SUMMARY REPORT

on the

1996 EXPLORATION PROGRAM

COREY PROPERTY

104B7E, 8W, 9W, 10E
Latitude 56°32' N, Longitude 130°28'W

SKEENA MINING DIVISION
BRITISH COLUMBIA

for

KENRICH MINING CORPORATION
910 - 510 Burrard Street
Vancouver, B. C.
V6C 3A8

by

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Colin Russell and Helgi Sigurgeirson

March 1997

SUMMARY AND CONCLUSIONS

The Corey Property is located in northwestern British Columbia, 900 km northwest of Vancouver and 70 km north of Stewart. The property consists of 70 claims cp,[rosomg 839 units.

The claims constituting the Corey Property are owned 90% by Kenrich Mining Corp., with offices located at 910-510 Burrard Street, Vancouver, B.C.

The Corey Property is situated in geologically permissive terrain host to numerous polymetallic mineral occurrences. The Eskay Creek deposit is located 12 km north of the Coreyand contains 1.2 million tons grading 1.91 ounces/ton gold and 85.5 ounces/ton silver. The Kerr porphyry copper-gold deposit is situated near the eastern boundary of the Corey and reportedly contains drill inferred reserves of 138.6 million tons grading 0.62 % Cu and 0.008 oz/t Au.

The Corey Property covers a complete stratigraphic section of the Hazelton Group, which includes the Betty Creek, Salmon River and Bowser Lake Formations. Detailed geological work in the western portion of the property has established the presence of a section of Salmon River Formation rhyolite, breccia, mudstone and basalt correlative with and remarkably similar to that at Eskay Creek. These sections are found within the **TV, Bench and Battlement Zones** and the **Cumberland Showing and HSOV Showing**. In addition to these areas of strong Eskay-type potential, several additional discoveries were made, including the high priority **Sheelagh Creek, CB, TM and G.F.J. Showings.**

Based on the 1993 exploration results and 1995 and 1996 diamond drilling, the **T.V. Zone** remains a high priority target for diamond drilling and expanded ground surveys. The **T.V. Zone** consists of a quartz stockwork zone hosted by altered intermediate and felsic volcanic rocks and black graphitic shales. Prospecting and trenching have located a minimum 100 metre wide area with strong gold mineralization across mineable widths averaging 0.06 ounces per ton gold and 3.0 ounces per ton silver, with local high grade areas exceeding one ounce per ton gold over three feet. Diamond drilling has confirmed these grades with intersections of 2.86 g/T Gold and 120 g/T silver over a width of 12.3 metres.

The **Cumberland Showing** was originally discovered and tested by underground drifting in 1898. The showing is a true polymetallic volcanogenic massive sulphide with grades of 9.8% Zn, 2.7% Pb, 0.45% Cu 0.272 ounces/ton Au and 2.76 ounces/ton Ag. In 1996, Kenrich covered the area with detailed geological mapping, soil geochemistry, airborne geophysics and limited drilling. As a result of this work, the company has developed two significant targets which require drill testing in 1997. Work on the main showing suggests that the mineralization is continuous for 500 metres to the south and this model will be tested accordingly.

A new **bedded barite** zone which averaged 120 ounces per ton silver over two metres was traced by mapping and trenching for 500 metres along strike. The bedded barite is an exhalative deposit which appears to lie stratigraphically above the **Cumberland** massive sulphide mineralization.

The **HSOV** is a new showing discovered in September, 1996. The showing consists of massive marcasite mineralization containing textures and gangue minerals that indicate it was deposited on the ocean floor as sulphide chimneys in a **"black smoker"**. This environment is how most massive sulphide deposits including Eskay Creek are thought to be formed. The showing lies at the contact between felsic volcanic breccias and black shales, again similar to Eskay Creek. The horizon has been traced by mapping for one kilometre along strike and 500 metres down dip. Although the main showing does not contain economic grades, stream sediment and moss mat geochemical sampling of the horizon indicate areas that are significantly anomalous in gold, silver, arsenic, zinc and copper.

The **Sheelagh Creek** showing consists of a quartz-pyrite vein that is two to five metres thick and has been traced for over 50 metres along strike and 50 metres down dip. Trench samples gave values up to 1.79 ounces/ton gold and 3.19 ounces/ton silver.

The **CB** showing is a quartz-pyrite vein which has been traced for over 100 metres along strike and 50 metres down dip. The vein ranges from two to five metres in width. Grab samples from this vein gave values up to 0.132 ounces/ton gold and 3/49 ounces/ton silver.

The **TM (Ted Morris)** showing is a pyritic, silicified zone which is several metres wide and appears to continue about 400 hundred meters up the cliff face. The mineral assemblage at the TM is strikingly similar to that at the **GFJ**, which consists primarily of pyrite, arsenopyrite and chalcopyrite hosted within quartz/carbonate veins. A grab sample assay from the TM showing 1.23 ounces /ton gold. The **TM** showing lies along strike with and approximately 400 metres below the **GFJ** showing. An east-west linear feature which runs under both the **TM** and **GFJ** showings suggests that the two showings are related and that the TM showing may be a feeder system for the **GFJ** showing.

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1.0 INTRODUCTION

1.1 Location and Access

The Corey Project area lies in northwestern British Columbia, approximately 70 kilometres north of Stewart and 900 kilometres northwest of Vancouver (Fig. 1). The property can be located on NTS map sheets 104 B/07E, 08W, 09W and 10E. The exploration camp is located in the centre of the property at the junction of the Unuk River and Sulphurets Creek.

Access to the camp is 10 kilometre by helicopter from kilometre 53 on the Eskay Creek Mine Road. The Eskay Creek Mine Road is a radio controlled, all season gravel road. Travel around the property is by helicopter.

1.2 Physiography and Climate

The property lies within the Unuk River watershed in the Intermontane Physiographic Belt. The major drainages include the Unuk River and Sulphurets Creek.

The terrain ranges from rugged to moderate with elevations ranging from 2250 metres at Johns peak to 220 metres in the Unuk River Valley. The slopes are generally steep with many cliffs forming the valley walls. The area shows evidence of alpine glaciation with steep walled U-shaped valleys and braided streams. approximately ten percent of the property is covered by glaciers of the Cambria Icefield.

Tree line is at about 1200 metre elevation, below which the forest cover consists of mature hemlock, spruce and fir typical of temperate rainforest. Lower elevations along the Unuk river host thick stands of aspen and alder. The undergrowth at lower elevations consists of thick growth of ferns, devils club, huckleberry, and salmonberry bushes. The alpine areas host a healthy cover of heather, heath, blueberry, copperbush, black spruce and juniper.

The climate is typical of that of northwestern British Columbia with cool wet summers and moderate wet winters. Snowfall is quite heavy with accumulations ranging from ten to fifteen metres at higher elevations and two to three metres along the Unuk River Valley. In higher elevations, the ground is covered with snow from late October to mid May. At lower elevations, the ground is covered with snow from early December to early April.

1.3 Property and Claim Status

The Corey Property consists of 837 contiguous mineral claim units totaling approximately 32,400 hectares. The claims are located in the Skeena Mining Division. Work was conducted by Kenrich Mining Corporation. The claims along with their respective tenure number, number of units, record date and expiry date are listed in Table 1. A plot of the claims lies in Figure 2.

1.4 HISTORY

The earliest documentation of exploration in the area was from the late 1800's when H. W. Ketchum staked claims near the mouth of Sulphurets Creek in 1898. The Unuk river Mining and Dredging Company acquired the property in 1900 and drove to adits o the Cumberland Claim.

In 1980, Du Pont of Canada exploration Limited and E&B Explorations Ltd. conducted regional heavy mineral stream sediment sampling and reconnaissance geological mapping in the Mount Madge, Sulphurets Creek and Unuk River areas.

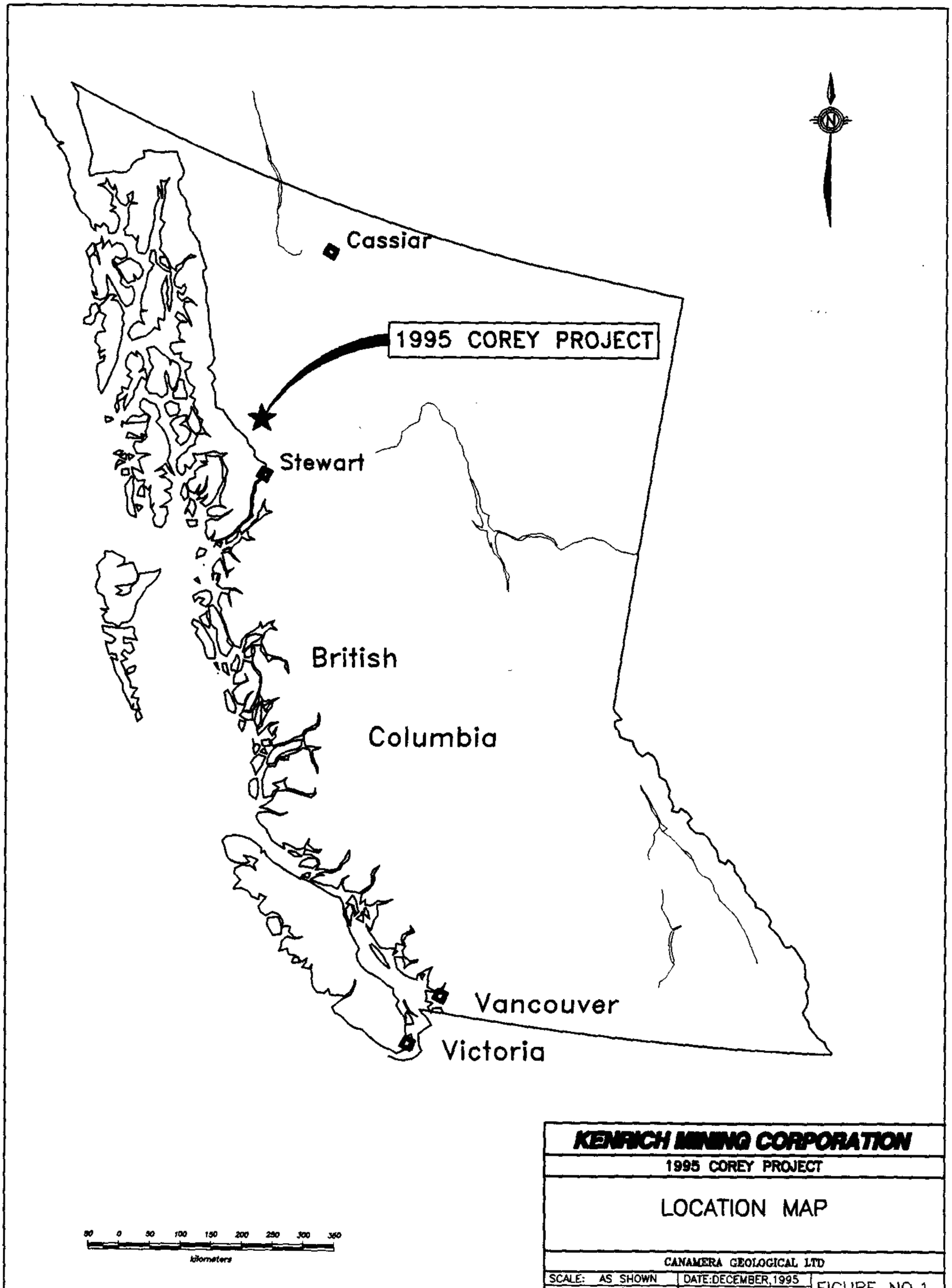

Cassiar
1995 COREY PROJECT
Stewart
British
Columbia
Vancouver
Victoria
N
50 0 50 100 150 200 250 300 350
kilometers
KENRICH MINING CORPORATION
1995 COREY PROJECT
LOCATION MAP
CANAMERA GEOLOGICAL LTD
SCALE: AS SHOWN
DATE:DECEMBER,1995
NTS: 104K/8
FILE NO.KEN-FIG1.DWG
FIGURE NO.1

TABLE 1

COREY PROJECT CLAIMS

Type	Tenure #	Expiry Date	Claim Name	MD	Tag #	Map #	# of units
MC4	303817	2001/SEP/10	CANDY 1 FR	19	87306	104B08W-F	1
MC4	252108	2001/MAY/13	CARL J	19	97757	104B10E-	20
MC4	251446	2001/JUN/25	COREY 01	19	93700	104B08W-E	20
MC4	251447	2001/JUN/25	COREY 02	19	93701	104B08W-E	20
MC4	251448	2001/JUN/25	COREY 03	19	93702	104B08W-E	20
MC4	251449	2001/JUN/25	COREY 04	19	93703	104B08W-E	20
MC4	251450	2001/JUN/25	COREY 05	19	93704	104B08W-E	20
MC4	251451	2001/JUN/25	COREY 06	19	93705	104B08W-E	20
MC4	251452	2001/JUN/25	COREY 07	19	93706	104B08W-E	20
MC4	251453	2001/JUN/25	COREY 08	19	93707	104BO8W-E	20
MC4	251714	2001/FEB/11	COREY 10	19	93887	104B09W-	12
MC4	251715	2001/FEB/11	COREY 11	19	93888	104B08W-	4
MC4	251716	2001/FEB/11	COREY 12	19	93889	104B08W-	4
MC4	251717	2001/FEB/11	COREY 14	19	93891	104B08W-	12
MC4	251718	2001/FEB/11	COREY 15	19	93892	104B08W-	16
MC4	251719	2001/FEB/11	COREY 16	19	93893	104B08W-	18
MC4	251720	2001/FEB/11	COREY 18	19	93895	104B08W-	20
MC4	251721	2001/FEB/11	COREY 19	19	93896	104B08W-	20
MC4	251722	2001/FEB/11	COREY 20	19	93897	104B09W-	16
MC4	251723	2001/FEB/11	COREY 21	19	93898	104B09W-	4
MC4	251724	2001/FEB/11	COREY 22	19	93899	104B09W-	4
MC4	251725	2001/FEB/11	COREY 23	19	108601	104B09W-	16
MC4	251726	2001/FEB/11	COREY 24	19	108602	104B09W-	16
MC4	251727	2001/FEB/11	COREY 25	19	108603	104B09W-	4
MC4	251728	2001/FEB/11	COREY 26	19	108604	104B09W-	4
MC4	251729	2001/FEB/11	COREY 27	19	108605	104B09W-	16
MC4	251730	2001/FEB/11	COREY 28	19	108606	104B08W-E	16
MC4	251731	2001/FEB/11	COREY 29	19	108607	104B08W-E	8
MC4	251732	2001/FEB/11	COREY 30	19	108608	104B08W-E	8
MC4	251733	2001/FEB/11	COREY 31	19	108609	104B08W-E	16
MC4	251734	2001/FEB/11	COREY 32	19	108610	104B08W-	20
MC4	251735	2001/FEB/11	COREY 33	19	108611	104B08W-	20
MC4	251736	2001/FEB/11	COREY 34	19	108612	104B08W-E	20
MC4	251737	2001/FEB/11	COREY 35	19	108613	104B08W-	20
MC4	251738	2001/FEB/11	COREY 36	19	108614	104B08W-	14
MC4	251739	2001/FEB/11	COREY 37	19	108615	104B08W-	14
MC4	251740	2001/FEB/11	COREY 38	19	108616	104B08W-	12
MC4	251741	2001/FEB/11	COREY 39	19	108617	104B08W-	12
MC4	251742	2001/FEB/11	COREY 40	19	108618	104B08W-	12
MC4	251743	2001/FEB/11	COREY 41	19	108619	104B08W-	12
MC4	251744	2001/FEB/11	COREY 42	19	108620	104B08W-	5
MC4	251745	2001/FEB/11	COREY 43	19	108621	104B08W-	4
MC4	251746	2001/FEB/11	COREY 44	19	108622	104B08W-	20
MC4	251747	2001/FEB/11	COREY 45	19	108623	104B08W-	10
MC4	253609	2001/FEB/18	DEE 1	19	30247	104B08W-F	5

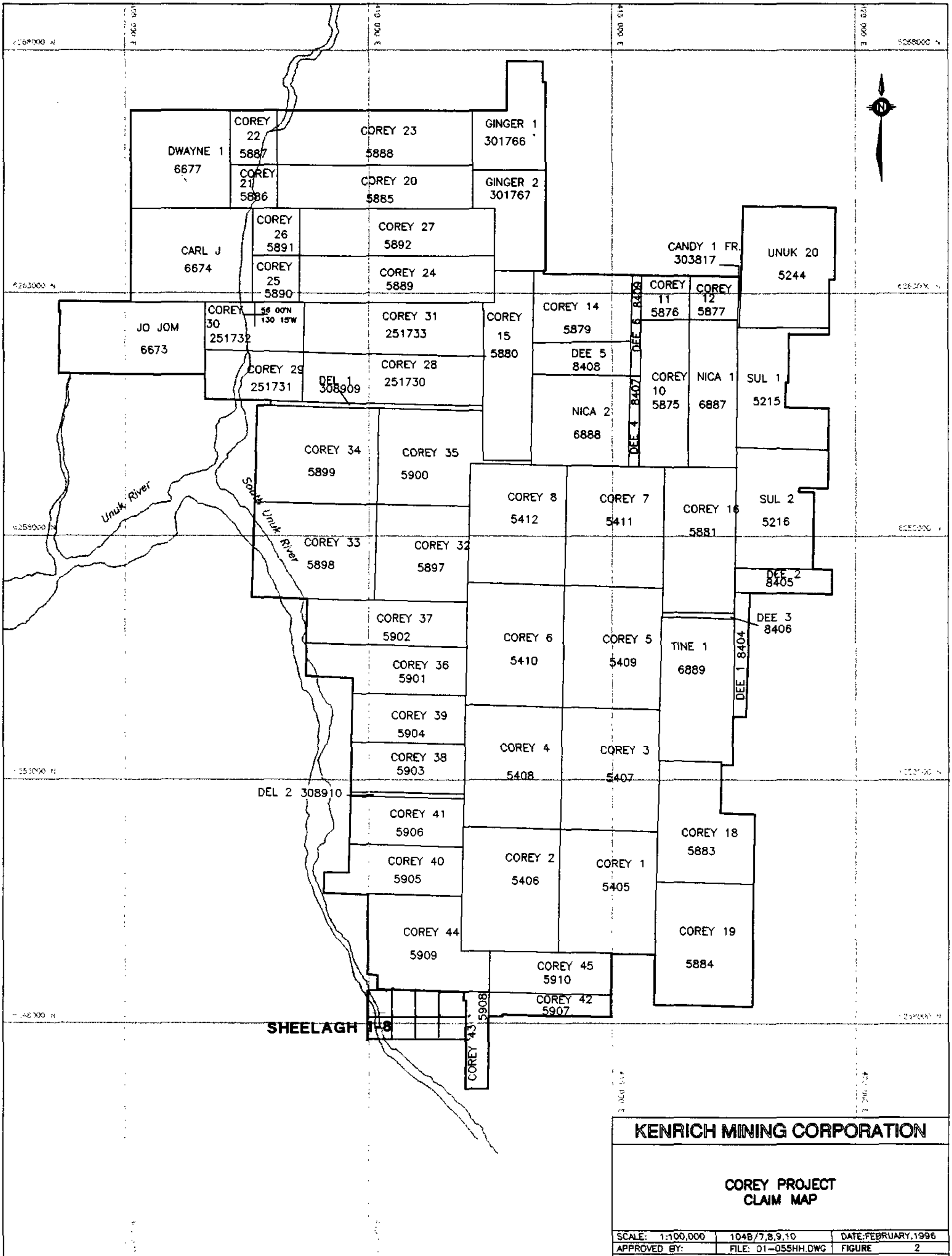
Type	Tenure #	Expiry Date	Claim Name	MD	Tag #	Map #	# of units
MC4	253610	2001/FEB/18	DEE 2	19	30248	104B08W-F	4
MC4	253611	2001/FEB/18	DEE 3	19	30249	104B08W-F	3
MC4	253612	2001/FEB/18	DEE 4	19	39250	104B08W-C	4
MC4	253613	2001/FEB/18	DEE 5	19	30251	104B08W-F	8
MC4	253614	2001/FEB/18	DEE 6	19	30252	104B08W-E	4
MC4	308909	2001/APR/16	DEL-1	19	227619	104B08W-E	8
MC4	308910	2001/APR/16	DEL-2	19	227620	104B08W-E	5
MC4	252111	2001/MAY/13	DWAYNE 1	19	97756	104B10E-	16
MC4	301766	2001/JUN/26	GINGER 1	19	112578	104B09W-D	20
MC4	301767	2001/JUN/26	GINGER 2	19	207509	104B09W-D	20
MC4	252107	2001/MAY/13	JOJO M	19	97758	104B07E-	18
MC4	252209	2001/SEP/10	NICA 1	19	107432	104B08W-	12
MC4	252210	2001/SEP/10	NICA 2	19	107433	104B08W-	16
MC4	251348	2001/FEB/28	SUL 1	19	93451	104B08W-F	20
MC4	251349	2001/FEB/28	SUL 2	19	93452	104B08W-	20
MC4	252211	2001/SEP/10	TINE 1	19	107434	104B08W-	18
MC4	251377	2001/FEB/28	UNUK 20	19	93617	104B09W-C	20
MC4	352676	2001/Oct/31	SHEELAGH 1	19	663093M	104B08W	1
MC4	352677	2001/Oct/31	SHEELAGH 2	19	663094M	104B08W	1
MC4	352678	2001/Oct/31	SHEELAGH 3	19	663095M	104B08W	1
MC4	352679	2001/Oct/31	SHEELAGH 4	19	663096M	104B08W	1
MC4	352680	2001/Oct/31	SHEELAGH 5	19	663097M	104B08W	1
MC4	352681	2001/Oct/31	SHEELAGH 6	19	663098M	104B08W	1
MC4	352682	2001/Oct/31	SHEELAGH 7	19	663099M	104B08W	1
MC4	352683	2001/Oct/31	SHEELAGH 8	19	663100M	104B08W	1
							839

1.4 HISTORY (continued)

In 1986, Catear Resources Ltd. staked eight claims (Corey 1-8) in the Mount Madge area and conducted a regional rock and stream sediment geochemical program. This work resulted in the discovery of the C-10 Zone, a large, structurally controlled alteration zone containing gold and silver. In 1987, Bighorn Development Corporation, a sister company to Catear conducted a widespread stream sediment, soil and rock geochemical surveys along with prospecting over the property. Bighorn conducted detailed work on the Cumberland prospect consisting of 49 metres of trenching and 590 metres of diamond drilling in six holes. In 1988, they drilled six holes on the C-10 zone totaling 647 metres.

In 1987, Western Canadian Mining Corp. drilled the Kerr prospect, a large north south trending sheared gossan and alteration zone, which lies along the eastern boundary of the Cory Property. This drilling resulted in the discovery of a bulk tonnage gold and copper deposit. In 1989, Placer Dome acquired the Kerr Deposit, and with further drilling in 1990, 1991 and 1992 developed a published reserve of 66,000,000 tonnes averaging 0.86% copper and 0.4 grams per tonne of gold.

In 1986, Kenrich Mining Corporation along with Ambergate Explorations Ltd. acquired the Sul and Nica Claims and by 1990, acquired much of the Corey package of claims that they presently hold. In 1994, Kenrich and Ambergate amalgamated under the one company, Kenrich Mining Corp.


DWAYNE 1
6677
COREY 22
5887
COREY 23
5888
GINGER 1
301766
COREY 21
5886
COREY 20
5885
GINGER 2
301767
CARL J
6674
COREY 26
5891
COREY 27
5892
COREY 25
5890
COREY 24
5889
CANDY 1 FR.
303817
UNUK 20
5244
JO JOM
6673
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56 00'N
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5880
COREY 14
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DEE 6 8409
COREY 11
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COREY 12
5877
DEE 5
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DEL 1
308909
COREY 28
251730
DEE 4 8407
COREY 10
5875
NICA 1
6887
SUL 1
5215
NICA 2
6888
COREY 34
5899
COREY 35
5900
Unuk River
South Unuk River
COREY 8
5412
COREY 7
5411
COREY 16
5881
SUL 2
5216
COREY 33
5898
COREY 32
5897
DEE 2
8405
COREY 37
5902
DEE 3
8406
COREY 6
5410
COREY 5
5409
TINE 1
6889
DEE 1 8404
COREY 36
5901
COREY 39
5904
COREY 4
5408
COREY 3
5407
COREY 38
5903
DEL 2 308910
COREY 41
5906
COREY 18
5883
COREY 40
5905
COREY 2
5406
COREY 1
5405
COREY 44
5909
COREY 19
5884
COREY 45
5910
COREY 42
5907
SHEELAGH 1-8
COREY 43 5908
KENRICH MINING CORPORATION
COREY PROJECT
CLAIM MAP
SCALE: 1:100,000
104B/7,8,9,10
DATE: FEBRUARY, 1996
APPROVED BY:
FILE: 01-055HH.DWG
FIGURE 2
CANAMERA GEOLOGICAL LTD

In 1989 and 1990, Kenrich and Ambergate performed basic assessment work consisting of geological mapping, surface geochemistry and geophysics and diamond drilling of geophysical anomalies on the Sul and Nica claims.

In 1991, Placer Dome optioned the Sul and Nica claims adjacent to their Kerr Property, and proceeded over the next two years to perform detailed soil geochemical and ground geophysical surveys followed by diamond drilling on the Sul 1 claim. Along with this detailed work, Placer also reanalysed all of the regional stream sediment samples taken by Bighorn in 1987. No evaluation was done on this multielement analysis until 1996. Placer did some detailed mapping, soil sampling and ground geophysics over the Cumberland showing and over the C-10 shear zone. None of this work was followed up and the property was returned to Kenrich and Ambergate in 1992.

In 1993, Kenrich did a regional, mapping, geochemical and prospecting program over the northwestern third of the property. This program located the high grade gold mineralization over what is now referred to as the TV Zone.

In 1994, Kenrich concentrated geological mapping and grid soil geochemistry and trenching over the TV Zone in preparation for drilling in 1995. They also did grid geochemistry and geophysics over the Bench and Battlement Zones.

In 1995, Kenrich drilled 22 diamond drill holes totaling 3,863.63 metres over the TV Zone. They also did detailed geological mapping and soil geochemistry over this zone. They did some cursory regional work over the Cumberland and C-10 zones.

