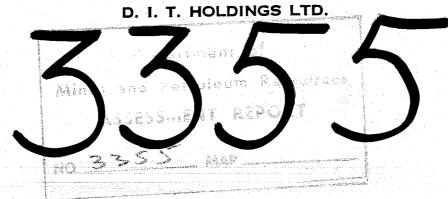
SUITE 102, 2222 BELLEVUE AVENUE, WEST VANCOUVER, B. C.



Report On The

1970 Diamond Drill Program

and

Recent Geological & Geochemical Results

Swede 41, Bea and Mary G Claims New Westminster Mining Division Hope, B.C.

for

Kelso Explorations Ltd (N.P.L.) 470 Granville Street Vancouver, B.C.

by

Donald W. Tully, P. Eng.

October 4, 1971

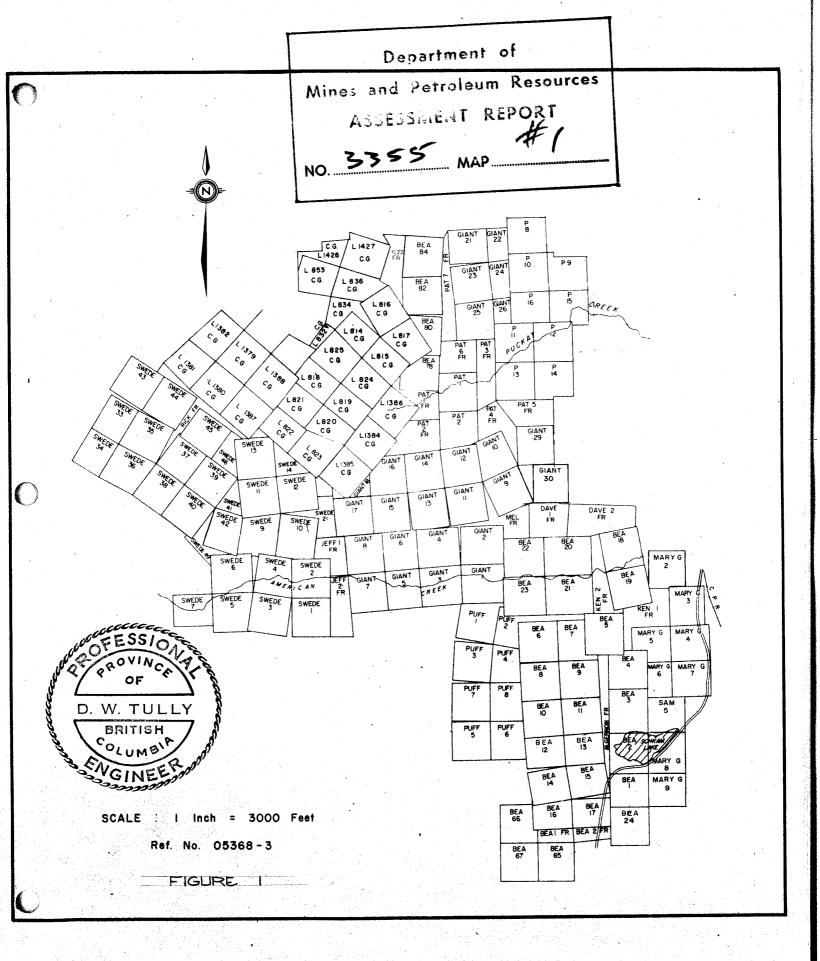
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SUMMARY

The Kelso claim group at Hope, British Columbia, adjoins the Giant Mascot Mine property. It is a nickel-copper prospect.

Three shallow diamond drill holes intersected a wide zone of low-grade copper-nickel sulphide mineralization in ultra-basic rocks on the Swede claims in the northwest part of the property.

Reconnaissance geological prospecting and limited geochemical soil sampling on the BEA and Mary G claim groups in the southeast part of the property did not uncover any new evidence of economic significance.

An aggressive program of detailed geochemical soil sampling along survey controlled picket lines with close geological mapping is recommended to delimit diamond drill targets in the BEA - Mary G claim area.

5000 feet of Bx wireline diamond drilling is also recommended to prove up this property.

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INTRODUCTION

This report reviews the results of a program of Bx wireline size core drilling during October - November, 1970 and limited geological - geochemical prospecting during the period August - September, 1971.

Diamond drilling was performed during the period October 31, 1970 through November 30, 1970.

PROPERTY, LOCATION, ACCESS, TOPOGRAPHY

136 mining claims comprise the Kelso property as follows:

Swede 1-7,9-14,21,33-46,49	Swede 8-50	Fractions	
Bea 1-24,54,65-67,78,80,82,84	Bea 1,2	H	
Pat 1,2	Pat 1-7	$\mathbf{f}_{\mathbf{f}} = \mathbf{f}_{\mathbf{f}} \cdot \mathbf{f}_{\mathbf{f}} = \mathbf{f}_{\mathbf{f}} \cdot \mathbf{f}_{\mathbf{f}} \cdot \mathbf{f}_{\mathbf{f}}$	
Giant 3-18,21-26,29,30	Yodi	н	(1)
P 8-16	Ken 1,2	u	
Puff 1-8	Mel	.u	(1)
Mary G 2-9	Rick	н	(1)
Sam 5	Dave 1,2	u	
	Jeff 1-3	u	
	Algernon	H	(1)

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The property is located about 4 miles north of Hope, British Columbia on the west side of the Trans-Canada Highway. The claims adjoin the Giant Mascot Mine property on the south.

Access is by logging roads from the Trans-Canada Highway.

Rugged topography varies from 500 - 4500 a.s.l. over the claim group.

