

912

GEOLOGICAL-GEOCHEMICAL REPORT

ON

STEWART-WIISTROM GROUP

AND

ASSOCIATED CLADS

1966

Vancouver, B.C.
November 30, 1966

D.H. Brown
Geological Engineer

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912 #1

GEOLOGICAL REPORT
ON
STEWART-WIKSTROM GROUP
AND
ASSOCIATED CLAIMS
1966

INTRODUCTION

The following is a geological and geochemical report on the Stewart-Wikstrom Project (No. 113) covering the origin, location and work done by the writer and others for Falconbridge Nickel Mines Limited during the 1966 field season.

PROJECT ORIGIN

The Stewart-Wikstrom Project was conceived by Carl C. Wikstrom, prospector, or Stewart, B.C. and Hyder, Alaska during the winter of 1965 - 1966. Mr. Wikstrom proposed that a number of groups of claims located on and adjacent to the Big Missouri ridge be secured by option and studied to determine the feasibility of carrying on a large tonnage open-pit mining and milling operation designed to reclaim gold, silver, lead, zinc and possibly copper values from the ores.

PROPERTY AND OWNERSHIP

For the purposes of the project mineral Lease N-118 comprising the following group of crown granted claims and fractions was obtained in the names of Falconbridge Nickel Mines Limited and Carl C. Wikstrom:

Tip Top	Lot 3205
Rambler	" 3206
Buena Vista	" 3207
Jain	" 3209
Winer	" 3212
Union Fraction	" 3215
G.T. Fraction	" 3222
Win Fraction	" 3224

In addition, verbal agreements were made with the owners of the following properties to cooperate in the initial phase of the Stewart-Wikstrom project:

<u>Claim</u>	<u>Lot</u>	<u>Owner or Agent</u>
Province	L-3208	T.S. McKay
Laura	L-3214	C.C. Wikstrom
Terminus	L-3221	" "
E.-Pluribus	L-3213	COMENCO
Mineral Hills Gp.	L-3901	"
Golden Crown	L-3211	"
Day Group		
Day No. 1	L-4127	P.H. McTier & E.C. Cameron
Day No. 2	L-4129	" "
Day No. 3	L-4130	" "
Day No. 4	L-4131	" "
Day Fractional	L-4132	" "
Unicorn Group		
Unicorn No. 1	L-4534	Represented by William V. Sutherland, Agent for owners
" No. 2	L-4535	
" No. 3	L-4536	
Unity	L-4537	" "
Good Hope	L-4538	" "
Snow King	L-4539	" "
Silver Cr. Fr.	L-4540	" "
H. & W. Fr.	L-4541	" "
Unity Fr.	L-4542	" "
V. Fraction	L-4543	" "

Permission was also obtained to examine the following properties with a view to inclusion in the project pending further negotiations:

Hercules Group	L-1521	T.S. McKay
	L-1522	" "
	L-1525	" "

LOCATION AND ACCESS

All of the claims involved in the Stewart-Wikstrom Project are located on the Big Missouri ridge or its eastern and western flanks east of the Salmon River and from 16 to 22 miles north of Stewart, B.C. The Big Missouri ridge stretches from the International Boundary northward in Canadian territory and culminates in Mt. Dilsworth. It is reached by the Granduc (re-located Premier) road which runs along the east side of the Salmon River for 13 miles, thence via the Premier Mine road and the Big Missouri road to Joker Flats on the Mineral Hill claim. Six hundred dollars were spent repairing the upper two miles of this road before the road could be used for the 1966 field season. The port of Stewart is serviced by Northland Shipping (1962) Co. Ltd.'s weekly steamship run and by Pacific Western Airways float planes operating out of Prince Rupert, B.C.

ACKNOWLEDGEMENTS

The writer acknowledges the help of Dr. A. Smith and Mr. S.H. Charteris in setting up and directing the project; of Carl Wikstrom for his able guidance on the property and to Mr. Ted Grove, Geologist, B.C. Dept. of Mines and Petroleum Resources who had mapped the area on a regional scale and offered much helpful information. The G.S.C. publications by S.J. Schofield and G. Hanson and B.C. Minister of Mines Annual Reports were also invaluable for background information. Thanks are also due associates in the project for maps and property data supplied.

BIBLIOGRAPHY

S.J. Schofield and G. Hanson	G.S.C. Memoir 132
G. Hanson	G.S.C. Memoir 175
A.F. Buddington	U.S.G.S. Bull. 607
B.C. Minister of Mines	Annual Reports 1910 - 1942
G. Gilbert	C.M. & S. Co. Report 1939
" "	" " " " 1940
P.C. Emery	" " " " 1944

HISTORY AND AREA DEVELOPMENT

The history of the claims on the Big Missouri ridge had its beginnings in 1904 and the claims were all staked prior to or during the 1915 - 1916 staking rush. Prior to 1927 mining work consisted of making open cuts, driving short adits and diamond drilling to trace mineral deposits known on the surface and in shallow workings. Descriptions of the individual claims is adequately covered in G.S.C. Memoir 175 and in B.C. Minister of Mines Annual Reports.

In 1927 the Buena Vista Mining Co. Ltd., under the management of Consolidated Mining and Smelting Co. put together a large block of claims and proceeded with development and mining operations on the Province claim. Subsequently they operated an underground mill on the Day Group of claims from an adit near the Salmon Glacier. During this period and until the cessation of the Buena Vista Mining Co. operation in 1942, extensive exploration consisting of trenching, tunnelling and diamond drilling was carried out on the claims held within the Company. From 1942 to the present, only local interest was maintained in the area and no further work of consequence was undertaken.

GENERAL GEOLOGY

The oldest rocks in the district are andesitic tuffs and tuff agglomerates of the Bear River formation of Jurassic Age.

These rocks occupy the axis and flanks of the Big Missouri ridge southwest of Mt. Dilworth. The Salmon River formation is overlain by the Mass formation which consists of a thick section of slates outcropping east and west of the Salmon River formation.

The above rock series was intruded by the Coast Range granodiorite batholith and by numerous dykes which range from quartz-porphry to diorite and augite-porphry. A wide belt of granite dykes crosses the area between the Hercules Group and the Big Missouri ridge at the southern base of Mt. Dilworth. A few lamprophyre dykes were noted which appear to be the latest rocks in the area.

