

87-245-16044

ASSESSMENT REPORT

OF THE

JM 1, 2, 3, 4, 5, 6 fr CLAIMS

Kamloops Mining Division, British Columbia

NTS 82M/4W

Lat: $51^{\circ}02'N$ Long: $119^{\circ}51'W$
08.4' 46.7'

Owner and Operator:

~~Esso Minerals Canada~~

~~A Division of~~ Esso Resources Canada Limited

1600 - 409 Granville Street

Vancouver, B.C. V6C 1T2

FILMED

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,044

By: M.T. Reed
J.M. Marr

January 16, 1987

2809B
MV: B87-314

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1.0 INTRODUCTION

The JM 1, 2, 3, 4, 5, 6 (fr) Claims lie in the vicinity of Adams Lake, B.C. approximately 60 km northeast of Kamloops (see MAP 1).

The claims occupy gently sloping upland plateau country near the headwaters of Homestake Creek approximately 4 km south of Johnson Lake. Road access is via the Samatosum Mountain West Forest Service road which connects with the Adams Lake West Forest Service road at kilometer 28.5. The latter originates at the Holding Lumber Sawmill, approximately 15 km north of Chase, B.C. on Highway 1.

The area in which the claims lie was subjected to clear-cut logging about 15 years ago and is in the process of natural reforestation. Logging roads criss-cross the properties, providing excellent access to all parts of the claims.

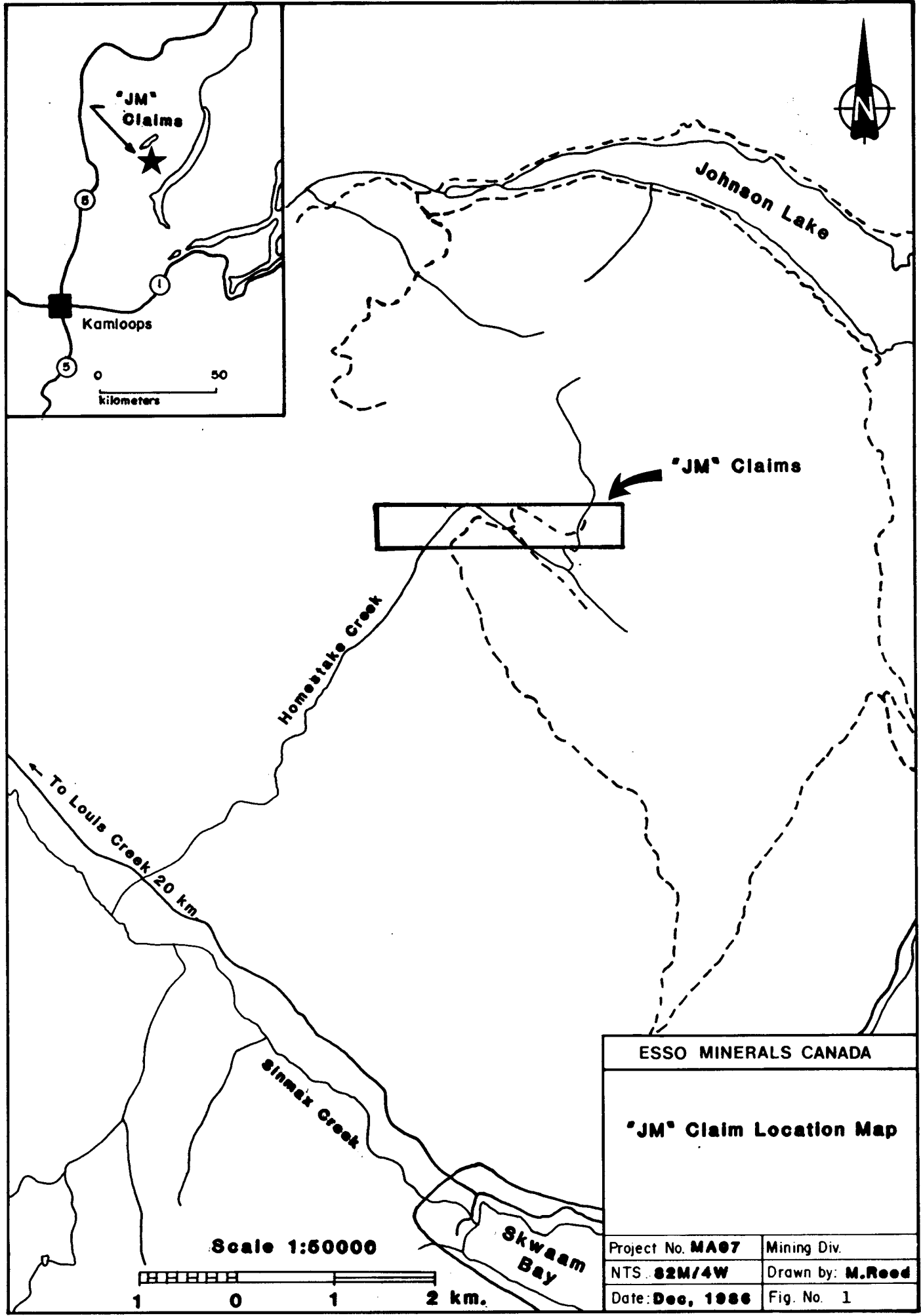
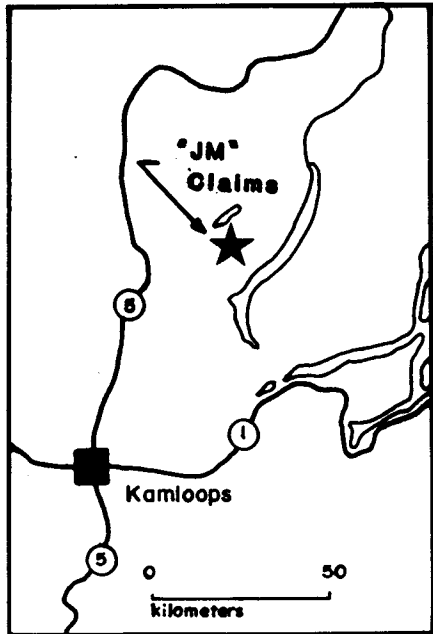
2.0 OWNERSHIP AND CLAIMS

The JM 1, 2, 3, 4, 5, 6 (fr) Claims are wholly owned by Esso Minerals Canada. Assuming acceptance of the assessment work being filed here, their status will be as follows:

<u>Claim</u>	<u>Record No.</u>	<u>Units</u>	<u>Expiry Date</u>
JM 1-5	6515-6519	5	February 9, 1988
JM 6 fr	6520		February 19, 1988

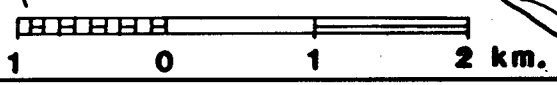
3.0 HISTORY AND PREVIOUS WORK

To date no mineral showings or old workings have been noted on these claims. However, an old cut and chained grid can be noted over much of the property. The grid may have been established 3 - 5 years ago, although no references to any work done were encountered.



