

ARIS SUMMARY SHEET

District Geologist, Kamloops

Off Confidential: 89.05.09

ASSESSMENT REPORT 17370

MINING DIVISION: Kamloops

PROPERTY: Eureka
 LOCATION: LAT 50 28 00 LONG 119 39 00
 UTM 11 5593655 311933
 NTS 082L05E
 CLAIM(S): Grouse 13-14, Grouse 16, Opal
 OPERATOR(S): Peto, P.
 AUTHOR(S): Peto, P.
 REPORT YEAR: 1987, 12 Pages

COMMODITIES

SEARCHED FOR: Gold, Copper

GEOLOGICAL

SUMMARY: A northwest trending fault zone, 30 metres wide and dipping 50 degrees to the northeast, cuts Kamloops volcanic flow and sedimentary rocks. The zone is mineralized with disseminated pyrite and chalcopyrite with gold values in fractured rocks and quartz veinlets. Strong hematite and limonite stains occur locally.

WORK

DONE: Prospecting, Geochemical
 PROS 100.0 ha
 ROCK 5 sample(s) ;AU, CU
 SILT 10 sample(s) ;AU, CU
 SOIL 5 sample(s) ;CU, AU

MINFILE: 082LSW065

LOG NO: 0526	RD.
ACTION:	
FILE NO:	

PROSPECTING REPORT

on the

JEWEL GROUP, FALKLAND, B.C.

FILMED

located in the

KAMLOOPS MINING DIVISION

N.T.S. 82L/5E

50°28' N. lat. & 119° 39' W long.

owned by:

ELIZABETH MARZOFF
R.R. #5, Site 14B, Comp. 4
Vernon, B.C.
VJT 6L8

written by:

PETER PETO, Ph.D., F.G.A.C.
CONSULTING GEOLOGIST

30 JUNE 1987

GEOLOGICAL BRANCH
ASSESSMENT REPORT

17,370

TABLE OF CONTENTS

<u>TEXT</u>	PAGE
INTRODUCTION.....	1
PROPERTY, LOCATION and ACCESS.....	1
HISTORY.....	1
REGIONAL GEOLOGY.....	2
PROPERTY GEOPHYSICS, GEOCHEMISTRY and GEOLOGY.....	3
INTERPRETATION and CONCLUSIONS.....	4
RECOMMENDATIONS.....	5
REFERENCES CITED.....	5
CERTIFICATE AND COST STATEMENT	6

TABLES

TABLE 1: PROPERTY DESCRIPTION	1
TABLE 2: WORK HISTORY	2

ILLUSTRATIONS

FIGURE 1: CLAIM LOCATION.....	7
FIGURE 2: REGIONAL GEOLOGY.....	8
FIGURE 3: JEWEL GROUP GEOLOGY PLAN (1:1200).....	9

APPENDIX

GEOCHEMICAL ANALYSIS.....	10
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INTRODUCTION

The Jewel Group consists of 4 two post claims covering a copper-gold prospect owned by Elizabeth Marzoff of Vernon, B.C. Her son and agent, Patrick Marzoff, also of Vernon, has agreed to pay the writer a commission for finding a suitable party to option and explore the claim. The writer has therefore compiled the existing data base concerning the property and summarized his findings in this report. He has personally examined the property and staked four additional claims to the east to enlarge the property and collected 20 geochemical samples.

PROPERTY, LOCATION & ACCESS

The property consists of the following two post claims listed in Table 1 and shown in Figure 1.

TABLE 1: JEWEL GROUP

<u>CLAIM NAME</u>	<u>RECORD NO.</u>	<u>RECORD DATE</u>	<u>OWNER</u>
Pearl	27581	10 Dec. 1957	E. Marzoff
Ruby	27582	"	"
Opal	27583	"	"
Topaz	27584	"	"
Eureka	7046	26 May 1987	Peter Peto
Grouse 13	7047	"	"
Grouse 15	7048	"	"
Grouse 16	7049	"	"

They are located about 9 kilometers west of the town of Falkland, immediately south of Highway 97. The showing is accessed via a jeep road. The claims cover an open, relatively steep, north facing slope that was largely logged off and subsequently burned over.

