

016325

A GEOCHEMICAL REPORT

on

THE ST CLAIMS

Germansen Landing Area
Omineca Mining Division, B. C.

Latitude 55°52' N
Longitude 125°15' W

(8 Miles north of Old Hogem)

Including:

<u>Claim</u>	<u>Record No.</u>
ST 49	92145
ST 51	92147
ST 53	92149
ST 55	92151
ST 57	92153
ST 59	92155
ST 60-84	92156-80
ST 152 Fr.	93486

by

E. O. CHISHOLM, M.A., P.ENG.

NOVEMBER 15, 1971

Registered Owner of Claims:
PASSPORT MINES LTD. (N.P.L.)

Work Performed by:

J. Todd, 642 Clark Drive, Vancouver, B.C.
C. Soux, 642 Clark Drive, Vancouver, B.C.
P. Fraser, P.O. Box 369, Houston, B.C.

PROPERTY FILE

93a/100-07

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3461

MAP

A GEOCHEMICAL REPORT

Mining Recorder's Office
RECORDED

DEC 2 1971

AT

SMITHERS, B.C.

on

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Omineca Mining Division, B. C.

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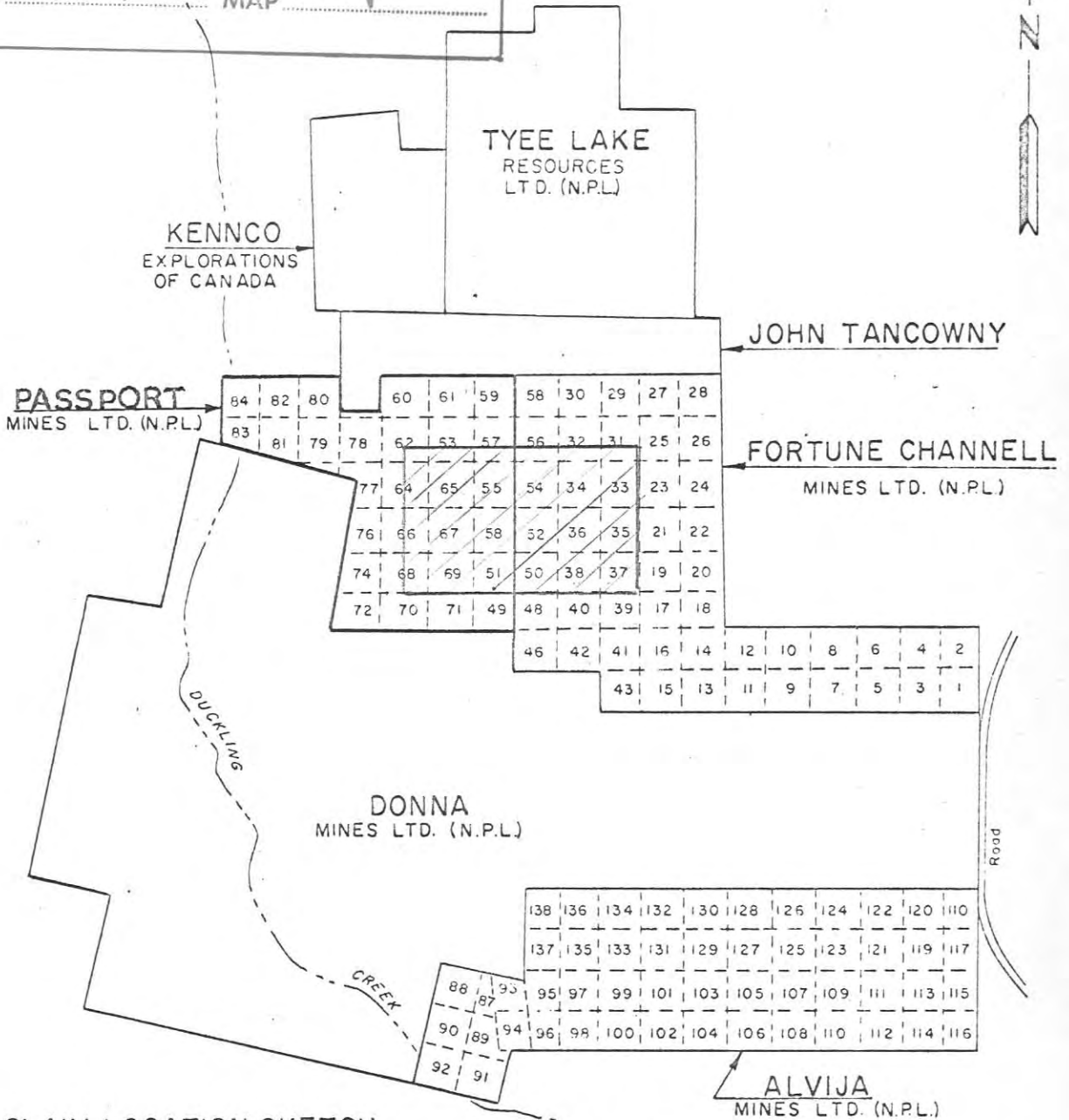
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Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3461 MAP # 1



