

015877

DRILLING REPORT  
NORTHWEST OF THE FARO MINE SITE

WHITEHORSE MINING DISTRICT

YUKON TERRITORY

N.T.S. 105-K-6

Latitude: 62° 22' N  
Longitude: 133° 30' W

Prepared by:

L.C.. Pigage, Ph.D., F.G.A.C.  
Curragh Resources Inc.

Field Work Completed August 8 - September 28, 1989

WH90007

## TABLE OF CONTENTS

	PAGE
SUMMARY .....	1
INTRODUCTION .....	2
LOCATION AND ACCESS .....	2
1989 FIELD PROGRAM .....	4
REGIONAL GEOLOGY .....	5
Introduction .....	5
Structure and Metamorphism .....	5
Stratigraphy .....	6
Introduction .....	6
Mount Mye formation .....	6
Vangorda formation .....	9
Massive sulphide deposits .....	9
Intrusive Rocks .....	10
Anvil plutonic suite (Anvil Batholith) .....	10
Intrusive dykes .....	10
1989 DRILLING RESULTS .....	11
Introduction .....	11
Drill Hole 88-9FX-01 .....	11
Drill Hole 89FX-02 .....	12
Drill Hole 89FX-03 .....	12
Drill Hole 89FX-04 .....	12
Borehole Pulse EM Survey .....	14
Analytical Results .....	21
CONCLUSIONS .....	22
RECOMMENDATIONS .....	23
SELECTED REFERENCES .....	24
STATEMENT OF COSTS .....	25
STATEMENT OF QUALIFICATIONS .....	26

## LIST OF FIGURES

	PAGE
Figure 1. Location map for Faro Northwest 1989 field work .....	3
Figure 2. Geology map with 1989 Faro Northwest Drill .....	(pocket)
Figure 3. Stratigraphic column for Anvil District .....	7
Figure 4. Cross section X-Y through DDH 88-9FX-01 .....	(pocket)

## LIST OF TABLES

Table 1. Detailed Logging Code for Anvil District .....	8
Table 2. Au analyses of altered 1CD schist and 10E dyke .....	15
Table 3. Thirty-six element ICP analysis of heavy mineral concentrates - 10E dykes .....	17