The regional shearing roughly parallels the border of the main granodiorite batholith striking about north-south and dipping 60° to the west. This shearing is accompanied by strong silicification and pyritization. Later fissuring occurred perpendicular to regional shearing and is represented by veins of quartz.

CURRENT SURVEY

Work Done

The writer and one assistant (W.G. Harrison) spent the months of July and August, 1966 mapping and sampling the claims included in the Stewart-Wikstrom Project. Mr. Carl Wikstrom was employed for eight days conducting a location and reconnaissance survey of all known mineralized zones. In addition, two company prospectors assisted for one week locating claim corners and clearing caved material and water from old adits in preparation for mapping. Mr. S.M. Charteris, senior geological supervisor for Falconbridge Nickel Mines Limited spent four days examining the area.

Mapping Procedure

On arrival at the property a number of days were spent locating old claim corners. When a sufficient number of these were tied in adequately to define the boundaries of the various claims, a preliminary reconnaissance of the rock types and mineralization was carried out.

Because the claims under lease and option covered too large an area for total detailed mapping during the time available, an area measuring 1000 feet (E-W) by 3000 feet (N-S) on the Big Missouri ridge covering the eastern portion of the Province claim and parts of the Jain and Buena Vista claims to the south and north respectively was selected for close examination. This area was chosen on the premise that if this area of apparent widespread mineralization would not support an open pit mining and milling operation, then none of the ground involved would improve the prospect. A base line starting 550 feet west of the southeast corner of the Province claim and extending due north into the Buena Vista claim was surveyed and cut with east-west offsets every one hundred feet.

Each of these cross lines was chained and flow attitudes and rock specimens taken every fifty feet. The flow attitudes were plotted to determine the local configuration of the flows and the relationship of this configuration to mineralization.

Pace and compass traverses were run from photo locations and claim corners over the accessible portions of the balance of the properties and studies made where possible on flow attitudes, rock types and mineralization.

Sampling

In the course of mapping on fifty-foot centres along 100 foot east-west lines, a total of 600 rock specimens were taken for laboratory studies including a mercury content analysis of the block of ground surveyed. In addition, channel samples were taken from freshened surfaces of twenty-six (26) cuts and adits. The results of assaying of these samples are included as Appendix A to this report.

GEOLOGY OF THE BIG MISSOURI RIDGE AREA

The best of mineralization along the Big Missouri ridge lies entirely within the Bear River tuffs and tuff agglomerates with some interbedded andesitic flows and chert beds. The general strike is north-northwest and the dips are westerly at angles varying from 30° to 70°. Significant attitudes and structures are plotted on the accompanying plans.

Faulting

Most faulting and shearing is parallel to the regional strike of the rocks and to the border of the coast range batholith to the west. One fault forms a straight-line gully extending for half a mile along the ridge. It has been mapped on the 2300 and 2860 levels of the underground workings on the Province claim as "dipping westerly under the ore zone. Rocks immediately to the east are unmineralized and differ from the ore zone to the west." This suggests that there may be displacement along this major break. Locally the ground is cut-up by a large number of slips and faults suggesting a general shaking up of the whole country rather than a systematic fracturing and faulting.

Alteration

The tuffs and andesitic agglomerates are highly fragmental and strongly altered. The alteration minerals are chiefly calcite, epidote, chlorite and quartz. The matrix that cements the fragments together is andesitic in composition and is more highly altered than are the fragments.

Structure

The tuffs and fine agglomerates are generally quite massive and show little evidence of bedding. However, bedded tuffs were mapped at a number of localities which, when plotted, suggest the

continuity of four distinct tuff horizons. These tuff beds are more strongly siliceous than the massive tuffs and have reacted as brittle members to regional stresses causing them to be more sheared and fractured. It is normal, then, to find the major occurrences of high grade sulphide mineralization associated with these relatively open, highly siliceous horizons.

Strike faults like the one that forms the strong lineament on the Big Missouri ridge appear to occur at fairly regular intervals across the area. These occur on a regional scale, are sub-parallel with the boundary of the Coast Range batholith and are probably related to it. Zones of faulting and shearing adjacent to and parallel with these faults carry quartz stringers. Cross-fracturing and quartz-filling are also present in some areas.

Detailed mapping of the block in the Big Missouri ridge shows that the attitude of tuffs is generally quite regular. However, at irregular intervals along strikes, local flexures or crumples measuring approximately 300 feet in length and about 100 feet in width develop. Mapping also shows that the quartz veining and cross veining associated with the strike faulting and fracturing is stronger within the flexures than elsewhere. It is also true that the heaviest sulphide mineralization is present within these flexures where the intensity of quartz veining is strongest.

Mineralization

The sulphide minerals present on the Stewart-Wikstrom group of claims are pyrite, galena, sphalerite and chalcopyrite in that order of abundance. Gold and silver minerals were not recognized in hand specimens although they are known to be present. Secondary minerals are present but not in significant quantity.

DESCRIPTION OF MINERAL OCCURRENCES

Province Claim - L-3208

The Province claim received the closest attention because it showed the widest distribution of mineralization. Sixteen of more



than twenty test pits were freshened and sampled. The eastern two-thirds of the claim was mapped in detail. Significant mineralization was found to be largely confined to local silicified flexures in the andesitic tuffs. Most flexures had been previously trenched and no new mineralization of consequence was discovered. One cut on line PL (see Map P-143B-66) at 1,000 feet west together with an adjacent 15 foot long adit tunnel showed good grade ore in the face which had not been delimited. From the mapping, however, the ore is contained in a flexure less than three hundred feet long and 100 feet wide and the thickness does not exceed six feet.

Buena Vista Claim - L-3207

The Buena Vista claim was also within the area mapped in detail. Channel samples across the mineralized zone in the walls of two tunnels on the eastern slope of the ridge gave remarkably high gold and silver values with significant lead and zinc values. The mapped structure - a flexure about 700 feet long and less than 100 feet wide - did not indicate a large tonnage. Elsewhere on the claim, zones of high silicification and quartz vein density showed little sulphide mineralization.

