180

A Report Covering the Geological and Geochemical Surveys on the Two Rio Groups Comprising Seventy-Four Claims and Fractions Owned by Rio Tinto Canadian Exploration Limited. The Claims are Located in the Guichon Batholith, Kamloops Mining Division at 50° 21' North and 121° 03' West. Work Was Done Between July 1st and October 15th, 1965.

A REPORT COVERING THE GEOLOGICAL AND GEOCHEMICAL SURVEYS ON THE TWO RIO GROUPS, COMPRISING 74 CLAIMS AND FRACTIONS, OWNED BY RIO TINTO CANADIAN EXPLORATION LIMITED.

I N D E X

A REPORT COVERING THE GEOLOGICAL AND GEOCHEMICAL SURVEYS

ON THE TWO RIO GROUPS, COMPRISING 74 CIAIMS AND FRACTIONS,

OWNED BY RIO TINTO CANADIAN EXPLORATION LIMITED.

LOCATION

The Rio West and Rio East Groups of mineral claims are located in the Guichon Batholith, about thirteen miles ~~southeast~~ north of Spence's Bridge, at 50° 21' North and 121° 03' West, in the Kamloops Mining Division. They are located astride Skuhost Creek, a tributary of Skuhun Creek, at elevations varying between four thousand and fifty-five hundred feet.

CIAIMS

The claims were staked in May, 1965 and geological, topographical and geochemical work was performed on them during the summer and fall of 1965. The claims comprise seventy-two full claims and two fractions, and are grouped as follows, in the Rio West and Rio East Groups.

RIO WEST GROUP

Rio ~~#5~~	Record No. ~~504730~~ 49892	Expiry Date 13th May 1966
#6	~~504731~~ — 93	" " "
#7	~~504732~~ — 94	" " "
#8	~~504733~~ — 95	" " "
#9	~~504734~~ — 96	" " "
#10	~~504735~~ — 97	" " "
#11	~~504736~~ — 98	" " "
#12	~~504737~~ — 99	" " "
#13	~~504738~~ 49900	" " "
#14	~~504739~~ 01	" " "

RIO WEST GROUP (cont'd)

Rio #19	Record No.	~~504744~~ 49906	Expiry Date 13th May 1966
#20		504745 07	" " "
#21		504746 08	" " "
#22		504747 09	" " "
#23		504748 – 10	" " "
#24		504749 – 11	" " "
#25		504750 – 12	" " "
#26		504751 – 13	" " "
#27		504752 – 14	" " "
#28		504753 – 15	" " "
#33		504758 49920	" " "
#34		504759 – 21	" " "
#35		504760 – 22	" " "
#36		504761 – 23	" " "
#37		504762 – 24	" " "
#38		504763 – 25	" " "
#39		504764 – 26	" " "
#40		504765 – 27	" " "
#41		504766 – 28	" " "
#42		504767 – 29	" " "
#47		~~504773~~ 49934	" " "
#48		~~504774~~ – 35	" " "
#49		~~504775~~ – 36	" " "
#50		~~504776~~ – 37	" " "
#51		~~504777~~ – 38	" " "
#52		~~504778~~ – 39	" " "

Z. 38

RIO EAST GROUP

Rio #1	Record No.	49888	Expiry Date 13th May 1966
#2		49889	" " "
#3		49890	" " "
#4		49891	" " "
#15		49902	" " "
#16		49903	" " "
#17		49904	" " "
#18		49905	" " "
#29		49916	" " "
#30		49917	" " "
#31		49918	" " "
#32		49919	" " "
#43		49930	" " "
#44		49931	" " "

