

REPORT OF INVESTIGATION ON CASCADE MOLYBDENUM MINES LTD., ROSSLAND, B.C.

SUMMARY

The property lies in an area of sedimentary rocks overlain by volcanics and intersected by dykes of Pulaskite and Lamprophyre. Molybdenum, gold, cobalt, bismuth and arsenic are widely disseminated over the area, particularly in the pulaskites and volcanic breccia.

Although a considerable amount of drilling has been done, there is only sufficient information to calculate a very tentative estimate of possible ore reserves of two closely related zones which give 42,000 tons at 0.33% Mo. and 180,000 tons at 0.24% Mo.. Gold values in these zones are considered insignificant.

An Induced Polarization survey is at present being carried out over the entire property which may provide better definition of mineralized zones and possibilities of finding additional ore.

LOCATION & ACCESS

The holdings of Cascade Molybdenum Mines Ltd. are located on Red Mountain, two miles west of the City of Rossland, in the Kootenay district, British Columbia. These holdings comprise two groups, the largest and most promising being located on the southwestern flank of Red Mountain. Fig. 1.

Access to the property is excellent, the Rossland to Cascade Highway traversing the south part of the main group, and gravel roads give access to most regions of the property.

TOPOGRAPHY

The property lies on a southern slope with an average gradient of 20° and a vertical rise of some 1100 feet. The area is generally fairly heavily wooded although the vegetation thins near the summit of the mountain and there are several open spots and exposures of bedrock.

Two forks of Jumbo Creek flow down the hillside to a confluence near the

southern boundary.

PROPERTY

The Company holds the following claims:-

<u>CROWN LEASES</u>	<u>LOT NO.</u>	<u>REMARKS</u>
Northern Belle	644	Northeast Group
View	645	Northeast Group
Snowshoe	1347	Northeast Group
Victor	1062	Reverted to the Crown
Little Darling	1043	Reverted to the Crown

CROWN GRANTED CLAIMS

Gold King	1061	Good Standing
Evening	1947	Good Standing
Eureka	946	Good Standing
Giant	997	Lease held by J. Harkoff for five years from 1/10/63 from C.M.S. with option for another 15 years.

LOCATED CLAIMS

Vernon Fraction	1182
Hardor Fraction	1249
Harkoff Fraction	1803
Crowe Hunter	906.

ECONOMIC FACTORS

The property is ideally situated with regard to supply of electric power, skilled labour, timber and water.

Transportation of equipment and concentrates presents no problems or excessive cost consideration.

HISTORY

Development work was carried out on the Giant claim and adjoining California claim at the beginning of the century, and 4,344 tons of ore at 0.9 oz. gold and 0.1% copper were reportedly shipped from the Giant claim prior to 1903.

1200 feet of drifting was carried out from the California claim, this cross cut extending beneath the Giant claim, but no ore was produced from these workings.

REFERENCES

Minister of Mines Report	1907	P. 107
Minister of Mines Report	1908	P. 105
Minister of Mines Report	1923	P. 230.

GENERAL GEOLOGY

Abstract of report prepared by A.L. Hill and Associates Ltd.

"Most of the property lies in sedimentary rocks and near the western edge of a large intrusive mass of quartz diorite. The sedimentary rocks, known as the Mount Roberts Formation, ^(PALAEOZOIC) consist mainly of slates which grade from soft and black to hard and light colored. They are generally fine-banded and may be tuffaceous in origin. Chert and argillaceous quartzites are abundant.

The sedimentary rocks are overlain by volcanics of the Rossland Formation whose surface expression almost completely surrounds the sedimentary rocks. These volcanics consist mainly of andesites and flow breccias which contain material from the underlying Mount Roberts Formation. The bedding strikes approximately north and dips moderately to the west.

The western part of the property is cut by a pulaskite dyke which strikes almost due north and has an average width of 300 feet. Other dykes, of pulaskite and of lamprophyre, cut the northeastern part of the property and generally strike southwest through the center and towards the quartz diorite tongue under the Eureka claim.

Insufficient work has been done in the area to work out a definite fault pattern but there are probably at least three faults in the northeastern corner under the Giant claim.

The metallic mineralization consists of gold, silver, sulphides of molybdenum, copper, iron, bismuth, cobalt and arsenic, and scheelite. The genesis of this mineralization is not well understood and various, and often contradictory, theories have been advanced by such investigators as Drysdale, Bruce, Gilbert and Little. The mineralization was apparently controlled by the lamprophyre dykes. In some places the dykes appear to have acted as dams; in other places mineralized veins terminate against the dykes and then continue beyond them. The obvious suggestion is that some of the dykes were in place before the mineralization and that some were in-

truded later.