HISTORY

The prospect was discovered by the Marzoffs in 1953 during construction of logging roads. They staked the claims and carried out extensive trenching and road construction. The property was optioned by Canex Aerial Exploration Ltd. (Placer Development) in 1967 which carried out 635 feet of diamond drilling, mapped and sampled the trenches (Rennie, 1967)

and commissioned magnetometer (12.5km), VLF-EM (12.5 km) and induced polarization (4.7 km) surveys (Cannon, 1967). The property was returned to the owners who carried out further trenching and drilling under Kennco fieldman Gordon Davies (1971-1974). The showing was subsequently resampled and mapped by Utah Mines during a property examination by Deighton (1986). The writer has estimated the minimum capital layout expended on the property to date:

TABLE #2 WORK HISTORY

1987 - P. Peto: examination, staking & data compilation....	\$1,300
1986 - Utah Mines: examination and geochem.....	1,600
1974 - Marzoffs: drilling 321 feet in 2 holes.....	2,800
1967 - Canex Aerial Exploration: drilling & surface work...	25,300
1971-1957 - Marzoffs: trenching & road construction.....	25,000
1987-1957 - Marzoffs: assessment fees for 30 years.....	5,400
	<hr/>
TOTAL ESTIMATE	\$61,400
	<hr/> <hr/>

REGIONAL GEOLOGY

According to Jones (1959) the claims are underlain by a window of Paleozoic Cache Creek sediments (Unit 15) capped and surrounded by tertiary volcanics (Unit 20) as shown in Figure 2. However there is good reason to believe this is an error in regional mapping, as pointed out by J.L. Oliver, M.Sc. (personal communication), namely:

- (1) The sediments underlying the Tertiary flows are poorly sorted, quartz rich, shallow water arkoses grits and limy mudstones as contrasted to the generally deeper water turbidites and carbonates of the typical Cache Creek.
- (2) The sediments experienced brittle but not penetrative deformation characteristic of Cache Creek rocks.
- (3) Bedding attitudes are conformable with the overlying flows of Tertiary age and in some cases interbedded with comparable flows.

A good case can therefore be made that the claims cover basal Tertiary sediments which would be correlative with the Shorts Creek or Springbrook/Kettle River formations mapped as Tertiary elsewhere (Ewing, 1981).

PROPERTY GEOPHYSICS, GEOCHEMISTRY & GEOLOGY

Geophysical surveys were carried out by R.W. Canon (1967) which indicated a magnetic low 400 to 800 feet south and a magnetic high 800 feet north of the showing. Magnetic highs correspond to areas underlain by intrusive porphyry whereas lows are near inferred fault zones in sediments. Several weak to moderate, north trending VLF-EM conductors were delineated using Seattle (18.6 khz). These correspond to gulleys (presumably fracture zones) and he also concluded the overburden was conductive. Three I.P. profiles indicated high frequency effect (5-9%) and low resistivity anomalies corresponding to topographic lineaments with moderate westerly dips including an anomaly over the showing of 4 to 5 percent which was also drilled, (Figure 3).

Chip samples over various widths yielded values from trace to 0.71 oz/ton gold in fractured, oxidized volcanoclastics cut by quartz veinlets (1 mm to 15 cm wide). Alteration consists of hematite and limonite coatings, fractures with secondary malachite/azurite and primary hydrothermal minerals consisting of gypsum, carbonate, chlorite, quartz and minor pyrite/chalcopyrite. Two vertical holes, situated immediately east intersected fractured and oxidized volcanoclastics, with low copper and gold values, overlying a 180 foot thick west dipping chloritic-feldspar porphyry dyke (Figure 3) carrying small amounts of pyrite and native copper. Only the first 100 feet of DDH 67-1 was assayed over 10 foot intervals.

More recent sampling of the trenched area is shown in

Figure 3 which yielded 0.28 and 0.43 oz/ton gold. The writer sampled grey, pyritic, quartz veins (6" wide) which yielded 10,330 ppb gold. The Marzoffs also obtained 0.15 oz/ton gold from residual hematite in overburden. They also drilled two holes in 1974 which resulted in very poor core recovery but obtained values of 100 to 600 ppb gold from altered porphyry (Davies, 1974).