Warbler Claim - L-3206, Tip Top Claim - L-3205

These claims, although on the ridge, have less outcrop than the claims to the south. Although there is considerable rust associated with the rock outcrops, no mineralization of significance was mapped.

Hercules Group - L-1521, L-1522, L-1525

Only the Partha-Ellen and Glacier claims were examined. Mineralization here as on the Big Missouri ridge is in Bear River tuffs and agglomerate although the strongest mineralization seen was in a fissure vein which cuts the northwesterly trending tuffs

and strikes $\approx 30^{\circ}$ E. Specimen samples taken from the fissure vein and northwesterly trending tuff beds ran significantly in gold and silver. Widths are narrow, however, and the tonnage potential does not appear to be different from that on the Province and Buena Vista claims.

Jain Claim - L-3209

Mineralization on the J.P. Fraction and Jain claim lying immediately south of the Province claim is weaker but of the same erratic distribution as that on the Province claim.

Golden Crown Claim - L-3210

The mineralization seen on this claim can reasonably be correlated with mineralization mapped in a siliceous tuff bed in a road cut just west of the Laura claim and 2,000 feet to the north. The grade and thickness of this occurrence appear to be less than those occurring on the Province claim. The mineralized beds on this claim dip at 40° into the hill and would require underground work to explore

Terminus Claim - L-3221

Mineralization on this claim is similar to that on the Golden Crown claim and appears to occur at the same horizon. Exposures on this claim are better than on the Golden Crown but they, too, dip into the hill and would require an underground mining operation to explore.

E-Pluribus Claim - L-3213

Four trenches on this claim were sampled. Three assays were returned and although previous examinations by others had indicated significant gold and silver values, the writer's sampling returned no significant values.

Laura Claim - L-3214

The showing on the Laura Claim in Harris Creek is quite outstanding on the surface. Examination of an adit in the east wall of the creek canyon shows that the thickness of the mineralization is largely shown on the surface. The body appears to be 150 feet long and is confined to a flexure in a tuff bed that dips 15° below the creek to the west. Further examination of this occurrence like those on the Golden Crown and Terminus claim would entail an underground mining operation.

Day Group - L-4127, L-4129, L-4130, L-4131, L-4132

Very little geological mapping could be done on the Day Group of claims except along the new Granduc Road cuts because of a generally low percentage of rock outcrop. One series of three trenches showing average mineralization for the area was examined. The chief potential of the group of claims lies in the fact that the mineralized horizons out cropping on the western slopes of the Province and Buena Vista claims dip onto the Day Group. Although the mineralization does not appear to be continuous anywhere on the Big Missouri ridge (mineralization appears to occur in discrete lenses), the horizons at which mineralization occurs at surface are also potential for mineralization at depth.

Unicorn Group - L-4534 et al.

A number of interesting occurrences on this group were examined but none of the adits were accessible. According to a communication from Dr. Wm. V. Seitheringale, a proper assessment of this property can only be made in the underground workings.

MERCURY DISPERSION SURVEY - Province and Buena Vista Claims

Procedure

From a centrally located (see plan 113B-66) surveyed north-south base line extending from the south boundary of the Province claim for 2,700 feet to the north, east-west lines were laid out at

100 foot intervals. Rock specimens were taken at 50 foot intervals along these lines for 500 feet on each side of the base line. Each specimen was marked with its location and placed in a polyethylene bag. Care was taken to avoid sampling obvious intrusive rock and to confine grid sampling to volcanic flows, tuffs and agglomerates.

On completion of the sampling each specimen was crushed and a -200 mesh sample was extracted and marked. Each of the -200 mesh samples was then tested with the Lemaire mercury measuring instrument and the values so obtained plotted on a 1" - 100' scale plan. The values on the plan were then contoured.

In the course of processing the samples with the Lemaire instrument it was found that 0.2 ppm (10) could be considered background. It was also found that each sample had to be tested three times to obtain a consistent average reading.

Results

The mercury dispersion contour plan (143B-66) shows three north-northwest trending lines of mercury 'highs' over the area sampled. Two of these lines coincide with tuff horizons mapped on the ground. The third or central line of 'highs' coincides with a north-northwest trending zone of strong silicification. These three anomalous zones also coincide with the strongest zones of mineralization on the claims.

CONCLUSIONS

The following conclusions are based on the premise that a sufficient tonnage of ore grade material should be outlined on the Province and Buena Vista sections of the Big Missouri ridge where the stripping ratio is low and mining costs are estimated to be a minimum before any operation could be considered feasible.

1. Mapping suggests that significant mineralization is confined to four north-trending, west-dipping tuff horizons which occur at intervals approximately 800 feet horizontally or 560 feet (true distance) apart.

2. Detailed mapping of the test area on the Province and Buena Vista claims shows that significant mineralization is confined to irregularly spaced fleecures in the tuff horizons which contain less than 30,000 tons of mineralized tuff each. The number of such zones is insufficient to aggregate more than 200,000 tons of ore-grade material.
3. Assays of channel samples from sixteen cuts in the test area gave no values of significance except at two locations on the Buena Vista and Province claims involving a very minor tonnage. The average gold value of all channel samples is less than 0.10 oz. per ton; the silver value is less than one (1) oz. per ton.
4. Mineralization at other locations on the project ground but outside the test area are locally interesting but of no economic significance individually.
5. The mercury dispersion survey method used appears to be valid for the area and confirms the writer's conclusions from geological mapping that the sulphide mineralization which is found to carry the better gold and silver values occurs locally in pods at intervals along tuff horizons and within zones of visually high silicification.

RECOMMENDATIONS

Considering the premise on which the Stewart-Wikstrom Project is predicated, it is the writer's opinion that the volume of economic mineralization available to open pit mining is insufficient to sustain a mining and milling operation of economic size on the Stewart-Wikstrom group of claims at present prices of metals, labour and materials.

It is the writer's recommendation, therefore, that the project be wound up and the participants be advised to this effect.

Vancouver, B.C.
November 30, 1966

D.H. Brown
Geological Engineer

FALCONBRIDGE NICKEL MINES LIMITED

#504, 1112 WEST PENDER STREET
VANCOUVER 1, B. C., CANADA

TELEPHONE: 682-6242
TELEX: 04-5938

XF-70-143

Feb. 1, 1967

The Mining Recorder
#320 Nesbitt-Thomson Building
890 West Pender Street
Vancouver 1, B. C.

