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Dawson, Y. T.,  
September 7th, 1935.

Mr. W. H. S. McFarland,  
Dawson,  
Y. T.

Dear Sir:

I submit herewith a summary report upon the Laforma group of mining claims in the Mt. Freegold District. This will be followed by a full report with maps, results of sampling and recommendations for development upon my return to San Francisco.

Only ten days were spent upon the property, in which time it was necessary to cover a large area, including some of the outlying groups of claims not under option in order to see typical vein exposures.

A few samples were taken for assay to check previous sampling, but a complete resampling of the Laforma surface and underground workings would have taken too much time to permit the writer to report before the middle of October, which would have greatly handicapped any work started this Fall.

Accordingly, the writer's ideas of value of ore exposed are based upon samples reported by the Timmins Corporation, and those of Mr. A. K. Schellinger for your Company, supplemented by panning in the field. They are believed to be substantially correct.

Yours very truly,

J. H. Farrell

## Summary Report

on the

### Laforma Group of Claims

Mount Freegold Area, Dawson District, Y. T., Canada

#### Location

The Mount Freegold district is about 20 miles west of Yukon Crossing in an airline from the Yukon River. By trail the distance is between 25 and 30 miles, and is covered in about 10 hours travel on horseback at a fast walk exclusive of resting time.

#### Extent of Property

The Laforma group consists of 14 mineral claims, or fractional claims, as follows:

Rambler, Bill, Spruce, Snowflake, Red, Pal, Goose, Fish Hook, Alpha, Portal, Beta, Cleo, Art Fraction, and Key Fraction.

These cover a triangular area approximately 5,000 feet on each side exclusive of the Portal claim which lies on the extension of the south tier of claims.

#### General Conditions

Elevations above sea level on the property range from 3,000 to 4,000 feet or more. The tops of the ridges are wide and have the appearance of rolling hill country, but this plateau has been cut by deep valleys which have steep side slopes.

#### Timber

There is a fairly thick stand of spruce on the property yielding logs 10 to 16 inches in diameter up to 20 feet in length

suitable for cabin building and mine timbers. Larger trees are found on the valley floors.

#### Water

Water sufficient for camp use and probably for small milling operations is found in the gulches within 1000 feet of timber line, but this supply may be partially cut off by freezing in the colder weather. There is an adequate flow for large milling operations in Seymour Creek about a mile from Laforma Camp.

#### Power

Initial operations will be carried on with gasoline or Diesel type engines. Later it is possible that one of the larger creeks of the area might be made to develop hydro-electric power sufficient for mine and mill operation on a moderate scale.

#### Transportation

Transportation is the most serious difficulty to be overcome at present. The original pack trail was poorly located, partly in the creek valleys and partly on side hill slopes with no grading at all, due to lack of funds for the work. The winter road made by the Timmins Corporation followed the pack trail in many places along the side hill and has some very steep grades after leaving the valley of Seymour Creek to reach the camp. A good road could be built on the southerly-facing side slopes of the valleys of Seymour and Crossing creeks reaching the Yukon above Five Finger Rapids. Much of this terrane is weathered granite or glacial drift which can be worked easily in side hill cuts by light blasting and scraping, so that road construction would not be expensive.

However all that can be done this season is to relocate parts of the Timmins winter road to keep away from the worst of the side hill stretches, and possibly, to make a better grade for the last two or three miles to the camp.

The oil and powder "dumps" are about 300 feet down hill from the Main Adit level, and were apparently placed there because of inability of the tractor to climb to the adit level. This necessitates rehandling either by hand or by lining with tackle using the tractor on a downhill pull. A road should be built to the adit level from the point where it starts down hill to camp at present.

Freighting by pack train costs 8 cents per pound, as the condition of the trail and the distance require a four day round trip with loads of about 200 pounds, and there has so far been no regular freighting.

#### Labor

There are a few men in the district, prospectors or claim owners, who are anxious for winter work but there are few "hard rock" or underground miners among them. Wages are said to be \$4.00 to \$5.00 a day and board which would cost \$2.00 or more per man-day with a small crew.

It would probably be best to handle the work on contract or bonus as was done by the Timmins Corporation, with an experienced crew from Vancouver.