INTERPRETATIONS and CONCLUSIONS

Examination of present data on the Jewel group indicates a geological environment consisting of an interbedded sequence of volcanoclastic sediments, trending N70W and dipping 50°NE, capped by continental, alkali-rich, calc-alkaline andesites with minor basalt, rhyolite and rhyodacite flows and pyroclastics. The volcanoclastic assemblage is intruded by north-trending, hypabssal, feldspar porphyry feeder dykes. Quartz veining is associated with dyking and adjacent wall rocks. These Tertiary volcanic rocks are disrupted by N50°W to N10°E steeply eastward dipping fault zones associated with strong oxidation, introduction of chlorite, quartz, carbonate, gypsum, hematite-limonite. Copper-gold mineralization, consisting of pyrite ± chalcopyrite ± native copper, is probably derived from feldspar porphyry dyking, however, fracture-controlled hematite-limonite mineralization carrying some impressive gold values, may be associated with subsequent faulting and volcanic degassing. In effect, the geological setting is favourable for some fracture controlled replacement or disseminated-type gold deposits of the Carlin-type.

It is the writer's contention that this prospect has therefore been inadequately explored as the following observations suggest. Firstly, the two 1967 drill holes were drilled vertically, well east of the fault zone and largely intersected a westerly dipping porphyry dyke. A better test of the showing would have been an angle hole directed at the fault zone to the west, which was attempted by the Marzoffs in 1974 with inconclusive results due to loss of core. In fact, the I.P. profile, given in Appendix indicates the best I.P.

anomalies were not tested. Secondly, in the writer's view more promising drill targets would be to test the inferred fault structure, further to the south, higher up in the alteration zone, say on line 8S with an angle hole. Another target would be a parallel structure to the west of the showing with a strong I.P. anomaly at depth on Line 4S coincident with anomalous copper at surface. Finally, a strong I.P. anomaly associated with another parallel structure on Line 4S was never tested.

RECOMMENDATIONS

In the writer's estimation the property should be drilled to further test for structurally controlled, disseminated, Carlin-type gold mineralization. The oxidized nature of the mineralization could lend itself to heap leaching of a low grade, pitted gold deposit, a program of further rock chip sampling and 3,000 feet of diamond drilling, costing about \$80,000 is recommended.

Respectfully submitted

Peter Peto

Peter Peto, Ph.D., F.G.A.C.

REFERENCES CITED

- Cannon, R.W. (1967) Geophysical Survey on Jewel Group, Memorandum: Canex Aerial Exploration Inc.
- Davies, Gordon (1971-1974) Notes on the Jewel Group, Assessment Report, and Marzoff's private files.
- Deighton, J. (1986) Assessment Report on Jewel Group.
- Jones, A.G. (1959) Vernon Map Area, G.S.C. Memoir 296.
- Rennie, C.C. (1967) Final Report on Jewel Group, files of Placer Development (11-2-63).
- Ewing, T. (1981) Regional Stratigraphy and Structural Setting of the Kamloops Group, south-central, B.C., Canadian Journal Earth Sciences, V. 18, p. 1464-77.

CERTIFICATE

I, Peter Peto do hereby certify:

1. THAT I AM A GEOLOGIST residing at 125 Bassett Street, Penticton, British Columbia.
2. THAT I GRADUATED with a B.Sc. degree in geology from the University of Alberta in 1968.
3. THAT I HAVE PRACTISED exploration geology in British Columbia since 1975.

DATED THIS 17 DAY OF MAY, 1988 AT PENTICTON, BRITISH COLUMBIA.