Dear Sir:

This is to certify that the work done as shown on the following Affidavit on the Leases M-118, M-51 and M-52 of the Stewart-Wikstrom Project claim group was done under my supervision.

Mr. C.C. Wikstrom of Stewart, B.C. is a capable prospector and mineralogist and is fully qualified in the work carried out by him on the Stewart-Wikstrom project.

Mr. W.G. Harrison worked as a geological assistant under my instruction and direction during the period of the current property examination.

I, D.H. Brown, am a graduate geological engineer and member in good standing of the Association of Professional Engineers of British Columbia. Regarding the mercury dispersion survey, I have carried out this type of survey in Quebec and consider it a valid geochemical indicator of mineralization when used under proper circumstances.

Yours sincerely,

FALCONBRIDGE NICKEL MINES LIMITED



D.H. Brown, P. Eng.

DHB:GK

OUR FILE _____

YOUR FILE _____

ADDRESS YOUR REPLY

TO _____



Court House
Prince Rupert, B. C.
January 18, 1967

Mr. C. C. Wikstrom
P. O. Box 186
Stewart, B. C.

Dear Sir:

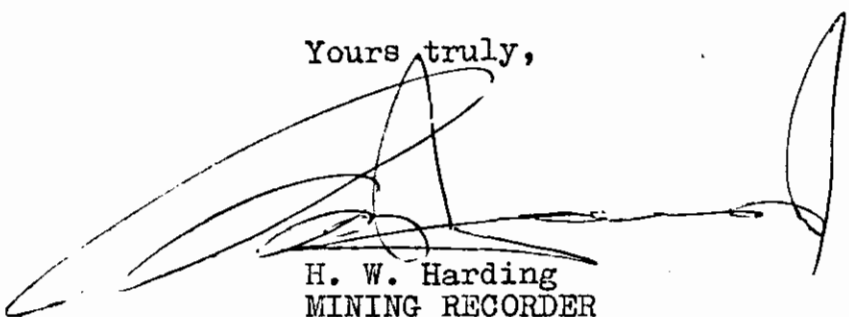
I have written to you numerous times in connection with Mineral Leases M51 and M52, requesting clarification of assessment work.

Some of our letters have been returned by the Postal Authorities, but it is assumed that others may have been received as they have not been returned.

I have reviewed these Leases, and your letter of August 22nd and, in view of the fact that we have been unable to contact you, we have applied the fees you deposited to the payment of rental on both of these Leases and also the fee for recording one year's work on each. Mining Receipt is attached covering these fees in the amount of \$72.00 and also, Agency cheque for \$8.00, being refund overpayment.

I should also mention that in your letter of August 22nd you stated that \$400.00 worth of work was performed on each of the Leases, but as the fee submitted was not sufficient to cover more than one year's work on each of the Leases, we were unable to apply the balance. The recording of this work has the effect of holding these Leases in good standing until their anniversary dates in 1967.

Yours truly,



H. W. Harding
MINING RECORDER

HWH:ejp

Enclosures



1966 CENTENARY OF THE UNION OF THE COLONIES OF VANCOUVER ISLAND AND BRITISH COLUMBIA UNDER THE NAME BRITISH COLUMBIA.
1967 CENTENARY OF THE CONFEDERATION OF CANADA.

APPENDIX A

ASSAY RECORD

Sample Number	Location	Sample Type	Ass. oz./ton	Ag. oz./ton	Cu. %	Zn. %	Pb. %	
3003	Barron Vista Recce	Specimen	0.16	5.30	0.80	3.75	16.95	
3004	Provinces Cut #16	"	0.14	1.98	0.22	7.30	2.60	
3005	Hercules Tuff	"	0.36	9.66	2.44	13.90	19.35	
3006	Hercules Vein	"	0.86	2.28	0.56	6.88	1.25	
3007	Tamimus Cut #1	"	0.16	3.04	2.04	2.10	8.60	
3008	Tamimus Cut #2	"	0.04	2.90	--	0.70	6.95	
3009	Provinces Shaft	"	0.20	1.78	--	5.50	6.40	
3002	Unicorn Cut #1	Channel	0.10	1.00	--	0.35	0.02	
3027	Provinces Cut #2	5' Channel	0.10	0.06	--	0.15	Nil	
3016	"	Cut #11	4' "	0.06	Nil	--	0.12	0.36
3026	"	Cut #12	3' "	0.02	0.24	--	0.15	0.05
3019	"	Cut #13	5' "	Tr.	Nil	--	Nil	Nil
3023	"	Cut #15(E) 10'	"	0.02	0.44	--	0.72	0.34
3022	"	Cut #15(W) 10'	"	0.12	0.78	--	1.70	0.75
3013	"	Cut #16(E) 10'	"	Nil	0.46	--	0.10	0.21
3037	"	Cut #16(W) 15'	"	0.04	Nil	--	2.25	1.17
3011	"	Cut #17	5' "	0.02	0.12	--	0.37	0.20
3034	"	Cut #18	10' "	0.10	1.24	--	1.40	0.12
3035	"	Cut #19	10' "	0.02	1.18	--	1.20	1.45
3036	"	Cut #20	10' "	0.10	Nil	--	0.72	0.05
3010	Pl-300	Cut #22	25' Chlp	0.04	0.16	--	0.30	0.04
3012	Provinces	Cut #23	10' Channel	0.04	Nil	--	0.23	0.11
3029	"	" #25	2' "	0.24	0.60	--	0.35	0.10
3017	"	" #26	3' "	0.02	1.74	--	3.10	3.50
3025	Pl-1000	Travertine face	6' "	0.02	0.62	--	12.10	0.15
3030	Pl-1000	Cut	5' "	0.14	14.92	1.02	4.80	3.86
3014	Prov. Calc. Dy #1	4' "	0.04	Nil	--	0.11	0.02	
3021	B.V. Calc. Dy #2	3' "	0.02	Nil	--	Nil	0.02	
3011	B.V. 6-200-Adit	4' "	4.28	3.96	--	6.55	6.15	

ASSAY RECORD (cont'd)