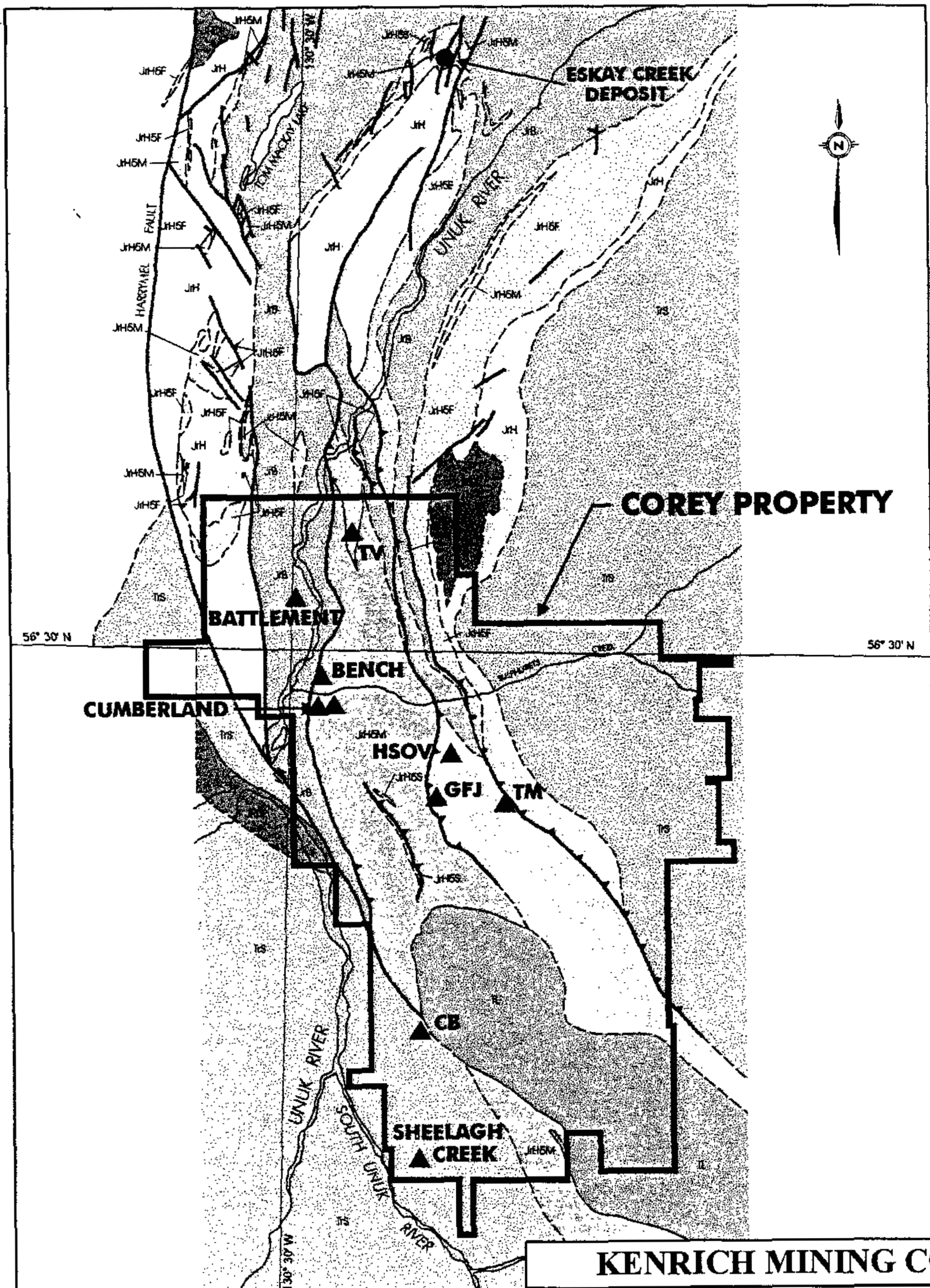
2.0 REGIONAL GEOLOGY

The Mineral Deposit Research Unit (MDRU) at University of British Columbia has done an excellent job providing a regional geological framework of the Eskay Creek-Unuk River area. This report has borrowed heavily from the MDRU Final Report (June 1996) and has used the MDRU terminology for its discussion of Hazelton stratigraphy. The Regional Geology is plotted on Figure 3.

The main focus of precious and base metal exploration in the area is on the Hazelton Group of island arc rocks of Jurassic Age. These are all part of the Triassic-Jurassic age Stikinia Terrane. Upper Triassic, Stuhini Group volcanic and sedimentary rocks form the base of the section These are covered by a sequence of Lower to Middle Jurassic, Hazelton Group volcanic and sedimentary rock. The northern part of the area is covered with Upper Jurassic, Bowser Lake Group basin fill sediments.

2.1 Stuhini Group

The oldest strata in the area are sedimentary and volcaniclastic rocks of the Triassic Stuhini Group. The Stuhini Group consists of a dominantly sedimentary lower division and a dominantly volcanic and volcaniclastic upper division. The sedimentary rocks consist of well bedded sandstones, siltstones and mudstones with occasional interbedded conglomerate beds. Occasional limestone beds in the area provide excellent markers and help place the package of rocks in the Stuhini. The volcanic rocks are locally subdivided into a lower intermediate package and an upper mafic package. The intermediate package consists of andesite flows, tuffs and volcanic breccia. The mafic package consists of basalt flows, tuffs and breccia.



NOTE: For Legend see "g-legend.cdr"

After: P.Lewis, Mineral Deposit Reseach Unit, Vancouver, British Columbia

KENRICH MINING CORP.

COREY PROJECT
BRITISH COLUMBIA
N.T.S. 104 B 8, 9 & 10

REGIONAL GEOLOGY

Data By: J. Kowalchuk	Date: Jan.'97	Scale: 1:200,000 approx.
Drawn by: Alpha-2000 Drafting	klj	Figure: 3

geol-200.cdr

LEGEND

STRATIFIED ROCKS

JURASSIC

BOWSER LAKE GROUP
BIOSTRATIGRAPHIC LIMITS: POST- MIDDLE BAJOCIAN
KNOWN BIOSTRATIGRAPHIC RANGE:
MIDDLE BAJOCIAN TO KIMMERIDGIAN

JrB — undifferentiated sedimentary rocks

HAZELTON GROUP
BIOSTRATIGRAPHIC LIMITS: POST-RHAETIAN, PRE-MIDDLE BAJOCIAN
KNOWN BIOSTRATIGRAPHIC RANGE:
HETTANGIAN-SINEMURIAN TO MIDDLE BAJOCIAN

JrH — Sedimentary and volcanic rocks, undifferentiated

Troy Ridge Member — JrHES — Intercalated sedimentary rocks

John Peaks Member — JrHEM — Mafic volcanic rocks

Eskay Rhyolite Member — JrHER — Rhyolite Flows, autoclastic breccias

Bruce Glacier Member — JrHBF — Felsic volcanic rocks, undifferentiated

TRIASSIC

STUHINI GROUP
BIOSTRATIGRAPHIC LIMITS: POST-PERMIAN, PRE-HETTANGIAN/SINEMURIAN
KNOWN BIOSTRATIGRAPHIC RANGE: CARNIAN-RHAETIAN

TrS — volcanic and sedimentary rocks, undifferentiated

INTRUSIVE ROCKS

TERTIARY

COAST PLUTONIC SUITE

TC — biotite + hornblende granite, minor quartz diorite; associated dykes

TL — Lee Brant stock; hornblende-biotite quartz monzonite

JURASSIC

unnamed dioritic plutons and stocks

GEOLOGICAL SYMBOLS

stratigraphic or intrusive contact
- defined
- inferred

faults
- defined
- inferred
- reverse motion, teeth on upper plate
- normal motion, D = downthrown side
- strike-slip motion

SHOWING ▲

After: P.Lewis, Mineral Deposit Reseach Unit, Vancouver, British Columbia

KENRICH MINING CORP.

COREY PROJECT
BRITISH COLUMBIA
N.T.S. 104 B 8, 9 & 10

LEGEND FOR REGIONAL GEOLOGY

Data By: J. Kowalchuk	Date: Jan.'97	
Drawn by: Alpha-2000 Drafting kij		Figure:

g-legend.cdr

2.2 Hazelton Group

The Hazelton Group in this area has undergone considerable changes in definition since it was originally defined to encompass Jurassic and Cretaceous volcanic and sedimentary strata of the Şkeena river region of central British Columbia. Present usage is restricted to Lower and Middle Jurassic volcanic and sedimentary strata in this region. Grove (1986) established a formational nomenclature for the Iskut River- Salmon river- Anyox region separate from existing, more regional, definitions. The nomenclature, with subsequent modifications by Anderson and Thorkelson (1989), Alldrick (1991), and Henderson et al. (1992) outlines a five-fold division within the Hazelton Group in the Iskut river camp, consisting the Jack, Unuk River, Betty Creek, Mount Dilworth, and Salmon river formations. Difficulties in correlating these units regionally,, ambiguous stratigraphic relations at type sections, and apparently contradictory age assignments have led to inconsistent usage of these formational divisions. Subsequent work by the MDRU, Lewis et al. (1996) has reduced this package to three major stratigraphic divisions within the Hazelton Group. They comprise from lowest to highest: 1) Jack Formation; basal, course to fine grained, locally fossiliferous siliclastic rocks; 2) Betty Creek Formation; porphyritic andesitic composition flows, breccias, and related epiclastic rocks; dacitic to rhyolitic flows and tuffs; and locally fossiliferous marine sandstone, mudstone and conglomerate; 3) Salmon River Formation; bimodal subaerial to submarine volcanic rocks and intercalated mudstone. This terminology will be used in all further discussions of Hazelton Group stratigraphy.

1) <u>Jack Formation: Lower Hazelton Group sedimentary strata:</u>

The basal Hazelton Group typically consists of locally fossiliferous conglomerate, sandstone and siltone of the Jack Formation..

The Jack Formation is a lithologically varied sequence of sedimentary rocks which overlies Stuhini Group strata. At Bruce and Jack glaciers, the formation consists of a thin conglomerate containing clasts of subjacent Stuhini group turbiditic mudstones and siltstone. Trough cross stratification and channeled sandstone and conglomerate layers are common. overlying the basal sequence are fossiliferous limy sandstone and siltone and thinly to medium bedded, locally phyllitic, turbiditic siltstones and interbedded sandstones, up to several hundred metres thick. there is a general transition southward toward John peaks towards a thicker basal conglomerate and sandstone and a thinner calcareous and turbiditic component. At the reference section south of Johns peaks, the Jack Formation consists entirely of conglomerate and sandstone. well rounded granitoid cobbles are diagnostic, typically comprising up to 50% of the clasts. west of the Unuk River in the Eskay Creek area, Jack formation rocks comprise several hundred metres of thickly bedded to massive wackes with local conglomeratic lenses.

The basal contact of the Jack Formation is well exposed at the Jack Glacier and south of John Peaks as a sharp, angular conformity. Along strike from these localities, the contact is less distinct and bedding is concordant with underlying rocks. However. the unit can usually be recognized on the basis of the cobble conglomerate beds at its base

2) <u>Betty Creek Formation</u>

Lower Jurassic volcanic and volcaniclastic strata have been problematic for workers in the Iskut River area, and stratigraphic nomenclature has been unevenly applied. Most studies in the area assign intermediate composition rocks in this interval to either the Betty Creek Formation or the Unuk River formation as defined by Grove (1986), and felsic rocks to the Mount Dilworth Formation. Much of the difficulty in working with this part of the section stems from the poor stratigraphic continuity of lithofacies and the lack of regional definitions of the formations. for example, the age of the Mount Dilworth formation in its type area is largely unconstrained, and the type "area" for the Unuk River formation is now known to contain a wide variety of rock types representing several formations. MDRU assigns the entire volcanic and volcaniclastic sequence from the Jack Formation to a distinct shift in style of volcanism in the Middle Jurassic to the Betty creek Formation. This formation encompasses most of the rocks previously to the Betty Creek and Unuk River Formations, as well as some rocks previously assigned to the Mount Dilworth Formation. Within the Betty Creek Formation, three members are defined. The Unuk River Member comprises andesitic composition volcanic and volcaniclastic strata, similar to rock types included within the original definition of the Unuk River formation. The Brucejack Lake Member consists of andesitic to dacitic pyroclastic, epiclastic, and flow rocks which stratigraphically succeed and may be in part laterally equivalent to parts of the Unuk river Member. The Unuk River and Brucejack Lake Members are overlain by marine sedimentary rocks of the Treaty ridge Member.

a) Unuk River Member: Andesitic Flows, breccias and volcaniclastic rocks

The Unuk River Member includes andesitic composition flows, volcanic breccias and related epiclastic rocks. The thickness of the Unuk River Member varies substantially: coarse volcanic breccias locally form accumulations up to two kilometres thick; these localized deposits may pinch out completely in distances of less than five kilometres.

The Unuk River Member conformably overlies the Jack formation in sections exposed at Eskay creek, John Peaks, Salmon Glacier and Treaty Glacier.

b) Brucejack Lake Member: Felsic pyroclastic rocks and rhyolite flows

The Brucejack Lake Member includes dacitic to rhyolitic pyroclastic rocks, epiclastic rocks and volcanic flows. Near Granduc Mountain , the Brucejack Lake Member comprises a megaclastic breccia and laterally equivalent lapilli tuff which overlies bedded crystal to dust tuff and volcanic conglomerate. to the north, water-lain crystal and ash tuffs just south of John Peaks and multiple thin cooling units of crystal - rich welded lapilli tuff at Treaty creek are likely equivalents. Possible vent area for the tuffs at Brucejack Lake comprise massive, flow banded dacite domes which grade outward into autobreccia and massive hematitic mud matrix volcanic breccia and potassium-feldspar megacrystic flow-banded flows.

c) Treaty ridge Member: Upper sedimentary sequence

The Treaty Ridge Member is characterized by heterogeneous sedimentary strata including sandstone, conglomerate, turbiditic siltstone and limestone. Many of the rock types of the Jack Formation are present in the Treaty Ridge Member, however the occurrence of clasts derived from Unuk River Member volcanic rocks and the absence of the distinctive granitoid clast conglomerate serve to differentiate the two units. The Treaty Ridge Members from a few metres to several hundreds of metres thick. The most distinctive rock type within the unit consists of rusty brown to tan weathering bioclastic sandstone and intercalated siltstone. or argillite.

3) Salmon River Formation: bimodal volcanic unit

The upper part of the Hazelton group in the Iskut River area comprises dacitic to rhyolite flows and tuffs, localized interlayered basaltic flows and intercalated volcaniclastic intervals. Although these different rock types can easily be mapped separately on a property scale, their interfingering nature and lack of continuity dictate that they be grouped into a single unit for regional mapping purposes. The Salmon River Formation is subdivided into four members: Bruce Glacier, Eskay Rhyolite Troy Ridge, and John Peaks.

1) Bruce Glacier Member:

The Bruce Glacier Member comprises widely distributed dacite to rhyolite flows, tuffs and epiclastic rocks. These rocks vary from as little as a few tens of metres to over 400 metres in thickness, with the thickest accumulations on the west limb of the McTagg Anticlinorium between the Bruce Glacier and the Iskut River valley. Lithofacies within the member are highly variable both regionally and vertically in a given section. Deposits proximal to extrusive centres include banded flows, massive domes with carapace breccias, autoclastic megabreccias and block tuffs. The felsic extrusive centres are characterized by thick, domal porphyritic centres, grading outward to flow breccias and talus piles. slightly to densely welded lapilli to ash tuffs characterize more distal equivalents. Reworked tuffs locally form thick epiclastic accumulations and may fill in paleobasins adjacent to extrusive centres.

2) Eskay Rhyolite Member:

The Eskay Rhyolite Member is comprised of rhyolite flows, breccias and tuffs. Although this rhyolite is lithologically similar to some exposures of the Bruce Glacier Member, particularly in the Virginia Lake region, it can be distinguished geochemically on the basis of an Al:Ti ratio of greater than 100. At Eskay creek, the member forms a distinct mappable unit overlying the Bruce Glacier Member and underlying the John Peaks Member with thicknesses of up to 250 metres.

3) Troy Ridge Member:

The Try Ridge Member includes sedimentary and tuffaceous sedimentary rocks of the Salmon River Formation. This member includes the distinctive black and white striped strata known as the "pyjama beds" at Salmon River and the mineralized contact zone mudstone at Eskay Creek. Contact relations with other Salmon river Formation members are variable; for example, at Eskay Creek the member lies above the Eskay Rhyolite and Bruce Glacier Members, but below the John Peaks Member. At Julian Lakes, the member is interstratified with rocks assigned to both the John Peaks and Bruce Glacier members. These types of stratigraphic relationships suggest that the Troy Ridge Member represents sediments accumulated during breaks in local volcanic activity.

4) John Peaks Member:

Mafic components of the Salmon river Formation, assigned here to the John Peaks Member, are localized in their distribution and are missing from much of the Iskut River area. Generally they occur above the felsic members (Bruce Glacier and Eskay Rhyolite), but at Treaty Creek thick sections of mafic flows and breccias lie below welded tuffs of the Bruce Glacier Member. Mafic sections are thickest at Mount Shirley and near the mouth of Sulphurets Creek, and form intermediate thicknesses at Eskay Creek and Johnny Mountain. Textures present include massive flows, pillowed flows, broken pillow breccias and volcanic breccias

3.3 Bowser Lake Group

The Middle and Upper Jurassic Bowser Lake Group contain the youngest Mesozoic strata in the area. The Bowser Lake Group consists of a thick succession of shale and greywacke with lesser amounts of interbedded chert rich conglomerate. In the northern part of the area, the Bowser Lake Group consist primarily of thinly bedded tubiditic siltone and mudstone with subordinate conglomerate and sandstone. It lies conformably over the underlying Hazelton Group rocks.

3.4 Intrusive Rocks

The sedimentary volcanic sequence in the Unuk River area has been intruded by a series of plutons, sills and dyke swarms of Late Triassic to Early Tertiary in age. The oldest intrusive is the Late Triassic Bucke Glacier Pluton (foliated to gneissic hornblende-biotite quartz diorite) located immediately west of the South Unuk River. Upper Triassic to Middle Jurassic dioritic to gabbro stocks, up to 20 square kilometres in size, outcrop north of McQuillan ridge (Max Pluton) and at John Peaks. The Jurassic granodiorite to syenite, Lehto Batholith outcrops in the northwest portion of the Unuk River area. To the south of the Cumberland showing the hornblende-biotite quartz monzonite, Lee Brant Batholith of Early Tertiary age covers 40 square kilometres.

3.5 Structure

Mapping by J.M Britton and D.J. Alldrick, 1988, identified tight northeasterly trending anticline-syncline folds in the Unuk River area. Felsic synclinal fold closures were mapped in Coulter Creek and Unuk River. Stratigraphic evidence suggests that the Unuk River syncline extends from the Eskay Creek area to the Springer/Cove Resources prospect threough the Mt. Madge area and southeasterly beyond the Lee Brant Batholith. The axial plane dips moderately to the east as east dipping fold limbs in the Storey Creek, Springer/Cove prospect and Mt. Madge areas. The synclinal axis is interpreted as undulating gently northerly and southerly from Mt. Madge to the Eskay Creek area. Mapping suggests that the beds dip moderately to the east.

A regional scale, northwest trending belt of shearing occurs along the eastern valley slopes of the South Unuk River. It dips steeply to the northeast and represent a major normal fault that has moved the northeast side down. This structure merges along strike into the Harrymel Creek fault to the north.

2.0 1996 FIELD PROGRAM

2.1 Reconnaissance Surveys

In 1996, the first comprehensive regional mapping, prospecting and geochemical survey was completed over most of the property. Along with the surface work, 1200 km of airborne magnetic and radiometric surveys were completed over the western half of the property. During the regional surveys, four geologists took a total of 387 rock samples, 234 moss mat samples and 75 stream sediment samples which were analysed for gold plus 30 element ICP. Four major targets requiring further work were located. These targets are called HSOV, a volcanogenic massive sulphide target, CB, Sheila Creek and TM, large high grade gold vein targets. Four diamond drill holes, to test the Sheila Creek showing were attempted, however did not reach the vein.

2.2 TV Zone

Property work over the TV Zone consisted of detailed geological and structural mapping of the area, soil geochemistry filling in holes in the coverage, 133 metres of surface trenching and 1559.44 metres of diamond drilling in a total of 11 drill holes.

2.3 Bench Zone

Property work over the Bench Zone consisted of detailed geological and structural mapping over a recovered and expanded cut grid, during which 105 rock sampples were taken and analysed for gold plus 30 element ICP. Nine diamond drill holes were drilled for a total drill length of 1383.64 metres.

2.4 Cumberland Zone

In 1996, 5915 metres of line was cut; recovering and expanding on the geophysical grid cut by Placer Dome in 1991. The north half of the grid area was remapped at scale of 1:2000 with a small area of felsic volcanics and sediments mapped at a scale of 1:500. A total of 98 rock samples and 5 moss mat samples were taken and analysed for gold plus 30 element ICP. A total of 80 soil samples were taken along in-fill soil lines Along with the Placer Dome samples, analysis of these samples were used to produce a geochemical pattern over the showing areas. A total of 23 metres of trenching was performed in three trenches. The trenches were sampled with 28 samples. The trenches were tested at depth with five diamond drill holes totaling 634 metres. Mineralized sections of the drill holes were sampled with 131 samples analysed by gold plus 30 element ICP.

4.0 REGIONAL SURVEYS

4.1 Airborne Geophysics

In June 1996, Scintrex carried out a high resolution helicopter borne Magnetic, VLF and Radiometric survey over the western half of the Corey Property. Approximately 1150 line kilometres were flown. The technical report for the survey is included as Appendix A. Contour maps showing the total field magnetics, total count potassium, uranium and thorium and ratio maps showing the following ratios; K\U and K\Th are enclosed in the back of the report.

Presentation of Results

The data is presented as 21, 1:10,000 scale contoured maps with UTMS coordinates providing survey control. For each parameter, the survey area is covered by three maps indicated as north grid, central grid and south grid. The total field magnetics has a screened topographic underlay.

Discussion of Results

Magnetics (Figures 4, 5, 6)

The magnetic response ranges from a low of 56,820 nanoteslas in the Unuk River valley to a high of 57,900 nanoteslas over the Lee Brant Granitic Stock. Except for a large magnetic high over the intrusive rocks to the south, the magnetics reflect the northwest-southeast trend of the regional structures. The sedimentary rocks generally give a low response; the volcanic rocks give a medium to high response. There does not appear to be a significant difference in magnetic response between felsic and mafic volcanics

Over the main TV Zone mineralization (Figure 4) and in the region of the Cumberland Zone (Figure 5) there appears to be weak, east-west trending anomalies reflected by higher magnetics. These may reflect hyrothermal alteration related to east-west structures localizing the mineralization. Another east-west trending magnetic high cuts through Mt. Madge and across the upper reaches of Konkin and Kenrich Creeks. Stream sediments from these two creeks are anomalous in gold, silver, arsenic, copper and zinc.

Immediately east of the main Cumberland showing (Figure 5), the magnetics show a very strong positive response trending north-south. This response is observed in the basaltic rocks which contain magnetite mineralization. This is the only place on the property in which magnetite was observed in such concentrations and which gave such a strong magnetic response in the airborne survey. This strong response is interpreted as magnetite alteration in the footwall basalts to a volcanogenic massive sulphide deposit (Cumberland showing). Two kilometres south of this anomaly and along strike a similar set of high magnetic responses following stratigraphy may reflect another area of footwall alteration. These responses trace through the headwaters of Kenrich and Konkin Creeks which remain to be investigated.

Within the Stuhini Rocks on the eastern flank of the Upper Unuk River several small magnetic highs reflect small, pyrhottite-chalcopyrite bearing skarns deposits (Eva Creek).

Radiometrics (Figures 7 - 24)

The radiometrics recorded three different channels on the scintillometer. The radioactive signatures recorded were uranium (Fig 7-9), thorium (Fig 10-12) and potassium (Fig 13-15). The radiometrics also recorded total radioactivity(Fig 16-18). For geological interpretation , the ratios potassium over uranium (K/U) (Fig 19-21) and potassium over thorium (K/Th) (Fig 22-24) were calculated and plotted. The K/Th ratio is a measure of the alteration signature of the rocks; primarily a measure of the potassic alteration. The K/U ratio is a measure of the original potassium content of the rocks and gives some indication of the composition of the original rock types. Rocks with a high K/U signature are more likely to be felsic rocks containing potassium bearing minerals. This simplistic approach along with an empirical comparison of ratios with known mineralized areas was used to evaluate the radiometric signature of the study area.

The K_2O analyses of rocks taken by the MDRU geologists was recorded in their final report, June, 1996. This report documented a difference in K_2O content greater than 3:1 between the felsic and mafic rocks of the Salmon River Formation. Within the Salmon River Formation, the radiometrics should give high K/U ratios for the Eskay Rhyolite Member (JH5R) and the Bruce Glacier Member (JH5F) and give low K/U ratios for the John Peaks Member (JH5M). Jurassic intrusive activity such as a Sulphurets and Kerr appears to be potassium rich while the Tertiary Lee Brant Batholith appears to be potassium poor. A high K/U ratio is expected over areas where Triassic and Jurassic intrusives may occur. Any areas where Teritiary plugs are found would give a low K/U response.

Areas with a low K/U response and a high K/Th response would suggest hydrothermal alteration of mafic rocks while areas with a high K/U and a high K/Th response would suggest hydrothermal alteration of felsic rocks.

In a general extent, the K/U and K/Th ratios are elevated over areas of known mineralization such as at Cumberland and TV. The ratios are low in the area of drilling on Bench, and area with no apparent mineralization, however west of the Bench and on to the Battlement there is an area of elevated K/Th ratios and moderate K/U ratios which may indicate mineralization.

At Konkin Creek and Kenrich Creek, southwest of the Cumberland, the K/Th ration is quite elevated which may indicate a mineralized zone. The regional stream sediment and moss mat surveys also suggest the presence of mineralization at the headwaters of these two creeks.

4.2 Regional Stream Sediment Sampling, Mapping and Prospecting

Introduction

During the regional mapping and geochemical surveys, four geologists took a total of 251 rock samples, 388 moss mat samples and 75 stream sediment samples which were analysed for gold plus 30 element ICP. During this sampling and prospecting, five mineralized showings, requiring further work were located. These targets are called HSOV, a volcanogenic massive sulphide target, TM, CB, Kumiko and Sheila Creek, all large, high grade gold vein targets.

Several drainages were sampled that were anomalous in gold, silver, arsenic, copper, lead and/or zinc. None of these drainages have yet been followed up. These drainages include Konkin Creek and Kenrich Creek.

Regional Mapping (Figures 25,26,27,28,29 30)

Regional mapping was performed at 1:10,000 scale which enabled coverage of the southern two thirds of the property with 4 map sheets. The major portion of the program was carried out on map sheets 1, 3 and 4 (Figures 25,27 &28). Unnamed creeks were arbitrarily assigned names for ease of location and plotting. Generally, traverses were confined to drainages in the lower areas and expanded outward in the higher elevations. All major creeks to the east of the South Unuk River, south of Sulphurets Creek and north of Divelbliss Creek were traversed.

In the lower elevations an effort was made to define outcrops, however, in the higher elevations, due to an abundance of outcrop, single points were often used as indicators of where measurements and/or samples were taken. While in the field, rocks were given a general field name (intermediate volcanic, mudstone, greywacke, limestone, etc.) and these names were continued on the final map plots.

Extensive use was made of the MDRU (Mineral Deposit Research Unit) mapping, particularly with regard to structures and occasionally, contacts. The MDRU legend was also utilized, but without strict adherence to their stratigraphy.

The Cumberland property TV and Bench Zones are dealt in more detail elsewhere in the report and are not included in the regional maps for sheet 5 (Figure 29). The Virginia Lake region lies outside the area of the 1:10,000 scale maps and is written up as a separate section.