ESSO MINERALS CANADA	
"JM" Claim Location Map	
Project No. MA07	Mining Div.
NTS: 82M/4W	Drawn by: M.Reed
Date: Dec, 1986	Fig. No. 1

Scale 1:50000



4.0 SUMMARY OF WORK

This report details the results of geologic mapping and a concurrent soil geochemical survey run along two reconnaissance lines. More detail of these lines can be noted on MAPS 3-7.

5.0 1986 GEOLOGIC MAPPING

The claims were mapped by M. Reed along two parallel 2.6 km long traverse lines (see MAP 3). The initial traverse line followed the claim line between the two post claims. The second line was established by compass and hip chain 160 m to the north. Recent airphoto coverage of the area was used to maintain control on both traverse lines. While mapping, an old grid was noted and, where possible, the traverse line was tied into this grid.

5.1 Regional Geology

A detailed geologic map of the area from Clearwater to the Adams Plateau, at a 1:100,000 scale, was produced by the Provincial Ministry of Energy, Mines and Petroleum Resources in 1984 (Schiarizza and Preto, 1984). A portion of this map covers the JM Claims and is reproduced on MAP 2 - Regional Geology, JM Claims.

The JM Claims overlie a Devonian and older sequence of sediments and volcanics, submembers EBG and EBGT of the Eagle Bay Formation.

5.2 Claim Geology

The property geology was established by 1:2,500 scale mapping along two east-west oriented traverse lines.

UPPER TRIASSIC AND LOWER JURASSIC NICOLA GROUP (?)

UPPER TRIASSIC OR LOWER JURASSIC

[Rjv] AUGITE PORPHYRY BRECCIA

UPPER TRIASSIC

[Rl] DARK GREY LIMESTONE

DEVONIAN TO PERMIAN

ALLOCHTHONOUS INTERNALLY IMBRICATED OCEANIC ASSEMBLAGE

FENNEL FORMATION

UPPER STRUCTURAL DIVISION

[uFb] GREY AND GREEN PILLOWED AND MASSIVE METABASALT; MINOR AMOUNTS OF BASALTIC BRECCIA, TUFF, DIABASE, GABBRO, AND CHERT

[uFc] GREY AND GREEN BEDDED CHERT

LOWER STRUCTURAL DIVISION

[IFc] GREY AND GREEN BEDDED CHERT, CHERTY ARGILLITE, SLATE, AND PHYLLITE

[IFb] GREY AND GREEN PILLOWED AND MASSIVE METABASALT; MINOR AMOUNTS OF BASALTIC BRECCIA AND TUFF

[IFg] GABBRO, DIORITE, DIABASE

[IFp] LIGHT TO MEDIUM GREY QUARTZ-FELDSPAR PORPHYRY RHYOLITE

[IFs] LIGHT TO DARK GREY SANDSTONE, SILTSTONE, SLATE, PHYLLITE, AND QUARTZITE; MINOR AMOUNTS OF LIMESTONE AND CHERT; IN PLACES INCLUDES GREY TO GREEN QUARTZOSE AND FELDSPATHIC PHYLLITE (METATUFF)

[IFcg] INTRAFORMATIONAL CONGLOMERATE; CLASTS DERIVED EXCLUSIVELY FROM FENNEL FORMATION LITHOLOGIES

[IFu] UNDIVIDED; MAINLY IFc, IFg, and IFb, BUT MAY INCLUDE ANY OR ALL OF ABOVE ROCK TYPES

DEVONO-MISSISSIPPIAN AND OLDER PARAUTOCHTHONOUS ROCKS (EBP TO SDQ)

EAGLE BAY FORMATION (EBP TO EBG)

MISSISSIPPIAN

[EBP] DARK GREY PHYLLITE AND SLATE WITH INTERBEDDED SILTSTONE, SANDSTONE, AND GRIT; MINOR AMOUNTS OF CONGLOMERATE, LIMESTONE, AND METATUFF; EBPI-LIMESTONE; EBPV-METAVOLCANIC BRECCIA AND TUFF

DEVONIAN AND/OR MISSISSIPPIAN

[EBF] LIGHT TO MEDIUM GREY, RUSTY WEATHERING FELDSPATHIC PHYLLITE AND FRAGMENTAL PHYLLITE DERIVED FROM INTERMEDIATE TO FELSIC TUFF AND VOLCANIC BRECCIA; MINOR AMOUNTS OF DARK GREY PHYLLITE AND SILTSTONE; EBFg-LIGHT GREY MASSIVE "CHERTY QUARTZITE" (SILICEOUS EXHALITE?)

DEVONIAN

[EBA] LIGHT SILVERY GREY TO MEDIUM GREENISH GREY SERICITE-QUARTZ PHYLLITE AND SERICITE-CHLORITE-QUARTZ PHYLLITE DERIVED FROM FELSIC TO INTERMEDIATE VOLCANIC AND VOLCANIClastic ROCKS INCLUDING PYRITIC, FELDSPATHIC, AND COARSELY FRAGMENTAL VARIETIES; LESSER AMOUNTS OF DARK GREY PHYLLITE, SILTSTONE, AND GREEN CHLORITIC PHYLLITE; INCLUDES BIOTITE-FELDSPAR-QUARTZ SCHIST AND GNEISS, BIOTITE-QUARTZ HORNFELS AND AMPHIBOLITE ADJACENT TO BALDY BATHOLITH; EBAI-FELDSPAR PORPHYRY, FELDSPATHIC PHYLLITE, PYRITIC SERICITE-FELDSPAR-QUARTZ PHYLLITE, METAVOLCANIC BRECCIA; EBAI-SERICITIC QUARTZO-FELDSPATHIC SCHIST AND GNEISS DERIVED FROM FELSIC INTRUSIVE ROCKS; EBAH-UNDIVIDED EBA and EBAI

DEVONIAN (?) AND/OR OLDER (?) (UNITS EBU TO EBG)

[EBU] LIGHT TO DARK GREEN CHLORITIC PHYLLITE, DARK GREY PHYLLITE AND SILTSTONE, LIMESTONE, QUARTZITE

[EBM] GREY AND GREEN VESICULAR AND PILLOWED METABASALT, GREENSTONE, CHLORITE SCHIST, MINOR AMOUNTS OF BEDDED CHERT, SILICEOUS PHYLLITE AND FINE-GRAINED QUARTZITE

