

180-#345-#

INTERIM SURFACE
DIAMOND DRILLING
PROJECT REPORT

1979-1980 DIAMOND DRILLING PROGRAM
SOUTH EMERALD TUNGSTEN AREA

ON
CROWN GRANTED CLAIMS OF
CANEX PLACER LTD.

NELSON MINING DIVISION
BRITISH COLUMBIA, CANADA

BY

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FOR

MENTOR EXPLORATION AND
DEVELOPMENT CO. LTD.
St. 300 365 Bay St.,
Toronto, Ont. M5H 2V1

LOCATION

49° 7' North Latitude
117° 15' West Longitude
N.T.S. Ref. Salmo 82F/3

February 25, 1980

MINERAL RESOURCES BRANCH ASSESSMENT REPORT 8132 NO. _____

1979-1980 DIAMOND DRILLING PROGRAM

SOUTH EMERALD TUNGSTEN AREA

M.D. Kierans

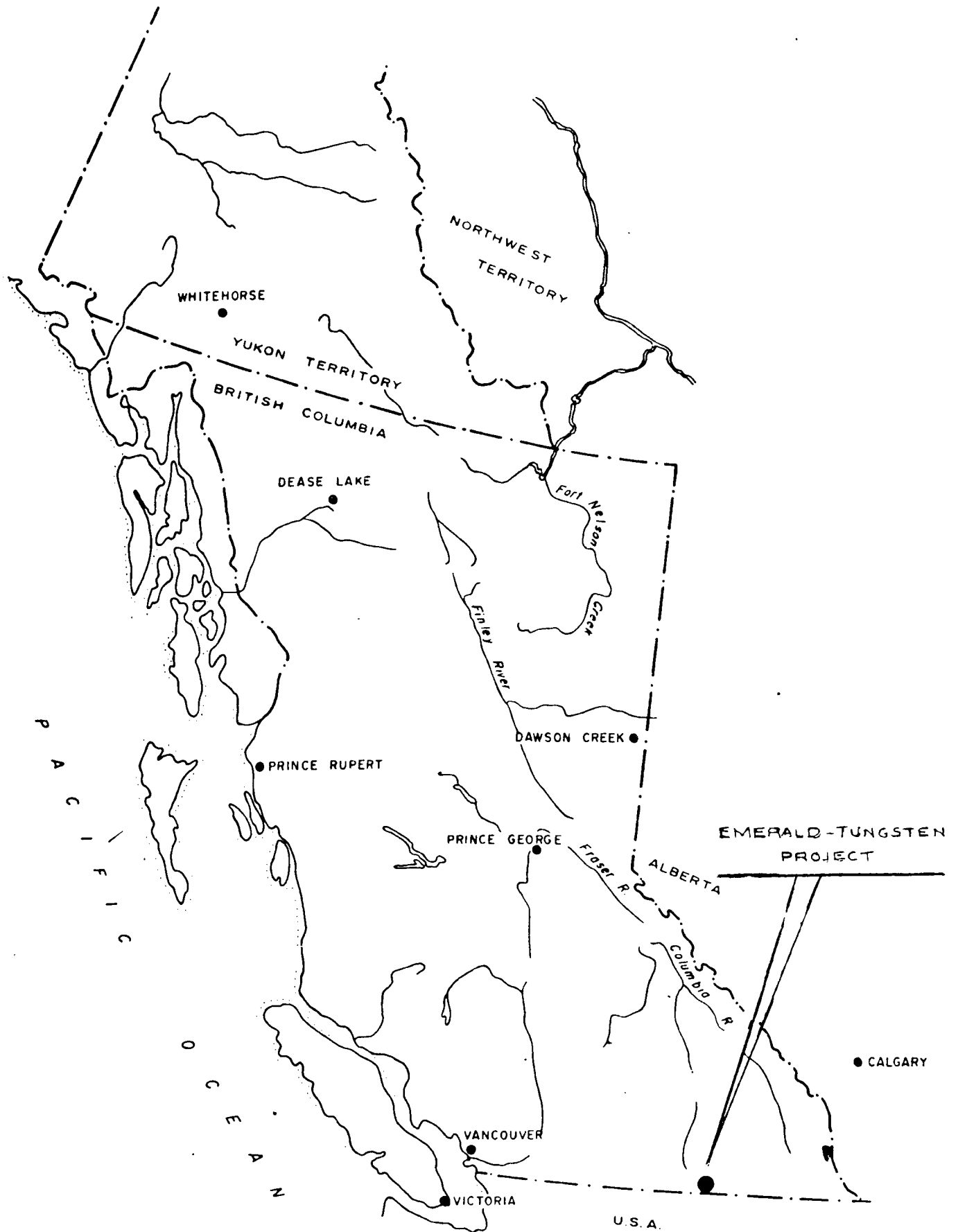
February 1980

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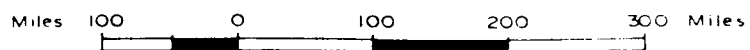
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1	Location Map	1:9,000.000	
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3	Diamond Drill Hole and Surface Geology Plan	1:4800	in pocket
4	Diamond Drill Hole and Surface Geology Plan	1:2400	"
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8	Photocopy page 118 of "Canadian Ore Deposits" Special Vol. CIM		



