

473

CHITA CREEK

Geological Report

By

D. C. Malcolm, B.A.Sc., P.Eng. 2568

920/4E, 5E

CHITA CREEK

CLAIMS:

Chita Mineral Claims numbers 1 - 68 inclusive

Owned By

Phelps Dodge Corporation of Canada, Limited,

LOCATION:

Taseko Lake

Latitude 51° Longitude 123°

Southwest, Lillooet District.

Clinton M.D. British Columbia

AUTHOR:

D.C. Malcolm, B.A.Sc., P. Eng. 2568

DATES of WORK:

June 22nd to July 28th, 1962

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Map in Pocket

Surface Geology

<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 473 MAP.....</p>
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CHITA CREEK

Geological Report

SUMMARY:

Geologists of the Phelps Dodge Corporation of Canada, Limited, mapped the Chita claims in 1962. Pyrrhotite, pyrite and chalcopyrite occur in altered feldspar porphyry intrusives and in adjacent altered sediments. Detailed geological mapping using a plane table and alidade was done to determine the surface geology.

LOCATION:

The Chita claims are staked to the east of Chita Creek to the headwaters of Beece Creek east of the narrows of Taseko Lake at Latitude 51°15' north - Longitude 123°30' west.

GEOLOGY:

(a) Topography

Taseko Lake lies in a broad glaciated valley across the boundary between the Interior Plateau and the Coast mountains. The Chita claims extend eastward from the lake level, elevation 4,400 feet, to a 7,500 foot elevation along the north flank of the 10,000 foot Taseko mountain. The area is open, dry belt country with uniform slopes and rounded hills. Stands of jack pine cover the lower mountain slopes and valley bottoms.

(b) General Geology

The area is along the northeast contact of the Coast mountains on a belt of major faults which separate relatively undeformed Cretaceous and Tertiary volcanics and sediments from highly deformed uplifted Mesozoic volcanics and sediments intruded by numerous granitic bodies. In 1924, the area was partly mapped and in 1962, the Taseko Sheet was remapped by the Canadian Geological Survey but no report of the latter work has been published to date.

(c) Rock Types

A thick series of Mesozoic sediments overlain by volcanic agglomerates and flows are intruded by numerous feldspar porphyry bodies. The following rocks were mapped:

1. Conglomerate

Conglomerate outcrops in many places on the claims and represents several narrow bands interbedded with the sediments. One band is interbedded with agglomerates and coarse argillaceous sandstones on the Chita claims numbers 41, 43, and 67.

The typical conglomerate is a coarse rock with silty matrix, in part limy and in part arenaceous. The pebbles vary from $\frac{1}{4}$ to 1" in diameter and are well rounded and made up of the sedimentary rocks. The conglomerate breaks around the pebbles when fractured. On the Chita number 67 claim, argillaceous material grades upward from a coarse arkose to a conglomerate with pebbles of sediments and angular andesite fragments to an andesitic agglomerate.

2. Sandstone

A white, feldspathic sandstone outcrops prominently in the sedimentary series. This is a fine grained, bedded feldspathic rock very similar, in appearance, to the "Arizona Sandstone" used in house construction.

3. Greywacke

This is a fine grained, well bedded rock which varies in texture from a silty sandstone to a grey or a feldspathic sandstone.

4. Argillite

Typical black argillites showing good bedding outcrops on most of the claims.

5. Limestone

Several very narrow, soft limestone

bands with poorly preserved fossils are interbedded with argillites, sandstones and greywacke.

6. Agglomerate

Typical andesitic agglomerates with angular fragments of andesite in an andesite groundmass outcrop east of the claim area. To the north, they form a high cliff and on the south, they outcrop on a steep hillside. Further to the east, off the claims, they are interbedded with volcanic flows.

7. Cherty tuffs

At the north end of the property, tuffaceous andesite and cherty tuffaceous rocks are interbedded with argillites. These are fine grained siliceous green rocks.

8. Basalt or Andesite

West of the claim area, basic flows outcrop along a series of steep cliffs. These are very fine grained, dark grey flows. Some flows have small feldspar crystals or hornblende crystals developed in the matrix and some are partly agglomeritic.

9. Feldspar porphyry

The feldspar porphyries on the Chita claims are varied in appearance, texture and mode of emplacement and are described individually as follows:

(A) On Chita number 47 claim, a series of bluffs are composed of a coarse feldspar porphyry with chilled margins. They have the appearance of gently dipping flow rocks. The rock has a fine grained groundmass of quartz, feldspar and hornblende, numerous 1/8 inch to 1/2 inch tabular feldspar phenocrysts and numerous 1/16 inch to

1/8 inch hornblende phenocrysts.

