

December 15, 1967

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Mr. Thomas Elliott,
Manager, British Columbia & Yukon Chamber of Mines
840 W Hastings Street
Vancouver, B. C.

Dear Mr. Elliott:

Re Problems of mining in forest areas

In answer to the request from Mr. E. S. Rugg, Chairman of the Mining & Forestry Committee, I will discuss our* experience in road building for exploration in the Cariboo area. This discussion will necessarily consist of three parts: (1) a summary of the exploration program; (2) a summary of the road building program; and (3) some conclusions and suggestions.

In order to properly present this case I will have to mention the names of the Forest Service officers with whom I have had contact or conversations. Most of the contact has been with Mr. J. Schmidt, Forest Ranger at 100-Mile House. I would like to stress that this discussion is not intended to denounce Mr. Schmidt. I believe that he is doing a necessary job in a conscientious manner; however I believe his outlook is tempered by the policy and structure of his organization.

Exploration Program:

In our regional geochemical prospecting in 1966 we discovered an interesting area of scattered copper mineralization, fifteen miles north-east of Lac La Hache. In addition to this scattered mineralization we found one interesting prospect with geology similar to that at the popular Cariboo-Bell prospect. In order to cover the geochemical anomalies, the areas of minor copper mineralization and the areas of alteration, we staked 400 mining claims.

During the autumn of 1966, we mapped the geology of the claim area in order to plan the program for 1967. We also built a road to the centre of the claim group to provide access for the 1967 program and to strip the copper prospect.

Early in 1967 we built a temporary camp at the end of our access road and established a control grid on the interesting parts of the claim

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*The exploration program was done for Coranex Limited, a private Company owned by: Frobex Limited, Canadian Nickel Co., Denison Mines Ltd., Dome Exploration (Canada) Ltd. and McIntyre Porcupine Mines Ltd.

group. This grid consisted of several baselines (cut and picketed) for control and numerous cross-lines which were merely blazed and measured. A program of geochemical soil-sampling, geological mapping, and prospecting enabled us to pick out the best parts for subsequent geophysical survey by induced polarization. From this work we established fifteen interesting targets which consisted of a combination of geochemical anomalies, induced polarization anomalies, and copper showings. Late in the fall of 1967 we investigated these targets by bulldozer stripping and by a minor amount of diamond drilling. The final results of the program have been discouraging. The cost of the investigation would total nearly \$100,000.

Road-building Program

In October of 1966 I discussed with Mr. Hughes, Senior Inspector, Department of Mines and Petroleum Resources, the possibility of getting government assistance to build an access road from the Forest Service road along the north side of Spout Lake, southward to the copper prospect in the middle of our claim group. He stated that assistance would probably be available, that I would need an easement from the Department of Lands & Forests and that I would have to fulfill Forest Service requirements, and he suggested that I talk to Mr. Hemphill, Chief Engineer, Forest Service.

Mr. Hemphill lectured to me on the harmful effects of the mining industry on the forests and suggested that I talk to the local Forest Ranger.

I next visited the local Forest Ranger, Mr. J. Schmidt, in 100-Mile House who also gave me a lecture on the harmful effects of the mining industry on the forests and specifically mentioned the waste of timber in the Highland Valley and the waste of valuable timber which was removed without any attempt at salvage over the Endako orebody.

Mr. Schmidt suggested that the better route for the access road would be eastward from the end of the logging road (T.S.X-88350) near Rail Lake. After examination of the air photos and some scouting in the area I accepted Mr. Schmidt's suggestion and got permission from Weldwood of Canada Limited to use the logging road. Because this revised route did not juncture with the government-controlled road we were not eligible for the government assistance. However, I decided that the route eastward from Rail Lake would provide a drier and more usable road and that this was a more feasible route even though it did not qualify for government assistance.

The application form (from the Department of Lands & Forests) for obtaining an easement across vacant Crown lands stated positively that we comply fully with requirements of the Forest Service in regard to this road. As we were not going to get government assistance the easement was not necessary, and because of the apparent emotional viewpoint of the Forest Service (e.g. wasted timber at Endako) I thought it wise not to sign an application form in which I would voluntarily put myself in the hands of the Forest Service.

Before building the road I requested our prospector to stake a double row of claims along the road route between the east boundary of T.S.X-88350 and our claim group. This was done to avoid complications that would arise should any timber licence be granted or should any claims be staked along this route before we had our road established. In staking these few claims I unintentionally protected myself from possible prosecution by the Forest Service -- after the road had been completed I received a letter from Mr. J. C. Payne of Kamloops, stating that I would be subject to prosecution for cutting any trees in the area.

I asked contractor Mr. Earl Peterson of J & W Logging Co. Ltd., Williams Lake, to look at the route and quote a price on putting in an access road and salvaging any marketable timber. He advised that the timber was not worth removing and suggested that if a clearance of 50 feet were made then the road would dry out readily and be usable in all seasons. There would then be enough small trees in the windrow so that the burn would be almost complete. Moreover this width of clearance would be necessary in order to burn the debris and avoid damaging the standing trees.

