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GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,375 PART 1 OF 2

1984 ASSESSMENT REPORT

on the

SALTSPRING ISLAND CLAIMS

by

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Saltspring Island - Victoria Mining Division
NTS 92B/11, 12, 13 14

Lat. 48°45'N Long. 123°30'W

Owned and Operated by: Kidd Creek Mines Ltd.

December 1984 Vancouver, B.C.

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SUMMARY

This report presents results of 1984 fieldwork on the Saltspring Island massive sulphide project. The purpose of the project was to explore for volcanic-hosted polymetallic, massive sulphide deposits in the Sicker Group rocks using a Kuroko deposit exploration model. The nearby 1 million ton, polymetallic Twin J and Lenora deposit, and Westmin's 20 million ton Buttle Lake deposit occur in the Sicker Belt.

The project-area consists of 10 claims (122 units) located on southwest Saltspring Island, about 70 km southwest of Vancouver in the Strait of Georgia. The claims are wholly owned by Kidd Creek Mines Ltd.

Fieldwork carried out between May 8 and December 4, 1984, consisted of reconnaissance geological mapping followed by Questor's INPUT Mk VI airborne electromagnetic and magnetic survey. Ground follow-up of a series of moderate strength conductors led to detailed field work in the Fulford Harbour area. This work consisted of linecutting, detailed geological mapping, rock and soil sampling, and detailed EM and magnetometer surveys along the grid lines.

The claims are underlain by steeply dipping, isoclinally folded shales, siltstones and diabases of the Sediment-Sill succession, which overlie mafic flows and felsic to intermediate pyroclastic rocks of the Myra Formation. Both formations of late Silurian to Devonian age have been intruded by gabbro. In the northern part of the claims a magnetite iron formation (of the Myra Formation) occurs intermittently along strike for 5 km; its southeastern extremity culminates in a small, rhodonite quarry.

In the Fulford Harbour area, results show that strong Zn soil anomalies are associated with a 2 km long magnetic conductor which forms part of the Musgrave zone. This conductor lies in felsic tuff and siltstone on the flank of a gabbro sill (?). No mineralization has been observed in outcrops or in float.

Elsewhere on the property, minor copper mineralization is present as chalcopyrite in veinlets and disseminations in quartz veins within or near the contact of gabbro. The only significant gold mineralization occurrs in a quartz vein located within an Ecological Reserve on the southernmost part of the island near Cape Keppel.

The 1984 exploration expenditures totalled approximately $97,500 of which $48,200 has been applied to assessment.

INTRODUCTION

Location, Access and Physiography

The Saltspring Island Claims (48°45'N, 123°30'W, NTS: 92B/11, 12, 13 and 14) are located on southerwestern Saltspring Island, approximately 70 km southwest of Vancouver and 35 km north of Victoria within the Strait of Georgia (Figure 1).

Saltspring Island is about 29 km long and 11 to 16 km wide. The project area is restricted to the southwest part of the Island, an area of about 50 square km. It is bounded by Musgrave Road, on the northeast and by the sea on the southwest.

Access to the Saltspring Island is gained by ferry from either Tsawwassen or Horseshoe Bay on the mainland, or from Schwartz Bay or Crofton on Vancovuer Island. Ferries arrive at Fulford Harbour, Long Harbour, or Vesuvius. A small float plane base at Ganges provides charter service.

Five, moderately well maintained municipal gravel roads provide access to the network of old, unmaintained logging roads and trails, on the property.

Topography is moderate and undulatory. Elevation ranges from sea level to 700 m at Bruce Peak (Plate 1). Brucey Lake, one kilometre southeast of Bruce Peak, represents the only significant accumulation of fresh water. Most of the island is dry due to low annual precipitation

The thickness of glacial drift is variable. The southwestern part of the project-area displays drift