RIO EAST GROUP (cont'd) -

Rio #45	Record No.	49932	Expiry Date 13th May 1966
#46		49933	" " "
#93 Fraction		52081	" " "
#94 Fraction		52082	" " "
#57		49944	" " "
#58		49945	" " "
#59		49946	" " "
#60		49947	" " "
#69		49956	" " "
#70		49957	" " "
#71		49958	" " "
#72		49959	" " "
#73		49960	" " "
#74		49961	" " "
#75		49962	" " "
#76		49963	" " "
#77		49964	" " "
#78		49965	" " "
#79		49966	" " "
#80		49967	" " "
#81		49968	" " "
#82		49969	" " "
#83		49970	" " "
#84		49971	" " "

EXPENDITURES

The following affidavit covers geological mapping, topographical mapping, air photo interpretation, geochemical surveys, office mapping and supervision, with expenditures totalling $ 7766.00

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of

I, L. B. Gatenby

of Suite 818, 736 Granville Street, Vancouver 2, British Columbia

in the Province of British Columbia, do solemnly declare that the following geochemical and geological surveys have been done on the Rio Group of Claims, situated in the Guichon Batholith, near Skuhun Creek, in the Kamloops Mining Division, from July 1 to October 15, 1965.

G. T. Warren, B.Sc.	10 days at $35.00 -	$ 350.00	
Frank Cyr	5 days at $15.00 -	75.00	
Don Blake	5 days at $15.00 -	75.00	
D. Calimente, M.Sc.	70 days at $35.00 -	2415.00	
G. Brooke	33 days at $15.00 -	495.00	
J. Patterson	47 days at $15.00 -	705.00	
L. Gatenby, BA.Sc.,P.Eng.	12 days at $35.00 -	420.00	
			$ 4535.00
Transportation: July 25 to Oct. 3, International Panel Truck, S.N. CW-533119-A-6, 2515 miles at 15¢ per mile			$ 377.00
Access road building: Lornex D-7 bulldozer, 30 hours at $18.00 per hour			$ 540.00
Food and Supplies: 183 man days at $4.00 per day			$ 732.00
Geochem Laboratory Analysis:			
Copper: at $1.25 per sample on 645 samples		$806.00	
MoS_2: at $1.50 per sample on 492 samples		738.00	$ 1544.00
Aerial Photographs: 54 photos at 70¢ per photo			$ 38.00
		TOTAL	$ 7766.00

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 10th day of May, 1966, A.D.

L. B. Gatenby

Shirley Jeannotte

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

Sub-mining Recorder

BASE MAP AND TOPOGRAPHIC SURVEY

A base map, on a scale of 1" - 1000', showing the drainage, was compiled from half mile scale aerial photos and the Federal Department of Mines and Technical Surveys 1 to 50,000 topographic maps. Locations were made in the field with the use of the aerial photographs and an aneroid altimeter. Minor variations in topography were sketched in the field.

GEOLOGICAL SURVEY (See Map No. 2)

Geological information was compiled in the field from drainage traverses in connection with the geochemical survey and from traverses along and out from the claim lines. Access to the area was gained from improved bulldozer roads, along both the east and west sides of the claim groups. A connection was also made with the Lornex road system, through the Benson property.

The claim area was found to be at least ninety-five per cent overburden covered, with the best rock exposures in the northeast and northwest corners. Rock outcrops are shown on the geological map.

Three types of intrusive rocks were mapped in the area, i.e. Bethsaida, Guichon and Diorite-Gabbro, along with variable aplite and quartz orthoclase dyking. No definite contacts were found for these three rock types and the approximate contacts from outcrops are shown on the geological map. It is not known whether these contacts are sharp or gradational, but from general work in the area, strengthened by observations on this work, it is assumed the Bethsaida type rocks are the youngest and intrusive with the Guichon rocks. The diorite gabbro rock type is thought to be a basic phase of the Guichon, near its contact with older volcanics and possible contamination by inclusions of volcanics.