Sample Number	Location	Sample Type	Au. gr./ton	Ag/ ton	Cu. %	Zn. %	Pb. %
3021	B.V. 7 - 150 Adit	6' Channel	0.16	1.24	--	6.95	1.84
3028	B.V. 9 - 300 Adit	6' "	0.04	0.16	--	0.15	0.09
3018	B.V. 10 - 230	3' "	0.10	0.88	--	6.60	2.35
3020	E.P. Cut #1	6' "	Nil	1.10	--	Nil	Nil
3023	E.P. Cut #2	6' "	0.18	1.10	--	0.11	0.08
3025	E.P. Cut #4	4' "	0.04	0.94	--	0.15	0.02
3022	Laura Cut #1	4' "	0.04	3.96	2.04	7.75	5.50

Abbreviations

- F-4-1000 - Province - Line 4 - 1000' West
- B.V.-6-200 - Barron Vista - Line 6 - 200' West
- E-P-Cut #1 - E. Pluribus - Cut #1
- Laura - Laura claim - L-3214
- Terminus - Terminus claim - L-3221

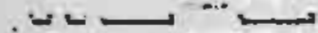


FALCONBRIDGE NICKEL
MINES LTD.

BIG MISSOURI RIDGE
1966

LOCATION MAP

BRITISH COLUMBIA



DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA:

In the Matter of

Geological Survey
Geochemical Survey
Road Access

To Wit:

on Stewart-Wikstrom Properties

SUB-MINING RECORDER
RECEIVED
FEB 17 1967
M.R. # 2936
VANCOUVER, B.C.

I, D.H. Brown

of Falconbridge Nickel Mines Limited
5th Floor, 1112 West Pender Street, Vancouver 1,

in the Province of British Columbia, do solemnly declare that the following work was performed under my direction at a cost as outlined:

A.C. McEachern Limited, Stewart, B.C.	
Tractor road work July 2 - 4, 1966 . . .	\$599.00
Less Government grant . . .	<u>\$300.00</u>
Balance applicable . . .	<u>\$299.00</u>
C.C. Wikstrom - Prospector	
July 9 - July 17, 1966 - 8 days @ \$35/day	\$280.00
W.G. Harrison - Geological Assistant	
July 7 - Aug. 31, 1966 - 48 days @ \$25/day . . .	\$1,200.00
Sept. 5 - Sept. 23, 1966 - 15 days @ \$15/day . . .	\$ 225.00
D.H. Brown - Geological Engineer	
July 7 - Aug. 31, 1966 - 48 days @ \$50/day . . .	\$2,400.00
Nov. 7 - Nov. 30, 1966 - 17 days @ \$40/day . . .	\$ 680.00
Recorded cost	<u>\$5,084.00</u>

Requested distribution of above work

Lease M-118		Lease M-52 (Laura)	
C.C. Wikstrom . . .	\$153.76	Road work by	
W.G. Harrison . . .	\$1,083.00	McEachern for access	\$149.00
D.H. Brown . . .	<u>\$2,340.00</u>	C.C. Wikstrom	\$ 58.41
	\$3,576.76	W.G. Harrison	\$156.75
		D.H. Brown	<u>\$310.00</u>
			\$674.16
Lease M-51 (Terminus)		TOTAL	
Road work by McEachern for access (yr. 1965-66)		<u>\$5,084.00</u>	
	\$ 150.00		
C.C. Wikstrom	\$ 67.83		
W.G. Harrison	\$ 185.25		
D.H. Brown	\$ 430.00		
	\$833.08		

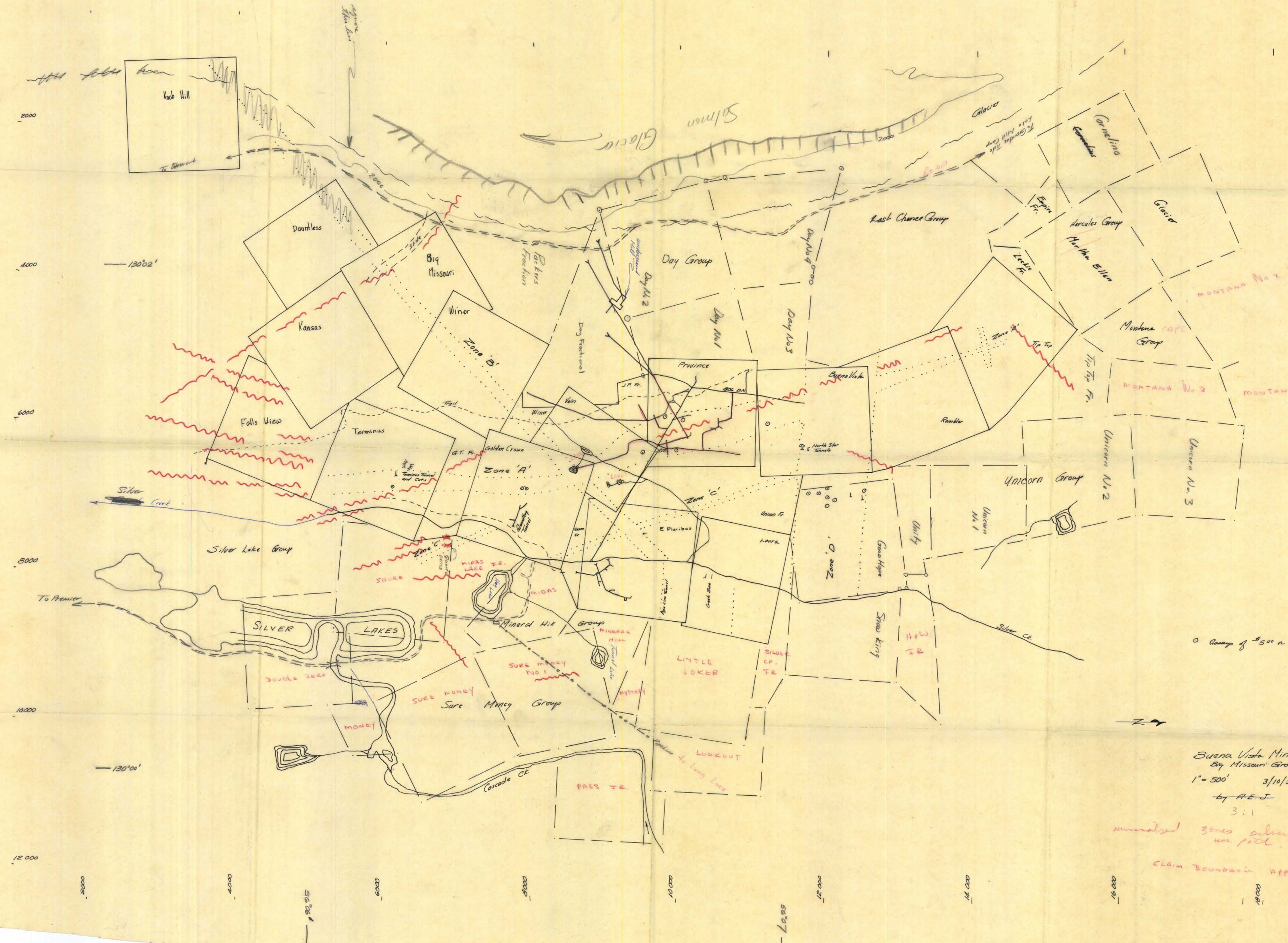
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of

