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PROPERTY FILIPELICATION 932059(DE) THE MOSQUITO CREEK GOLD MINING COMPANY LTD. ΒY MARCEL GUIGUET September 25, 1979

PROPERTY FILE

APPLICATION

FOR A

PERMIT RESPECTING RECLAMATION

UNDER

SECTION II OF THE MINES REGULATION ACT OF THE PROVINCE OF BRITISH COLUMBIA FOR THE PROPERTY OF

THE MOSQUITO CREEK GOLD MINING COMPANY LTD.

Near Wells, B. C. Lat. 53°07'N, 121°36'W Cariboo Mining Division

N.T.S. 93H4E

By

MARCEL GUIGUET, CONSULTANT

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Wells, B. C.

September 25, 1979

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INTRODUCTION

This report is presented as a requirement of Chapter 25, Section 11 of the Mines Regulation Act of the Province of British Columbia relative to the protection and reclamation of the surface of the land and watercourses affected by the operations of mining and milling on the property of the Mosquito Creek Gold Mining Company Limited, near Wells, B. C.

SECTION 11 (3)(a)

The enclosed maps show the location of the mine and mill and the location of lakes, streams and inhabited places in the vicinity.

Map	No.1	-	General Location	Map	
✓ Map	No.2	-	Claims Map		1"=1500'
/ Map	No.3	-	Surface Plan		1"=100'
/ Map	No.4	-	Contour Plan		1"-100'

SECTION 11 (3)(b)

General

This application is made on behalf of The Mosquito Creek Gold Mining Company Limited with head office at Suite 586, Calgary Place Three, Calgary, Alberta, T2P 2E7 and B. C. registered office at Suite 1700 - 750 West Pender Street, Vancouver, B. C.

The company owns 29 Crown Granted Mineral Claims and two Placer Leases, covering 998.29 acres on the north slope of Island Mountain, two miles west of the village of Wells, B. C. in the Cariboo Mining District at latitude 53°07'N and longitude 121°36'W. The claims lie in the watersheds of the Mosquito and Red Gulch Creeks which drain northerly into the Willow River.

Access to the property is via of good gravel road for one mile downstream along the Willow River, then 1.3 Miles south to the shaft site.

History

The gold rush of the 1860's to Williams Creek precipitated the gold placer mining which continued sporadically until recently. It will be noted that some of the present Mosquito Creek claims were first staked in 1875. Mr. Jack Gunn, the last owner, ceased hydraulic mining in 1960.

Lode mining in the area was carried out by Cariboo Gold Quartz Mining Company, from 1933 to 1959, on the adjacent claims on Cow Mountain. The Island Mountain Mines Co. (owned by Newmont Mining Corp.) produced from their claims from 1934 to 1954 at which time they were acquired by the Cariboo Gold Quartz Mining Co. Production continued until 1967 when rising costs in the context of a fixed gold price forced closure. The Mosquito Creek claims overlap, in part, these former workings and at depths of from 800 to 1,350 feet below the present shaft bottom old records show ore reserves of 40,000 tons grading 0.70 oz/ton. These working are flooded and, for the present, are inaccessible. Production from the former mines comprised 2,927,246 tons with an average grade of 0.428 oz/ton. Gold production totalled 1,196,283 oz and silver production 137,750 oz.

The present Company was incorporated in 1971 and, under a working agreement with Home Oil Co. of Calgary, a programme of surface and underground exploration was carried out through the Spring of 1975. This comprised road construction, geological, geochemical and geophysical surveys, bulldozer trenching, 16,180 feet of surface diamond drilling, 10,910 feet of percussion drilling, sinking of a 516 foot production shaft, 2,137 feet of drifting and crosscutting, 6,660 feet of underground diamond drilling, and environmental monitoring of the surrounding area.

Underground work was resumed in July, 1977 and comprised 1,859 feet of lateral development, 5,313 feet of underground diamond drilling and 1,150 feet of surface diamond drilling. A trial stope produced approximately 1,265 tons of ore which is stockpiled on surface.

Lateral Development work is continuing underground. A 240 foot ventillation raise has been driven to the surface from the third level. Diamond drilling is progressing as well.

Geology

The rocks of the area are comprised within the Snowshoe Formation of the Cariboo Group and consist of meta-sediments of early Cambrian age including phyllites, quartzites and limestones. There are no local intrusions. The formation has been intensely folded and the main mineralized areas occur within a fold, overturned to the southwest and plunges 22° in the strike direction. The anticlinorium has been flexed normal to the plunge with resulting major faults developing at intervals of 700 to 1,800 feet. These faults strike northerly and have varying dips to the east.