PREVIOUS DEVELOPMENT - REFERENCES

Although complete records are not available probably no more than a total of 3000 feet of shallow diamond drilling has been done on this property. Geological, geochemical and geophysical work on record since 1966 is as follows:

- 1. Supplementary Geological and Geochemical Report, November 23, 1970, by Donald W. Tully, P. Eng.
- 2. G.S.C. Paper 69-47, Hope Map-Area, (W_2)
- 3. G.S.C. Map 737A
- 4. Report on a Geological and Geochemical Reconnaissance Survey over part of the PAT, MARY-G, MILL, GIANT, SWEDE, BEA, P, PUFF and LYD Mineral Claim Groups, Kelso Explorations Ltd (N.P.L.) dated December 30, 1969, by Donald W. Tully, P. Eng.
- 5. Swede Zone Reconnaissance Geochemical and Geological Survey dated June 12, 1970, by Donald W. Tully, P. Eng.



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- 6. Swede Zone Supplementary Report on a Geological, Geochemical and Magnetometer Survey over part of Swede Claims 4,6,9,11,41,42,49 dated November 17, 1970, by Donald W. Tully, P. Eng.
- 7. Mill Creek Zone, Reconnaissance Geochemical and Geology Survey dated June 12, 1970, by Donald W. Tully, P. Eng.
- 8. Schkam Lake Zone, Reconnaissance Magnetometer, Geochemical and Geology Survey dated June 12, 1970, by Donald W. Tully, P. Eng.
- 9. Report on the Geological, Geophysical and Geochemical Surveys by J.A. Mitchell, P. Eng., dated October 22, 1969
- 10. Report on the Magnetic Prospecting for Dunite Pipes on the Swede Mineral Claims of Kelso Explorations Ltd by Ian F. Morton, dated July 3, 1969
- 11. Reconnaissance Magnetometric Survey Report on the BEA Group Mineral Claims by J.A. Mitchell, P. Eng., dated November, 1968
- 12. Gravity Surveys in the Hope Area of British Columbia over ultra-basic rocks with nickel, pyrrhotite ore bodies by Calbert B. Selmser, dated January, 1970
- 13. Geological Report on the BEA Claims of Kelso Explorations Ltd by Ian F. Morton, not dated
- 14. Geophysical Report, Gravity Survey Giant No. 1 and BEA No. 23 Claims by C.B. Selmser, dated December 9-18, 1968
- 15. Appendix A to accompany Geophysical Report on the Giant No. 1 and BEA No. 23 Claims by C.B. Selmser, P. Eng., dated August 18, 1969
- 16. Gravity Survey of Swede 5,6, and 7 Mining Claims on American Creek by C.B. Selmser, P. Eng., dated August 27,28 and September 11, 1969
- 17. Comparison Survey of Giant Mascot Mines Gravity Survey by C.B. Selmser, P. Eng., dated August 23-25, 1969
- 18. Geophysical Report, Gravity Survey of Giant 25 Mineral Claim by C.B. Selmser, dated August 4-8, 1969

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- 19. Reconnaissance Geological, Geochemical and Geophysical Report on the Mill Group of Claims No. 1-8 by W.K. Lee, P. Eng., dated July 18, 1968
- 20. Geophysical Report on the Electro-Magnetic Orientations Survey on Giant No. 1 and BEA No. 23 Claims near American Creek by D.R. Cochrane, P. Eng., dated June 7, 1968
- 21. Geophysical and Geochemical Report on the BEA and Giant Claims by W.K. Lee, P. Eng., dated May 7, 1968
- 22. Geophysical Report on the Airborne Magnetometer Survey of the BEA, GIANT, P, and MILL Claims by D.R. Cochrane, P. Eng., dated August 18, 1967
- 23. Supplement to the Geophysical Report on the Airborne Magnetometer Survey by D.R. Cochrane, P. Eng., dated September 5, 1967
- 24. Supplementary Geophysical Report No. 2 by D.R. Cochrane, dated April 11, 1968
- 25. Report on the Properties of Kelso Explorations Ltd by J.P. Elwell, dated December 14, 1966

GEOLOGY

Three lithogical units are recognized over the property.

- 1. A Cretaceous intrusive complex with facies grading from granite through pyroxenite-peridotite in composition.
- 2. Metamorphics-amphibolite, garnet-schists and migmetitic equivalents of Paleozoic volcanics, sediments and limestone horizons.
- 3. Conglomerate, limestone, shale units probably of late Cretaceous or early Tertiary age.

Intrusives occupy the western and southwestern parts of the property. Ultra-basic phases occur in the



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marginal areas of the complex as at the Swede and Schkam Lake Zones.

Metamorphic rocks are common in the northern part of the property surrounding the Giant Mascot Mines claim boundary.

Sediments and calcareous rocks occur in those parts of the property adjacent of the Fraser River. Conglomerate is abundant.

The basic structural pattern has been established through repeated orogenic movements. A north-south trend with local directional deviations due to drag-folding is predominant.

A major fault zone known as the Hope Fault trends north through the property. It appears to have influenced the Schkam Lake and Mill Creek Zones which are in close proximity with resultant intense rock deformation.

The Swede Zone lies near an embayment in the main intrusive contact in association with pyroxenite and dikes of peridotite.

It may be of interest to note that the Kelso property is in close proximity to the major junction of the Cascade Mountain System to the south and the Coast Range Mountains to the north.

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MINERALIZATION - GENERAL

Two types of nickel mineralization occur.

Nickeliferous pyrrhotite occurs disseminated with chalcopyrite in fractured pyroxenite and peridotite in the Swede Zone. It is also reported from previous diamond drilling in ultra-basic rock in the Schkam Lake Zone.