The minerals are generally found in the breccias and the pulaskite. The molybdenum, the mineral of chief interest at present, occurs widely disseminated over an area about 2,500 feet in length and 400 feet in width within the claims boundaries. The zone extends well beyond the claims to the northeast and into properties held by other interests. Most of the molybdenum mineralization is within 200 feet of the surface, but strong mineralization has been found as deep as 500 feet. Gold, the other mineral of economic interest, is generally found at greater depths and below the molybdenum."

ORE RESERVES

These tonnages are computed from diamond drill intersections in the "A" Zone, at the north east corner of the Giant claim.

Drilling to date has failed to show continuity through the zone of mineralization so that separate calculations have been made for the two zone delineated.

Glory Hole Zone	42,000 tons at	0.33% Mo.
North East Zone	180,000 tons at	0.24% Mo..

The possibilities of finding addition ore are good, and it is conceivable that some 400,000 tons could be blocked out in the North East Zone if more detailed drilling was carried out, but the grade is unlikely to be greater than 0.24% Mo..

Mineralization is evident on the Evening and Gold King Claims and drilling has revealed values on both, but insufficient data is at present available to warrant calculation of ore reserve tonnages.

CONCLUSIONS

Widespread areas of mineralization containing values of molybdenum and gold are evident on the claims, but although some 15,000 feet of diamond drilling has been carried out to date, there is as yet no proof of the existence of an ore body of economic interest.

Most of the drilling activity to date has been centred in the north east corner of the Giant Claim but grade has generally proven to be too low for the tonnages of ore provisionally blocked out, and unless continuity of the mineralized zone is ascertained, which may be indicated by the I.P. Survey now in progress, there is little hope that a large tonnage low grade deposit of economic viability will be found.

Respectfully submitted

A handwritten signature in cursive script, appearing to read "I.A.C. Turnbull".

I.A.C. Turnbull.

June 16, 1966.

Diamond Drill Results

The following is a list of assays of diamond drill holes which showed interesting mineralization:

<u>HOLE NO.</u>	<u>FOOTAGE</u>	<u>LENGTH</u>	<u>AU ozs/t</u>	<u>MoS₂%</u>
✓ A 1	0-25	25'	0.04	0.158
	154-160	6'	0.17	0.04
	172-178	6'	0.15	0.14
	190-220	30'	0.05	0.214
✓ A 2	46-86	40'	0.08	0.138
	116-121	5'	3.90	
✓ A-3	141-151	10'	1.05	
	326-356	30'		0.24
✓ A 4	101-106	5'	0.55	
✓ A 5	62-72	10'		0.25
✓ A-6	✓ A 8	37-41	4'	0.18
✓ A-7		91-96	5'	0.22
	116-143	27'		0.52
✓ A 9	79-94	15'	0.16	0.09
	94-114	20'	0.06	0.47 ✓
A-10	129-174	45'	0.02	0.32 ✓
A 11	101.5-106.5	5'	0.24	
	116.5-126.5	10'	0.10	0.21
	136.5-144	7½'	0.20	0.14
	169.5-176	6½'	0.22	
A 13	38-52	14'		0.42
	65-70	5'	0.97	0.23
	184-189	5'		0.35
	214-220	6'		0.28
	236-241	5'		0.24
A 15	16-26	10'	0.20	0.29
	77-92	15'	0.25	0.21 ✓
	145-181.5	36½'		0.33 ✓
	247-252	5'		0.37 ✓
	284-299	15'		0.38 ✓
A 16	82-107	25'	0.19	1.17 ✓
A 17	122-132	10'	0.085	0.19 ✓
	217-227	10'	0.13	0.10 ✓
	227-232	5'	0.50	
	237-257	20'		0.23 ✓
	329-367	38'		0.25 ✓
A 18	82-92	10'	0.24	0.18
A 19	0-13	13'	0.18	0.17
	35-40	5'	0.22	
	91-126	35'	0.19	0.10
E 3	40-45	5'	0.44	
GK 1	332-372	40'		0.341
	402-422	20'		0.323
GK 3	185-190	5'		0.48
	205-250	45'		0.445
	265-275	10'		0.380
GK 5	113-123	10'		0.25
	156-186	30'		0.25
GK 6	189-194.5	5½'		0.24
	276-281	5'		0.29
	283-288	5'		0.38

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	116-143	27'		0.52
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	116.5-126.5	10'	0.10	0.21
	136.5-144	7½'	0.20	0.14
	169.5-176	6½'	0.22	
A 13	38-52	14'		0.42
	65-70	5'	0.97	0.23