#### Buildings and Equipment

The camp buildings consist of a bunk house with two rooms 14' x 18' inside, a kitchen and store room 20' x 24' and a tractor hut 12' x 15'. The mine building housing the compressor and blacksmith shop is 13' x 30'. All these are built of logs with moss and dirt roofs. There is also Mr. Langham's cabin which was used by the engineer in charge. It

is a log building 12' x 14' with roof extending over a store room. All buildings should be roofed with galvanized iron.

Additional housing should be provided, with another bunk house the type of the present one, part of it to be used as a change room and equipped with shower baths.

A properly constructed powder house should be built in the side hill east of the Main Adit, as the dynamite is now piled in the open with no protection whatever.

A cabin should also be built to house the assay office, which should be about 14' x 20' inside with the room for crushing and grinding samples partitioned from the rest.

The machinery left on the Property by the N. A. Timmins Corporation includes a Holman vertical compressor, 2 cylinders 7-3/4" x 6". Its rating is not given on name plate, but piston displacement figures 250 cubic feet of free air at 1000 revolutions per minute. This would be something less than 200 cubic feet at the altitude of the camp, but should run two light drills.

The compressor was belted to a Petter Yeovil engine, no power rating given, probably 50 to 60 H.P., both these machines were placed upon the property new, are said to have been carefully handled by a competent mechanic, but should be inspected before purchase.

The blacksmith shop is equipped with a Holman Drill Sharpener, D N-6, an old machine, of light construction.

The supply of drill steel appeared ample for two machine drills. The writer did not count the pieces and their number is omitted from the Inventory.

The shop also had an oil furnace and other equipment crated for shipment which is listed in the Inventory.

There is something over 2000 feet of 8 pound rail in the tunnel and track on the dump, and about 800 feet of unused rail below the dump.

A one-ton mine car seemed to be in good condition, but two more should be provided for the coming winter's work as the tram is fairly long.

The Inventory calls for 305 cases (50#) of 60% dynamite. This should be ample for present requirements, but 40% strength would be better, as the ground is fairly soft.

Other items of equipment may be seen by referring to the inventory list. Most of this material was packed and could not be inspected.

Additional equipment required will be listed separately.

#### GEOLOGICAL CONDITIONS

The rocks of the area are predominantly of the rhyolite-granite group which have been found by the Canadian Geological Survey geologists to be later than the syenite masses which themselves are intrusive into the still earlier metamorphic series consisting of schists and gneisses.

A contact between granite and the schist series shows considerable mineralization on the northwest slope of Mt.

Freegold and this attracted the attention of the prospector who made the original discovery.

This is a typical contact metamorphic zone with magnetite, specular hematite, and garnets the chief minerals, but there is also evidence of a later stage of mineralization consisting of quartz, calcite, and gold bearing sulphides, which are also found in veins away from the contact, along with galena, sphalerite, arsenopyrite, and possibly other sulphide minerals.

These later veins are at present of most interest from an economic standpoint. They appear to fall into two general groups or series, the earlier ones striking northerly or northeasterly and dipping to the west, the second set striking north-westerly to west and dipping steeply to the northeast.

The relations are by no means clear at present, as little work has been done on any of the veins except the "G-3" on the Laforma property. It seems possible that the veins showing pyrite, chalcopyrite, and tourmaline may be genetically connected with the larger granite masses, having formed at considerable depth, while those showing only quartz, pyrite, arsenopyrite and free gold may represent a later period of mineralization associated with the rhyolite, and rhyolite porphyry, or "quartz porphyry" which cuts the granite in dikes, or "necks" and irregular masses of considerable size.

It may be definitely stated, at this time, that the general conditions in the district are similar in most respects to those of other localities which have produced important ore deposits.

### LAFORMA VEINS

Most of the work on the Laforma property has been done on the "Goose" claim. The G-3 vein has been traced and opened by trenches and cuts for a distance of 300 feet. About 300 feet northerly from the last trench is an outcrop of altered and silicified granite 150 feet in length which probably marks the continuation of the vein zone in that direction.

At the south end of the trench system G-3 is either bent to the west by faulting or cut off by an east-west vein. Underground the G-3 shear zone appears to cut everything else and goes into the south walls of the west drift, but this may be only post-mineral faulting.

Whatever the true solution of this question may be, it is certain that the southern continuation of G-3 has not been found, or possibly does not exist beyond this line, which is roughly that of the Main Adit crosscut and the West Drift.