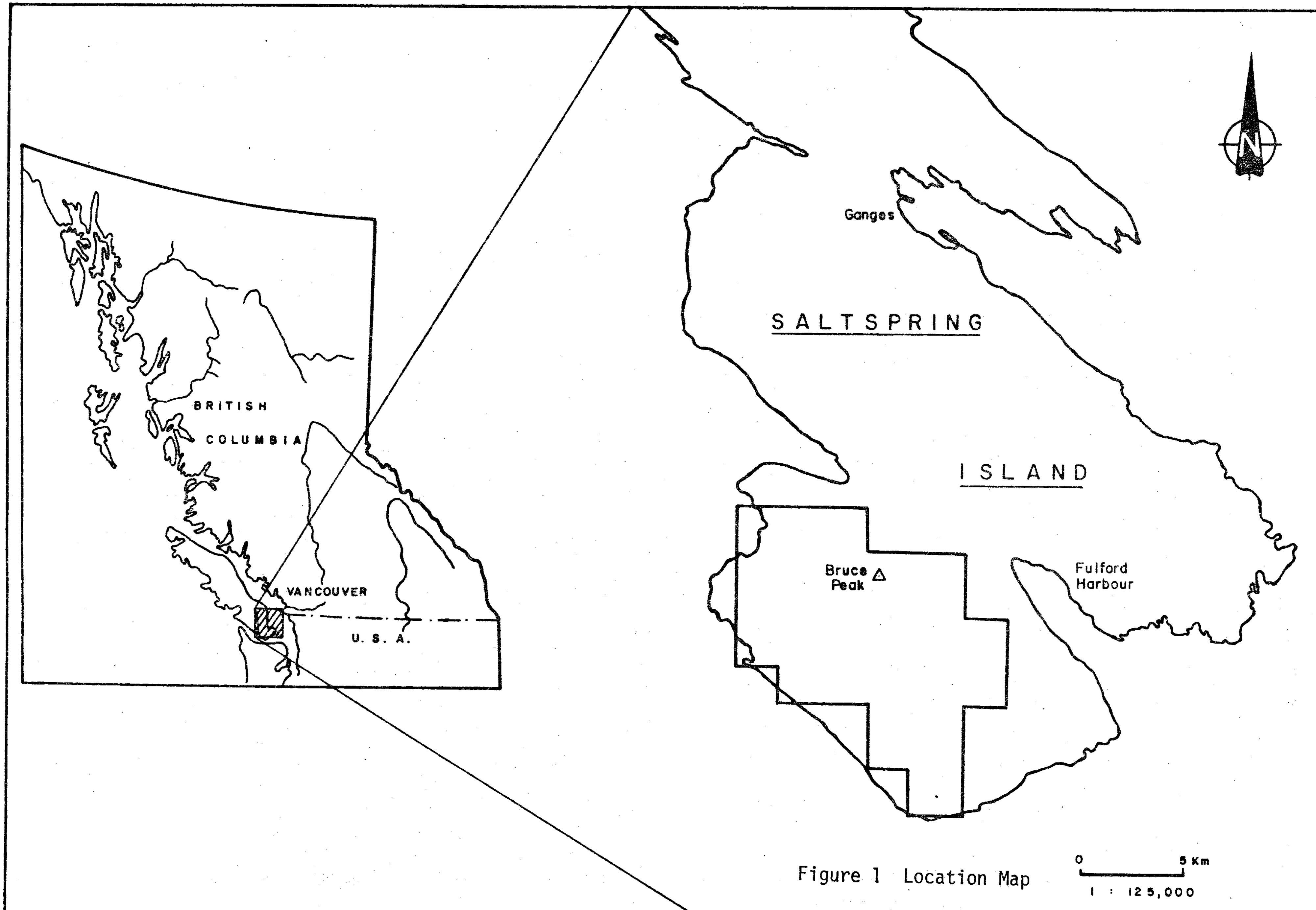


Figure 1 Location Map

Plate 1. Project Area looking from Mt. Maxwell

thickness in excess of 2 m. Ridges and hills are devoid of overburden.

PROPERTY HISTORY

Two mineral claims (Mesabi and Gogebic) covered the magnetic iron formation on the northwestern slope of Mount Sullivan as early as 1918.