During discussions in Victoria, and with Mr. Schmidt, I was informed categorically that all slash along any access road had to be completely burned. I also have Forest Service instructions that all fires must be a minimum of fifteen feet from any standing timber.

I requested Mr. Peterson to build the road with a maximum clearance of 50 feet. For about 1½ miles of the route his cat-skinner exceeded this width and made the clearance about 65 feet wide. Mr. Peterson's advice on the necessity of a good clearance for a dry road has proven correct when we compare our road with other rough access roads in the district.

In the late fall of 1966 we had built five miles of road into the middle of our claims. In the middle of 1967 we extended this road by another four miles eastward, and in the fall of 1967 we built a few side roads out from our access road to the target areas for the bulldozer stripping and possible drilling. During this third phase of road-building in the fall we also arranged for Mr. Wilcox of Wilcox Lake Sawmill to build one mile of access road along the eastern boundary of our claim group (see accompanying map).

Mr. J. Schmidt, after looking at our main access road built in 1966, stated that there were 60,000 cubic feet of salvagable timber in slash along the road and requested that we apply for a timber mark and salvage this timber. During the season two contractors were invited to dispose of this slash and salvage timber. The first stated that it might cost considerable money to salvage the timber and I therefore offered to subsidize him should he lose money on the operation. However he was not interested in taking on the job. The second contractor offered to salvage the timber and burn the remaining slash for \$8,000. It was obvious that salvage of this timber was going to cost considerably more than it was worth and in the late fall we rented a bulldozer with driver to help our prospector burn this slash. In three days they

disposed of the slash along the lower four miles of road and most of it was completely burned. Cost of the bulldozer plus prospector wages was approximately \$150 per day. Additional work has to be done in disposing of the slash in the upper part of the road as heavy, early snowfall stopped the work. This will be done in 1968.

In regard to the second phase of our road-building (extension of our access road eastward for four miles), Mr. Schmidt suggested that we get a licence to cut. As it took over two months to get a timber mark I felt that it was impossible for us to hold up our program this length of time and I discussed the problem with Mr. Peck, Chief Mining Inspector in Victoria. He stated that it was not compulsory to get a licence to cut to extend drill access roads across claims that were staked on vacant Crown lands. We built the extension, knocking down as few trees as possible; however the upper eastern part of this road crosses an area of very immature and very thick timber. We asked Mr. Schmidt about cleaning up the slash along this road and we offered to widen the upper mile out to 50 feet, thus destroying more timber, so that we could burn all the slash. He preferred that we cut the leaners along the side of the road to the best of our ability and not widen the road merely to burn the slash.

With regard to our third phase of road-building (i.e. branch roads to our exploration targets) and also the stripping that ensued, we intend to cut the leaners in 1968.

In regard to the mile of road along our eastern boundary with access from T.S.-94592, very few merchantable trees were pushed over and a minimum amount of immature timber was destroyed. Wilcox Lake Sawmill Company offered to salvage any merchantable timber to use in their adjacent sawmill. However they balked at the stumpage rates which the Forest Service had set for Coranex Limited. These stumpage rates were \$2.60 per C c.f. for fir and \$2.20 per C c.f. for other species. We understand that 75¢ is a more usual figure for such salvage operations.

We have recently been billed \$200 by the Forest Service at Kamloops for destruction of immature timber along the four-mile extension of our access road (built in mid-1967). At present we do not know whether the Forest Service has any legal grounds for submitting such a bill.

Conclusions & Suggestions

In general our relationship with Mr. Schmidt, Forest Ranger, was satisfactory and we are obligated to him for some good advice. However it appears that the decisions of members of the Forest Service are based on ignorance of the exploration industry; emotion rather than economic logic regarding the forest industry; and one adverse case-history of mining irresponsibility in the Highland Valley. I would like to point out a few problems, draw some conclusions and make some suggestions from the above case-history and from other similar case-histories in the province.

1. These mining access roads are an asset to the undeveloped parts

of our province and are in many cases financially subsidized by the Department of Mines & Petroleum Services. They provide access for further mineral exploration, access for hunters who explore every new road available, firebreaks rather than fire hazards, and forest access roads. Also I suspect that the stumpage rates on timber along a well constructed mining access road are higher than in inaccessible places.

The Forest Service seems to imply that these roads are a liability and that the small amount of timber destroyed is worth much more than the road itself. In our case we extended a one-mile logging road an additional nine miles eastward and we extended another logging road on the eastern side one mile westward. Between the ends of these two access roads there is a gap of one mile to be constructed and it was obvious that Mr. Schmidt hoped that we would construct the link,

2. The Forest Service is oblivious to the amount of money expended on exploration work (\$50,000 to \$100,000 is a small budget for an investigation); and this money comes largely from outside the province. On the one hand you have an exploration company spending \$100,000 on a group of claims and on the other you have the Forest Service quibbling over the stumpage charges on supposedly salvagable timber which no one really wants.