Property Geology - Regional

Stratiform Rocks

B.C. Geological Survey (Alldrick, et al) mapping with updates by MDRU mapping crews has resulted in a very good job of laying out the stratigraphy of the South Unuk River. Using their stratigraphy as a base, the Corey property straddles Triassic and Jurassic stratigraphy. In brief, the lower western portions and the upper eastern portions are Triassic Stuhini Group with Jurassic Hazelton Group stratigraphy in fault contact between. A number of regional thrust faults cut through the property and separate the groups. The Hazelton Group can be further subdivided into the Salmon River Formation and the Betty Creek Formation with further subdivisions in each such as the John Peaks Member and the Unuk River Member.

The lower slopes east of the South Unuk are comprised of rocks of the Triassic Stuhini Group (TrS). These rocks are a mélange of limestone, interbedded mudstones and siltstones (collectively labeled mudstone in our mapping), greywacke/sandstone, occasional intermediate to mafic flows and tuffs and rare intrusive rocks. Often, strongly layered, variously coloured (white to green to black) metamorphosed rocks (often biotite hornfels) are a part of the sequence. Most are probably sedimentary in origin, but all have been so strongly altered that all original textures have been overprinted. Many small skarns were noted throughout the Stuhini Group. Mapping indicated that overall, rocks dip moderately to steeply east and tend to strike north-northwest. MDRU mapping agrees with these findings. The Sheelagh Creek showing is located within the Stuhini Group.

Upslope to the east and in fault contact (South Unuk/Harymel Fault) with Stuhini Group, are primarily sedimentary rocks of the Jurassic Bowser Lake Group (JrB). Mapping indicated that although mudstones were the primary rock type, occasional intermediate to mafic volcanics were noted. The volcanics are strongly chloritized, dark green and generally massive.

Continuing east, Salmon River Formation rocks (JrH5) of the Hazelton Group are in thrust fault contact with the Bowser Lake Group. These rocks are primarily intermediate to mafic volcanic flows and tuffs with interstratified mudstones. They are similar to the Bowser Lake Group in that the volcanics are medium to dark green, strongly chloritized and massive. The Kumiko showing is located within this unit.

Still further east, but still within the Salmon River Formation, a second thrust fault marks the appearance of the John Peaks Member (JrH5Mb). These rocks are predominantly mafic pillow flows. These pillow flows are often blocky and doubly cusped. Pillow breccias are common.

Continuing east a third thrust fault marks the appearance of the Unuk River Member (JrH2C) of the Salmon River Formation. These rocks are primarily intermediate to mafic volcanics with interbedded sediments. The C-10 showing and the TM showing are located within this member.

A thin slice of John Peaks Member appears in stratigraphic contact with the Unuk River Member to the south of Sulphurets Creek and just to the east of Mandy Creek (located just east of Mount Madge).

A fourth thrust fault separates this thin slice of John Peaks Member from more Unuk River Member rocks (JrH2). This sequence is particularly interesting since a felsic (rhyolite?) breccia in contact with overlying sediments was located within it. The felsic breccia is similar to the felsic breccia seen previously at both the Cumberland and Virginia Lakes' properties. It is the author's opinion that this breccia represents the previously named Mount Dilworth Formation. The breccia is composed of sub-angular to angular felsic clasts up to 2 centimetres in size within a dark grey to black siliceous (silicified mudstone?) matrix. Locally, up to 20% pyrite was noted within the matrix at the contact, however, generally pyrite content was highly variable, ranging from 1 to 10%. The immediate overlying sediments are a black mudstone, but this quickly changes to a mixture of grits and sandstones with interfingered? conglomerates and occasional mudstone. Well rounded cobbles up to 40 centimetres and composed primarily of feldspar porphyry can be seen within these conglomerate beds. The entire sequence is extremely mixed up suggesting that this was a highly active area during deposition. The grits are all well-bedded and overall they tend to strike north-west/south-east and dip steeply to the north-east. Graded bedding indicated tops are to the north-east. Throughout the unit a thin, often less than 10 centimetre horizon of a vent-like material is noted. This horizon is similar in appearance to a honeycomb or aerobar texture (frothy or cinder-like appearance). Mafic volcanics were only noted further to the north. The HSOV showing is located within this unit. See Fig 40 for a detailed map of the HSOV showing.

Traversing downslope to the east once again, Stuhini Group rocks (TrS) are encountered in stratigraphic contact underlying the Unuk River Member and these continue to the eastern extent of the Corey property map sheets. As before, these Stuhini Group rocks are a mélange of sedimentary and intermediate to mafic volcanic rocks. The sedimentary component appears to increase to the east until sedimentary rocks (predominantly mudstone) appear to be the main constituent to the east of Ted Morris Glacier. As in westerly exposures, the strike appeared to be north-west/south-east with an overall (some dips were noted to be steeply south-westerly) steep north-east dip.

It should be noted that most of these above units have been plotted as being in fault contact with the preceding unit, however, only on the lower slopes (just to the east of the South Unuk River) were faults or shears noted that coincided with the MDRU mapping. On the upper slopes the interpretation is that of the MDRU mapping crews, however, their contacts were used as they appeared to fit quite well with our mapping. With the similarities in rock types between our mapping and that of the MDRU there is every indication that these thrust faults do traverse these areas, thus they were utilized.

The further south on the property, the further upslope one notes the presence of the Stuhini Group until just north of Divelbliss Creek where Jurassic stratigraphy was only located on the ridge crests. This is readily apparent on Fig 26 (JrH5). These particular rocks appeared to be strongly altered felsic/intermediate to mafic tuffs with a strong sericite component interbedded with a medium grey mudstone. Probable flow banding was noted in one outcrop. Downslope to the west a strongly chloritic, monolithic, matrix supported breccia was noted (primarily in float). The breccia contained sub-angular to angular clasts from 0.5 to 10 centimetres in size and with the exception of the clast size and the chloritic component, the breccia is similar to the black matrix breccia which has been noted proximal to the felsic breccia found further north. A hornblende porphyry (probable variation of the Lee Brant pluton) was also noted which extended downslope for an undetermined distance.

*Rare feldspar porphyry was noted in two places; in the upper reaches of Jenny Creek (Map sheet 1) and in Emily Creek (Map sheet 4).

A pyroxene andesite? was noted in one location, between Eva Creek and Sarah Creek (Map sheet 3) within Salmon River Formation rocks. Pyroxene crystals averaged about 3 to 4 millimetres in size. No other sightings of this rock type were reported.

Intrusive Rocks

The *Lee Brant pluton (TL) is the largest intrusive body in the South Unuk River area. It* encompasses a large area to the east of the river surrounding the Lee Brant Glacier and forms part of the surrounding peaks as well as having a peak (Lee Brant) named after it. The intrusive is of Tertiary age and is grouped within the Coast Plutonic Suite. It is best described as a *hornblende-biotite quartz monzonite. The CB showing is located within this unit.*

Other Tertiary intrusive rocks consist of the occasional quartz diorite dyke or sill which may be seen in the valley to the west and east above the South Unuk River.

Exploration Geochemistry

Sample preparation and analysis was performed by Eco-Tech Laboratories of Kamloops, B.C. See Appendix-D for analytical and preparation procedures.

To remain consistent with mapping, 1:10,000 scale topographic maps were used as a base for plotting of the sample locations. Moss mat and silt samples were plotted on one sheet while rock samples were plotted on separate sheets. See Figures 31 to 34 for rock sample locations and Figures 35 to 39 for moss mat and silt sample locations.

A total of 194 moss mat samples and 70 silt samples were taken and analyzed. In the early stages of the program moss mats and silts were taken simultaneously for comparison. As the program progressed, moss mats were preferred to silts as overall, results appeared to be consistently better. This was attributed to the moss mat behaving similar to a sponge, thus trapping a finer sample and therefore being a better medium for a sample. See Appendix C for moss mat sampling procedure.

A statistical analysis was not performed, however, the general rule of thumb was to use the anomalous thresholds established by the MDRU. These thresholds appear to work quite well with our analytical results and generally pointed to a number of anomalous areas throughout the property. Anomalous thresholds utilized, but not necessarily adhered to were; Au: 20 ppb, Ag: 3.0 ppm, As: 100 ppm, Cu: 100 ppm, Pb: 58 ppm and Zn: 295 ppm. Sb was considered anomalous if results greater than the background of <5 ppm were received. These seven elements were found to be the best geochemical pathfinders. Of course, if multi-element anomalies were apparent, thresholds for other elements were arbitrarily dropped for the sample in question.

A total of 351 rock samples were taken from mineralized exposures and analyzed. Generally, grab samples from bedrock exposures were taken, however, occasional float samples were also taken. When possible or deemed appropriate, continuous chip samples across a mineralized zone were taken.

As in the moss mat and silt samples, statistics were not performed on the rock samples. Generally, unless the base metals (Cu, Pb and Zn) showed values greater than 1000 ppm they were passed over as not being anomalous. Gold was considered to be anomalous at 100 ppb while silver was considered anomalous at 3.0 ppm.

New Mineral Occurrences

HSOV Showing

The HSOV is located across the valley to the east from Mount Madge at approximately 1440 metres elevation. The location of the showing is plotted on the regional geology map, Figure 28. A sketch map of the geology around the showing is plotted as Figure 40. The showing consists of a zone of semi-massive to massive marcasite, pyrite and graphite with minor gypsum and anhydrite within a black, graphitic matrix. The main part of the showing consists of three imbricate segments of a layer up to 3.5 metres thick which is exposed for 35 metres along strike with a thinner layer offset to the east which is up to one metre thick and exposed for 30 metres along strike. Blocky, altered mudstone and felsic volcanic clasts are supported within a sponge-like (vent?) matrix of sulphides, graphite and minor gypsum associated with sulphidic tubules. Strong shearing and associated thrust faulting has complicated stratigraphy, however, it remains that the mineralization is located at or near the mudstone/felsic breccia contact. The mineralogy, texture and setting all suggest that the showing is related to a submarine exhalative vent system (black smoker). While chip samples returned poor values, nearby moss and silt samples from surrounding creeks contain >500 ppb Au suggesting the proximity of a mineralized zone.

TM Showing

The TM Showing is a new showing located on a cliff face overlooking an unnamed creek just to the west of the Ted Morris Glacier (Figure 28). The main showing is approximately three metres wide and consists of a silica-sulphide alteration zone hosted within intermediate to mafic volcanic tuffs. The zone trends about 090 degrees, with a dip of 80 degrees south. Extensive iron and manganese staining, plus lesser malachite staining mark the zone. Lesser offshots of alteration appear to extend laterally, along joints in the cliff, from the main mineralized area. The mineral assemblage at the TM is similar to mineralization at the GFJ, which consists primarily of pyrite, arsenopyrite and chalcopyrite hosted within quartz/carbonate veins. Unlike the GFJ the TM is vertical and the mineralized zone is relatively wide. The GFJ mineralized quartz veins are narrow (less than 50cm wide) and are generally flat lying. The TM showing lies along strike with and approximately 400 metres below the GFJ showing. An east-west linear feature which runs under both the TM and GFJ showings suggests that the two showings are connected and that the TM showing may bea feeder zone for the GFJ. A grab sample assay from the TM showing yielded 42.10g/tonne Au (1.23 oz/tonne Au).

HSOV SHOWING

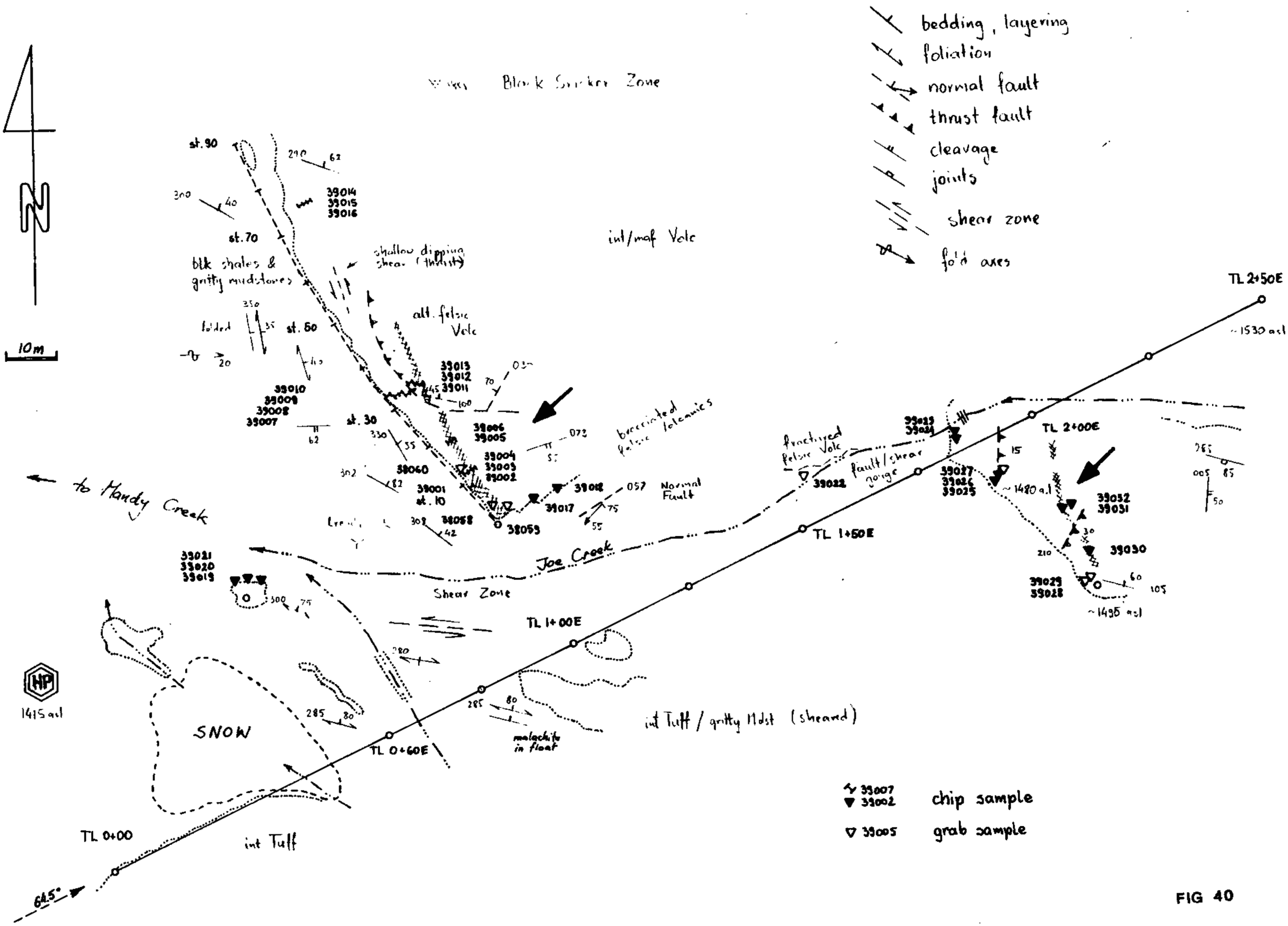


FIG 40

CB Showing

The CB (Colin/Bill) showing is located to the south of the Lee Brant Glacier at about 1020 metres elevation (Figure 25). The vein was located by prospecting the boulder train along the side of the Lee Brant Glacier and locating the source of quartz, sulphide bearing boulders. The showing consists of a pinch and swell quartz vein varying from 1.5 to 2.5 metres in width trending 212 degrees and dipping from 77 to 81 degrees to the southeast with a true length of approximately 44 metres. The vein cuts across hornfelsed Stuhini Group sediments and quartz monzonite of the Lee Brant stock. Mineralization consists of semi-massive to massive, medium to coarse grained pyrite. A preliminary grab sample yielded 4.54 g/tonne Au (0.132 oz/tonne Au) and 50.6 g/tonne Ag (1.48 oz/tonne Ag). Chip sampling has returned a result of 2.31 g/tonne Au (0.067 oz/tonne Au) over 0.6 metre.

Kumiko Showing

The Kumiko showing is located on the south bank of Kumiko Creek at approximately 700 metres elevation (Figure 27). The showing consists of a sheared zone of intermediate volcanics approximately 2 metres in width with a trend of about 170 degrees. Discontinuous lenses and veins of quartz occur throughout and mineralization is spotty. Mineralization consists of pyrite, chalcopyrite, galena with minor malachite and azurite staining. An initial grab sample yielded results of 3.31 g/tonne Au, 864 g/tonne Ag and 3.04% Pb. Follow-up work comprised of chip sampling across the face of the sheared zone. A series of four one metre samples (true width 0.8 metre) were taken with one sample returning values of 12.97 g/tonne Au (0.378 oz/tonne Au) and 56.4 g/tonne Ag (1.65 oz/tonne Ag).

Sheelagh Creek Showing

The Sheelagh Creek Showing is located on the east wall of a small intermittent creek/gully draining from the north into Sheelagh Creek (Figure 25). The showing consists of a 2.5 to 3.5 metre wide quartz vein striking approximately 045 degrees and dipping about 75 degrees to the northwest. It is traceable over 8 metres before it disappears under the surrounding overburden/greywacke/sandstone. Mineralization consists of disseminated to semi-massive pods of pyrite. Three one metre chip samples were taken across the face of the vein produced assay results of 15.63 g/tonne (0.46 oz/tonne) Au and 41.83 g/tonne (1.22 oz/tonne) Ag over 3 metres. A select grab returned values of 61.40 g/tonne (1.79 oz/tonne) Au and 109.5 g/tonne (3.19 oz/tonne) Ag. An attempt was made to drill the Sheila Creek Showing. Three diamond drill holes were collared to intersect the showing, however all holes were lost long before they reached the vein. The drill logs for holes SC 1, SC 2, SC 3 are located in Appendix B.

4.3 Detailed Surveys

Introduction

Detailed work consisting of diamaond drilling, trenching, geological mapping and rock geochemistry was done over three specific areas of the property. These areas are: TV Zone, Bench Zone and Cumberland Zone. These areas will be discussed separately in the following section of text.

TV Zone

Introduction

The TV Zone was mapped at a scale of 1 : 2000. The main geology map for the TV Zone is shown as Figure 41. Mapping was preceded by a detailed review of all relevant geological maps, cross-sections, and air-photos. Drill core from the 1995 diamond drill program was relogged. Mapping was accompanied by trenching and detailed lithogeochemical sampling (303 samples). Certain mineralized areas (central part of TV [Figure 42] and TV West [Figure 43] were mapped in greater detail. Reconnaissance mapping east of the main TV zone and limited soil sampling was also conducted. The mineralized areas were tested by trenching and diamond drilling The drill program consisted of 11 diamond drill holes totalling 1559 metres. Mineralized intersections were analysed for gold and 30 element ICP.

Diamond Drilling

A total of 11 holes totalling 1559.44 metres was drilled on the TV Zone in 1996. A table of the drill hole locations follows:

Drill Hole	Elev. m.	Northing	Westing	Bearing	Slope °	Total Depth, m.	Hor. Dist. m.
TV23		4+34S	6+90W	270	-45	79.64	56.31
TV24		4+39S	6+55W	270	-45	92.96	65.74
TV25		4+39S	6+55W	230	-45	103.63	73.28
TV 26		4+39S	6+55W	90	-60	29.57	14.79
TV27		4+34S	5+45W	230	-60	297.79	148.9
TV31		3+97S	6+70W	230	-45	121.92	86.21
TV29		3+99S	6+15W	230	-45	94.49	66.81
TV30		3+46S	6+22W	230	-45	127.71	90.3
TV28		2+45S	6+80W	270	-70	181.36	62.03
TV 32		2+43S	5+41W	230	-50	199.03	127.93
TV33		3+00 S	10+05 W	270	-45	231.34	163.56
						1559.44	

The drill hole locations are plotted on TV Zone Geology Maps (Figures 41, 42 and 43). Many of the drill hole sections are shown on the TV Zone Cross Sections (Figures 44, 45 and 46). The diamond drill logs with associated analyses are located in Appendix B.

The purpose of the drilling was to trace the TV Zone stockwork mineralization up section with the expectation of intersecting an exhalative massive sulphide deposit. The drilling was successful in extending the mineralized zone to the north and east, however no exhalative mineralization was intersected. The drill hole information was very useful in interpreting the stratigraphy and structure of the TV Zone.

Trenching

As a result of interesting looking mineralization in shale outcrops, thirteen trenches were blasted and sampled. The trenches are located on TV Zone Geology Maps (Figures 41, 42 and 43). A detailed map of the trenches along with assays is drafted as Figure 47. Continuous chip samples across the stockwork mineralization were analysed for gold plus 30 element ICP. All samples that gave values above threshold were analysed by fire assay.

The trenches have exposed stockwork mineralization within the black mudstone unit. This mineralization contains several silver sulphosalts with ruby silver being a significant additional mineral. Gold assays in the zone remained about average for the TV Zone stockwork mineralization at about 0.06 ounces per ton. Silver assays increased significantly from about 3.0 ounces per ton to about 30 ounces per ton.

TV Zone Geology

Stratigraphy

Most of sedimentary and volcanogenic rocks underlying the TV Zone lie within the lower-to-middle Jurassic Salmon River Formation (Hazelton Group). On the property, this stratigraphic succession was subdivided into the following units. The organization of the stratigraphic succession of the TV Zone is complicated by rapid facies changes and complex structural events.

Mafic-to-intermediate volcanics - JrH5M (John Peaks Member)

Much of the TV Zone is underlain by mafic-to-intermediate volcanics. These rocks form a wide and relatively homogenous belt in the western part of the mapped area, between the Unuk River valley and the main TV showing. The belt continues SSE towards Sulphurets Creek and the Bench and Cumberland Zones. These rocks form a distinct belt to the west and south, however, mafic volcanics are also found elsewhere as narrow belts the area.

The mafic volcanic unit on the TV appear to be far less variable than similar rocks on the Bench area to the south. Occasionally the mafic rocks (especially if coarser grained) show well preserved fragmental textures. The rocks range from pale green (rather rarely) to dark grayish-green in color. Sorting is poor to moderate. Rocks are commonly stained by iron oxides. The composition of the clasts is usually hard to identify. Chlorite alteration is the most common form of alteration. Locally, chlorite alteration is accompanied by sericite and carbonate alteration, especially near mineralization.

The mafic units are primarily medium grained, crystalline flows, sills or dykes. Fine grained varieties of the mafic unit are less common in the TV Zone than in outcrops to the south such as at the Bench or Cumberland. Fine crystalline porphyritic and/or aphanitic rocks showing poorly to moderately developed foliation represent lava flow units (**lf**). Locally, these rocks display amygdaloidal textures. The amygdules are usually flattened and elongated due to regional deformation and commonly a show preferred lineation (stretching lineation). Pillow lavas (**pl**), and broken pillow breccias (**bpbx**) were observed very rarely (mostly in central and eastern part of the area). Since the individual mafic lava outcrops do not form continuous mappable units, primarily because they are poorly exposured. they are included into a broad category of mafics together with the mafic dykes and sills as mafic volcanics (**MV**).

The thick section of mafic volcanic rocks in the northwestern part of the TV Zone is locally interlayered with thin beds of fine grained sediments and intermediate-to-felsic volcanic rocks. The contacts with between mafic and other rocks are usually not exposed, so the facies and stratigraphic relationships between those units remains unclear.

Sedimentary Rocks - JrH5S (Troy Ridge Member)

This unit consists predominantly of fine-grained (clay to fine sand particles), laminated sedimentary rocks and minor interlayered, fine grained ash fall tuff and, occasional lapilli tuff. Most sedimentary rocks are gray to black in color. Solitary beds of medium grained sandstone occur very rarely. Primary sedimentary structures include parallel horizontal lamination, normal graded bedding (especially within tuffaceous layers) and load casts. Ripple-cross lamination was observed in a few localities.

For mapping purposes the sedimentary stratigraphy was subdivided into three broad sections:

TSED - *distinctly laminated mudstones, siltstones and sandstones;*
BSED - poorly laminated to apparently structureless, black mudstone and argillite
SED - undifferentiated sedimentary rocks (interlayered TSED and BSED), as well as coarser grained rocks (sand to pebble grade). Outcrops of this subdivision are uncommon in the mapped area, and so some sections of these rocks have been interpreted from drill logs (e.g. between TV and TV West).

One can recognize some distinct types of sedimentary rocks, which were useful as marker beds. Tuffaceous sediments (tsed) are found in all the rock units, usually fine grained, which contain considerable amounts of volcanic fragments. Sand size volcanic clasts are evenly distributed in a fine grained, black matrix. The rocks display poor bedding. Locally graded bedding is observed. The shales usually contain 1-3% (rarely 5-7%) of pyrrhotite + pyrite blebs. Locally, larger clasts, which are elongated parallel to the regional deformation were observed.

Black shales (blksh) do not show distinct sedimentary structures. The primary (bedding) surfaces are usually destroyed by foliation. These rocks consist of an admixture of tuffaceous materials or are interlayered with thin beds of fine grained ash fall tuff. Shales are commonly silicified and/or fractured. Along the contacts with mafic dikes, the shales were been hornfelsed. Around the TV showings, intense quartz veining and stockwork zones are developed within the black shales.

The primary contacts within the sedimentary package of rocks are difficult of discern due to tectonic deformation and poor exposure. It is clear from the mapping and drilling that sedimentary rocks interfinger with and are covered by epiclastic tuffs and lapilli tuffs of the transitional unit (JrH5T). In some areas, the sedimentary rocks are also interbedded with the *mafic volcanic unit (JrH5M), both flows and tuffs. The primary relationship between the* sedimentary unit and the felsic volcanic unit remains unclear. Exact stratigraphic relationships have been complicated by thrust faulting and related folding. The few top indicators that were discovered were not sufficient to solve the stratigraphic problems. The extensive deformation and thrusting resulted in the development of a penetrative foliation and/or cleavage and in the obliteration of primary structures.

Felsic Volcanic Rocks - JrH5F (Bruce Glacier Member of MDRU; former Mount Dilworth Formation)

Felsic volcanic rocks were observed in several locations throughout the TV Zone. The largest area of exposure was observed in the western part of the TV Zone (TV West) and north of Marta Lake, in the southeastern part of the map area. The felsic rocks vary significantly in texture, structure and composition. They are primarily fragmental rocks composed of clasts of intermediate-to-felsic composition. The original composition is very hard to determine due to extensive potassic alteration.

The most common variety of felsic volcanic found in drill core is volcanic breccia (**vbx**). The rock consists of angular to subangular clasts suspended in a gray siliceous matrix. The matrix *content is usually less than 20% of the total rock mass. The clasts are composed of felsic and/or* intermediate volcanic rocks (rhyodacite, dacite and, possibly, rhyolite). In area where alteration is intense (silicification and sericitization), the boundaries of clasts become diffuse. Monomictic and polymictic varieties of clasts were observed. The clast size varies from sand to pebble in size. The sorting of the clasts ranges from moderate to very poor. Volcanic breccias form thick to very thick beds. Except for indistinct clast size segregations, they do not usually display internal organization (structure)

Finer grained varieties, especially ash tuffs and lapilli tuffs (ft/flt) are much more common than the tuff breccias. They consist of small angular and subangular clasts in a silt to clay matrix. The clast composition is similar to that of the volcanic breccias. The alteration minerals include sericite, chlorite and silica. Pyrite and other opaque sulphides are common.. Tuffs and lapilli tuffs usually show a well developed foliation which has destroyed most primary bedding features. In cases where the clast composition is more intermediate to mafic the tuffs were mapped as intermediate-to-mafic tuffs and lapilli tuffs (IMT/LT).