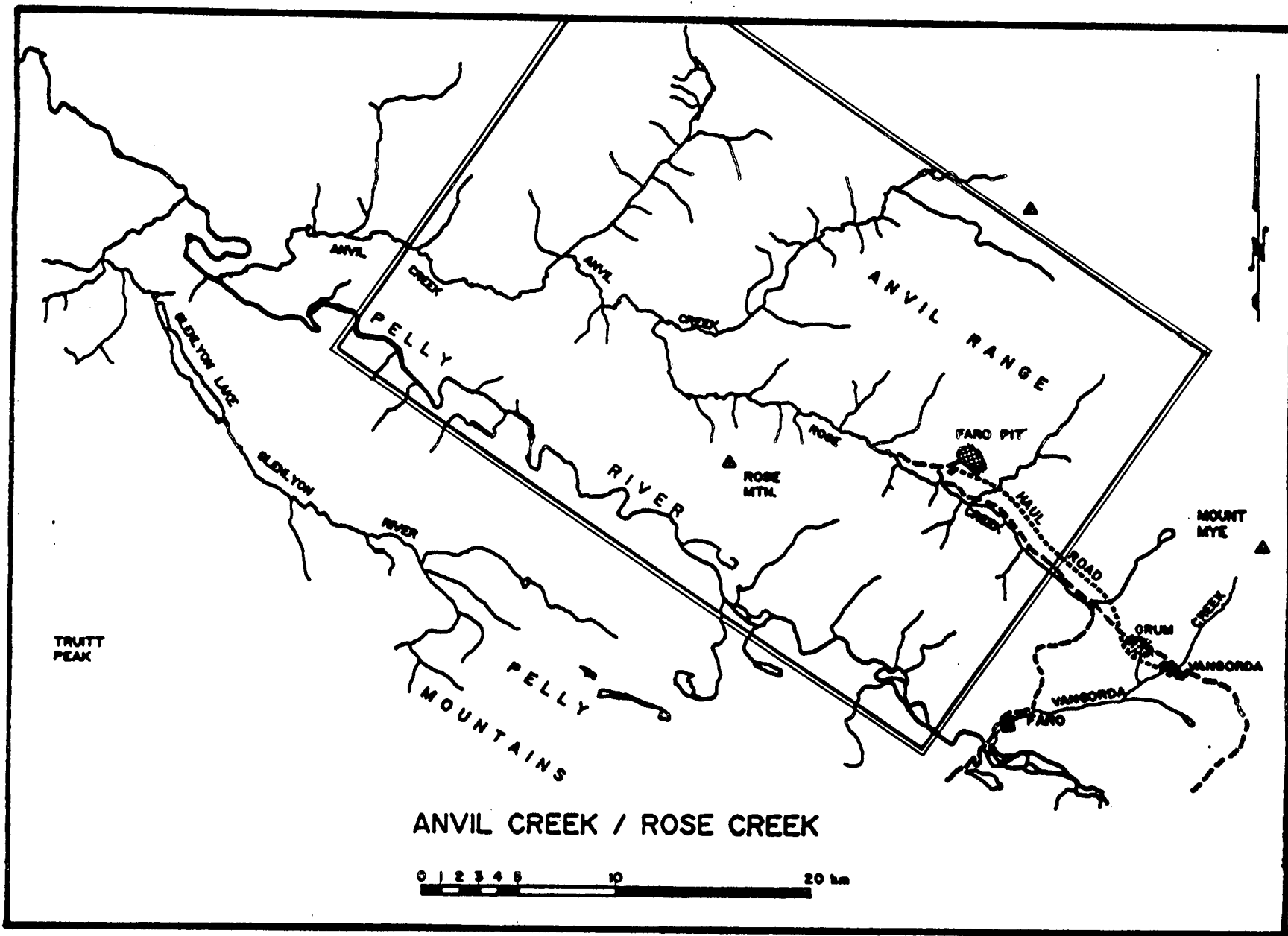


Figure 1  
Location map of FARONW project

## REGIONAL GEOLOGY

### INTRODUCTION

A detailed summary of the geology of the Anvil District is contained in the recent paper by Jennings and Jilson (1986). The following summary pertains more specifically to the geology encountered northwest of the Faro Mine Site.

### STRUCTURE AND METAMORPHISM

The Anvil District is a complex polymetamorphic, polydeformed terrane. Lithologic units of the District contain evidence for at least five deformation phases; the first two phases are most significant in that they are penetrative and are accompanied by regional metamorphism. The most prominent fabric element is a shallowly dipping foliation commonly sub-parallel to compositional layering. At higher structural levels, this foliation is a well-developed evenulation cleavage which clearly identifies it as having formed during the Phase Two deformation. At lower structural levels, the earlier  $S_1$  foliation surface has been totally transposed into this dominant  $S_2$  axial plane foliation.

The metasediments are domed to form a northwest-trending culmination cored by Cretaceous granites of the Anvil plutonic suite. Metamorphic grade decreases in intensity radially outward from the granite core and ranges from sillimanite-muscovite zone in amphibolite facies to chlorite-muscovite zone in greenschist facies. Intrusion of the Anvil plutonic suite is coeval with the regionally developed Phase Two deformation and metamorphism.