With regard to destroying and wasting valuable timber over the Endako open pit, one might compare the value of this brush and timber with the value of the ore in the ground, and one might also point to the cost of holding up a \$20 million construction program while the mining company tries to find some local small operator to salvage the timber.

3. The Kamloops office of the Forest Service instructed us as follows: "Where there is likely to be a market for merchantable timber the mining operator will be expected to deck the logs for disposal by the Forest Service. Where such timber is sold, the miner will be reimbursed for reasonable costs of felling and decking."

In our case we arranged for three contractors to appraise the feasibility of removing the merchantable timber and we learned from these three people that it was not feasible. However the Forest Service had suggested that we obtain a timber mark and salvage this timber. I wonder at the number of cases where decked logs lying along a road will remain until they rot.

I suggest that where the local Forest Ranger insists that there is economically merchantable timber and if the mining operator can hold up his operation, then these trees could be decked for disposal by the Forest Service provided that the Forest Service pay for the decking of the logs, market the logs and retain any profits. In this way they will be accepting the responsibility for their own judgment and not passing the cost of their misjudgment onto the mining operators.

4. There is a desire in the Forest Service to enforce a rule that one must obtain a "licence to cut" from the local Forest Ranger for main

access roads, temporary roads, geophysical lines, drilling, trenching, stripping, etc. There are two reasons why this rule is unworkable.

(a) It is an accepted opinion within the exploration business that some Forest Service personnel in the outlying districts of British Columbia do participate in claim staking, either by themselves or in association with personnel not employed by the Forest Service. In order to get a licence to cut, a mining company would have to produce a plan of its anticipated program and thus give the local Forest Service personnel access to information which would not be given to a competing mining or exploration company, or to any other outside person. Thus, unless the personnel of the Forest Service are forced to change their attitude towards claim staking, and unless mining companies know that their information will be confidential with the Forest Service, the information and plans will not be forthcoming.

(b) Mining exploration on a group of claims is a series of steps which progress one by one, each one dependent on the results of the previous step. Thus in our program, our claim staking followed our regional geochemistry, our soil geochemistry and prospecting followed our claim staking, our geophysical work followed our geochemical work, the stripping followed the geophysical and geochemical work, and the drilling followed all the prior steps. The access roads on the claims are placed solely to help the work as it progresses and it is unreasonable and impractical to wait several weeks between each step for a "licence to cut".

5. As the years pass, timber will become much more valuable and greater restrictions will be placed on access roads, etc. When this happens it will be necessary to have close co-operation between the mining industry, the Forest Service, and the forest industry in removing and marketing the timber. It will be necessary for the Forest Service to have flexible rules that can be applied with common sense rather than directives full of inflexible orders. It will also be necessary for the Department of Mines & Petroleum Resources to change their outlook on the situation. At present an exploration geologist is faced with a situation in which "time" rather than "astute exploration practice" is of the essence. He is faced with deadlines for option payments, seasonal changes, and assessment work. If rules and regulations of the Forest Service and necessary salvage of timber become the order of the day then it will be necessary for the Department to postpone assessment dates. In order to make this workable, the Department will have to demand a bond to ensure that the work will be done on the claims.

6. It appears that the exploration business is suffering from the actions of some irresponsible people who went rampant with bulldozers in the Highland Valley. There are several points I would like to stress on this situation.

(a) It is not necessary to place geophysical lines with a bulldozer; in fact it is very costly unless done above timber line in areas of scrub willow and buck brush. Most guide lines for geophysical and

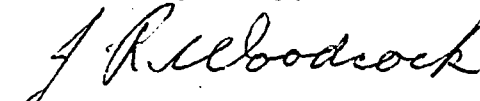
geochemical work can be blazed lines through the bush, guided by compass bearings, with a minor amount of slashing.

(b) Before decrying the cost of this irresponsible act in the Highland Valley, one should compare the value of the timber destroyed with the value of the copper found in the Highland Valley area.

7. When an exploration geologist is first faced with road construction, slash disposal and timber salvage, the problem appears formidable. In our case, we received conflicting advice from various persons, which would have been costly had we followed all of it. In particular we were told categorically that all slash had to be burned and all fires had to be fifteen feet from the nearest standing timber. It was not until I pointed out to Mr. Schmidt that this rule was not followed by the timber industry that I learned that the trees could be left provided that they were less than three feet from the ground. I suggest that the Department of Mines and Petroleum Resources in association with the mining industry and the Forest Service produce a pamphlet with suggestions and workable regulations.

In conclusion I would like to state that most engineers who work in the bush dislike destroying timber even when absolutely necessary, and also dislike the unsightly piles of slash that exist along many roads. However these problems must be appraised with an economic basis rather than an emotional bias. Preservation of forests is desirable but maximum economic return from the land is all important. Moreover we must not let concern about jurisdiction over our natural resources subjugate concern for our natural resources.

Yours very truly,


J. R. Woodcock

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P.S. The views expressed herein are strictly those of the writer and do not necessarily represent the opinions of the owners of Coranex Limited.