Other varieties of felsic volcanoclastic rocks, namely black matrix volcanic breccia (bmbx) or breccia with orbicular devitrification structures (vbxorb) were observed only in drill core and were not seen on surface.

Finer grained varieties of the felsic package are interbedded with sedimentary rocks, epiclastic volcanic rocks and mafic volcanics.

Transitional rocks - JrH5T

Epiclastic rocks are exposed in various parts of the TV Zone. The largest area of exposure lies east and northeast of the main TV showing. These rocks consist predominantly of epiclastic tuffs and lapilli tuffs. The composition of these rocks, as well as their textural and structural features varies considerably. Clasts range from ash size to a few centimetres in diameter. The rock is usually poorly to moderately sorted and commonly shows a bimodal distribution of clast size. The composition of the clasts varies from felsic to mafic. Considerable portions of this unit are composed of clasts of non-volcanic origin (rounded pebbles and granules of quartz, metamorphic and sedimentary rocks). Epiclastic rocks show usually indistinct, sub-parallel layering.

Structural Geology

Evidence of folding is very common over the mapped area. Mesoscopic and small-scale folds were recognized and measured in numerous outcrops and in drill core. The size of these folds ranges from megascopic structures to small kink bands and parasitic folds. The geometry varies from asymmetric folds usually showing a western vergence (especially common in the case of large folds) to open, subparallel folds. Most of the large-scale folds appear to plunge towards north, however, the geometry of these structures are usually complex and difficult to measure. The angle of plunge of these folds varies considerably. Mapping suggests that some of these folds plunge towards the SSE. Such variability in folding is characteristic of rocks deformed within shear zones and in areas of steep thrust faulting. The prevailing western vergence of the folding reflects the dominant pattern of relative movement and of the stress induced by displacements along steep reverse faults with eastern side uplifted and obliquely pushed towards the NNW.

Smaller-scale folds (most probably of F2 stage) usually show a moderate plunge towards the east or ENE. This aspect can be applied especially to the kink bands and crenulation folds. The intersection lineation and mineral lineation are both subparallel to the axis small scale folds.

The structural features of the TV Zone are comparable with structures formed along oblique, interplate, collisional settings. In the case of the Corey property, the western plate was subducted and in great part consumed.

BENCH ZONE

Introduction

The Bench Zone was mapped at a scale of 1 : 2000. Detailed mapping was preceded ground evaluation of earlier geological maps, soil geochemical anomalies and air-photo interpretation. The detailed mapping was accompanied by rock sampling (105 samples) to evaluate the sources of anomalous soil geochemistry. A total of 9 diamond drill holes totalling 1383.64 metres were drilled in a two-phase program. A total of 250 samples of drill core were analysed for gold and 30 elements ICP.

Diamond Drilling

A total of 9 holes totalling 1383.64 metres was drilled on the Bench Zone in 1996. A table of the drill hole locations follows:

Drill Hole	Elev. m.	Northing	Westing	Bearing	Slope °	Total Depth, m.	Hor. Dist. m.
CBE1				140	-50	107.89	69.35
CBE 2				140	-70	91.74	31.38
CBE 3				108	-45	215.8	152.59
CBE 4				140	-70	301.75	103.2
CBE 5				260	-45	145.69	103.02
CBE 6				250	-50	220.06	141.45
CBE 7				270	-45	60	42.43
CBE 8				270	-70	152.32	52.1
CBE9				90	-60	88.39	44.2
						1383.64	

The drill hole locations are plotted on Bench Zone Geology Map (Figure 48). Many of the drill hole sections are shown on the Bench Zone Cross Section (Figure 49). The diamond drill logs with associated analyses are located in Appendix B.

The purpose of the drilling was to test favourable stratigraphy on the Bench TV Zone in order to locate a possible exhalative massive sulphide deposit. No significant mineralization was found, however the drilling did provide important information on the interpretation of the stratigraphy and structure.

Bench Geology

Stratigraphy

The sedimentary and volcanic rocks which underlay the Bench Zone have been placed as members of the lower-to-middle Jurassic Salmon River Formation (Hazelton Group). The nomenclature used in this report primarily follows the units recommended by the final report of the MDRU (1996), however, some modifications were made in order to satisfy the specific character of the area. Individual members of the Salmon River Formation are strongly facies dependent. The stratigraphic the succession is complicated by sharp facies gradients that are strongly overprinted/obliterated by tectonics. As a result of these complications, a simple model of layer-cake stratigraphy cannot be applied to the intraformational divisions. Time relations between individual units within the formations are not clear. The individual end members of the Salmon River Formation were probably formed more or less simultaneously. This deposition was controlled by local conditions; in particular, fine grained sediments accumulated in the basin simultaneously with various products of volcanism and locally resulted in thicker packages of sediments which interfinger and interlayer with volcanics marking periods of volcanic quiescence. The Bench geology is shown on the Bench Geology Map (Figure 48) and on the accompanying section (Figure 49).

Mafic-to-intermediate volcanics - JrH5M (John Peaks Member of MDRU)

Most of the southern part of the Bench Zone is underlain by mafic-to-intermediate volcanics. East of the map area the rocks abut a thick section of mafic-to-intermediate volcanic rocks along a prominent, compound fault or shear zone.

The mafic volcanics suite consists of three predominant end members: massive lava flows (lf), pillow lava flows (pl), and broken pillow breccias (bpbx). Due to limited exposure, the individual mafic volcanic rock types do not form mappable units over the Bench area. Broken pillow breccias are the most common type of mafic rock in the southwestern part of the Bench, whereas pillow lavas and lava flows dominate the rest of the area. Repetitive sequences consisting of successive layers of lava flows, pillow lavas and broken pillow breccia are observed in the south-central part of the Bench. Hyaloclastites do not form individual layer-like units - such units are not observed either in outcrops or drill cores. Finer-grained hyaloclastic detritus occurs locally in considerable quantities as interstitial matrix between pillows and/or broken pillows. Pillow lava and broken pillow breccia units locally incorporate considerable amounts of black, fine-grained sediments which are uniformly dispersed either as the matrix or form lumps of various size. Broken pillow breccias of the southwestern part of the Bench form usually matrix-poor varieties.

Mafic volcanic rocks are usually characterized by cryptocrystalline to very fine crystalline textures. Occassionally, fine plagioclase phenocrysts are seen in lava flows and/or within the pillows. The latter are commonly characterized by distinct vesiculated rims and contractional cooling fractures. Primary vesicles are filled with chlorite and/or carbonates. Some flows locally display amygdular textures.

Mafic volcanics are interlayered by thin beds of fine grained sedimentary rocks, however, the contacts are commonly overprinted by tectonic displacements. Sedimentary rocks at the contacts are usually hornfelsed and/or chloritized showing the effects of distinct thermal alteration. Some of the lower contacts of the flows, especially of pillow lava flows, are accompanied by flame-like sediment injections and load structures due to pillows sinking in fresh sediment.

Locally, pillows serve as excellent top indicators. The base of pillow shape as well as in the development of vesiculated rims giving the tops and the flow directions are often observed. Palaeoflow directions were determined on the base of orientation of elongated pillows and feeder tubes, bulging from re-entrant selveges and imbricated pillows. Most indicators points to a NNW inclined palaeoslope. This is more or less concordant with the general facies gradient in the basin: Massive lava and pillow lava flows which dominate the eastern parts of the area, have been replaced by broken pillow breccias towards west and northwest.

Sedimentary rocks - JrH5S (Troy Ridge Member of MDRU 1996).

This unit consists predominantly of fine-grained, laminated, sedimentary rocks and minor interlayered tuff and lapilli tuff. Most sedimentary rocks are characterized by a dark gray to black color. They are very fine to fine grained and consist of clay to fine sand sized particles. Solitary beds of medium to coarse grained sandstone occur very rarely. Primary sedimentary structures include parallel horizontal lamination, ripple-cross lamination, load casts and flame structures. Sandy and silty beds commonly show normal graded bedding. Some parts of the sedimentary succession display rhythmic organization similar to tidal-controlled sequences. Two different varieties of sedimentary rocks have been observed in the map area.

mdst - distinctly laminated mudstones, siltstones and sandstones

blksh - black, poorly laminated to apparently structureless mudstone and argilite.

The black shale contains a considerable amount of tuffaceous material. The shales do not usually show distinct sedimentary structures. Most of the primary (bedding) surfaces have been masked by cleavage and foliation.

Subordinate interlayered tuffs and lapilli tuffs (lt/t) form thicker beds and bedsets within the lower part of the sedimentary succession. The clastic material is poorly to moderately sorted. The clastic components include poorly to moderately sorted, subangular to subrounded fragments of intermediate-to-felsic volcanics and less abundant quartz and feldspar grains and rounded pebbles of metamorphic and volcanic rocks. Within individual beds, the grain size commonly decreases upwards Lapilli tuffs and tuffs in this unit resulted from redeposition of volcanic, pyroclastic and sedimentary material. Lapilli tuffs and tuffs were mapped in two outcrops near the contact with a thick section of mafic volcanics to the eastern edge of the map area. It was observed in core in drill hole CBE-6.

The lower contact of the sedimentary package appears to be concordant with the underlying pillow lavas and/or lava flows of the mafic unit (JrH5M), however, the primary relationship between these two units has often been masked by regional faulting. The upper contact was not observed. It is suggested that the sediments of the Salmon River Formation may pass gradually into similar rocks of the Bowser Lake Formation (JrB), a thick, almost uniform complex of sedimentary rocks which underlays the northern part of the Bench area.

Thinner (from a few metres to few tens of metres) packages of fine-grained sediments are interlayered with mafic-to-intermediate volcanics (JrH5M) and less commonly with felsic volcanics (JrH5F). These sediments also separate both felsic and mafic volcanics from each other in other parts of the Bench Zone. Palaeoflow and palaeoslope indicators (ripple-cross lamination, asymmetry of load casts and flame structures, and vergence of microslump folds) within the sedimentary complex points to a northerly inclined palaeoslope.

MDRU geologists suggest that a longitudinal belt of Bowser Lake sediments stretches into the area of the Bench Zone. This report, concludes that the sedimentary rocks of the Bench area are an element of the Salmon River Formation and not the Bowser Lake Group. The spatial relationship of the sediments to the volcanic rocks - the sediments interfinger with both, felsic and mafic end-members of the Salmon River Formation suggests that these sediments are part of the Salmon River. The sedimentary succession exposed in the Bench area does not contain characteristic Bowser Lake Group deposits, like fine-grained, cherty conglomerates, nor display a distinct turbiditic character. The possibility of a transitional contact between both formations is proposed, taking into account that the Bench may represent a distal basinal facies of both Salmon River and Bowser Lake basins.

Felsic volcanics - JrH5F (Bruce Glacier Member; former Mount Dilworth Formation)

A few hundred metre-wide belt of felsic volcanic rocks occurs in the middle-to-western part of the Bench Zone. The rocks display considerable textural and structural variability encompassing several rock types. The most common type is volcanic breccia (vbx) which consists of angular to subangular clasts embedded in a gray, siliceous matrix/cement. The clasts consist of fragments of felsic-to-intermediate volcanic rocks (rhyodacite, dacite and, possibly, rhyolite). The composition of the clasts is difficult to determe due to pervasive alteration. Monomictic and polymictic varieties were observed. The matrix usually constitutes no more than 15-25% of the rock volume. Clasts size varies from a few millimetres to several centimetres in diameter, locally including some larger blocks. Sorting ranges from moderate to very poor. Boundaries of the clasts are sharp in areas of no alteration and diffuse in areas of advanced advanced alteration (silicification and sericitization). Volcanic breccias form thick to very thick layers. The breccias usually do not display any internal organization. Locally, the rock has a cherty appearance.

A variety of breccia containing a black coloured matrix is called black-matrix breccia (bmbx). The matrix in this rock is usually homogenous and cherty, almost obsidian-like, while clasts display thin reaction/cooling rims. In numerous outcrops this variety shows a jigsaw-fit structure typical of in-place fragmentation/brecciation due to rapid cooling and quench-shattering. Such features are commonly regarded as evidence of the explosive origin of volcanic breccias which resulted from action of superheated steam produced by shallow intrusion of volcanic lava/magma into unconsolidated, water-saturated sediments (cf. Schmincke 1967)

Locally, angular clasts of volcanic breccias contain abundant, tightly spaced, orbicular structures which resulted from localized devitrification and alteration (vbrorb). This type of breccia is more common in western part of the outcrop belt.

Locally, in the southern part of the Bench Syncline, the felsic volcanic breccias are accompanied by finer grained varieties of felsic rocks - tuffs and lapilli tuffs (ft/flt). Such rocks are usually considerably silicified. The structural position of these rocks in the package of felsic rocks is unclear.

In the middle portion of the southern and, locally, eastern part of the outcrop belt occur several exposures of flow banded felsic flows (flbd). The banding is disharmonic and commonly shows intense folding on a mesoscopic scale. Relics of primary clasts and flamme structures were observed. A small outcrop of a massive felsic flow (ffl) was observed next to a flow banded felsic flow in the middle portion of the eastern limb of the Bench Syncline. The rock displays a sharp intrusive contact.

Dense subvertical cleavage locally accompanied by indistinct banding of the felsic rock is very common, especially in the southern part of the felsic belt. It is unclear if this feature represents tectonic cleavage or is connected to lava emplacement and slow flowage. The latter suggestion appears to be likely, bearing in mind observations made by Hall (1978) and Clough (1981).

Transitional rocks - JrH5T

A unit of volcaniclastic rocks of variable composition is exposed between the felsic and mafic volcanic belts in the southeastern part of the Bench area. Spatial relations to the surrounding units are not clear since they heve been modified by post-volcanic tectonic displacement. The unit consists of mafic-to-intermediate tuffs and lapilli tuffs (mlt/mt), redeposited basaltic conglomerates (bcgl) and poorly sorted, black and/or gray tuffaceous sediments (tsed). All of these components contain variable amounts of terrigenous, clastic material ranging from few percent to over 50% (the latter in case of tuffaceous sediments only). Mafic tuffs/lapilli tuffs usually form thick layers. They are interpreted of air falls and mass flows. They locally display distinct, small-scale bedding which is related to redeposition and tractive transport. Mixtures of rounded pebbles, which were found in a few outcrops tend to prove the latter conclusion.

Redeposited basaltic conglomerates consist of large, subrounded clasts of mafic volcanics enclosed in a sandy-to-silty matrix composed of black sediments and hyaloclastites. Clasts consist of fragments of pillows (broken pillow material) and rarely small pillows. Individual clasts are separated from each other by matrix material, commonly slickensided, even when the matrix content is low. The rocks form very thick beds which do not show internal organization, excluding a poorly developed, subparallel fabric of slightly flattened and slickensided clasts. The primary volcanic material must have undergone redeposition of mass flow or stratified slide type on a subaqueous slope covered with fine sediment. Mafic conglomerates represent a distal facies in relation to centres of mafic volcanic activity.

Tuffaceous sediments enclose poorly sorted, commonly gritty mixtures of small subangular fragments of volcanic rocks (mostly felsic in composition) and fine grained sedimentary material. The color of the rock depends mostly of the content of sedimentary material and ranges from gray to almost black. Rounded pebbles of felsic volcanics were found locally scattered within the rock. Small blebs of pyrite and/or pyrrhotite are commonly found and are locally abundant (5-10%). The rocks are commonly silicified and locally contain calcite cement. Fragments of shell imprints of bivalves have been discovered in the southern part of the Bench syncline area.

Intrusive rocks - mafic phyric dykes (MPh)

Dark green to gray, medium grained, feldspar (+ pyroxene) crystalline rocks were observed at several locations north and east of the drill pad CBE-3. The composition of these rocks suggests an affinity to the mafic volcanics, however, the phyric textures indicate much better conditions for crystallization and suggest an intrusive origin. These dykes are closely related to mafic flows and are probably cogenic, feeder zones to the volcanics. The spatial relations between these rocks and the other stratigraphic units in the Bench Zone are unclear due to poor exposure.

Paleoslope/paleocurrent indicators

Individual measurements of lava paleoflow indicators vary considerably over the Bench area, however, they suggest a NNW inclined paleoslope during the accumulation of mafic volcanics. Coupled with a westwards directed lithofacies gradient from proximal (prevailing massive lava and pillow lava flows) to distal (mostly broken pillow breccias) it constitutes an imprecise but sufficiently clear and consistent paleoslope estimation.

The only paleoflow indicator measured within the topmost part of the felsic unit suggests that the flow was directed either towards NNE or SSW, however, facies gradients and interfingering of sediments and felsic volcanics at the northeastern termination of the outcrop belt of the felsic unit suggest a NNE trending paleoslope.

Outcrops of the sedimentary package overlying the felsic complex provide the most abundant and consistent evidence of paleoslope direction during the sedimentation. Numerous asymmetric load casts and associated flame structures point towards the NNE. This direction agrees with a northwards inclined paleoslope suggested for the emplacement of mafic flows overlying these sediments.

A few paleocurrent indicators (ripple cross lamination) measured within the thick section of sediments in the eastern part of the Bench point towards the NNW.

Alteration

The most common form of alteration on the Bench Zone is silicification, particularly in the southwestern part of the Bench area throughout the felsic lapilli tuffs and breccias, and the tuffaceous sediments. The primary textures and structures of the rock have locally been entirely destroyed by pervasive silicification. Locally the felsic rocks show weak sericitization. Evidence of early alteration of felsic rocks is the presence of orbicular structures resulting from development of perlitic alteration and devitrification.

Intense carbonate alteration was observed within tuffaceous sediments of the transitional unit (JrH5T) in the southern part of the Bench syncline. Weak carbonate alteration was also seen within the mafic volcanics, especially pillow lavas. Mafic volcanics also underwent weak, spotty chlorite alteration.

Patchy propyllitic alteration associated with mafic volcanics of the southwestern part of the Bench area was recognised by a light-greenish, creamy beige colour to the rocks and distinct green spots of fuchsite? Occasional brown to black manganese staining on weathered surfaces is associated with these zones. The altered zones seem to be related to heavily faulted/fractured areas at the location of cross-cutting faults.

Mineralization

Mineralization discovered to date on the Bench Zone is very restricted and poor. The most interesting showing occurs in the sedimentary rocks which separate mafic and felsic volcanics south-west of drill pad CBE-1and 2 (trench 93-8). The mineralization consists of sphalerite with subordinate galena and pyrite disseminated in sediments.

Disseminated pyrite and pyrrhotite, forming locally thin semi-massive lenses of very restricted continuity have been observed in a few sites along the contact between sediments and mafic volcanics at the eastern margin of the Bench Zone. In some places , pyrite is accompanied by chalcopyrite. This mineralization was first recognized by V. Van Damme (1993) and observed in 1996 on the eastern contact of mafic volcanics with the sediments approximately. two km east of the Bench Zone. None of the samples from this area returned elevated values of precious or base metals.

Up to 7-10%, disseminated pyrite and pyrrhotite locallyoccurs within black shale (usually tuffaceous) or other tuffaceous sediments in several localities scattered throughout the map area. Samples all gave low levels of precious or base metals.

In two outcrops of altered pillow lavas on the southern part of the map area, immediately east and south of the Swamp Helipad, disseminated pyrite with minor galena and sphalerite was found. Samples taken from these outcrops did not return elevated values.

Geological Structure

Detailed geological mapping provided significant new data which allowed for the development of a structural model. The mapping also aided in the compilation of a new, detailed version of the lithostratigraphic column of the Salmon River Formation for the Bench area. The resulting model cannot be regarded as final since relatively complex facies and tectonic relationships are hard to follow due to relatively poor bedrock exposure.

Rocks underlying the Bench Zone display quite a wide lithological variability and a moderately complicated structure. The area can be sudivided into a few structural sub-units which are characterized by various lithostratigraphic features and geological structure.

Eastern Mafic Complex: The easternmost unit is composed entirely of mafic volcanics (massive lava flows and pillow flows). The flows form a very thick (1km or so) succession which consists of thick. subparallel and interfingering beds. Bedding strikes NNW-SSE and dips steeply, primarily towards east, however, westwards dipping layers were also observed in this unit. The strata are younging towards east as judged from the geometry of pillows in cross sections, similar to the neighboring sediments to the east. The contact between sediments and underlying mafic volcanics is defined by a compound tectonic discontinuity and consists of oblique-slip and steep reverse (thrust) faults.

Southern Mafic Complex: A relatively uniform series of mafic volcanics (lava flows, pillow lavas and subordinately broken pillow breccias) with a few relatively thin interbeds of sediments underlies the southeastern and southern part of the Bench. The individual sedimentary packages have a restricted lateral extent . The strike of the strata trends NNW-SSE, dipping steeply to moderately to the west. A simple homoclinal structure is obliterated by folding in the eastern part of this structural sub-unit. Fold axes run subparallel to the trend of the strike of the beds. The folds are asymmetrical, wide-radius structurs, showing a western vergence. Interlayered sediments locally display a much more complicated pattern of folding (e.g. area immediately westwards of DDH CBE-5. The series is generally younging westwards. The structure of the western part of this area is strongly affected by faulting.

Western Mafic Complex: This complex of mafic rocks forms a peripheral belt of elevated relief in the southwestern part of the Bench. It consists mostly of broken pillow breccias which are accompanied by minor pillow breccias and lava flows in the southern part of this belt. The northern part of the belt is characterized by the presence of redeposited andesitic conglomerates, mafic tuffs and sediments. The primary spatial relationships between individual members of this suite is distinctly overprinted by faulting and remains unclear. Beds strike NNW-SSE and N-S and dip steeply to moderately to the east. The younging direction is towards east. The western continuation of this unit has been projected under unconsolidated alluvial/glacial deposits infilling the Unuk River valley, from logging of core of drill holes CBE-7, 8 and 9,.

Bench Syncline: The diverse rocks of this structural unit underlay the central-eastern part of the Bench Zone. The lowermost portion of the synclinal succession is composed of a sedimentary-volcanic package (first sedimentary package). These rocks are overlain by a thick complex of felsic volcanics with minor interlayered sediments. This group of rocks is overlain by a second, package of banded mudstones and siltstones ("pajama beds"?). The banded mudstones are overlain by a relatively thin blanket of mafic lava flows and pillow lavas. The synclinal succession is topped by a third package of sedimentary rocks.

The strata dip moderately towards the axial plane of the asymmetrical syncline. The axis of the syncline plunges moderately towards north. Its hingeline is probably undulating. The structural features of the southern part of the Bench Syncline are not typical of common megascopic folds of simple deformational origin. The primary structure is strongly affected by thrust faulting.

Sedimentary Complex of the North Bench:

The area located north of the Bench Syncline and west of the Eastern Mafic Complex is underlain by a thick section of fine grained sedimentary rocks, fine grained tuffaceous sediments and a few layers of epiclastic lapilli tuffs. The geological structure of this area is poorly known due to very poor exposure. The beds strike from WNW-ESE to NNW-SSE and dip with variable angles. Close to the contact with the Eastern Mafic Complex, beds dip very steeply to vertical. The general younging direction is westwards. In close proximity to the contact, sedimentary rocks are commonly overturned. Intense folding of strata has been observed in numerous locations. The most persistent trend of folding occurs in the eastern part of the area. The folds are apparently asymmetric tight structures with a northwest plunging and undulating hinge zone. As inferred from the logged core of the drill CBE-6 this folding was accompanied by thrust faulting. The steep northeast plunging axes of the mesoscopic folds were measured in a few localities.

Contacts between complexes:

The eastern mafic complex is separated from the rest of the Bench area by a compound wrench and thrust fault zone striking NNW-SSE. The fault zone is characterized by of several segments, of elongated tectonic blocks with a variable character of relative movement. Each segment displays changing kinematic characteristics along its margin. The margins of individual blocks seem to display oblique-slip movements whereas their NNE (or N) striking margins have the apparently character of steep reverse (thrust) faults. An overall sinistral oblique-slip regime is inferred with relative upward movement of the eastern, hangingwall mafics.

The two remaining mafic complexes seem to be separated from each other by a deep, extensional fracture zone which subsequently became a center of felsic volcanism. This zone strikes NNE. The fracture zone was penetrated and eventually sealed by felsic melts and associated hydrothermal solutions what resulted in an intense silicification and other alteration of the rocks.

The contact of the Bench Syncline with the mafic complexes towards south is more or less concordant in nature. Felsic and mafic units are separated by a thick succession of various volcaniclastic rocks to the west. Volcaniclastics are locally organized into thick, coarsening-up sequences. To the east, they pass gradually and interfinger with tuffaceous sediments. Towards the east, mafics and felsics are separated by a prominent sedimentary package. Accumulations of sedimentary and epiclastic volcanogenic rocks are attributed to a period of quiescence in volcanic activity. Conditions favorable for sediment accumulation resulted from development of an extensional, graben-like depression and from localized subsidence. The mafic-felsic contact is compound and marked not only by a package of clastics but by the preceding development of a compound, fault controlled depression.

The northern sedimentary complex is bounded to the southeast by a prominent NW-SE trending photolineament. The contact is very poorly exposed. Exposed sections of the contact suggest evidence of faulting. This fault zone appears to have served as a conduit for the intrusion of dykes (mafic phyric rocks emplaced along the zone). The segmented, en echelon pattern of this zone in plan view suggests a strike-slip component to the fault.

Geophysics

In 1996, an airborne geophysical survey consisting of gamma ray spectrometry and magnetics was flown over the area. The radiometric maps of K, Th and Th/K ratio appear to trace the contacts between the sediments of the North Bench and the Eastern Mafic Complex. Magnetic results do not appear to reflect the geology. This lack of response may be a result of the rather small-scale dimensions of individual geological units as well as the masking effect of Quaternary sediments which locally attain considerable thickness. Some prominent Th/K ratio anomalies, located between the Bench and Battlement zones very likely reflect areas of hydrothermal alteration with coincident sulphide concentrations bearing in mind results of geological mapping and of preliminary basin reconstruction. Both radiometric anomalies are located in the deepest part of the fault-controlled, graben-like basin, downslope and downcurrent to the inferred centers of felsic volcanism. These anomalies provide a good target for further exploration.

Geochemistry

Rock sampling results

A total of 105 rock samples were taken during mapping of the Bench Zone. Sedimentary rocks and tuffaceous sediments, potential hosts for massive sulfide mineralization were sampled in greater detail. The majority of samples were taken from alteration zones (silicification, chloritization, carbonatization etc.) or locations of visible mineralization (mostly Py, less commonly Po, Cpy, AsPy, Sph and Ga). None of the samples returned elevated concentrations of precious or base metals. The rock sample descriptiona and analyses are documented in Appendix E. The sample locations are plotted on Bench Geology Map, Figure 48.

The gold content of the samples is very low and varies between less than 5 to 15 ppb. Silver displays a much wider distribution (from less than 0.2 to 7.4 ppm) with an average less than 0.93 ppm. Arsenic is also very low with the majority of samples (91) showing values no higher than 5 ppm and almost all of them below 120 ppm.

