

GEOLOGY, PROSPECTING, GEOCHEMICAL SAMPLING AND TRENCHING
ON REB CLAIMS 1 - 10, NORTHEASTERN BRITISH COLUMBIA

OMINECA MINING DIVISION

NTS. 94F-1W, 94C-16W

LATITUDE: 57°00' LONGITUDE: 124°22'

OWNERS: ESPERANZA EXPLORATIONS LTD. (REB 1-8)
ESSO RESOURCES CANADA LIMITED (REB 9, 10)

OPERATOR: ESSO RESOURCES CANADA LIMITED

M.G. LOMENDA

NOVEMBER, 1982

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,831

TABLE OF CONTENTS

	<u>PAGE</u>
RECOMMENDATIONS	1
SUMMARY AND CONCLUSIONS	1
INTRODUCTION	3
HISTORY	3
PRESENT WORK	4
REGIONAL GEOLOGY OF THE AREA	5
GEOLOGY OF THE CLAIMS	5
Cambro-Ordovician	6
Ordovician-Silurian	6
Devonian	7
Mineralization	9
Structure	10
GEOCHEMISTRY	10
Heavy Mineral	11
Soil	11
Rock	12
Trenches	13
CONCLUSIONS	14
RECOMMENDATIONS	15
REFERENCES CITED	16
APPENDIX I - STATEMENT OF EXPENDITURES	
APPENDIX II - B.C. GOVERNMENT FORMS - STATEMENT OF EXPLORATION AND DEVELOPMENT AND NOTICE TO GROUP	
APPENDIX III - GEOCHEMICAL REPORTS	
APPENDIX IV - SOIL GEOCHEMISTRY	
APPENDIX V - STATEMENT OF QUALIFICATION	

LIST OF TABLES

	<u>PAGE</u>
TABLE 1: TABLE OR ROCK UNITS UNDERLYING THE REB CLAIMS AND SURROUNDING AREA	7
TABLE 2: ROCK GEOCHEMISTRY	12
TABLE 3: TRENCH SOIL AND ROCK GEOCHEMISTRY	13

LIST OF FIGURES

FIGURE 1: LOCATION OF REB CLAIMS	facing pg. 3
FIGURE 2: DISTRIBUTION OF DEVONIAN SHALE AND CARBONATE ROCKS IN NORTHEASTERN BRITISH COLUMBIA AND LOCATION OF MAJOR Zn-Pb+ Ba DEPOSITS	facing pg. 5
FIGURE 3: SCHEMATIC STRATIGRAPHIC COLUMN OF THE REB CLAIMS	facing pg. 6
FIGURE 4: SCHEMATIC X-SECTIONS REB CLAIMS	<i>11A</i>

LIST OF MAPS

MAP 1: GEOLOGY OF REB CLAIMS, 1:10,000	IN POCKET
MAP 2: GEOLOGY OF REB 5-8, 1:5,000	
MAP 3: GEOLOGY OF GRID AND TRENCHES, 1:2,500	
MAP 4: HEAVY MINERAL AND ROCK CHIP LOCATION MAP	
MAP 5: HEAVY MINERAL AND ROCK CHIP GEOCHEMISTRY	
MAP 6: SOIL GEOCHEMISTRY	

RECOMMENDATIONS

Further work should be done on the Reb Claims including geophysics and diamond drilling. EM and possibly gravity should be tested across the pyrite band and if successful, a more complete survey should be done in the grid area. At least three holes should be drilled, guided by geology and geophysics.

SUMMARY AND CONCLUSIONS

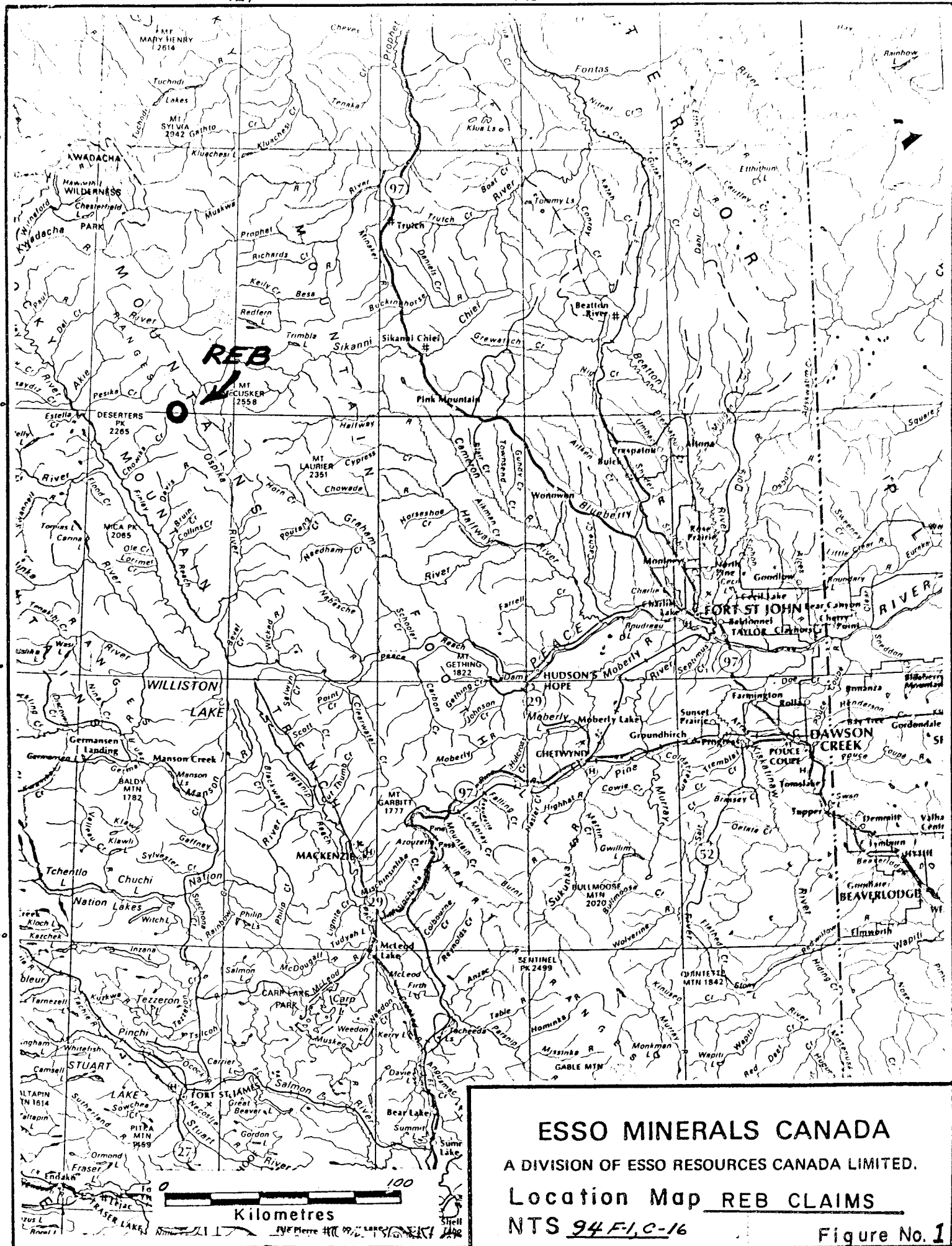
The Reb Claims were optioned from Esperanza Explorations in 1980 as the property has potential to contain a shale-hosted Pb-Zn deposit of the Sedex type. The area is located in the Rocky Mountains of northeastern British Columbia, about 50 km east of the northern tip of Williston Lake. On the property a thickened section of Ordovician Road River Shale is thought to represent a sub-basin possibly bounded by growth faults. A 30 m section of bedded pyrite is exposed by a creek in the shale.

Assessment work done in June and July, 1982 totals \$34,000. Investigations include geological mapping, prospecting, stream sediment heavy mineral sampling, soil profile and C-horizon sampling in the area of bedded pyrite, rock sampling, and trenching.

Cambro-Ordovician Kechika Group phyllitic, nodular mudstone is in fault contact with the Road River Group of Ordovician to Silurian age. Basal Road River Group limestone, limestone debris flows, dolomitic siltstone and sandstone, and dolomite are conformably overlain by the thicker section of Middle to Upper Ordovician black shale, siltstone, dolomite, limestone, chert, and bedded pyrite. These rocks are unconformably overlain by Silurian dolomitic siltstone; are unconformably overlain by Lower Devonian siltstone, shale, and limestone; are unconformably overlain by Middle Devonian fossiliferous limestone; are conformably overlain by Upper Devonian rusty shale. The rocks underlying the claims are complexly folded and faulted. The contact between the Kechika and Road River Groups may be reactivated growth faults.

Prospecting and geochemical surveys produced minor anomalies related to the bedded pyrite. No visible Pb-Zn mineralization was found in the area. High Pb-Zn values were found in soil and rock samples in a trench off trend with the pyrite band.

Geophysics and diamond drilling are necessary to evaluate the property.



ESSO MINERALS CANADA
 A DIVISION OF ESSO RESOURCES CANADA LIMITED.
 Location Map REB CLAIMS
 NTS 94 F-1, C-16 Figure No. 1

INTRODUCTION

In 1980, Esso Resources Canada Limited optioned the Reb Claims from Esperanza Explorations as the property was thought to have potential for shale-hosted Pb-Zn mineralization similar to the deposits found in the Selwyn Basin. The claims are underlain by an anomalously thick section of Ordovician Road River Shale that contains a 30 m interval of bedded pyrite with shale.

The Reb Claims are located in the northern Rocky Mountains of British Columbia about 50 km east of the northern tip of Williston Lake at Latitude 57°00'N and Longitude 74°22'W (fig. 1). Access to the claims is by fixed-wing aircraft from Prince George or Mackenzie to the airstrip at Ingenika on the northern tip of Williston Lake and then by helicopter 45 km to the Reb Property. The 1982 camp was located at Ingenika.

Most of the property is located on a south-facing slope drained by a tributary of the Ospika River. Wooded, moderately sloped hillsides are capped by rugged and barren ridges. Elevations on the claims vary from 1100 m in valley floors to 1800 m on ridge tops.

HISTORY

In 1979 prospectors employed by Esperanza Explorations discovered bedded pyrite in a small, limonite-stained tributary of the Ospika River. Reb Claims 1-8 were staked and were optioned to Esso in 1980. Reb 9 and 10 were staked by Esso in 1981.

Reconnaissance geological mapping, prospecting and silt, soil, and rock geochemistry were done in 1980 (Stewart, 1980). Continuous chip sampling across the bedded pyrite assayed insignificant Pb-Zn-Ag. A Zn and a weak Pb anomaly were detected in silt samples from a limonite-coated creek southeastward of "pyrite creek". Soil samples collected close to the exposed pyrite contained anomalous Pb-Zn. In the southeastern part of the claims, a sample of travertine from a seep analyzed 15,000 ppm Zn. Silt samples from this seep also contained high Zn.

Work done in 1980¹ included geological mapping, prospecting, soil sampling on a grid established over the pyrite mineralization, and hand trenching of soil anomalies (Stewart, 1981; Hrkac, 1982). A number of scattered Pb and Ag anomalies lined up on trend with the pyrite mineralization. Soil profiling in trenches at two Pb anomalies indicated downhill transport of Pb. Areas of anomalous Zn from the grid and from the southeastern part of the claims were not considered important as they lacked corresponding high Pb.

PRESENT WORK

The purpose of the 1982 exploration was to follow-up soil geochemical anomalies, to get a better understanding of the geology of the area, and to determine if diamond drilling of the pyrite zone is warranted.

Work done on the claims between June 22, 1982 and July 22, 1982 included prospecting, geological mapping, soil sampling using an auger, hand trenching, and stream sediment heavy mineral and rock geochemistry. A list of personnel and statement of expenditures are included in Appendix I.