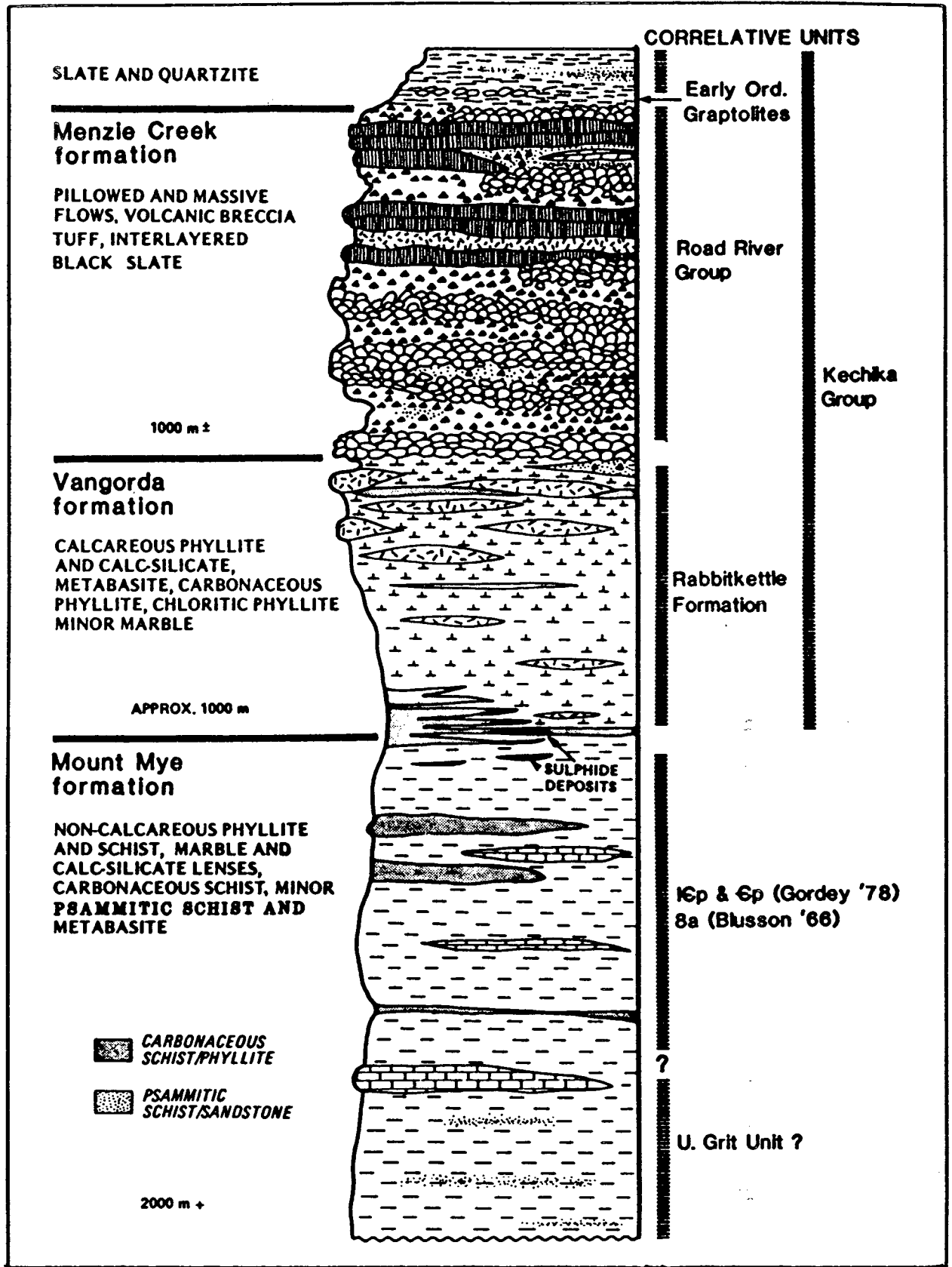


Figure 3  
Stratigraphic column for Anvil District

## **Vangorda formation**

In areas of higher grade metamorphism, the Vangorda formation consists of thinly and discontinuously banded, pervasively foliated, green, cream and purplish brown biotite calc-silicate. The same lithostratigraphic code is used for calc-silicates in the Mount Mye and Vangorda formations because these lithologies cannot be readily distinguished in the field.

Interlayered rock types are carbonaceous schist, siliceous carbonaceous schist, calcitic marble, and weakly to strongly foliated chlorite-calcite schists and amphibolites. Relatively pure calcitic marble is a very minor lithology in the Vangorda formation. Carbonaceous members of the Vangorda formation occur throughout the stratigraphic interval; the thickest and most extensive member is at the base of the formation. The most abundant subordinate lithology of the Vangorda formation is amphibolite (metabasite). Metabasite occurs in lens-shaped bodies with interiors often preserving relict diabasic textures.

## **Massive sulphide deposits**

The Anvil ore deposits are of the sediment-hosted, stratiform, massive pyritic sulphide type. They occur as one or more sulphide lenses through a 150 metre interval straddling the boundary of the Mount Mye and Vangorda formations. Typically, they are associated with discontinuous, regionally developed, carbonaceous, siliceous schist units.

Locally, 10E dykes have a well developed chilled margin phase consisting of coarse hornblende and biotite phenocrysts in a dark brown aphanitic groundmass. The groundmass is typically crowded with white feldspar microphenocrysts.

## 1989 DRILLING RESULTS

### INTRODUCTION

The 1988 exploration mapping program outlined structural/stratigraphic units and several major faults northwest of the Faro Mine Site.

Although displaced along these major faults, the favourable stratigraphic horizon for mineralization was shown to run through the area northwest of the Mine Site.