APPROX. CLAIM LOCATION SKETCH
DUCKLING CREEK
GERMANSEN LANDING AREA
OMENICA MINING DIVISION, BRITISH COLUMBIA

SCALE: 1" = 1 MILE (approx.)

 Survey Area

E O CHISHOLM 821-602 W. HASTINGS
VANCOUVER

FIGURE 2

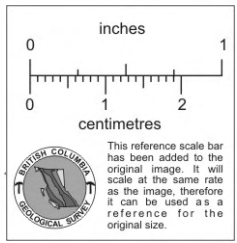


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MAPS

✓ Figure 1 - Geochemical Soil Survey	Pocket
Alc Figure 2 - Location Map	Front

S U M M A R Y

During the period July 24th to August 30th, 1971, a Geochemical Survey was carried out on the ST Group of Claims by James Todd and Associates for Passport Mines Ltd. (N.P.L.), the registered owners of the claim group.

Part of the claim group was covered by geochemical soil survey for copper on a 400 foot grid. No copper anomalous zones were encountered.

The property consists of 31 full sized claims and one fraction claim as follows:

<u>Claim</u>	<u>Record Number</u>
ST 49	92145
ST 51	92147
ST 53	92149
ST 55	92151
ST 57	92153
ST 59	92155
ST 60-84	92156-92180
ST 152 Fr.	93486

The evaluation of any legal aspects of the claims is beyond the scope of this report.

LOCATION & ACCESS

The mining claims under discussion are located on the Duckling River, Omineca Mining Division, British Columbia, approximately eight miles northeast of the Indian Village of Old Hogem on the Omineca River. The nearest settlement is Germansen Landing, 24 miles to the east. This is a service point for the area, located on a main gravel highway northwards from Fort St. James on the P.G.E. railway approximately 100 miles.

The Passport Mines property is accessible by a B. C. Development gravel road along the north side of the Omineca River to within 4 miles of the property. From there a trail is being bulldozed to the property but was not completed at the time of writing. The quickest route to the property at present is by float plane to Germansen Landing from Fort St. James or Frazer Lake 120 miles away, and by helicopter from there, 24 miles to a location on the claim group.

The attached location map is approximate in position only as the claims have been recently staked and no survey has been made.

Reference Maps:

1. G.S.C. 907A, Fort St. James Area, B.C. - 6 mi. (Geology)
2. G.S.C. 844A, Takla Area, B.C. - 4 mi. (Geology)
3. N.T.S. 93-N, Manson River, B.C. - 4 mi. (Topography)

TOPOGRAPHY

The property lies on the west slope of the Kwanika Mountains which form part of the Omineca-Cassiar Batholith extending in a northwesterly direction across the region. The discovery showing lies at an elevation of approximately 5500 feet at timberline; the claims are staked in an east / west direction to Duckling Creek at an elevation of 4000 feet.

The topography, though rugged throughout the area, is rolling with moderate vegetation covered slopes and can be easily traversed on foot. There is sufficient talus and overburden to facilitate relatively easy road building by bulldozer over most of the property. Outcrops are abundant above timberline at approximately 5000 feet but below this the ground is mainly covered with a mantle of glacial overburden, talus debris and organic forest growth. Less than 5 percent of rock is exposed there.

The elevation and topography are such that year-round exploration and development can be carried out. Duckling Creek crosses the area a short distance west of the claims and forms a valley some half/mile across. The creek itself is a plentiful source of water and is fordable by bulldozer. The area was extensively glaciated and till extends to elevations of 5000 ft. in some cases. The main ice movement was easterly but locally conformed to valley features.

Climate is relatively moderate with mild summers and cold

winters. Winter conditions can be expected about the first week in November although snow may be expected at the elevation of the claim group from September onwards and generally remains after October 1st. Snowfall of from 6 to 20 feet can be expected in the mountains and remains until the middle of May.