LOCATION MAP

SCALE: 1" = 140 MILES APPROX



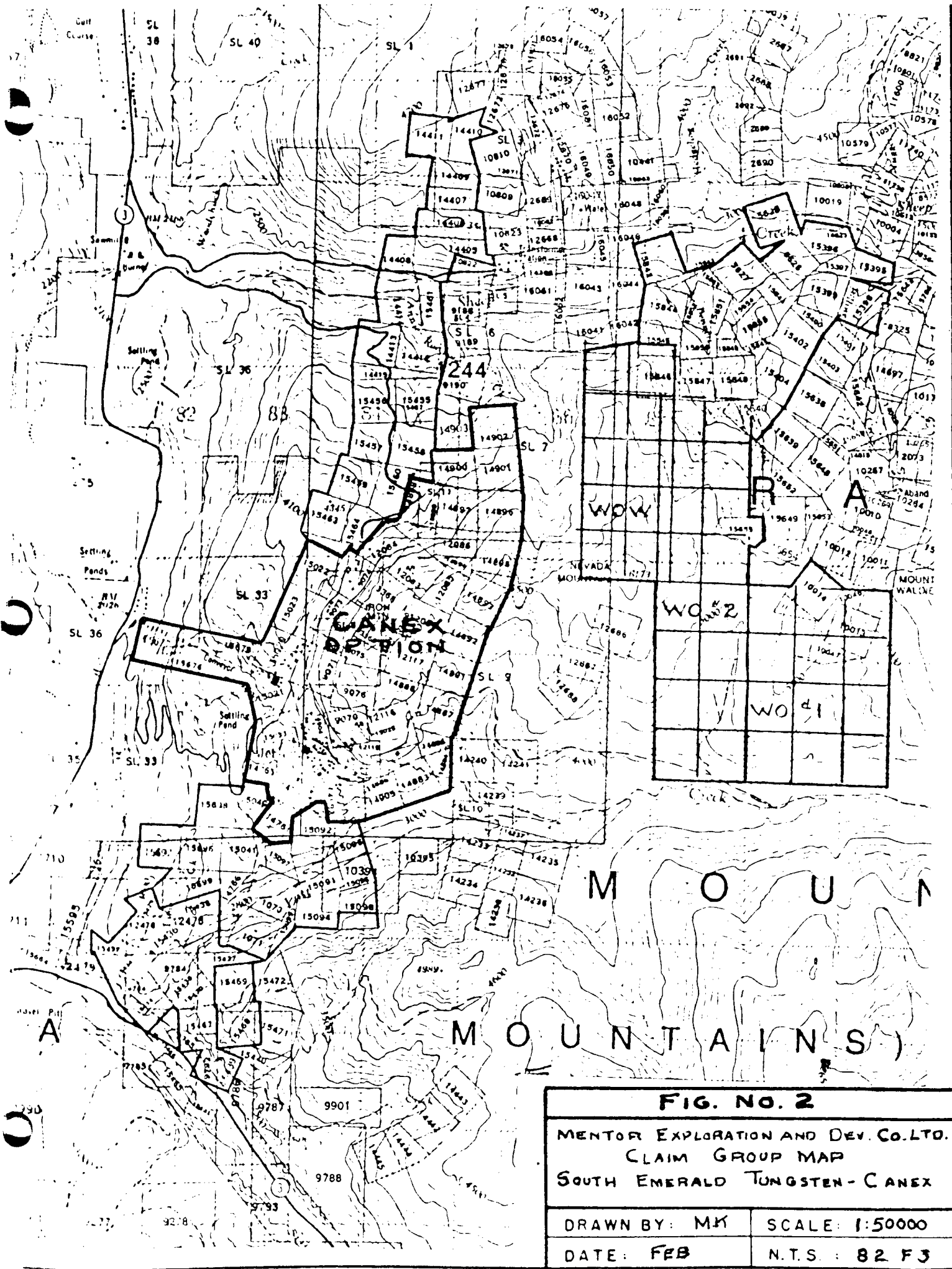


FIG. NO. 2

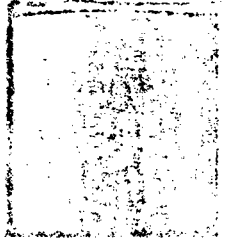
MENTOR EXPLORATION AND DEV. CO. LTD.
 CLAIM GROUP MAP
 SOUTH EMERALD TUNGSTEN-CANEX

DRAWN BY: MK

SCALE: 1:50000

DATE: FEB

N.T.S.: 82 F3



Names of Clans	Record files	Anniversary Date
Black Rock #11 Fr.-12 Fr.	608-609	May
Black Rock #14 Fr.	610	May
Black Rock #10 Fr.	611	May
Black Rock #15 Fr.-17	612-614	May
Black Rock #5-7	615-617	May
Black Rock Fr.	618	May
Black Rock #1-4	619-622	May
Black Rock #8-9 Fr.	623-624	May
Black Rock #13 Fr.-21 Fr.	625-628	May



INTERIM REPORT 1979-1980 DIAMOND DRILLING
PROGRAM SOUTH EMERALD TUNGSTEN AREA

M.D. Kierans

February, 1980

INTRODUCTION

The purpose of this report is to present the results of the first two holes of an on-going surface diamond drilling program on the southern extension of the Emerald-Feeney Tungsten ore deposit on Iron Mountain 8 miles south of Salmo, B.C. in the Nelson Mining Division. The writer has directed the project in the field since December 13, 1979. Prior to that D. Wilmot of Kelowna, B.C. directed the field work. Most of the core was logged by Wilmot. The project has been under the direction of Campbell Fox P.Eng. (Ont.) of Brighton, Ontario. Drilling of M-1 started September 17, 1979 and completion of M-2 was on January 18, 1980.

SUMMARY

This is an interim report on the on-going diamond drilling project by Mentor Exploration and Development Co. Ltd. on the South extension of the Emerald Tungsten zone on Iron Mountain, 7 miles south of Salmo, B.C. Two drill holes totaling 3,251 feet and costing \$49,021.40, in direct drilling costs, were drilled between September 17, 1979 and January 18, 1980.

Tungsten ore at the Emerald mine of Canex Placer Ltd. was controlled by a "trough" formed at the junction of a limestone-argillite contact with a limestone-granite surface. Drilling results to date have not found significant amounts of tungsten mineralization but the writers interpretation, based on cross sections of the two drill holes, indicates that the trough axis lies to the east of the two drill holes.

LOCATION AND ACCESS

Figures 1 and 2 show the location of Canex Placer's Crown granted claims. Access to the drill sites is by good all weather gravel road from the Salmo - Nelway Highway. This 7 mile road has been kept open by snow plowing since November 1979. Figure 3 and Figure 4 show the location of the two surface drill Holes M-1 and M-2.

OWNERSHIP OF CLAIMS

Hole M-1 was drilled on Crown-granted Lot 14881 and Hole M-2 was drilled on Crown-granted Lot 14763. Both belong to the Crown-granted claims held by Canex Placer Ltd. of Vancouver, B.C. which have been optioned to Mentor Exploration and Development Co. Ltd. of Suite 300, 365 Bay St. Toronto, Ont.

HISTORY

"Scheelite - bearing tungsten ore was found in 1942 by H. Lakes in an old adit and open cuts at the north end of the Emerald tungsten ore body "(1) After a brief period of operation

by the Federal Government the mine was purchased in 1947 by Canadian Exploration Ltd. The Federal government repurchased the Emerald Mine in 1951 and built a new concentrator. The mine and mill were sold back to Canadian Exploration Ltd. in 1952. The mine and mill were shut down about 1957.

REGIONAL GEOLOGY

The host rock for tungsten mineralization is the Laib formation of Lower Cambrian age. The Liab is overlain by black argillite and underlain by Reno quartzite of Pre-cambrian age. Structure is complex with important overturning of beds on tilted folds.

The Emerald stock of granite cuts the sediments. It outcrops along east side of the Emerald tungsten mine. The shape of the elongated Emerald stock is believed to be controlled by pre-granite faulting and folding. (1)

TUNGSTEN ORE BODIES

"The known tungsten ore bodies on Iron Mountain occur as quartz and pyrrhotite-rich contact replacements of east dipping limestone or limy beds, underlain by fractured competent argillites, and truncated by west dipping granite surfaces." (1)
The junction of the limestone-argillite contact with the limestone granite surface is termed a "trough". The location of the axis of this trough is very important because it defines

the depth limit of previously located tungsten mineralization and will almost certainly control the location of tungsten ore as yet unfound. Two such troughs are known, the Emerald-Feeney and the Dodger.

EMERALD-FEENEY ORE ZONE

This drilling project is concerned only with the southern extension of the Emerald zone. The former Feeney mine is to the north of the former Emerald mine and separated by a barren 800' width of the Emerald granite stock.

The Emerald trough plunges to the south. It is complicated by cross-dikes of granite and faulting. "The Emerald zone has been mined and developed over a 3000 - foot strike length. The ore bodies are up to thirty feet thick and fifty feet wide in the bottom of the trough and extended in tapering widths for a maximum of 230 feet up either limb. "(1) (see Figure 8). Average mining grade was about one percent WO_3 with some intersections as high as 22% WO_3 .

SOUTH EMERALD TUNGSTEN AREA

This drill project was based on a plan and set of cross sections of the area to the south of the mined Tungsten ore body, prepared in August 1977 by C.C. Rennie a former geologist at the Emerald Tungsten Mine. Holes M-1 and M-2, about 500' apart, were spotted on the axial trend of the trough at N35E

as interpreted by Rennie on his plan and sections. See figure 3 for the location of the axial trough as interpreted by Rennie from a number of surface drill holed put down by Canex - as well as surface geological mapping by J.T. Fyles (2) of the B.C.D.M.

DRILL PROGRAM (1979-1980)

The two surface drill holes were long holes directed at relatively small targets. Drill hole deflection in the past has been extreme and unless allowance is made in advance for deflection holes will not come near the target. In this program a drilling device called a "Mini-Dev" was used and Tropari-tests have shown deflection has been much less than in previous drilling by Canex.

The drill program to date has been at a slower rate than anticipated because of winter conditions and (for M-1 and M-2) water supply freezing and mechanical problems. Water was found in M-2 and is now being used for subsequent holes. The contract for a minimum of 4000' of BQ was let to Kootenay Exploration Drilling Contracting Company Ltd. of P.O. Box 519, Rossland B.C. The machine used is a large Boyles skid-mounted surface drill with folding tower. Survey for the hole locations was by D. Wilmot using transit-stadia control from known survey points. Some road construction

.....

and the drill set-ups were made by a TD-15 tractor with blade. Core was logged by D. Wilmot and the writer at the old core shack of the H.B. Mine of Cominco. All core was tested with a flourescent lamp and split before being sent for assay. The core boxes for M-1 and M-2 are stored in a pile at the H.B. Mine near the core shack.

DISCUSSION OF RESULTS

It should be emphasized that this is an interim report and that later, after completion of the project, a more complete and more carefully prepared presentation of the results will be made. The figures showing M-1 and M-2 are reductions of field working maps and sections used by the writer as temporary field drawings. When the final report is prepared the interpretation of results to date may be altered.