Specific drilling recommendations were presented in that study (Pigage, 1989). The first recommendation was that drill hole 88FX-01 should be deepened to test the structural model presented in the cross-section prepared using holes 88FX-01 and 79FX-01. Additional drilling was also recommended to test extremely rusty weathering outcrops located immediately northwest of the Mine Site (Stations 88-136 and 88-137).

This reports represents the follow-up results for those recommendations.

### DRILL HOLE 88-9FX-01

Drill hole 88-9FX-01 was deepened to complete the regional structural cross-section using information from 88-9FX01 and 79F-01. It was anticipated that the deepened hole would intersect the calc-silicate unit encountered at depth in drill hole 79F-01. Total depth of the hole was 611.7 metres (2,007 feet) of which

TABLE 2. Au analyses for altered ICD schists, 10E dykes, and 10Q quartz veins  
Faro Northwest - 1989

DDHID	From (m)	To (m)	Int (m)	Rec (m)	Unit	Sample ID	Au ppb
889FX-01	579.4	580.0	0.6	0.6	10E09#	37273	< 5
889FX-01	580.0	581.3	1.3	1.3	10E9	37274	< 5
889FX-01	581.3	582.8	1.5	1.5	10E9	37275	< 5
889FX-01	582.8	583.8	1.0	1.0	10E9	37276	< 5
889FX-01	583.8	585.2	1.4	1.4	10Q BXA	37277	33
889FX-01	585.2	586.4	1.2	1.2	10Q BXA	37278	21
889FX-01	586.4	587.6	1.2	1.2	10E9	37279	34
889FX-01	587.6	589.1	1.5	1.5	10E9	37280	< 5
889FX-01	589.1	590.4	1.3	1.3	10E9	37281	< 5
889FX-01	590.4	591.6	1.2	1.2	10E9	37282	< 5
889FX-01	591.6	593.0	1.4	1.4	10E9	37283	< 5
89FX-03	131.8	133.2	1.4	1.4	104	37257	18
89FX-03	133.2	135.1	1.9	1.9	104	37258	7
89FX-03	135.1	136.2	1.1	1.1	10D46	37259	6
89FX-03	136.2	137.6	1.4	1.4	10D46	37260	10
89FX-03	137.6	138.9	1.3	1.3	10D46	37261	16
89FX-03	138.9	140.3	1.4	1.4	10D46	37262	7
89FX-03	140.3	141.6	1.3	1.3	10D46	37263	7
89FX-03	141.6	142.8	1.2	1.2	10D46	37264	7
89FX-03	279.4	280.9	1.5	1.5	10E9	37265	< 5
89FX-03	280.9	282.1	1.2	1.2	10E9	37266	11
89FX-03	282.1	283.5	1.4	1.4	10E9	37267	< 5
89FX-03	283.5	284.7	1.2	1.2	10E9	37268	< 5
89FX-04	319.3	320.6	1.3	1.3	10E9	37317	< 5
89FX-04	320.6	321.9	1.3	1.3	10E9	37318	6
89FX-04	321.9	323.0	1.1	1.1	10E9	37319	< 5
89FX-04	323.0	324.4	1.4	1.4	10E9	37320	29
89FX-04	324.4	326.5	2.1	2.1	10E09	37321	< 5
89FX-04	326.5	328.0	1.5	1.5	10E9	37322	< 5
89FX-04	328.0	329.4	1.4	1.4	10E9	37323	< 5
89FX-04	329.4	330.9	1.5	1.5	10E9	37324	6
89FX-04	330.9	332.4	1.5	1.5	10E9	37325	< 5
89FX-04	332.4	333.7	1.3	1.3	10QE	37326	21
89FX-04	333.7	334.8	1.1	1.1	10QE	37327	22
89FX-04	334.8	335.9	1.1	1.1	10QE	37328	12
89FX-04	335.9	336.9	1.0	1.0	10QE	37329	56
89FX-04	336.9	338.4	1.5	1.5	10QE	37330	10
89FX-04	345.3	346.7	1.4	1.4	10QE	37331	21
89FX-04	346.7	348.2	1.5	1.5	10QE	37332	60
89FX-04	354.3	355.7	1.4	1.4	10QE	37333	11
89FX-04	355.7	357.0	1.3	1.3	10QE	37334	37
89FX-04	357.0	358.4	1.4	1.4	10QE	37335	7
89FX-04	358.4	359.7	1.3	1.3	10QE	37336	17
89FX-04	359.7	362.6	2.9	2.9	10QE	37337	7
89FX-04	362.6	363.6	1.0	1.0	10QE	37338	< 5
89FX-04	363.6	365.0	1.4	1.4	10E9	37339	< 5