Tree cover is abundant in all valleys and on mountain slopes to 5000 feet.

H I S T O R Y & A C T I V I T Y

The Fort St. James area itself has a history of prolific mineral discoveries which include a great diversity of deposits ranging from the large scale open-pit molybdenum operation at Endako Mines, the gold placer operation on the Omineca River and the mercury deposits in the Pinchie Lake area. (G.S.C. Map 907A). The only remaining producer is the Endako Mine near Frazer Lake 130 miles south. Pinchie Lake Mercury Mines, 85 miles to the southeast are being re-opened by Consolidated Mining and Smelting Co. Present exploration efforts however are concentrated in the search for large scale low grade open pit copper/molybdenum deposits. Several such deposits are in production or in the feasibility study stage in the adjoining Smithers area.

To the south of the ST Group and in the same geological environment, six copper prospects are under investigation. These are as follows:

- (1) and (2) Donna Mines Ltd. - copper prospect in gabbroic rock.
- (3) Union Miniere Exploration Co. - copper prospect.
- (4) Kennco Explorations - copper prospect.
- (5) Tye Lake Resources - copper prospect in granitic rocks.
- (6) Granby Mines Ltd. - Duckling Creek copper prospect.

The Granby property is currently being diamond drilled. It is described by Armstrong ⁽¹⁾ as follows:

"Copper minerals were observed over an area 500 feet wide by 1800 feet long through a vertical range of more than 600 feet. In this area the rocks are stained with malachite and contain skecks and small stringers commonly less than 1/4 inch wide and 6 inches long of malachite, chalcopryite, bornite and pyrite. Most of the stringers are along fractures or planes of schistosity. A few grains of galena were noted. The quartz veins are well impregnated with copper minerals, but most of the pyrrhotite veins are not, although some contain pyrite. The entire showing would probably average less than 1 percent copper and a few cents of gold per ton."

(1) J.E. Armstrong, G.S.C. Memoir 252, 1965, Page 183.

The rock host is a monzonite/syenitic stock that intrudes the Omineca granite batholith.

The original Duckling Creek copper discovery was made by geologist George O. M. Stewart of Vancouver while prospecting in the area several years ago. He returned to the area in the summer of 1970 and in the course of staking claims along strike of the showing, discovered a second copper occurrence 3500 feet to the west. The writer discovered a third occurrence during the examination of the Donna Mines property in August 1970 a further 3000 feet to the west along strike. Up to this point no detailed

work of any kind had been done on the showings and they can be classified as new discoveries in the primary exploration stage.

The Passport Mines property at this time can be classified as potentially favourable due to its proximity to recent finds on the Donna Mines property to the south and the Tyee Resources property to the north, which are underlain by similar rock types.

In the past, exploration has been mainly confined to the sedimentary volcanic belts of Paleozoic rocks to the southwest of the Pinchie Lake fault system that crosses the area in a northwesterly direction. The volcanic intrusive border phase of the Hogem Batholith where the recent discoveries have been made warrants more detailed investigation for porphyry and vein type copper deposits.

GENERAL GEOLOGY

The Geological Survey of Canada published the following report on the area under discussion:-

J.E. Armstrong, 1965 Memoir 252 - "Fort St. James Map Area, Cassiar and Coast Districts, British Columbia"

The following table of geological formations present in the property area are adopted from J.E. Armstrong:

MESOZOIC

JURASSIC or CRETACEOUS(?)

Upper Jurassic or
Lower Cretaceous

OMINECA INTRUSION

(6) Granodiorite, quartz diorite, diorite; minor granite, syenite, gabbro and pyroxenite.

TRIASSIC and JURASSIC

Upper Triassic
and later.

TAKLA GROUP

(4) Upper Triassic: shale, greywacke, conglomerate, tuff and limestone.

(3) Upper Triassic and Jurassic: Andesitic and basaltic flows; tuffs and breccias and agglomerates; interbedded conglomerate shale; greywacke, limestone and coal.

The name Omineca Intrusion has been applied to numerous bodies of intrusive rocks believed to be of Upper Jurassic or Lower Cretaceous Age, that are exposed in the Omineca Mountains. They range in size from small sills and dikes to batholiths and in composition from granite to pyroxenite with granodiorite predominating.

G E O C H E M I C A L S U R V E Y

A Geochemical Survey was carried out over part of the claim group on a 400 foot grid system as shown on the accompanying plan (Fig.1). Samples were taken at 400 foot intervals on lines 400 feet apart and all locations flagged. The survey work was carried out jointly over the adjoining ST Group of Fortune Channel Mines Ltd. as well as the ST Group of Passport Mines Ltd. A copy of all assay results is attached.