As exposed in the adit workings, G-3 strikes N. 20 to 25 degrees E. and dips 70 to 75 degrees west. It is a shear zone in the granite along which there has been mineralization and alteration over a width of 25 feet or more. The strongest quartz-sulphide vein or "strand" is in the footwall or east side, it is one foot to five feet wide. Next to the west is a width of 10 to 20 feet of altered granite impregnated with sulphides, then comes a central fault or shear zone 1' to 2' across with considerable sulphide mineralization, and next to the rhyolite dike of the hanging wall there is a quartz vein material. The dike is 5' to 7' wide and in the 200 cross cut has 11" of quartz on its west side which according to Mr. Schellinger, assay 5.0 oz. gold. This was apparently overlooked by Timmins Corporation engineers.

Between the Main Crosscut and the 100 crosscut, rhyolite porphyry appears on the footwall, with quartz sulphide vein material in the wall of the drift on the east side.

This rhyolite dike in places appears later than the sulphide vein material and the quartz associated with it, but this may be due to post-mineral faulting, which has seriously affected the vein in this locality. Faulting is both transverse to and also along the strike of the vein.

From the 300 crosscut north the quartz sulphide vein of the footwall side is much more regular and shows good gold content over 7" to 3' widths. Here the hanging wall of the vein zone has not been explored by crosscutting, and this ought to be done at once.

West of the Main Crosscut the strong central fault zone enters the south wall. About 60 feet in the West Drift another strong parallel fault is seen, with some rhyolite in the fault zone and a large mass to the northwest where the rhyolite is cut by east-west fracturing and is locally much altered and has veinlets of black sulphides. On the north or hanging wall side of the rhyolite dike is a segment of quartz sulphide vein striking east-west and dipping 70 degrees north. It is about three feet wide and swings gradually to the north until it is cut by a fault striking N. 30 degrees W. at a point 110 feet from the Main Crosscut. Beyond this is granite, much altered near the fault.

It will require detailed geological mapping and more work both on surface and underground to determine whether or not there is a southerly extension of G-3.

On surface the upper Adit No. 1, shows a width of nearly 11 feet of quartz and iron oxide vein material which, according to the

Timmins Corporation sampling, carries from 0.2 to 0.8 oz. gold. This is about 350 feet beyond the present face of the North Drift, Main Adit. Trenches beyond to the north also show vein with good gold content for surface material, for about 100 feet, beyond which the overburden is quite heavy and no work has been done.

Vein G-1 outcrops on the ridge about 300 feet north-east of the mouth of the Main Adit. It is a narrow flat dipping quartz vein, cut by transverse faults of small displacement. Its strike, deformed by these faults, appears to be N. 20 degrees E., dip 30 degrees W. Little is known either of its value or extent.

Shear zones G-2 and G-5 have strikes N. 30 degrees W. and dip 75 to 85 degrees east. They show some quartz sulphide stringers and surficial iron and manganese staining, are said to carry low gold values at surface.

On the Alpha claim a few hundred feet east of the camp buildings the Alpha vein was discovered by trenching after finding high grade float. The locality from which this rich material came has not been exposed, but the vein shows similar quartz, has a width of 5 feet, and is worthy of prospecting carefully by further trenching. It strikes N. 85 E., dip 55 degrees north.

The Fish Hook claim has the extension of G-5 shear zone, also several showings of vein quartz which have been little prospected.

The Rambler claim has a vein exposed in one trench, Strike N. 20 E. dip 63 degrees west. It is 2 feet wide, dense bluish white quartz, and panned fairly well for surface material.

Ore in Sight

There is no ore "blocked out" in the technical sense at present. In the writer's opinion it will not be possible to mine the entire width of the vein zone (even if the high grade "strands" have enough value to make the entire mass mill grade ore) as successfully as may be done by taking the higher grade material separately in narrow stopes.

The altered pyritized granite seems too low grade to carry its cost of treatment even under much more favorable working conditions, but this must be checked by further sampling.

Unfortunately, the Timmins Corporation development work did not expose either the footwall vein or the central vein continuously, except that the former was drifted upon beyond the 300 cross cut.

