

926/14E
926/NW-23CHALLENGER EXPLORATION LTD. (N.P.L.)

PRIMARY
PRELIMINARY REPORT
GARIBALDI-CHEAKAMUS MINERAL CLAIMS PROPERTY
VANCOUVER MINING DIVISION, BRITISH COLUMBIA
AND
SAVONA-BERU MINERAL CLAIMS PROPERTY
KAMLOOPS MINING DIVISION, BRITISH COLUMBIA

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ANNEX: A Assay Certificate No. V-10898, 16 November 1971
Core Laboratories-Canada Ltd., Vancouver, B.C.

ILLUSTRATIONS

Figure: 1 Frontispiece, General Location

THE GARIBALDI-CHEAKAMUS MINERAL CLAIMS PROPERTY

Figure: 2A Garibaldi-Cheakamus Property, Claims Location

Figure: 3A Garibaldi-Cheakamus Property, Access & Topography

Figure: 4A Garibaldi-Cheakamus Property, Geology

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THE SAVONA-BERU MINERAL CLAIMS PROPERTY

Figure: 2B Savona-Beru Property, Claims Location

Figure: 3B Savona-Beru Property, Access and Topography

Figure: 4B Savona-Beru Property, Geology

Figure: 5B Savona-Beru Property, Airborne Magnetic Survey

WILLIAM J. WEYMARK, P.ENG.
Consulting Engineer
3310 WESTMOUNT ROAD
WEST VANCOUVER, B.C.
CANADA

TELEPHONE
922-1536

19 November 1971

Challenger Exploration Ltd. (N.P.L.),
Suite 711, 475 Howe Street,
VANCOUVER, British Columbia.

Gentlemen,

RE: PRIMARY:
PRELIMINARY REPORT:
GARIBALDI-CHEAKAMUS MINERAL CLAIMS PROPERTY,
VANCOUVER MINING DIVISION, BRITISH COLUMBIA;
AND
SAVONA-BERU MINERAL CLAIMS PROPERTY,
KAMLOOPS MINING DIVISION, BRITISH COLUMBIA.

I am pleased to submit for your information, this Preliminary Report on the results of my examination of the Claims Areas on the 31st October for the Garibaldi-Cheakamus Property, Vancouver Mining Division and the Savona-Beru Property, Kamloops Mining Division on the 2nd and 3rd October 1971 and the subsequent review of the available information relating to these properties.

This Report is addressed in two parts: PART "A" relates to the Garibaldi-Cheakamus Mineral Claims Property, Vancouver Mining Division and PART "B" relates to the Savona-Beru Mineral Claims Property, Kamloops Mining Division, British Columbia.

PART "A"

THE GARIBALDI-CHEAKAMUS MINERAL CLAIMS PROPERTY, VANCOUVER MINING DIVISION

1.0 PROPERTY:

The Garibaldi-Cheakamus Claims Group of Challenger Exploration Ltd. (N.P.L.) consists of five (5) located mineral claims. The claims were staked by Rudolph C. Riepe of Vancouver and transferred by unrecorded (at the date of this Report) Bill of Sale to Challenger Exploration Ltd. on 14 December 1971. The claims are in good standing until May 1972.

The reference Mineral Claims Map of the British Columbia Department of Mines is: 92.G/14E(N).

CHALLENGER EXPLORATION LTD: PRELIMINARY REPORT GARIBALDI-CHEAKAMUS PROPERTY
AND SAVONA-BERU PROPERTY:

1.0 Property (continued):

The designated names and staking numbers and applicable dates relating to each of the claims are given below. Reference is to Figures: 1 and 2A for location details.

CLAIM	RECORD No.	TAG No.	STAKING DATE	DATE/RECORD	EXPIRY DATE
CHEAKAMUS Br.#1	9399	453324	12 Aug/1962	16 Aug/1962	16 Aug/1972
CHEAKAMUS BRIDGE-3	9655	461319	27 Apr/1963	1 May/1963	1 May/1972
CHEAKAMUS BRIDGE-4	9656	461320	27 Apr/1963	1 May/1963	1 May/1972
TERU #7	11219	574171	25 Sep/1965	4 Oct/1965	4 Oct/1972
TERU #8	15103	474088	16 Aug/1968	19 Aug/1968	19 Aug/1972

Check surveys have not been made of the claims boundaries, tags or posts relative to conformity with the Mineral Act of the Province of British Columbia.