An oxide (?) of nickel was located in an intrusive silicate-siderite rock in the Schkam Lake Zone. Preliminary tests on this mineral by Dr. G.A. Gower at the University of British Columbia were inconclusive. Surface expression suggests limited potential.

No economic mineralization has been located to date.

DIAMOND DRILL RESULTS

1120 feet of Bx wireline core was diamond drilled in three holes on Swede claims #9 and #42 in the northwest part of the property and about 4500 feet south of the Giant Mascot Mine property (Figure 5). Core recovery was excellent $(\frac{+}{2}99\%)$.

Values ranging between 0.09% nickel and 0.02% copper over 4.0 feet to 0.01% nickel and 0.01% copper over

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30 feet were intersected in pyroxenite and peridotite.

The presence of pyrrhotite-chalcopyrite mineralization in surface fractures does persist below surface. The pyrrhotite mineralization is weakly nickeliferous.

Deep diamond drilling to at least 750 - 1000 feet vertically may intersect better grade mineralization. For example, one ten-foot section between 388 - 398 feet in diamond drill hole #3-70 intersected 0.06% nickel and 0.01% copper.

Substantial widths of scattered pyrrhotite, pyrite and chalcopyrite mineralization occurs in the diamond drill holes as follows:

D.D. Hole #		Footage
2-1970	***	30-92 112-232
3-1970		110-190 346-398

GEOLOGICAL AND GEOCHEMICAL RESULTS

A program of geological mapping and geochemical sampling was performed during the period August 23 through September 5, 1971.

57 geochemical soil samples were taken. Analyses were done at Crest Laboratories (B.C.) Ltd. Scattered



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values in nickel varying up to 700 parts per million were obtained. Copper values were not encouraging.

Results of the geological prospection and geochemical soil sampling as shown on Figures 4 and 5 confirm the former conclusions that anomalous areas for nickel do exist in the area north and east of Schkam Lake on the BEA and Mary G claims. In order to delimit a target area for diamond drilling survey control lines should be established at 400-foot intervals. Soil sampling and geological mapping should be done under controlled conditions.

Examination of a tunnel on claim Mary G #4 was mapped and tested with an ultra-violet lamp which yielded negative results.

Soil samples were taken from the "B" soil horizon in the field. In the laboratory samples were screened to -80 mesh, treated with perchloric and nitric acid and analyzed by the atomic absorption method.

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CONCLUSIONS

On Swede claims #9, #41 and #42 pyrrhotite, pyrite and chalcopyrite mineralization occurs in scattered grains over substantial widths in ultra-basic rock. 3000 feet of diamond drilling is recommended to test this zone at depth with three holes for better grade nickel-copper mineralization comparable to what is now under exploration on the adjacent Giant Mascot Mine property.

The discovery of a nickel-bearing oxide (?) zone on claim BEA #3 as a result of detailed geochemical soil sampling in 1970 points up the value of this method. An associated magnetic anomalous coincident area was also noted. A program of detailed geochemical soil sampling, geological mapping, magnetometer surveying with 2000 feet of exploratory diamond drill holes on the nickel zone on BEA #3 and #4 claims is warranted.

RECOMMENDATIONS - WORK PROGRAM

Survey controlled geochemical soil sampling, geological mapping and magnetometer surveying is recommended on Mary G claims 4-7. East-west picket lines at 200-foot intervals with sample stations every 100 feet along the control picket lines are recommended as shown on Figure 5.

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Integration of this recommended exploration work should provide a diamond drill target.

Two diamond drill holes totaling 2000 feet of drilling (Figure 4) are recommended to test the nickeliferous oxide (?) zone on claim BEA #3. Previously a diamond drill hole reportedly put down by Impad Holdings Ltd is believed to have obtained an intersection carrying low values in nickel over appreciable widths at the north shore of Schkam Lake.

3000 feet of deep diamond drilling is recommended on the zone of ultra-basic rocks in the area of Swede claims #9, #41 and #42 to test for greater widths and grade of nickel-copper mineralization (Figure 5).

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ESTIMATED COSTS

Line-cutting (10 line miles x \$125/mile)	\$ 1,250.00
Magnetometer Survey (520 station readings)	1,000.00
Geochemical soil sampling (520 samples $x 4.00)	2,080.00
Geological mapping	500.00
Diamond drilling (5000' Bx size core x $$8.50/ft$).	42,500.00
Mobilization and demobilization	2,000.00
Engineering, Assaying, Travel	2,500.00
Contingency @ 10%	5,183.00
	\$ 57,013.00

Respect fully submitted

Donald W. Tully, P. Eng

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CERTIFICATE

I, Donald W. Tully, do hereby certify that:

- I am a Consulting Geologist and Professional Engineer with offices at 102-2222 Bellevue Avenue, West Vancouver, British Columbia.
- 2. I am a graduate of McGill University, 1943, with the Degree of Bachelor of Science.
- 3. I am a Registered Professional Engineer in the Provinces of British Columbia and Ontario.
- 4. I have practised my profession for twenty-five years.
- 5. I have no direct, indirect or contingent interest in the shares of Kelso Explorations Ltd (N.P.L.) or the claims of Kelso Explorations Ltd (N.P.L.) nor do I intend to receive any interest.
- 6. This report dated October 4, 1971 is based on a personal field examination on the property of rock outcrops and diamond drill cores on October 7,12,18, November 29, December 7, 1970 and September 1, 1971.

DATED at West Vancouver, British Columbia, this 4th day of October, 1971

Donald W

Tully.

P. Eng

KELSO EXPLORATION LTD. 470 Granville Street Vancouver 2, B.C.