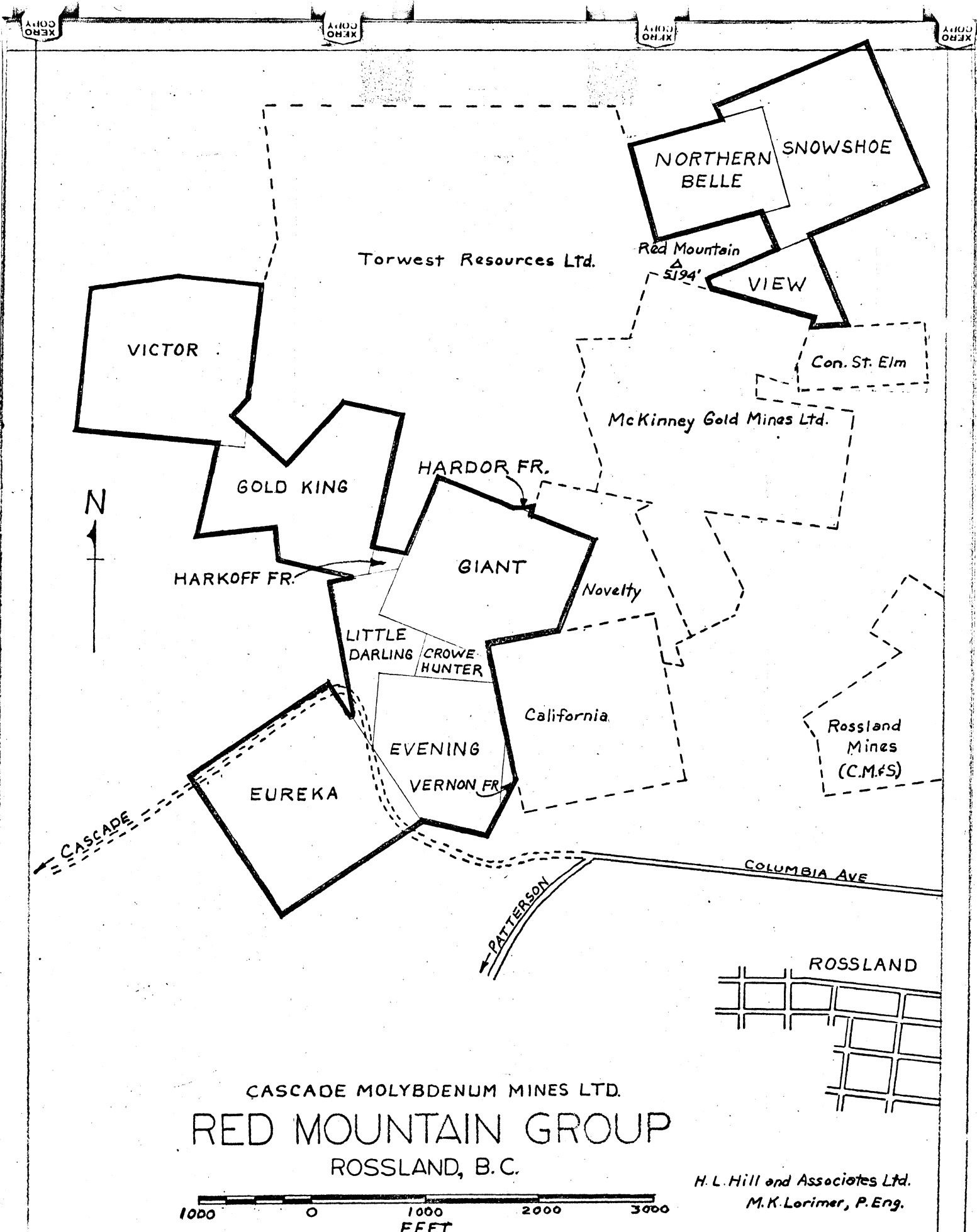
H. L. HILL & ASSOCIATES LTD.

VANCOUVER, B.C.

ASSAYS:

Significant assays since the date of the last report are given below:

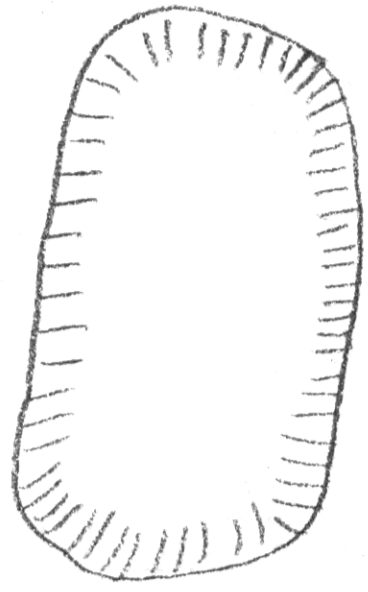
<u>Hole No.</u>	<u>Footage</u>	<u>Length</u>	<u>Gold oz/ton</u>	<u>Molybdenum % MoS₂</u>
17	122-132	10	0.08	0.19
	217-222	5	0.13	0.17
	237-252	15	Tr.	0.26
	329-367	38	Tr.	0.25
18	77-87	10	0.24	0.18
	130-145	15	Tr.	0.23
19	91-126	35	0.19	0.10
20	62-80	30	0.01	0.27