The mineralized zones examined are located within the indicated boundaries of the claims.

There are no structures or equipment on the property belonging to Challenger Exploration Ltd. There are certain structures and facilities located within the claims area belonging to the British Columbia Department of Highways, the British Columbia Hydro and the Pacific Great Eastern Railway.

2.0 LOCATION:

The Cheakamus Claims Group is situated fifty (50) miles north of Vancouver, 12 miles north of Squamish and about 3½ miles south of Garibaldi Station on the Pacific Great Eastern Railway. The geographic reference is Latitude: 49°55' North and Longitude: 123°10' West. The Land District is New Westminster and the Mining Division is Vancouver with Recording Office in Vancouver, British Columbia. See Figure: 3A.

3.0 ACCESSIBILITY:

Access to the claims group is ready by automobile by paved Highway No.99, Vancouver-Squamish-Garibaldi-Pemberton which transects the property, see Figure:3. Most of the claims area is easily reached from automobile or pick-up roads and is easily traversable by foot along the cleared transmission right-of-ways and on the logging roads. Access to the claims area is also provided by the Pacific Great Eastern Railway via Garibaldi Station.

Telephone facilities are available in the claims area via British Columbia telephone facilities.

4.0 DESCRIPTION:

The Cheakamus Claims Group was staked by Rudolph C. Riepe on various dates,

CHALLENGER EXPLORATION LTD: PRELIMINARY REPORT GARIBALDI-CHEAKAMUS PROPERTY
AND SAVONA-BERU PROPERTY

4.0 Description (continued):

i.e. 12 August 1962, 27 April 1963, 25 September 1965 and 16 August 1968. In November 1971 they were transferred by Bill of Sale to Challenger Exploration Ltd. (N.P.L.) but unrecorded at the date of this report. The location lines run east-west. The acreage involved is approximately 250 acres. Insofar as checks permit, there are no recorded reports about the claims group but, because of their locations, the area must have been previously staked and prospected, considering the mineral activity in the Garibaldi-Squamish-Pemberton areas dating back to 1900. References are to British Columbia Minister of Mines Reports of 1913, 1914, 1924 and 1936.

Copper-iron containing sulphide zones occur on the property and these have been explored by surface trenching and a few diamond drill holes.

5.0 CLIMATE:

Climatic conditions within the claims are coastal. Rainfall and snowfall are of the order of 40 inches per annum. Mean temperature is approximately 45° F., with extremes ranging from 9° F. to 99° F. Exploration work could be carried out year-round except during exceptional snowfall and fire peril periods.

6.0 PHYSIOGRAPHY:

The claims area is within the Pacific Ranges of the Coast Mountains, lying within the Squamish-Cheakamus River drainage basin.

The dominant physiographical units are the mountain peaks and glaciers within Garibaldi Provincial Park on the east, with elevations to over 8000 feet, Cloudburst Mountain (6136') on the west and the Cheakamus River Gorge.

The topographic elevation range is 1100' to 3000'.

The topography of the claims area is rugged with sharply rising rock ledges and depressions. The main drainage is provided by the Cheakamus River, and its tributary creeks which flow into the Squamish River.

There are large areas of barren rock outcrops and it is only the depressions and overburden areas which are covered with coniferous and deciduous trees. Rights to the timber are held under Tree Licence through the British Columbia Department of Lands and Forests.

Carrying out of exploration work on the claims area would not be difficult because of the easy access to most areas and the open areas with exposed rock.

Reference topographic maps are #92.G/14E., 1960 "Cheakamus River" and #PS-G3, 1967 "Western Garibaldi Park".