Figures 5, 6 and 7 indicate, in the writers opinion, that the all important trough lies about 200' east of M-1 and about 300' east of M-2.

Mineralization in M-1 may be significant in that the small amount of 20% pyrrhotite at the granite limestone contact could represent the western side of the trough. No significant mineralization was cut in M-2 except that some massive pyrrhotite was cut not very far from the limestone-argillite contact.

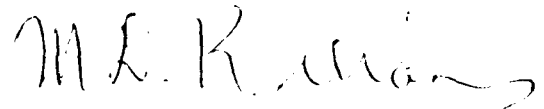
The fold patterns shown in Figures 6 and 7 are deduced from

contacts and core angle of bedding.

DRILLING COSTS

The total of 3,251 feet drilled in M-1 and M-2 in direct drilling costs amounted to \$49,021.40 (see statement appended)

Respectfully submitted

A handwritten signature in cursive script, appearing to read "M.D. Kierans".

M.D. Kierans, P.Eng.

C E R T I F I C A T E

I, Martin D. Kierans of the City of Vancouver in the Province of British Columbia, Hereby certify that:

1. I am a Professional Geological Engineer employed by Merv Engineering Corporation of 335-885 Dunsmuir St., Vancouver, B.C.
2. I am a Resident Member of the Association of Professional Engineers of the Province of B.C.
3. I am a graduate in Geological Sciences of the University of British Columbia, (M.A. 1952) and McGill University (B.Sc. 1949).
4. I have practiced my profession as Geological Engineer and Mine and Exploration Geologist for twenty-eight years.
5. My knowledge of the drilling program is based on logging of part of M-2 core, study of government reports and Canex Placer maps and sections as well as miscellaneous reports and maps of surface exploration on the Tungsten King and Truman Groups to the south of Emerald Tungsten.
6. I have no direct or indirect interest in either the property or securities of Mentor Exploration and Development Co. Ltd. ^{nor} do I expect to receive any such interest.

Dated this 25th. day of February, 1980 at Vancouver, B.C.



M.D. Kierans, P.Eng.
Geological Engineer

BIBLIOGRAPHY

- (1) C.C. Rennie and T.S. Smith "Lead-Zinc and Tungsten Orebodies of Canadian Exploration Limited, Salmo, B.C. (1957) CIM special Volume "Canadian Ore Deposits"
- (2) J.T. Fyles and C.G. Hewlett, Bulletin (1956) B.C. Department of Mines, "Lead-Zinc Deposits of Salmo Map Area B.C."
- (3) Walker J.F. "Geology and Mineral Deposits of Salmo Map-Area B.C. (1934) G.S.C. Mem. 172.
- (4) Ball C.W. "The Emerald, Feeney and Dodger Tungsten Ore Bodies, Salmo, B.C. Canada" Economic Geology Vol. 49, No. 5 pp 635-638
- (5) Wishaw Q.G. "The Jersey Lead-Zinc Deposit, Salmo, B.C. Econ. Geol. vol. 49 No. 5 pp 521-529

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. M-1
 SHEET NUMBER 1 SECTION FROM _____ TO _____ STARTED Sept. 17/79
 LATITUDE 3199.55 ~~XXXX~~ Section 3350 COMPLETED Oct. 24/79
 DEPARTURE 5798.96 BEARING _____ ULTIMATE DEPTH 1610
 ELEVATION 3831.48 DIP -90° PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES		
						TROPARI (FEET) DEPTH	TESTS INCLINATION	TESTS MAG. B'RING AZ.
0-15'	Casing							
15-402	Argillite (Truman Formation)					200'	86°	355
	From 15-18.0' brown, fractured surface oxidization					400'	84°	004
	From 18.0-48.5' Grey, sheared, micaceous sparce					600'	82°	004
	pyrrhotite - calcite					800'	82°	007.5
	on slips and narrow fractures.					1000'	81°	358
	From 48.5-50.0 Altered zone - Serpentine					1200'	82°	007
	From 50.0-60.0 white silicified zone with actinolite, tremolite, calcite					1400'	82°	357
	and some vein quartz and minor pyrite					1610	81°	002.5

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 2 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	From 60.0-11.0 light brown and banded, silicified, skarney argillite. 1-2% pyrite-pyrrhotite throughout.								
	From 71-74.5 black micaceous arg. From 74.5 to 80.0 green skarney arg. banded 1-2% Py-Po.								
	From 80.0-137.0 grey, micaceous, slightly sheared, slips and shears locally serpentized scattered calcite stringers. Biotite band from 126.5-128.5								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
15.0-402	Argillite (cont'd.)								
	From 137.0-138.5 shear zone								
	recemented with								
	calcite								
	From 138.5-142.0 grey, micaceous								
	foliation @ 45 ⁰ to								
	fore								
	From 142.0-147.2 light grey to								
	milky white								
	siliceous, micaceous.								
	From 147.2-148.3 white qtz. vein								
	irregular contact								
	From 148.3-161.0 dark grey,								
	micaceous. calcite								
	coating on slips								
	and fractures								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No.
 SHEET NUMBER 4 SECTION FROM TO STARTED
 LATITUDE DATUM COMPLETED
 DEPARTURE BEARING ULTIMATE DEPTH
 ELEVATION DIP PROPOSED DEPTH

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	From 161.0-163.5 shatter zone with fault gouge and breccia, calcite coating on slips								
	From 163.5-180.0 grey, micaceous slips and fractures coated with calcite								
	From 180.0-185.0 mottled light green and grey skarney arg.								
	From 185.0-197.0 similar to above but with garnetiferous light brown skarn.								
	1-2% Po-Py @ 196' drag folding								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 5 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
15.0-402	Argillite (cont'd.) From 197.0-225 siliceous fine grained pale green and grey skarney arg. @ 219' - 6" vein qtz. irregular wall								
	From 225-245 As above but with 25% dark grey micaceous beds.								
	From 245-259 prominent banding @ 20° to eere. siliceous and micaceous.								
	From 259-266 light grey to white banded calcareous arg.								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 6 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	From 266-272 grey banded micaceous								
	arg. calcite on								
	slips. Fractures								
	50° to core								
	From 272-290 fractured, light								
	green skarny arg.								
	50% white intrusive								
	quartz from								
	275 to 278'								
	From 290-323 dark grey micaceous								
	arg. with 20% green								
	skarny bands 3" vein								
	qtz. @ 297' -								
	irregular contact								
	narrow (3-6")								
	irregular qtz.								
	intrusives at								
	311', 314' & 318'								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No.
 SHEET NUMBER 7 SECTION FROM TO STARTED
 LATITUDE DATUM COMPLETED
 DEPARTURE BEARING ULTIMATE DEPTH
 ELEVATION DIP PROPOSED DEPTH

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
15.0-402	Argillite (cont'd.)								
	From 323-345 Siliceous light grey								
	well banded arg.								
	micaceous with								
	calcite in fractures								
	and slip planes.								
	@ 320' banding								
	@ 30° to core								
	@ 340' banding								
	@ 40° to core								
	From 345-341 Fine grained								
	siliceous decreasing								
	mica.								
	From 341-352 light green and								
	brown, limey								
	garnetiferous arg.								
	banding not well								
	developed.								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 8 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	From 352-360 Limey, garnetiferous arg. with bands of white tremolite								
	From 360-371 Thin-banded limey arg. banding at 45° to core								
	From 371-383 light green skarney arg. @ 382' open vugs partly filled with calcite.								
	From 383-402 Limey, garnetiferous skarn with irregular bands and blebs of white tremolite.								
402-403	Lamprophyre dike - green, irregular walls								
403-411	Limestone - grey, crystalline, some banding at 45° to core.								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 9 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
411-412.3	Lamprophyre dike - dark green with calcite phenocrysts.								
412.3-458	Limestone - grey crystalline fine banding 50° to core								
458-470	Limestone with included light green & brown skarny arg.								
470-502	Limestone - light grey banded @ 470 - 12" fractured with qtz. filling green.								
502-542	Argillite - banded light green garnetiferous arg. some included limestone & calcite stringers.								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 10 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	Lamprophyre dike from 526.0-526.7								
	contact @ 70° to core								
	Lamprophyre dike from 528.5-529.2								
	contact @ 60° to core								
542-585	Limestone - massive, grey, crystalline								
585-599	Banded, green skarney limestone with scattered pink garnets.								
599-622	Banded green silicified argillite with 10% interbedded limestone banding 45° to core.								
622-642	As above but with less time and increasing biotite - sparce Po in micaceous bands. Banding @ 45° to core.								
642-663	Limey, garnetiferous skarn. Mottled light green and brown.								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 11 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
662-675	Argillite - silicified, banded, light green and black. Some limey garnetiferous bands.								
675-725	Limestone - white, garnetiferous some interbedded micaceous argillite. Small drag folds with calcite on slips and fracture planes.								
725-768.5	Argillite - black, fine banded, micaceous 4" qtz. stringer @ 429' minor lime								
768.5-770.3	Quartz vein - irregular walls some included micaceous argillite								
770.3-837.0	Argillite - fine banded, grey micaceous banding at 40° to core 1" qtz. stringers at 792 & 794' 5" qtz. stringer at 799' Interbedded Quartzite from								
805-805.5									

