maintenance of a company assay office for some time in the future.

Such timber as is found on the property is not easily accessible. Probably it would be well to purchase that which is needed for tunnel sets, for the present, and conserve the standing timber for possible building constriction later.

There remains, among those who should know, much doubt as to the occurrence in the Centennial District of the platinum group of metals in commercial quantity. Until confirmatory assays can be had from offices of national standing it would be well not to place too much reliance on returns already received. This applies also to values quote herein.

CONCLUSION. There seems no question but that the "Free Gold in quartz" ores found at or near the surface in the exposures along the line of the proposed Golden Drown tunnel will be found to be ores of gold-bearing pyrite at the depth at which they will be opened by the tunnel. Furthermore, there are no indications that interfering base metals will be encountered. Such being the case treatment would consist of (1) Amalgamation followed by (2) gravity and, perhaps, oil flotation concentration of the pyrite and (3) Cyanidation of the tailings from concentration.

Steps (1) and (3) just preceeding would produce bullion for shipment direct to the U.S. Mint at Denver, Colorado. The concentrates made by step (2) might be shipped to a smelter or treated by a separate cyanide system at the plant, thus also producing bullion.

Costs of mining and milling can not accurately be estimated because of various conditions such as daily tonnage, nature of ore, method of treatment and the like. A somewhat similar ore to that to be expected below the Free Gold prospects is being profitably treated at the Homestake Mine in South Dakota at a cost of less than four dollars per ton. An assumed cost for mining and milling by tunnel of six dollars per ton would appear to be conservative.

Referring now th Mr. F. H. Vahrenkamp's report, from which samples No. 53 through 74 were quoted, we find this summation:

"From the results obtained it has been clearly shown that gold values in varying amounts are widely distributed throughout the mineralized zone, its entire full length. The samples taken cover an ore chute (shoot) fully 400 feet in length. In order to show comprehensively the distribution it remains now to describe in detail the bodies which contain a sufficient amount of metal to be classed as workable ore. Thirteen samples taken across two and one-half feet of ledge matter, along a course of 300 feet in length, open cuts and small shafts, reveal an average of \$21.10 per ton. The other six samples were taken on the Hornblende vein, --including these with the thirteen samples gives you an average of \$15.86 per ton.

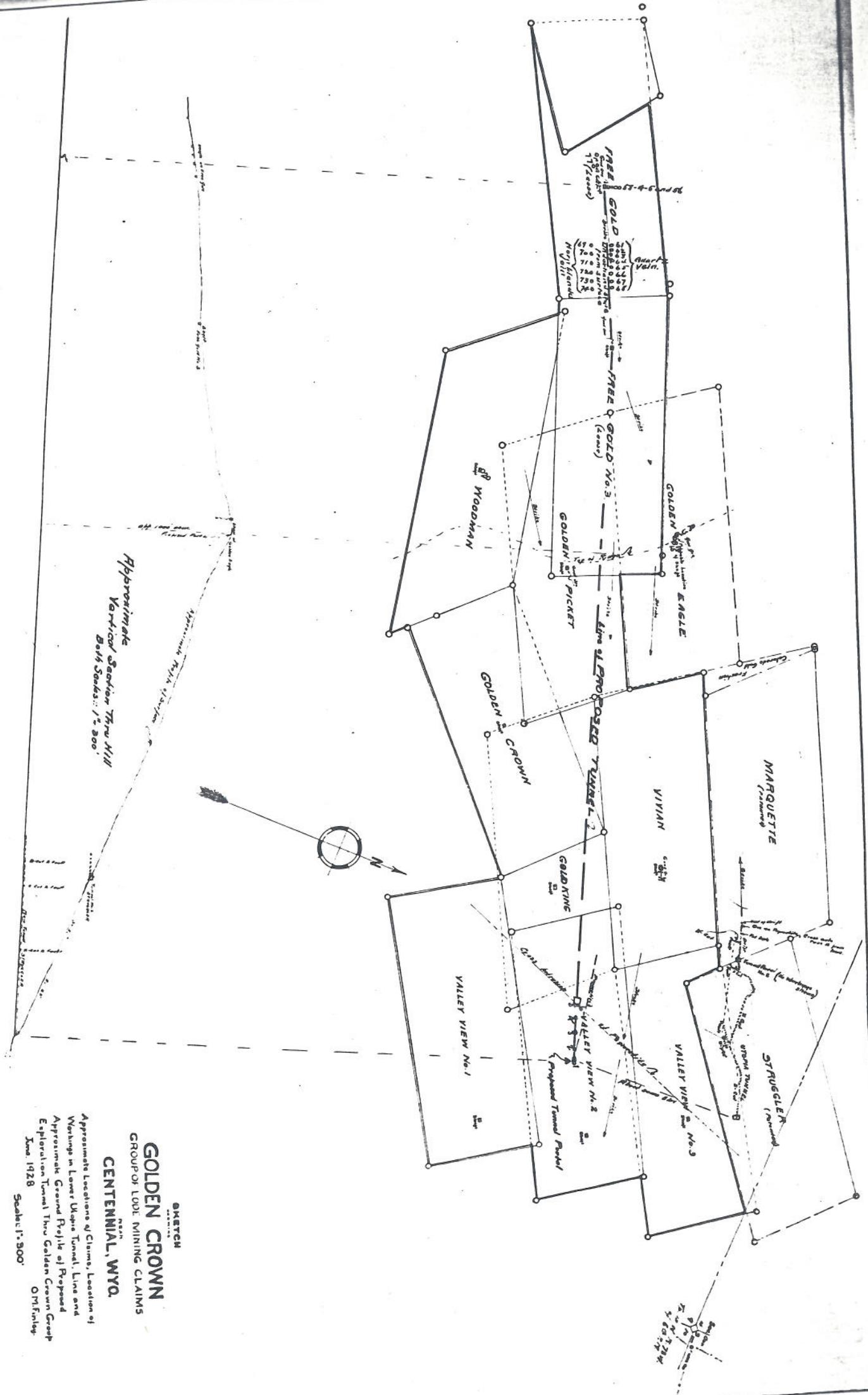
A "rough" figure for tonnage is that a slope of 100 feet by 100 feet will give 1000 tons of ore per each foot of width of ore. If we may assume an average width of two and one-half feet we have 2500 tons for each 100 x 100 block of Free Gold ground. Then we may assume also a whole block of 300 feet in length and 700 (average) feet in depth or 21 such blocks. This shows 52,500 tons of problematical ore with a net value of \$15.86 less \$6.00 (costs) or, again roughly estimated, a net value over cost of tunnel, mill and of amortization of \$500,000. Put the last three at \$200,000 and there remains a profit of \$300,000 on the ore which may reasonably be assumed to exist. Also it is not unfair to presume that other ores of profitable grade will be found by the extensive prospecting made possible by the tunnel and the diamond drill "side shots."

In the territory to be prospected
by the United States... the first prospect was the development of the ore known to exist

Basing this conclusion on surface indications and giving no consideration to reported platinum values the proposed Golden Crown tunnel is a warranted mining operation with attractive financial possibilities as to ultimate success.

Signed A. C. Dart June 5, 1930.
A. C. Dart,
Mining Engineer, Laramie, Wyo.





SKETCH
GOLDEN CROWN
 GROUP OF LODGE MINING CLAIMS
 CENTENNIAL, WYO.

Approximate Locations of Claims, Location of
 Workings in Lower Upper Tunnel, Line and
 Approximate Ground Profile of Proposed
 Exploration Tunnel Thru Golden Crown Group
 O.M.F. 1928
 Scale: 1" = 300'