CHALLENGER EXPLORATION LTD: PRELIMINARY REPORT GARIBALDI-CHEAKAMUS PROPERTY
AND SAVONA-BERU PROPERTY:

7.0 LOCAL RESOURCES:

There are ample timber, sand-gravel and water resources available on the claims to support the needs of mining exploration work. However, rights to the timber are held under Tree Licenses. The British Columbia Hydro high tension lines from the Cheakamus-Bridge River power plants to Vancouver pass over the claims area.

There is a reasonable supply of skilled labour, equipment, supplies and other back-up support available in the Squamish area with major supply sources available in Vancouver.

The carrying out of exploration-development work on the claims area would not be burdensome because of on-cost items.

8.0 GEOLOGY:

GENERAL GEOLOGY: The published reference relating to the geological characteristics of the area is: Geological Survey of Canada, Summary Report 1924, Part A, "Pemberton Area, Lillooet District, British Columbia" by C. E. Cairns, 1935 and Memoir 335, "Vancouver, North Coquitlam and Pitt Lake Areas, British Columbia" by J. A. Roddick, 1965.

The geology of the Squamish-Cheakamus River drainage basin is complex and has been examined or studied in only reconnaissance-type surveys. Regionally, within the Coast Mountains, 80% of the area is underlain by various plutonic rocks ranging from granites-diorites-gabbro to migmatites. Engulfed in these plutonic masses are pendants consisting of sedimentary, volcanic and metamorphic rocks. Contributing further to the complexity are late intrusions of lamprophyre and felsitic porphyry dykes.

Structurally, the area has been subject to considerable faulting and shearing and deformation. The dominant trend is northwesterly with cross-faulting occurring in a northeasterly-southwesterly direction.

Within the area mineral zones occur, some of which have been mined. The most notable are the Brew Group - a gold-silver-copper prospect, the Blue Jack Group located on Brandywine Creek with gold-silver-lead and zinc and the Astra and Cambrian Groups, also in the Brandywine-Dority Creek area with gold-silver-copper-lead and zinc. Reference is to the British Columbia Minister of Mines Reports 1913, p.247,249; 1914, p.389; 1924, p.243 and 1936, p.F53-F58 for details.

LOCAL GEOLOGY: On the basis of preliminary examination, the formations, - the main rock types are a porphyritic-quartz-dioritic (or quartzite), hornblende dioritic-amphibolitic or migmatite complex. Intrusions of andesitic to rhyodacite are also present as are several near vertical lamprophyre (greenstone) and felsitic dykes. The marginal phase zones here have been strongly sheared and in places the rocks have a schistose to gneissic structure. The topographic

CHALLENGER EXPLORATION LTD: PRELIMINARY REPORT GARIBALDI-CHEAKAMUS PROPERTY
AND SAVONA-BERU PROPERTY:

8.0 Geology:

Local Geology (continued):

relief appears to conform to the geologic formations with the gulleys and depressions following the contact zones.

9.0 MINERAL ZONES AND EXPLORATION WORK:

Several sulphide mineral zones have been exposed on the claims area which generally occur near the contact between the more siliceous(acid) and the basic rock formations. The main sulphide zone occurs as light grey to buff sericitic schistose phase with contained pyrite, chalcopyrite and other metallics, see Figure: 5A. Exploration work to date has included several rock trenches, which are now sloughed and three short diamond drill holes (x-ray size) - Hole 1A: 18'; Hole 2A: 51' and Hole 3A: 100'. Some of this core is available but, due to poor recovery and marking identification, sound technical interpretation cannot be made. Some of the core has reportedly been assayed but the results are not available.

Stripping and further rock trenching, followed by diamond drilling is required in these sulphide mineral zones in order to determine the extent and nature of their occurrence

10.0 ASSAY RESULTS:

The following results were obtained from a large specimen sample of the light grey-buff hematite-stained schistose material of trench "A", see Fig: 5A, & Annex: A.

#6453 Gold: less than .003 ozs. Silver: 0.12 ozs. Copper: 2.28%

A previous sample reportedly taken by R. C. Riepe of the shear zone material of trench-zone "B" yielded the following results:

#17690/7755A Spectrochemical Analysis: Copper, a small fraction of 1 per cent of zinc, and very small fractions of 1 per cent of lead and molybdenum were found; the other base metals found and their percentages, were those occurring normally in rocks.