D.D. Hole No. 1-70 Date started October 31, 1970

Dip : Minus 45 degrees Date completed: November 3, 1970

Direction : Southeast Drilled by: Kendrick Drilling

2748 St. Catherines St.

Depth: 272 feet Vancouver, B.C.

Location : Claim Swede 9 Hole log by: Donald W. Tully, P. Eng.

Line 420 N

570 E Core Size Bx wireline

Sample

Footage Description No. Width %Ni %Cu

0 - 15.5' - Casing reported.

0 - 10.5 - No core.

10.5 - 38.0' - Paragneiss, garnet-rich, with bands of biotite and sericite, rusty and fractured along water courses.

38.0 - 43.0' - As above and banded at 60 degrees to core-axis.

43.0 - 116.0' - Paragneiss, garnet-rich with bands of biotite and sericite, local banding at 75', 85'.

116.0 - 118.0'- Greenish base, sprinkled with garnets.

118.0 - 173.0'- Paragneiss, garnet-rich, bands of biotite and sericite and scattered fine quartz veinlets, grains of pyrite at 134'.

173.0 - 174.0'- Quartz veining with grains of pyrite and pyrrhotite.

174.0 - 183.0'- Paragneiss as above.

183.0 - 187.0'- " " with fine pyrite and chalcopyrite on fracture faces at 183' and 186'.

187.0 - 236.0'- Paragneiss as above with banding at 210'.

236.0 - 241.0'- Pyroxenite dyke.

Sample

No. Width %Ni %C

Footage

Description

241.0 - 254.0' - Paragneiss as above.

254.0 - 272.0' - Gabbro phase.

END OF HOLE

COLLAR 1-70 CASING -Department of Mines and Petroleum Resources ASSESSMENT REPORT NO.3355 MAP___ D. W. TULLY MINERALIZATION PARAGNEISS HOPE, B.C. PYROXENITE KELSO EXPLORATIONS LTD. N.P.L. GABBRO SECTION LOOKING NORTH OCT. 4 , 1971 1" = 50' DONALD W. TULLY, P. Eng. CORE SIZE - Bx WIRELINE

KELSO EXPLORATIONS LTD (N.P.L.) 470 Granville Street Vancouver 2, B. C.

			· · · · · · · · · · · · · · · · · · ·
D.D. Hole #	= 2-70		November 8, 1970
Dip	- Minus 45 degrees	Date completed:	November 16, 1970
Direction	- West	Drilled by:	Kendrick Drilling
Depth	- 450.0		Vancouver, B.C.
Location	- Claim Swede #9	Hole log by:	Donald W. Tully, P.Eng.
	Line 980 N		
er,	700 E	Core Size:	Bx wireline

Footage	Description	Sample No.	Width	%Ni	%Cu
0 - 20'	- Casing reported.				
0 - 8'	- No core.				
8 - 22'	 Pyroxenite, feldspathic phase, highly fractured with rusty water seams. 				
22 - 30'	- Pyroxenite, biotite rich phase (bronzitite), fresher and massive.				
30 - 34'	- Peridotite dyke, fine pyrrhotite and pyrite (5% sulphides).	26001	4.0'	.01	
34 - 39'	<pre>- Peridotite dyke, small quartz- calcite veinlets, fine pyrrhotite (3% sulphides).</pre>	26002	5.0'	.01	
39 - 43'	 Pyroxenite, peridotite dykes 2-4" wide with 1-2% pyrrhotite and pyrite 	.26003	4.0'	.01	
43 - 65'	- Pyroxenite, brown biotite in crystal up to 8 mm. across (bronzitite).	S			
65 - 70'	 Pyroxenite, fine pyrrhotite (1%) with traces chalcopyrite. 	26004	5.0'	.01	.01
70 - 75'	- Pyroxenite, fine pyrrhotite (1%) with traces chalcopyrite.	26005	5.0'	.02	.01
75 - 92.5'	- Pyroxenite with minor splashes of chalcopyrite.				
- 93.0'	- Peridotite dyke, barren.				
93 - 101.5'	- Pyroxenite, brown biotite phase				

(bronzitite phase).

- 102' - Paragneiss inclusion with garnets.

		Sample		
Footage	Description	No.	Width	%Ni %Cu
102 - 112'	- Pyroxenite, paragneiss inclusion with garnets.			
112 - 114'	- Pyroxenite, as above with diss- eminated pyrite and pyrrhotite (1%) and one massive seam at 113'.	26006	2.0'	.01 Tr
114 - 162'	- Pyroxenite, as above (bronzitite phase).			
162 - 167'	- Peridotite, 5% fine pyrite and pyrrhotite.	26007	5.0'	.01 .01
167 - 171.4'	- Peridotite, 5% fine pyrite and pyrrhotite.	26008	4.4'	.01 .02
171.4 - 175'	 Peridotite, 1% fine pyrite and pyrrhotite. 	26009	3.6'	Tr Tr
175 - 180'	- Pyroxenite, as above (bronzitite phase).	26010	5.0'	.01
180 - 185'	- Peridotite, 1% fine pyrite and pyrrhotite.	26011	5.0')	Core
185 - 189'	 Peridotite, 1% fine pyrite and pyrrhotite. 	26012	4.0')	Not
189 - 194'	- Peridotite, 1% fine pyrite and pyrrhotite.	26013	5.0')	Split
194 - 197'	- Pyroxenite, as above (bronzitite phase).	26014	3.0') For
197 - 202	 Peridotite, 1% fine pyrite and pyrrhotite. 	26015	5.0') Assay
202 - 207'	 Peridotite, 1% fine pyrite and pyrrhotite. 	26016	5.0') } •
207 - 232'	- Pyroxenite, as above (bronzitite phase).			
232 - 234'	- Peridotite dyke, barren.			
234 - 237'	- Pyroxenite, coarse grained (bronzitite phase).			
237 - 238'	- Peridotite dyke.			
238 - 269'	- Pyroxenite, coarse grained (bronzitite phase).			