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 14
day of FEBRUARY, 1967, A.D.

D.H. Brown

Edamilton Sub-Mining Recorder
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.



o Contour of 500 ft

Buena Vista Mining Co
 Big Missouri Group (from Company Files)
 1" = 500' 3/10/32
 by A-E-J 300'
 3:1

mineral zones also present in other
 see page

CLAIM BOUNDARIES APPROX

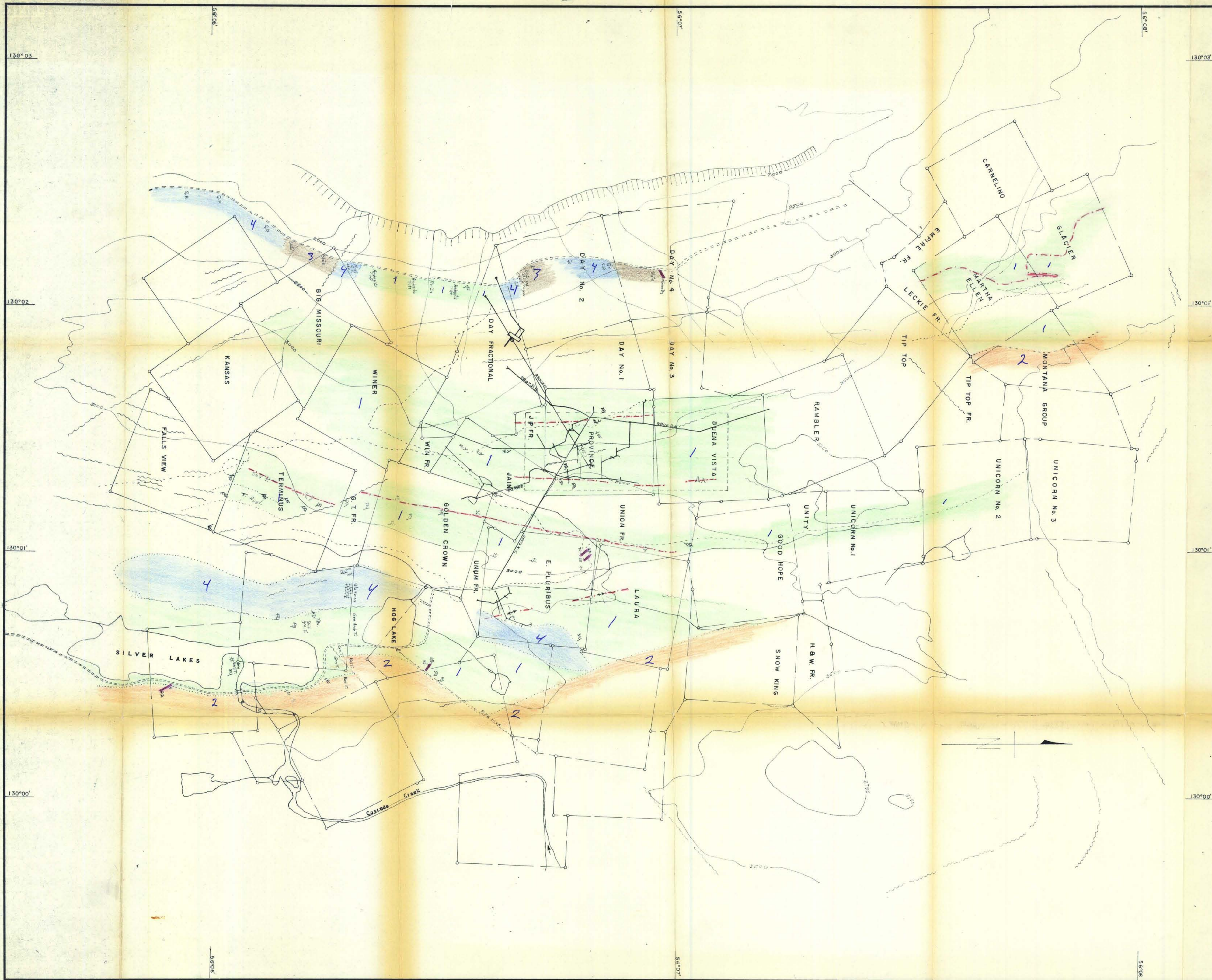
LEGEND

- Established road
- Trail and tractor road
- Creek
- Glacier boundary
- Area of detailed mapping
- Claim lines
- Adits, drifts and crosscuts
- Test pit
- Strike and dip
- Fault - real or inferred
- Mapped fold structure
- Dyke and Altitude
- Tuff Horizon
- Rock Contact
- Area of intense quartz veining and/or silicification

- 5 Coast Range Batholith
- 4 Premier Sills - Quartz Porphyry
- 3 Nass formation - slate
- 2 Salmon River formation - Conglomerate
- 1 Bear River formation - agglomerates, tuffs

To accompany Geological-Geophysical report by D. H. Brown, Geological Engineer, on Stewart-Wikstrom Group, including M-18, M-51, M-52, Province C.G. and Bay Group (Nos. 1, 2, 3, 4 & Fractional) on Big Missouri Ridge, Skeena M.D., dated November 30/66.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 912 MAP # 2



SCALE: 1 INCH TO 500 FEET

COMPANY . . . FALCONBRIDGE NICKEL MINES LTD.
PROPERTY . . . STEWART-WIKSTROM
LOCATION . . . BIG MISSOURI RIDGE - STEWART, B. C.