Assays: Gold - Trace
Silver - 0.3 ozs/ton
Copper - 1.02%

Radioactivity: no greater than that occurring normally in rocks.

11.0 ORE RESERVES AND ECONOMICS OF PRODUCTION:

As the investigations to date on the claims area are most preliminary, no

CHALLENGER EXPLORATION LTD: PRELIMINARY REPORT GARIBALDI-CHEAKAMUS PROPERTY AND SAVONA-BERU PROPERTY:

11.0 Ore Reserves and Economics of Production (continued):

assessment may be made with reference to possible ore reserves or to the scope of economic controlling factors. There are no operating metal mines in the immediate area. Several prospects and operations have been known in the area and these have been only partially exploited.

Because of the availability of support resources and considering the geographic location, the carrying out of exploration-development work would not be burdensome for on-cost items.

12.0 OPINION:

On the basis of the information available relating to the lithological, structural and mineralogical features of the geological formations underlying the Cheakamus Claims Group, considered in conjunction with the results of my examination, I am of the opinion that further tests and exploration of the copper-gold-silver mineral potentialities of the claims area is warranted.

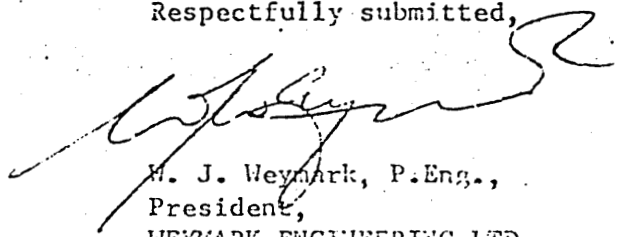
13.0 RECOMMENDATIONS:

It is proposed that a programme of exploration be carried out to test the prospect worthiness of the metalliferous possibilities of the claims area. The programme would involve the following works and investigations:

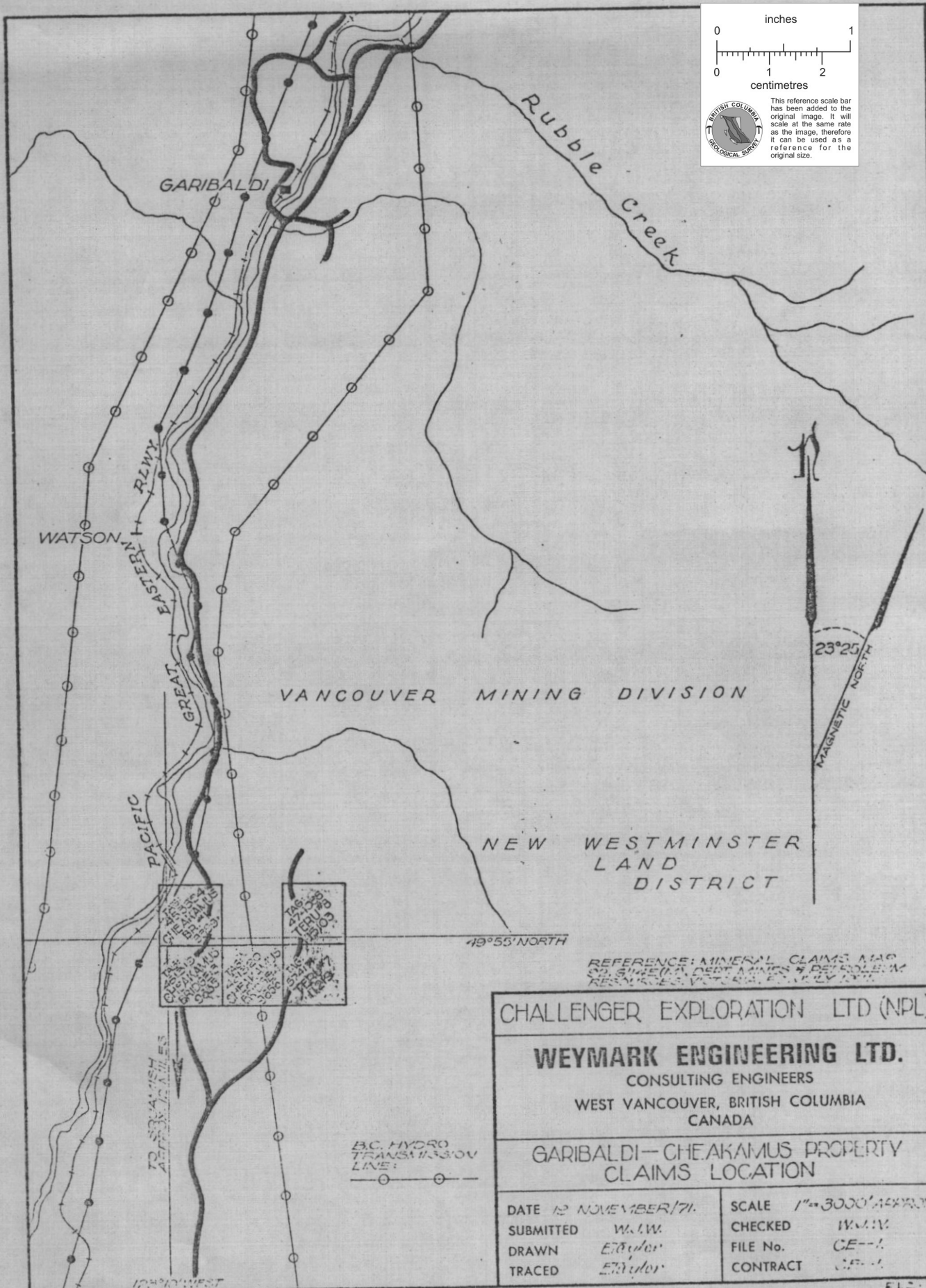
1. Grid Lines and Control.....	\$ 1,500.00
2. Prospecting and Geological Mapping.....	1,500.00
3. Geophysical Surveys:	
Magnetometer.....	1,000.00
EM.....	1,000.00
4. Trenching and Stripping.....	1,000.00
5. Diamond Drilling, 400 feet.....	4,000.00
6. Engineering, Tests and Sampling.....	2,500.00
7. Administration, Establishment and Miscellaneous.	<u>2,500.00</u>
	\$15,000.00

Allowances should be made for some variation in the carrying out of this programme corresponding with the results obtained. On completion, an assessment should be made as to the economic significance of the metalliferous possibilities to permit determination of the scope and nature of future courses of action.

Respectfully submitted,



M. J. Weymark, P.Eng.,
President,
WEYMARK ENGINEERING LTD.



inches
0 1
centimetres
0 1 2

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BRITISH COLUMBIA
GEOLOGICAL SURVEY

VANCOUVER MINING DIVISION

NEW WESTMINSTER LAND DISTRICT

49°55' NORTH

REFERENCE: MINERAL CLAIMS MAP
CO. SINCE (M. DEPT. MINES & PETROLEUM
RESOURCES, VICTORIA, B.C., JULY 1971)

CHALLENGER EXPLORATION LTD (NPL)

WEYMARK ENGINEERING LTD.

CONSULTING ENGINEERS
WEST VANCOUVER, BRITISH COLUMBIA
CANADA

GARIBALDI-CHEAKAMUS PROPERTY
CLAIMS LOCATION

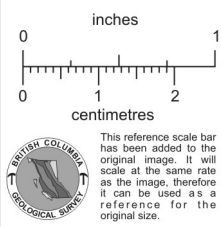
DATE 12 NOVEMBER/71
SUBMITTED W.W.W.
DRAWN E.T. JONES
TRACED E.T. JONES

SCALE 1" = 3000' MAXIMUM
CHECKED W.W.W.
FILE No. CE-11
CONTRACT CE-11

B.C. HYDRO TRANSMISSION LINE

104°10' WEST

FIG. 2A



REFERENCE: TOPOGRAPHICAL MAP #PS-G3
 1ST EDITION "WESTERN GARIBALDI PARK"
 DEPARTMENT LANDS, FORESTS AND WATER
 RESOURCES, VICTORIA, BC: DEC/1967