NORTHERN MINER FORM 505 REV/54

DRILLED BY _____

SIGNED _____

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 12 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	from 806.5-807.7 and								
	from 816.5-817.0 one speck of MoS ₂								
837-422	Argillite - black, siliceous, cherty with irregular stringers of injected qtz.								
	bedded Quartzite from 847.0-849.7								
	from 857-869 - Zone of fracturing and siliceous alteration. Green banded with qtz. filled fractures.								
	From 865 to 869 - 40% quartz with few flakes of MoS ₂								
	From 869-922 micaceous, banded, siliceous arg. banding @ 40° to core								
922-938	Argillite - light epidote green mottled arg. with bands and irregular inclusions of dark micaceous argillite.								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 13 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
938-944.7	Grey Quartzite with quartz stringers and 10% included sil arg.								
944.7-952	Argillite - grey to dark green and some binding at 55° to core								
952-957.2	Quartzite - with 10% included quartz stringers								
957.2-976	Limestone - grey crystalline								
976-1030	Argillite - fine banded at 60° to core interbedded siliceous and limey beds								
	From 988-992 - mainly lime with vugs at 990								
	From 992-1010 banded black and light green, silicified arg.								
	quartz vein from 1006 to 1006.5.								
	From 1010-1030 As above but less silification & increasing lime								
	15-20% lime.								

NORTHERN MINER FORM 503 REV./54

DRILLED BY _____

SIGNED _____

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 14 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
1030-1058	Limestone - grey banded with 10% thin beds of micaceous argillite silicified zone from 1055-1058								
1058-1102	Limestone - grey impure crystalline Return water lost @ 1070 fine banded @ 50° to core								
1102-1112	Argillite - black micaceous, sparce Py, Po. Banded, 30% lime from 1109-1112								
1112-1164	Limestone - grey coarse grained crystalline faint banding 45° to core								
1164-1177	Limestone - massive, pure white to light grey Reeves Formation - no banding, coarsely crystalline.								

NORTHERN MINER FORM 505 REV /54

DRILLED BY _____

SIGNED _____

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 15 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
1177-1184	Lamprophyre dike - dark green sharp contact at 40° to core								
	From 1180-1181 - limestone inclusion								
1184-1192	Zone of siliceous alteration - pale green, banded								
1192-1366.5	Limestone - massive white crystalline From 1255-1262 - grey medium grained fine banded at 50° to core From 1315-1366.5 as above banding @ 40° medium to coarse grained crystalline at 1354' inclusion of lamprophyre.								
1366.5-1377.7	Lamprophyre dike. Limestone inclusion between 1373.5-1374 sharp contact @ 50° to core								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 16 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
1377.7-1382.0	Limestone - banded light grey to white								
1382-1385.5	Lamprophyre dike - upper contact angle 20° to core lower contact 50°								
1385.5-1519.5	Limestone - grey & white banded coarsely crystalline banding @ 75° to core. From 1439 - 1478 - dark grey fine banded @ 60° to core. From 1448-1483 white to light grey @ 1453 banding @ 60° to core @ 1461 banding @ 80° to core @ 1476 banding @ 75° to core From 1483-1519.5 mottled grey with 10% white ls. banding obscure coarse to medium grain								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 17 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
1519.5-1522.0	Lamprophyre dike - contact @ 45° to core.								
1522-1532	Limestone - grey mottled, banded @ 1522 banding @ 25° to core @ 1528 banding @ 60° to core								
1532-1536	Skarney, garnetiferous limestone								
1536-1569.5	Limestone - grey to white, medium to coarse grained from 1542.2-1542.7 dark grey bed contact @ 70° to core @ 1554 bedding @ 70° to core								
1569.5-1570.0	Fractured Ls. with 20% pyrrhotite								
1570.0-1571.8	Lamprophyre dike - irregular contact								
1571.8-1575.5	Limestone - white coarse grained								
1575.5-1575.6	1" skarn with scattered specks of scheelite.								

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 18 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
1575.6-1576.0	Granite contact - fine grained drilled contact @ 70° to core								
1576-1610	Granite - grey coars grained								
	END OF HOLE								
	Drilled By M. Pistak								
	Logged By Doug Wilmot								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 19 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	feet apart. Mainly banded marble								
	very slightly argillaceous.								
	Bands at 90° to 70° C.A.								
	Silicified black argillite		1597	1618	21				
	foliation @ 70° av. some minor								
	less 1% pyrr.								
	Dec. 18 hole stopped for lack of								
	rods. Rods left in hole.								
	Drilled By M. Pistak								
	Logged By Doug Wilmot								

DIAMOND DRILL RECORD

PROPERTY EMERALD HOLE No. M-2
 SHEET NUMBER 1 SECTION FROM _____ TO _____ STARTED November 5/79
 LATITUDE 2843.77 DATUM _____ COMPLETED _____
 DEPARTURE 5468.00 BEARING TROPARI TESTS ULTIMATE DEPTH _____
 ELEVATION 3789.79 DIP -90° PROPOSED DEPTH _____
SEE SHEET 4.

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES		
						%W03	AU oz/ton	AG oz/ton
0-11.0	Casing							
11.0-15.0	Argillite, oxidized, skarney fragments							
15.0-60.0	Skarney argillite with fine, sparcely scattered scheelite pale green & light brown, garnetiferous	854	15.0'	25.0'	10'	0.002		
		855	25.0	35.0	10	0.002		
		856	35.0	45.0	10	0.002		
		857	45.0	55.0	10	0.002		
60.0-67.5	As above but with only a couple of specks scheelite	858	55.0	60.0	5	0.002		
67.5-69.0	Massive pyrrhotite - upper contact irregular lower contact at 30° to core	859	67.5	69.0	1.5	0.002	0.001	0.08
69.0-188.5	Argillite - medium grained banding at 40° to core							
	From 75.0-77.0 - rust on fractures folliated with fine micaceous banding							

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 2 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
						WO ₃			
	From 144.0-148.0 light green siliceous alteration								
	From 148.0-188.5 - medium grained brown micaceous arg. with 10% interbedded skarney green garnetiferous arg. at 180.0 banding at 60° to core								
188.5-192.0	Skarn - pale green garnetiferous arg. with scattered fine specks of scheelite	860	188.5	192.0	3.5	0.002			
192.0-224.0	Skarney pale green garnetiferous arg. A few fine specks of scheelite between 198.5-198.8 and between 199.2-199.5								
224.0-229.0	Skarney argillite with fine scattered specks of scheelite	861	224.0	229.0	5	0.002			

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 3 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
						WO ₃			
229-234.0	As above but with less scheelite	862	229.0	234.0	5	0.002			
234-247.5	Skarn as above but with no visible scheelite								
247.5-305.0	Skarn with fine, sparsely disseminated scheelite (white tremolite & garnet)	863	247.5	257.0	4.5	0.002			
		864	257.0	267.0	10	0.002			
		865	267.0	277.0	10	0.002			
		866	277.0	287.0	10	0.002			
		867	287.0	297.0	10	0.002			
		868	297.0	305.0	8	0.002			
305.0-334.0	Skarney, garnetiferous argillite. More siliceous than above. A few specks of scheelite between 314 & 315'								
334.0-359.0	Argillite - Siliceous, micaceous arg. at 344.0' foliation 40° to core								