[EBK] BANDED LIGHT GREY AND GREEN ACTINOLITE-QUARTZ SCHIST AND EPIDOTE-ACTINOLITE-QUARTZ ROCK; LESSER AMOUNTS OF GARNET-EPIDOTE SKARN, CHLORITIC SCHIST, AND SERICITE-QUARTZ SCHIST

DEVONIAN (?) AND/OR OLDER (?) (UNITS EBU TO EBG) (CONTINUED)

[EBL] CALCAREOUS BLACK PHYLLITE, DARK GREY LIMESTONE AND ARGILLACEOUS LIMESTONE

[EBS] GREY AND GREEN PHYLLITIC SANDSTONE AND GRIT, PHYLLITE, AND QUARTZITE; LESSER AMOUNTS OF LIMESTONE, DOLOSTONE, GREEN CHLORITIC PHYLLITE, SERICITE-QUARTZ PHYLLITE, AND FELDSPATHIC SERICITE-QUARTZ PHYLLITE; EBSi-LIGHT GREY TO WHITE QUARTZITE; EBSL-LIMESTONE, DOLOSTONE, MARBLE; EBSu-GREENSTONE, PILLOWED METABASALT, CHLORITIC PHYLLITE; EBSg-CONGLOMERATE; EBSp-GREY PHYLLITE AND SILTSTONE; EBSl-SIDERITE-SERICITE-QUARTZ PHYLLITE AND FELDSPATHIC PHYLLITE (METATUFF); EBSa-PYRITIC SERICITE-QUARTZ PHYLLITE AND CHLORITOID-SERICITE-QUARTZ PHYLLITE

[EBG] MEDIUM TO DARK GREEN CALCAREOUS CHLORITE SCHIST AND FRAGMENTAL SCHIST DERIVED LARGE-LY FROM MAFIC TO INTERMEDIATE VOLCANIC AND VOLCANIClastic ROCKS; LESSER AMOUNTS OF LIMESTONE AND DOLOSTONE; MINOR AMOUNTS OF QUARTZITE, GREY PHYLLITE, AND SERICITE-QUARTZ PHYLLITE; EBGc-LIMESTONE, DOLOSTONE, MARBLE; EBGi-TSHINAKIN LIMESTONE MEMBER-MASSIVE, LIGHT GREY FINELY CRYSTALLINE LIMESTONE AND DOLOSTONE; EBGs-DARK TO LIGHT GREY SILICEOUS AND/OR GRAPHITIC PHYLLITE, CALCAREOUS PHYLLITE, LIMESTONE, CALC-SILICATE, CHERTY QUARTZITE; MINOR AMOUNTS OF GREEN CHLORITIC PHYLLITE AND SERICITE-QUARTZ PHYLLITE; EBGd-LIGHT TO MEDIUM GREY QUARTZITE; EBGp-DARK GREY PHYLLITE, CALCAREOUS PHYLLITE AND LIMESTONE; MINOR AMOUNTS OF RUSTY WEATHERING CARBONATE-SERICITE-QUARTZ PHYLLITE (METATUFF?); EBGcg-POLYMICITIC CONGLOMERATE

SPAPILEM CREEK-DEADFALL CREEK SUCCESSION (SDQ)

LOWER CAMBRIAN (?) AND/OR HADRYNIAN (?)

[SDQ] LIGHT TO DARK GREY QUARTZITE, MICACEOUS QUARTZITE, GRIT, AND PHYLLITE; LESSER AMOUNTS OF CALCAREOUS PHYLLITE, CARBONATE, AND GREEN CHLORITIC SCHIST; NORTHEASTERN EXPOSURES INCLUDE STAUROLITE-GARNET-MICA SCHIST, CALC-SILICATE SCHIST, AND AMPHIBOLITE

TERTIARY OR QUATERNARY

[Tb] OLIVINE BASALT

MIOCENE OR PLOCENE

[mTb] PLATEAU LAVA, OLIVINE BASALT

Eocene

KAMLOOPS GROUP

[eTs] SKULL HILL FORMATION AND RELATED ROCKS; ANDESITE AND BASALT; INCLUDES MINOR AMOUNTS OF MUDSTONE AND SHALE IN THE VICINITY OF ALEX AND HAGGARD CREEKS

[eTc] CHU CHUA FORMATION: SANDSTONE, SHALE, CONGLOMERATE, COAL

CRETACEOUS OR TERTIARY

[qp] QUARTZ-FELDSPAR PORPHYRY

CRETACEOUS

BALDY BATHOLITH, RAFT BATHOLITH, AND RELATED ROCKS

[Kg] GRANITE AND GRANODIORITE

AGE UNKNOWN

[di] FOLIATED DIORITE, QUARTZ DIORITE, AND GABBRO

[ub] SERPENTINITE

LATE DEVONIAN

[Dgn] GRANITE AND GRANODIORITE ORTHOGNEISS, Dgnp INCLUDES SILLIMANITE-BEARING PARAGNEISS

SYMBOLS

GEOLOGICAL CONTACT: DEFINED, APPROXIMATE, ASSUMED	
BEDDING, TOP KNOWN: INCLINED, OVERTURNED	
BEDDING, TOP UNKNOWN: HORIZONTAL, INCLINED, VERTICAL	
FACING DIRECTION OF PILLOWED BASALT INCLINED, OVERTURNED	
SYNMETAMORPHIC SLATY CLEAVAGE, SCHISTOSITY, OR GNEISSOSITY: HORIZONTAL, INCLINED, VERTICAL	
MINERAL LINEATION	
POSTMETAMORPHIC CRENULATION CLEAVAGE INCLINED, VERTICAL	
CRENULATION LINEATION	
MESOSCOPIC FOLD AXIS: SYNMETAMORPHIC, POSTMETAMORPHIC, LATE KINK	
AXIAL TRACE OF SYNMETAMORPHIC FOLD: OVERTURNED ANTICLINE, OVERTURNED SYNCLINE: ESTABLISHED, INFERRED	
AXIAL TRACE OF POSTMETAMORPHIC FOLD: ANTIFORM, SYNFORM	
LATER (SYN OR POSTMETAMORPHISM) WEST TO SOUTHWESTERLY DIRECTED THRUST FAULT; TEETH ON UPPER PLATE DEFINED, APPROXIMATE, ASSUMED	
EARLY (PRE FOLDING AND METAMORPHISM) EASTERLY DIRECTED THRUST FAULT; TEETH ON UPPER PLATE: DEFINED, APPROXIMATE, ASSUMED	
FAULT; DOT ON DOWNTHROWN SIDE, ARROWS INDICATE SENSE OF STRIKE SLIP MOVEMENT: DEFINED, APPROXIMATE, ASSUMED	
CONODONT FOSSIL LOCALITY: MISSISSIPPIAN, PENNSYLVANIAN, PERMIAN	
LOCATION OF RADIOMETRICALLY DATED SAMPLE (Pb/U ON ZIRCONS AND Rb/Sr WHOLE ROCK); INDICATE A DEVONIAN AGE FOR UNIT EBA AND FOR UNIT IFD	
MINERAL OCCURRENCE	
LIMIT OF GEOLOGICAL MAPPING OR OUTCROP	
LINE OF GEOLOGICAL CROSS-SECTION	
TOPOGRAPHICAL CONTOUR (200 METRE INTERVAL)	