NOTE: LOCATION OF CLAIMS IS APPROXIMATE

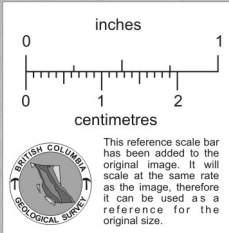
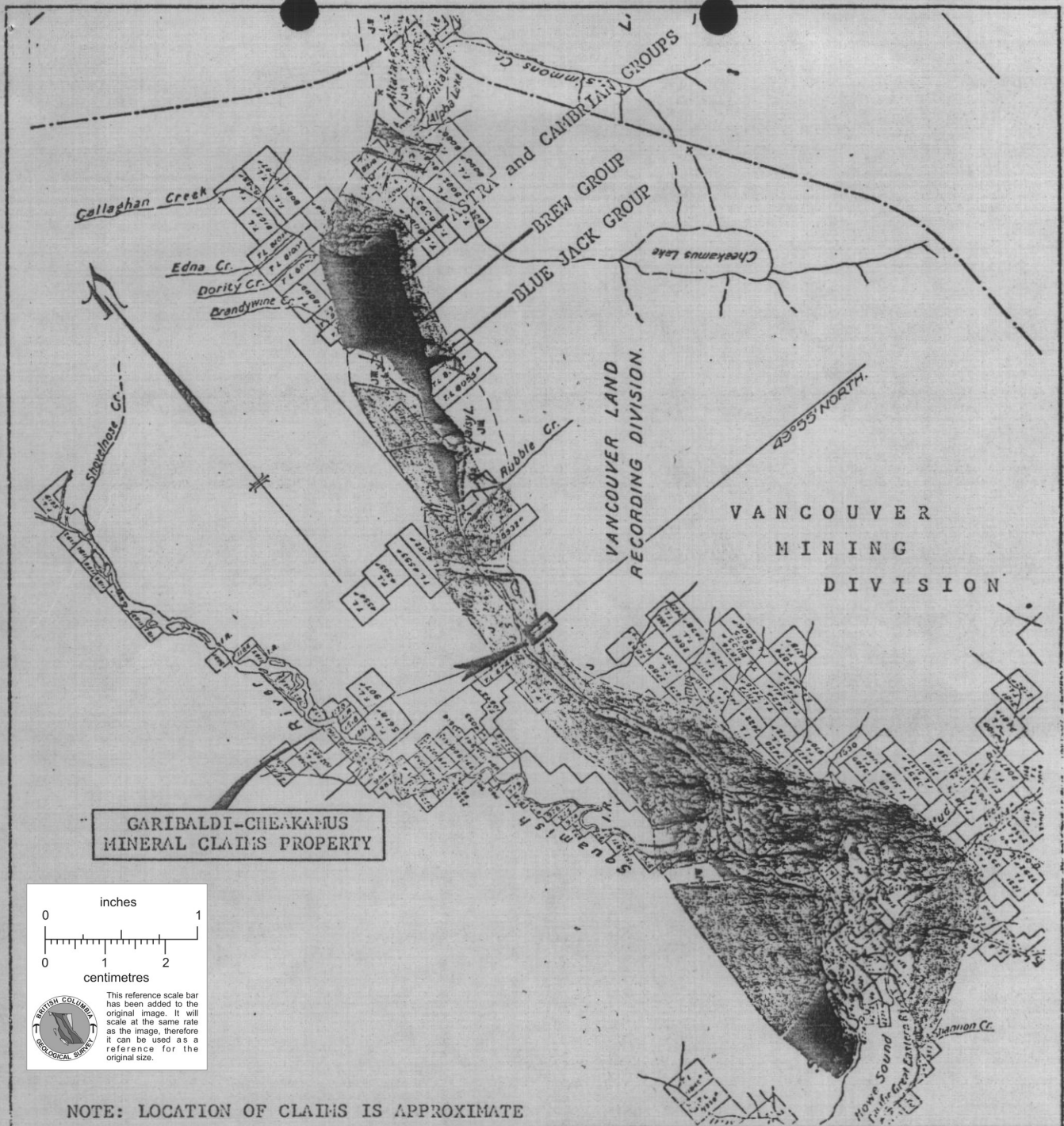
GARIBALDI-CHEAKAMUS PROPERTY
 ACCESS TO TOPOGRAPHY