(B) On Limonite Mountain, on claims numbers 5 to 10 inclusive, numerous dikes, plugs and sills of an altered coarse feldspar porphyry similar to (A) intrude as "lit per lit" injections in the sedimentary rocks. A fine grained feldspar porphyry also occurs on these claims under similar structural conditions. This rock has a matrix of quartz, feldspar, biotite and hornblende and a few small phenocrysts of rounded quartz crystals, plagioclase feldspars and hornblende.

(C) On Chita claims numbers 1, 2, 43 and 44, a large area of coarse feldspar porphyry outcrops capping a rounded mountain. It appears to be a flat flow overlying steeply dipping sediments unconformably. The rock has been described by Dr. V. Dolmage, in the Geological Survey of Canada Summary Report 124, part A, pages 65 and 66A as follows:

"It is a light grey, coarse grained marked porphyritic rock with phenocrysts of plagioclase up to half an inch in length. The phenocrysts are in many places zoned and vary from andesine to labradorite. They are held in a medium to coarse groundmass of andesine - labradorite, brown - green hornblende and small quantities of orthoclase and quartz chlorite and leucoxene were observed in one specimen".

The lower exposures of the rock or flow contains a quasi-orbicular structure with ellipsoidal pebbles of fine grained feldspar porphyry interbedded in the coarser grained material. These weather out of the rock and

the talus material along the claim boundary between Chita claim numbers 44 and 22 contains many rounded fine grained porphyry pebbles.

(D) On Chita claim number 44, a small area shows isolated outcrops of hornblende porphyry or hornblende diorite. The rock has a dark grey siliceous groundmass and numerous prominent hornblende phenocrysts.

On Chita claims numbers 20 to 29 inclusive, numerous outcrops of similar hornblende porphyry occur as well as dikes and sills of coarse and fine grained feldspar porphyry.

(d) Structures

The sediments and the agglomerates strike north 5 to 35 degrees west and the overall dip is to the northeast but individual areas show sharp changes in attitudes.

The central claims appear to cover an open anticlinal structure with many small, tight folds along the fold limbs parallel with the main fold axis. Faulting and brecciation are widespread with many strike faults (north 5 to 30 degrees west) and several east striking vertical cross faults. The schistose areas parallel the fault directions.

The forceful injection of the porphyry intrusives into the fractured sediments is the main feature of the geology of the claim area.

(e) Mineralization and Alteration

The sulphide mineralization and orthoclase alteration is directly associated with the porphyry

intrusions and is widespread on the claims. Fractures in the sediments adjacent to intrusives show feldspar alteration extending from the fracture into the wall rock. The altered rocks are much more porous than the unaltered ones. Pyrrhotite, pyrite and chalcopyrite occur in the fractures and as disseminations in the altered porphyries and sediments form a maximum of 5 to 10 percent of the rock material on Limonite Mountain on claims numbers 3 to 10.

Report by:

D C Malcolm

D.C. Malcolm

References:

1. The Geological Survey of Canada Summary Report 1924A, p. 65A - 66A by Dr. V. Dolmage.

EXPENDITURES - CHITA CREEK

Geological Mapping

Project Geologist	D.C. Malcolm B.A.Sc., P.Eng.2568	July 16 to July 28, 1962
Project Geologist	H.W. Agnew B.Sc. M.Sc.	June 23 to July 15, 1962
Geologist	J. Buchholz B.Sc.	June 22 to July 15, 1962
Geologist	W. Meyer B.Sc.	July 16 to July 28, 1962
Assistant	G. Irving	June 22 to July 2, 1962
Assistant	B. Reid	June 22 to July 2, 1962
Assistant	T. Wilkinson	June 22 to July 15, 1962
Assistant	P. McWilliams	July 16 to July 28, 1962
Assistant	L. Kiss	June 23 to July 28, 1962

Wages: Geology and fringe benefits	\$3,722.00	
Supervision	<u>1,275.00</u>	\$4,997.00
Camps and Cookery.....		840.00
Trucking and Transportation.....		3,370.00
General Field Expense.....		200.00
TOTAL EXPENDITURES.....		<u><u>\$9,407.00</u></u>

Certified as to accounting:

V. M. Scott
V. M. Scott, Accountant.

February 22, 1963. and I make this solemn declaration
believing it to be true, and knowing that it
is of the same force and effect as if made under
oath and by virtue of the Canada Evidence Act
Declared before me at Vancouver, B.C.
March 15, 1963 - Shirley Jeanette
Sub-Mining Recorder