Table 3. Thirty-six element ICP analysis of heavy mineral concentrates - 10E dyke

## Faro Northwest - 1989

DDHID	From (m)	To (m)	Int (m)	Rec (m)	Alt	Sample ID	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ni ppm
889FX-01	489.8	490.4	0.6	0.6	potassic	37270	> 50.0	729	7507	825	50	26
889FX-01	515.1	518.0	2.9	2.9	fresh	37271	< 0.2	1032	205	443	8	37
889FX-01	576.7	579.4	2.7	2.7	fresh	37272	3.2	283	380	285	8	41
89FX-02	49.7	52.7	3.0	3.0	fresh	37132	11.5	123	3205	4674	14	44
89FX-02	99.7	102.7	3.0	3.0	fresh	37133	5.5	101	104	255	20	39
89FX-03	284.7	287.6	2.9	2.9	fresh	37269	6.7	289	472	655	4	45
89FX-04	109.5	112.5	3.0	3.0	fresh	37311	4.8	96	283	760	8	24
89FX-04	211.5	212.6	1.1	1.1	chloritic	37312	4.7	142	337	438	5	30
89FX-04	212.6	215.5	2.9	2.9	fresh	37313	4.9	391	157	307	7	34
89FX-04	263.2	266.1	2.9	2.9	fresh	37314	9.8	136	3009	6388	14	25
89FX-04	266.1	268.1	2.0	2.0	fresh	37315	12.9	473	4229	6889	184	44
89FX-04	317.6	319.3	1.7	1.7	chloritic	37316	5.5	136	474	820	10	26

Table 3. Thirty-six element ICP analysis of heavy mineral concentrates - 10E dyke

## Faro Northwest - 1989

DDHID	From (m)	To (m)	Int (m)	Rec (m)	Alt	Sample ID	Mn %	Te ppm	Ba ppm	Cr ppm	V ppm	Sn ppm
889FX-01	489.8	490.4	0.6	0.6	potassic	37270	0.34	78	173	541	292	< 20
889FX-01	515.1	518.0	2.9	2.9	fresh	37271	0.60	64	282	196	379	< 20
889FX-01	576.7	579.4	2.7	2.7	fresh	37272	0.47	91	224	403	988	< 20
89FX-02	49.7	52.7	3.0	3.0	fresh	37132	0.85	71	463	402	410	< 20
89FX-02	99.7	102.7	3.0	3.0	fresh	37133	0.63	71	362	316	344	< 20
89FX-03	284.7	287.6	2.9	2.9	fresh	37269	0.57	62	374	336	294	< 20
89FX-04	109.5	112.5	3.0	3.0	fresh	37311	0.40	73	1244	111	722	< 20
89FX-04	211.5	212.6	1.1	1.1	chloritic	37312	0.35	65	288	581	392	< 20
89FX-04	212.6	215.5	2.9	2.9	fresh	37313	0.43	90	362	201	392	< 20
89FX-04	263.2	266.1	2.9	2.9	fresh	37314	0.45	58	554	154	380	< 20
89FX-04	266.1	268.1	2.0	2.0	fresh	37315	0.37	48	356	199	318	< 20
89FX-04	317.6	319.3	1.7	1.7	chloritic	37316	0.31	70	494	72	234	< 20

Table 3. Thirty-six element ICP analysis of heavy mineral concentrates - 10E dyke