WYMARK ENGINEERING LTD.
 CONSULTING ENGINEERS
 WEST VANCOUVER, BRITISH COLUMBIA
 CANADA

CHALLENGER EXPLORATION LTD (NPL)

DATE SUBMITTED	29 NOVEMBER 71	SCALE	1" = 1 MILE
DRAWN	W.C.I.W.	CHECKED	W.C.I.W.
TRACED	ETK/WV	FILE NO.	CE-1
		CONTRACT	CE-1

FIG:3A



NOTE: LOCATION OF CLAIMS IS APPROXIMATE

GEOLOGICAL LEGEND

- QUATERNARY:**
- RECENT & GLACIAL GRAVELS, SANDS & CLAY.
 - PLEISTOCENE LAVA FLOWS
- MESOZOIC:**
- LOWER JURASSIC GRANULITE, GRANITE.
 - MESA-TRIASSIC QUARTZITE, ANGIOLITE, LIMONITE, CONGLOMERATE, CALCITE & TALUSCHISTS, VOLCANIC ROCKS.

REF: MAP GEOLOGY FOLLOWING ROUTE TRAVELLED BY P.S.E. QUINN BETWEEN GARIBALDI & LILLOIET IN 1961, CANADIAN GEOLOGICAL SURVEY, PUBLICATION 1171.

CHALLENGER EXPLORATIONS LTD (NPL)

WEYMARK ENGINEERING LTD.