In this area, the Bethsaida rocks are of quartz monzonite composition, characterized by their generally coarse grained habit, light colour, prominent quartz "eyes" in euhedral crystals or sub-rounded grains and coarse hexagonal biotite crystals. The rocks mapped as Guichon type are even textured mesocratic quartz diorite to granodiorite composition, with poikilitic shredded biotites constituting most of the ferro-magnesium minerals. The quartz occurs as interstitial grains and generally occurs in clusters in the rock. The contact between these rocks based on widely spaced outcrops has been located east of Spaist Mountain and trending southeasterly. The basic rocks mapped on the southwestern side of the claim group vary from diorite to gabbro to pyroxinite composition and from medium to coarse grained. The contact between these rocks and the more normal Guichon type rocks was not seen in detail. It has been placed between Spaist and Skilkwakwil Mountains and trending also in a southeasterly direction.

Nine rock specimens for more detailed work were selected from within the claim group.

Numerous epidote filled fractures were mapped near the Bethsaida-Guichon contact in both rock types. Aplite and coarser grained quartz orthoclase dyking was mapped trending both northeasterly and northwesterly in the Bethsaida rocks. Minor bornite was found in fractures in the Bethsaida rocks on Rio #75 and Rio #77 mineral claims.

GEOCHEMICAL SURVEY (See Map No. 3)

Soil and silt samples were taken in the main and branch drainages of the area, in an attempt to roughly localize sources of bedrock mineralization of copper and molybdenum. At each sample location shown on the geochemical map, the three samples were taken, i.e., one of the stream or drainage silt and one soil

sample on either bank, making a total of three samples. They were analysed and are reported in parts per million for both copper and molybdenum.

The traverses showed deep glacial drift in the southern part of the main Skuhost Creek, with shallower overburden and a few rock outcrops in the northern or upper part of the valley and in the tributary areas. Glacial movement from the air photos studied, and field ovservations, is considered from north to south.

In general, the geochemical survey results indicate the entire area has a higher than normal copper content. Deep overburden in the southern part of Skuhost Creek gave erratic but generally low results. These erratics are interpreted as being from mineralized glacial drift. The northern or upper part of Skuhost Creek and its tributaries are considered to have given more firm geochemical results of bedrock mineralization. In the stream samples, results are considered anomalous over 200 parts per million in copper and in the bank samples, over 50 parts per million. In the case of molybdenum, since the metal in its soluble form is not prone to dispersion, as compared to copper, molybdenum analysis in the shallower overburden areas are considered to be fairly local. Molybdenum analyses are considered anomalous over 10 parts per million. In the deeper glacial drift area, erratic anomalous molybdenum values are also thought to be from mineralized glacial drift.

Results of this geochemical survey show low anomalous values in copper and molybdenum in relatively shallow overburden in the western section of the claim area and also a small area in the northeastern section. No definite areas of mineral concentration have been indicated but more detailed work is warranted on the basis of the results of this geochemical survey.

9th May 1966

Signed L. B. Gatenby, Prof. Eng.

GEOCHEMICAL SURVEY

The three geochemical samples, shown on the map, at each location were taken following streams and small drainage gulleys. One sample was taken of the silt, clay or fine gravel from the drainage course itself and one sample of soil from one or two inches below the humus was taken on both banks. Each sample comprised about 100 grams (one fifth of a pound) and was bagged and labelled in a specially designed plastic-lined paper bag. This method of geochemical sampling is designed to indicate sources of mineral entering a drainage system. The bagged samples were subsequently analyzed for their copper and molybdenum content in a geochemical laboratory. In order to govern the intensity of sampling of an area or sample spacing on a drainage system, a rough quantitative field test was done for copper, using a 0.1 gram sample of the stream sample. These samples being less accurate than the laboratory analysis are not shown on the map