Here for 160 feet of vein length the average width sampled by the Timmins corporation was 1.6 feet and the gold content 1.68 oz. worth \$58.80 at \$35.00 an ounce. This includes an allowance of 9 oz. per ton for Mr. Schellinger's high grade (17.9 oz. per ton) assay at the face (447 feet from the start of the drift.)

This would give approximately 20 tons per foot of depth on the vein, which will average 225 feet from surface, making a total of 4500 tons. This at \$50.00 per ton gross value would contain \$225,000, or at \$30.00 net would yield \$135,000.00 assuming that the gold content is as high toward surface.

There is at present nothing to support this assumption as trenching has not been carried out this far. Values in trenches further south tend to confirm it, as the average is reported by the owner to be 0.73 oz. per ton for an average width of 5 feet, for all surface sampling.

From the 200 cross cut to the Main Crosscut is 190 feet.

Here there appears to be 120 feet of length on the center vein with an average width of 2.3 feet and an average value of 1.2 oz. per ton as exposed in the 100 and 200 Crosscuts. Obviously this block on which surface workings indicate good value, may be counted upon for some ore but additional crosscuts to the hanging wall or west side of the drift must be made to determine how much.

Similarly, development of the footwall "strand", which is not entirely exposed by the drift, should add to the tonnage, for occasional assays along the east wall indicate ore.

Proper sampling and further development in the west drift will also show up some stoping ground which can be mined to the surface cuts where good ore was found.

Before accurate estimates can be made of ore tonnage, grade, and net value it will be necessary to drive upraises on the vein at various points to extract enough ore to see how the ground will stand in the stopes, and make the necessary metallurgical tests.

#### Development Possibilities

The best surface showing as to the strength of vein and regularity, is in the vicinity of Adit No. 1, which is about 350 feet beyond the present north face and nearly 300 feet higher. Driving 500 feet more in the North Drift should give valuable information as to the nature and extent of the ore shoot, and, in the writer's opinion, this is amply justified by the present showing.

The Alpha and Rambler veins both appear to be of the productive type and are worthy of extensive surface prospecting.

The northwesterly shear zones, especially G-5 have been prospected to some extent and this work suggests the possibility of finding large ore bodies of the stringer zone or stockwork type. More work should be done upon them.

Aside from the known veins, quartz float has been found in various localities, notably west and south of G-3. Careful surface examination and prospecting by trenching are suggested for this area.

#### Other Properties

The adjacent claims of immediate importance are the Brown-Fairclough group, consisting of the Keno Fraction, Theodore, Gold Bank, Victoria, and Shamrock Fraction, to which might be added the Wild Rose, belonging to Mr. Fairclough. These round out the Laforma group to the south, and the Theodore vein has been prospected by trenching for 500 feet or more, showing encouraging assays averaging 0.5 oz. per ton for a vein width of 2 feet.

These claims are not important in the sense that they cover continuations of Laforma veins either on the strike or at depth, (with the possible exception of the Fish Hook veins about which little is known now) but rather because they have showings which may be easily developed from Laforma camp. If they can be had on reasonable development options, work should be done on them.

The Lucky Strike and Venus claims of John Carlson, which adjoins Laforma's Snowflake and Spruce claims should be optioned on the basis of location alone, though as yet they have no showing of importance. They may cover the extension of G-3 to the north, and in any event will form a connecting link with Mr. Langham's Wolf group.

Conclusions

It is evident, upon even so cursory an examination as this, that the Mt. Freegold area is one of importance because of favorable general conditions and because numerous veins showing good gold content have been discovered by a relatively small amount of prospecting.

The area merits more development and a careful general study.

The Laforma G-3 vein has been developed to a limited extent in a section where conditions are not especially favorable to the occurrence of large and continuous ore shoots. It is believed that more favorable results will be obtained in further work to the north.

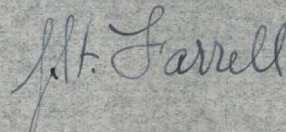
However, development to date has indicated enough ore to make a small operation possible.

The property as a whole has been only partially prospected and further work will probably bring important disclosures.

It is recommended that active development be undertaken as soon as possible, with especial attention to such surface work on the Alpha and Rambler veins as may be accomplished before winter.

Detailed recommendations covering further work on G-3 will be included in a further report.

Respectfully submitted,



J. H. Farrell



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