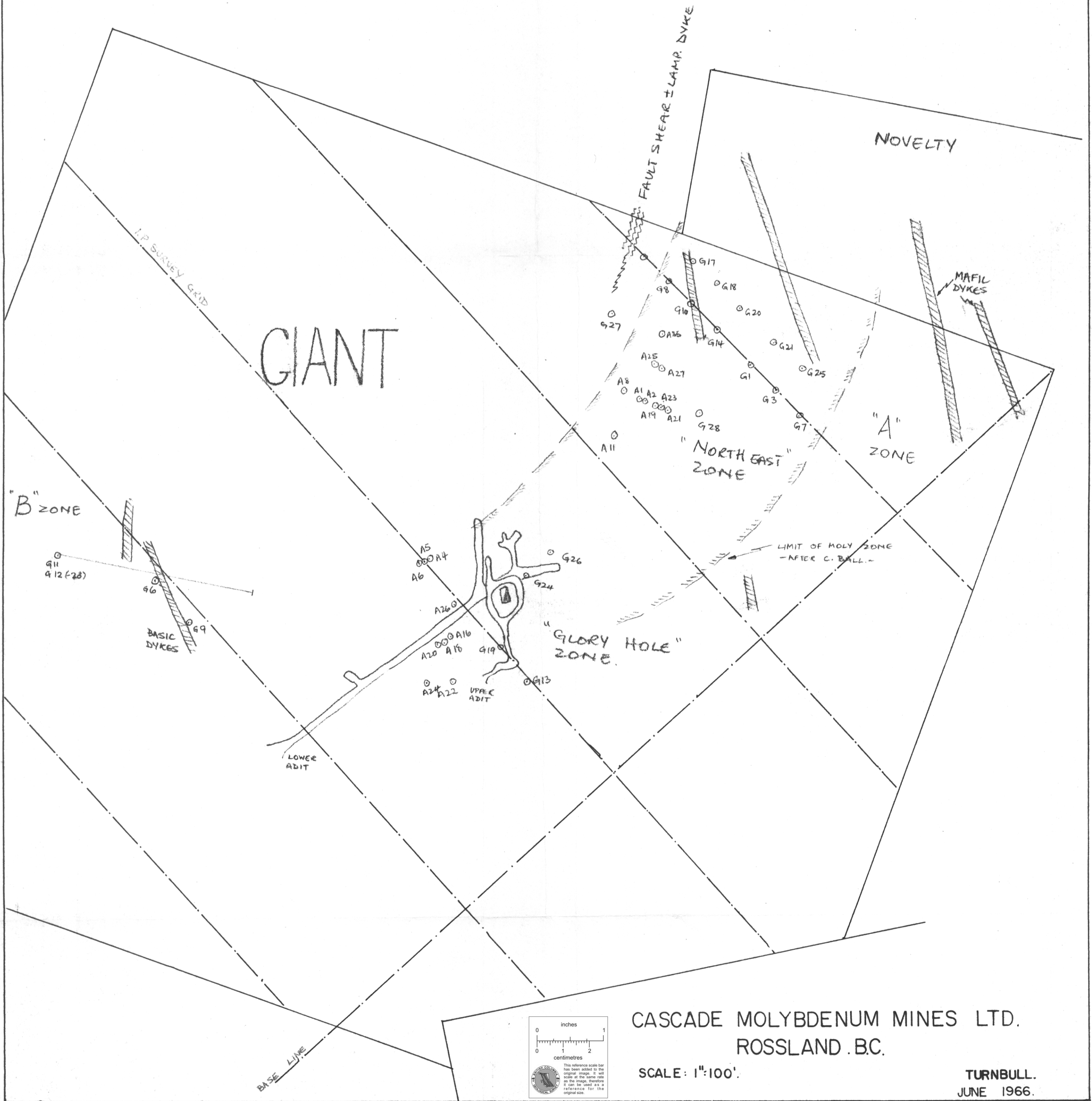
CASCADE MOLYBDENUM MINES LTD.
RED MOUNTAIN GROUP
 ROSSLAND, B.C.

H.L.Hill and Associates Ltd.
 M.K.Lorimer, P.Eng.

FIG. 1.



TORWEST OPEN PIT.



CASCADE MOLYBDENUM MINES LTD.
ROSSLAND .BC.

SCALE: 1"=100'

TURNBULL.
JUNE 1966.