WORKING PLACE . . .
TYPE OF MAP . . . GEOLOGIC - TOPOGRAPHIC
BASED ON . . . FIELD MAPPING

DATE . . . NOV., 1966
DRAWN BY . . .
DATE OF WORK . . . JULY - AUG - 1966

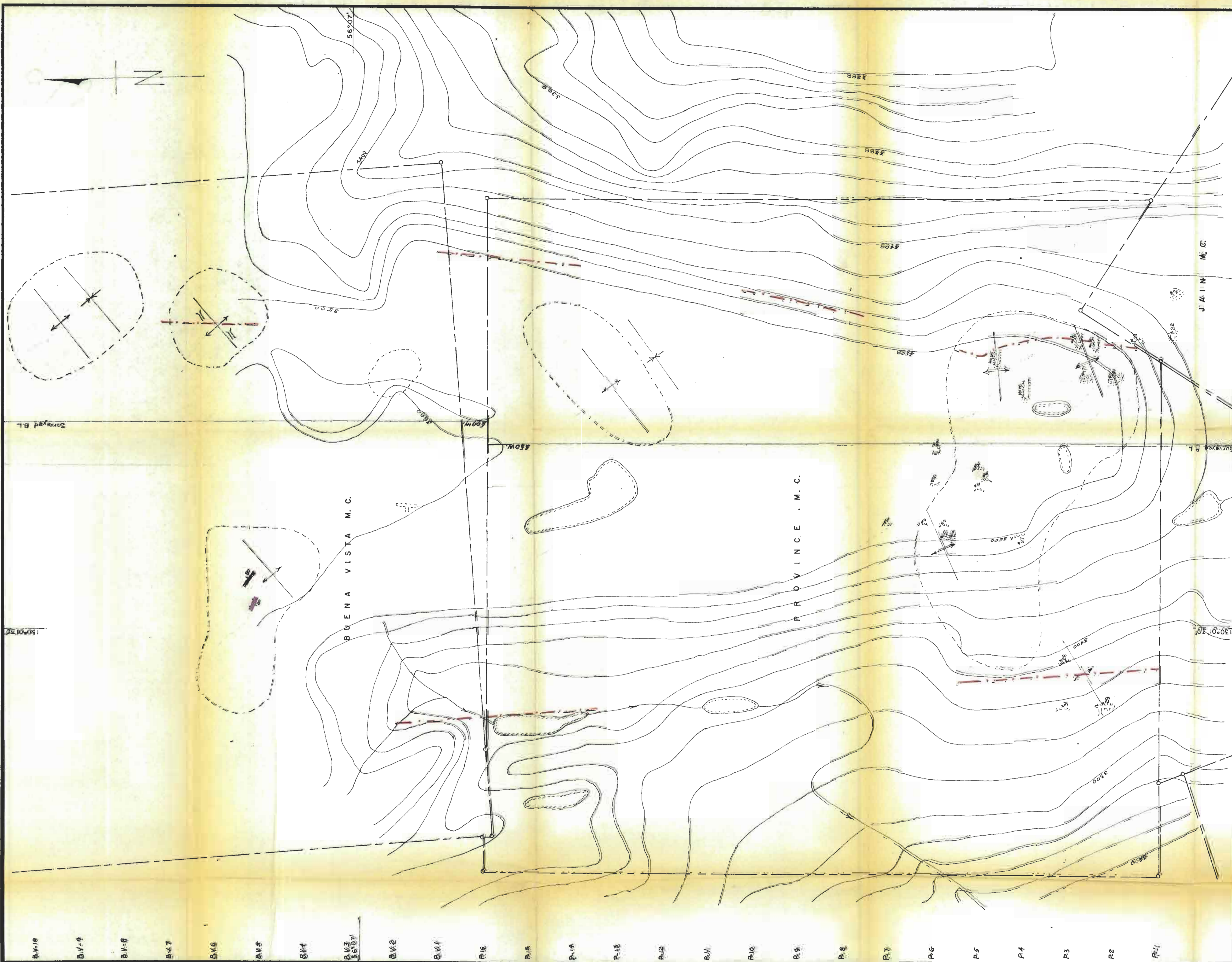
D.H. Brown
912

LEGEND

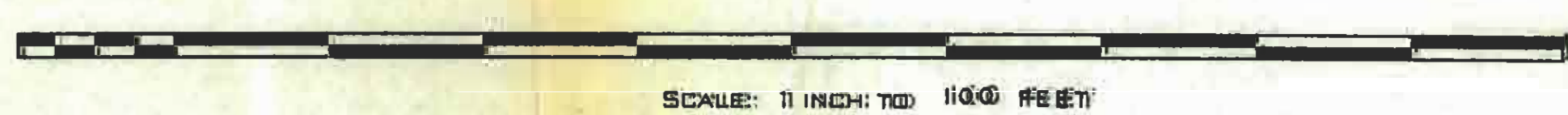
- Established road
- Trail and tractor road
- Creek
- Claim lines
- Adits, drifts and crosscuts
- Elevation contours
- Test Pit
- Strike and dip
- Fault - real or inferred
- Mapped fold structure
- Dyke and Altitude
- Tuff horizon
- Rock contact
- Area of intense quartz veining and/or silicification
- Coast Range Batholith
- Premier Sills - Quartz Porphyry
- Nass formation - slate
- Salmon River formation - conglomerate
- Bear River formation - agglomerates, tuffs

To accompany Geological-Geophysical report by D. H. Brown, Geological Engineer, on Stewart-Winstrom Group, including M-118, M-51, M-52, Province C.G. and Day Group (Nos. 1, 2, 3, 4 and Fractional) on Big Missouri Ridge, Skeena N.D., dated November 30/66.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 912 MAP # 3