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 4 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES		
						TROPARI DEPTH FEET	INCLINATION	TESTS MAG. B'RING
359.0-359.5	Pegmatite intrusive - feldspar qtz. hornblend irregular wells					200	90	-
359.5-374.0	Argillite - pale green, siliceous and garnetiferous Minor micaceous banding					400	89	034
374.0-390.0	Argillite - dark grey to black siliceous with 10% bands & irregular masses of intruded quartz.					600	90	-
						800	86	352.5
						1000	85	353
						1200	86	353
390.0-433.0	Argillite - similar to above but more micaceous and less quartz. at 404' foliation 30° to core					1400	86	354
						1500	84	336
						1641	83	008
	From 407.9 to 408.5 quartz vein lower contact at 35° to core upper contact irregular							
433.0-549.0	Skarn zone - mottled brown & light green with blebs of							

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No.
 SHEET NUMBER 5 SECTION FROM TO STARTED
 LATITUDE DATUM COMPLETED
 DEPARTURE BEARING ULTIMATE DEPTH
 ELEVATION DIP PROPOSED DEPTH

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	white tremolite - narrow qtz. stringers at 449.5, 455, 455.2 and 455.5'								
433.0-549.0	Skarn Zone - light green fluorite at 439 and 442.5 with white tremolite and calcite stringers foliation 40-45° to core								
	1" calcite stringer at 498.5' @ 520 foliation 30° to core								
549.0-558.0	Black argillite with 20% included bands and irregular masses of siliceous green skarn								
558-566.0	Grey, fine grained limey skarn at 559 foliation 30° to core								
566.0-580.0	Limestone - grey medium to coarse grained. Faint banding at 30° to core								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 6 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
580.0-591.0	Argillite - Grey, medium grained, fine banded, micaceous @ 592' banding 40° to core @ 617 banding 25° to core @ 627 6" irregular qtz. inclusion								
630.0-631.0	White vein quartz - irregular walls.								
631.0-635.0	Quartzite Argillite - siliceous, fine grained at 640' banded @ 25° to core								
650.0-665	Quartzite - fine grained, grey-green								
665.0-758.0	Argillite - Siliceous, banded fine grained calcite coating fractures @ 675.0' 6" qtz stringer between 686 & 693 -								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 7 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	silicified pale green alteration zone banding 30° to core								
	From 693 to dark grey to black argillite — minor faint banding at 718.0 - 6" white quartz and feldspar intrusive.								
	From 719 to 720.0 White vein quartz								
	From 744 to 758.0 Mottled black and grey-green.								
758.0-763.0	Zone of silicified alteration with 10% pyrite between 758 and 759.0'								
758-763.0	Calcite coating on slips and fractures.								
763.0-784.0	Argillite - core badly fractured. Less silification & increase in lime. Pyrite								

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 8 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	coating on slips and fractures								
	1 to 2" quartz stringers at								
	775.0, 780.0 and 783.0 at								
	784 a ¼ to ½ vuggy pyrite								
	stringer								
784.0-908.0	Argillite - dark grey to black								
	becoming very hard and siliceous								
	5% finely disseminated pyrite								
	From 807.0-808.5 Leached fracture								
	zone, recemented with quartz -								
	5% pyritic								
	From 808.5 - black siliceous								
	argillite with bands of light								
	green alteration. Folliaton								
	30° to core, thin quartz								
	stringers filling fractures								
	at 891.0-4" white quartz vein								
	contact @ 60° to core								

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 9 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	From 892.0-894.0 shatter zone with quartz-calcite filling.								
908.0-916.0	Skarn - pale green and brown limey and garnetiferous.								
916.0-937.0	Argillite - black siliceous @ 821.5-6" band light green alteration @ 30° to core								
937.0-942.0	White crystalline limestone upper contact @ 50° lower contact irregular and sheared.								
942.0-976.0	Black Argillite with bands of light green alteration @ 45° to core								
976.0-988.0	Skarn - brown and green banded garnetiferous scattered green fluorite, banding at 40° to core								

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 10 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
988.0-1009	Skarn - as above but with increasing lime. from 1002 to 1004 banding contorted and drag folded.								
1009.0-1037.0	Limestone - grey finely banded at 45° to core.								
1037.0-1042.5	Skarn - mottled green and brown, garnetiferous								
1042.5-1063.0	Argillite - black banded 40° to core with 20% pale green bands of siliceous alteration From 1043 to 1046 - 10% white quartz veins 3 to 4" wide								
1063.0-1097.0	Limestone - grey medium grained with 10% interbedded banded micaceous argillite								
1097.0-1112.5	Limoy, banded, micaceous argillite @ 1108 banding @ 40° to core								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 11 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
1112.5-1125.0	Skarn - mottled garnetiferous limey skarn. Scattered white actinolite and green fluorite								
1125.0-1150.5	Argillite - banded black and light green skarney argillite Minor scattered pyrite-pyrrhotite								
1150.5-1181.0	Limestone - impure, blue-grey faint (Reeves Formation) banding from 1150.5-1159.0 From 1159.0-1181.0 massive white medium grained Ls.								
1181.0-1186.0	Lamprophyre dike upper contact @ 40° to core								
1186.0-	Limestone massive white to light grey and faintly banded at 1222.0 banding @ 50° to core 1227-1290 massive white coarse grained Ls.								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 12 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	1290-1292 - blue-grey mottled Ls.								
	1292-1315 - massive white-medium to coarse grained Ls.								
	1315-1319 - blue-grey mottled Ls.								
	1319-1320 - massive white Ls.								
	1320-1328 - blue-grey mottled (bonded @ 70 ^o) white Ls.								
	1328-1333 - white massive Ls, some blue banded sections								
	1333-1339 - blue-grey banded Ls, mostly banding conspicuous @ 70 ^o mottled @ 1338								
	1339-1349.2 as above but darker banding @ 70 ^o								

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No.
 SHEET NUMBER 13 SECTION FROM TO STARTED
 LATITUDE DATUM COMPLETED
 DEPARTURE BEARING ULTIMATE DEPTH
 ELEVATION DIP PROPOSED DEPTH

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	lamp. dike knife edge contacts at approx. 70°		1349.2	1352.6	3.4				
	banded blue grey to white ls. @ 70° C.A.		1352.6	1354.6	2.0				
	lamp. dike contacts parallel 6' @ 65°		1354.6	1355.6	1.0				
	mostly white massive ls. some fine dark limey bands @ 50° C.A.		1355.6	1357.6	2.0				
	broken serpentized lamp dike Fit? conf. contacts		1357.6	1359.6	2.0				
	mostly white massive ls. some dark grey limey banded sections fine (1/16") banding at 45° C.A.		1359.6	1369	9.4				
	white massive ls. (marble) fine banding (grey blue at 55°-60° C.A.)		1369.0	1382.5	12.5				
	dark black to dark green lamp dike f.g. conform. contacts		1382.5	1384.0	1.5				

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 14 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	white massive marble (ls) with fine banding (blue-grey @ 60° C.A. 4" fluorence wk @ 1396.9(weak)		1384.0	1397.5	13.5				
	dark green to black fig. lamp. dike conformable		1397.5	1400.2	2.7				
	as 1384.0-1397.5		1400.2	1402.5	2.3				
	as 1397.5-1400.2 soft & talc at contacts.		1402.5	1405.0	2.5				
	white massive marble (ls) with fine (1/32") blue-grey banding @ 50° C.A.		1405.0	1409.0	4.0				
	brown stained on core surf. but white massive ls. inside (broken surf.) brown decreases downward vague banding @ 60° C.A.		1409.0	1420.3	11.3				
	lamp. dike conf. contacts (vague) at 65°		1420.3	1421.0	.7				

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 15 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	white banded (thicker & vaquer banding at 50° C.A.) (grey banding) marble.		1421.0	1429.3	8.3				
	conformable lamp. dike massive white marble vague banding @ 50°		1429.3	1429.6	.3				
	soft dark green lamp. dike vaguely banded 1/8" bands @ 35° white massive marble		1429.6	1434.0	4.4				
	dark green to black lamp. dike blue grey banded (vaguely) limestone		1434.0	1434.6	.6				
	soft broken fractured banded lamp. dike fault? chloritized as 1439.4-1442.0		1434.6	1439.0	4.4				
	slightly micaceous (.5% mica) white massive quartzite		1439.0	1439.4	.4				
			1439.4	1442.0	1.6				
			1442.0	1447	5.0				
			1447.0	1449.0	2.0				
			1449.0	1454.0	5.0				