For the purpose of assessment work, the claims were grouped as the September Group on August 31, 1982 (Appendix II). Relevant claim information and applied assessment are listed as follows:

<u>Claim</u>	<u>Units</u>	<u>Record No.</u>	<u>Expiry Date</u>	<u>Assessment</u>
Reb 1	6	2345	85-11-16	1 year(s)
2	12	2346	85-11-16	1
3	6	2347	85-11-16	1
4	12	2348	85-11-16	1
5	6	3280	88-09-30	1
6	12	3281	88-09-30	1
7	9	3282	88-09-30	1
8	8	3283	88-09-30	1
9	12	4091	83-08-31	2
10	16	4092	83-08-31	2

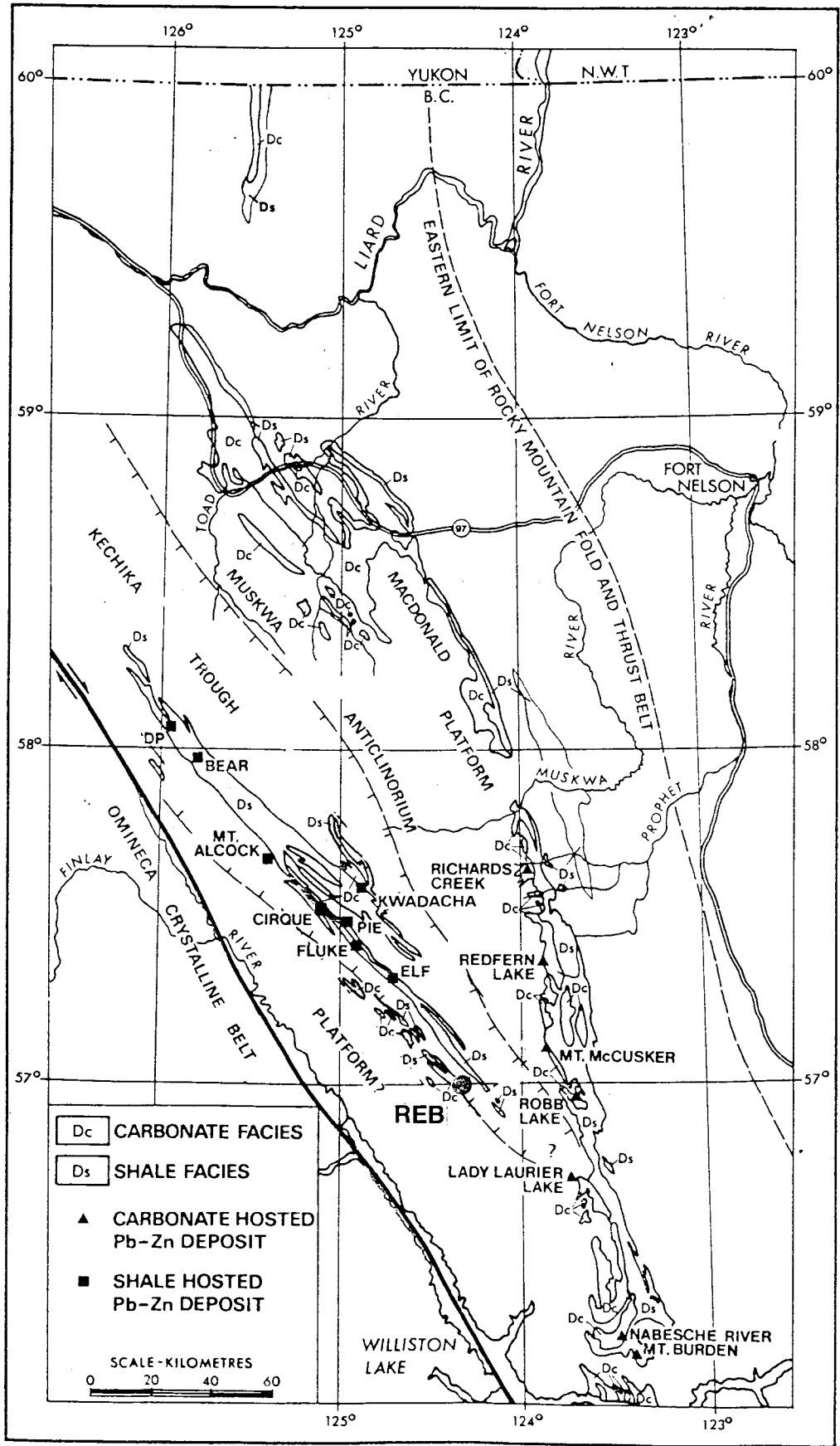


FIGURE 2. Distribution of Devonian shale and carbonate rocks in northeast British Columbia and location of major Zn-Pb ± Ba deposits. Also shown are the limits of the Kechika Trough and boundaries of the Rocky Mountain Fold and Thrust Belt.

REGIONAL GEOLOGY OF THE AREA

The Reb Claims occur in the Rocky Mountain Thrust and Fold Belt in northeastern British Columbia. This part of the Rockies consists of fault-bounded northwest trending synclinoria of Early Paleozoic basinal facies rocks of the Kechika Trough separated by anticlinoria of Cambrian and earlier rocks. In early Paleozoic time the Kechika Trough was bounded in the east by the McDonald Platform and on the southwest by the Pelly-Cassiar Platform. The Kechika Trough is the southwestern extension of the Selwyn Basin.

Rocks underlying the claims range in age from Upper Cambrian to Upper Devonian. Cambro-Ordovician Kechika rocks are overlain by Middle to Upper Ordovician Road River shale, siltstone, chert, and carbonate. This represents a basin-platform transition zone that persisted from Ordovician to Upper Devonian time (Cecile and Norford, 1979). Three major cycles of shallow water deposition followed by deeper water basinal deposition correspond roughly to the Ordovician, Silurian, and Devonian Periods. Simplified Devonian facies and Pb-Zn mineral deposits in northeastern British Columbia are shown in figure 2.

No satisfactory published geological maps of the Reb area are available. However, this area is included in Gabrielses' (1975) G.S.C. paper for NTS 94C and in Taylor *et al.* (1979) open file map for NTS 94F. Detailed mapping of the geology and description of the mineral deposits in the shale belt northwest of the claims are contained in McIntyre's (1982a, 1982b, 1982c) report of B.C. Dept. of Mines.

GEOLOGY OF THE CLAIMS

The geology of the Reb Claims and surrounding area was mapped at a scale of 1:10,000 (MAP 1); Reb 5-8 were mapped at 1:5,000 (MAP 2); and the 1981 grid area was mapped at 1:2,500 (MAP 3). Rock units underlying the claims are described in Table 1, Figure 3 and the ensuing section.

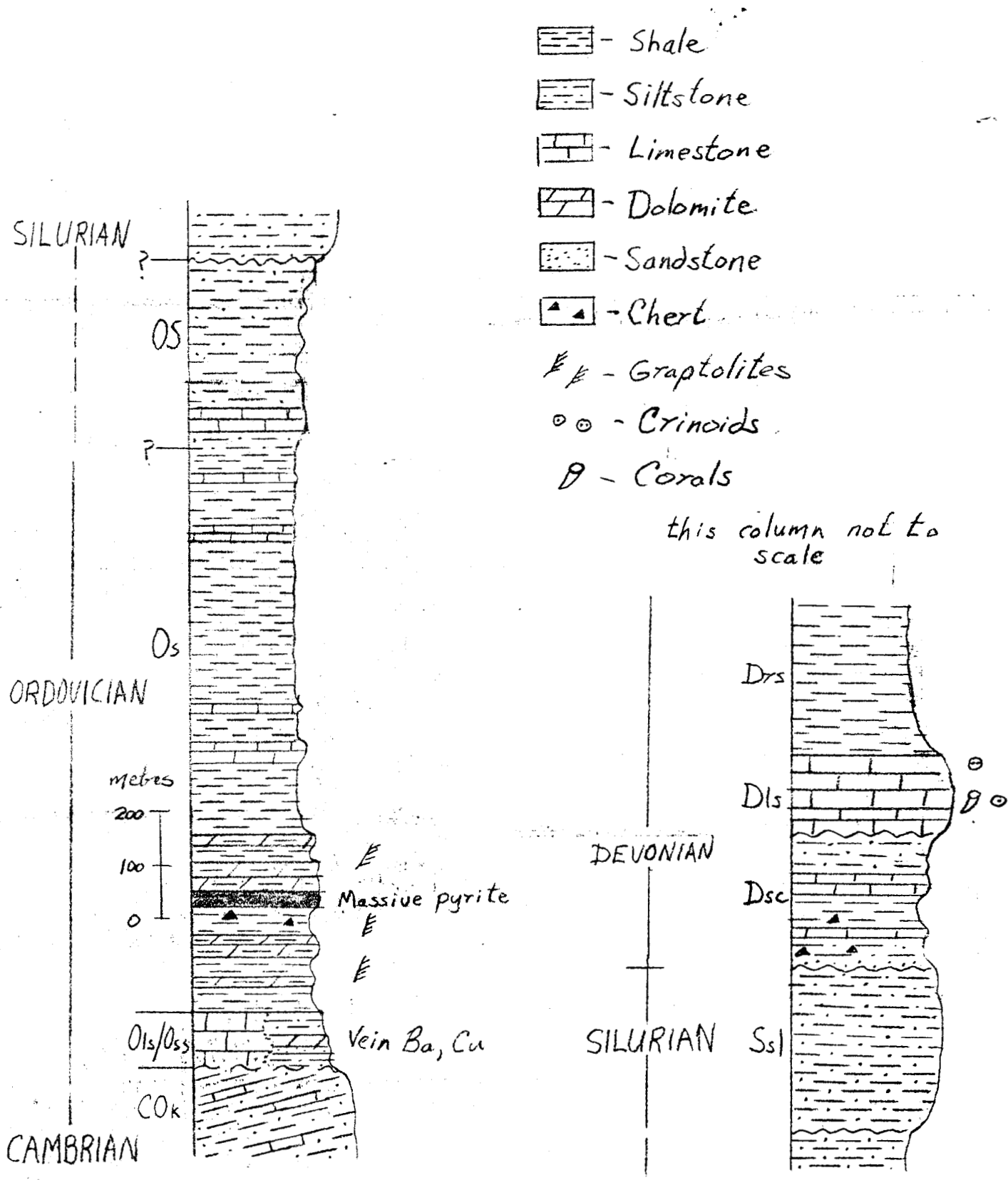


FIGURE 2: Schematic stratigraphic column of the Reb Claims. Thickness of Road River Shale (Os and OS) is shown at maximum estimate.

Cambro - Ordovician

Kechika Group

Upper Cambrian and Lower Ordovician phyllitic nodular mudstone and siltstone underlie the ridge on the northeastern part of the claims. The nodules within the group are boudinaged beds of limestone. Bedding, which generally dips moderately southwesterly, is obscured by a steeply northeasterly dipping, pervasive cleavage.

Ordovician - Silurian

Road River Group

An unusually thick section of the Ordovician part of the Road River Group underlies the Reb area. About 50 km northwestward in the Akie River area, this section is about 600 m thick (Cecile and Norford, 1979) in contrast to a structural thickness of about 3000 m in the Reb area. This thickening is thought to represent a sub-basin bounded by synsedimentary faults.

Regionally the basal contact of the Road River Group is unconformable. On the claims a steep northwesterly dipping fault separates the Road River and Kechika rocks. On the northwestern part of the claims, the lowermost unit consists of 50-100 m of limestone and limestone debris flows (Map Unit Os). Southeastward, this unit is abruptly replaced through faulting or facies change by interbedded dolomite, dolomitic siltstone, sandstone, and shale (Map Unit Oss). Both units are quartz-carbonate veined, especially close to the basal faulted contact.