Twelve claims of the Passport Mines Ltd. property were covered as follows:

ST 51, 53, 55, 57, 59 and 61 to 69 inclusive, as shown on attached Figure 2.

Samples were taken with a stainless steel auger from the "B" soil zone where possible, at a depth of approximately 6 inches. In some areas the "B" zone was not apparent and the "A" zone was sampled. Samples were placed in heavy Kraft envelopes and shipped to Can Test Ltd., 1650 Pandora Street, Vancouver 6, B.C. for analysis for copper by the Atomic Absorption method. This process involves drying the samples, screening to -80 mesh for analysis for copper using perchloric acid digestion and atomic absorption determination of the copper present in the soil sample. The results of the work are shown in Figure 1.

DISCUSSION OF RESULTS

The background of the copper in the soil samples from the group is 30 parts per million. Threshold values of from 50 to 60 parts per million are of interest and anomalous values are classed as above 100 parts per million. A few spot high values for copper were obtained, but no consistent anomalies emerged from the survey.

It is concluded that there are no copper anomalous zones indicated by the soil survey.

Respectfully submitted,



Edward O. Chisholm, P.Eng.

APPENDIX IS U M M A R Y O F C O S T S

Line Cutting and Mapping - 10 miles	\$ 1,500.00
Soil Sampling @ 400 ft. stations	1,500.00
	<hr/>
TOTAL	\$ 3,000.00
	<hr/> <hr/>

L I S T O F P E R S O N N E L

James Todd	Party Chief	642 Clark Drive, Vancouver, B.C.
Cristian Soux	Sampler	c/o 642 Clark Drive, Vancouver
Philip Fraser	Line Cutter	Box 369, Houston, B.C.

CAN TEST LTD.

1650 PANDORA STREET, VANCOUVER 6, B.C. • TELEPHONE 254-7278

Report On Geochemical Analysis File No. 2062 A
Reported to Passport Mines Ltd. Report No. _____
642 Clark Drive Date September 29, 1971
Vancouver 6, B.C.
Attention: Mr. I. Todd

We have tested 218 soil samples submitted by you and report as follows:

Test Results

<u>Sample Number</u>	<u>Copper (Cu) ppm</u>	<u>Sample Number</u>	<u>Copper (Cu) ppm</u>
91 W 2S	17	59 W 6 S	65
87 W 2 S	15	63 W 6 S	60
83 W 2 S	115	67 W 6 S	50
79 W 2 S	55	71 W 6 S	50
71 W 2 S	15	75 W 6 S	19
75 W 2 S	41	83 W 6 S	33
67 W 2 S	47	79 W 6 S	390
63 W 2 S	50	87 W 6 S	14
59 W 2 S	50	91 W 65	8
55 W 2 S	22	19 W 10 S	9
51 W 2 S	7	23 W 10 S	50
47 W 2 S	6	27 W 10 S	48
43 W 2 S	12	31 W 10 S	20
39 W 2 S	24	35 W 10 S	41
35 W 2 S	50	39 W 10 S	90
31 W 2 S	52	43 W 10 S	18
27 W 2 S	46	47 W 10 S	22
23 W 2 S	33	51 W 10 S	19
19 W 2 S	35	55 W 10 S	12
15 W 2 S	19	59 W 10 S	50
15 W 6 S	18	63 W 10 S	14
19 W 6 S	70	67 W 10 S	70

<u>Sample Number</u>	<u>Copper (Cu) ppm</u>	<u>Sample Number</u>	<u>Copper (Cu) ppm</u>
23 W 6 S	37	71 W 10 S	12
27 W 6 S	25	75 W 10 S	30
31 W 6 S	32	79 W 10 S	115
35 W 6 S	90	83 W 10 S	11
39 W 6 S	24	87 W 10 S	60
43 W 6 S	23	91 W 10 S	7
51 W 6 S	11	19 W 14 S	27
55 W 6 S	31	23 W 14 S	27
27 W 14 S	70	71 W 18 S	29
31 W 14 S	32	75 W 18 S	50
35 W 14 S	30	79 W 18 S	29
39 W 14 S	48	83 W 18 S	29
43 W 14 S	40	87 W 18 S	18
47 W 14 S	44	91 W 18 S	19
51 W 14 S	17	19 W 22 S	23
55 W 14 S	46	23 W 22 S	44
59 W 14 S	27	27 W 22 S	60
63 W 14 S	25	31 W 22 S	26
67 W 14 S	60	35 W 22 S	29
71 W 14 S	80	39 W 22 S	80
75 W 14 S	150	43 W 22 S	42
79 W 14 S	95	47 W 22 S	24
83 W 14 S	50	51 W 22 S	21
87 W 14 S	21	55 W 22 S	60
91 W 14 S	31	59 W 22 S	48
19 W 18 S	33	63 W 22 S	38
23 W 18 S	100	67 W 22 S	60
27 W 18 S	100	71 W 22 S	60
31 W 18 S	35	75 W 22 S	570
35 W 18 S	20	79 W 22 S	22
39 W 18 S	28	83 W 22 S	22
43 W 18 S	95	87 W 22 S	105
47 W 18 S	50	91 W 22 S	20
51 W 18 S	55	19 W 26 S	32
55 W 18 S	60	23 W 26 S	50