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 16 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	blue grey to white banded marble (ls.) C.A. 55°		1454.0	1456.5	2.5				
	lamp. dike conformable chloritized		1456.3	1457.0	.5				
	blue grey to white banded marble vaguely banded thick 1/2" bands @ approx. 45° C.A.		1457.0	1465	8.0				
	blue-grey banded (darker than above) limestone banding 1/8" @ 50°-60° C.A. dolomite(?)		1465.0	1486.0	21.0				
	mottled white ls.		1486.0	1487.5	1.5				
	argillaceous Ls. well banded 1/16" at 65°-70°		1487.5	1493.0	5.5				
	white-blue grey mottled limestone some small scale folding (vague)		1493.0	1496.	3.0				
	slightly argillaceous limestone banded 1/16" - 1/4" @ av of 60° C.A. small scale folding @ 1503		1496.0	1506.0	10.0				

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DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 17 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	as above but more argillaceous and 70° C.A.		1506.0	1517.0	11.0				
	as above but bands change gradually to 90° C.A.		1517.0	1527.0	10.0				
	as above bands are 1/4" to 1/8" alternating carbonate and dk. grey bands @ 1532 change in C.A. to 75° then back to 90° @ 1537 rock is limey with v. minor dark bands. These are crenulated (2" scale) and stretched and broken in places. Av. bedding(?) is 70° but very contorted.		1527.0	1537.0	10.0				
	Argillaceous limestone micro breccia with massive pyrr. (2" @ 1543.5) seams streaks and clusters av. pyrr. 2% + 1% some v. weak fluorecence	869	1537.0	1541.5	4.5				

DIAMOND DRILL RECORD

PROPERTY Emerald HOLE No. _____
 SHEET NUMBER 18 SECTION FROM _____ TO _____ STARTED _____
 LATITUDE _____ DATUM _____ COMPLETED _____
 DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____
 ELEVATION _____ DIP _____ PROPOSED DEPTH _____

DEPTH FEET	FORMATION	SAMPLE NO.	FROM	TO	WIDTH	ASSAY VALUES			
	Argillaceous limestone dk. grey		1544.0	1558.0	14.0				
	bands @ 70° av. some white								
	limestone bands (marble) to 6"-8"								
	white mottled and streaked ls.		1558.0	1564.0	6.0				
	C.A. 70°								
	Hard l. grey quartzite massive		1564.0	1573	9.0				
	minor less 1% pyr. & mica								
	3" lamp. dike @ 1566.5								
	Mottled l. grey breccia of		1573	1577	4.0				
	quartzite and ls. fragments.								
	Angular ls. to 1" fragments								
	gradual increase of ls. fragments								
	White msve. marble. Some grey		1577	1580	3.0				
	banding @ 75°								
	White msve. marble widely		1580	1597	17.0				
	scattered streaks and bands of								
	skarn minerals. up to 1/2" av								
	= 1/8" streaks of skarn up to								

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Kootenay Exploration Drilling Contracting Co. Ltd.

Fossiland, B. C.

Jan. 20, 1980.

Received of:

Mentor Exploration and Development Co. Ltd.

Ste 300, 365 Bay St.

Toronto, Ont.

M5H 2V1

For diamond drilling on Salmo B.C. properties.

DDH M-1, 1610 feet. -----	\$23,156.90
DDH M-2, 1641 feet. -----	<u>25,864.50</u>
Total	\$49,021.40

KOOTENAY EXPLORATION DRILLING CONTRACTING CO. LTD.
W. J. Pitlor (Mgr)

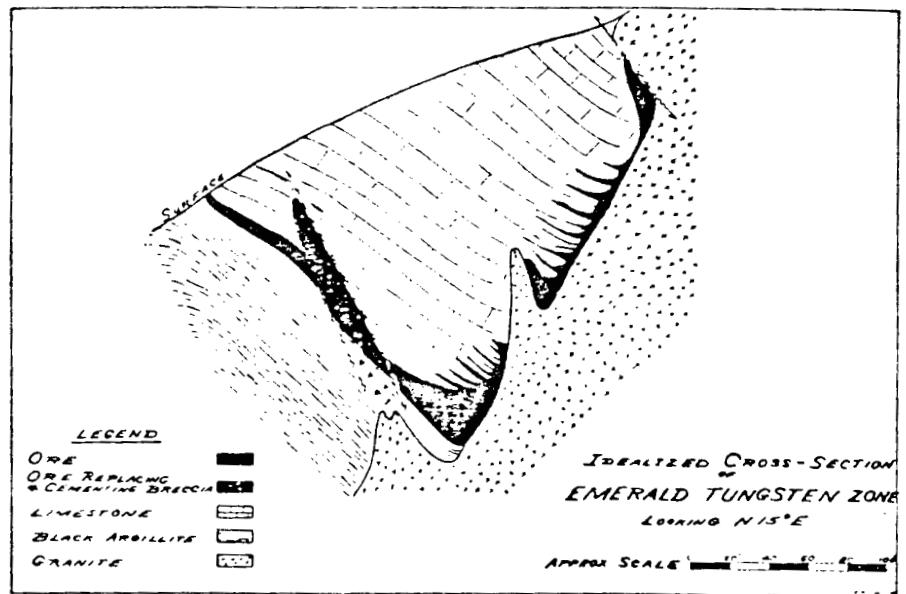


Figure 2. Cross-section, Emerald tungsten zone.

bedded replacements along the granite contact, or, where the fracturing of the underlying argillite has permitted penetration of the argillite, the solutions have deposited scheelite in bedded skarn and in pyrrhotite-rich replacements of limestone on the limestone-argillite contact.

The greater cross-sectional area of ore, the higher tenor of ore, and the intensity of greisenization of the granite stock in the Emerald mine indicate a greater intensity of mineralization in the Emerald than in the Dodger zone. Although the general conditions in the Emerald-Feeney and Dodger orebodies are similar the details are sufficiently dissimilar to warrant separate description.

Emerald-Feeney Ore Zone

The Emerald trough is a simple contact structure, with the strike of the limestone-black argillite and the limestone-granite contact surfaces diverging to produce a trough plunging to the south (see Figure 2). This regular structure is complicated by pre-mineral and post-mineral faulting and by granite apophyses or "cross-dykes" which cut irregularly across the trough and in some cases follow the strike of the trough. Concentrations of higher grade ore are usually found on either side of these cross-dykes where fracturing and temperature conditions were most favourable for ore deposition.