Gold production has been derived from two distinctive rock types. The Rainbow bed is composed of dark quartzites, argillites and some phyllites in which tension fractures have developed normal to the bedding. These fractures have in turn been filled with gold bearing quartz and pyrite.

The Baker member is composed of light fine-grained calcareous quartzites, talcose rocks and interbedded limestones. The limestones have been replaced by gold bearing sulfides and this generally occurs in the bed nearest the Baker-Rainbow contact. This contact zone, which is the major exploration target of the Mosquito Creek project, has been traced over a distance of 9.6 km (6 miles) and was a main source of ore for the previous producers. The contact area has been complicated by overturned folding and has provided the environment for gold deposition.

In general, the average grade of the quartz veins in the Rainbow member has been in the order of 0.30 to 0.40 ounces of gold per ton with minor silver values. The Baker replacement ore has averaged 0.50 to several ounces of gold per ton with silver content generally 10% to 15% of the gold content. At the present time, attention is being confined to the replacement ore.

Ore Reserves

Ore reserves in the new mine have been estimated as follows:

	Tons	Gold <u>oz/ton</u>	Silver oz/ton
Drift Indicated	4,800	1.00	0.45
Drill Indicated	16,600	0.80	0.21
	21,400	0.84	0.26

Mining

Mining methods will be based on experience of similar orebodies in the adjacent mines. In general, the replacement lenses plunge at an angle of 22°. Open stoping will be employed with the ore being scraped to boxholes. Trains will be loaded through chutes for transport to the shaft. Cars will be hoisted and the ore dumped on surface.

Preproduction development is planned as follows: The principal oreshoot on which mining will commence has already been outlined on the fourth (4,100) level and partially opened up by raising and box-holing. The third (4,200) level has now been advanced easterly over 700 feet intersected the upward extension of this shoot. From the end of this drift, a combined ventilation - escapeway raise has been driven to surface. Mining can now proceed on both levels.

Metallurgy

The former producing mines attained an average recovery of 95% of the gold and silver content by a straight cyanidation process. The present reserves appear to be mineralogically identical and hence the same process will be used.

Milling

Essentially the milling process will comprise two-stage crushing, followed by grinding in a ball-mill in closed circuit with a cyclone classifier to 65% - 200 mesh. The classifier overflow will be thickened and pumped to pachuca tanks for cyanide leaching and two-stage filtration. The filtrate (pregnant solution) will be clarified and the gold precipated in presses with zinc dust. The precipitate will be refined on site. The mill is situated on the Alabama claim at an elevation of 4,010 feet, approximately 4,900 feet from the shaft. Ore will be transported by truck. Site selection was based, in part, on shortening of tailings pipelines to reduce danger of spillage.

Foundations are largely on bedrock. Milling capacity will be 100 - 150 tons per day.

Tailings

The area selected for the tailings pond is on the Oliver claim, two hundred feet below the mill site. Most of the area is bedrock, denuded by placer mining. The retaining dike is constructed of local rock and gravel with a clay lining to prevent seepage. Surface run-off water will be diverted by ditching. The initial pond has a capacity of 1,300,000 cubic feet, sufficient to hold 72,000 tons of tailings and 760,000 cubic feet of effluent, sufficient for over two years operation. The effluent will be chlorinated to eliminate the residual cyanide content.

From November 1973 to April 2, 1975, monitoring of the water quality in the local watershed was carried out by Willis, Cunliffe, Tait and Co., consulting engineers. No pollution attributable to the mining operation was detected. Their reports are available for inspection.

Area Distrubed

The following table shows the areas involved in the mining and milling operations.

Location	Acres
Minesite	1.72
4,400 Portal Site	.56
Shaftsite waste dump	.65
4,400 Portal waste dump	.25
Drill access roads and drill sites	2.34
Surface at Ventillation Raise	.23
Main Haulage road	2.42
Millsite	1.69
Main Tailings disposal pond	3.99
Auxiliary Tailing disposal pond	.58
Mill warehouse site and parking area	<u>.46</u>
Total Area Disturbed	14.89 say 15 acres

The mill area and tailings ponds are situated on gold placer ground that for the most part has been denuded in the process of being hydraulically mined to bedrock. The old gravel piles still cover much of the ground about Mosquito Creek. SECTION II (3)(c)

Nature and Present Uses of the Land to be Used

The property lies in the Mosquito Creek watershed which has been extensively placer mined with consequent removal of the first growth vegetation. The area affected, mine and mill sites, and tailings ponds are covered by sparse, non-commercial, second growth spruce and lodgepole pine, with alder and willow undergrowth.

The sites have had no other commercial use other than the gold placer operations. Wildlife is scarce with the odd transcient moose showings. The winters have heavy snowfalls averaging over 25 feet on this north slope of Island Mountain. No fishing is carried out in the streams affected.

The site of the mine and mill are not on a through road and are not visible even from the Willow River.

SECTION II (3)(d)

Reclamation and Conservation

- (i) The land is located two miles from the village of Wells. The eastern limb of Island Mountain rises between the town and the property. There is no traffic beyond the mine itself.
- (ii) The effect of the programme will not harm wildlife, watercourses and there are no inhabited places in the vicinity of the mine or downstream of the tailings pond.

The water quality survey conducted has established that no harmful effects from the mining has occurred. It is planned to monitor the streams when production commences.

The tailings will be contained, and any contaminants controlled and monitored. Any discharge into the environment will adhere to government codes and regulations.

Reclamation both at the mine site and mill-tailings areas on termination of mining will adhere to the reclamation codes.

ANCILLARY FACILITIES

Maintenance

A well-equipped machine shop is now on the mine site, sufficient for all mining and surface plant needs.

A similar machine shop will be required at the mill to service that operation. It will be contained in the mill.

Office, Changehouse and Dry and Warehousing

These offices are already at the mine site and are sufficient for the projected crews. The explosives powder magazine is at the 4,400 adit and sufficient storage is available.

Mill warehousing will be in the mill. A cold storage building will be on the flats below the mill for bulk storage not needed at mine or mill, as is a changehouse and dry.

Present oil storage at the mine site (6,000 gallon tank) is sufficient for the planned production rate and similar storage will be made available at the mill site.

Fuel storage will adhere to the relevant codes.

Fire Protection, Safety and First Aid

A 6,000 gallon water reservoir at the mine will be available for fire protection. A reservoir above the mill will also be available for that locality.

First aid equipment is now located at the mine office, as is the mine rescue apparatus.

Living Accommodations

All personnel will live off camp. There is accommodation in the village of Wells and its surrounding.

Power

Power for both mining and milling will be supplied by diesel generators. It is planned to use two Caterpillar D379 units with an existing D300 unit available as a standby.

Water

Mining water will be obtained by recirculation of mine drainage. Process water will be derived from the Willow River. For camp use, water will be trucked from Mosquito Creek.

Communications

The mine site is serviced by radio telephone through the B. C. Telephone System. It is proposed to have a land line between the mine and mill. The underground working levels have an intercommunication phone system to the hoistroom.

SOCIO-ECONOMIC CONSIDERATIONS

The community of Wells, a mining-oriented village, provides social and recreational amenities including community hall, churches, curling rink, ski hills and some of the best cross-country ski trails in the country. Snowmobiling is an added attraction. Fishing and canoeing in Bowron Park and the immediate lakes near Wells are excellent. Big game hunting is also a sport, in season. The first mining camp in British Columbia, Barkerville, is only four miles from Wells and provides museum, summer shows and many attractions for visitors and locals alike. The first class highway is only 50 miles away, from Quesnel, a large community with hospital, markets, and terminals for rail, truck and airline facilities.

Thus, the Mosquito Creek Gold Mining crews will have these alternatives not usually available to mining personnel in remote locations.

The Mosquito Creek Project will have an annual payroll of approximately \$900,000 and an expenditure of approximately \$800,000 on consumable supplies and services. It is expected that 85% of the payroll will be spent locally and in the Quesnel-Prince George area. Purchases of fuel, groceries, transportation and shop services will be largely made in Quesnel. These items will account for about 25% of the supply expenditures with the greater part of the balance in Prince George and Vancouver.

CONCLUSION

Planning of the Mosquito Creek Project has at all times included consideration of meeting Government regulations with respect to safety, environmental protection, and ultimate reclamation. It is believed that these objectives have been attained. Initiation of production at Mosquito Creek is expected to have a beneficial effect on the economy of the area and thus, indirectly, to the economy of the Province as a whole.

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