The laboratory analysis of the samples for copper and molybdenum were done in a laboratory operated by Rio Tinto Canadian Exploration at Lornex, near Ashcroft, B. C., with check samples done in the Toronto laboratory of the above named company. The procedures used have been devised and perfected by the Geochemical Prospecting Research Center, Imperial College of Science and Technology London, England. The field samples are dried, screened and a 100 milligram sample extracted for the copper test and a 250 milligram sample for the molybdenum test. The copper test involves a fusion of the sample with potassium bisulphate, followed by leaching with hydrochloric acid and then an extraction of the copper element from a buffer into a 2/2' diquinolyl solution. Parts per million of copper are then determined by a colorimetric comparison with known standards. The molybdenum analysis requires the sample fusion with a mixture of anhydrous sodium carbonate, sodium chloride and potassium nitrate, followed by

a dissolution in water and then an extraction of the molybdenum metal from a buffer solution into a 1% zinc dithiol solution. Similar to the copper test, the parts per million of molybdenum are determined by a colorimetric comparison with known standards.

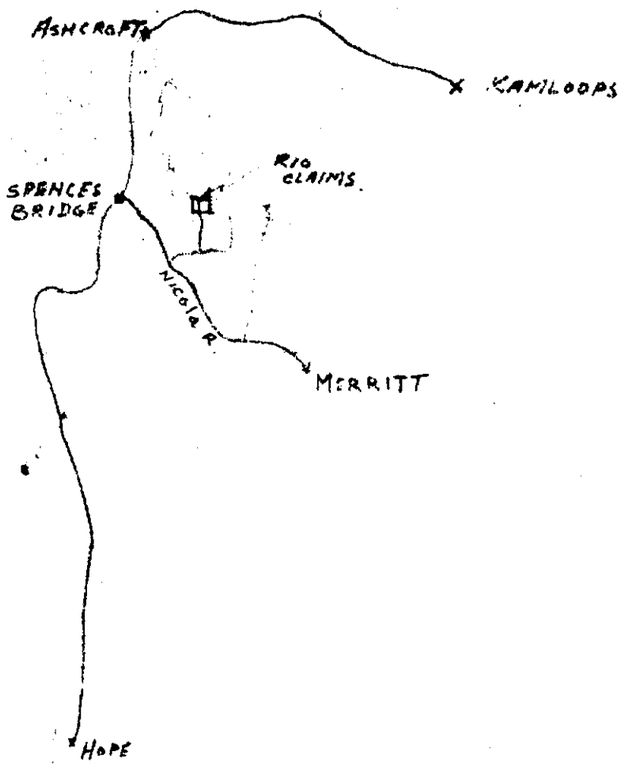
15th June 1966
Vancouver, B. C.