LEGEND

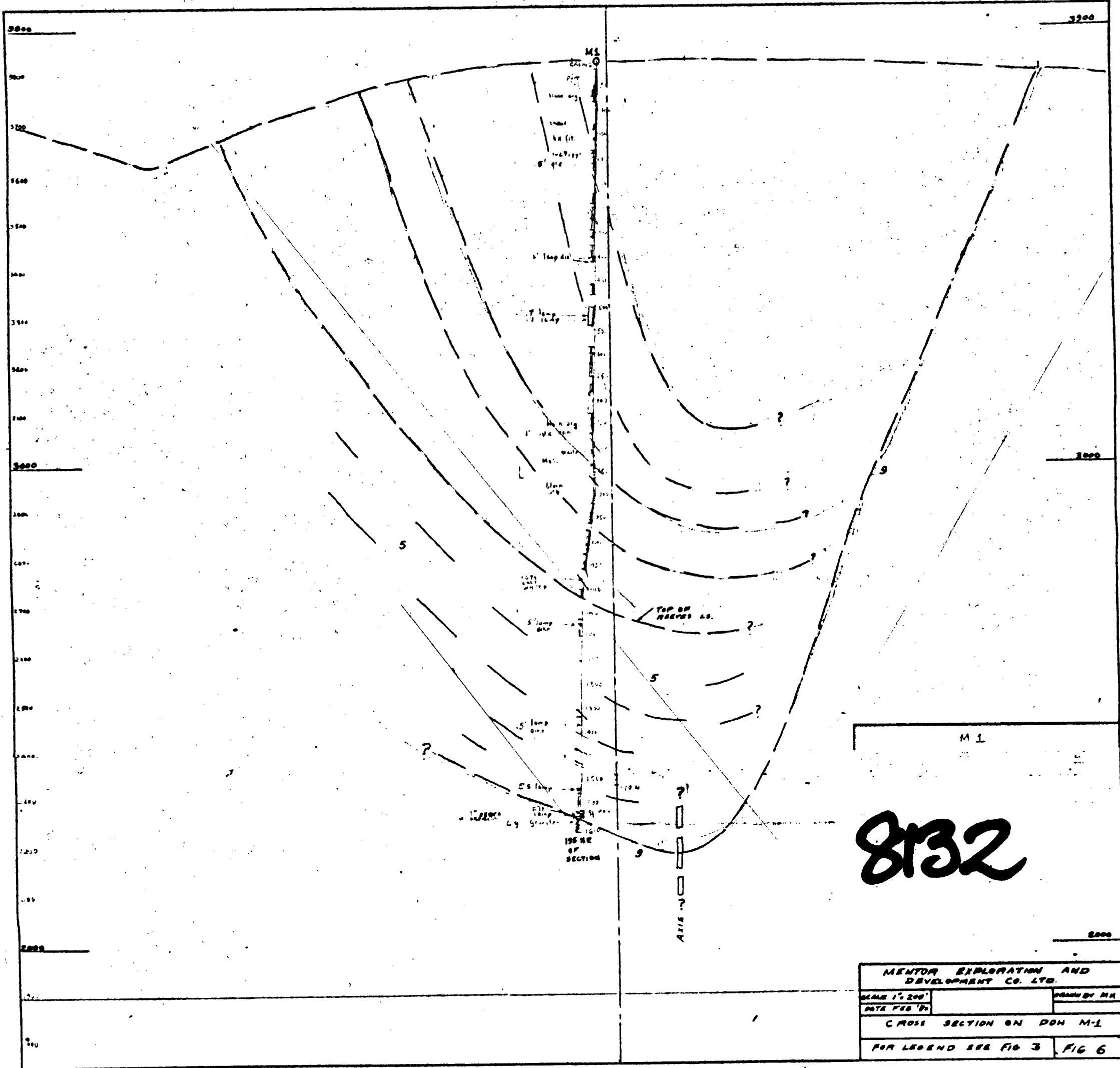
- Areas of little or no outcrop
- Granite
- ACTIVE FORMATION**
- Black argillite
- LAIB FORMATION**
- Upper Laib: green, grey, and brown phyllite
- Emerald member: black argillite
- Reeves member: limestone
- dolomite
- Truman member: brown argillite, skarny argillite, siliceous argillite, minor skarn, and limestone
- Mainly skarn
- RENO FORMATION**
- Brown micaceous and grey blocky quartzite
- QUARTZITE RANGE FORMATION**
- Nevada Member
- Upper - white quartzite
- Lower - brown micaceous quartzite, minor white beds

MENTOR EXPLORATION & DEVELOPMENT CO., LTD.
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 DIAMOND DRILLING
 SOUTH EMERALD TUNGSTEN AREA
 SHOWING
 SURFACE GEOLOGY

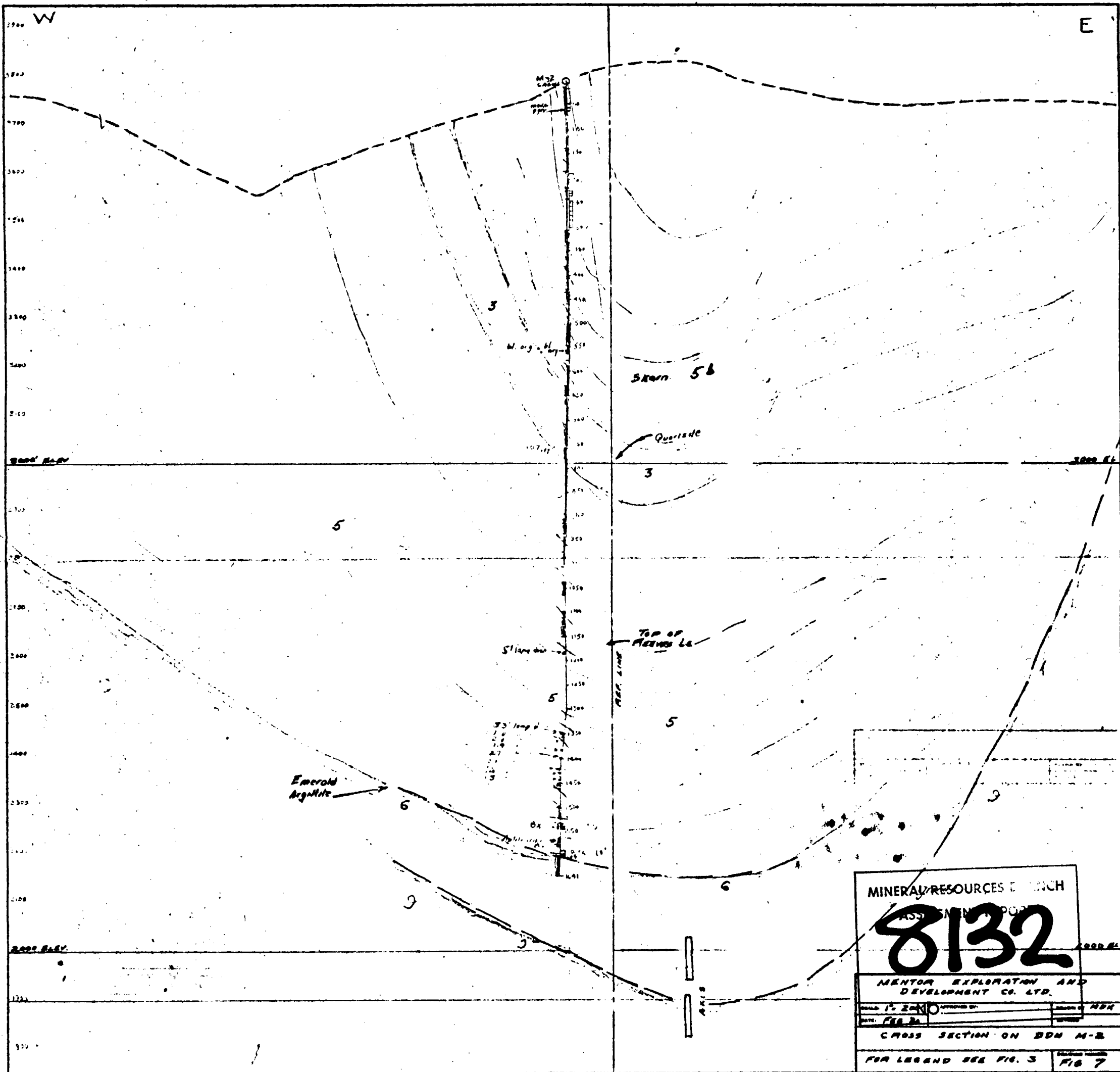
Scale Feet
 Contour interval 50 Feet
 To obtain elevations above mean sea level subtract 37 feet

Geology by J.T. Fyles and C.G. Hewlett, 1954
 Topography from maps of Canadian Exploration Ltd.