D.C. Malcolm

APPENDIXCLAIMS - CHITA CREEK

<u>Claim No.</u>	<u>Tag No.</u>	<u>Record No.</u>	<u>Date Recorded</u>
Chita No. 1	453401	9142	July 19th, 1962
Chita No. 2	453402	9143	"
Chita No. 3	453403	9144	"
Chita No. 4	453404	9145	"
Chita No. 5	453405	9146	"
Chita No. 6	453406	9147	"
Chita No. 7	453407	9148	"
Chita No. 8	453408	9149	"
Chita No. 9	453409	9150	"
Chita No. 10	453410	9151	"
Chita No. 11	453411	9152	"
Chita No. 12	453412	9153	"
Chita No. 13	453413	9154	"
Chita No. 14	453414	9155	"
Chita No. 15	453415	9156	"
Chita No. 16	453416	9157	"
Chita No. 17	453417	9158	"
Chita No. 18	453418	9159	"
Chita No. 19	453419	9160	"
Chita No. 20	453420	9161	"
Chita No. 21	453421	9162	"
Chita No. 22	453422	9163	"
Chita No. 23	453423	9164	"
Chita No. 24	453424	9165	"
Chita No. 25	453425	9166	"
Chita No. 26	453426	9167	"
Chita No. 27	453427	9168	"

APPENDIXCLAIMS - CHITA CREEK

<u>Claim No.</u>	<u>Tag No.</u>	<u>Record No.</u>	<u>Date Recorded</u>
Chita No. 28	453428	9169	July 19th, 1962
Chita No. 29	453429	9170	"
Chita No. 30	453430	9171	"
Chita No. 31	453431	9172	"
Chita No. 32	453432	9173	"
Chita No. 33	453433	9174	"
Chita No. 34	453434	9175	"
Chita No. 35	453435	9176	"
Chita No. 36	453436	9177	"
Chita No. 37	453437	9178	"
Chita No. 38	453438	9179	"
Chita No. 39	453439	9180	"
Chita No. 40	453440	9181	"
Chita No. 41	453441	9182	"
Chita No. 42	453442	9183	"
Chita No. 43	453443	9184	"
Chita No. 44	453444	9185	"
Chita No. 45	420419	9208	August 13th, 1962
Chita No. 46	420420	9209	"
Chita No. 47	420421	9210	"
Chita No. 48	420422	9211	"
Chita No. 49	420423	9212	"
Chita No. 50	420424	9213	"
Chita No. 51	424451	9214	"
Chita No. 52	424452	9215	"
Chita No. 53	424453	9216	"
Chita No. 54	424454	9217	"

APPENDIXCLAIMS - CHITA CREEK

<u>Claim No.</u>	<u>Tag No.</u>	<u>Record No.</u>	<u>Date Recorded</u>
Chita No. 55	424455	9218	August 13th, 1962
Chita No. 56	424456	9219	"
Chita No. 57	424457	9220	"
Chita No. 58	424458	9221	"
Chita No. 59	424459	9222	"
Chita No. 60	424460	9223	"
Chita No. 61	424461	9224	"
Chita No. 62	424462	9225	"
Chita No. 63	424463	9226	"
Chita No. 64	424464	9227	"
Chita No. 65	424465	9228	"
Chita No. 66	424466	9229	"
Chita No. 67	424467	9230	"
Chita No. 68	424468	9231	"

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
To Wit:

In the Matter of

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I, *H. W. Agnew*

of *404-1112 West Pender St. Vancouver*

in the Province of British Columbia, do solemnly declare that

Expenditures - NICHOL CLAIMS 1963

Resident Geologist	J. De Leen	Sept. 1 - 3, 1963	\$ 200.00
Project Geologist	H.W. Agnew	Aug. 22 - Sept. 10	487.65
Geophysicist	W. Meyer	Aug. 22 - Sept. 10	365.75
Assistant	M. Beley	Aug. 22 - Sept. 2	162.25
Assistant	R. Young	Sept. 2 - Sept. 10	115.50
Assistant	H. Reid	Sept. 2 - Sept. 10	<u>115.50</u>

Total Wages \$ 1,446.65

Camp and Cookery	325.50
Transportation and Trucking	1,060.00
General Field expense	<u>44.60</u>