<u>Sample Number</u>	<u>Copper (Cu) ppm</u>	<u>Sample Number</u>	<u>Copper (Cu) ppm</u>
59 W 18 S	80	27 W 26 S	19
63 W 18 S	35	31 W 26 S	23
67 W 18 S	34	35 W 26 S	70
39 W 26 S	32	83 W 30 S	18
43 W 26 S	55	87 W 30 S	32
47 W 26 S	50	91 W 30 S	14
51 W 26 S	32	19 W 34 S	60
55 W 26 S	23	23 W 34 S	25
59 W 26 S	30	27 W 34 S	40
63 W 26 S	53	31 W 34 S	28
67 W 26 S	20	35 W 34 S	44
71 W 26 S	35	39 W 34 S	18
75 W 26 S	25	43 W 34 S	21.5
83 W 26 S	22	47 W 34 S	37
79 W 26 S	39	51 W 34 S	32.5
87 W 26 S	80	55 W 34 S	39
91 W 26 S	12	59 W 34 S	No Sample
19 W 30 S	18	63 W 34 S	320
23 W 30 S	9	67 W 34 S	27
27 W 30 S	30	71 W 34 S	23
31 W 30 S	11	75 W 34 S	40
35 W 30 S	20	79 W 34 S	28
39 W 30 S	11	83 W 34 S	25
43 W 30 S	50	87 W 34 S	16
47 W 30 S	12	91 W 34 S	23
51 W 30 S	24	19 W 38 S	60
55 W 30 S	19	23 W 38 S	50
59 W 30 S	14	27 W 38 S	50
63 W 30 S	15	31 W 38 S	65
67 W 30 S	70	35 W 38 S	32
71 W 30 S	27	39 W 38 S	60
75 W 30 S	6	43 W 38 S	65
79 W 30 S	70	47 W 38 S	26
51 W 38 S	28	47 W 46 S	48

<u>Sample Number</u>	<u>Copper (Cu) ppm</u>	<u>Sample Number</u>	<u>Copper (Cu) ppm</u>
55 W 38 S	29	51 W 46 S	12
59 W 38 S	20	55 W 46 S	31
63 W 38 S	25	59 W 46 S	18
67 W 38 S	60	63 W 46 S	25
71 W 38 S	31	67 W 46 S	60
75 W 38 S	19	71 W 46 S	18
79 W 38 S	25	75 W 46 S	52
19 W 42 S	28		
23 W 42 S	30.5		
27 W 42 S	50		
31 W 42 S	50		
35 W 42 S	60		
39 W 42 S	31		
43 W 42 S	90		
47 W 42 S	40		
51 W 42 S	24		
55 W 42 S	15		
59 W 42 S	50		
63 W 42 S	39		
67 W 42 S	20		
71 W 42 S	280		
75 W 42 S	30		
79 W 42 S	100		
19 W 46 S	53		
23 W 46 S	50		
27 W 46 S	60		
31 W 46 S	90		
35 W 26 S	105		
39 W 46 S	22		
43 W 46 S	70		

CAN TEST LTD.



D. Timuss
Provincial Assayer

Limit of property: 200' N. of edge of paper

FIGURE 1

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3461 MAP *fr*

GEOCHEMICAL SOIL SURVEY

ST. CLAIMS GROUP GERMANSEN AREA
U.T.M. MAP 93N14
NUMBERS ON GRID CORNERS - PPM COPPER
SCALE - 1" = 400'
MAP DRAWN BY J. TODD NOV 1971

ART CLAIMS SEPT 20/71
ART 11412

55° 52' N
125° 15' W