The concentration of base metals is also low. Copper ranges from 1 to 127 ppm and averages 38 ppm. Lead ranges from less than 2 to 82 ppm and averages 15 ppm). Zinc display low to moderate concentrations (usually less than 400 ppm) The mode remains in a range between 80 and 100 ppm. the maximum content of zinc analysed on the Bench during this program was 1146 ppm.

All of the elements described above display highly to very highly asymmetric distributions within the sampled population. In each case the mode is very close to the lowest values and the distributions are positively skewed. These results lead to the conclusion that the average values cannot be regarded as good estimators of the individual means in whole population. The same conclusion can be applied to standard deviations estimated from samples. As a result of these distributions, it is very hard to estimate acceptable threshold values for individual elements.

All samples showing elevated values of base metals were taken from contact zones between black shales and altered mafic volcanics. These zones are usually accompanied by evidence of faulting. The most elevated value of Zinc comes from a sample of sediments containing quartz veinlets.

There does not appear to be any apparent statistical correlation between the elements.

CUMBERLAND SHOWING

Introduction

In 1996, 5915 metres of line was cut; recovering and expanding on the geophysical grid cut by Placer Dome in 1991. The north half of the grid area was remapped at scale of 1:2000 (Fig. 50) with a small area of felsic volcanics and sediments mapped at a scale of 1:500 (Fig. 51). A total of 98 rock samples and 5 moss mat samples were taken and analysed for gold plus 30 element ICP. A total of 80 soil samples were taken as-fill in soil lines Along with the Placer Dome soil samples, analysis of these samples were used to produce a geochemical pattern over the showing areas. A total of 23 metres of trenching was performed in three trenches. The trenches were sampled with 28 samples. The trenches were tested at depth with five diamond drill holes totaling 634 metres. Mineralized sections of the drill holes were sampled with 131 samples analysed by gold plus 30 element ICP.

Property Geology

Mafic Volcanics (John Peaks Formation)

Most of the area around the Cumberland showings is underlain by the mafic volcanics of the John Peaks Formation, mainly pillows, and pillow breccia, with minor flows and hyaloclastite. The pillows and pillow breccias are usually very fine to fine grained, and light to medium green gray or purple gray in colour. Quartz and epidote are commonly found interstitial to the pillows. Occasionally fine plagioclase phenocrysts and / or chloritic amygdules can be discerned. Where exposure is good, pillows look to be tops up, and possibly dipping to the east.

In the north-eastern part of the grid, the pillows / pillow breccia are darker gray and often strongly magnetic, though the strength of magnetism varies. This magnetism occurs in similar rocks directly across Sulphurets Creek. Hematite and/or jasper occurs in small stringers (<5 mm) or interstitially with quartz and / or epidote. In places, to the west of the baseline, the mafic volcanics are strongly fractured, with a light to medium gray colour. Further west, along the edge of the grid, various clastic to massive, fine grained, gray, mafic (?) volcanics are found. Where clastic, these rocks usually have a dark gray matrix and convolute texture.

Felsic Volcaniclastics & Associated Sediments

Felsic volcaniclastics and sediments occur east of the base line, mainly between L 63+00 N and L 65+00 N. The area mapped is comprised of felsic breccia, felsic epiclastics, mudstone, mafic volcanics and a mafic intrusive. The coarse clastics include a 'black matrix' felsic breccia, which appears to be a syn-eruptive, resedimented autoclastic, and an epiclastic breccia-conglomerate, containing reworked felsic clasts. The breccia-conglomerate may have been preferentially silicified over the less permeable 'muddy' breccia. The bluish-gray sandstone is likely a finer grained equivalent of the breccia-conglomerate, while the laminated sandstone can be seen, in places, to contain rounded felsic clasts. Black mudstones, locally laminated with siltstone, appear to underlie and interbed with the coarser units.

Tops indicators vary, but are usually to the east. Minor, west verging folds were observed in one mudstone outcrop, with the fold axis paralleling the general strike of bedding and plunging moderately north (approximately paralleled by a good bedding / cleavage intersection lineation at another location). The steeply dipping beds in the south-east corner of the map area appear to be folded such that bedding strikes east west rather than north-south. About 400 m south of the map area, past the east end of L 60+00 N, a well exposed upright antiform has a black mudstone core flanked by a mudstone containing felsic clasts. This fold also plunges gently to the north.

At 62+95 N, 81+00 E, pillows can be seen to be intruding a mudstone matrix supported felsic breccia. Elsewhere, the occasional black mudstone clast can be seen in the breccia-conglomerate, but no mafic clasts. These textural observations, together with the structural relations listed above, suggest that the mudstone underlies and interlayers with the felsic volcaniclastics, which underlay and are intruded by the mafic volcanics. The cross section (see figure #50) paralleling L 64+00 N interprets the outcrop pattern as derived from west verging folds associated with north-west verging thrusts.

Mafic Intrusive

Dark green, fine to medium grained, feldspar phyric intrusives were noted at two locations, 64+20 N, 81+80 E and about 100 m north-north-west of the lower adit..

Alteration and Mineralization

Two kinds of significant alteration and associated mineralization are found in the Cumberland area, both of which occur in the mafic volcanics.

The alteration associated with the high silver. Daly and Upper Daly showings is distinguished by a light, greenish, creamy beige (to gray) colour; apple green spots (<3 mm; fuchsite?); and dark brown-black manganese staining on weathered surfaces. Irregular Quartz +/- carbonate +/- chlorite veinlets are common, in places brecciating the rock. Disseminated pyrite, trace galena, and / or fine wisps of sphalerite, are present.

Layers and lenses, up to 45 cm thick, of semi-massive to massive sulphides occur in several locations on the Daly and Upper Daly Showings. Pods and lenses of coarse grained massive barite and ankerite, or altered rock brecciated by veins of the same, are usually associated with shearing within asymmetrical alteration zones. Irregular blebs and stringers of galena and / or argentite (up to 10 %) with lesser sphalerite or pyrite occur within the barite / ankerite.

The Star showing contains lens(es) of fine grained massive barite and lesser sphalerite, with minor stringers and disseminations of chalcopyrite, galena and pyrite. These occur within an irregular zone of hydrothermal brecciation. This zone is characterized by silica / sericite / chlorite alteration, with the matrix composed mainly of quartz and chlorite. Disseminated pyrite, mainly within the matrix, makes up 7-10 % of the rock, locally 15 -25 %.

In addition to the mineralization above, disseminated pyrite (trace to several %) is common throughout the map area. The mudstones and sandstones mapped east of the baseline often have up to 10% pyrite; disseminated and in veinlets. Gold and silver values, however, were low.

Geochemistry

Soil Geochemistry

Introduction

A total of 65 soil samples were taken from flagged lines between the previously sampled cut lines in the north-west quadrant of the grid. Sample locations are shown on Figure 62. Samples were taken from the B-horizon where possible; sample characteristics are given in Appendix E.

Treatment and presentation of results

Complete assay results are in Appendix E. Element concentration frequency histograms for Ag, As, Cu, Mn, Pb, Zn are shown following this text. Soil sample geochemical anomalies are shown in Figure 61.

Discussion of results

The Element concentration histograms reveal, for most of the elements considered, a background population and a diffuse upper population. Lead appears to be present in two overlapping sub-populations. Anomaly thresholds were chosen by inspection, generally at the first major break in the background population.

Anomaly thresholds:

- Ag - 8.4 ppm
- As - 25 ppm
- Cu - 50 ppm
- Pb - 23 ppm
- Zn - 175 ppm

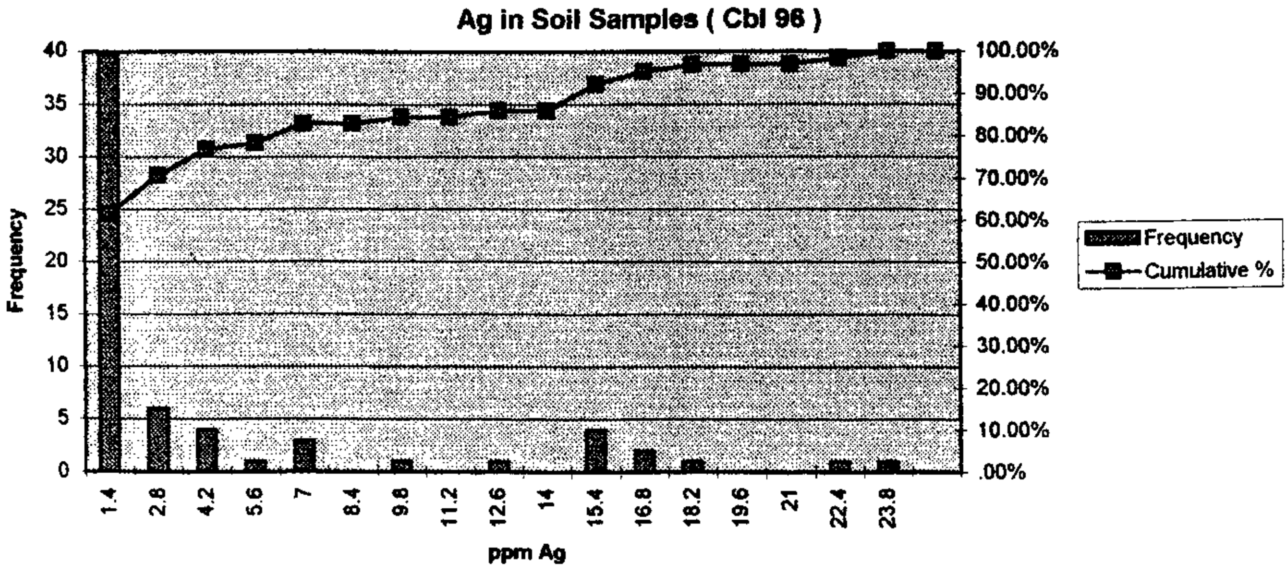
There is a close spatial relationship between elements with respect to anomalous values. In all but one sample in which silver is anomalous, one or more (usually more) of the other elements listed above are anomalous. The upper population of lead analyses appears to define areas in which these multi-element anomalies are likely to occur.

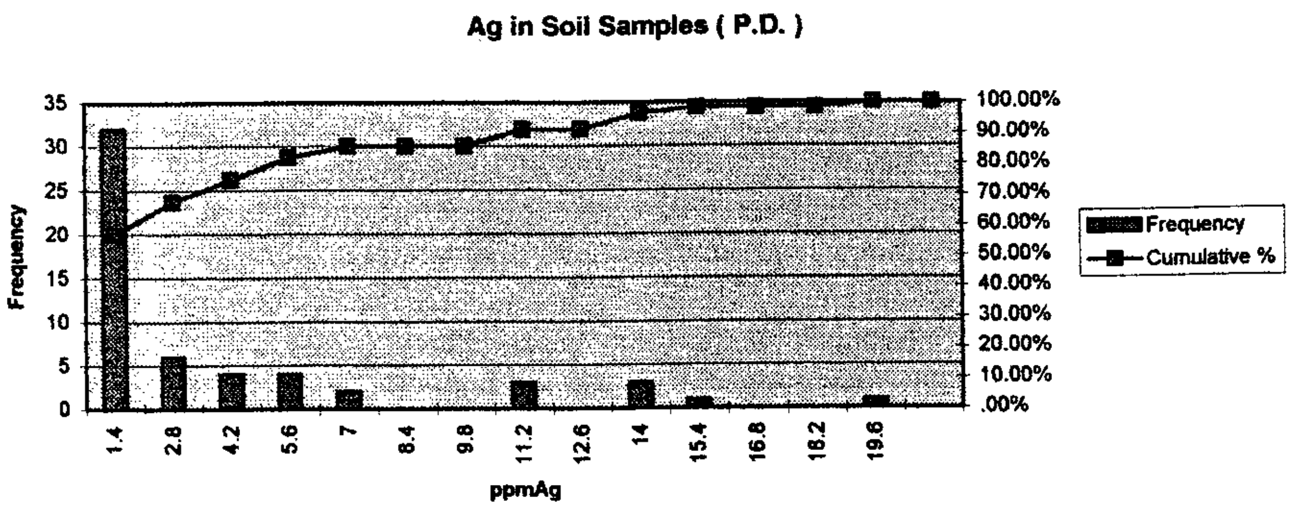
Similar population parameters were found in the 1991 (Placer Dome) data. Only those sample lines adjacent to 1996 sample lines were considered when comparing the two data sets. The threshold values determined for the 1996 samples were also applied to the Placer Dome samples on the soil anomaly map.

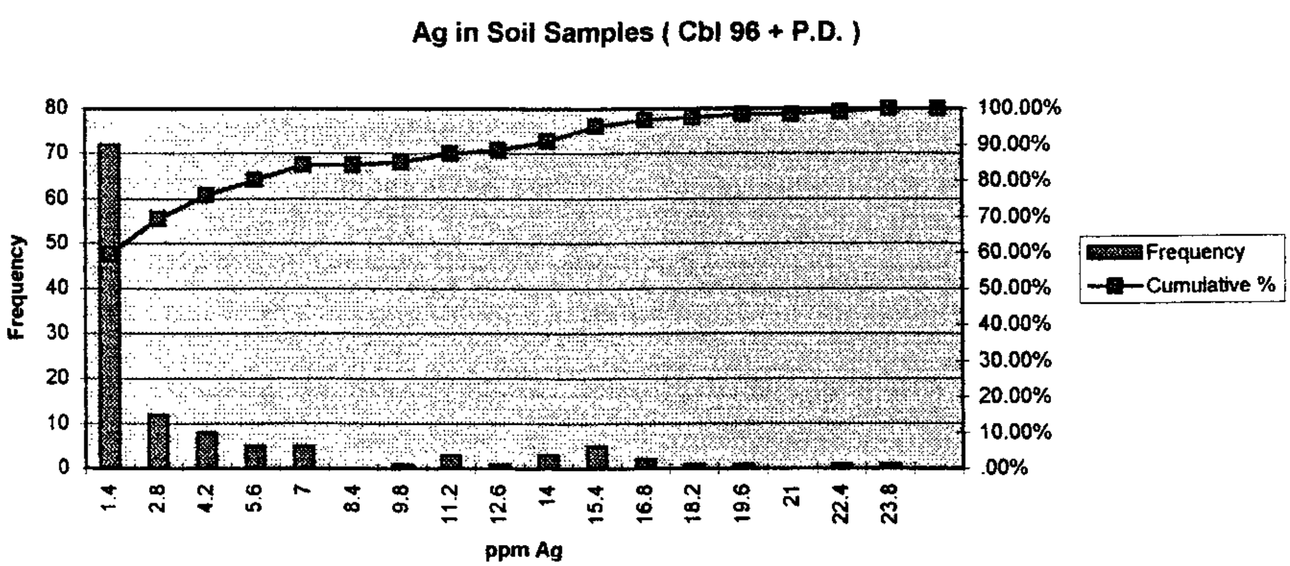
Interpretation of results

Multi-element soil sample anomalies are found downslope from both the Daly and Upper Daly showings, and have a similar geochemical profile (i.e. enriched in Ag, As, Cu, Mn, Pb, Zn) to the rock samples obtained there. It seems likely that similar, unexplained soil anomalies are caused by Daly style alteration and mineralization.

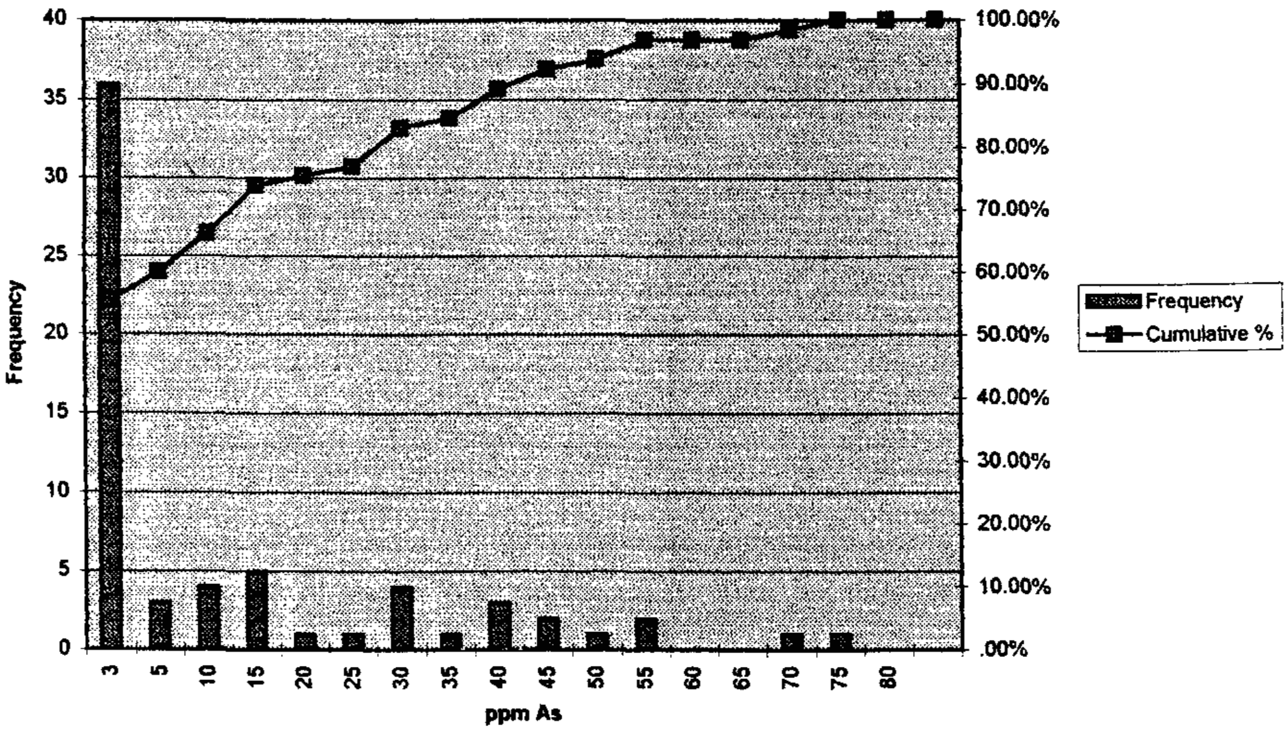
No soil samples taken in 1996 were anomalous in gold. The Placer Dome soil geochemistry shows scattered gold anomalies, weakly associated with the mapped sediments.


Ag in Soil Samples (Cbl 96)
Frequency
ppm Ag
Frequency
Cumulative %
1.4
2.8
4.2
5.6
7
8.4
9.8
11.2
12.6
14
15.4
16.8
18.2
19.6
21
22.4
23.8

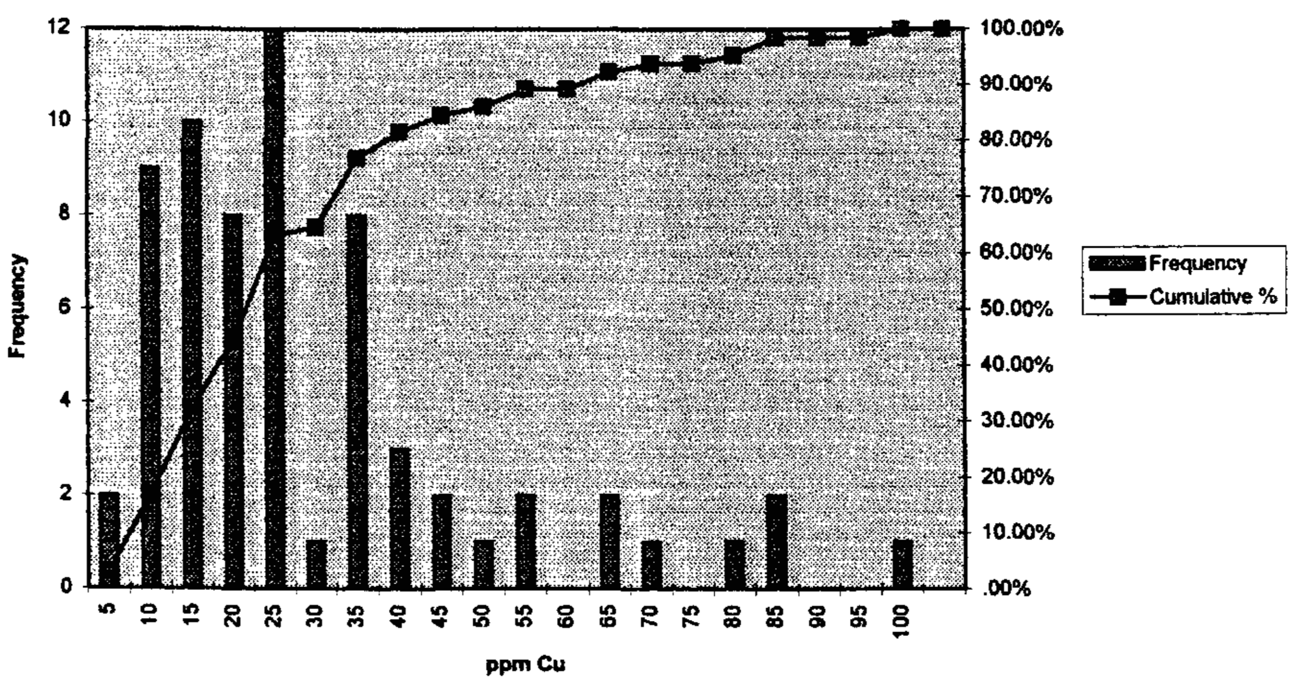

Ag in Soil Samples (P.D.)
Frequency
ppmAg
Frequency
Cumulative %
1.4
2.8
4.2
5.6
7
8.4
9.8
11.2
12.6
14
15.4
16.8
18.2
19.6


Ag in Soil Samples (Cbl 96 + P.D.)
Frequency
ppm Ag
Frequency
Cumulative %
1.4
2.8
4.2
5.6
7
8.4
9.8
11.2
12.6
14
15.4
16.8
18.2
19.6
21
22.4
23.8

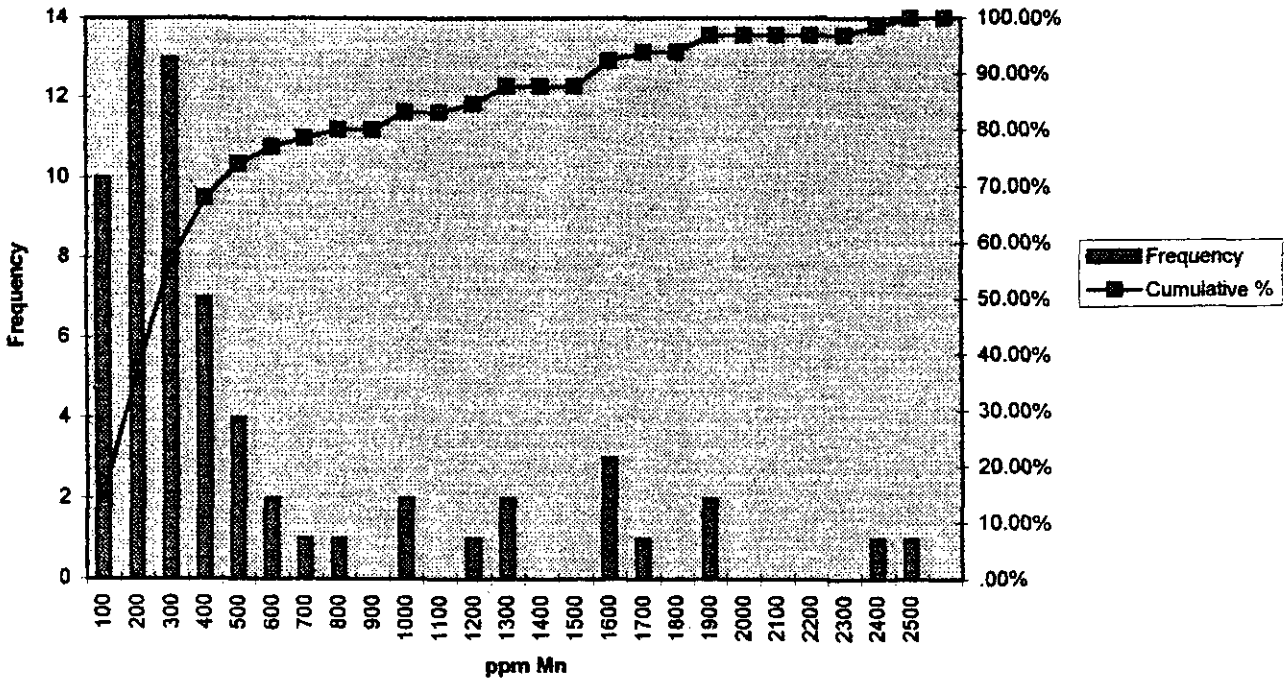
As in Soil Samples



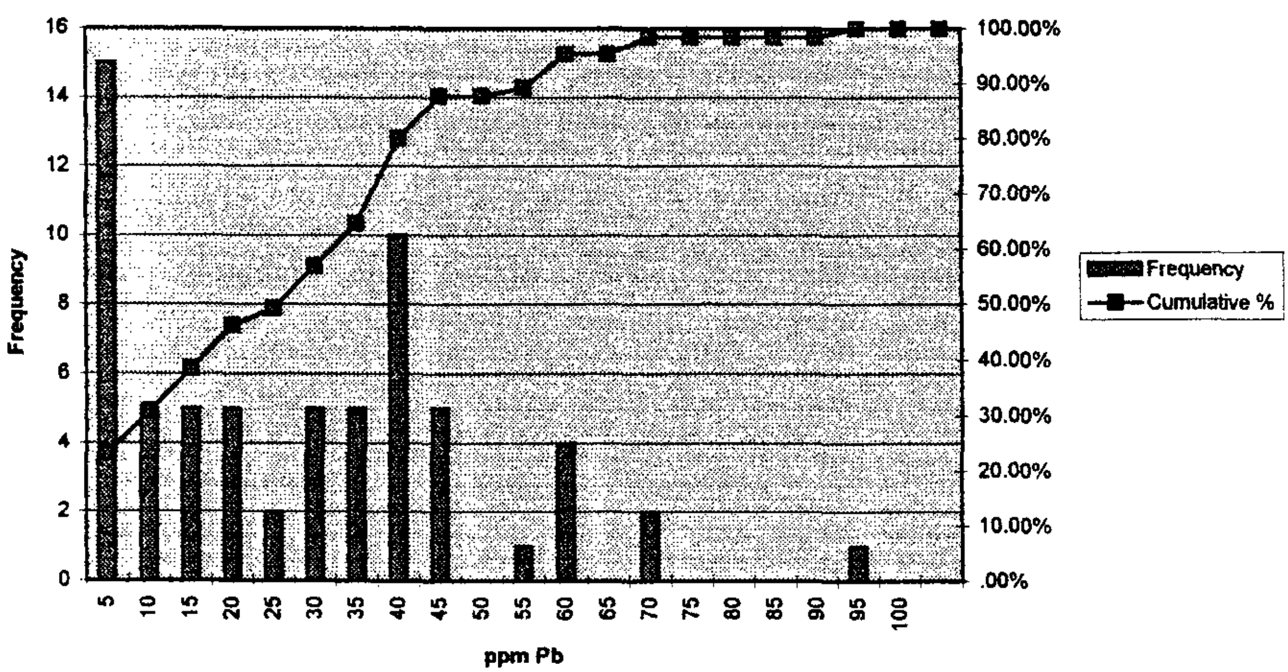
Cu in Soil Samples (Cbl 96)