SIGNED: Peter Peto

PETER PETO

ITEMIZED COST STATEMENT

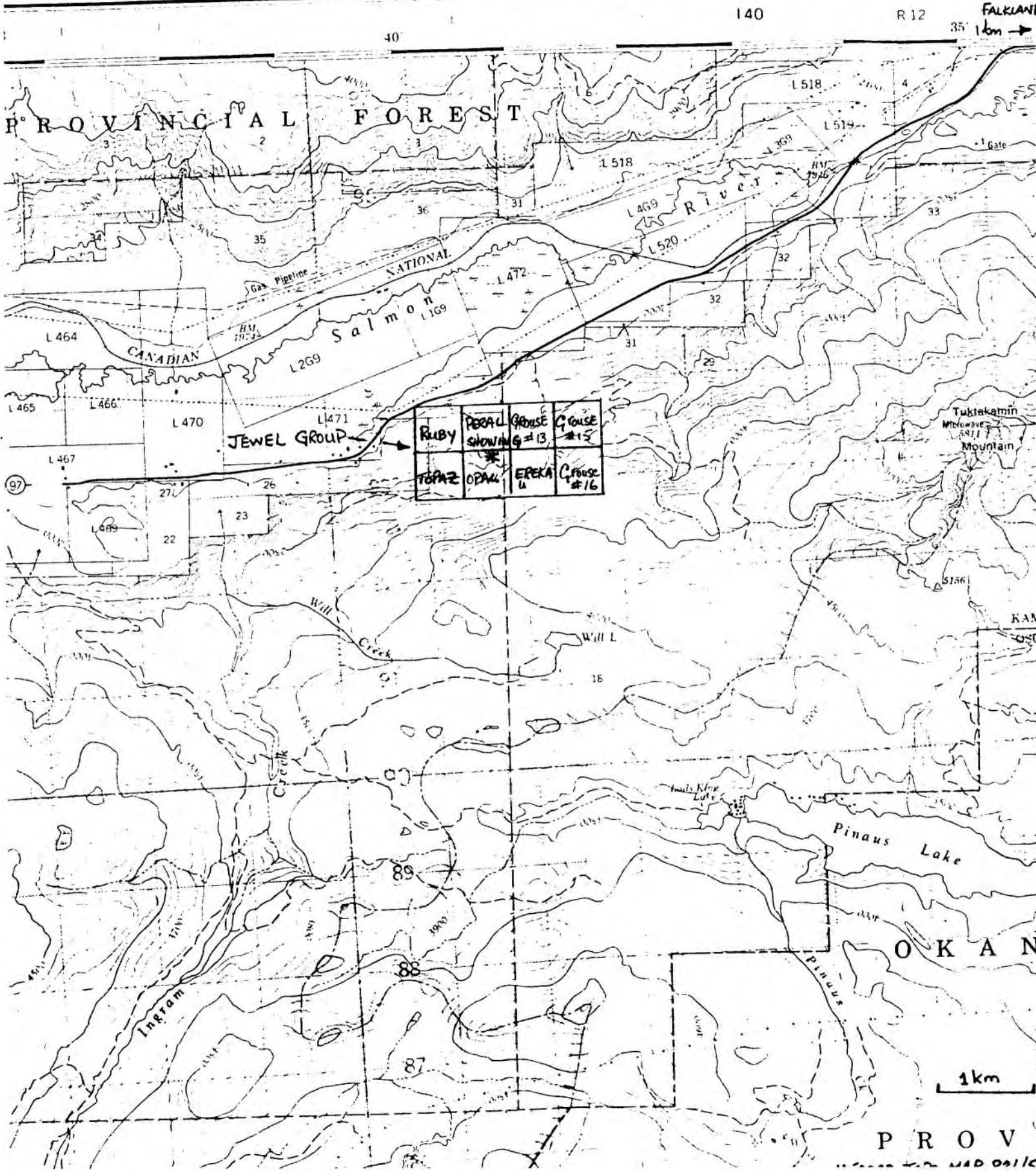
P. Peto, 1 day field examination at \$300/day.....	\$300.00
Vehicle rental, 1 day @ \$50/day.....	50.00
20 geochemical samples @ \$8/sample.....	160.00
P. Peto, 1 day report preparation, @ \$300/day.....	300.00
Reproduction costs and materials.....	40.00
	<hr/>
TOTAL COSTS	\$850.00