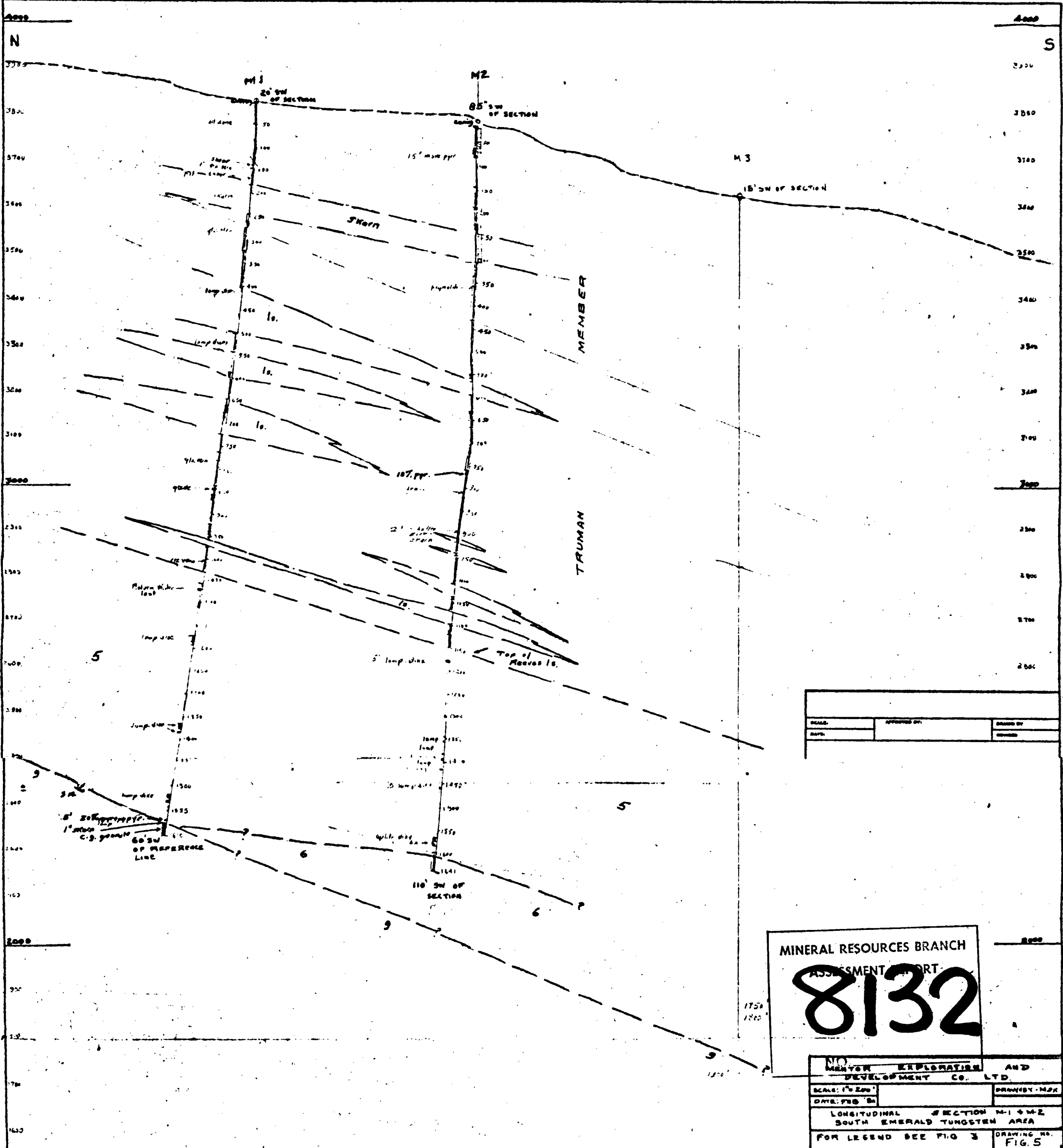
MINERAL RESOURCES BRANCH
 ASSESSMENT REPORT
8132
 NO. _____



M-1	
8132	
MENTOR EXPLORATION AND DEVELOPMENT CO. LTD.	
SCALE 1" = 200'	DRAWN BY M.H.
DATE FEB '50	
CROSS SECTION ON DOW M-1	
FOR LEGEND SEE FIG 3	FIG 6



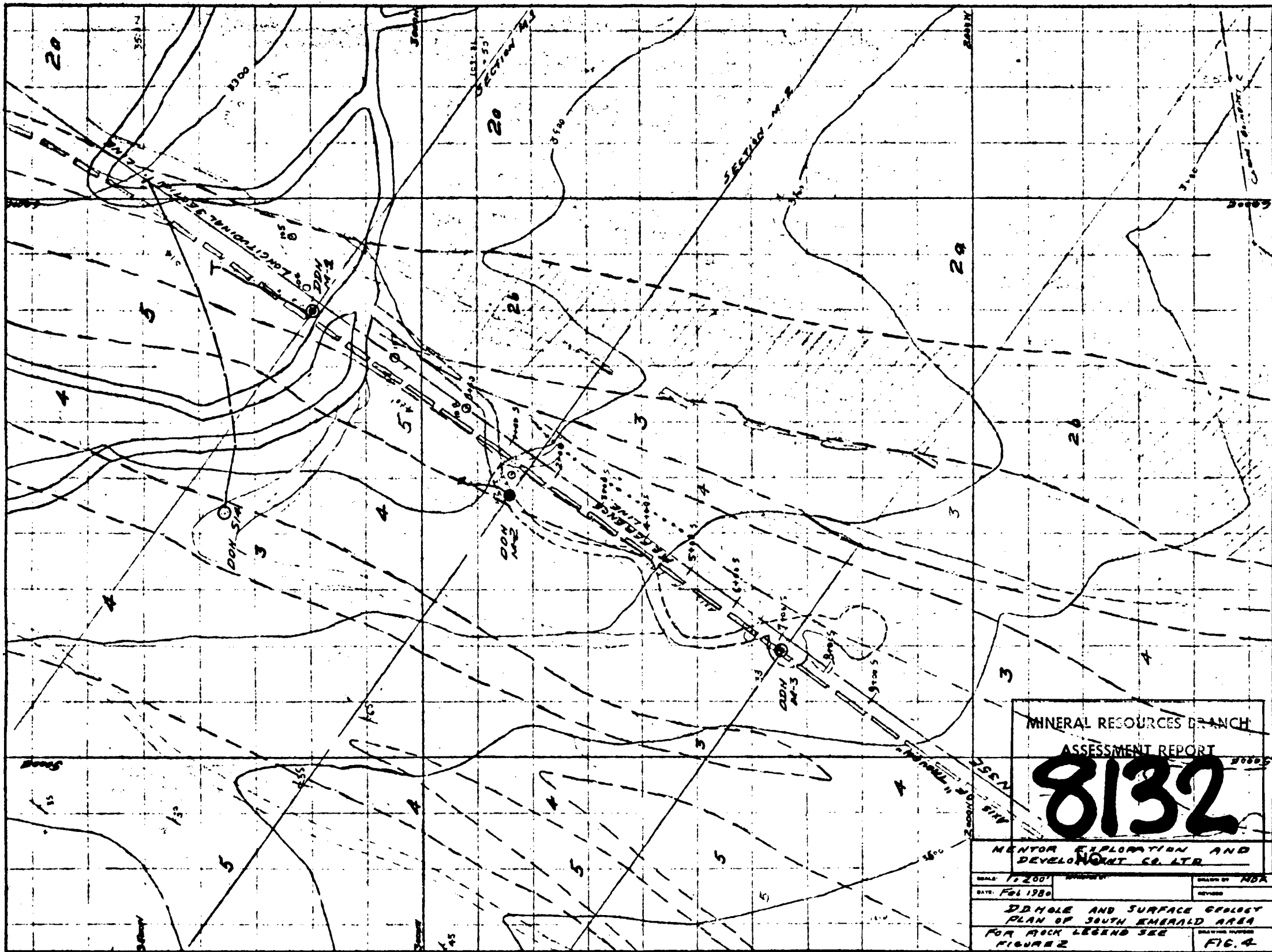
MINERAL RESOURCES DIVISION	
8132	
MENTOR EXPLORATION AND DEVELOPMENT CO. LTD.	
DRAWN BY: T. ZAKO	APPROVED BY: [Signature]
DATE: FEB 24	SCALE: N/A
CROSS SECTION ON BDN M-2	
FOR LEGEND SEE FIG. 3	FIG 7



SCALE:	APPROVED BY:	DRAWN BY:
DATE:	REVISION:	

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MINTON EXPLORATION AND DEVELOPMENT CO. LTD.		
SCALE: 1" = 200'	DRAWN BY: MJK	
DATE: FEB 54		
LONGITUDINAL SECTION M1-M2 SOUTH EMERALD TUNGSTEN AREA		DRAWING NO. FIG. 5
FOR LEGEND SEE FIG 3		



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DEVELOPMENT CO. LTD.

SCALE: 1:200' DRAWN BY: DATE: FEB 1980

REVISION: DRAWN BY: NDA

DDH HOLE AND SURFACE GEOLOGY
PLAN OF SOUTH EMERALD AREA
FOR ROCK LEGEND SEE
FIGURE 2

FIG. 4