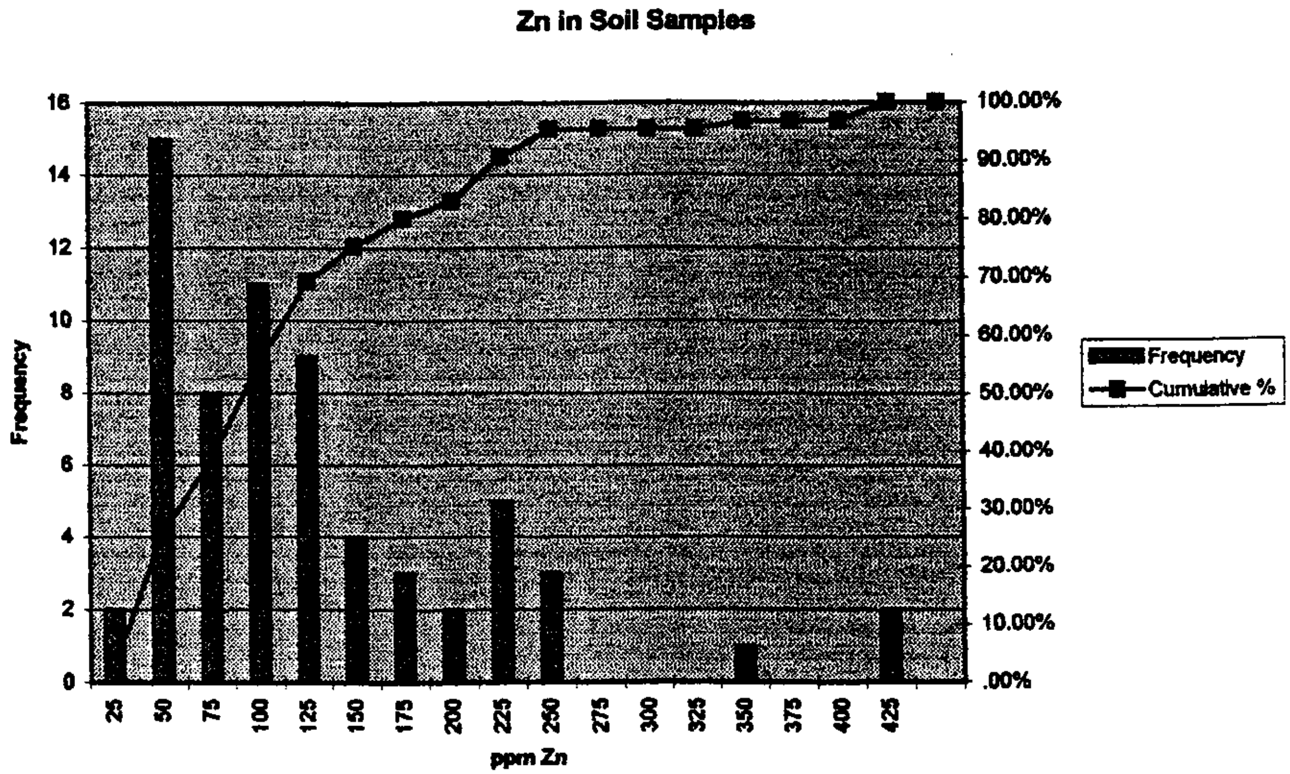


Mn in Soil Samples (Cbl 96)



Pb in Soil Samples (Cbl 96)





Zn in Soil Samples
Frequency
ppm Zn
0
2
4
6
8
10
12
14
16
.00%
10.00%
20.00%
30.00%
40.00%
50.00%
60.00%
70.00%
80.00%
90.00%
100.00%
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
425
Frequency
Cumulative %

Moss Mat Geochemistry

Introduction

A total of 12 moss mat samples were taken from streams in the vicinity of the Cumberland showings. Assay results are given in Appendix E. Sample locations are shown on Figure 50. Sampling procedure is described in Appendix C.

Interpretation of results

Sample #37894 showed a strong multi-element anomaly, including silver. This sample was taken from near the mouth of Devil's Club Creek, which flows over Daly style alteration. Samples #39515 and #39512 were both anomalous in silver, suggesting that there may be more Daly style *mineralization upstream from them.*

Rock Geochemistry

Introduction

73 rock samples were taken in the Cumberland area. Sample descriptions and assay results are given in Appendix E. Sample locations are shown on Figure 50.

A total of 21 chip and 7 grab samples were taken from three trenches: Tr 96-01, 10, 11. Trench locations are shown on Figure 50. Trench diagrams are shown as Figures 59 and 60.

Results

The highest values of silver came from the sulphide lenses found in the Daly and Upper Daly showings, with sample #38021 assaying 193 oz / t over 50 cm (one grab sample, #38024, assayed 355 oz / t). These samples were also high in As, Cu, Mn, Pb, Sb and Zn. Samples taken from the associated alteration zones usually ran several ounces silver, and had elevated values for the same elements as the sulphide lenses (sample #37990 also ran 755 ppb gold).

Massive sulphide mineralization from the Star showing was not sampled during the 1996 program (Bighorn samples assayed as high as 0.422 oz / t Au over a 0.8 m chip, and 0.353 oz / t Au in a 3' core sample). Core samples of the hydrothermal breccia from Cbl 96 - 4 and 5 were elevated in gold (up to 515 ppb), As, Pb and Zn.

Grab sample #38344 from the area of the lower adit was elevated in Au (720 ppb), Ag, Cu, Pb and Zn.

Diamond Drilling

A total of 5 holes totaling 1383.64 metres was drilled on the Cumberland Zone in 1996. A table of the drill hole statistics follows:

Drill Hole	Elev. m.	Northing	Westing	Bearing	Slope °	Total Depth, m.	Hor. Dist. m.
CBL 96-1		60+90N	78+05E	83	-45	179.53	
CBL 96-2		60+90N	78+05E	83	-60	134.11	
CBL 96-3		62+75N	79.10E	120	-45	158.5	
CBL 96-4				250	-45	99.06	
CBL 96-5				245	-45	63.09	
						634.29	

The drill hole locations are plotted on Cumberland Geology Map (Figure 50) A total of 132 drill core samples were assayed. The diamond drill logs with associated analyses are located in Appendix B.

The purpose of the drilling CBL 1, 2, and 3 was to test the extent of the high grade silver mineralization in Devil's Club Creek. Drill holes CBL 4 and 5 were drilled to test the continuity of the main Cumberland zone of mineralization.

Discussion of results

Exposures on the Daly showing consist, for the most part, of what appear to be benches blasted at the turn of the century. These are the four northern altered outcrops shown on Figure 50. The mineralized layers here are thinner than those in the Upper Daly showing, but samples examined from what appear to be old ore caches, suggest that the best exposed material may have been removed. The high Ag samples in the Daly and Upper Daly showings are associated with shears. Drilling was done with the intent of intersecting these shears, on the assumption that they controlled mineralization. Patchy alteration and traces of mineralization were found in DDH CBL 96 - 1, 2 and 3. As on surface, the best values were associated with shears, but the greater magnitude of alteration and mineralization on surface suggests that the alteration zones which were encountered in the drill holes may be structurally controlled offshoots from the main zone.

Drill holes CBL 1,2 and 3 are plotted on detailed geology maps (Figures 52 and 54) and sections (Figures 53 and 55). The drill holes intersected the mineralizing structures, however did not intersect the barite mineralization or the high grade silver mineralization. Drill holes CBL 4 and 5 are plotted on plan map Figure 56 and sections Figures 57 and 58. The drill hole section also shows the results of 1987 drilling of the Cumberland showing. The drill sections demonstrate that the Cumberland adit appears to be near the keel of a massive sulphide deposit. Except for BH 3 drilled in 1987, all other drill holes intersected stockwork mineralization lying below the massive sulphide pod. There remains significant potential to the south and north of the adit at elevations above the adit.

Geophysics

The area of the Cumberland showings was included in an airborne magnetic and radiometric survey. The magnetic signature agreed well with the 1991 Placer Dome grid magnetics, and also indicated that the magnetic mafic volcanics extend north across Sulphurets Creek. The magnetite bearing mafic volcanics lie immediately above the massive sulphide mineralization and stockwork mineralization found at the Cumberland adits. Since the magnetite mineralization only appears to occur in close proximity to the sulphide body, it is believed that the magnetite is an alteration feature and and may provide a guide to more massive sulphide mineralization both north and south of Sulphurets Creek.

Conclusions

Stratigraphy similar to that at Eskay Creek and the presence of two types of exhalative mineralization occurs within a few hundred meters of each other in the Cumberland showings area. The structural complexity of the area makes it difficult to envision a direct connection between the showings and the felsic volcanics, but observations to date suggest that the showings occur stratigraphically above the felsic volcanics and sediments. Further work to clarify the structure and stratigraphy of the area seems justified. The relation (if any) between the Star showing and the magnetism in the mafic volcanics; the nature of the recessive swath paralleling the baseline, which passes both the Star showing and the felsic volcanics; and the structure of the sediments and felsic volcanics further to the south-east are some specific areas of interest.

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Drill holes CBL 1,2 and 3 are plotted on detailed geology maps(Figures 52 and 54) and sections (Figures 53 and 55). The drill holes intersected the mineralizing structures, however did not intersect the barite mineralization or the high grade silver mineralization. Drill holes CBL 4 and 5 are plotted on plan map Figure 56 and sections Figures 57 and 58. The drill hole section also shows the results of 1987 drilling of the Cumberland showing. The drill sections demonstrate that the Cumberland adit appears to be near the keel of a massive sulphide deposit. Except for BH 3 drilled in 1987, all other drill holes intersected stockwork mineralization lying below the massive sulphide pod. There remains significant potential to the south and north of the adit at elevations above the adit.

Geophysics

The area of the Cumberland showings was included in an airborne magnetic and radiometric survey. The magnetic signature agreed well with the 1991 Placer Dome grid magnetics, and also indicated that the magnetic mafic volcanics extend north across Sulphurets Creek. The magnetite bearing mafic volcanics lie immediately above the massive sulphide mineralization and stockwork mineralization found at the Cumberland adits. Since the magnetite mineralization only appears to occur in close proximity to the sulphide body, it is believed that the magnetite is an alteration feature and and may provide a guide to more massive sulphide mineralization both north and south of Sulphurets Creek.

Conclusions

Stratigraphy similar to that at Eskay Creek and the presence of two types of exhalative mineralization occurs within a few hundred meters of each other in the Cumberland showings area. The structural complexity of the area makes it difficult to envision a direct connection between the showings and the felsic volcanics, but observations to date suggest that the showings occur stratigraphically above the felsic volcanics and sediments. Further work to clarify the structure and stratigraphy of the area seems justified. The relation (if any) between the Star showing and the magnetism in the mafic volcanics; the nature of the recessive swath paralleling the baseline, which passes both the Star showing and the felsic volcanics; and the structure of the sediments and felsic volcanics further to the south-east are some specific areas of interest.

Soil sampling and trenching results imply that Daly style alteration and mineralization may occur over a larger area than what is presently known. In all three showings, the mineralization is poorly constrained to the east, which is the most likely direction of dip if the mineralization is stratabound.

Virginia Lake Property

The focus of the Virginia Lake program was to investigate the possibility of Eskay Creek style stratigraphy in the Virginia and Charlotte Lakes area. Mapping and prospecting was concentrated primarily on the Dwayne 1 claim with lessor time spent on the Carl J claim. Geology is plotted on Figure 63.

Due to dense vegetation on slopes, traverses were made down creek valleys which had good outcrop exposures. A number of creeks were mapped and prospected with rock, moss and silt samples being taken. Mapping was performed at 1:10,000 scale in order to remain consistent with the rest of the regional program. A traverse along the plateau which hosts Charlotte Lake and Virginia Lake was also completed.

At Charlotte Lake the eastern cliffs are composed of an extremely siliceous felsic breccia/felsic intrusive? There are subtleties that suggest it to be a silica flooded felsic breccia such as angular felsic? clasts visible to the naked eye. The north end of the lake hosts a unit of grit/greywacke which continues along a lineament to the northeast. Moving to the south along the lake shore a siliceous black matrix breccia (angular felsic? clasts to one centimetre hosted within a black, aphanitic siliceous matrix) was encountered variously interbedded? with fine to coarse grit/greywacke. Occasional thin interbeds of black mudstone are also seen. It is highly probable that these greywackes and grits are more distal variations of the black matrix breccia. These combinations can be noted all the way to Virginia Lake with little differentiation.

A number of traverses from the Unuk River up the main creek (Hemlock Creek) towards the plateau revealed a number of different rock types, or a complicated mixture of a smaller number of rock types. MDRU (Mineral Deposit Research Unit) mapping has placed the stratigraphy in the Hazelton Group, probable Salmon River Formation, with undifferentiated felsic volcanic rocks along the plateau and undifferentiated mafic volcanic rocks and sediments lying downslope closer to the Unuk River. This stratigraphy appears consistent with our mapping. Commonly, black, aphanitic, slaty mudstone (siltstone?) is seen along the edge of the river followed by occasional chert pebble conglomerates (especially to the south in the gridded area and generally as float). Moving inland we encountered intervals (interbeds?) of greywacke and breccias which range from a gray matrix breccia to a black matrix breccia. It is probable that these breccias are variations of the same unit and are more distal/proximal from the source as the case may be. Just below the plateau a section of felsic breccia (white to off-white, angular, siliceous clasts to one to two centimetres within a black, aphanitic, siliceous matrix) was located and fairly successfully traced from Virginia Lake in the south to Charlotte Lake in the north. (This felsic breccia is similar to the felsic breccia located on the Cumberland property.) The felsic breccia is often interbedded? with either a black or gray matrix breccia and is often in varying degrees of hardness, both within the matrix and occasionally within the clasts. Thin interbeds of well bedded, often contorted and/or folded black mudstone can also be found throughout.

Property Structure

The drainage patterns suggest a strong correlation to shearing and faulting in the area, with the north-northwest trending lineaments probably related to the South Unuk/Harymel Creek Fault zone. Creeks tend to strike west-northwest, north-northwest or north-northeast. Foliation tends to be sub-parallel to drainage patterns. Jointing and fracturing is common with creeks tending to follow joints and fractures.

Generally, the rocks appear to be dipping shallowly east (dips from 5 to 15 degrees) on the plateau and moderately to steeply east (dips from 40 to 70 degrees) with progression east toward the river. This shallowing may be suggestive of a fold. If a fold is present, this may allow a correlation to the stratigraphy on the Cumberland property.

Regional Geochemistry

Rock, moss mat, silt and soil samples were analyzed by Eco-Tech Laboratories of Kamloops, B.C. Sample preparation and analytical procedures are found in Appendix C. Samples were analyzed for Au by geochem and for 30 elements using ICP. The lab had a standing order to assay all overlimits (>1,000 ppb Au, >10,000 ppm all other elements). Sample descriptions, location and analytical results are located in Appendix E.

A total of 37 rock samples were taken and analyzed. Sample locations are plotted on Figure 64. Grab samples were taken with the exception of one float sample and one chip sample. No statistics were undertaken due to the small population of samples. Mudstones and breccias were sampled as a matter of routine. Mineralization is scarce. Pyrite is generally seen as a trace mineral if at all. Occasionally, small flecks of an apple green mineral (probable fuchsite) may be noted in the breccias. Quartz and carbonate veins are prominent within mudstone, especially near the Unuk River. The veins are often limonitic and occur generally along bedding planes. Occasional "orange seeps" may be seen which invariably are anomalous in Ag and As. Silica appears to be the overriding alteration mineral. Manganese staining is rare.

Very few rock samples returned values of note. Of interest is sample 38338, which was a well indurated black mudstone, taken from Peggy Creek just downstream of Charlotte Lake. The only mineralization noted was trace pyrite. Analysis returned 10 ppb Au, and anomalous values of 7.6 ppm Ag, 862 ppm Pb and 260 ppm Sb. A follow-up sample, 38415, confirmed these numbers with 10 ppb Au and anomalous values of 12.4 ppm Ag, 1350 ppm Pb and 410 ppm Sb.

A total of 22 moss mat samples and 2 silt samples were taken and analyzed. Sample locations are plotted on Figure 65. A description of the moss mat sampling procedure see Appendix C.

As in the rest of the regional program, moss mats were found to return better overall results compared to silt samples, hence whenever possible were preferentially taken over silt samples.

A few moss mats returned anomalous Au geochem values along with anomalous ICP values. In particular, sample 37891 taken in Cedar Creek returned 375 ppb Au and sample 37892 from Hemlock Creek returned 70 ppb Au and 324 ppm Zn. Five samples taken just below the plateau returned values in excess of 300 ppm Zn, one of which was 670 ppm Zn, but all were disappointing in the other elements.

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TABLE OF EXPENDITURES	
	TOTALS
WAGES	$ 219,107.50
SUPPLIES	$ 56,796.04
ACCOMMODATIONS	$ 20,640.87
DIAMOND DRILLING	$ 280,860.30
HELICOPTER	$ 329,986.23
CONTRACTORS	$ 200,351.28
RENTALS	$ 27,191.00
COMMUNICATIONS	$ 19,423.13
FREIGHT	$ 296.42
ASSAYS	$ 45,306.55
REPORT AND DRAFTING	$ 36,708.30
GRAND TOTAL	**$ 1,236,667.62**

STATEMENT OF QUALIFICATIONS

I, John Kowalchuk of 8551 Rosehill Drive, Richmond,, British Columbia hereby certify:

1. I am a graduate of the Mc Master University (1970) and hold a B.Sc. degree in geology.

2. I am presently employed as a consulting geologist by Kenrich Mining Corporation of #910 - 510 Burrard Street, Vancouver, British Columbia.

3. I have been active as an exploration geologist primarily in Western Canada, for the past 26 years.

4. The information contained in this report was obtained through unpublished reports from personnel on the property, publications listed in the biography and fieldwork.

5. I personally supervised the program carried out by the participating geologists on this property.

6. This report may be used by Kenrich Mining Corp. for any and all corporate purposes.

John Kowalchuk.
Consulting Geologist

Dated at Vancouver, British Columbia, this 14th day of April 1997.

STATEMENT OF QUALIFICATIONS

I, Helgi Sigurgeirson, of 970 Nootka Street, Vancouver, British Columbia hereby certify:

1. I am a graduate of the University of British Columbia (1995) and hold a B.Sc. degree in geology.

2. I am presently employed as a consulting geologist by Kenrich Mining Corporation of #910 - 510 Burrard Street, Vancouver, British Columbia.

3. I have been employed in my profession by various mining companies for the past year.

4. The information contained in this report was obtained through unpublished reports from personnel on the property, publications listed in the biography and fieldwork.

5. I have no interest, direct or indirect, in the property described herein or in the securities of Kenrich Mining Corp.

6. This report may be used by Kenrich Mining Corp. for any and all corporate purposes, including any public financing.

Helgi Sigurgeirson.
Consulting Geologist

Dated at Vancouver, British Columbia, this 10th day of February 1997.

APPENDIX A

KENRICH MINING CORPORATION

COREY PROJECT
STEWART, BC

MULTI-SENSOR HELICOPTER-BORNE
GEOPHYSICAL SURVEY

FINAL REPORT ON
DATA ACQUISITION & PROCESSING

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September, 1996
Terry Crabb
Chief Geophysicist

MULTI-SENSOR HELICOPTER-BORNE GEOPHYSICAL SURVEYS

FINAL REPORT

TABLE OF CONTENTS

ABSTRACT

During the period of time from June 12 to June 23 of 1996, Scintrex carried out a high-resolution helicopter-borne Magnetic, VLF, and Radiometric geophysical survey for Kenrich Mining Corporation, over one block located in the Stewart region of British Columbia, Canada. Because of the 1:10,000 scale of this job, the area was subdivided into three parts (South, Central and North areas) for map generation.

The survey was part of a service contract signed with **Kenrich Mining Corporation,** Vancouver, B.C., covering approximately 110 km^2. A total of 1,148.7 line-km of geophysical data was acquired with about 32.5 helicopter flying hours being required to complete the survey.

Data processing involved the data compilation, gridding and contouring of the geophysical data collected, using the processing center at Scintrex Limited, Toronto.

The processed survey results have been presented as standard 1:10,000 plots of Total Magnetic Intensity, TMI Reduction-to-the-Pole, VLF-EM, Radiometric (7 plots) and a plot of TMI contours, with flight path superimposed on a topographic base. A 1:100,000 montage of different images was also produced.

1. INTRODUCTION

1.1. General Considerations

These services are the result of the Agreement made on **May 30th, 1996** between **Kenrich Mining Corporation** and **Scintrex Limited** to perform a helicopter-borne geophysical survey over exploration concessions the company is exploring in B.C. The survey consisted of 1,148.7 l-km of magnetic, VLF and gamma-ray spectrometric data.

The data acquisition was carried out between June 15 and June 21, 1996. The data processing started when the data was received at Scintrex's office in Toronto and was completed by middle of September 1996.

1.2. Survey Specifications and Deliverable Products

The geophysical service as specified in the contract, was a helicopter-borne multi-parameter magnetic-VLF-gamma-ray spectrometer geophysical survey, with flight lines 100 m apart, sensor flying height varying from 30 to 75 m, GPS differential positioning and 0.1 second sample rate in all but the spectrometer data which was sampled at 1.0 second intervals.

Data compilation and processing were carried out by the application of Geosoft and Scintrex computing programs to generate the colour contour maps and other products. Thirty nine (39) plots of the survey blocks were presented at a scale of 1:10,000 and one (1) at a scale of 1:100,000 (montage).

The survey report describes the procedures for data acquisition, processing, and final map presentation and the specifications for the digital data sets. Detailed discussion and interpretation of the results were not part of this report.

1.3. Relief and Vegetation

The area consists of rugged relief located in the Boundary Ranges (coast mountains) near the intersection of Unuk River and South Unuk River with altitudes varying from 213 to 2,286 m.

Vegetation in this region is reasonably well developed and composed of coniferous forest with trees varying in height from 10 to 15 metres. Some marshes or swamps are also found principally in the north and the central area. There are a number of intermittent and permanent rivers.

2. DATA ACQUISITION

2.1 Survey Area

The survey area (see sketch Appendix I) and general flight specifications are outlined as follows:

AREA	LINE SPACING	LINE DIRECTION	TOTAL LINE KM	AREA
COREY TRAVERSE TIE	100 m 6000 m, 5000 m, and 4000 m	East-West North-South	1,148.7	110 Km^2

The airborne survey comprised a total of 1,148.7 l-km of geophysical data acquired from June 15 to June 21, 1996 by surveying an area of 110 km^2. About 32.5 helicopter flying hours were required to complete the survey block.

The helicopter was based at the Eskay Field Camp, B.C.

2.2 Operations Base

The survey operation base was established at ESKAY FIELD CAMP in Stewart, BC where the crew was housed. Also, during the data acquisition the base station magnetometer was placed at this location, well away from any cultural interference.

2.3 Flight Specifications

The flight line directions and spacings for the block were established by the client, following the principle of crossing the general geological structure with a normal angle. The block was surveyed in a east-west west-east direction. The line spacing was 100 metres. A flight was not accepted if a deviation from the intended flight path is more than one-half of the nominal line spacing over a distance of more than 3.0 km.

The optimum terrain clearance adopted for the helicopter and instrumentation during normal survey flying was 80 m with sensors suspended below (mag at -15m, VLF at -15m,). Actual terrain clearance of the helicopter varied between 45 and 290 m and averaged 90 m because of the rugged topography.

Normal helicopter airspeed averaged around 100 km/h. In areas of rugged terrain and depending on wind intensity, more variations were encountered. Data was recorded using a 0.1 second sample rate resulting in geophysical measurements approximately every 2 to 3 meters along the survey lines. Sampling rates and resolutions for data in each channel are specified in the Table 2.1 below.

TABLE 2.1

SYSTEM/No. of CHANNELS	SAMPLING RATES/SEC.	RESOLUTION
Total Field Magnetics	0.1 sec	0.001 nT
VLF - 2 frequencies (4 channels)	0.1 sec	0.3%
Radiometrics - Up/U and Cosmic Down/(K, U, Th, TC), Cosmic, dead-time (7 channels)	1.0 sec	1 cps
Radar Altimeter (1 channel)	0.1 sec	1.0 feet
Barometric Altimeter (1 channel)	0.1 sec	1.0 feet
GPS Navigation	1.0 sec	1 m

2.4. Helicopter and Survey Instruments

2.4.1. Helicopter

The helicopter employed was an A-STAR AS 350 - B1, registration C - FSPR. It was rented from Northern Mountain Helicopters Inc. of Prince George, B.C..

2.4.2. Airborne Magnetometer

A Scintrex MAC-3 Airborne Cesium Magnetometer was used on the survey. This system utilizes a split-beam, optically-pumped cesium vapor magnetic sensor, which is sampled at 0.1 seconds and which has an in-flight sensitivity of 0.001

nT. The sensor capabilities guaranteed correct sampling of high magnetic gradient zones. The total field intensity range for this instrument is approximately 20,000 to 100,000 nT. The magnetometer sensor was transported and attached to a tow-cable 15 m below the helicopter. The noise rarely exceeded 0.1 nT for this contract.

2.4.3. Gamma Spectrometer

A Scintrex PGAM - 1000 spectrometer, comprising of a GSA - 45 gamma-ray sensor with 1024 cubic inches of four downward looking NaI crystals and 256 cubic inches of one upward looking NaI crystal, was used to measure the radiation related to total count, potassium, uranium and thorium channels at a 1 second sample rate interval. The radiometric crystal package, which was located inside the helicopter, resulted in measurements which were taken at a 60 m terrain clearance. A cesium^{137} source located in the crystal package was used to calibrate the gamma-ray spectrum and daily checks were carried out using calibration sources against background to ensure constant base levels.

2.4.4 VLF System

A Herz VLF system, Totem 2A model, was used to measure the total field and vertical quadrature components of both of the two VLF stations, operating in the range of 15 kHz - 30 kHz. VLF channels were also sampled at a 0.1 second interval. The sensor was transported in the same auxiliary bird used for the magnetic sensor.

The transmitters used were chosen to be aligned with the main structural trends of the area geology. Those were as follows:

NSS, Annapolis, MD, USA (ortho)	21.4 kHz
NAA, Cutler, Maine, USA (ortho)	24.0 kHz
GBR, Rugby, England (line)	16.0 kHz

2.4.5. GPS Positioning System

A Scintrex Differential GPS system comprising; a PNAV-486 navigation computer and NovaTel 951 R GPS Card 10-channel receiver was employed to provide positioning and navigation control. The system determines the absolute position of the helicopter in three dimensions, resulting in a position sampling accuracy of about 5 m. As many as 7 to 10 satellites are monitored during all flight periods in order to provide continuous and actualized information to the pilot. This data is combined with base station GPS data in a post-flight correction procedure. The GPS positioning data were recorded at 1.0 second intervals. There were problems caused by the loss of the signal from satellites at various times of the day.