Signed L. B. Catenby

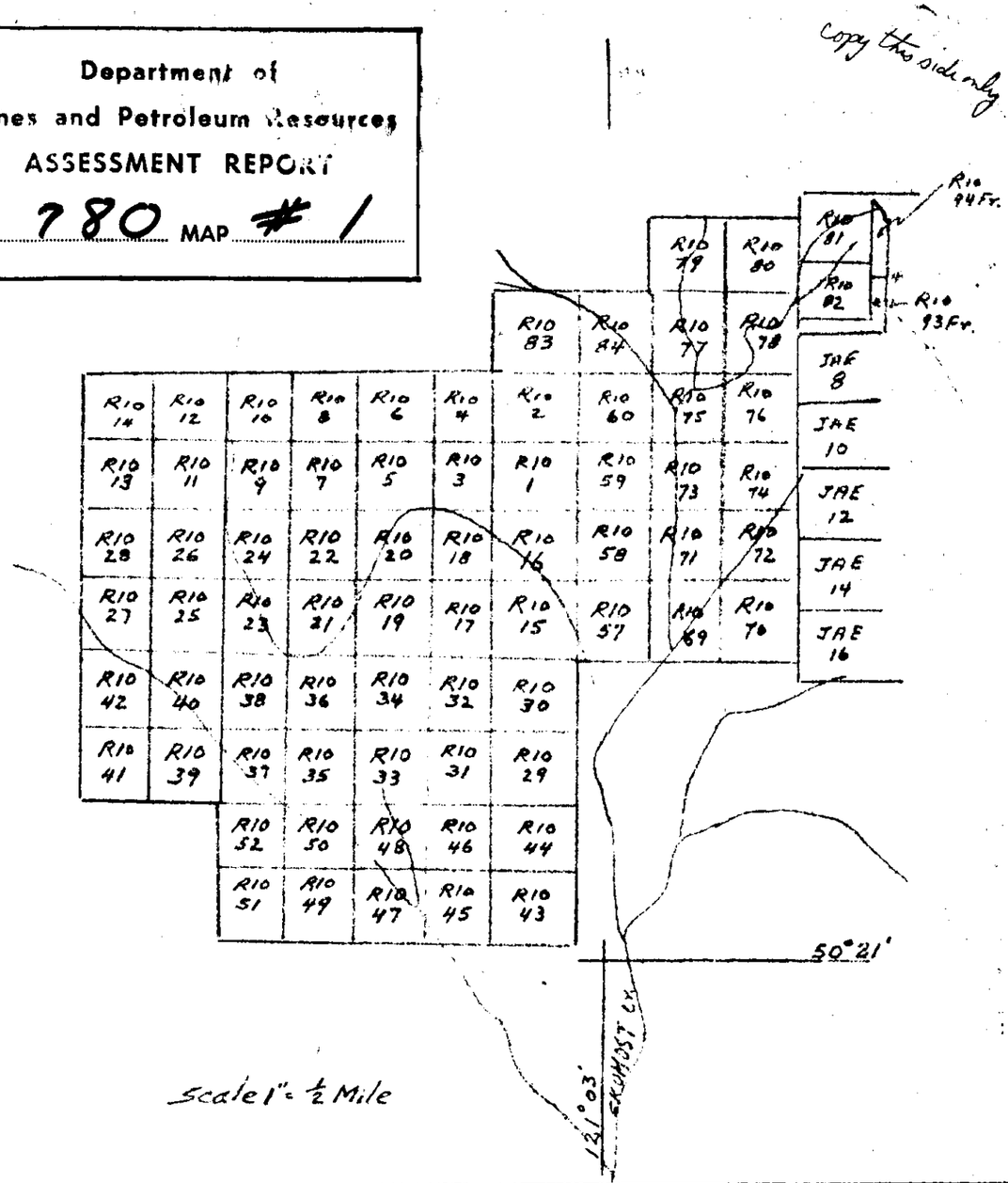
L. B. Catenby, P. Eng

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 780 MAP # 1

Copy this side only



scale 1" = 20 Miles



Scale 1" = ½ Mile

780

W. B. Scholey
May 6, 1966

SCALE
One Inch = Feet

RIO TINTO CANADIAN EXPLORATION LTD.

RIO CLAIMS, KAMLOOPS M.D., B.C.

LOCATION MAP

OCT. 1965 | Map No. I | DWG. 92-1-6 N.T.S.

SKILKWAKWIL MTN.

Pimainus Lake

SPAIST MTN.

LORNEX (AWARD GROUP)

RIO CLAIMS

SKUHOST CREEK

BENSON MINES LTD.

EARLCREST RESOURCES LTD.

SKUHUN CREEK

RO CLAIMS

RI 849

RI-13

R-1 R-2 R-3 R-4 R-5 R-6 R-7 R-8 R-9 R-10 R-11 R-12 R-13 R-14

5500' 5000' 4500' 4000'

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 780 MAP #2

LEGEND

- Roads
- Claim line
- 5000 Altitude
- Bethsaida Type Granodiorite
- Guichon Type Granodiorite
- Diorite, Gabbro
- X R-2 Rock Samples
- Geological Boundary (approx)
- Rock outcrop

N.T.S 780

SCALE One Inch = 1000 Feet

RIO TINTO CANADIAN EXPLORATION LIMITED

RIO CLAIMS, HYLAND VALLEY, B.C.

RECCE GEOLOGY and CLAIM MAP

Oct, 1965 Map No. 2 DWG. 82 I 6