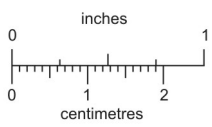
CONSULTING ENGINEERS
WEST VANCOUVER, BRITISH COLUMBIA
CANADA

GARIBALDI-CHEAKAMUS PROPERTY
GEOLOGY

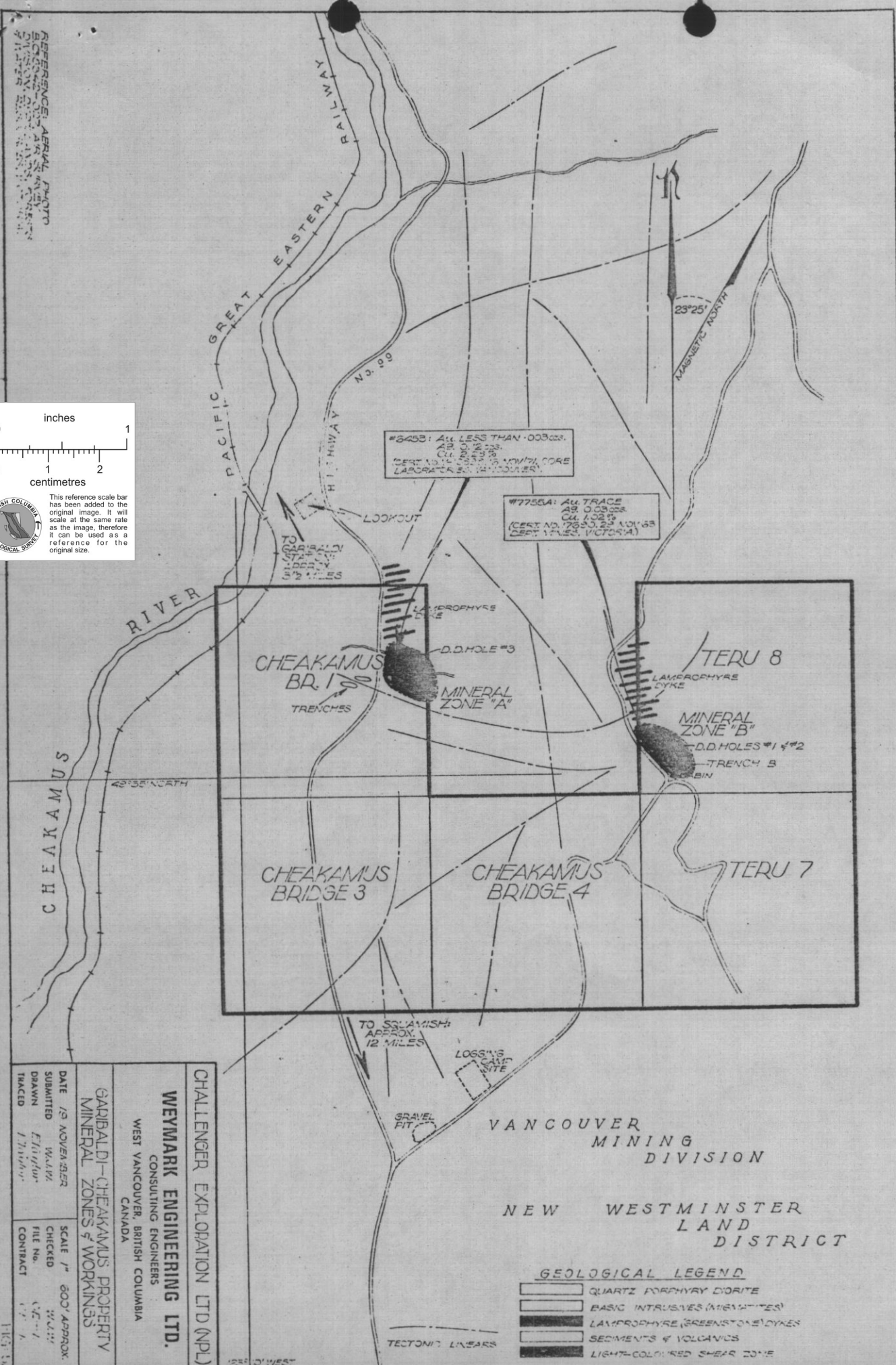
DATE 19 NOVEMBER/71
SUBMITTED W.J.W.
DRAWN E. Taylor
TRACED

SCALE 1" = 4 MILES
CHECKED W.J.W.
FILE No. CE-1
CONTRACT CE-1

REFERENCE AERIAL PHOTO
 1:25,000 SCALE
 1957



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.



#3453: ALL LESS THAN .003 GRS.
 AS 0.003 GRS.
 CU 1.02 GRS.
 (CERT NO. 7350, 24 AUG 63
 DEPT. OF MINES, VICTORIA)

#7755A: ALL TRACE
 AS 0.003 GRS.
 CU 1.02 GRS.
 (CERT NO. 7350, 24 AUG 63
 DEPT. OF MINES, VICTORIA)

CHALLENGER EXPLORATION LTD. (NPL)	
WEYMARK ENGINEERING LTD.	
CONSULTING ENGINEERS WEST VANCOUVER, BRITISH COLUMBIA CANADA	
GARIBALDI-CHEAKAMUS PROPERTY MINERAL ZONES & WORKINGS	
DATE 19 NOVEMBER	SCALE 1" = 500' APPROX.
SUBMITTED W.A.M.	CHECKED W.A.M.
DRAWN E.H.P.	FILE NO. 42-1
TRACED T.H.P.	CONTRACT 1-1-1

VANCOUVER MINING DIVISION
 NEW WESTMINSTER LAND DISTRICT

GEOLOGICAL LEGEND

[Pattern]	QUARTZ PORPHYRY DIORITE
[Pattern]	BASIC INTRUSIVES (DIABASES)
[Pattern]	LAMPROPHYRE (GREENSTONE) DYKES
[Pattern]	SEDIMENTS & VOLCANICS
[Pattern]	LIGHT-COLOURED SHEAR ZONE

TECTONIC LINEARS

125° 0' WEST