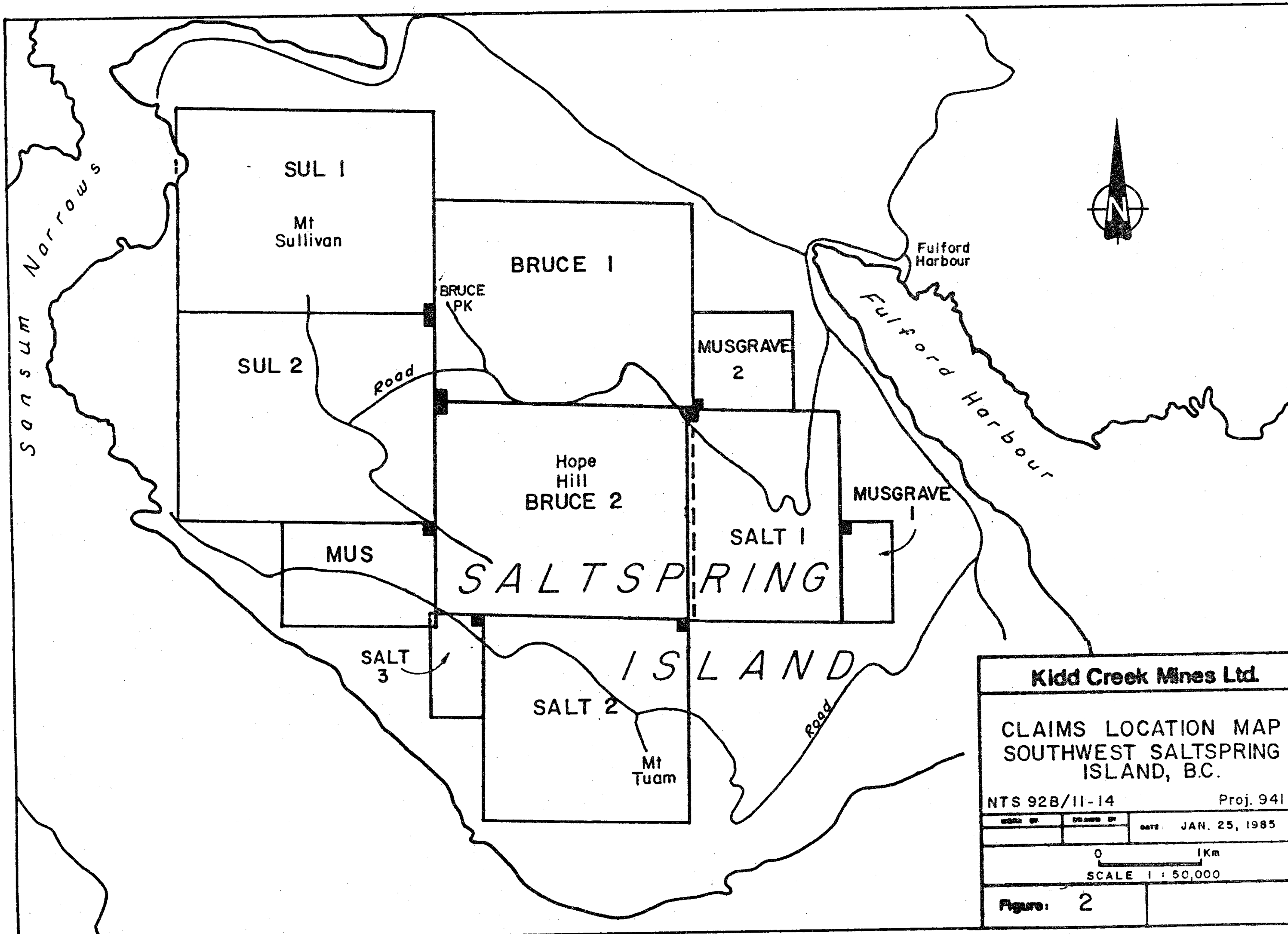
Between 1930 and 1940, a 20 m long adit was driven down-plunge of an auriferous quartz vein located about 1.3 km east of Cape Keppel on the southernmost part of the island.

Gold in quartz veins has been reported by islanders at Beaver Point on the easternmost part of the island. These latter two occurrences are not mentioned in literature.

1984 WORK PROGRAM

The Saltspring Island massive sulphide project was initiated to explore for a polymetallic massive sulphide deposit hosted in the volcanic Myra Formation of the Sicker Group.

The project-area (Figure 2) consists of 8 claims (116 units) staked in Feburary 1984, and 2 more (6 units) staked during the summer. The initial staking was carried out by Van Alphen Exploration Services Ltd. of Smithers, B.C., on behalf of Kidd Creek Mines Ltd. Claims status data is given in Table 1. All claims are wholly owned by Kidd Creek Mine Ltd. and lie in the Victoria Mining District.



Kidd Creek Mines Ltd.

CLAIMS LOCATION MAP
SOUTHWEST SALTSPRING
ISLAND, B.C.