Total Expenses \$ 2,876.15

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

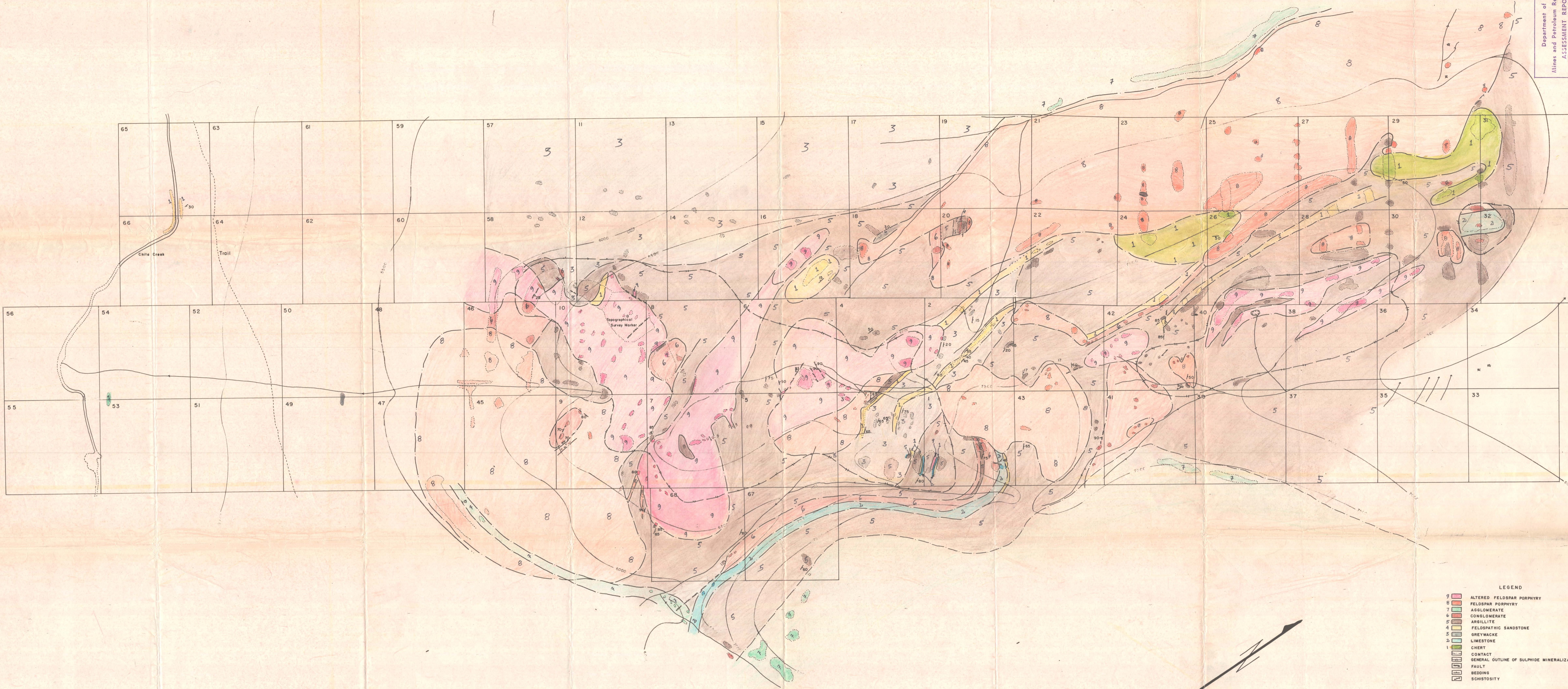
Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this *22*
day of *January*, *1964*, A.D.

H. W. Agnew

Sheily Glanville

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

Sub-Mining Recorder



- LEGEND
- 9 ALTERED FELDSPAR PORPHYRY
 - 8 FELDSPAR PORPHYRY
 - 7 AGGLOMERATE
 - 6 CONGLOMERATE
 - 5 ARGILLITE
 - 4 FELDSPATHIC SANDSTONE
 - 3 GREYWACKE
 - 2 LIMESTONE
 - 1 CHERT
 - CONTACT
 - GENERAL OUTLINE OF SULPHIDE MINERALIZATION
 - FAULT
 - BEDDING
 - SCHISTOSITY



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M

Dec 6, 1962
 P. C. Marshall
 P. Eng. 2568

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Proposed area to be investigated
 by Induced Polarization and
 Magnetometer Survey in 1963

HELPS DODGE CORP OF CANADA, LTD.
 VANCOUVER OFFICE

CHITA CREEK
 GEOLOGICAL PLAN

Scale 1"=500' Date 8, 12, 62 Drawn by J.P.H.

To accompany Report by D. C. Malcolm, Feb. 22, 1963.