FIGURE 1: CLAIM LOCATION MAP 82L/5E



EDITIO

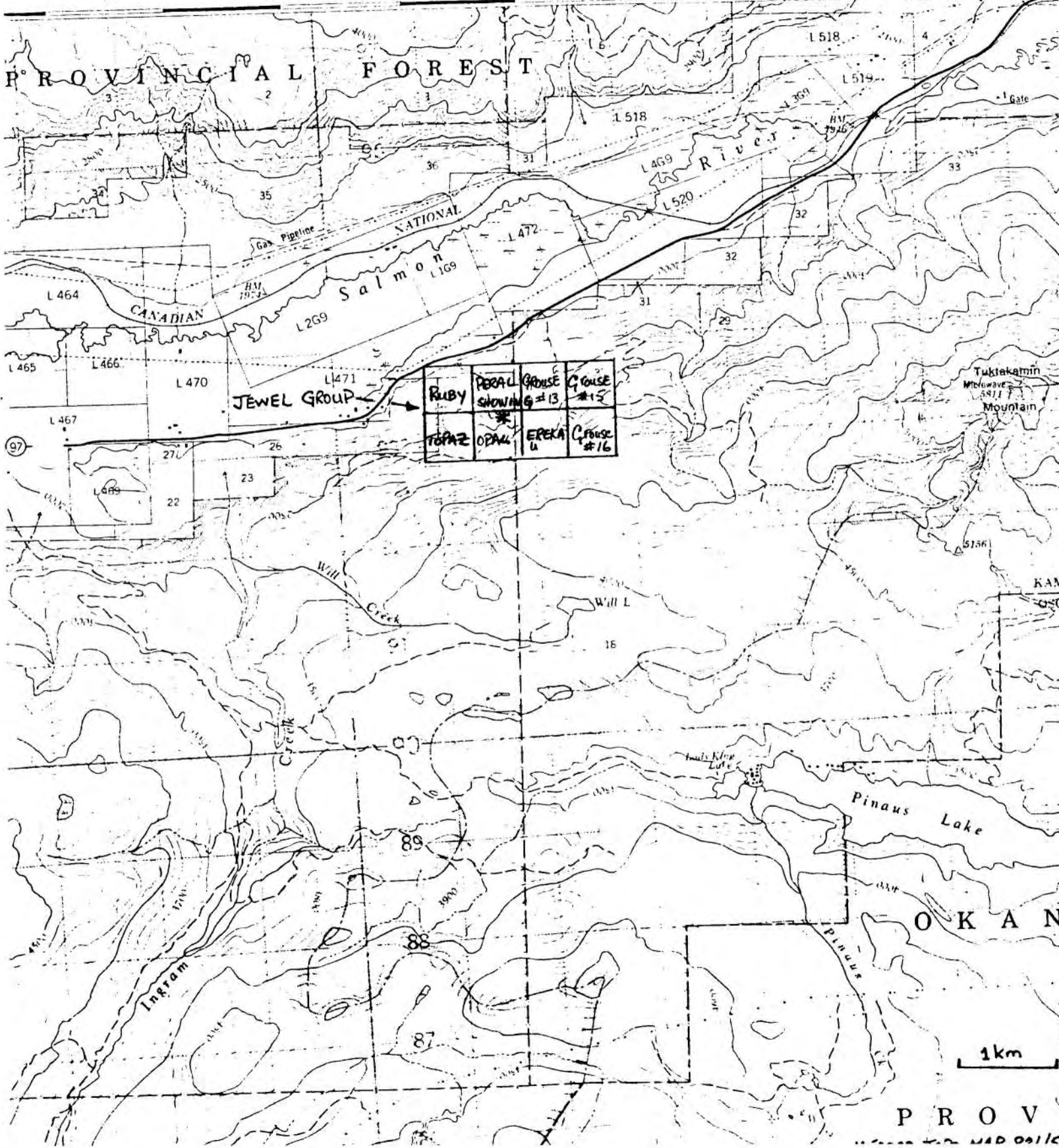


140

R12