Footage	Description
269 - 274'	- Pyroxenite, highly fractured in a sheared zone.
274 - 327'	<pre>- Pyroxenite, coarse-grained, (bronzitite phase).</pre>
327 - 331'	<pre>- Pyroxenite, fine-grained, (bronzitite phase).</pre>
331 - 450'	<pre>- Pyroxenite, coarse-grained, (bronzitite phase).</pre>

End Of Hole

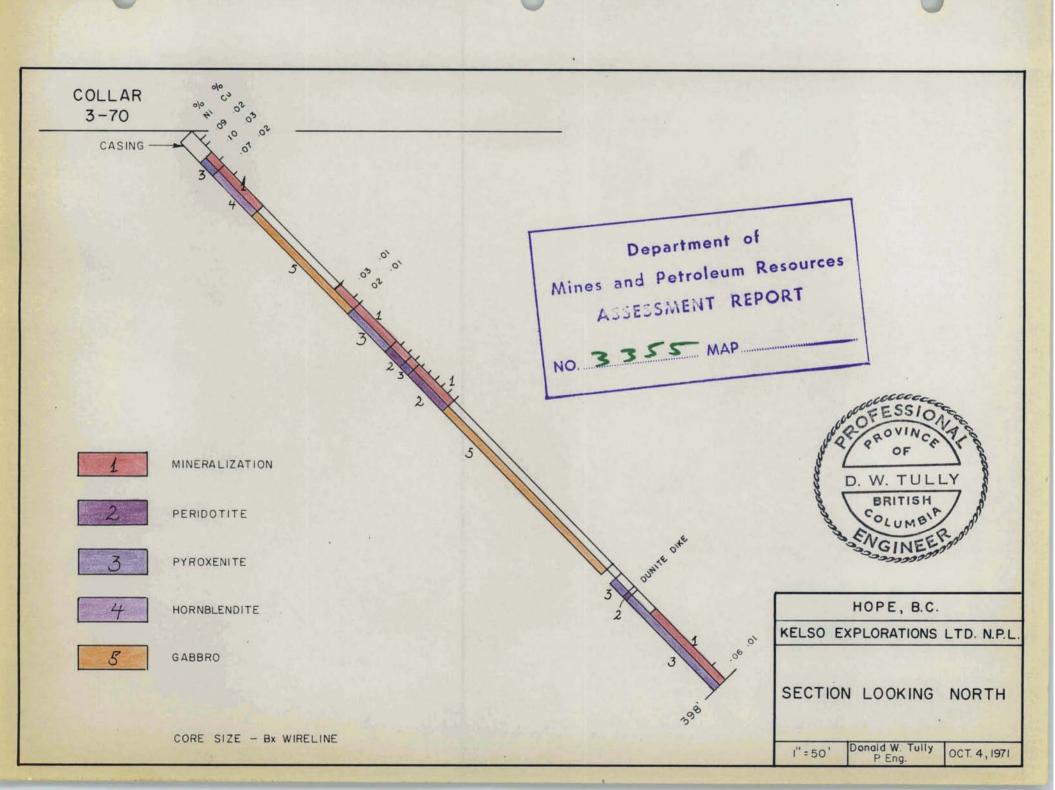
COLLAR 2-70 CASING Department of Mines and Petroleum Resources ASSESSMENT REPORT NO. 3355 MAP MINERALIZATION PERIDOTITE D. W. TULLY PYROXENITE HOPE, B.C. KELSO EXPLORATIONS LTD. N.P.L. SECTION LOOKING NORTH CORE SIZE - Bx WIRELINE DONALD W. TULLY P. Eng. OCT. 4, 1971 1" = 50"

KELSO EXPLORATIONS LTD. 470 Granville Street Vancouver 2, B.C.

D.D. Hole N	lo:	3-70	Date started:	November <u>18</u> , 1970
Dip	:	Minus 45 degrees	Date completed:	November 30, 1970
Direction	:	East	Drilled by:	Kendrick Drilling Vancouver, B.C.
Depth	:	398 feet		vancoaver, b.o.
Location	:	Claim Swede 42	Hole log by:	Donald W. Tully, P. Eng.
		Line 920 N 50 W	Core Size	Bx wireline

Footage	Description	Sample No.	Sampl Width		%Cu
0 - 15'	- Casing reported.				
0 - 6'	- No core.				
6 - 10'	 Pyroxenite, medium grained, disseminated fine pyrite and pyrrhotite. 	25976	4'	0.09	0.02
10 - 20'	- As above with 3 mm. pyrrhotite bleb at 13'.	25 977	10'	.10	.03
20 - 23	- As above.				
23 - 28'	- Hornblendite, dark grey to black with grey metacrysts? Very blocky, sparse mineral (2' ground core).				
28 - 30'	 As above, grey quartz veining, rusty and blocky. 				
(20 - 30')	- One sample.	25978	10'	.07	.02
30 - 43'	- As above, sparse pyrite, blocky and rusty to 34 feet.				
43 - 53'	 As above with increase in grey meta- crysts?, sparse disseminated pyrite and pyrrhotite. 				
53 - 110'	- Grading to gabbro, very sparse pyrite, fine quartz veinlets between 85-93'.			* * * * * * * * * * * * * * * * * * *	
110 - 120'	 Gabbro, with abundant hornblende disse- minated pyrite, sparse pyrrhotite and chalcopyrite. 	25979	10'	.03	.01