2.4.6. Data Acquisition/Recording System

A Scintrex PDAS-1000 data acquisition system was used to record and monitor the geophysical data. Data were also simultaneously recorded on hard disk and then ported to a laptop hard drive and dumped to the field computers for post-flight computer processing.

2.4.7. Ancillary Equipment

A Scintrex VFPR-3 Video Flight Path Recorder System, comprising a Panasonic colour video camera and a SONY VCR operating in 8 mm format was used to record the flight path of the helicopter. Time and fiducial information was superimposed on the video recording along with the uncorrected GPS position.

A King KRA-10A radio altimeter system was used to record the terrain clearance with an accuracy of about 1 m.

A Rosemount 1241M, barometric altimeter was employed to measure the aircraft elevation above sea level.

The altimeters were interfaced to the data acquisition system with an output repetition rate of 0.1 second. Recording was carried out in digital format.

2.5 Ground Equipment

2.5.1. Magnetometer and GPS Base Station

A Scintrex CS-2 cesium magnetometer, with digital recording, was operated continuously throughout the airborne data acquisition phase. The instrument was set up with a sampling interval of 1.0 second and sensitivity of 0.01 nT, to monitor the diurnal variation and periodic magnetic storms. At the end of the day's survey, the data stored in the magnetometer was transferred to the field workstation but not used in the data reduction.

A ground base station GPS unit was also installed at the operations base to monitor GPS satellite correction data. The records from the base station GPS were used with the aircraft files to determine the differential correction (DGPS) of the flight path.

2.5.2. Field Computer Work Station

A dedicated PC-based field computer workstation was used for purposes of reproducing the geophysical data for quality control, plotting a corrected flight path for navigation control and for copying and verifying the digital data. The data were then sent to Scintrex's Toronto office for final processing.

2.6 Data Acquisition Procedures

Data is collected in a binary format with a header file in ASCII and one binary file per line. As well, a binary file of the remote positioning information accumulates while the aircraft is surveying.

The survey area in Corey project, Stewart, BC was initially planned using the GPS Navtrain simulation program. For this block the coordinates as well as line spacing, direction, etc, were input in the program to compile the survey parameters and to generate the total line kilometers and the survey control files. These files were used by the operator for real time navigation purposes.

Daily routine involved a series of calibrations and set up procedures for the geophysical system:

a) The spectrometer was calibrated on the ground by using radioactive standards.

b) The VLF system was tuned to three of the VLF transmitters located in the United States, according to the survey area location and flight direction. From June 12 to June 18, NSS and GBR were used, and after June 18 to end of this survey, NAA and GBR were used.

c) The magnetometer sensor performance was evaluated by the noise level displayed by the OASIS software as 4th difference and raw magnetics profiles.

The field office routine comprised the compilation and data quality control, as follows:

a) Reproducing of data in a multi-channel profile including: magnetic field at two scales; flying height; total count, uranium, thorium, potassium and the channels of VLF total field and vertical quadrature components;

b) For magnetic data, the noise envelope was qualitatively reviewed by using the 4th difference record. Spikes due to cultural effects or sensor orientation were carefully monitored.

Radiometrics and VLF were basically checked for data recording spikes and general noise levels, using test line data to check level shifts from flight to flight

c) Analysis of GPS flight path plot files. Data acceptance was conditional on having the line navigation deviation less than 50 % of the nominal spacing by comparing the initial plot of the flight path with the planned flight path;

d) Video tape flight path checking to confirm cultural sources affecting data and anomaly locations;

e) Plotting the base station magnetometer data files in order to reproduce the diurnal variation profile. For acceptance of magnetic data, the diurnal variations had to be less than 5 nT for a 5 minute period;

After the pre-processing, the data were organized in the Geosoft format data files. These files, including the geophysical and positioning information, were transferred to the laptop computer for office processing purposes.

2.7 Field Personnel

The survey crew consisted of the following personnel:

Dave Hayward	Project Manager
Damir Jamakosmanovic	Systems Operator
Marc Caron	Dataman

The pilot and flight engineer were supplied by the Helicopter company (Northern Mountain Helicopters Inc.)

General project management was under the responsibility of Terry Crabb, Chief Geophysicist, Systems and Surveys Division, Scintrex Limited.

3. DATA PROCESSING

3.1 Considerations

Data processing involved applying the Scintrex Computer Mapping and Processing routines to the data. The data center at Scintrex is configured in a PC environment with workstations based on Pentium 90 series computers, with high capacity hard disks and E-size Hewlett-Packard Inkjet plotters.

Basically the processing consisted of four different steps, as follows:

a. Post-flight processing to generate a flight path derived from the GPS locations.
b. Generation of the Oasis database merging the position relative to the data.
c. Geophysical data reduction in Oasis by application of correction procedures.
d. Processing of the data and preparation of plot files by standard methods.

During post flight processing, the GPS corrected positions are reduced and the survey data is imported into an OASIS binary database. The OASIS system is used for all merging, corrections, editing functions and preconditioning. Once this segment of the work is completed, specific X,Y,Z files are exported from the binary database ready for processing with GEOSOFT software. This system permitted on-site monitoring of data quality during survey, and allows immediate preliminary map production and follow-up of exploration anomalies and mapping targets.

Different procedures were followed in order to process the data for map generation. According to the data character (i.e. magnetic, radiometric or VLF), different correction procedures were applied and were standardized for all work in Stewart as outlined in the following section.

3.2. Data Compilation

3.2.1 Flight Path Generation

After importing each survey flight into the database, the corrected GPS positions were merged for each successive flight. At this point, an X,Y,Z file containing an Easting and Northing, together with a fiducial could be created in order to test the flight path.

3.2.2. Magnetic Data

No base station variation removal was carried out on the surveyed magnetic field because magnetic diurnal variation was minor at all times. The airborne total field data was leveled by the use of tie lines exclusively throughout the survey work.

Data quality check was accomplished by computing the fourth difference and plotting the unlevelled data with the difference function. This technique permitted tracking the performance and deterioration of the magnetometer sensor as well as the noise levels which were superimposed on the data during survey activities. The bad data was removed in a special column of the data base after copying the original data to a new channel, thus preserving the raw magnetic values. The manual editing consisted of occasional elimination of dropout spikes which were up to 1.5 seconds wide and were caused by the magnetometer losing orientation while climbing up steep mountain faces.

The levelling was carried out by adjusting the intersection points on the traverse lines such that the differences were minimized with the control lines. First a leveling intersection network is established and intersections are weighted according to their magnetic differences. For example an intersection on a sharp magnetic high having a high gradient may be weighted much lower than the average point or simply may be eliminated from the network.

OASIS permitted visual examination of the intersections for each tie-line if manual editing was required. As well, the leveled line could be visually compared to the unleveled line at any time during the leveling process. The leveled data was then exported to an X,Y,Z file and a preliminary map was generated and inspected.

The data were gridded by linear interpolation between the survey line and then prepared for contouring by applying a hanning filter to the gridded values.

The IGRF field was not removed from the levelled total field because of large regional variations in the measured total field over relatively short distances. An FFT-based, two- dimensional operation was used to generate the Reduction-to-the-Pole version (RTP) of the total magnetic field map.

3.2.3. VLF Data

The processing applied to VLF data involved first correcting for a 2.0 second lag (caused by the internal acquisition of the instrument). Then the field strengths from the two stations were summed. A regional field was calculated from the summed values and then subtracted from the summed values such that the resultant residual contained anomalous wavelengths shorter or equal to one thousand meters.

This filtering removes responses caused by long wavelength changes in signal strength and sharpens the short wavelength responses and produces a multi-directional image. However, all VLF maps can be very affected by terrain, resulting in anomalies displaying a high correlation with ridges that are parallel to the transmitter direction and that are moderately conductive.

3.2.4. Radiometric Data

Radiometric processing involved a five step procedure established by OASIS - Airborne Radiometric Processing System. The raw uncorrected data are included in four channels within the database.

The first stage of processing involved configuring the four channels for processing.

The second stage was to correct the radiometric window data for spectrometer dead time using an instrument dead time of 10 microseconds/pulse.

Stage three involved removing background radiation calculating the cosmic and aircraft background correction for each window at each data point and subtracting them from the data.

Stage four involved correcting for spectral stripping, removing the effects of height attenuation and calculating radioelement concentrations. A lowpass filter with a cutoff of 3.0 seconds was applying to smooth any remaining noise in corrected data.

The data was then exported in X,Y,Z format for gridding.

Finally (step five), the standard K/Th, K/U ratios were calculated. They are presented as computer generated data profiles.

3.3. Map Generation

3.3.1. General Characteristics

A standard grid cell size of 25 m was used. Computer generated contour maps of total field magnetics, radiometrics and VLF were typically created from their respective grids. Colour maps were produced by interpolating the grid to an appropriate pixel size. This data is then incremented with respect to specific amplitude ranges to provide solid colour "contour" maps. Black-line contours were also superimposed on the colour maps using GEOSOFT merging routines.

The UTM coordinate net was superimposed on the maps as well as the flight path. A colour pallet located at the right side of the map shows the different levels of intensity relative to the colour being mapped. A specific legend was created according to the client requirements. General information about the instruments and survey parameters, index map and technical specifications for each product were added to the map surround.

TMI contour maps with topographic information showing the flight path lines and fiducials were generated.

The characteristics that have been produced and presented for these surveys are described below:

3.3.2. Magnetic Maps

Two different magnetic map sets were produced: **Total Magnetic Intensity and the TMI Reduced to the Pole.** The total magnetic intensity data was contoured by using 5, 50 and 200 nT intervals.

3.3.3. VLF - EM Maps

The VLF data were presented in a colour version and titled the **VLF Total Field Map**. It was generated by processing of the total field measured by Line and Ortho stations. The VLF contouring information is presented in percent (%) of the primary field strength.

3.3.4. Radiometric Maps

The Radiometric Maps of **Potassium, Thorium, Uranium** and **Total Count** colour contour maps reflect the radiation intensity for the respective channels in parts per million (ppm) for Th and U, in percent (%) for K and μr/h for Total Count. A **Ternary Map** was generated to enhance the predominance of each radioactive element. The following colour distribution was used :

- Potassium (K) : Red
- Thorium (Th) : Yellow
- Uranium (U) : Blue

The Radioelement Ratio K/Th and K/U were presented in a colour contour maps version and tittled **Radioelement Ratio Map K/Th and Radioelement Ratio Map K/U**.

3.3.5. Base Map

A topographic base map was prepared for the survey area at scale 1:10,000. The flight path and Total Magnetic Intensity black line contour maps were superimposed on base maps.

3.3.6. Montage of Airborne Geophysical Maps.

A montage of eight (8) geophysical maps (Total Magnetic Intensity, Potassium, Uranium, Thorium, Total Count, Ratio K/Th, Ratio K/U and Flight Path with TMI blackline contour maps) were combined at a 1:100,000 scale on one plot in order to give a comparative view of the results for the complete area.

3.4. Digital Archives

One copy of each Line and Tie-line (ASCII format) is provided on CD ROM according to the following table:

FILE	COLUMN	DESCRIPTION
KBC1.xyz (Mag & VLF data plus Barometric & Radar Altimeter data.)	1	X coordinate
	2	Y coordinate
	3	Fiducial
	4	Barometric Altimeter data (in metres)
	5	Radar Altimeter data (in metres)
	6	Raw compensated magnetic data
	7	Raw diurnal magnetic data
	8	Levelled magnetic data
	9	VLF - Total Field Line station data
	10	VLF - Total Field Orthogonal station data
	11	VLF - Quadrature Line station data
	12	VLF - Quadrature Orthogonal station data
KBC2 .xyz (Radiometric data)	1	X coordinate
	2	Y coordinate
	3	Fiducial
	4	Raw Potassium data
	5	Raw Uranium data
	6	Raw Thorium data
	7	Raw Total Count data
	8	Levelled and corrected Potassium data
	9	Levelled and corrected Uranium data
	10	Levelled and corrected Thorium data
	11	Levelled and corrected Total Count data
	12	K/Th ratio
	13	K/U ratio

3.5. Data Processing Personnel

Scintrex operations at the Data Center in Toronto was carried out by geophysicist César Pérez-Castañeda.

4. DELIVERED PRODUCTS

4.1. Survey Report

The survey report describes the data acquisition, processing, and final presentation of the survey results.

4.2. Maps

The following maps were presented to Kenrich Mining Corporation as results of the multi-sensor helicopter-borne geophysical survey carried out over concessions the company possesses in British Columbia:

4.2.1. Colour and Contour Maps

Total Magnetic Intensity
Reduced to the Pole Total Magnetic Intensity
VLF - EM Total Field
Radiometric Potassium Channel
Radiometric Uranium Channel
Radiometric Thorium Channel
Radiometric Total Count Channel
Radioelement Ratio map (K/Th)
Radioelement Ratio map (K/U)
Gamma-ray Ternary Map
Montage of Airborne Geophysical Map

4.3. Digital Archives.

One copy of the digital data was supplied to Kenrich Mining Corporation on CD ROM.

4.4. Flight Path Videos and Analog Records

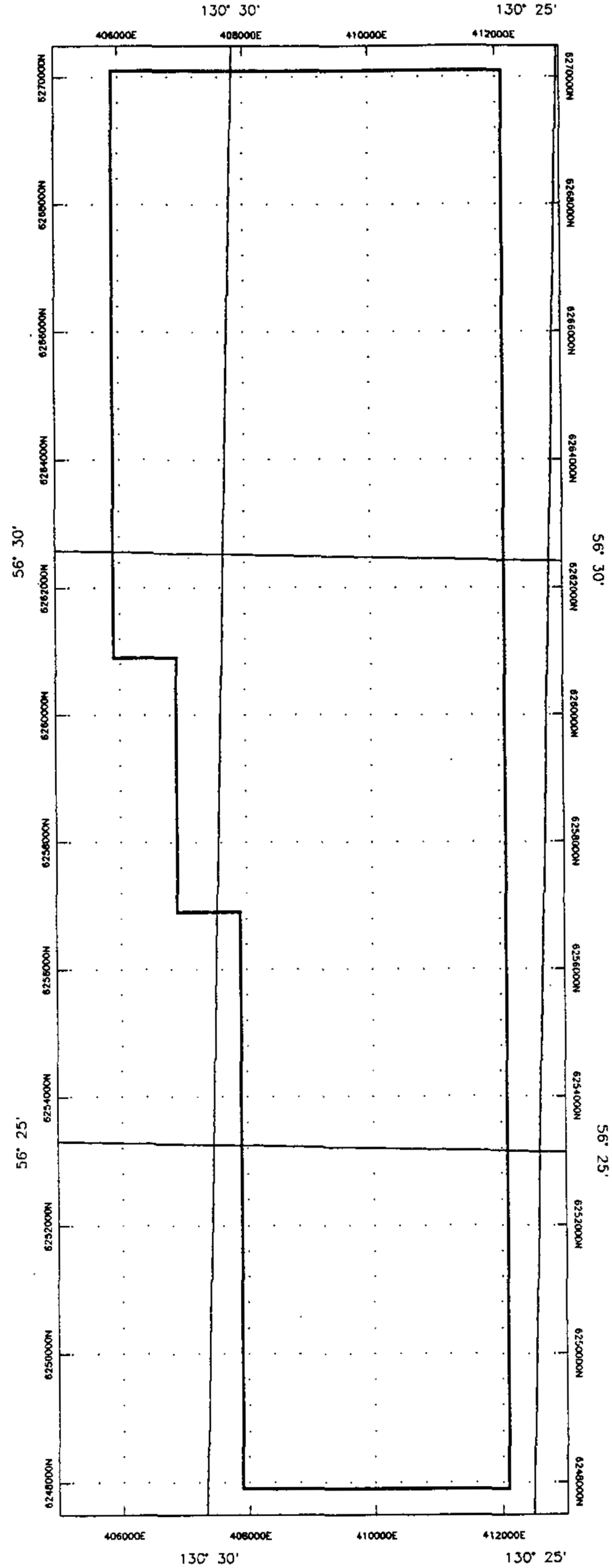
All original video tapes available for each survey flight were delivered to Kenrich Mining Corporation. Video tapes with flight path contain part or all of one complete flight. Post flight analogue records were also delivered.

SCINTREX LIMITED

Terry Crabb
Chief Geophysicist
Airborne Systems & Surveys Division
September, 1996

APPENDIX A

SURVEY AREA LOCATION



Kenrich Mining Corporation

Corey Project

Stewart, British Columbia

Scale 1:100000

1000 0 1000 2000

(metres)

APPENDIX B

FLIGHT LOGS

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1		
FLT #: 1	DATE: JUNE 15/96	OPERATOR: DAMIR J.			
PILOT: MIKE H.	O.A.T.: 10 C /	A/C REG: ASTAR B C-FSPR			
BASE: ESKAY	QNH: /	FUEL: 50%			
TAKE OFF: 13:40	LAND: 15:00	FLT TIME: 1:20			
HEIGHT: 250	VLF LINE: RUGBY	VLF ORTHO: ANNAPOL			
EM FREQ: F1	F2	F3	F4	F5	VIDEO TAPE #

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES	FLIGHT DATA FILES	SPECTROMETER R.O.I.'S
TEXT: S6061519.T37	TEXT: S6061520.T47	TOTAL COUNT
DUP:	DUP:	POTASSIUM
RAW GPS:	RAW GPS:	URANIUM
		THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
						19B41			Cs=1-290 ; TH=350-500 CR=550 →
14E	1								
									5.000 =300 6.000 = 390-700
15	1					21B01			7.000 = 770-1090 8.000 =1145-1445
									9.000 =1510-1810 10.000=1800-2200
									OVER WATER TEST

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1		
FLT #: 2	DATE: JUNE 15/96	OPERATOR: DAMIR J.			
PILOT: MIKE H.	O.A.T.: 9 C /	A/C REG: ASTAR B C-FSPR			
BASE: ESKAY	QNH: /	FUEL: 70%			
TAKE OFF: 20:55	LAND: 22:15	FLT TIME: 1:20			
HEIGHT: 250	VLF LINE: RUGBY	VLF ORTHO: ANNAPOL			
EM FREQ: F1	F2	F3	F4	F5	VIDEO TAPE #: 1

TEST LINE CODES:

- EM GND PHASE: XXX1
- EM GMD Q COIL: XXX2
- EM NULL/Q AIR: XXX3
- GND SPEC BG,UR TH: XXX4
- SPEC BG H2o/AIR: XXX5
- SPEC TEST LINE: XXX6
- RADAR ALT CAL: XXX7
- TO BE ANNOUNCED: XXX8
- TO BE ANNOUNCED: XXX9

XXX=FLIGHT NUMBER

GND TEST FILES		FLIGHT DATA FILES		
TEXT:		TEXT:	S606Ø604.T22	S6061604.T28
DUP:		DUP:		
RAW GPS:		RAW GPS:		

SPECTROMETER R.O.I.'S		
TOTAL COUNT		
POTASSIUM		
URANIUM		
THORIUM		

LINE #	START	TIME		BOUNDARIES		FILE	ACCEPTED INTERVAL		COMMENTS
	FID	START	END	START	END	NAME	FID	BOUNDRY	
026	1					04B40			200FT = 1-74 280FT = 115-215; 360FT = 270-350
									440FT = 400-500 520FT = 545-625
									600FT = 680-770 680FT = 850-920 IN FLIGHT TEST
									OVER GROUND
									200FT = 1210-1290 280FT = 1320-1380
									360FT = 1400-1460 440FT = 1480-1540
									520FT = 1550-1610 600FT = 1625-1685
									680FT = 1710-1770
									ON HOLD TEST OVER GROUND.

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1
FLT #: 3	DATE: JUNE 17/96	OPERATOR: DAMIR J.	
PILOT: MIKE H.	O.A.T.: 8 C /	A/C REG: ASTAR B C-FSPR	
BASE: ESKAY	QNH: /	FUEL: 50%	
TAKE OFF: 8:20	LAND: 9:45	FLT TIME: 1:25	
HEIGHT: 250	VLF LINE: RUGBY	VLF ORTHO: ANNAPOL	
EM FREQ: F1 F2	F3 F4	F5	VIDEO TAPE # 2

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES	FLIGHT DATA FILES	SPECTROMETER R.O.I.'S
TEXT: SE061714.T39	TEXT: SE061715.T22	TOTAL COUNT
DUP:	DUP:	POTASSIUM
RAW GPS:	RAW GPS:	URANIUM
		THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
034	1					15B03			Cs = 1-140 ; TH = 175-300 ; Ur = 335-460
037	1					15B26			150FT = 1-85 200 FT = 120-165
									250 FT = 195-250
036E	285					15B33			TEST LINE
100E	367	XXXXXX				—	XXXXXXX		MISSED AND FOG
500E	448					15B47			J's JOOPS - CANCELLED ; FOG
600W	603					16B00			
610E	805					16B05			
620W	1050					16B10			
630E	1226					16B14			
640W	1461					16B18			
650E	1683					16B22			
660W	1953					16B28			
						~~16B33~~			
36W	2180					16B33			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1
FLT #: 4	DATE: JUNE 17/96	OPERATOR: DAMIR J.	
PILOT: MIKE H.	O.A.T.: 10 C /	A/C REG: ASTAR B C-FSPR	
BASE: ESKAY	QNH: /	FUEL: 50%	
TAKE OFF: 9:55	LAND: 12:15	FLT TIME: 2:20	
HEIGHT: 250	VLF LINE: RUGBY	VLF ORTHO: ANNAPOL	
EM FREQ: F1 F2	F3 F4 F5	VIDEO TAPE #: 2	

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES

TEXT:
DUP:
RAW GPS:

FLIGHT DATA FILES

TEXT: S6061716.T58
DUP:
RAW GPS:

SPECTROMETER R.O.I.'S

TOTAL COUNT
POTASSIUM
URANIUM
THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
						17B02			TEST LINE
46	1					17B07			
670 E	97					17B13			
680 W	428					17B17			
690 E	657					17B23			
700 W	889					17B28			
710 E	1242					17B34			
720 W	1549					17B39			
730 E	1806					17B45			
740 W	2132					17B50			
750 E	2400					17B57			
760 W	2797					17B02			
770 E	3095					18B09			SHORT
780 W	3474					18B15			SHORT
790 E	3757					18B21			SHORT
800 W	4148					18B27			— CANCELLED (FOR REFLIGHT)
810 E	4433					18B35			
820 W	4826					18B40			GPS JUMPS
830 E	5123					18B47			
840 W	5455					18B52			
850 E	5722					18B58			
860 W	6018								
46	6279					19B03			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1		
FLT #: 5	DATE: JUNE 17/96		OPERATOR: DAMIR J.		
PILOT: MIKE H.	O.A.T.: 12 C /		A/C REG: ASTAR B C-FSPR		
BASE: ESKAY	QNH: /		FUEL: 50%		
TAKE OFF: 12:50	LAND: 15:05		FLT TIME: 2:15		
HEIGHT: 250	VLF LINE: RUGBY		VLF ORTHO: ANNAPOL		
EM FREQ: F1	F2	F3	F4	F5	VIDEO TAPE # 3

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES	FLIGHT DATA FILES		SPECTROMETER R.O.I.'S		
TEXT:	TEXT: S0061719.T53	S0061721 T41	TOTAL COUNT		
DUP:	DUP:		POTASSIUM		
RAW GPS:	RAW GPS:		URANIUM		
			THORIUM		

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
056 E	1					19 B 58			
100 E	116					20 B 07			
110 W	462					20 B 13			
120 E	716					20 B 18			
130 W	1038					20 B 24			
140 E	1289					20 B 28			
150 W	1643					20 B 35			
160 E	1924					20 B 41			BASE STATION OUT AND
170 W	2221					20 B 46			SPC OUT – CANCELED
180 E	2487					20 B 51			
190 W	2789					20 B 57			
200 E	3064					21 B 02			
210 W	3369					21 B 07			
220 E	3626					21 B 12			
230 W	3912					21 B 17			
240 E	4164					21 B 22			
250 W	4449					21 B 27			
260 E	4708					21 B 32			
270 W	4955	xxxxxxx				21 B 36	xxxxxxx		SPEC. OUT
270 E	1					21 B 42			BASE OUT
280 W	289					21 B 48			
56	538					21 B 55			

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1

FLT #: 6
PILOT: MIKE H.
BASE: ESKAY
TAKE OFF: 15:45
HEIGHT: 250
EM FREQ: F1 ___ F2 ___ F3 ___ F4 ___ F5 ___

DATE: JUNE 17/96
O.A.T.: 12 C /
QNH: /
LAND: 17:45
VLF LINE: RUGBY

OPERATOR: DAMIR J.
A/C REG: ASTAR B C-FSPR
FUEL: 50%
FLT TIME: 2:00
VLF ORTHO: ANNAPOL
VIDEO TAPE #: 3

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES
TEXT:
DUP:
RAW GPS:

FLIGHT DATA FILES
TEXT: S6061722 T46 S6061723 T32 S6061723 T52 S6061800 T28 S6061800 T39
DUP:
RAW GPS:

SPECTROMETER R.O.I.'S
TOTAL COUNT
POTASSIUM
URANIUM
THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
66	1					22 B 51			TEST LINE
290 E	85					22 B 57			
300 W	413					23 B 03			
310 E	681					23 B 08			
320 W	1049					23 B 14			
330 E	1338					23 B 19			
340 W	1671	XXXXX				23 B 26	XXXXX		SPEC. OUT
350 E	1					23 B 33			
360 W	292					23 B 38			
370 E	527					23 B 42			
380 W	773	XXXXX				23 B 48	XXXXXX		SPEC. OUT
380 E	1					23 B 54			
390 W	244					23 B 58			
400 E	480					00 B 02			
410 W	735					00 B 08			
420 E	1003					00 B 12			
430 W	1231					00 B 16			
440 E	1440					00 B 20			
450 W	1665	XXXXX				00 B 24	XXXXXX		SPEC. OUT
450 E	1					00 B 29			
460 W	221	XXXXX				00 B 33	XXXXXX		SPEC OUT
66	1					00 B 40			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1		
FLT #: 7	DATE: JUNE 17/96	OPERATOR: DAMIR J.			
PILOT: MIKE H.	O.A.T.: 10 C /	A/C REG: ASTAR B C-FSPR			
BASE: ESKAY	QNH: /	FUEL: 50%			
TAKE OFF: 19:30	LAND: 21:35	FLT TIME: 2:05			
HEIGHT: 250	VLF LINE: RUGBY	VLF ORTHO: ANNAPOL			
EM FREQ: F1	F2	F3	F4	F5	VIDEO TAPE #: 4

TEST LINE CODES:

- EM GND PHASE: XXX1
- EM GMD Q COIL: XXX2
- EM NULL/Q AIR: XXX3
- GND SPEC BG,UR TH: XXX4
- SPEC BG H2o/AIR: XXX5
- SPEC TEST LINE: XXX6
- RADAR ALT CAL: XXX7
- TO BE ANNOUNCED: XXX8
- TO BE ANNOUNCED: XXX9