NTS 92B/11-14 Proj. 941

DATE: JAN. 25, 1985

0 1Km
SCALE 1 : 50,000

Figure: 2

TABLE 1

Claim	Units	Record No.	Location Date	Record Date	*Expiry Date
†Salt 1	12	1168	02/23/84	03/08/84	03/08/88
Salt 2	16	1169	02/19/84	03/08/84	03/08/87
Salt 3	2	1170	02/19/84	03/08/84	03/08/87
†Bruce 1	20	1171	02/19/84	03/08/84	03/08/88
†Bruce 2	20	1172	02/23/84	03/08/84	03/08/88
Sul 1	20	1173	02/19/84	03/08/84	03/08/87
Sul 2	20	1174	02/16/84	03/08/84	03/08/87
Mus	6	1175	02/18/84	03/08/84	03/08/87
†Musgrave 1	2	1340	07/19/84	07/30/84	07/30/88
†Musgrave 2	4	1344	08/02/84	08/07/84	08/07/88

* Pending acceptance of assessment work by Gold Commissioner's office.

† Comprise the Hope group

Two phases of exploration were conducted. The first phase, conducted from May 5 to June 5, consisted of regional geological mapping and a helicopter geophysical survey conducted by Questor Surveys Ltd. The property-wide geological data was used in the evaluation of airborne geophysical conductors. This was followed up by the second phase of exploration, conducted between July 12 and December 4. The more significant airborne conductors were checked by ground geophysics which indicated that the Musgrave zone in the Fulford Harbour area is the most interesting anomaly. Here, 11 cut lines (horizontally chained) totalling 9 line-km were mapped in more detail and surveyed by HLEM and magnetometer. Selected lines crossing the conductor were covered by soil geochemistry.

GEOLOGY

Regional Setting

Saltspring Island occupies a small portion of the eastern margin of the Cordilleran Insular Belt. The Belt is a highly varied assortment of volcanic, sedimentary, metamorphic and plutonic rocks ranging in age from Paleozoic to Tertiary. The allochthonous nature for the Insular belt proposed by several authors (Jones, 1977; Monger and Price, 1979; Monger and Irvine, 1980) has been widely accepted.

The Sicker Group is exposed in three separate structural highs indicated in Figure 3. The Saltspring Project occurs within the Cowichan-Horne Lake Uplift, which extends from Vancouver Island across to Saltspring Island.

Figure 3

Geological sketch map of Vancouver Island.