Footage	Description	Sample No.	Sample <u>Width</u>	Ass <u>%Ni</u>	ay %Cu
120 - 124*	Gabbro, with abundant hornblende disseminated pyrite, sparse pyrrhotite and chalcopyrite.	25980	7.1	02	
	charcopy: ree.	23980	41	.02	.01
124 - 152'	Pyroxenite, medium grained, sparse pyrite blebs.				
152 - 162'	- Peridotite dike, fine-grained with dunite zones.			:	
162 - 168' -	Pyroxenite				
168 - 182' -	Peridotite, fine disseminated pyrite and fine seams with traces chalcopyrite at 182' and 187'; also quartz stringers very blocky 178-182'.	, '			
(155-160)	- Sample	25982	5.01	Tr	Tr
(160-170)	- Sample	25 983	10.0	.01	Tr
(170-180)	· Sample	25984	10.0	.01	.01
(180-190)	· Sample	25985	10.0'	.01	.01
(190-195)	· Sample	25986	5.0	Tr	Tr
182 - 195' -	Peridotite - dunite, disseminated sparse pyrrhotite and pyrite.				
*195-230' -	Gabbro, altered with sparse pyrite and pyrrhotite.				
*230 - 231' -	Gabbro with disseminated pyrite in inclusion area.	25987	1.0'	.01	.02
*231 - 255' -	Gabbro with scattered pyrite grains.				
255 - 312' -	Gabbro-peridotite and fine grains pyrite	2.			
312 - 319 -	Garnetiferous inclusion.				
319 - 329' -	Phase of pyroxenite.	•			
329 - 330' -	Dunite dyke.				
330 - 346' -	Phase of pyroxenite.				
346 - 388' -	Pyroxenite, coarse grained with sparse grains of pyrrhotite.				
388 - 398' -	As above.	25981	10.0'	0.06'	0.01'



Kelso Emplorations Ltd., 411 - 470 Granville Street, Vancouver, B.C.

Lab No. 678G:

Geochemical analysis for copper, zinc and nickel

Mesh Size:

- 80

Analytical Method: Digestion Method:

Atomic Absorption HC10₄ + HNO₃

Sample Marked:	Copper	Zinc	Nickel ppm	Sample Marked:	Copper	Zinc	N cke
1000	35	83	62	1025	29	69	6 0
1001	29	87	67	1026	24	85	50
1002	25	100	72	1027	19	56	46
1003	26	'9 0	70	1028	34	73	70
1004	28	225	73	1029	24	31	88
1005	50	85	65	1030	29	46	76
1006	. 33	98	65	1031	41	9 0	75
1007	47	78	100	1032	43	1.15	60
1008	31	114	78	1033	35	140	54
1009	108	107	107	1034	68	118	58
1010	35	98	71	1035	27	82	58
1011	28	140	92	1036	30	92	67
1012	26	103	68	1037	26	83	6 0
1013	37	64	57	1038	23	99	52
1014	35	108	78	1039	41	128	63
1015	57	120	360	1040	23	108	57
1016	26	98	122	1041	26	91	62
1017	35	160	50	1042	25	16 0	55
1018	28	108	77	1043	27	90	43
1019	23	79	65	1044	31	91	53
1020	30	80	66	1100	48	128	42
1021	24	ង ់	62	1101	67	360	54
1922	31	61	108	1102	97	425	41
1023	20	77	87	1103	85	157	700
1024	41	73	73	1104	62	148	235

Helso Exploration Ltd., Leb No. 678G Sept. 10, 1971 Page 2 ...

Sample Marked:	Copper	3 M c	Nickel ppm
1105	60	275	385
1106	86	140	135
1107	87	300	100
1108	47	93	63
1109	26	142	80
1110	43	96	72
1111	57	275	65

Yours truly,

CREST LABORATORIES (B.C.) LTD.,

() F.C. Burgess

Chief Assayer

CREST LABOF TORIES LTD.

7911 ARGYLL ROAD

EDMONTON 82. ALBERTA PHONE 469-2391

CREST LABORATURIES (B.C.) LTD. 1066 HOMER STREET

VANCOUVER 3. B.C. PHONE 688-8586

CERTIFICATE OF ASSAY

Kelso Explorations Ltd.

411 - 470 Granville Street

December 14, 1970

Lab. No. 2089

Vancouver, B.C.

I hereby certify that the following are the results of assays made by us upon the herein described samples.

MARKED	CVADEB	MT/WUT	MARKED			MARKED		
	PERCENT	NICKEL PERCENT		PERCENT	PERCENT		PERCENT	PERCENT
25982c	Trace	Trace						
25963c	Trace	0.01						
2 5984c	0.01	0.01						
25 985 c	0.01	0.01						
2 5986c	Trace	Trace						
259 87 c	0.02	0.01						
				international designation of the second seco				

NOTE:

Rejects Retained One Month **Pulps Retained Three Months** Unless Otherwise Arranged.

Registered Assayer; Province of British Columbia

CREST LABORATOR ES (B.C.) LTD.

1068 HOMER STREET VANCOUVER 3, B.C. PHONE 688-8586 CREST LABORATORIES LTD.

7911 ARGYLL ROAD
EDMONTON 82, ALBERTA
PHONE 469-2391

CERTIFICATE OF ASSAY

то	Kelso sxplorations Ltd.			December 3, 1970
	411 - 470 Gravaille Stree			Lab No. 2044

VANCOUVER, B.C.

I hereby tertify that the following are the results of assays made by us upon the herein described samples.