Northwestward the basal unit of the Road River Group is conformably overlain by 50-75 m of black, graptolitic shale and siltstone (Map Unit Os). On the claims this unit thickens abruptly to an estimated stratigraphic thickness between 800 and 1500 m. Southeastward the thickened interval extends at least as far as the Ospika River where it is truncated by a major fault. Lithologies within this section are black shale, graphitic shale, siltstone,

argillaceous dolomite and limestone, chert, and bedded pyrite. Middle to Upper Ordovician graptolites found in the lower 100-300 m suggest correlation with the uppermost 180 m of the Ordovician in the Akie River area (Hrkac, 1982, p. 16-18). Thus most of the Lower and Middle Ordovician section is missing in the Reb area.

The uppermost rocks of the Ordovician are medium grey to black siltstones interbedded with black shale, limy shale, and argillaceous limestone (Map Unit OS). Some of these rocks may be Silurian in age.

Contact between the Ordovician and Silurian was not observed on the claims but regionally is unconformable. Silurian siltstone and dolomitic siltstone (Map Unit Sss) are found in the western part of the property.

Devonian

Devonian carbonates and fine grained clastics underlie most of the western part of the claims. The Silurian is unconformably overlain by Lower Devonian argillaceous limestone, siltstone, shale, sandstone, and chert (Map Unit Dsc); is unconformably overlain by Middle Devonian fossiliferous limestone (Map Unit Dls); is conformably overlain by Upper Devonian rusty weathering shale (Map Unit Drs). Absent from the Reb area are the uppermost Devonian units, which northwestward contain bedded barite and sulphides. These units consist of siliceous shale overlain by black shale.

TABLE 1: TABLE OF ROCK UNITS UNDERLYING
THE REB CLAIMS AND SURROUNDING AREA

MAP UNIT

UPPER DEVONIAN

Drs Black, bluish grey to rusty weathering, flaky to slabby, silty, slightly pyritic shale; silty laminations locally visible on cleavage planes; slightly resistant.

MIDDLE DEVONIAN

Dlt Medium grey, blocky weathering, fossiliferous limestone; locally with "2- holer" crinoid ossicles near top; resistant.

LOWER DEVONIAN

Dsc Dark grey, light grey weathering, slabby to platy, argillaceous, locally limy or siliceous siltstone interbedded with black silty shale, black argillaceous limestone; minor thin beds and lenses of black chert; minor poorly sorted quartz arenite and wacke with white, altered grains of feldspar (?); slightly resistant.

Dlt Medium grey, grey brown weathering, blocky, sandy dolomite and limestone debris flows; minor platy siltstone and limestone; resistant.

SILURIAN (ROAD RIVER GROUP)

Ss1 Medium to dark grey, light brown to greyish brown weathering, blocky to platy, locally dolomitic, evenly to wavy laminated siltstone; minor shale and limestone; resistant.

ORDOVICIAN - SILURIAN (ROAD RIVER GROUP)

OS Medium grey to black, platy, argillaceous, evenly to wavy laminated siltstone and sandstone; interbedded with black, platy, friable shale, limy shale, and argillaceous limestone; recessive.

ORDOVICIAN (ROAD RIVER GROUP)

Os Black, bluish grey weathering, graphitic, graptolitic, pyritic shale with interbeds siltstone, black dolomite, cherty shale, chert, and black limestone; shale weathers into carbonaceous soil; recessive.

- Oss Medium grey, light brown weathering, pyritic, thin bedded dolomitic siltstone, quartz sandstone, dolomite, and green weathering shale; resistant beds are ribbed with quartz veinlets; recessive.
- Olt Medium to dark grey, grey to orange weathering, blocky to platy, thin to medium bedded, interbedded limestone and dolomitic limestone; limestone debris flows; resistant.

CAMBRO - ORDOVICIAN

- COk Medium grey, light brown weathering, slabby to platy, phyllitic, limy mudstone and siltstone with thin beds and nodules of light grey limestone; minor wavy banded, argillaceous limestone; resistant.

Mineralization

About 30 m of bedded pyrite is exposed in a creek bed about 300 m above the contact between the Road River and underlying Kechika Group. Black graphitic shale and minor cherty shale and chert are interlaminated to interbedded with pyrite. Pyrite beds average 1-5 cm thick with maximum thickness being about 1.0 m. Soft sediment slumping and brecciation of the pyrite beds are common. Voids and fractures in the breccia beds usually are filled with quartz. Northwestward along strike are outcrops of pyritic chert and cherty shale. Exposure of the pyritic interval is absent southeastward. However, areas of ferricrete suggest the continuation of pyrite for at least 450 m southeastward.

Limonitic soil and ferricrete occur upslope from the bedded pyrite. Some of this is related to the basal Road River dolomitic siltstone, which contains disseminated pyrite. Quartz and barite veining and minor Cu mineralization are found in this unit. A grab sample of a Cu-stained quartz vein with minor chalcocite and chalcopyrite and rare covellite assayed 0.28% Cu, 0.01% Pb, 0.03% Zn, and 0.1 oz/T. Ag.

Scattered Cu-stained quartz veins containing minor chalcocite were found in Lower Devonian rocks underlying the western Reb area. Hydrozincite coatings were found in Lower Devonian limy siltstone at one locality in the western part of the claims. A representative sample of this siltstone analyzed 980 ppm Zn.

Structure

In 1981, Esso personnel determined that the Reb Claims were underlain by a regional, gently northwest plunging syncline (Stewart, 1981; Hrkac, 1982). Observations made in 1982 suggest that the structure underlying the claims is much more complicated (MAP 1, FIG. 4). The stratigraphy is interrupted by northwestward trending faults and folds. Observations made on the Silurian Siltstone in the western part of the property suggest the presence of a syncline that plunges gently northwestward and disappears into a probable thrust fault. The position of the fold axis is now determined to be slightly north of the axis determined in 1981. Road River Shale, however, does not contain visible features of this structure.

No structures were seen that could be definitely attributed to growth faults of the Road River sub-basin. As suggested by Hrkac (1982, p. 33-36), the fault between the Kechika and Road River Groups may be a reactivated growth fault.

GEOCHEMISTRY

A number of geochemical surveys were carried out in the claims area. These were stream sediment heavy mineral, soil sampling along the grid and rock sampling on routine traverses. In addition, soil and rock samples were collected from trenches. The analytical report from Min En Laboratories is presented in Appendix III.

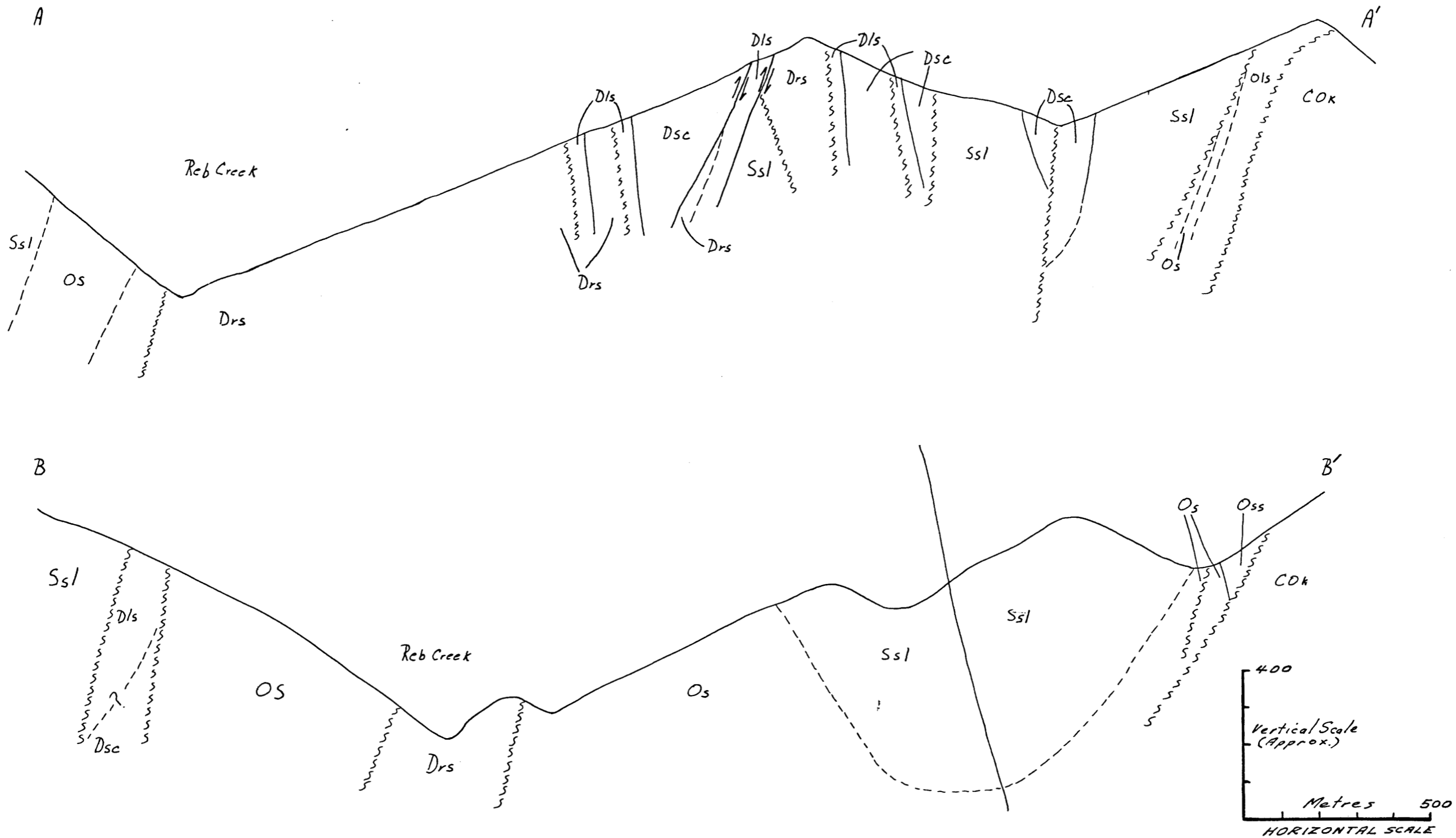


FIG. 4 X-SECTION - REB CLAIMS
ESSO MINERALS CANADA

TRENCH	DEPTH (m)	DESCRIPTION	ppm Pb	ppm Zn
9	0.9	Shale bedrock	300	9
10	1.3	Shale bedrock	33	16
11	0.7	Shale bedrock	79	64
12	1.0	Shale bedrock	29	42
13	1.0	Red soil, B-horizon	<u>1030</u>	286
13	1.5	Shale, talus or bedrock	<u>15000</u>	<u>2650</u>
13	1.5	Ferricrete	<u>3100</u>	383

CONCLUSIONS

Mapping to date has not given a clear understanding of the geology of the Road River sub-basin and the structural geology of the area. More detailed mapping and microfossil sampling is necessary.

Stream sediment heavy mineral and soil sampling have not indicated the presence of significant Pb-Zn mineralization. A few scattered Pb anomalies in soils and trench samples may be related to the exposed pyrite. High Pb-Zn in soil and talus samples from a trench overlying an area of Road River shales upslope from pyrite bed may be related to the upslope structure or another sulphide zone.

The Reb prospect has potential for a shale-hosted Pb-Zn of the Sedex type for the following reasons:

1. The presence of bedded pyrite.
2. The unusual thickening of the Road River Shale suggests the presence of a sub-basin with possible growth faults.
3. Black carbonaceous shale, dolomite and limestone, and chert indicate deposition in a quiet, euxinic environment.
4. The presence of chert in third order basins is considered to be related to hydrothermal activity.

5. Ordovician volcanics occur nearby.
6. The similarity of the Reb prospect to other Sedex deposits and showings in the area.