XXX=FLIGHT NUMBER

GND TEST FILES

TEXT:
DUP:
RAW GPS:

FLIGHT DATA FILES

TEXT: S6061802.T41 S6061803.T33
DUP:
RAW GPS:

SPECTROMETER R.O.I.'S

TOTAL COUNT
POTASSIUM
URANIUM
THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
76.E	1					02B43			TEST LINE
460 E	86					02B47			
470 W	396					02B53			
480 E	625					02B57			
490 W	907					03B02			
500 E	1179					03B07			
510 W	1477					03B12			
520 E	1773					03B17			
530 W	2058					03B22			
540 E	2330					03B27			COMP. OUT - CANCELLED
550 E	1					03B34			
560 W	245					03B38			
570 E	453					03B42			
580 W	735					03B47			
590 E	977					03B52			
880 W	1288					03B59			
890 E	1608					04B04			
900 W	1865					04B09			
910 E	2154					04B14			CANCELLED
920 W	2413					04B19			
076E	2687					04B25			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT:	KENRICH MINING CORP.	BLOCK#: 1	JOB: 6129	PAGE 1 OF 1			
FLT #	8	DATE:	JUNE 18/96	OPERATOR:	DAMIR J.		
PILOT:	MIKE H.	O.A.T.:	10 C /	A/C REG:	ASTAR B C-FSPR		
BASE:	ESKAY	QNH:	/	FUEL:	70%		
TAKE OFF:	9:45	LAND:	11:40	FLT TIME:	1:55		
HEIGHT:	250	VLF LINE:	RUGBY	VLF ORTHO:	ANNAPOL		
EM FREQ:	F1	F2	F3	F4	F5	VIDEO TAPE #	4

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES
TEXT: S6061815.T24
DUP:
RAW GPS:

FLIGHT DATA FILES
TEXT: S6061816.T47 S6061817.T56
DUP: S6061818.T27
RAW GPS:

SPECTROMETER R.O.I.'S
TOTAL COUNT
POTASSIUM
URANIUM
THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
084	1					15 B 30			Cs= 1-123 UR=158-370 TH=400-500
086	1					16 B 50			TEST LINE
100 E	291	xxxxx				——	xxxxx		CANCELLED - MISSION; FOG
930 E	308					17 B 02			
940 W	589					17 B 06			
950 E	783					17 B 08			
960 W	979					17 B 12			
970 E	1110					17 B 19			
980 W	1311					17 B 23			
990 E	1505					17 B 27			
1000 W	1728					17 B 31			
1010 E	1917					17 B 35			
1020 W	2074					17 B 38			
1030 E	2243					17 B 42			
1040 W	2436					17 B 46			
1050 E	2618					17 B 49			
1060 W	2830	XXXXXX				17 B 53	XXXXXXX		SPEC. OUT.
1060 W	1					17 B 58			
1070 E	199					18 B 02			
1080 W	409					18 B 06			
1090 E	603					18 B 09			
1100 W	802					18 B 13			
1110 E	985					18 B 16			

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

1120 W	1189	18 B 20	
86 E	1	18 B 23	TEST LINE

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT:	KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1		TEST LINE CODES:	
FLT #	9	DATE:	JUNE 18/96	OPERATOR:	DAMIR J.	EM GND PHASE:	XXX1
PILOT:	MIKE H.	O.A.T.:	14 C /	A/C REG:	ASTAR B C-FSPR	EM GMD Q COIL:	XXX2
BASE:	ESKAY	QNH:	/	FUEL:	70%	EM NULL/Q AIR:	XXX3
TAKE OFF:	12:10	LAND:	12:30	FLT TIME:	0:20	GND SPEC BG,UR TH:	XXX4
HEIGHT:	250	VLF LINE:	RUGBY	VLF ORTHO:	ANNAPOL	SPEC BG H2o/AIR	XXX5
EM FREQ: F1	F2	F3	F4	F5	VIDEO TAPE # 4	SPEC TEST LINE	XXX6
						RADAR ALT CAL	XXX7
						TO BE ANNOUNCED	XXX8
						TO BE ANNOUNCED	XXX9
						XXX=FLIGHT NUMBER	

GND TEST FILES		FLIGHT DATA FILES			SPECTROMETER	R.O.I.'S	
TEXT:		TEXT:	S60619 T 17		TOTAL COUNT		
DUP:		DUP:			POTASSIUM		
RAW GPS:		RAW GPS:			URANIUM		
					THORIUM		

LINE #	START	TIME		BOUNDARIES		FILE	ACCEPTED INTERVAL		COMMENTS
	FID	START	END	START	END	NAME	FID	BOUNDRY	
96	1					19B16			} CANCELLED. BASE ST. OUT.
100E	93								

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1
FLT #: 10	DATE: JUNE 18/96		OPERATOR: DAMIR J.
PILOT: MIKE H.	O.A.T.: 14 C /		A/C REG: ASTAR B C-FSPR
BASE: ESKAY	QNH: /		FUEL: 70%
TAKE OFF: 16.05	LAND: 17:55		FLT TIME: 1:50
HEIGHT: 250	VLF LINE: RUGBY		VLF ORTHO: ANNAPOL
EM FREQ: F1	F2	F3 F4 F5	VIDEO TAPE #: 4

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES	FLIGHT DATA FILES	SPECTROMETER R.O.I.'S
TEXT:	TEXT: S60618237 11	TOTAL COUNT
DUP:	DUP:	POTASSIUM
RAW GPS:	RAW GPS:	URANIUM
		THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
106 E	1					23 B 12			TEST LINE
100 E	88					23 B 20			
110 W	437					23 B 26			
120 E	676					23 B 31			
130 W	954					23 B 35			
140 E	1189					23 B 40			
150 W	1440					23 B 44			
160 E	1662					23 B 48			
170 W	1922					23 B 53			
180 E	2145					23 B 57			
190 W	2396					00 B 01			
200 E	2625					00 B 05			
210 W	2866					00 B 09			
220 E	3103					00 B 14			
230 W	3357					00 B 18			
240 E	3579					00 B 22			
250 W	3831					00 B 26			
260 E	4064					00 B 31			
106 W	4351					00 B 40			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1				
FLT #: 11	DATE: JUNE 18/96		OPERATOR: DAMIR J.				
PILOT: MIKE H.	O.A.T.: 12 C /		A/C REG: ASTAR B C-FSPR				
BASE: ESKAY	QNH: /		FUEL: 70%				
TAKE OFF: 18:10	LAND: 20:20		FLT TIME: 2:10				
HEIGHT: 250	VLF LINE: RUGBY		VLF ORTHO: ANNAPOL				
EM FREQ: F1	F2	F3	F4	F5	VIDEO TAPE #: 5		

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES	FLIGHT DATA FILES		SPECTROMETER R.O.I.'S		
TEXT:	TEXT: S6061901 T13	S6061902.T02	TOTAL COUNT		
DUP:	DUP:	3606 1902 T32	POTASSIUM		
RAW GPS:	RAW GPS:		URANIUM		
			THORIUM		

LINE #	START	TIME		BOUNDARIES		FILE	ACCEPTED INTERVAL		COMMENTS
	FID	START	END	START	END	NAME	FID	BOUNDRY	
116	1					01 B 18			TEST LINE
1130 E	98					01 B 25			
1140 W	327					01 B 30			
1150 E	533					01 B 33			
1160 W	778					01 B 38			
1170 E	987					01 B 42			
1360 W	1250					01 B 51			
1370 E	1421					01 B 54			
1380 W	1589	XXXXXX				01 B 57	XXXXXX		SPEC OUT
1380 E	1					02 B 03			
1390 W	212					02 B 07			
1400 E	422					02 B 10			
1410 W	637					02 B 14			
1420 E	819					02 B 18			
1430 W	986					02 B 21			
1440 E	1140					02 B 24			
1450 W	1306	XXXXXXX				02 B 27	XXXXXXX		SPEC. OUT
1450 W	1					02 B 35			MISSED LINE - CANCELLED
1450 W	63					02 B 37			
1460 E	223					02 B 40			
1470 W	390					02 B 43			
1480 E	542					02 B 45			
1490 W	724					02 B 49			

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

1500 E	867	02 B 51	
1510 W	1087	02 B 55	
116 E	1227	03 B 07	TEST LINE

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP. | BLOCK #: 1 | JOB: 6129 | PAGE 1 OF 1

FLT #: 12
DATE: JUNE 19/96
OPERATOR: DAMIR J.
PILOT: MIKE H.
O.A.T.: 12 C /
A/C REG: ASTAR B C-FSPR
BASE: ESKAY
QNH: /
FUEL: 70%
TAKE OFF: 16:45
LAND: 18:55
FLT TIME: 2:10
HEIGHT: 250
VLF LINE: RUGBY
VLF ORTHO: ~~ANNAPOL~~ MAINE
EM FREQ: F1 ____ F2 ____ F3 ____ F4 ____ F5 ____
VIDEO TAPE #: 5

TEST LINE CODES:	
EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES	FLIGHT DATA FILES	SPECTROMETER R.O.I.'S
TEXT: 5606192 3 T12	TEXT: 5606192 3 T45	TOTAL COUNT
DUP:	DUP:	POTASSIUM
RAW GPS:	RAW GPS:	URANIUM
		THORIUM

LINE #	START	TIME		BOUNDARIES		FILE	ACCEPTED INTERVAL		COMMENTS
	FID	START	END	START	END	NAME	FID	BOUNDRY	
124	1					23 B 14			Cs = 35-130 TH = 155-280 Ur=315-420
126	1					23 B 49			TEST LINE
270 E	80					23 B 51			
280 W	481					23 B 58			
340 E	742					00 B 03			
540 W	1011					00 B 10			SHORT SAFETY REAS.
810 E	1259					00 B 16			SHORT
870 W	1629					00 B 24			
880 E	1987					00 B 30			
910 W	2282					00 B 36			
960 E	2567					00 B 42			
1700 W	2781					00 B 55			
1700 E	2806					00 B 57			SHORT
1740 W	3070					01 B 03			
1750 E	3307					01 B 07			
1760 W	3559					01 B 11			
1770 E	3800					01 B 16			
1780 W	4031					01 B 20			
1790 E	4227					01 B 23			
1800 W	4459					01 B 27			
1810 E	4661					01 B 31			
1820 W	4940					01 B 36			
126 E	5134					01 B 43			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP. | BLOCK #: 1 | JOB: 6129 | PAGE 1 OF 1

FLT #: 13 | DATE: JUNE 19/96 | OPERATOR: DAMIR J.

PILOT: MIKE H. | O.A.T.: 12 C / | A/C REG: ASTAR B C-FSPR

BASE: ESKAY | QNH: / | FUEL: 70%

TAKE OFF: 19:15 | LAND: 21:35 | FLT TIME: 2:20

HEIGHT: 250 | VLF LINE: RUGBY | VLF ORTHO: ~~ANNAPOL~~ MAINE

EM FREQ: F1 F2 F3 F4 F5 | VIDEO TAPE # 6

TEST LINE CODES:

EM GND PHASE: XXX1
EM GMD Q COIL: XXX2
EM NULL/Q AIR: XXX3
GND SPEC BG,UR TH: XXX4
SPEC BG H2o/AIR: XXX5
SPEC TEST LINE: XXX6
RADAR ALT CAL: XXX7
TO BE ANNOUNCED: XXX8
TO BE ANNOUNCED: XXX9

XXX=FLIGHT NUMBER

GND TEST FILES
TEXT:
DUP:
RAW GPS:

FLIGHT DATA FILES
TEXT: S6062002 T15
DUP:
RAW GPS:

SPECTROMETER R.O.I.'S
TOTAL COUNT
POTASSIUM
URANIUM
THORIUM

LINE #	START	TIME		BOUNDARIES		FILE	ACCEPTED INTERVAL		COMMENTS
	FID	START	END	START	END	NAME	FID	BOUNDRY	
136	1					02B26			TEST LINE
1830 W	94					02B26			
1840 E	338					02B31			
1850 W	546					02B34			
1860 E	768					02B38			GPS JUMPS IN THE END
1870 W	1004					02B42			
1880 E	1228					02B46			
1890 W	1455					02B51			
1900 E	1694					02B55			
1910 W	1958					02B59			
1920 E	2198					03B04			
1930 W	2466	XXXXXX				03B08			MISSED - CANCELLED
1930 W	2504					03B10			
1940 E	2718					03B14			
1950 W	3002					03B19			
1960 E	3210					03B23			
1970 W	3456					03B27			
2070 E	3672					03B31			
2230 W	3925	YXXXXX				03B43	XXXX		- CANCELLED
2080 E	4047					03B47			
2090 W	4290					03B51			
2100 E	4477					03B55			
2110 W	4708					03B59			

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

2120 E	4896	04B03
2130 W	5119	04B07
2140 E	5343	04B11

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1
FLT #: 14	DATE: JUNE 19/96	OPERATOR: DAMIR J.	
PILOT: MIKE H.	O.A.T.: 10 C /	A/C REG: ASTAR B C-FSPR	
BASE: ESKAY	QNH: /	FUEL: 70%	
TAKE OFF: 21:50	LAND: 23:05	FLT TIME: 1:15	
HEIGHT: 250	VLF LINE: RUGBY	VLF ORTHO: MAINE	
EM FREQ: F1 ___ F2 ___ F3 ___ F4 ___ F5 ___		VIDEO TAPE #: 6	

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES	FLIGHT DATA FILES	
TEXT:	TEXT: S6062004 T55	S6062005.T32
DUP:	DUP:	S6062005. T42
RAW GPS:	RAW GPS:	S6062006 T.00

SPECTROMETER	R.O.I.'S	
TOTAL COUNT		
POTASSIUM		
URANIUM		
THORIUM		

LINE #	START	TIME		BOUNDARIES		FILE	ACCEPTED INTERVAL		COMMENTS
	FID	START	END	START	END	NAME	FID	BOUNDRY	
146	1					04B57			
2160 E	84					05B04			
2170 W	470					05B10			
2180 E	795					05B16			
2190 W	1135					05B22			
2200 E	1349	XXXXXXX			XX XXXX	XXXXX	XXXXXX		SPEC. OUT - CANCELLED
2200 W	1	XXXXX				05B33			MISSED
2200 W	86	XXXXXX							SPEC. OUT - CANCELLED
1180 W	1					05B45			
1190 E	259					05B51			SPEC. OUT CANCELLED
146	1					06B00			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1		
FLT #: 15	DATE: JUNE 20/96	OPERATOR: DAMIR J.			
PILOT: MIKE H.	O.A.T.: 10 C /	A/C REG: ASTAR B C-FSPR			
BASE: ESKAY	QNH: /	FUEL: 70%			
TAKE OFF: 9:35	LAND: 11:40	FLT TIME: 2:05			
HEIGHT: 250	VLF LINE: RUGBY	VLF ORTHO: MAINE			
EM FREQ: F1	F2	F3	F4	F5	VIDEO TAPE # 7

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES	FLIGHT DATA FILES	
TEXT: S6062016.T06	TEXT: S6062016.T38	S6062016.T50
DUP:	DUP:	S6062017.T04
RAW GPS:	RAW GPS:	S6062018.T26

SPECTROMETER R.O.I.'S		
TOTAL COUNT		
POTASSIUM		
URANIUM		
THORIUM		

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
154	1					16B08			CS=1-120 TH=144-300 UR=330 →
156E	1					16B38			TEST LINE
1190 E	89	XXXXXXX				16B42	XXX		SPEC. OUT - CANCELLED
1190 W	1					16B51			OK.
1200 E	206	XXXXXX				16B55	XXX		SPEC. OUT - CANCELED
1200 W	1					17B05			
1210 E	219					17B09			
1220 W	548					17B15			
1230 E	758					17B19			
1240 W	1097					17B25			
1250 E	1336					17B29			
1260 W	1681					17B35			
1270 E	1901					17B39			
1280 W	2280					17B46			
1290 E	2521					17B50			
1300 W	2869					17B56			
1310 E	3124					18B01			
1320 W	3432					18B06			
1330 E	3671					18B10			
1340 W	3945					18B15			
1350 E	4173	XXXXXX				18B19	XXX		SPEC. OUT. CANCELLED LINE
						~~18B27~~			
154 E	1					18B27			

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SCINTREX-CARIBE GEOPHYSICAL FLIGHT LOG

CLIENT: KENRICH MINING CORP.
BLOCK #: 1
JOB: 6129
PAGE 1 OF 1

FLT #: 16
PILOT: MIKE H.
BASE: ESKAY
TAKE OFF: 12:05
HEIGHT: 250
EM FREQ: F1 ______ F2 ______ F3 ______ F4 ______ F5 ______

DATE: JUNE 20/96
O.A.T.: 14 C /
QNH: /
LAND: 13:25
VLF LINE: RUGBY

OPERATOR: DAMIR J.
A/C REG: ASTAR B C-FSPR
FUEL: 70%
FLT TIME: 1:20
VLF ORTHO: MAINE
VIDEO TAPE #: 7

SPECTROMETER	R.O.I.'S	
TOTAL COUNT		
POTASSIUM		
URANIUM		
THORIUM		

TEST LINE CODES:	
EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES
TEXT:
DUP:
RAW GPS:

FLIGHT DATA FILES
TEXT: S6062019 T10
DUP:
RAW GPS:

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
						19B11			MISSED - CANCELLED LINE
166E	1					19B17			GPS JUMPS IN THE END
1520E	90	XXXXXXXX				19B24			
1520E	128					19B28			
1530W						19B36			
1540E						19B40			
1550W						19B45			
1560E						19B49			
1570W						19B55			
1580E						19B58			
1590W						20B04			
1600E						20B07			}
1610W						20B12			} MAG AND VLF OUT - REFLIGHTS.
1620E						20B16			}
1630W									
1640E									

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1

FLT #: 17 cont 16
PILOT: MIKE H.
BASE: ESKAY
TAKE OFF: 13:55
HEIGHT: 250
EM FREQ: F1 ___ F2 ___ F3 ___ F4 ___ F5 ___

DATE: JUNE 20/96
O.A.T.: 16 C /
QNH: /
LAND: 14:45
VLF LINE: RUGBY

OPERATOR: DAMIR J.
A/C REG: ASTAR B C-FSPR
FUEL: 70%
FLT TIME: 0:50
VLF ORTHO: MAINE
VIDEO TAPE #: 7

TEST LINE CODES:
EM GND PHASE: XXX1
EM GMD Q COIL: XXX2
EM NULL/Q AIR: XXX3
GND SPEC BG,UR TH: XXX4
SPEC BG H2o/AIR XXX5
SPEC TEST LINE XXX6
RADAR ALT CAL XXX7
TO BE ANNOUNCED XXX8
TO BE ANNOUNCED XXX9

XXX=FLIGHT NUMBER

GND TEST FILES
TEXT:
DUP:
RAW GPS:

FLIGHT DATA FILES
TEXT: 56062021.T05
DUP:
RAW GPS:

SPECTROMETER R.O.I.'S
TOTAL COUNT
POTASSIUM
URANIUM
THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
1640 W	1					21 B 07			
1650 E	236					21 B 11			
1660 W	540					21 B 16			
1670 E	769					21 B 20			
1680 W	1038					21 B 25			
1690 E	1230					21 B 28			
176 W	1427					21 B 35			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

CLIENT:	KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1			
FLT #	18	DATE:	JUNE 20/96	OPERATOR:	DAMIR J.		
PILOT:	MIKE H.	O.A.T.:	16 C /	A/C REG:	ASTAR B C-FSPR		
BASE:	ESKAY	QNH:	/	FUEL:	70%		
TAKE OFF:	14:50	LAND:	17:00	FLT TIME:	2:10		
HEIGHT:	250	VLF LINE:	RUGBY	VLF ORTHO:	MAINE		
EM FREQ: F1	F2	F3	F4	F5	VIDEO TAPE #	8	

TEST LINE CODES:

- EM GND PHASE: XXX1
- EM GMD Q COIL: XXX2
- EM NULL/Q AIR: XXX3
- GND SPEC BG,UR TH: XXX4
- SPEC BG H2o/AIR XXX5
- SPEC TEST LINE XXX6
- RADAR ALT CAL XXX7
- TO BE ANNOUNCED XXX8
- TO BE ANNOUNCED XXX9

XXX=FLIGHT NUMBER

GND TEST FILES		FLIGHT DATA FILES		
TEXT:		TEXT:	S6062021.TS4	
DUP:		DUP:		
RAW GPS:		RAW GPS:		

SPECTROMETER R.O.I.'S		
TOTAL COUNT		
POTASSIUM		
URANIUM		
THORIUM		

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
186	1					21B56			TEST LINE
1690 E	97					22B00			
1630 W	459					22B07			
1620 E	705					22B12			
1350 W	1185					22B21			
820 E	1416					22B28			
810 W	1804					22B35			
800 E	1884					22B37			
790 W	1934					22B38			
780 E	2003					22B39			
1980 W	2095					22B46			
1990 E	2303					22B50			
2000 W	2548					22B54			VLF OUT
2010 E	2751					23B07			
2020 W	2970					23B11			
2030 E	3159					23B15			
2040 W	3381					23B19			
2050 E	3586					23B22			
2060 W	3806					23B27			
9040 N						23B32			
186	4861					23B49			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

CLIENT: **KENRICH MINING CORP.** | BLOCK #: 1 | JOB: 6129 | PAGE 1 OF 1

FLT #: 19
PILOT: MIKE H.
BASE: ESKAY
TAKE OFF: 2, 20:10 (17:23) 1.
HEIGHT: 250
EM FREQ: F1 ____ F2 ____ F3 ____ F4 ____ F5 ____

DATE: JUNE 20/96
O.A.T.: 14 C /
QNH: /
LAND: 22:05 (18:05)
VLF LINE: RUGBY

OPERATOR: DAMIR J.
A/C REG: ASTAR B C-FSPR
FUEL: 70%
FLT TIME: 1:55 + 35
VLF ORTHO: MAINE
VIDEO TAPE #: 8

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES
TEXT:
DUP:
RAW GPS:

FLIGHT DATA FILES
TEXT: S6062100.T43 S6062103.T17
DUP: S6062103.T33
RAW GPS:

SPECTROMETER R.O.I.'S
TOTAL COUNT
POTASSIUM
URANIUM
THORIUM

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
196 W	1					00B49			TEST LINE 1ST FLIGHT
9010 N	87					00B53			MAG POWER DOWN. CANCELLED FLT.
2170 W	1					03B18			↓ 2ND FLIGHT.
2180 E	163					03B21			
2190 W	496					03B26			SPECT. DOWN NOT ACCEPTED LINE
2190 E	1					03B34			
2200 W	292					03B39			
2210 E	481					03B42			
2220 W	749					03B47			GPS JUMPS NOT ACCEPTED LINE
2230 E	1008					03B52			GPS JUMPS
2240 W	1228					03B56			
2250 E	1414					03B59			GPS JUMPS
2260 W	1627					04B03			
2270 E	1802					04B06			GPS JUMPS
2280 W	2027					04B10			
2290 E	2200					04B13			
2300 W	2404					04B17			
9010 N	2598					04B23			
196	3484					04B42			TEST LINE
206	3559					04B44			TEST LINE OVER GROUND CALIBRATION
									200 FT = 3560 - 3650 280 FT = 3675-3750
									360 FT = 3765 - 3855 440 = 3885 - 3958
									520 FT = 3980 - 4065 600 = 4058 - 4170

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME 680 = 4190 - 4278

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CLIENT: KENRICH MINING CORP.	BLOCK #: 1	JOB: 6129	PAGE 1 OF 1		TEST LINE CODES:	
FLT # 20	DATE: JUNE 20/96		OPERATOR: DAMIR J.		EM GND PHASE:	XXX1
PILOT: MIKE H.	O.A.T.: 12 C /		A/C REG: ASTAR B C-FSPR		EM GMD Q COIL:	XXX2
BASE: ESKAY	QNH: /		FUEL: 70%		EM NULL/Q AIR:	XXX3
TAKE OFF: 22:20	LAND: 23:35		FLT TIME: 1:15		GND SPEC BG,UR TH:	XXX4
HEIGHT: 250	VLF LINE: RUGBY		VLF ORTHO: MAINE		SPEC BG H2o/AIR	XXX5
EM FREQ: F1 F2	F3	F4 F5	VIDEO TAPE # NO REC. 8		SPEC TEST LINE	XXX6
					RADAR ALT CAL	XXX7
					TO BE ANNOUNCED	XXX8
					TO BE ANNOUNCED	XXX9
					XXX=FLIGHT NUMBER	

GND TEST FILES	FLIGHT DATA FILES		SPECTROMETER R.O.I.'S		
TEXT:	TEXT: S6062105.T35	S6062105.T58	TOTAL COUNT		
DUP:	DUP:		POTASSIUM		
RAW GPS:	RAW GPS:		URANIUM		
			THORIUM		

LINE #	START FID	TIME START	TIME END	BOUNDARIES START	BOUNDARIES END	FILE NAME	ACCEPTED INTERVAL FID	ACCEPTED INTERVAL BOUNDRY	COMMENTS
8888.S	1					05B47			5.000 FT = 1-200 6.000 FT = 265-465
8888.S	1					05B59			7.000 FT = 1-200 8.000 FT = 280-480
	1								9.000 FT = 525-725 10.000 FT = 770-970
									OVERWATER TEST IN THE END
									OF SURVEY

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

CLIENT: KENRICH MINING CORP. | BLOCK #: 1 | JOB: 6129 | PAGE 1 OF 1

FLT #: 21
PILOT: MIKE H.
BASE: ESKAY
TAKE OFF: 12:00
HEIGHT: 250
EM FREQ: F1 ______ F2 ______ F3 ______ F4 ______ F5 ______

DATE: JUNE 21/96
O.A.T.: 14 C /
QNH: ______/______
LAND: 12:30
VLF LINE: RUGBY

OPERATOR: DAMIR J.
A/C REG: ASTAR B C-FSPR
FUEL: 70%
FLT TIME: 0:30
VLF ORTHO: MAINE
VIDEO TAPE #: 8

TEST LINE CODES:

EM GND PHASE:	XXX1
EM GMD Q COIL:	XXX2
EM NULL/Q AIR:	XXX3
GND SPEC BG,UR TH:	XXX4
SPEC BG H2o/AIR	XXX5
SPEC TEST LINE	XXX6
RADAR ALT CAL	XXX7
TO BE ANNOUNCED	XXX8
TO BE ANNOUNCED	XXX9

XXX=FLIGHT NUMBER

GND TEST FILES
TEXT: ______
DUP: ______
RAW GPS: ______

FLIGHT DATA FILES
TEXT: S6062119.T02 S6062119.T09
DUP: ______ ______
RAW GPS: ______ ______

SPECTROMETER R.O.I.'S
TOTAL COUNT ______ ______
POTASSIUM ______ ______
URANIUM ______ ______
THORIUM ______ ______

LINE #	START	TIME		BOUNDARIES		FILE	ACCEPTED INTERVAL		COMMENTS
	FID	START	END	START	END	NAME	FID	BOUNDRY	
216.E	1					19B03			TEST LINE
2220.E	1					19B11			GPS JUMPS
2220.W	240					19B17			
216.W	406					19B25			TEST LINE

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME