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ENGINEERING REPORT on the VIC PROPERTY Clinton Mining Division

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M.K. Lorimer, P.Eng. 10 June, 1983

SUMMARY

The VIC Property consists of five claims totalling 90 units located at the north end of Taseko Lake in the Chilcotin district. It is accessible by mainly gravel roads from Williams Lake, and rough property roads give access to much of the claims area.

The claims cover a mountain whose northeastern face is extremely rugged and precipitous. Gentle slopes prevail on the other side.

The main feature of interest is a vein cutting through the mountain from northeast to southwest. It occupies a narrow ravine on the precipitous side and appears as an oxidized zone near the summit.

Very high gold, silver and copper values have been recorded from surface exposures along this vein and from holes drilled down the vein in the ravine area. Less spectacular values have been obtained from assays of samples from the oxidized summit material.

It appears that, despite the apparent merits of the area, the remoteness and the difficult terrain have combined to hinder exploration in the past.

An initial diamond drill programme of about 1000 feet at an estimated cost of \$60,000 is recommended.

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INTRODUCTION:

The following report is based on an examination of the subject property made on 1 June, 1983, and on a study of the reports and map listed in the Bibliography.

LOCATION:

The Vic Property is located immediately west of the point where Lower Taseko Lake empties into the north-flowing Taseko River. The Fraser Plateau lies to the north and the Coast Kountains to the south. Fig. 1.

It can be reached by 125 miles of mostly gravel roads from Williams Lake. Within the claims boundaries a local road, and bulldozer and bush tracks give access to much of the property.

The claims cover a mountain known locally as Vick Mountain. They range from the west shore of Taseko Lake, at an elevation of 4350 feet, up to and over the summit at 7900 feet and then gently down to an elevation of about 5000 feet on the southwest.

The geographic location is $N51^{\circ}22'$, $W123^{\circ}39'$, the National Topographic System map area is 920/5E and the Mining Division is Clinton.

TITLE:

The property consists of five claims totalling 90 units as tabulated below and shown on Fig.2.

Claim	Units	Record No.	Expiry Date	Owner
VIC KNB MIS LIN BERT	20 12 20 20 18	1269 1403 1404 1405	14 Oct 83 18 May 84 18 May 84 18 May 84	M. Boe Sunmark Mines Ltd. Sunmark Mines Ltd. Sunmark Mines Ltd.

(Information on VIC, KNB, MIS and LIN by telephone from Clinton Mining Recorder; on BERT from staker, R. Brown-John. BERT has been staked but, as of 10 June, 1983, not recorded.)

It is understood that an option to purchase agreement covering the VIC claim exists in favour of A. Wilkins of Burnaby, B.C.

The Department of Mines claims map shows a claim, the FIONA of 10 units, immediately north of the VIC. The validity of this claim is under dispute since the claim is alleged to have been staked on ground already covered by the VIC. In the meantime the BERT has been located. The resolution of this dispute awaits an examination by the Claims Inspector.

TOPOGRAPHY:

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In any discussion of this property, the topography is a prime consideration. It has undoubtedly had an adverse influence on exploration in the past and continues to present problems for work in the future.

The eastern and northeastern flanks of the mountain consist of precipitous rock faces, hundreds of feet high, cut by clefts and ravines, and having slopes of debris reaching down to the lake and river levels. The principal ravine, in which the main showings occur, is steep, less than 50 feet wide, and flanked by precipitous walls. At the time of the writer's visit it was plugged with snow to an unknown depth. According to reports, some of this snow remains throughout the year.

At the summit the ground is comparatively flat and falls away to the south and west in gentle slopes. This area is readily accessible.

HISTORY:

This is an old property on which the first work of significance was started in 1935. In this and succeeding years two adits were driven in an apparent attempt to explore the surface exposures at depth.

It is reported that, in 1939, the owner sluiced the ravine from near the summit to remove the semi-permanent snow and ice, and as much debris as could be moved. The work is said to have exposed 800 feet of vein material up to seven feet wide and running several ounces of gold to the ton. Although unproven, this is one of the sections on which the attraction of the property is based.

The area appears to have remained dormant until it was restaked in 1974. A programme of road building and surface exploration with diamond drilling was undertaken in this and succeeding years. An unsuccessful attempt to remove snow and ice from the upper ravine section was also made.

DEVELOPMENT:

The property is accessible by public roads from Williams Lake, and two rough roads have been built within the claims. One is little better than a bulldozer track. It switchbacks up the debris on the northeastern side of the mountain to within 1000 feet of the portal of the lower of two old adits. From it an old pack trail in poor condition leads to the vicinity of the adits. The other road swings around the south and west sides of the mountain, climbing gradually to a terminus near the summit. Fig. 2.

The adits are near the base of the precipitous northeastern face of the mountain. The lower is collared at an elevation of 5530 and is 379 feet long. It is dry and in good condition, no timber having been used. The other is collared at 5790 feet and is about 125 feet long. At the time of the writer's visit an accumulation of snow and ice had dammed so much water that the adit could not be entered without waders.

GEOLOGY:

The claims overlie a sequence of Cretaceous andesites, tuffs and flow breccias that strike northerly and dip flatly to the west. Cutting these beds are irregular diorite

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dykes with a general southwesterly strike and splitting into numerous branches.

The main features of interest are fissure veins associated with the dykes and having the same general strikes but much steeper dips. The most prominent vein, and that on which most of the work has been done, strikes up the steep north-northeasterly face of the mountain. It is irregularly exposed on the sides and bottom of a narrow ravine. The question of continuity hae not been settled because of debris and semi-permanent snow and ice in this ravine. The vein can be traced over the mountain near the summit and down the gentle slopes of the western side where it has been exposed by several trenches.

In the ravine section the vein consists of streaks and narrow bands of pyrite and chalcopyrite in ribboned quartz and silicified rocks. Widths up to 69 inchee have been reported. Several exposures have been sampled and one was drilled, all showing significant-to-high values in gold, silver and copper. Because of physiographical limitations the holes had to be drilled down dip and therefore gave no indications of vein widths.

The following table gives the weighted average values of several samples from each of four exposures: at the upper adit, 200 feet above the upper adit, and 800 feet above the upper adit, and from drill holes collared in sulphides 100 feet above the upper adit. (In the case of the drill holes, the heading "Width" refers to the intersection length <u>down dip</u>.) See Fig. 3.

Teasties	Width		Gold	Silver	Copper
Location	Feet	Metres	oz/ton	oz/ton	Fø
Vicinity upper adit 200 feet above upper adit 800 feet above upper adit Drill holes		0.43 0.62 0.55 2.00	0.070 2.770 0.326 2.430	0.11 2.36 0.21 3.72	0.46 6.07 - 2.23

Near the summit and down the western slopes the vein appears as an oxidized band up to seven feet wide. In this band isolated occurrances of quartz, calcite, pyrite, chalcopyrite and malachite carry some gold: the 1935 Minister of Mines Report gives an assay of 0.68 ounces of gold per ton across a 12-inch width of quartz containing streaks of sulphides. At the time of the writer's visit the trenches were badly sloughed; so no

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in-place samples could be taken. However, a selected sample of sulphides and a randomly selected sample of oxidized material were taken. The sulphides assayed 0.956 ounces of gold and 4.14 ounces of silver per ton; the oxidized material assayed 0.532 ounces gold and 2.43 ounces silver per ton.

In this same area in 1976, three diamond drill holes were driven to intersect the oxidized zone at depth, hopefully below the limits of oxidation. Identifying intersections were made at <u>depths exceeding 100 feet</u>, but the rocks were oxidized and virtually barren.

In the lower adit a major shear was followed for much of the drive. Previous samplers reported low values in this zone. A sample of gouge collected on the recent examination assayed: gold 0.010 and silver 0.05 ounces per ton.

SAMPLING:

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On the writar's recent visit, neither time nor enow and topographic conditions permitted of extensive sampling. Since the property has been fairly well sampled in the past by reputable geologists, the writer contented himself with taking a few confirmatory samples from key areas. Four were taken: two from the main vein near the summit, one being of selected sulphide minerals and the other of randomly selected oxidized material; one from gouge in the lower adit; and the fourth from the ravine about 100 feet above the upper adit. Although the assay results have been given earlier, they are repeated in the following table:

Location	Gold oz/ton	Silver oz/ton
Summit oxidized zone	0.532	2.43
Summit selected sulphides	0.956	4.14
Lower adit gouge	0.010	0.05
Selected sulphides upper adit area	1.480	8.80

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DISCUSSION:

The work done in the past and confirmed, to a limited extent, by the writer shows that this property carries encouraging values in gold and silver. Because of the extremely difficult topography it has not received the attention it merits. High grade exposures occur over a horizontal range of 2200 feet and a vertical range of about 2100 feet. Within these limits there is obviously space for substantial ore deposits.

The exposures on surface tend to be scattered. In part this may be due to topographic conditions, erosion revealing only parts of a larger whole and debris covering much of the rest.

The oxidized vein near the summit has generally been regarded as virtually barren. Past efforts in this area have been directed towards getting drill intersections below the oxidized zone. A sample taken by the writer shows that gold and silver do occur in this material. The sample may have been unrepresentative but it points up the importance of further investigation of the area.

For the present the northeastern face should be regarded as the prime target area. Little more of practical value can be done from the surface. The idea of removing the ice, snow and debris from the upper portion of the ravine by sluicing and scraping would at best only reveal more surface exposures, exposures that could not be satisfactorily investigated from within the confines of the ravine.

Underground economic deposits can most easily be found by drilling, preferably from set-ups whence reasonably short holes will give good intersections on the features being investigated. Fortunately, the lower adit on this property can provide such a set-up. The inner extremity of this adit is well located for investigating downward extensions of the exposures near and above the upper adit, but it is less suitable for probing for extensions of the zone reported to lie under the snow and ice near the summit, unless they have pronounced rakes to the east.

As a preliminary, a series of horizontal diamond drill holes should be fanned out from the lower adit in an attempt to find extensions of the surface exposures. Any success should be followed by the drilling of inclined holes. If this programme is successful, consideration should be given to the driving of a longer adit from a much lower elevation. A first-phase programme of about 1000 feet of drilling is suggested. Four holes laid out as shown on Fig. 3 would prove or disprove the existence of important deposits extending to depth in the vicinity of the adits and would give information on which future plans could be based.

Such a programme would call for a heavy expenditure on mobilization. A camp would have to be set up. The access road, and particularly the switch-back up the slope, would have to be repaired enough to permit the towing up of a compressor and supplies. About 600 feet of air line would have to be laid up the slope and another 400 feet in the adit. The water supply should present no problems. A helicopter would be required to sling the drill, rods, pumps, etc. to the portal. Some slashing of the adit walls might be required to give more room for drilling.

CONCLUSIONS:

The VIC Property contains numerous exposures of high-grade gold, silver and sulphide minerals widely distributed in one or more veins over extensive ranges both vertically and horizontally.

If the surface exposures persist to depth and maintain their surface grades, substantial bodies of economic minerals will be present.

Because of the rugged topography, the exploration and development of this property can best be done from underground.

Exploration and development costs will be high.

In spite of the difficulties, the property merits a carefully controlled exploration programme.

RECOMMENDATIONS:

In accordance with the foregoing discussion and conclusions it is recommended that a phased exploration programme be undertaken as follows:

Phase 1:

- 1. Set up a camp on the property.
- 2. Repair the access and switch-back roads.

- 3. Haul a compressor as far up the slope as possible and run an air line to the lower adit and in to the face.
- 4. Sling an air drill and necessary gear to the lower adit portal by helicopter.
- 5. Drill a set of horizontal holes totalling about 1000 feet as indicated on Fig. 3.

Phase 11:

This phase will depend on the results of Phase 1. It could involve more drilling from the lower adit, driving a new adit from a lower elevation, deep drilling of the summit exposures, or any combination of these.

COSTS:

The estimated costs are:

Phase 1:

Road repairs	\$ 6000
Camp costs	3000
Equipment rentals, mob. & demob.	8000
Helicopter charges	2000
Drilling 1000 ft. @ \$25	25000
Geologist/Engineer	3000
Transportation	3000
Assaying	1000
Head Office	1000
Miscellaneous and contingencies # 15%	8000

TOTAL

Phase 11:

No estimates of these costs can be made at this time.

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\$60,000

M.K. Lorimer, B.A.Sc., P.Eng. 10 June, 1983

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CERTIFICATE OF QUALIFICATIONS

I, MALCOLM KEITH LORIMER, of the City of Vancouver, B.C. Mining Engineer, hereby certify:

- 1. THAT I am a practising Mining Engineer and reside at 3082 West 27th Avenue, Vancouver, B.C.
- 2. THAT I am a graduate of the University of British Columbia and hold a Bachelor of Applied Science degree in Mining Engineering granted in 1950.
- THAT I have been practising my profession for over 29 years.
- 4. THAT I am a member of the Association of Professional Engineers of the Province of British Columbia.
- 5. THAT the following is a true record of my employment and experience:
 - 1950-52 General engineering, Consolidated Mining and Smelting Co. of Canada Limited, Kimberley, B.C.
 - 1952-56 Chief Engineer, Pioneer Gold Mines of B.C. Ltd., Pioneer Mines, B.C.
 - 1956-57 Chief Engineer, Buchans Mining Co. Ltd., Buchans, Nfld.
 - 1957-59 Chief Engineer and Mine Superintendent, Cowichan Copper Company Ltd., Lake Cowichan, B.C.
 - 1959-65 General exploration work for various companies, mostly in southern British Columbia.
 - 1965-75 Associate, H.L. Hill and Associates Ltd., later L.J. Manning and Associates Ltd., Consulting Mining and Geological Engineers, Vancouver, B.C.
 - 1975 To present time Independent Mining Consultant.
- 6. THAT I have no direct or indirect interest in the properties or securities of Sunmark Mines Ltd. nor do I expect to acquire any.

DATED at Vancouver, British Columbia, this 10th day of June, 1983.

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M.K. Lorimer, B.A. Sc., P. Eng.