MARKED	COPPER	HICKEL	MARKED			MARKED		1.00
	PERCENT	PERCENT		PERCENT	PERCENT		PERCENT	PERCENT
				: :1				
25976 C	0.02	0.09						
25977 C	9.03	0.1						
25978 C	0.02	0.07						
25979 C	0.01	0.03						
25980 C	0.01	0.02						
25981 C	0.01	9.06						
							, 19 11 - 10 -	
					- 1 1 1			

NOTE: Rejects Retained One Month Pulps Retained Three Months Unless Otherwise Arranged.

che Buggess

Registered Assayer; Province of British Columbia

CREST LABOF TORIES LTD.

EDMONTON 82. ALBERTA PHONE 469-2391

CREST LABORATURIES (B.C.) LTD. VANCOUVER 3, B.C. PHONE 688-6586

CERTIFICATE OF ASSAY

Kelso Explorations Ltd.

411 - 470 Granville Street

November 15, 1970

Lab. No. 1972

Vancouver, B.C.

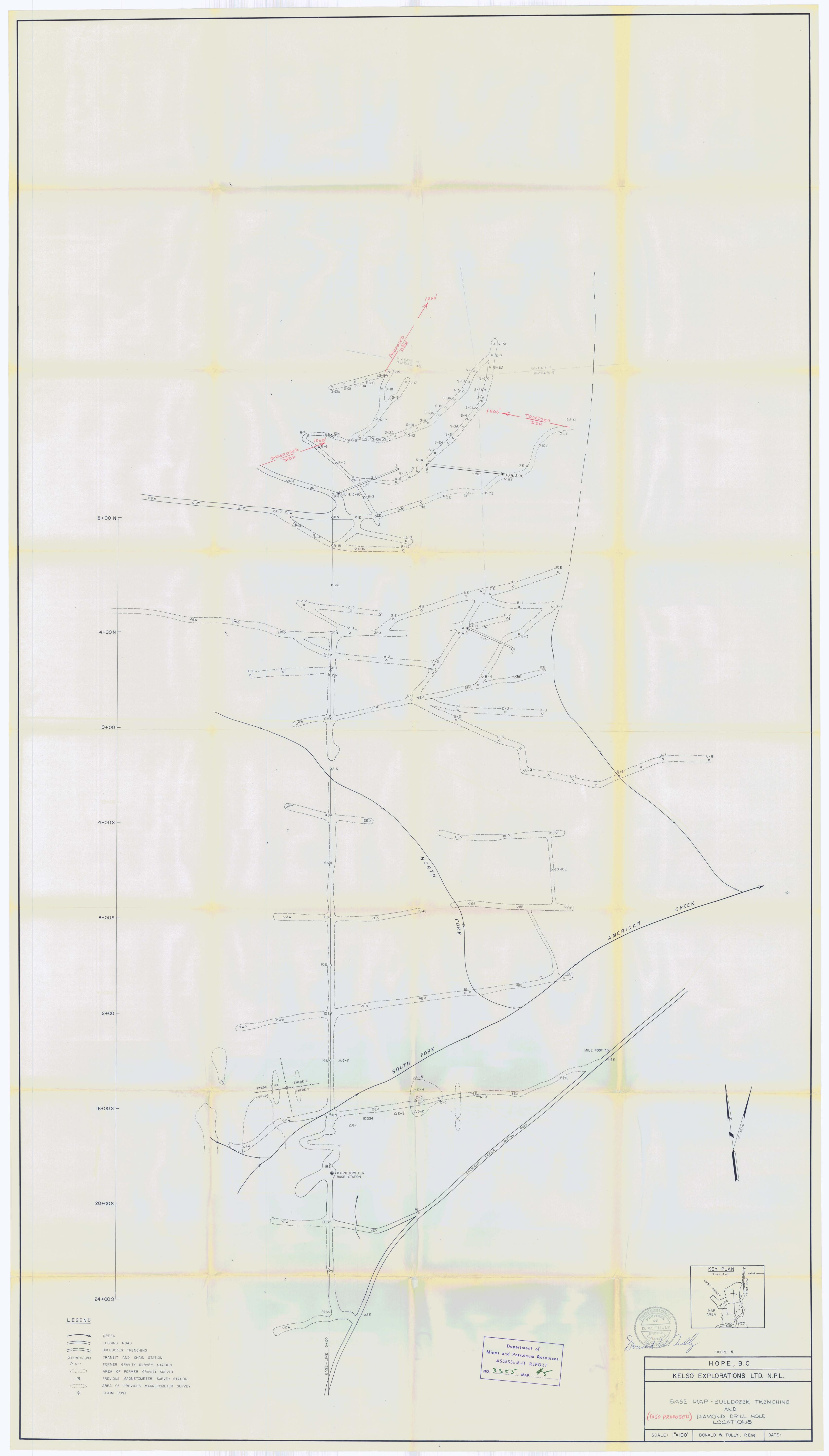
I hereby tertify that the following are the results of assays made by us upon the herein described samples.

MARKED	COPPER	NICKEL	MARKED			MARKED		
and Mark Matter Advances and the control of the control of the Mark of the Control of the Contro	PERCENT	PERCENT		PERCENT	PERCENT		PERCENT	PERCENT
26001c		0.01						
26002c		0.01						
26003c		0.01						
26004c	0.01	0.01						* * * * * * * * * * * * * * * * * * * *
26005c	0.01	0.02						
26006c	Trace	0.01						
26007c	0.01	0.01						
26008c	0.02	0.01						
26009c	Trace	Trace						
26010c		0.01						

NOTE:

Rejects Retained One Month Pulps Retained Three Months Unless Otherwise Arranged.