FALKLAND 35 km →

40



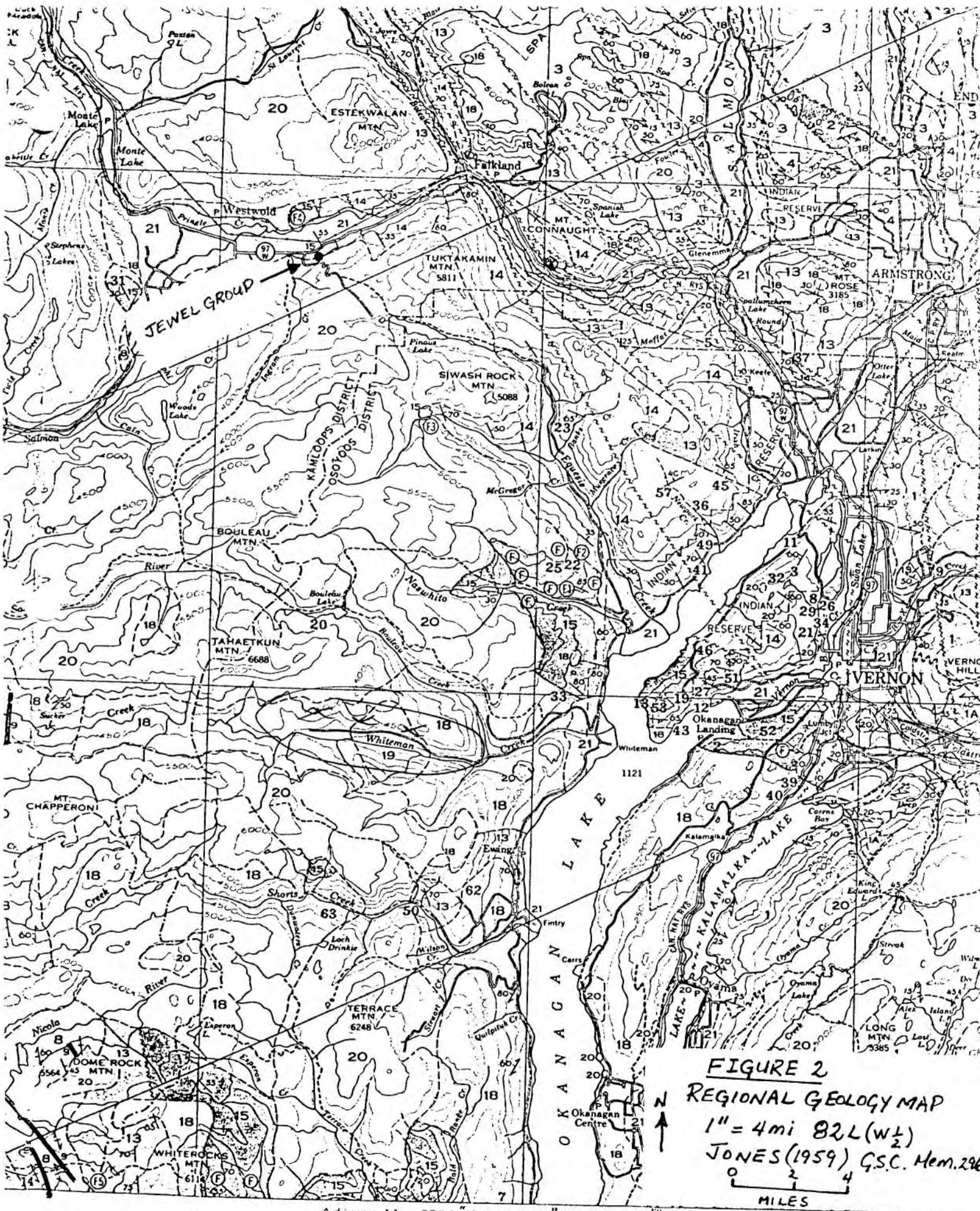
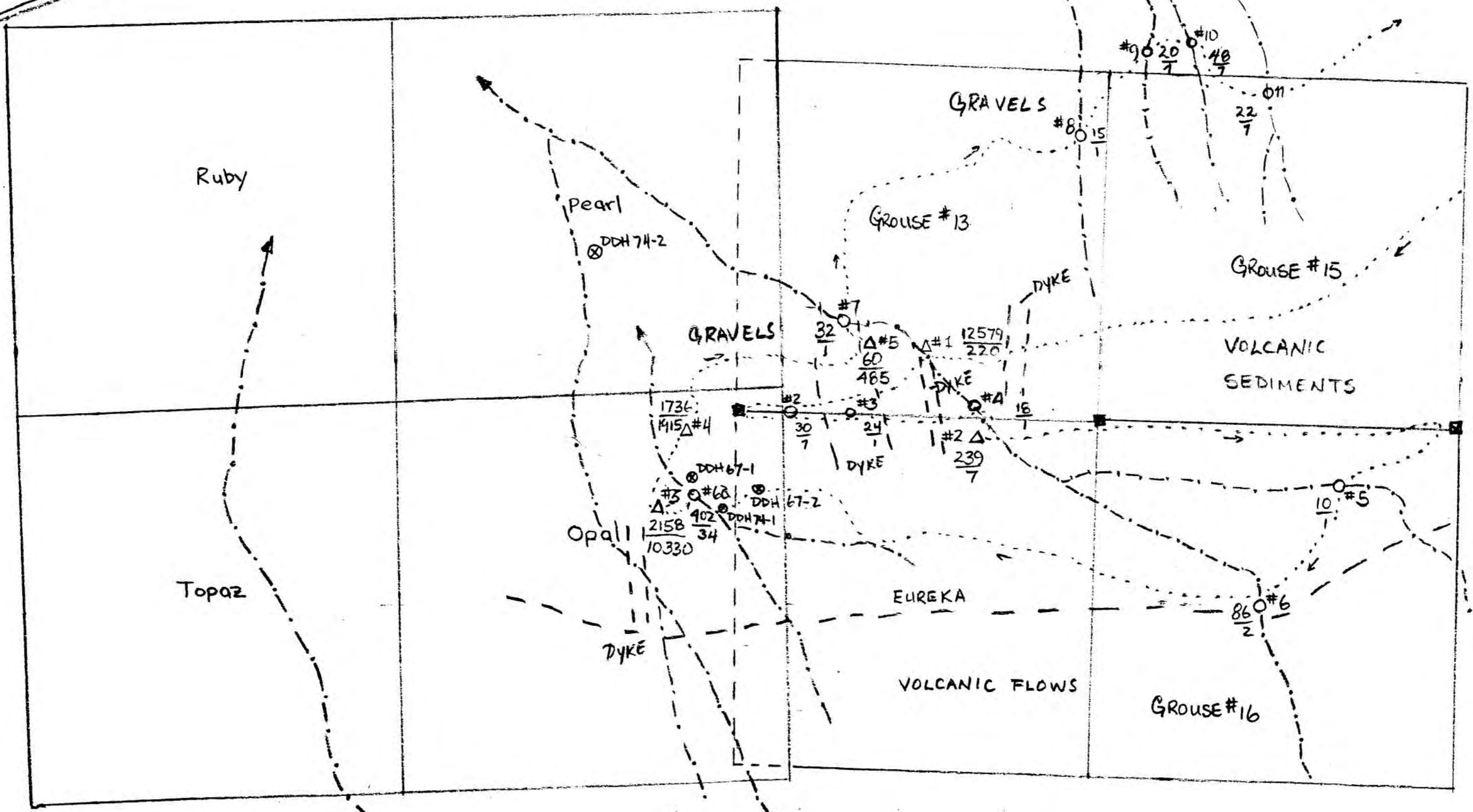