RECOMMENDATIONS

Geophysics and diamond drilling are necessary to evaluate the extent and economic significance of the pyrite band. EM methods should be tested over "pyrite and limonite creeks" and, if successful, a survey is recommended over the entire grid. Gravity should be used to discriminate between sulphide and graphite conductors.

Initially, three 100-m deep holes are recommended at the following locations:

1. 3 + 40W x 1 + 50N, bearing 270°, dip 45° towards the area of ferricrete on "limonite creek".
2. 2 + 00W x 0 + 50N, bearing 40°, dip 45° towards the highest Pb soil anomaly and on trend with the pyrite zone.
3. 5 + 50W x 1 + 25N, bearing 220°, dip 45°, towards an area of ferricrete on trend with the pyrite zone (lowest priority).

These drill hole locations are tentative to the results of the geophysics.

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APPENDIX I

STATEMENT OF EXPENDITURES

STATEMENT OF EXPENDITURES

PERSONNEL: June 22 to July 22, 1982

M. Lomenda (geologist) - 28 days @ \$146/day	=	\$ 4,088	
R. Thomson (geologist) - 27 days @ \$90/day	=	2,430	
A. Gonzales (assistant) - 26 days @ \$72/day	=	1,872	
W. Bader (assistant) - 28 days @ \$66/day	=	1,848	
		<u>10,238</u>	= \$10,238

HELICOPTER

32.6 hours @ \$410/hour	=	13,366	
Fuel @ \$3.00/gal. and 22 gal./hour	=	2,151	
		<u>15,517</u>	= 15,517

FOOD AND LODGING

112 man-days @ \$35/day =			3,920
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MOBILIZATION AND DEMOBILIZATION

Mob.-Two Otter flights: Mackenzie to Pelly Lake	=	\$ 724	
Mackenzie to Ingenika	=	653	
Demob.-Two Twin Beech flights: Ingenika to Mackenzie =		<u>1,050</u>	
		<u>2,427</u>	= 2,427

ANALYSES

Heavy mineral: 33 @ \$35.50 =		1,171.50	
Rock: 22 @ \$5.40 =		180.00	
Assay: 1 @ \$31.50 =		31.50	
Soil 164 @ 3.75 =		<u>615.00</u>	
		<u>1,926.00</u>	<u>1,926</u>
			<u>\$34,028</u>

APPENDIX II

B.C. GOVERNMENT FORMS -

STATEMENT OF EXPLORATION AND

DEVELOPMENT AND NOTICE TO GROUP



Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources
MINERAL RESOURCES BRANCH—TITLES DIVISION

MINERAL ACT

STATEMENT OF EXPLORATION AND DEVELOPMENT

I, M. G. Lomenda (Name) Agent for Esso Resources Canada Limited (Name)
210 Wascana Crescent S.W. (Address) #600 - 1281 West Georgia Street (Address)
CALGARY, Alberta, T2J 1H3 Vancouver, British Columbia, V6E 3J7
Valid subsisting F.M.C. No. Valid subsisting F.M.C. No. 244803

STATE THAT

1. I have done, or caused to be done, work on the REB 1 to 10 Claim(s)
Record No.(s) 2345, 2346, 2347, 2348, 3280, 3281, 3282, 3283, 4091, 4092
Situate at Ospika River in the Omineca Mining Division,
to the value of at least \$34,006,00 dollars. Work was done from the 22nd day
of June 19 82 to the 22nd day of July 19 82

2. The following work was done in the 12 months in which such work is required to be done:

(COMPLETE APPROPRIATE SECTION(S) A, B, C, D, FOLLOWING)

A. PHYSICAL

(Trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails)

(Give details as required by section 13 of regulations.)

Table with 2 columns: Description of physical work and COST. Includes a row for TOTAL PHYSICAL.

I wish to apply \$ of physical work to the claims listed below.

(State number of years to be applied to each claim, its month of record, and identify each claim by name and record no.)

B. PROSPECTING

(Details in report submitted as per section 9 of regulations.)
(The itemized cost statement must be part of the report.)

Table with 2 columns: Description of prospecting work and COST.

I wish to apply \$ of this prospecting work to the claims listed below.

(State number of years to be applied to each claim, its month of record, and identify each claim by name and record no.)

C. DRILLING

(Details in report submitted as per section 8 of regulations.)
(The itemized cost statement must be part of the report.)

COST	
------	--

D. GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL

(Details in report submitted as per section 5, 6, or 7 of regulations.)
(The itemized cost statement must be part of the report.)
(State type of work in space below.)

Geological mapping, geochemical sampling, prospecting
hand trenching.

\$34,006.00

TOTAL OF C AND D

\$34,006.00

Who was the operator (provided the financing)?

Name

Address

Portable Assessment Credits (PAC) Withdrawal Request

AMOUNT

Amount to be withdrawn from owner(s) account(s):

Name of Owner

(May be no more than 30 per cent of value of the approved work submitted as assessment work in C and (or) D.)

1.
2.
3.
4.

TOTAL WITHDRAWAL

TOTAL OF C AND (OR) D PLUS PAC WITHDRAWAL

I wish to apply \$ 34,000.00 of this work to the claims listed below.

(State number of years to be applied to each claim, its month of record, and identify each claim by name and record no.)

Two years to the following: Reb 1 - 2345, Nov.; Reb 2 - 2346, Nov.;
Reb 3 - 2347, Nov.; Reb 4 - 2348, Nov.;
Reb 5 - 3280, Sept.; Reb 6 - 3281, Sept.;
Reb 7 - 3282, Sept.; Reb 8 - 3283, Sept.;
Reb 9 - 4091, Aug.; Reb 10 - 4092, Aug.

Value of work to be credited to portable assessment credit (PAC) account(s).

(May only be credited from the approved value of C and (or) D not applied to claims.)

Name		AMOUNT
In owner(s) name.	1. Esso Resources Canada Limited	\$6.00
	2.	
	3.	
In operator(s) name (party providing the financing).	1. Esso Resources Canada Limited	
	2.	
	3.	

(Signature of Applicant)

APPENDIX III
GEOCHEMICAL REPORTS

MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project REB Date of report July 23/82.
File No. 2-317 Date samples received July 13/82.
Samples submitted by: M. Lomenda
Company: Esso Minerals Canada
Report on: 35 soils, 4 rocks, 35 HM Geochem samples
..... Assay samples

Copies sent to:

1. Esso Minerals, Calgary, Alta.
2. Esso Minerals, MacKenzie, B.C.
3. Esso Minerals, Vancouver, B.C.

Samples: Sieved to mesh -80 soil Ground to mesh -80 rock
Prepared samples stored discarded HM -20+200 mesh
rejects stored discarded

Methods of analysis: HM-Specific gravity flotation and routine
geochem analysis. Geochem Pb,Zn-nitric,perchloric digestion
A.A.

Remarks:

PROJECT No.: REB

MIN - EN Laboratories Ltd.

-20+200 mesh

DATE: July 2

ATTENTION: M. Lomenda

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

Heavy Mineral

1982.

Sample. 6	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	
Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb	Ba ppm		HM %	
81	86	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160
10.01			360	840				•					62000			0.53
02			140	1630				•					3400			0.26
03			112	1220				•					1030			0.33
04			188	1660				•					3480			0.51
05			480	1890				•					16000			0.42
06			192	1990				•					2800			0.30
07			206	1790				•					590			0.25
08			192	1920				•					1240			0.28
09			520	1280				•					11000			1.24
10			380	2880				•					2850			0.38
11			280	2350				•					4000			0.27
12			210	2130				•					4100			0.41
13			180	1920				•					3400			0.36
14			820	1280				•					50000			1.39
15			640	1110				•					10200			1.56
10.16			720	1220				•					84000			1.28
20.00			720	458				•					66000			0.90
01			820	520				•					28000			1.12
02			750	820				•					2400			0.96
03			840	610				•					40000			0.89
04			720	790				•					60000			1.07
05			520	78				•					6800			0.48
06			660	280				•					28000			0.73
07			680	440				•					5200			0.63
08			650	460				•					9000			0.74
09			580	540				•					5100			0.74
10			520	590				•					22000			0.87
11			520	670				•					3800			0.59
12			189	3210				•					16000			0.11
20.13			90	1450				•					41000			0.16

CERTIFIED BY *[Signature]*

COMPANY Esso Minerals

GEOCHEMICAL ANALYSIS DATA SHEET

No. 2-317

PROJECT No.: REB

MIN - EN Laboratories Ltd.

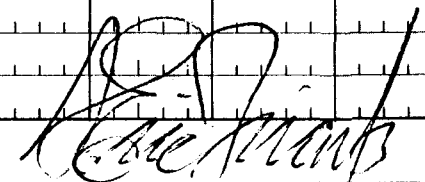
DATE: July 2

ATTENTION: M. Lomenda

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

1982.

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb	70	75	80
1,001RG			26	32											
02			33	109											
1,003RG			35	5830											
2,001RG			23	980											
*Some of these samples should have been requested for assay.															

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PROJECT No.: REB

MIN - EN Laboratories Ltd.

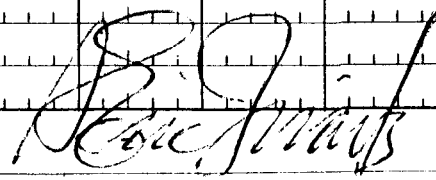
DATE: July 2

ATTENTION: M. Lomenda

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

1982.

6	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	
Sample. Number	As ppm	Se ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb				
81	86	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160
L2W0+75N1B1			3300	122												
	2B2		275	27												
	1C		840	40												
	2B1		135	105												
	2C		370	13												
	3C		28	22												
	4C		38	23												
	5C		19	52												
L2W0+75N1B2			1260	69												
L4W0+63N1B			200	72												
	1C		280	164												
	2B		1750	70												
	2C1		930	24												
	2C2		890	9												
	3B		60	55												
	3C1		60	53												
	3C2		52	40												
	4C		76	13												
	5B		210	164												
L4W0+63N5C			190	127												
L8W2+50N1B			180	87												
	1C		190	31												
	2B		43	88												
	2C		92	68												
	3B		75	46												
	3C		75	25												
	4B		108	70												
	4C		124	48												
L8W2+50N5B			56	62												
L8W0+25S1C			1300	186												

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MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project REB Date of report Aug. 2/82 .
File No. 2-317R Date samples received July 31/82 .
Samples submitted by:
Company: Esso Minerals
Report on: 29 ICP (17 element) Geochem samples
.....
..... Assay samples

Copies sent to:

1. Esso Minerals Canada, Calgary, Alta.
2. Esso Minerals Canada, Vancouver, B.C.
3. Esso Minerals Canada, MacKenzie, B.C.

Samples: Sieved to mesh Ground to mesh

Prepared samples stored discarded

rejects stored discarded

Methods of analysis: 17 element ICP Analysis.

Remarks: Samples 2012 and 2014 to 2018 not enough sample
to run ICP.

SPECIALISTS IN MINERAL ENVIRONMENTS

FILE NAME: 2-317R/P1

DATE: AUGUST 3, 1982

TEST NAME: GEO1

COMPANY: ESSO

PROJECT: REB

----- CONCENTRATION IN PPM -----

	1001	1002	1003	1004	1005	1006	1007	1008
AG	4.1	5.7	4.2	4.4	5.7	5.6	4.8	4.2
AL	5650	10800	9490	10700	8140	9710	10600	9390
AS	375	381	323	352	407	370	389	345
B	22	32	27	29	25	33	27	26
BI	61	61	45	52	67	65	66	61
CA	29300	43900	43000	42300	31500	36200	35600	31800
CD	24.7	36.1	28.8	31.8	37.5	36.6	36.7	32.6
CO	76	72	57	68	79	75	77	73
CU	368	383	316	353	423	417	417	375
FE	208000	176000	165000	149000	228000	223000	175000	211000
K	1710	3660	3110	3780	2460	3400	3580	2790
HG	2640	5330	7170	6380	2720	3270	3830	3770
MN	1150	624	486	645	829	830	788	811
MO	46	86	70	70	78	77	82	75
NA	48	94	75	89	82	90	85	78
NI	355	524	430	423	465	460	465	417
P	13500	17000	13800	15400	14300	16300	15700	13700
PB	292	140	111	178	189	177	185	201
SB	73	77	54	80	94	101	103	85
SR	85	195	166	149	104	127	125	112
TH	75	99	77	88	84	86	93	84
U	84	158	102	159	95	116	137	103
V	144.0	243.0	206.0	219.0	231.0	240.0	242.0	212.0
Zn	1320	2340	1850	1960	2450	2490	2700	2460

MINEN LABS ICP REPORT

WELL NAME: 2-317R/P1
 TEST NAME: GED1

DATE: AUGUST 3, 1982
 COMPANY: ESSO
 PROJECT: REB

----- CONCENTRATION IN PPM -----

	1009	1010	1011	1012	1013	1014	1015	1016
AG	5.1	2.3	1.8	1.9	.9	5.8	5.3	6
AL	5190	12100	11800	11700	14300	5600	5740	6230
AS	403	424	370	385	389	470	443	464
B	21	26	23	22	26	21	21	24
BI	65	77	65	64	70	73	66	75
CA	21300	16300	21000	17200	15600	21500	19500	22200
CD	17.5	35.7	31.2	32.1	34.8	16.4	17.2	22
CO	104	72	61	62	69	116	105	120
CU	315	547	455	458	436	316	313	338
FE	225000	242000	214000	225000	227000	234000	212000	224000
✓ K	1580	1310	1120	969	1360	1830	1860	2020
MG	3390	2850	3950	2860	3090	3870	3560	4450
MN	1300	589	388	368	518	1740	1300	1930
MO	64	167	156	156	153	71	66	70
NA	38	101	137	129	126	87	37	45
NI	304	477	416	437	440	319	303	338
P	8830	8170	8020	8210	7890	8380	8160	8630
PB	580	301	213	209	194	576	593	546
SB	73	93	58	61	82	80	84	83
SR	65	78	95	91	94	67	67	77
TH	78	95	89	89	97	86	83	90
U	74	90	83	91	143	85	85	99
✓	143.0	315.0	273.0	270.0	335.0	151.0	142.0	159.0
ZN	1880	3870	3310	3300	2750	1660	1610	1920

MINEN LABS ICP REPORT

FILE NAME: 2-317R/P1
 TEST NAME: GED1

DATE: AUGUST 3, 1982
 COMPANY: ESSO
 PROJECT: REB

----- CONCENTRATION IN PPM -----

	2000	2001	2002	2003	2004	2005	2006	2007
AB	3.3	3.6	3.2	3.5	3.1	3.4	2.3	3.2
AL	5810	4980	6440	6630	5940	5130	5190	5420
AS	636	651	696	657	682	516	638	659
B	20	22	23	25	20	17	18	20
BI	73	77	77	77	76	91	103	106
CA	26000	21800	20200	21400	19000	9880	8510	12200
CD	12.1	12.1	15.7	13.3	16.1	11	11.4	14.3
CO	175	175	141	155	134	300	244	209
CU	607	535	515	563	489	712	1130	1650
FE	222000	225000	221000	224000	233000	262000	279000	251000
K	2410	1960	2360	2690	1990	597	421	927
MG	4350	3960	3990	4420	3610	4850	4780	4720
MN	1480	1100	1200	1360	1110	2270	1610	1950
MO	74	64	65	64	62	57	57	62
NA	71	48	38	53	27	3	0	2
NI	322	292	283	280	272	313	303	288
P	9270	7510	6940	7050	6410	3290	2710	3750
PB	511	590	616	597	690	457	592	673
SB	65	66	85	71	66	68	76	87
SR	39	32	38	44	37	29	27	35
TH	82	86	86	87	86	98	102	98
U	84	69	73	74	73	77	69	80
V	114.0	126.0	183.0	156.0	181.0	70.8	87.9	102.0
ZN	459	546	981	756	1210	88	198	711

MINEN LABS ICP REPORT

FILE NAME: 2-317R/P1
 TEST NAME: GEO1

DATE: AUGUST 3, 1982
 COMPANY: ESSO
 PROJECT: REB

----- CONCENTRATION IN PPM -----

	2008	2009	2010	2011	2013
AG	3.5	1.9	1.6	2	1.3
AL	5720	6080	7070	6680	4710
AS	651	628	658	652	401
B	19	21	27	26	2
BI	115	93	93	93	79
CA	14000	15200	14200	16600	21000
CD	14.1	16.8	14.4	14.5	30.6
CO	177	118	109	105	64
CU	2390	1300	1290	1150	797
EE	237000	237000	239000	232000	204000
←	1450	1580	1940	1570	1290
MG	4480	3890	3430	3730	4190
MN	1930	1680	1590	1450	606
MO	67	78	73	76	79
NA	12	12	21	23	0
NI	274	269	277	281	364
P	4230	5200	5510	6110	4320
PB	689	626	540	570	192
SB	107	90	137	106	69
SR	43	35	35	38	61
TH	92	90	94	96	91
U	78	83	94	91	108
✓	129.0	189.0	198.0	201.0	142.0
ZN	490	1030	765	822	2240

MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project **REB** Date of report **July 31, 1982**
File No. **2-418** Date samples received **July 29, 1982**
Samples submitted by: **M. Lomenda**
Company: **Esso Minerals Canada**
Report on: **153** Geochem samples

Assay samples

Copies sent to:

- M. Lomenda, Esso Minerals, MacKenzie**
- C. Aird, Esso Minerals, Vancouver**
- L. Kirwan, Esso Minerals, Calgary**

Samples: Sieved to mesh **-80** Ground to mesh **-80**

Prepared samples stored discarded

rejects stored discarded

Methods of analysis: **Pb, Zn-nitric, perchloric digestion. A.A. Analysis.**

Remarks:

SPECIALISTS IN MINERAL ENVIRONMENTS

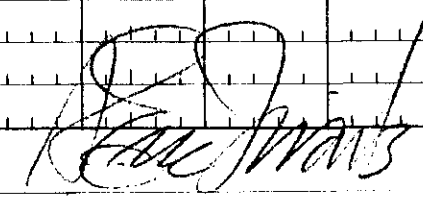
PROJECT No.: **REB**

MIN - EN Laboratories Ltd.

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

ATTENTION: **M. Lomenda**

Sample Number	6 Mo ppm	10 Cu ppm	15 Pb ppm	20 Zn ppm	25 Ni ppm	30 Co ppm	35 Ag ppm	40 Fe ppm	45 Hg ppb	50 As ppm	55 Mn ppm	60 Au ppb	65 70 75 80
	81 86	90	95 100	105	110	115	120	125	130	135	140	145	150 155 160
L1W-0+25N-1			36	42									
0+25N-2			36	16									
0+50N-1			33	66									
0+75N-1			42	47									
1+00N-1			130	212									
1+25N-1			50	34									
1+50N-1			260	178									
1+75N-1			80	37									
L1W-1+75N-2			96	75									
L2W-0+25N-1			130	470									
0+50N-1			90	163									
0+50N-2			70	105									
0+75N-1			675	43									
1+50N-1			48	256									
1+75N-1			70	46									
L2W-2+00N-1			58	41									
L3W-0+75N-1			135	141									
0+75N-2			90	197									
1+00N-1			200	103									
1+00N-2			210	123									
1+25N-1			400	86									
1+25N-2			550	95									
1+50N-1			140	51									
L3W-1+50N-2			94	22									
L4W-0+25N-1			62	75									
0+25N-2			72	118									
1+00N-1			220	80									
1+00N-2			410	120									
1+25N-1			380	136									
L4W-1+25N-2			520	180									

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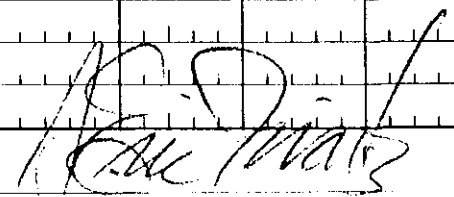
PROJECT No.: **REB**

MIN - EN Laboratories Ltd.

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

ATTENTION: **M. Lomenda**

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb				
81	86	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160
L5W-0+25N-1			38	132												
0+50N-1			350	74												
0+75N-1			102	13												
1+00N-1			1500	41												
1+25N-1			60	63												
L5W-1+50N-1			64	35												
L6W-0+25N-1			50	159												
0+25N-2			32	266												
0+50N-1			108	118												
0+50N-2			64	26												
0+75N-1			70	70												
0+75N-2			140	37												
1+00N-1			48	202												
1+00N-2			88	382												
1+25N-1			1050	9												
1+25N-2			1360	6												
L6W-1+50N-1			88	38												
L7W-0+25N-1			54	165												
0+25N-2				Missing												
0+50N-1			56	90												
0+50N-2			280	25												
0+75N-1			148	190												
0+75N-2			102	222												
1+00N-1			96	52												
1+00N-2			64	28												
1+25N-1			105	146												
1+25N-2			114	265												
1+50N-1			95	123												
L7W-1+50N-2			110	187												
L8W-0+25N-1			75	44												

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PROJECT No.: **REB**

MIN - EN Laboratories Ltd.

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

ATTENTION: **M. Lomenda**

Sample. Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb	70	75	80
6	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
81	86	90	95	100	110	115	120	125	130	135	140	145	150	155	160
L8W-0+50N-1			56	310											
0+50N-2			106	346											
0+75N-1			1300	150											
1+00N-1			140	216											
1+25N-1			78	90											
1+50N-1			46	108											
L8W-1+50N-2			61	139											
L9W-0+25N-1			700	184											
0+25N-2			1700	252											
0+50N-1			53	182											
0+50N-2			184	193											
0+75N-1			82	161											
0+75N-2			67	178											
1+00N-1			102	80											
1+00N-2			154	281											
1+25N-1			40	107											
1+25N-2			48	152											
L9W-1+50N-1			41	25											
L10W-0+12N-1			280	108											
1+00N-1			58	135											
1+25N-1			62	149											
1+25N-2			67	170			40 mesh								
1+50N-1			58	139											
L10W-1+50N-2			195	111											
L11W-0+25N-1			74	590											
0+25N-2			68	505											
0+50N-1			164	560											
0+50N-2			108	572											
0+75N-1			140	234											
L11W-0+75N-2			175	250											

CERTIFIED BY: 

PROJECT No.: **REB**

MIN - EN Laboratories Ltd.

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

ATTENTION: **M. Lemenda**

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb	70	75	80	
81	86	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160
L11W-1+00N-1			1800	186				•								
1+25N-1			50	223				•								
L11W-1+50N-1			98	174				•								
L1E-0+75N-1			38	78				•								
1+00N-1			40	17				•								
1+25N-1			58	40				•								
1+50N-1			54	41				•								
1+75N-1			280	83				•								
L1E-2+00N-1			690	185				•								
L2E-0+75N-1			54	175				•								
1+00N-1			38	18				•								
1+25N-1			36	22				•								
1+50N-1			72	102				•								
L2E-1+75N-1			98	154				•								
L3E-0+75N-1			40	86				•								
1+00N-1			60	261				•								
1+25N-1			68	332				•								
1+50N-1			72	58				•								
L3E-1+75N-1			80	275				•								
L4E-0+75N-1			40	65				•								
1+00N-1			49	153				•								
1+25N-1			96	237				•								
1+50N-1			64	110				•								
1+75N-1			67	93				•								
L4E-2+00N-1			68	131				•								
T-3-1			270	167				•								
2			100	235				•								
T-3-3			1030	86				•								
T-4-1			270	117				•								
T-4-3			1230	44				•								

CERTIFIED BY

MIN-EN Laboratories Ltd.

705 WEST 15th STREET,
NORTH VANCOUVER, B.C., CANADA V7M 1T2
TELEPHONE (604) 980-5814

ANALYTICAL REPORT

Project REB Date of report Aug. 5/82.
File No. 2-418 Date samples received July 29/82.
Samples submitted by: M. Lomenda
Company: Esso Minerals
Report on: 13 HM Geochem samples
.....
..... Assay samples

Copies sent to:

1. Esso Minerals, Calgary, Alta.
2. Esso Minerals, Vancouver, B.C.
3. Esso Minerals, MacKenzie, B.C.

Samples: Sieved to mesh Ground to mesh

Prepared samples stored discarded

rejects stored discarded

Methods of analysis: Specific gravity flotation and routine
..... geochem analysis.

Remarks:

SPECIALISTS IN MINERAL ENVIRONMENTS

MINEN LABS ICP REPORT

FILE NAME: 2-418HM
 ACT NAME: GED1

DATE: AUGUST 4, 1982
 COMPANY: ESSO MINERALS CANADA
 PROJECT: REB

---- CONCENTRATION IN PPM ----

	2019	2020	2021	2022	2023	2024	2025	2026
AG	3.1	5.1	6.1	8.4	8.3	.8	9.5	21.5
AL	6210	6130	6840	5970	5590	2520	5910	3450
AS	461	306	354	301	272	83	343	475
B	28	25	28	30	32	3	33	26
BI	66	60	66	64	68	16	58	64
CA	31800	39000	33200	43700	35200	16100	50000	31600
CD	27	39	29.4	49.8	56.2	6.7	37.5	321.0
CO	75	65	94	78	105	20	75	57
CU	292	469	450	493	421	70	538	584
<i>Fe</i>	287000	256000	279000	275000	286000	73900	275000	243000
K	1610	2410	2460	2690	2460	718	2470	1090
MG	3300	4120	3600	3660	5730	1480	3960	3390
MN	874	587	915	674	835	182	635	510
MO	96	99	113	102	84	34	114	234
NA	43	65	63	74	47	9	97	59
NI	424	374	452	421	368	157	473	554
P	12000	15400	13800	18800	13100	4440	22500	12300
PB	198	391	282	451	1320	89	803	2870
SB	67	73	78	85	85	18	78	105
SR	45	66	54	31	29	10	26	51
TH	80	75	81	78	80	26	76	68
<i>Ti</i>	71	66	80	83	75	27	70	54
<i>V</i>	176.0	181.0	281.0	276.0	252.0	90.7	211.0	252.0
ZN	4690	4780	3240	5400	7280	1860	6450	34500

MINEN LABS ICP REPORT

E NAME: 2-418HM

T NAME: GED1

DATE: AUGUST 4, 1982

COMPANY: ESSO MINERALS CANADA

PROJECT: REB

----- CONCENTRATION IN PPM -----

	2027	2028	3001	3002	3003
AG	2.8	3.6	9.2	8.8	4
AL	6560	7930	5240	6150	8580
AS	356	264	310	236	271
B	22	18	21	23	17
BI	83	68	54	43	46
CA	12600	18400	51700	50000	27400
CD	31.4	30.9	15.9	39.4	28.4
CO	251	89	49	55	70
CU	494	405	235	333	300
<i>Fe</i> <i>K</i>	331000	284000	242000	194000	188000
	267	354	3310	2610	1120
MG	6210	3180	6200	5150	4690
MN	1290	869	530	671	721
MO	63	92	74	65	178
NA	13	46	108	88	62
NI	308	426	294	389	665
P	4980	6370	20900	20100	9600
PB	489	135	679	146	90
SB	52	59	59	69	59
SR	26	50	46	91	153
TH	89	78	78	69	84
U	67	62	72	75	120
<i>✓</i>	89.3	163.0	165.0	169.0	241.0
ZN	2550	3530	2770	3100	3130

APPENDIX IV

SOIL GEOCHEMISTRY

TABLE 1
SOIL GEOCHEM
REB

LOCATION	COLOUR	DEPTH (cm.)	SOIL	ppm Pb	ppm Zn
L2W 0+75N	RD-Br	25	Clay, B ₁ Horizon	3300	122
	GY	50	Clay, B ₂ Horizon	840	40
	Br	85	Clay, C, Horizon	1260	69
L2W 0+95N	LBr	25	B ₁ Horizon	135	105
	Br-GY	50	B ₂ Horizon	275	27
	LGY	100	C Horizon	370	13
L2W 1+25N	LGY	40	C Horizon	28	22
L2W 1+45N	DBr	50	C-Horizon, Shale Fragments	38	23
22W 1+65	Br-GY	75	C-Horizon, Shale Fragments	19	52
L4W 0+63N	LBr	50	B-Horizon, Clay	200	72
	Br	80	C-Horizon	280	164
L4W 0+83N	Br	30	B-Horizon	1750	70
	GY	50	C ₁ -Horizon	930	24
	GY	95	C ₂ -Horizon	890	9
L4W 1+03N	Rd-Br	35	B-Horizon	60	55
	GY-Br	60	C ₁ -Horizon	60	53
	LBr	110	C ₂ -Horizon	52	40
L4W 1+23N	GY	50-70	C-Horizon	76	13
L4W 1+43N	Rd-Br	40	B-Horizon	210	164
	Br-GY	60	C-Horizon	190	127

LOCATION	COLOUR	DEPTH (cm.)	SOIL	ppm Pb	ppm Zn
L8W 2+50N	Br	40	B-Horizon	180	87
	Br	60	C-Horizon	190	31
L8W 2+70N	Br	50	B-Horizon, Clay/Talus	43	88
	Br	75	C-Horizon Medium Frag	92	68
L8W 2+90N	Rd-Br	40	B-Horizon, Minor Frag	75	46
	LBr	85	C-Horizon, Medium Frag	75	25
L8W 3+10N	Rd-Br	50	B-Horizon, Minor Frag	108	70
	B	100	C-Horizon, Clay	124	48
L8W 3+30N	Rd-Br	10	B-Horizon, Abundant Talus Some Organic	56	62
L8W 0+25S	Rd-Br	70	C-Horizon, Abundant Frag	1300	186
L8W 0+45S	Y-Br	30	B-Horizon, Medium Frag	280	153
	LGY	50	C-Horizon, Clay, Medium Frag	118	47
L8W 0+65S	LBr	45	Clay Medium Frag	136	167
L8W 0+85S	LBr	100	C-Horizon, Clay Medium Frag	102	125
L8W 1+05S	LGY-Br	40	Clay, Abundant Frag	870	107

TABLE 2
SOIL GEOCHEM
REB

LOCATION	COLOUR	DEPTH (cm.)	SOIL	ppm Pb	ppm Zn
L11W 0+25N	LBr-GY	30-60	Minor Frag	74	590
	LBr-GY	65-90	Clayish W/Frag	68	505
L11W 0+50N	LBr	41-60	Clay	164	560
	LGY-Br	75-104	Clayish/Frag	108	572
L11W 0+75N	LBr-GY	50-80	Clay/Minor Frag	140	234
	LBr	80-110	Clayish/No Frag	175	250
L11W 1+00N	LBr	60-100		1800	186
L11W 1+25N	LGY-Br	50-100	Minor Rock, Frag	50	223
L11W 1+50N	LBr	40-85	No Clay	98	174
L11W +50N	Br	30-55	Minor Frag	98	174
L10W 0+25N	LBr-GY	30-50	No Frag	280	108
L10W 0+50N					
L10W 0+75N					
L10W 1+00N	LBr	30-70	Minor Rock Frag	58	135
L10W 1+25N	LBr	30-65	Clayish Minor Frag	62	149
	LBr	70-98	Clayish	67	170
L10W 1+50N	YBr-GY	70-110	Minor Frag	195	111

LOCATION	COLOUR	DEPTH (cm.)	SOIL	ppm Pb	ppm Zn
L9W 0+25N	LBr	30-50	Minor Frag	700	184
	LBr	60-100	Minor Frag	1700	252
L9W 0+50N	LBr	40-70	Minor Frag	53	182
	LGY-Br	77-110	Frag	182	193
L9W 0+75N	LBr	40-76	Minor Frag	82	178
	LBr	80-110	Frag	67	80
9W 1+00N	Br-GY	40-70	Minor Frag	102	80
	GY-Br	80-110	Minor Frag	154	281
9W 1+25N	LBr	40-70	Clayish Very Few Frag	40	107
	LBr	80-100	Clayish Minor Frag	48	152
9W 0+25N	LGY-Br	40-100	Minor Shale Frag	41	25
L8W 0+25N	Br,GY		Moderate Frag	75	44
L8W 0+25N	Y,Br	50-75	Large Size Frag	56	310
	LBr	80-110	Large Size Frag	106	346
L8W 0+75N	GY,Br	40	Minor Frag; Clay	1300	150
L8W 1+00N	LBr	40-75	Minor Frag	140	216
L8W 1+25N	GY-Br	40-80	Numerous Frag Clayish	78	90
8W 1+50N	LBr	40-70		46	108
	Br	80-100		61	139

LOCATION	COLOUR	DEPTH (cm.)	SOIL	ppm Pb	ppm Zn
L7W 0+25N	LY-Br	30-60	Clayish	54	165
	Br-GY	60-40	Clayish, Medium Frag	N/A	N/A
L7W 0+50N	LY-Br	40-70	Clayish	56	90
	LGY	85-110	Medium Frag	280	25
L7W 0+75N	LBr	40-70	Minor Frag	148	190
	Br	85-110	Clayish	102	222
L7W 1+00N	LBr	40-70	Minor Frag	96	52
	LGY-Br	75-100	Frag	64	28
L7W 1+25N	GY-Br	10-40	Medium Frag	105	146
	GY-Br	75-100		114	265
L7W 1+50N	GY-Br	40-70	Frag	95	123
	GY	75-100	Frag	110	187
L6W 0+25N	Br, GY	30-60	Moderate Shale Frag	50	159
	LGY	70-110	Abundant Shale Frag	32	266
L6W 0+50N	Y, Br	30-50	Minor Frag	108	118
	DGY-Br	55-70	Medium Frag	64	26
L6W 0+75N	LY, Br	40-60	Clay Some Frag	70	70
	GY	70-110	Clay/Frag	140	37
6W 1+00N	LBr-GY	40-60	Minor Frag	48	202
	Br-GY	70-90	Minor Shale Frag	88	382
6W 1+25N	GY	40-70	Lots of Talus	1050	9
	GY	75-108	Black Shale Talus	1360	6
6W 1+50N	OR-Br	40-70	Clayish	88	38

LOCATION	COLOUR	DEPTH (cm.)	SOIL	ppm Pb	ppm Zn
L5W 0+25N	GY	40-85	Abundant Shale Frag	38	132
L5W 0+50N	Y, Br	40-70	Abundant Shale Frag	350	74
L5W 0+75N	GY	40-70	Abundant Frag	102	13
L5W 1+00N	Y, Br	30		1500	41
L5W 1+25N	OR-Rd-Br	30-60	Clay; Medium Shale Frag	60	63
L5W 1+50N	OR, Br	40-60	Clay	64	35
L4W 0+25N	Br-GY	40-60		62	75
	Br	60-95	Clay; Minor Frag	72	118
L4W 1+00N	Br-GY	40-65	Clay; Minor Frag	220	80
	Br	70-95	Minor Frag	410	120
L4W 1+25N	Rd, Br	40-60	Minor Frag	380	136
	Br	75-90	Minor Frag	520	180
L4W 1+50N	Rd Br	40-70	Minor Frag		
	Rd Br	70-110	Minor Frag		
L3W 0+75N	LBr	40-60	Minor Frag	135	141
	LGY, Br	70-100		90	197
L3W 1+25N	LBr	45-70	Minor Frag	400	86
	Med. Br	75-100	Minor Frag	550	95
L3W 1+00N	LBr	45-75		200	103
	LBr	75-100		210	123

LOCATION	COLOUR	DEPTH (cm.)	SOIL	ppm Pb	ppm Zn
L3W 1+50N	LY Br	40-60	Minor Frag	140	51
	LBr-Dk, Br	70-115		94	22
L2W 0+25N	LBr-GY	50-85	Clayish/Minor Frag		
	LGY	80-110			
L2W 0+50N	LBr	50-70	Minor Frag	90	163
	LGY	80-110		70	105
L2W 0+75N	GY	150	Abundant Frag Clayish	675	43
L2W 1+50N	LBr, GY	30-65	Lots Talus Clay Content Increases with Depth	48	256
L2W 1+75N	LBr	30-50	Minor Frag	70	46
L2W 2+00N	LBr	35-50	Frag	58	41
L1W 0+25N	DBr-DGY	30-45	Medium Frag	36	42
L1W 0+50N	LBr	50-70	Abundant Frag	33	66
L1W 0+75N	Br, GY	35-60	Minor Frag	42	47
L1W 1+00N	GY	35-60	Abundant Frag	130	212
L1W 1+25N	Br, GY	40-70		50	34
L1W 1+50N	LBr	50-85	Clayish Frag	260	178
L1W 1+75N	LBr	40-50	Clayish Frag	80	37
	DGY	50-80	Medium Frag (Shale)	36	16

LOCATION	COLOUR	DEPTH (cm)	SOIL	ppm Pb	ppm Zn
L1E 1+50N	DBr-GY	40-90	Minor Frag	54	41
L1E 1+75N	GY	60-105	Talus	280	83
L1E 2+00N	Br	50-90	Medium Frag	690	185
L2E 1+75N	Br,L-Y	50-110	Friable-Minor Frag	72	102
L2E 0+75N	Y,Br	30-40	Clay	54	175
L2E 1+00N	GY	60-90	Medium Frag	38	18
L2E 1+25N	GY	80-105	Clay, Minor Frag	36	22
L2E 1+50N	Br	60-85	Clay, Minor Frag	72	102
L2E 1+75N	Br	50-110	Friable-Minor Frag	72	102

0193K

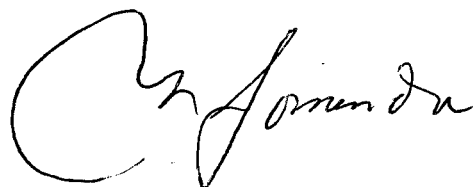
APPENDIX V

STATEMENT OF QUALIFICATION

CERTIFICATION

I, Melvin Lomenda of 210 Wascana Crescent S.E., Calgary, Alberta, certify that:

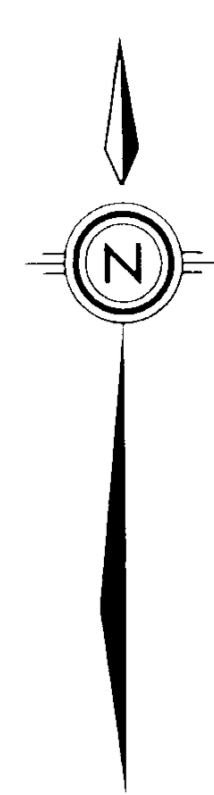
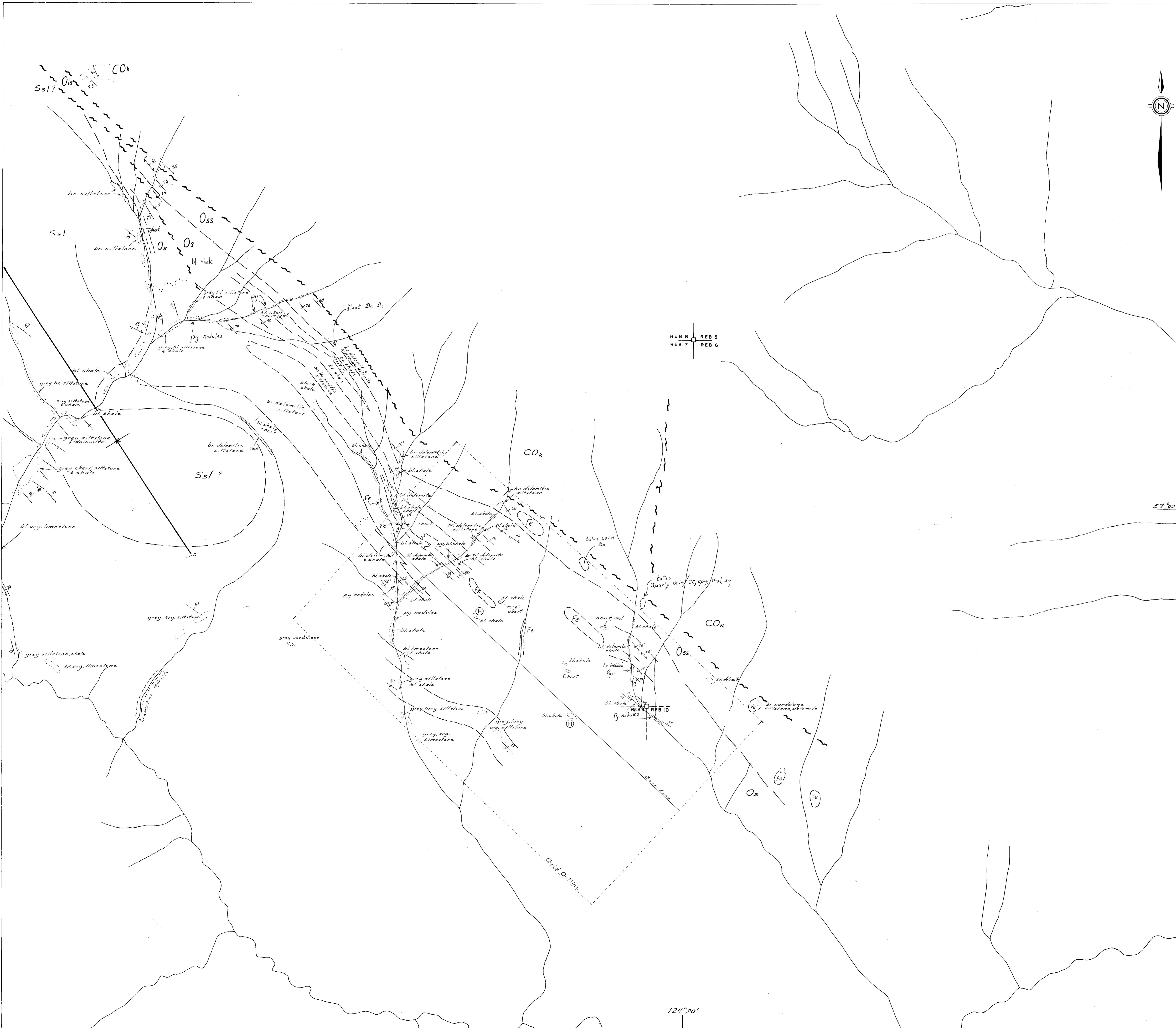
1. I am a graduate of the University of Manitoba (1969) with a B.Sc. (Honors) in geology, and a graduate of the University of Saskatchewan (1973) with an M.Sc. in geology.
2. Since 1969, I have worked as a geologist in the Yukon Territory, the Northwest Territories, British Columbia, Alberta, Saskatchewan, Ontario, and Quebec, and that I have been employed by Esso Resources Canada Limited in the Minerals Exploration Department since February, 1981.
3. The information in this report is based upon literature research, field mapping, and geochemical sampling.
4. I hold no direct or indirect interest in the property reported herein, nor do I expect to receive any.



Melvin G. Lomenda

Date:

82-11-25



ORDOVICIAN (Road River Group)

O5 Black shale, graphitic shale, dolomitic shale, dolomite, chert, siltstone, limestone

O5s Brown weathering dolomitic siltstone, dolomite, shale, sandstone

CAMBRO-ORDOVICIAN (Kechika Gr.)

COk Brown weathering phyllitic mudstone with limestone nodules

+ Syncline

∕∕∕ Bedding, inclined, vertical, overturned

∕ Cleavage

— Contact

⊖ Outcrop

— Fault

arg. argillaceous

bl. black

br. brown

Fe ferriferous

cc chalcocite

cpy chalcopyrite

mal malachite

az azurite

ba barite

H Helipart Site

--- Legal Claim Post

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,831

ESSO MINERALS CANADA
A DIVISION OF ESSO RESOURCES CANADA LIMITED

**REB CLAIMS 5-8
GEOLOGY**

Project No. _____ Mining Division OMINECA

Latitude 57° 00' Longitude 124° 20'

NTS 34 CTS 0 50 Metres 250
Scale 1:5000

To Accompany A Report By MEL LOMENDA

Dated NOV 82 Map No. 2

REB 8
REB 7

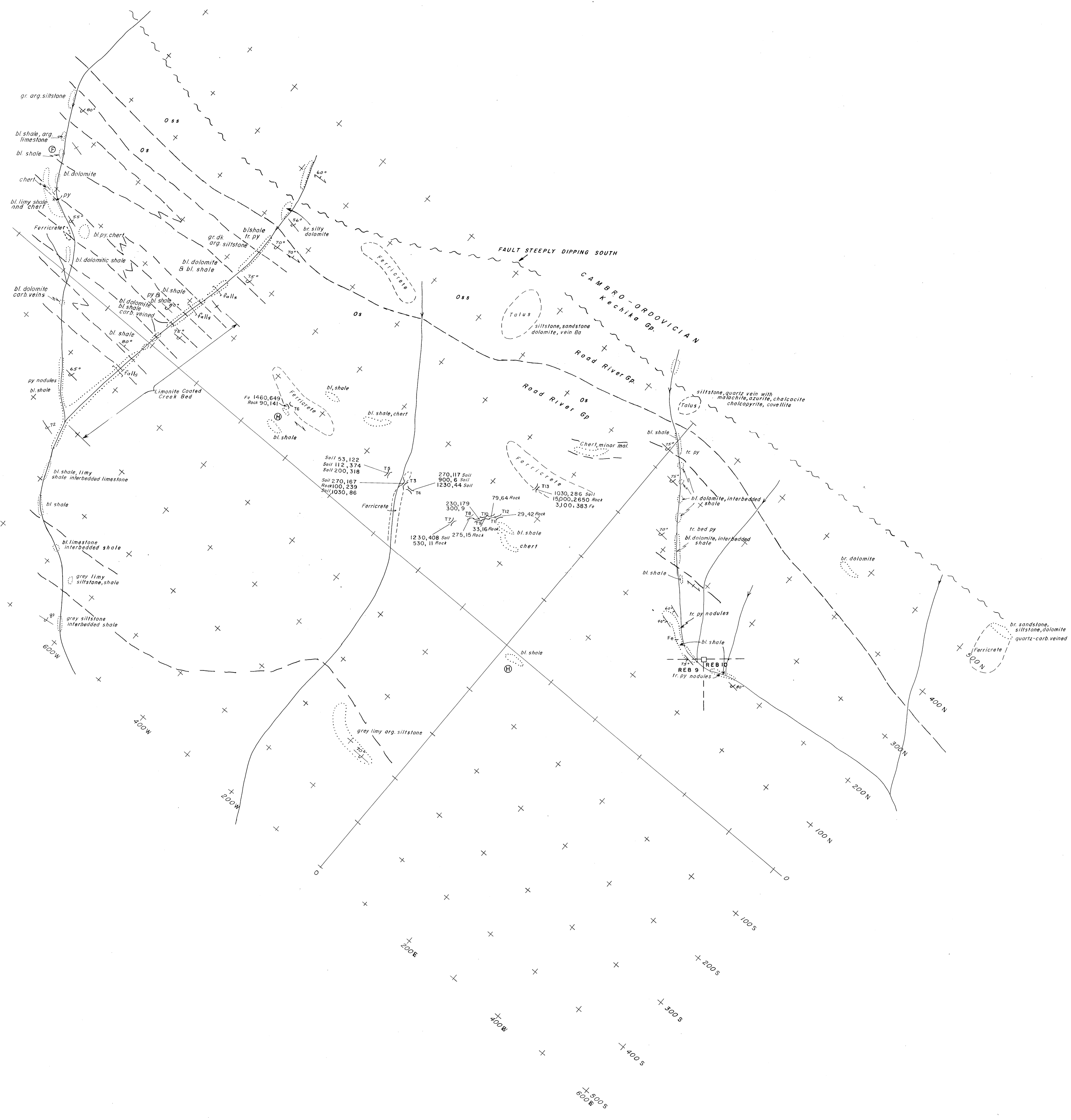
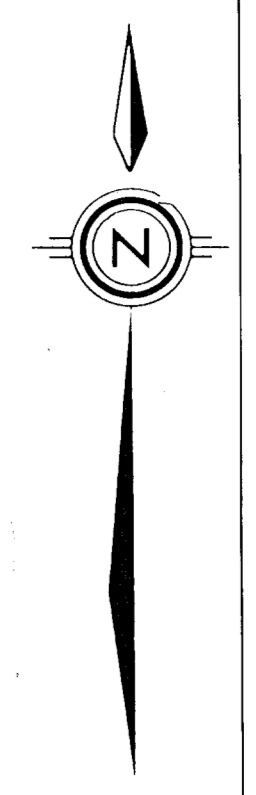
REB 5
REB 6

REB 9
REB 10

124° 20'

57° 00'

57°00'



- T6 Trench on trench number
- 278,123 Lead and Zinc values (ppm)
- ~ Fault
- Contact
- Outcrop
- Area outline
- Fe Ferricrete
- Py, Mal Pyrite, malachite
- Soil, Rock, Fe Soil, etc (type of trench sample)
- ⊙ Heliport
- LEGAL CLAIM POST

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,831

ESSO MINERALS CANADA
A DIVISION OF ESSO RESOURCES CANADA LIMITED

**REB CLAIMS
GEOLOGY & TRENCHES
GRID AREA**

Project No. _____ Mining Division OMINECA

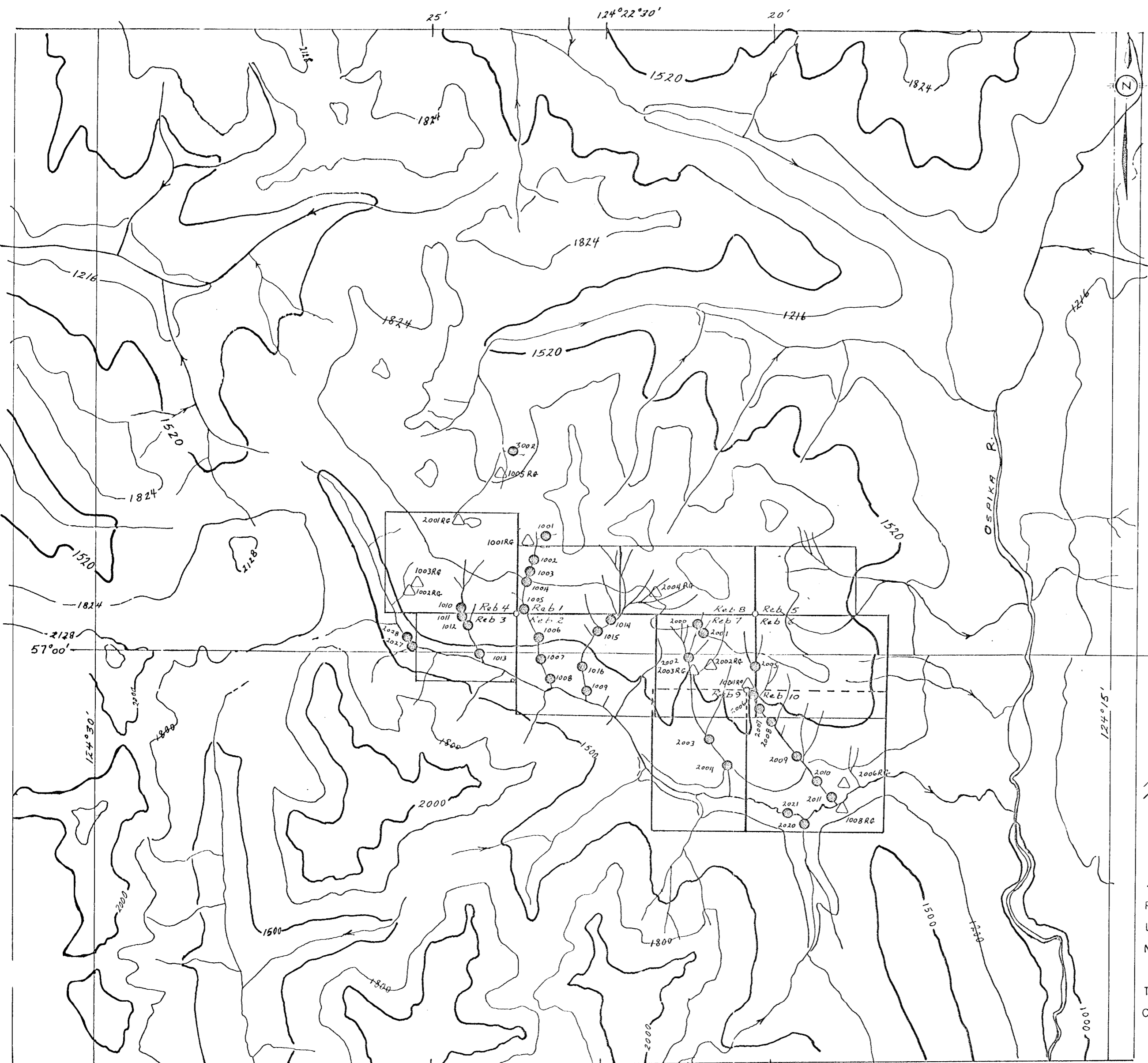
Latitude 57°00' Longitude 124°22'

NTS 94 1:2500 Scale 1:2500

To Accompany A Report By MEL LUMENDA

Dated NDV / 82 Map No. 3

124°20'



LEGEND

LCP
**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

10,831

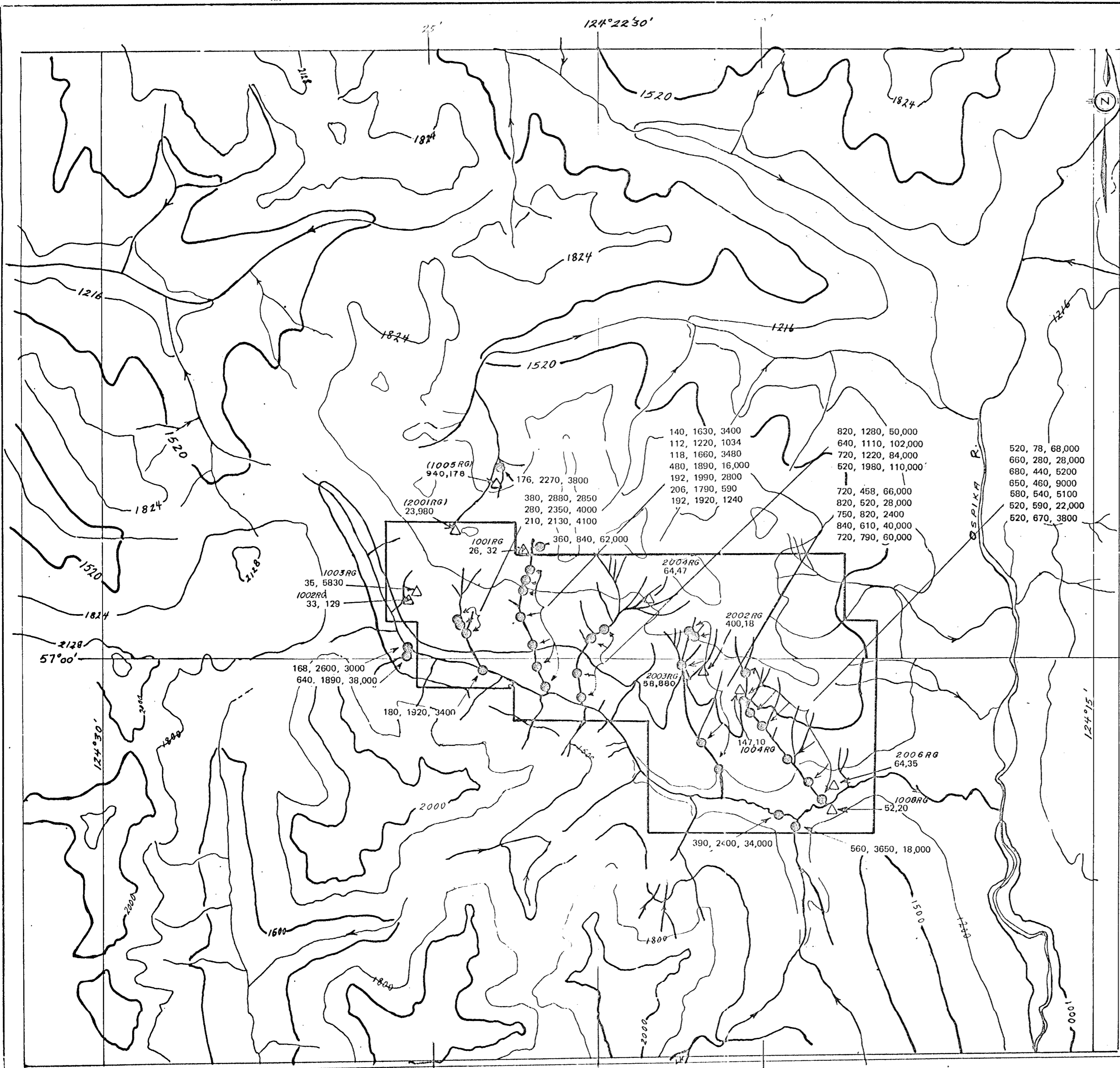
*Note: Contour Interval approx. 300 Metres
 No Metric Contour map available North of 57°00'*

**ESSO MINERAL CANADA
 REB CLAIMS**

HEAVY MINERAL SAMPLE LOCATIONS
 Project No _____ M.D. _____
 Latitude 57°00' Long. 124°22'
 NTS 94 F1 Scale 1:50,000

To Accompany A Report Dated Nov. 1982
 Compiled By Mel Lomenda

Map No 4



LEGEND

- 1078RG
△ ROCK CHIP SAMPLE
- HEAVY MINERAL SAMPLE
PB ZN BA
1610 5150 - 28,000 PPM

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,831

140, 1630, 3400	820, 1280, 50,000	520, 78, 68,000
112, 1220, 1034	640, 1110, 102,000	660, 280, 28,000
118, 1660, 3480	720, 1220, 84,000	680, 440, 5200
480, 1890, 16,000	520, 1980, 110,000	650, 460, 9000
192, 1990, 2800		680, 540, 5100
206, 1790, 590	720, 458, 66,000	520, 590, 22,000
192, 1920, 1240	820, 520, 28,000	520, 670, 3800
	750, 820, 2400	
	840, 610, 40,000	
	720, 790, 60,000	

Note: Contour Interval approx. 300 Metres
No Metric Contour map available North of 57°00'

**ESSO MINERAL CANADA
RED CLAIMS
(HEAVY MINERALS AND ROCK
GEOCHEMISTRY**

Project No _____ M.D. Omineca
 Latitude 57°00' Long. 124°22'
 NTS 94 E-16 Scale 1:50,000

To Accompany A Report Dated Nov. 1982
 Compiled By Mel Lomenda

Map No 5