## Faro Northwest - 1989

DDHID	From (m)	To (m)	Int (m)	Rec (m)	Alt	Sample ID	Al %	Mg %	Ca %	Na %	K %	Nb ppm
889FX-01	489.8	490.4	0.6	0.6	potassic	37270	3.26	2.62	2.32	0.53	0.77	69
889FX-01	515.1	518.0	2.9	2.9	fresh	37271	2.22	3.02	3.92	0.65	0.68	74
889FX-01	576.7	579.4	2.7	2.7	fresh	37272	2.20	3.14	4.50	0.68	0.71	63
89FX-02	49.7	52.7	3.0	3.0	fresh	37132	3.76	3.24	1.49	0.93	0.86	129
89FX-02	99.7	102.7	3.0	3.0	fresh	37133	2.38	2.86	1.40	0.69	0.93	105
89FX-03	284.7	287.6	2.9	2.9	fresh	37269	1.61	2.78	3.68	0.62	0.95	89
89FX-04	109.5	112.5	3.0	3.0	fresh	37311	4.02	3.76	2.92	0.72	0.88	89
89FX-04	211.5	212.6	1.1	1.1	chloritic	37312	6.84	3.61	2.75	0.63	0.76	67
89FX-04	212.6	215.5	2.9	2.9	fresh	37313	4.15	3.29	2.04	0.61	2.15	108
89FX-04	263.2	266.1	2.9	2.9	fresh	37314	5.62	3.92	1.38	0.70	1.01	88
89FX-04	266.1	268.1	2.0	2.0	fresh	37315	4.02	3.30	1.51	0.76	0.97	88
89FX-04	317.6	319.3	1.7	1.7	chloritic	37316	2.80	3.32	2.86	0.51	0.79	47

conductors were detected for drill holes 89FX-02, 89FX-03 and 89FX-04. A weak conductor was noted north of drill hole 88-9FX-01 near the bottom of the hole. Because this portion of the hole is contained entirely within 10E intrusive, the origin of this conductor is uncertain. Perhaps it indicates a marginal edge to the intrusion.

### ANALYTICAL RESULTS

Two separate analytical programs were completed on selected intervals of the four drill holes. All analyses were completed by Bondar-Clegg and Company, Ltd. from North Vancouver. Fifty-eight samples total were analyzed in the two programs.

Forty-six samples of altered quartz vein, 1CD schists, and 10E dyke were analyzed by fire assay for Au content. Results from these analyses are reported in Table 2. All analyses are reported in parts per billion (ppb). The quartz vein-breccia system in the lowermost portion of 89FX-04 consistently contains the highest values. Generally the altered 10E dykes contain the lowest values. In all cases the Au contents are low and uninteresting economically.

Twelve samples of slightly altered and fresh 10E dyke material were split for semi-quantitative 36-element ICP analysis of the heavy mineral concentrates. The concentrates were prepared by using first a Wilfey vibrating table and then heavy liquids. Based on the original mineralogy, the heavy mineral concentrates should consist largely of biotite and hornblende. The concentrates were digested in a HF-HNO<sub>3</sub>-HClO<sub>4</sub>-HCl multi-acid solution for analysis.

The ICP analyses are listed in Table 3. It was hoped that the analyses would optimally define a concentration trend which could be related to proximity to a major Pb-Zn deposit. Inspection of Table 3 indicates that such trends are not readily apparent.

The heavy mineral concentrate analysis program should not be discontinued based on the results in this report; the sample size is too small to establish or discredit any subtle trends. Thin sections should be prepared of the heavy mineral separates for petrographic identification of the mineral phases present. This might indicate the source of the high Pb analyses.

STATEMENT OF COSTS

FARO NW 1989 DRILLING (JULY-DEC/89)

DRILLHOLE DEPTH (FT)	89FX01A	89FX02	89FX03	89FX04	TOTAL
	1,013	384	1,054	1,236	3,687
SUMMER STUDENTS WAGES	\$0	\$0	\$0	\$0	\$0
GEOLOGIST	\$1,049	\$397	\$1,091	\$1,279	\$3,816
MEALS/ACCOMODATION/TRAVEL	\$870	\$330	\$905	\$1,061	\$3,165
RADIO PHONE	\$202	\$76	\$210	\$246	\$734
FREIGHT	\$135	\$51	\$141	\$165	\$492
FIELD OFFICE SUPPLIES	\$57	\$22	\$59	\$69	\$207
DRILLING	\$30,738	\$12,188	\$27,048	\$33,278	\$103,253
GEOPHYSICS	\$5,171	\$1,960	\$5,380	\$6,309	\$18,821
ASSAYS/PETROGRAPHY	\$1,377	\$522	\$1,433	\$1,680	\$5,012
REPORT PREPARATION	\$165	\$62	\$172	\$201	\$600
TRUCK/ATV RENTAL	\$0	\$0	\$0	\$0	\$0
HELICOPTER	\$259	\$98	\$269	\$316	\$942
COST	\$40,022	\$15,707	\$36,707	\$44,605	\$137,042