FIGURE 2
REGIONAL GEOLOGY MAP
 1" = 4 mi (2L(W $\frac{1}{2}$))
 JONES (1959) G.S.C. Mem. 296

Adjoins Map 53RA, "Kettle River" (West Half)

HIGHWAY 97



LEGEND

- ⊗ drill hole collar
- ⊠ claim post
- △ rock sample
- SOIL/SILT SAMPLE
- - - drainage
- traverse
- - - contact

Cu(ppm) 20
Au(ppb) 7

FIGURE #3
JEWEL GROUP
GEOLOGY PLAN
MAP
 MAY 1987
 SCALE 1" = 400'
 ~ 1:5000
 0 50 100 150
 METERS

ACME ANALYTICAL LABORATORIES
852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: MAY 4 1987

DATE REPORT MAILED: *May 6/87*

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P CR MG BA TI B AL NA K W SI ZR CE SM Y NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOILS SILTS & ROCKS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: *D. Toye* DEAN TOYE, CERTIFIED B.C. ASSAYER

MINGOLD RESOURCES PROJECT - JEWEL File # 87-1170

SAMPLE#	CU PPM	AU* PPB
SOIL-1	55	8
SOIL-2	30	1
SOIL-3	24	1
SOIL-4	18	1
SILT-2	38	2
SILT-3	33	1
SILT-4	44	1
SILT-5	10	1
SILT-6	86	2
SILT-6(a)	402	34
SILT-7	32	1
SILT-8	15	1
SILT-9	20	1
SILT-10	48	1
SILT-11	22	4
ROCK-1	12579	220
ROCK-2	239	7
ROCK-3	2158	10330
ROCK-4	1736	1915
ROCK-5	28	37
STD C/AU-R	60	485