BV-19 BV-18 BV-17 BV-16 BV-15 BV-14 BV-13 BV-12 BV-11 BV-10 BV-9 BV-8 BV-7 BV-6 BV-5 BV-4 BV-3 BV-2 P-16 P-15 P-14 P-13 P-12 P-11 P-10 P-9 P-8 P-7 P-6 P-5 P-4 P-3 P-2 P-1



COMPANY ... FALCONBRIDGE NICKEL MINES LTD.
PROPERTY ... STEWART - WINSTROM
LOCATION ... BIG MISSOURI RIDGE, STEWART, B. C.
WORKING PLATE ...
TYPE OF MAP ... GEOLOGIC - TOPOGRAPHIC
BASED ON ... FIELD MAPPING
DATE ... NOV., 1966
DRAWN BY ...
DATE OF WORK ... JULY - AUG., 1966

912

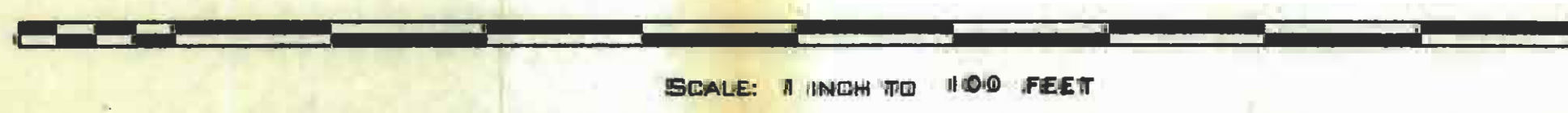
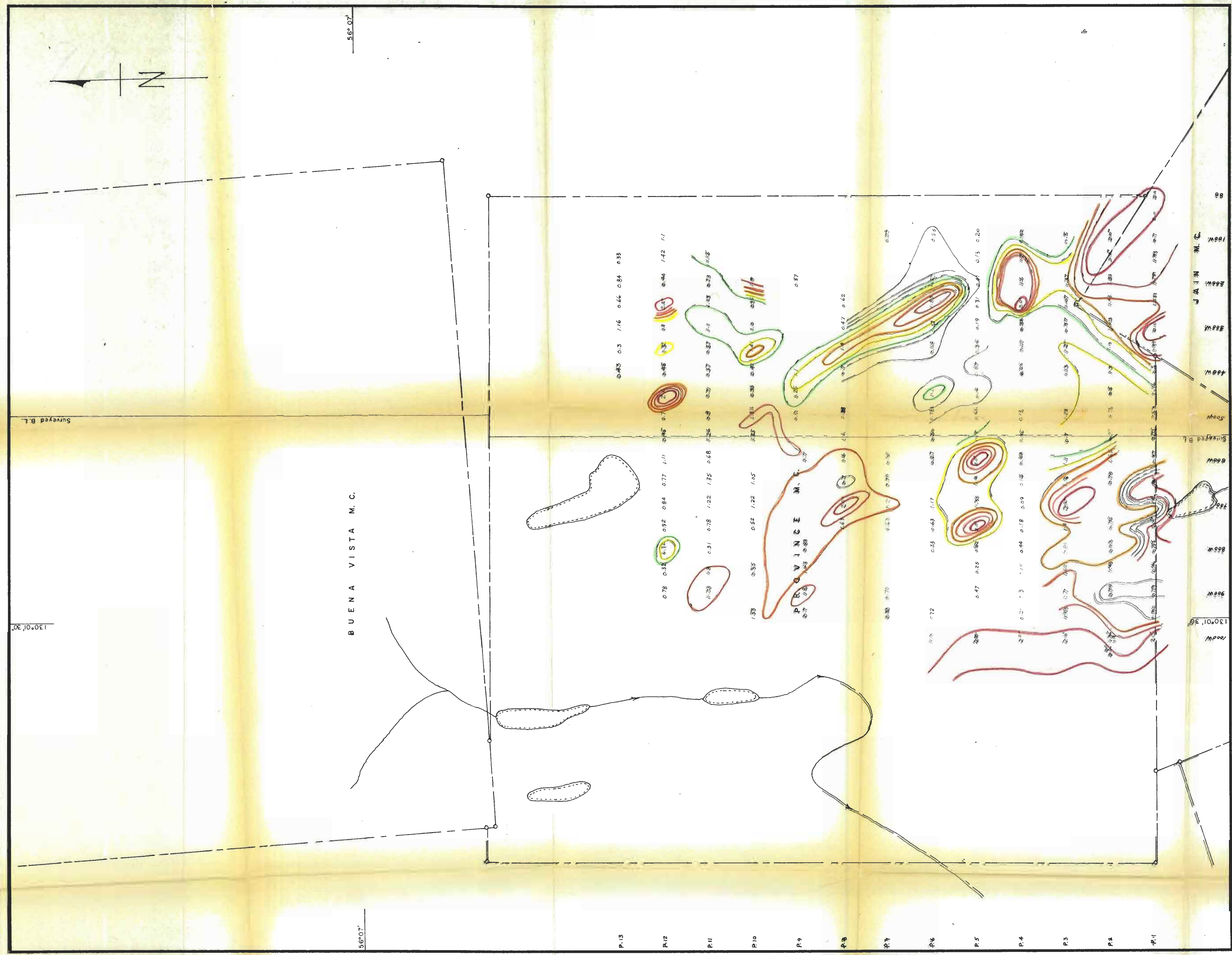
LEGEND

Readings in p.p.m. (10) Hg.



To accompany Geological-geophysical report by D. H. Brown, Geological Engineer, on Stewart-Wikstrom Group, including M-118, M-51, M-52, Province C.G. and Day Group (Nos. 1, 2, 3, 4 & Fractional), on Big Missouri Ridge, Skeena M.D., dated November 30/66.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO 912 MAP 4



COMPANY .. FALCONBRIDGE NICKEL MINES LTD.
PROPERTY .. STEWART-WIKSTROM
LOCATION .. BIG MISSOURI RIDGE, STEWART, B. C.

WORKING PLACE ..
TYPE OF MAP .. MERCURY DISPERSION
BASIS OF .. FIELD MAPPING

DATE .. NOV., 1966
DRAWN BY ..
DATE OF WORK .. JULY - AUG., 1966

912