Registered Assayer; Province of British Columbia







Diagrammatic Cross-Section along line A-B PRELIMINARY SERIES LEGEND PLEISTOCENE AND RECENT Glacial, glaciofluvial and fluvial gravel, sand and clay, talus and slope-MIOCENE AND EARLIER 24 Granodiorite, quartz diorite COQUIHALLA GROUP 23 Basalt, rhyolite, tuff, agglomerate, diorite 22 SKAGIT FORMATION: andesite, tuff, agglomerate CRETACEOUS AND/OR TERTIARY EOCENE AND PALEOCENE OR UPPERMOST CRETACEOUS 21 Conglomerate, sandstone EARLY TERTIARY AND/OR LATE CRETACEOUS 20 Foliated granodiorite, quartz diorite UPPER CRETACEOUS OR (?) OLDER 19 Quartz diorite LOWER CRETACEOUS
KINGSVALE GROUP 18 Basalt, andesite, agglomerate, tuff PASAYTEN GROUP 17 Sandstone, conglomerate, pelite JACKASS MOUNTAIN GROUP 16a, sandstone, pelite and conglomerate; 16b, sandstone, minor 16 conglomerate 15 BROKENBACK HILL FORMATION: tuff, agglomerate, sandstone, pelite 14 PENINSULA FORMATION: sandstone, conglomerate JURASSIC AND/OR LOWER CRETACEOUS 13 Foliated granodiorite UPPER JURASSIC
DEWDNEY CREEK GROUP 12 12a, sandstone, pelite; 12b, tuff, pelite 11 AGASSIZ PRAIRIE FORMATION: pelite, minor sandstone, tuff, lime-stone 10 KENT FORMATION: conglomerate KELSO-MIDDLE JURASSIC 9 BILLHOOK CREEK FORMATION: tuff, sandstone 8 MYSTERIOUS CREEK FORMATION: pelite ECHO ISLAND FORMATION: tuff, minor agglomerate, sandstone, HARRISON LAKE FORMATION: intermediate to acidic flow and pyro-LOWER AND MIDDLE JURASSIC LADNER GROUP 5 Pelite, volcanic sandstone TRIASSIC AND JURASSIC UPPER TRIASSIC, LOWER AND UPPER JURASSIC 4 CULTUS FORMATION: pelite, sandstone UPPER TRIASSIC NICOLA GROUP 3 Porphyritic andesite and basalt PENNSYLVANIAN AND PERMIAN CHILLIWACK GROUP 2, basic volcanic rocks and pelites; 29, pelite, siltstone, sandstone; 2b, Lower Pennsylvanian limestone; 2c, pelite, sandstone, conglomerate; 2d, Lower Permian limestone; 2e, basic volcanic flows, intermediate to acidic tuff and agglomerate DEVONIAN(?), CARBONIFEROUS(?) AND PERMIAN(?) HOZAMEEN GROUP l, pelite, chert, basic volcanic rock, minor limestone; la, chert, basic volcanic rock; 1b, basic volcanic rock; 1c, chert, pelite; 1d, basic volcanic rock, chert, pelite; le, limestone ULTRAMAFIC ROCK A Aa, serpentinite, serpentinized peridotite; includes some Upper Paleozoic volcanic rocks in broad belt northeast of Hope; Ab. pyroxenite; Ac, hornblendite SCHIST, AMPHIBOLITE AND PHYLLITE Ba, graphitic and quartzose phyllite; Bb, schist, amphibolite; Bc, migmatitic equivalent of Bb; Bd, amphibolite, hornblendite, quartz diorite; in southwestern part of map-area between Welch Peak and Slesse Mountain these rocks are complexly imbricated with Upper Paleozoic rocks and the area shown as Bd includes both

Published 1970, Revised 1970

Geological boundary (defined — approximate, assumed)

Bedding (horizontal, inclined, vertical)

Schistosity, gneissossity, foliation in granitic rocks
(inclined, vertical)

Zone of imbricated Paleozoic and Mesozoic rocks

Fault (defined or approximate, assumed)

Fault (solid circle indicates downthrow side).

Thrust fault (teeth on upper plate; defined or approximate, assumed)

Antiform

Synform

Antiform or synform (arrow indicates plunge)

Fossil locality

Locality where age has been determined in millions of years

Determination by Geological Survey of Canada

Determination by University of British Columbia

Determination by Bradsgaard, Folinsbee, Lipson, 1961

Mineral occurrence (number refers to property listed in text). 5 ×

Geological compilation by J.W.H. Monger, 1969

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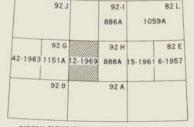
24

Geological cartography by the Geological Survey of Canada, 1969

Magnetic declination 1969 varies from 22°32' easterly at centre of west edge to 22°23' easterly at centre of east edge. Mean annual change, decreasing 2.9'

Base-map at the same scale compiled and drawn by the Surveys and Mapping Branch, 1957

Elevations in feet above mean sea-level



NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS



Copies of the topographical edition of this map may be obtained from the Map Distribution Office, Department of Energy, Mines and Resources, Ottawa.

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C GNEISS

(West Half)
BRITISH COLUMBIA

Scale 1:250,000

Miles 4 0 4 8 12 Miles

Kilometres 6 0 6 12 18 Kilometres

Any revisions or additional information known to the user would be welcome by the Geological Survey of Canada.

MAP 12-1969 PAPER 69-47 GEOLOGY

HOPE

Department of

Mines and Petroleum Resources

ASSESSMENT REPORT

FIGURE 2

NO. 5355 MAP #2



HOPE BRITISH COLUMBIA