A thick sequence of light to dark green mafic tuffs, lapilli and agglomeratic tuffs and flows dominate the property. These rocks display varying degrees of chlorite/carbonate alteration and commonly contain foliation parallel quartz/carbonate veining. Fragments are moderately to strongly elongated, matrix supported and unimodal. One outcrop was noted which displayed definitive pillow structures. No sulphides were noted in this unit.

At the extreme eastern edge of the property a cliff face marks the contact between the mafic pyroclastics and a limestone unit, presumably the Tshinakin limestone. This unit is massive in nature and forms resistant parallel ridges in the area immediately to the east of the JM 6 fr Claim. The limestone is buff-coloured, finely crystalline and usually quite blocky in nature. No sulphides were noted.

In three locations the mafic pyroclastics are cut by a hornblende diorite intrusion. Outcrops of this unit are found on low, blocky knolls, but the geological contacts are obscured by overburden. The intrusive shows varying degrees of chlorite, calcite and epidote alteration but is generally confined to less than 30% of the rock. Trace amounts of pyrite can be noted in this unit. The age of this unit is unknown.

6.0 1986 GEOCHEMICAL SURVEY

Ninety-seven (97) "B" horizon soil samples were collected along two lines across the JM Claims at 50 m intervals. MAPS 4-7 document the sample locations and resulting values for the four elements Pb, Zn, Ag and Cu. These analytical results are listed in Appendix I on the Certificates of Analysis from Eco-Tech Laboratories.

Sample collection on the lines (see MAPS 4-7) was carried out by M. Reed who has had two previous seasons of "B" horizon soil sampling.

The samples were collected using mattock and trowel and were secured in Kraft paper bags. The samples were then shipped to Eco-Tech Laboratories in Kamloops, B.C. where they were analyzed for Pb, Zn, Ag and Cu.

6.1 Interpretation of Geochemical Results

Pb - Soil Geochemistry (MAP 4)

The population in this limited sampling operation is too small for meaningful statistics, but it seems apparent that the mean value of background is about 15 ppm Pb. There are few variations from the region of this value on the east part of the grid. However, on the western end of the two sampled lines (Claim JM-1) values are anomalously enhanced to a peak of 452 ppm Pb. The source of this anomalous area is presently unknown.

Zn - Soil Geochemistry (MAP 5)

A similar pattern emerges for Zn. Although there are sporadic enhanced values on the eastern and central parts of the grid, background values in the 50 - 60 ppm range are dominant. Towards the eastern part of both lines, values show a considerable increase, to over 1000 ppm in some areas. The reasons for this are presently unknown.

Ag - Soil Geochemistry (MAP 6)

In general, a similar picture is present. Background value is in the 0.5 ppm range. Enhanced values on Claim JM-1 appear to be present although much less pronounced than in the previous two cases. Again the significance of this is unknown.

Cu - Soil Geochemistry (MAP 7)

There are isolated higher values locally on both lines in a copper soil background of 20 - 30 ppm. Values on the JM-1 Claim are not particularly enhanced. The reason for these isolated anomalies is still unknown, although they do tend to appear in other elements as well.

7.0 STATEMENT OF COSTS

Geological Mapping

M. Reed - 5 days @ \$135/day \$ 675.00

Geochemistry

Sample Analysis - 97 @ \$4.35 \$ 421.95

M. Reed - 3 days @ \$135/day \$ 405.00

Logistics

Vehicle - 8 days @ \$67.54/day \$ 540.34

Accommodation - 8 days @ \$35/day \$ 280.00

Report Preparation

M. Reed - 4 days @ \$115/day \$ 460.00

TOTAL \$ 2,782.29

STATEMENT OF QUALIFICATIONS

I, Michael T. Reed, of #204 - 423 East 10th Avenue, Vancouver, British Columbia, declare:


1. I graduated with a B.Sc. (Majors) in geology from the University of British Columbia in 1986.
2. I have practiced my profession for the past three field seasons.
3. I have no financial interest, directly or indirectly, in the securities of Esso Minerals Canada or in the properties described in this report. I do not expect to acquire or receive any interests.
4. This report is based on data collected by myself while employed by Esso Minerals Canada Ltd.



Michael T. Reed, B.Sc.

STATEMENT OF QUALIFICATIONS

1. I, John M Marr, of 2630 Haywood Avenue, West Vancouver, B.C., graduated with a B.SC. (Honors) from the University of St. Andrews, Scotland in 1968.
2. I completed an M.Sc. in Geology at the University of Manitoba in 1970.
3. I have been continuously employed in exploration geology since that time, all but the first two years with Esso Minerals Canada.



John M. Marr

APPENDIX I

GEOCHEMISTRY



SEPT 15 1986

700
ENVIRONMENTAL TESTING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ASSAYING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 2J3 Phone (604) 573-5700
Telex: 048-8393

September 10, 1986

CERTIFICATE OF ANALYSIS ETK 86-182

CLIENT: Esso Minerals Canada
1600 - 409 Granville Street
VANCOUVER, B. C.
V6C 1T2

ATTENTION: Mr. Jack Marr

SAMPLE IDENTIFICATION: 97 soil samples received August 26, 1986 for
geochemical analysis

PROJECT: "JM"


<u>ET#</u>	<u>Description</u>	<u>Ag (ppm)</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
182 - 1	JM 100	2.5	25	125	287
182 - 2	JM 101	1.4	12	42	121
182 - 3	JM 102	.6	35	85	282
182 - 4	JM 103	.7	16	120	352
182 - 5	JM 104	.5	37	61	185
182 - 6	JM 105	.7	9	70	270
182 - 7	JM 106	.9	17	105	>1000
182 - 8	JM 107	.9	184	85	318
182 - 9	JM 108	.8	43	6	156
182 - 10	JM 109	.8	44	167	440
182 - 11	JM 110	.6	10	20	151
182 - 12	JM 111	.4	35	30	112
182 - 13	JM 112	.5	17	20	101
182 - 14	JM 113	.4	9	12	35
182 - 15	JM 114	.4	23	13	38
182 - 16	JM 115	.3	5	11	46
182 - 17	JM 116	.4	6	13	35
182 - 18	JM 117	.5	26	15	53
182 - 19	JM 118	.6	45	18	60
182 - 20	JM 119	.4	27	18	53

<u>ET#</u>	<u>Description</u>	<u>Ag (ppm)</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
182 - 21	JM 120	.6	22	20	43
182 - 22	JM 121	.6	26	16	59
182 - 23	JM 122	.5	21	15	60
182 - 24	JM 123	.5	18	12	47
182 - 25	JM 124	.6	43	19	58
182 - 26	JM 125	.8	54	26	99
182 - 27	JM 126	.5	25	20	60
182 - 28	JM 127	1.1	55	24	84
182 - 29	JM 128	1	100	19	47
182 - 30	JM 129	1.5	80	23	67
182 - 31	JM 130	1.3	26	581	456
182 - 32	JM 131	1	91	21	55
182 - 33	JM 132	.4	13	10	17
182 - 34	JM 133	.7	53	18	34
182 - 35	JM 134	.5	28	13	39
182 - 36	JM 135	1	110	21	74
182 - 37	JM 136	.6	20	16	109
182 - 38	JM 137	.6	26	15	42
182 - 39	JM 138	.5	26	15	54
182 - 40	JM 139	.6	26	17	61
182 - 41	JM 140	.6	17	14	59
182 - 42	JM 141	.6	51	16	69
182 - 43	JM 142	.6	14	16	48
182 - 44	JM 143	1.1	46	21	81
182 - 45	JM 144	.6	25	15	40
182 - 46	JM 145	.7	26	14	45
182 - 47	JM 146	.5	13	12	45
182 - 48	JM 147	.7	21	15	34
182 - 49	JM 148	.7	53	22	72
182 - 50	JM 149	.4	9	13	16
182 - 51	JM 150	.6	28	12	78
182 - 52	JM 151	.5	21	17	41
182 - 53	JM 152	1	49	15	54
182 - 54	JM 153	.8	21	13	50
182 - 55	JM 154	.4	16	16	60

<u>ET#</u>	<u>Description</u>	<u>Ag (ppm)</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
182 - 56	JM 155	.9	69	17	75
182 - 57	JM 156	.7	14	18	48
182 - 58	JM 157	.7	33	14	65
182 - 59	JM 158	.5	13	13	35
182 - 60	JM 159	.4	13	9	39
182 - 61	JM 160	1.2	28	588	436
182 - 62	JM 161	.5	20	15	60
182 - 63	JM 162	.6	50	14	66
182 - 64	JM 163	.6	42	19	69
182 - 65	JM 164	.6	31	13	50
182 - 66	JM 165	.7	26	13	41
182 - 67	JM 166	.5	43	10	67
182 - 68	JM 167	1	24	13	33
182 - 69	JM 168	.8	55	18	81
182 - 70	JM 169	.5	21	14	60
182 - 71	JM 170	.7	40	13	68
182 - 72	JM 171	.5	34	17	62
182 - 73	JM 172	.5	20	12	82
182 - 74	JM 173	.9	23	12	65
182 - 75	JM 174	.6	85	10	39
182 - 76	JM 175	2	48	8	47
182 - 77	JM 176	.5	20	13	37
182 - 78	JM 177	.6	21	14	64
182 - 79	JM 178	.5	26	13	50
182 - 80	JM 179	.5	52	9	46
182 - 81	JM 180	.7	55	32	94
182 - 82	JM 181	.7	46	14	71
182 - 83	JM 182	.7	75	14	87
182 - 84	JM 183	.5	35	11	67
182 - 85	JM 184	.4	20	7	35
182 - 86	JM 185	.3	30	10	41
182 - 87	JM 186	.4	12	7	34
182 - 88	JM 187	.4	43	12	62
182 - 89	JM 188	.4	73	116	>1000
182 - 90	JM 189	.5	58	22	730

<u>ET#</u>	<u>Description</u>	<u>Ag (ppm)</u>	<u>Cu (ppm)</u>	<u>Pb (ppm)</u>	<u>Zn (ppm)</u>
182 - 91	JM 190	.5	97	23	100
182 - 92	JM 191	.8	30	17	72
182 - 93	JM 192	.4	104	452	369
182 - 94	JM 193	.9	96	31	207
182 - 95	JM 194	.8	23	43	129
182 - 96	JM 195	.7	50	157	240
182 - 97	JM 196	.5	24	65	680

NOTE: > = greater than


ECO-TECH LABORATORIES LTD.
Thomas J. Fletcher, B.Sc.
Chief Assayer

TJF/mil

cc: Esso Minerals Canada
Kamloops, B. C.
Attn: Jim Oliver



GEOCHEMICAL LABORATORY METHODS

SAMPLE PREPARATION

1. Soil or sediment samples are dried at 60°C, the lumps of soil are broken up on a bucking board and the entire sample is sieved through an 80 mesh screen.
2. Rock samples are crushed and pulverized to -100 mesh.

GEOCHEMICAL ANALYSIS FOR Cu, Pb, Zn, Ag, Sb, Ni, Co, Cd

1.0 gram of sample is leached in 3 ml HNO₃ overnight at room temperature. The sample is brought up to 90°C in a water bath, 1.5 ml HCl is added, and the leaching is continued for a further 90 minutes. The sample is then cooled, diluted to 10 ml with distilled water and the above elements are determined by Atomic Absorption.

Minimum Reportable Concentrations

<u>Element</u>	<u>ppm</u>
Cu	1.
Pb	2.
Zn	1.
Ag	0.2
Sb	1.
Ni	2.
Co	2.
Cd	0.02

GEOCHEMICAL ANALYSIS FOR Au

The gold is collected in a silver bead through inquartation and conventional fire assaying of 10 grams of material. The bead is digested in aqua regia in a water bath at 90°C, the gold is then extracted into MIBK and determined by Atomic Absorption.

Minimum Reportable Concentration 5 ppb



ENVIRONMENTAL TESTING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ASSAYING

10041 E. Trans Canada Hwy., R.R. #2, Kamloops, B.C. V2C 2J3 Phone (604) 573-5700
Telex: 048-8393

QUOTATION

ESSO MINERALS CANADA

MARCH 1986

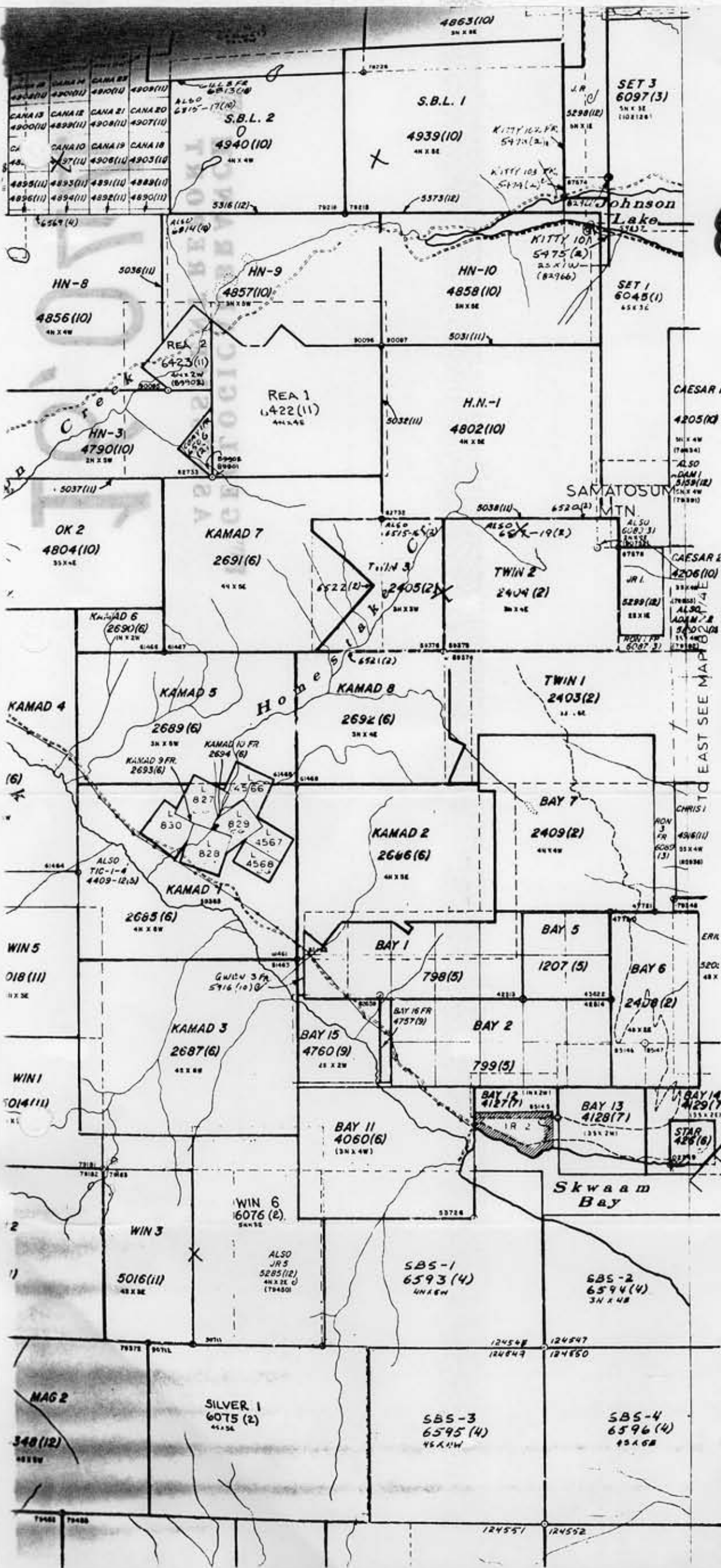
DESCRIPTION OF WORK:

Geochemical analyses on soil samples as indicated below:

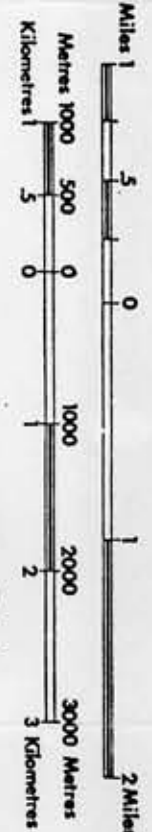
<u>Analyses</u>	<u>Cost per Sample</u>
Cu; Pb; Zn; Ag	\$ 4.35
plus <u>Arsenic</u> on same sample, add	2.75
plus <u>Gold</u> (Fire Assay) on same sample, add	6.00
plus <u>Barium</u> on same sample, add	3.50
Gold Alone (Fire Assay)	\$ 7.00
Arsenic Alone	\$ 3.75
Barium Alone	\$ 4.00

NOTE: Above prices include sample preparation.

5
2
4
82M/4W



LEGEND
 CROWN-GRANTED MINERAL CLAIM
 REVERTED C.G. MINERAL CLAIM
 FORFEITED MINERAL CLAIM
 VERIFIED LEGAL CORNER POST
 LEGAL SURVEY
 LEGAL CORNER POST & TAG NUMBER 0348



UNLESS VERIFIED OR SURVEYED, THE LEGAL CORNER POST IS BASED ON THE LOCATOR'S OTHER INFORMATION, APPLY TO THE OFFICE OF THE DATE OF MICROFILM: Feb. 5, 198.

Province of British Columbia
 Ministry of Energy, Mines and Petroleum Resources



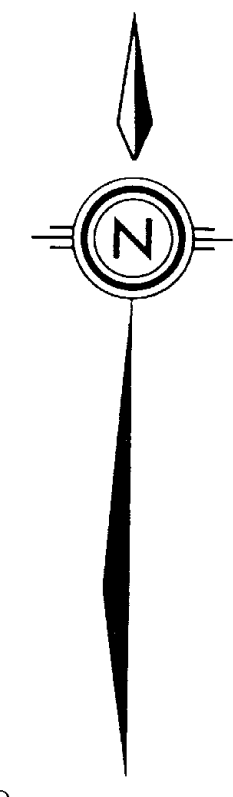
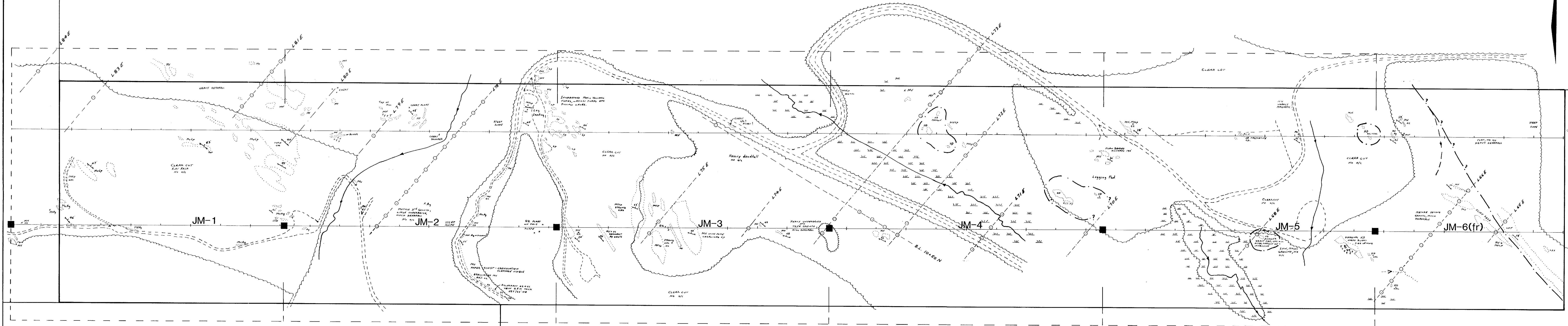
KAMAD 7
2691(6)

HN 1
4802(10)

JR 1
5299(12)

TWIN 3
2405(2)

TWIN 2
2404(2)

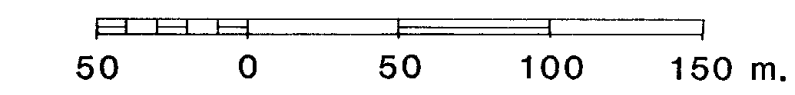


- LEGEND**
- HD Moderate to strongly altered hornblende diorite. Alteration assemblage variously contains chlorite, calcite and epidote. Contains 1% pyrite.
 - MVLDP Light to dark green mafic tuffs, lapilli and agglomerate tuffs. These pyroclastics display varying degrees of chlorite alteration and commonly contain quartz-carbonate veining parallel to foliation. Fragments are usually elongate, matrix supported and unimodal. No sulphides noted.
 - LST Massive, buff coloured, finely crystalline limestone. Found forming blocky cliffs and resistant ridges. No sulphides noted.
- SYMBOLS**
- Claim Post
 - Claim Boundary
 - Stream
 - Logging Road
 - Outcrop
 - Geological Contact
 - Foliation Measurement
 - Swamp
 - Extent of Tree Cover
 - M.V. Mafic Volcanic Tuff
 - Aa Agglomerate
 - Lp Lapilli
 - T Talus
 - SER Sericitic
 - PY Pyritic
 - CC Calcite
 - QZ Quartz
 - CHL Chlorite

Traverse/Sample Line

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,044
Scale 1:2500



ESSO MINERALS CANADA

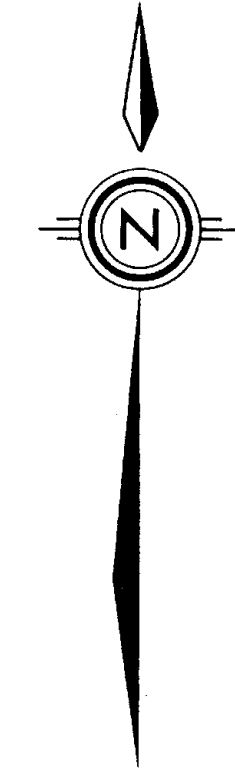
GEOLOGY OF THE JM CLAIMS

To accompany a report by M.T.R. and J.M.M.

Project No: MA07	Report No:
Mining Div: Kamloops	NTS: 82M/4
Survey By: M.Reed	Drafted By: M.Reed
Date: Dec, 1986	Map No: 3

REVISIONS

By	Date	Approv. By



HN 1
4802(10)

KAMAD 7
2691(6)

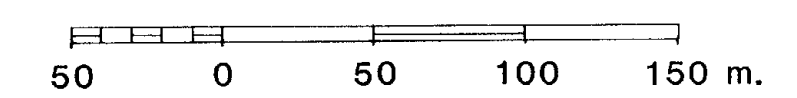
JR 1
5299(12)

SYMBOLS

- Claim Post
- Claim Boundary
- Traverse/Sample Line

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,044
Scale 1:2500



ESSO MINERALS CANADA

"JM" Claims
"B" Horizon Soil Geochemistry
Pb (ppm)

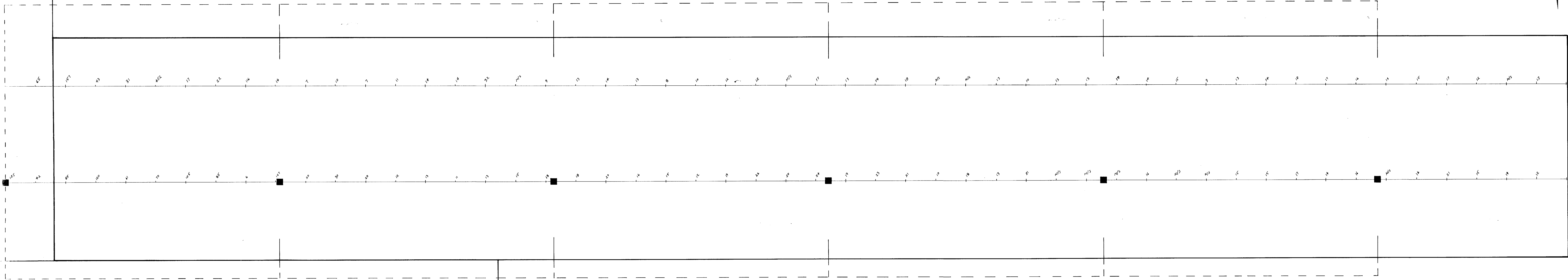
To accompany a report by M.T.R. and J.M.M.
 Project No: MA07 Report No:
 Mining Div: Kamloops NTS: 82M/4
 Survey By: M.Reed Drafted By: M.Reed
 Date: Dec, 1986 Map No: 4

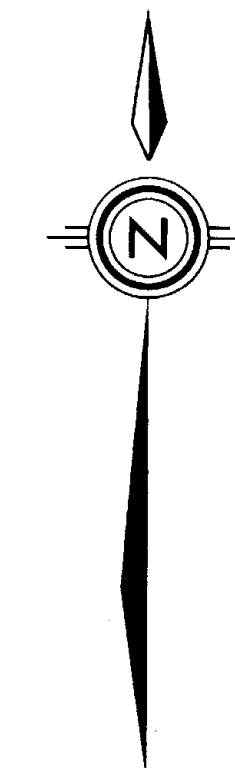
REVISIONS

By	Date	Appov. By

TWIN 2
2404(2)

TWIN 3
2405(2)





HN 1
4802(10)

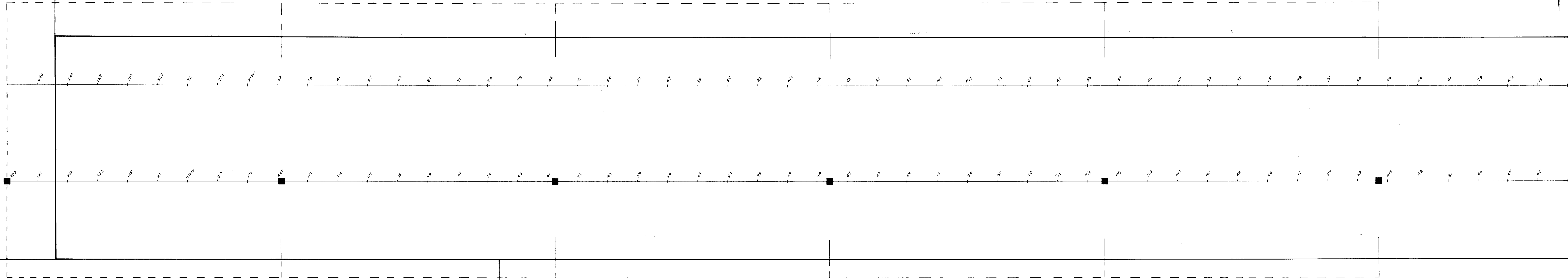
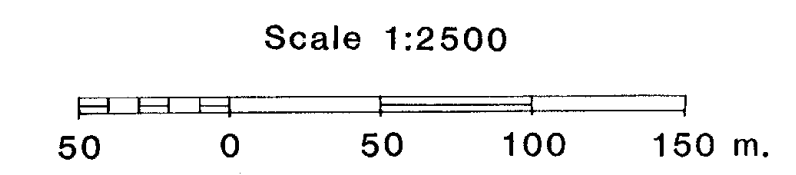
KAMAD 7
2691(6)

JR 1
5299(12)

- SYMBOLS**
- Claim Post
 - Claim Boundary
 - Traverse/Sample Line

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,044



TWIN 3
2405(2)

TWIN 2
2404(2)

ESSO MINERALS CANADA

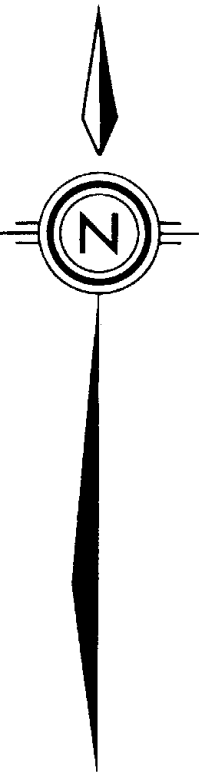
"JM" Claims
"B" Horizon Soil Geochemistry
Zn (ppm)

To accompany a report by M.T.R. and J.M.M.

Project No: MA07	Report No:
Mining Div: Kamloops	NTS: 82M/4
Survey By: M.Reed	Drafted By: M.Reed
Date: Dec, 1986	Map No: 5

REVISIONS

By	Date	Approv. By



HN 1
4802(10)

KAMAD 7
2691(6)

JR 1
5299(12)

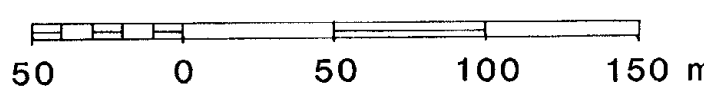
SYMBOLS

- Claim Post
- Claim Boundary
- - - Traverse/Sample Line

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,044

Scale 1:2500



ESSO MINERALS CANADA

"JM" Claims
"B" Horizon Soil Geochemistry
Ag (ppm)

To accompany a report by M.T.R. and J.M.M.

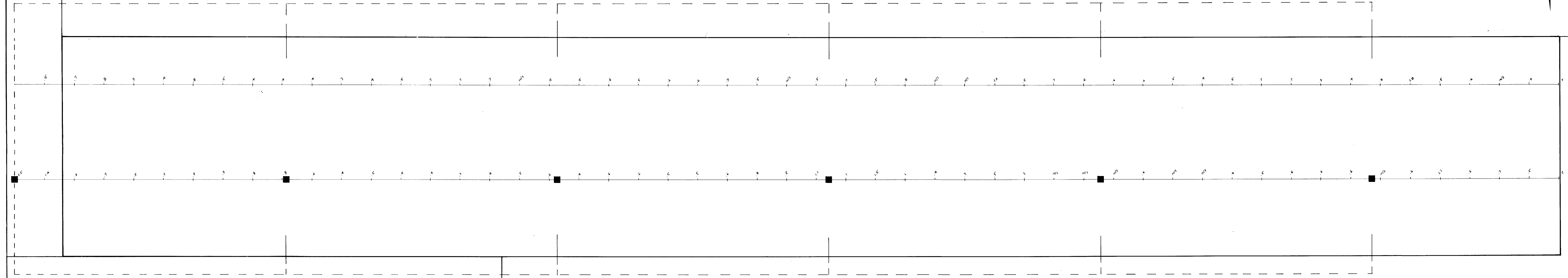
Project No: MA07	Report No:
Mining Div: Kamloops	NTS: 82M/4
Survey By: M.Reed	Drafted By: M.Reed
Date: Dec, 1986	Map No: 6

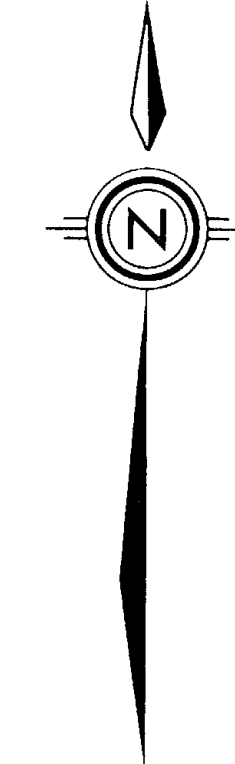
REVISIONS

By	Date	Approv. By

TWIN 2
2404(2)

TWIN 3
2405(2)





HN 1
4802(10)

KAMAD 7
2691(6)

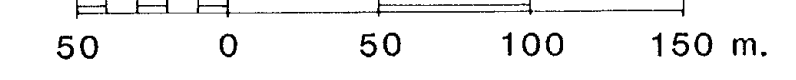
JR 1
5299(12)

SYMBOLS

- Claim Post
- Claim Boundary
- Traverse/Sample Line

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

16,044
Scale 1:2500



ESSO MINERALS CANADA

"JM" Claims
"B" Horizon Soil Geochemistry
Cu (ppm)

To accompany a report by M.T.R. and J.M.M.

Project No: MA07	Report No:
Mining Div: Kamloops	NTS: 82M/4
Survey By: M.Reed	Drafted By: M.Reed
Date: Dec, 1986	Map No: 7

REVISIONS

By	Date	Approv. By

TWIN 2
2404(2)

TWIN 3
2405(2)