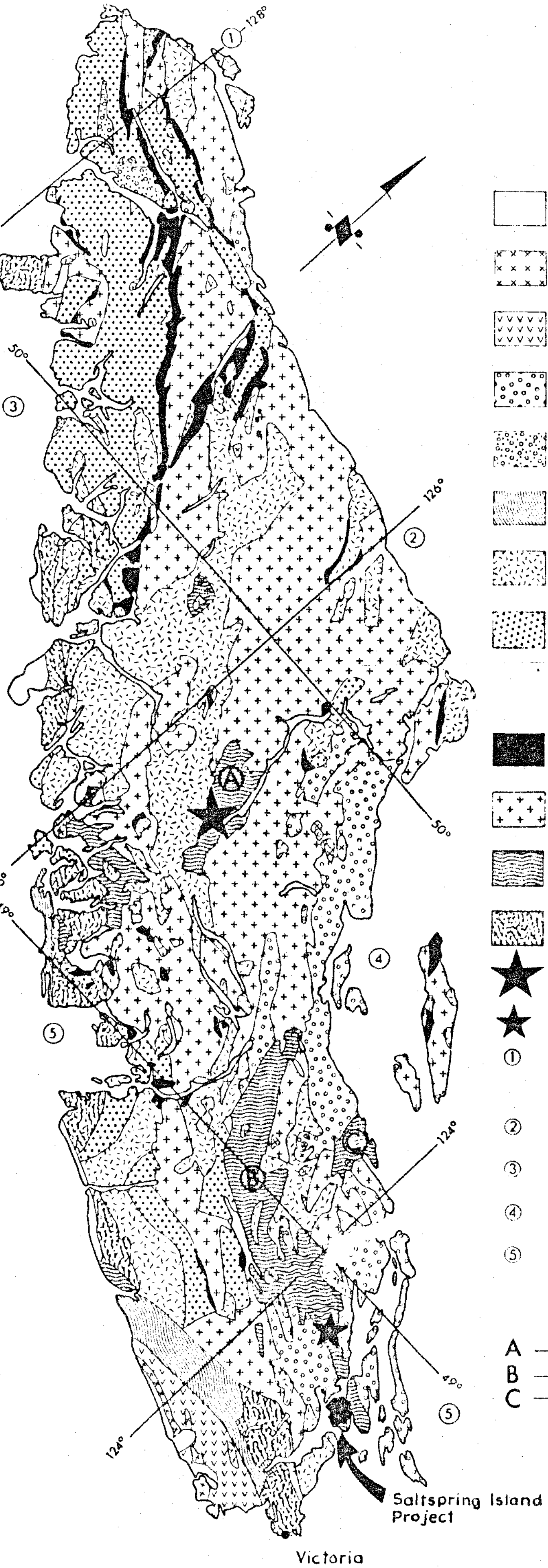


TABLE 2

TABLE OF FORMATIONS OF VANCOUVER ISLAND

SEQUENTIAL LAYERED ROCKS

	PERIOD		STAGE	GROUP	FORMATION	SYMBOL	AVE. THICK. in m	LITHOLOGY
CENOZOIC					late Tert. volc's of Port McNeill	Tvs		
CENOZOIC					SOOKE	mpTSB		conglomerate, sandstone, shale
CENOZOIC			EOCENE to OLIGOCENE	CARMANAH	HESQUIAT	eoTC	1,200	sandstone, siltstone, coglomerate
CENOZOIC			EOCENE to OLIGOCENE	CARMANAH	ESCALANTE	eTE	300	conglomerate, sandstone
CENOZOIC			early EOCENE		METCHOSIN	eTM	3,000	basaltic lava, pillow lava, breccia, tuff
MESOZOIC		LATE	MAESTRICHTIAN	NANAIMO	GABRIOLA	uKGA	350	sandstone, conglomerate
MESOZOIC		LATE	MAESTRICHTIAN	NANAIMO	SPRAY	uKS	200	shale, siltstone
MESOZOIC		LATE	CAMPANIAN	NANAIMO	GEOFFREY	uKG	150	conglomerate, sandstone
MESOZOIC		LATE	CAMPANIAN	NANAIMO	NORTHUMBERLAND	uKN	250	siltstone; shale, sandstone
MESOZOIC		LATE	CAMPANIAN	NANAIMO	DE COURCY	uKDC	350	conglomerate, sandstone
MESOZOIC		LATE	CAMPANIAN	NANAIMO	CEDAR DISTRICT	uKCD	300	shale, siltstone, sandstone
MESOZOIC		LATE	CAMPANIAN	NANAIMO	EXTENSION - PROTECTION	uKEP	300	conglomerate, sandstone, shale, coal
MESOZOIC		LATE	CAMPANIAN	NANAIMO	HASLAM	uKH	200	shale, siltstone, sandstone
MESOZOIC		LATE	SANTONIAN	NANAIMO	COMOX	uKC	350	sandstone, conglomerate, shale, coal
MESOZOIC		EARLY	CENOMANIAN ALBIAN	QUEEN CHARLOTTE	Conglomerate Unit	lKac	900	conglomerate, greywacke
MESOZOIC		EARLY	APTIAN?	QUEEN CHARLOTTE	Siltstone–Shale Unit	lKap	50	siltstone, shale
MESOZOIC		EARLY	VALANGINIAN BARREMIAN	KYUQUOT	LONGARM	lKL	250	greywacke, conglomerate, siltstone
MESOZOIC	JURASSIC	LATE	TITHONIAN	KYUQUOT	ONE TREE	lKOT	500	siltstone, argillite, conglomerate
MESOZOIC	JURASSIC	MID	CALLOVIA		KAPOOSE	uJK		
MESOZOIC	JURASSIC	EARLY	TOARCIAN?	BONANZA	Volcanics	lJB	1,500	basaltic to rhyolitic lava, tuff, breccia, minor argillite, greywacke
MESOZOIC	JURASSIC	EARLY	PLIENSBACHIAN SINEMURIAN	BONANZA	HARBLEDOWN	lJH		argillite, greywacke, tuff
MESOZOIC	TRIASSIC	LATE	NORIAN	VANCOUVER	PARSON BAY	uTrPB	450	calcareous siltstone, greywacke, silty-limestone, minor conglomerate, breccia
MESOZOIC	TRIASSIC	LATE	KARNIAN	VANCOUVER	QUATSINO	uTrQ	400	limestone
MESOZOIC	TRIASSIC	LATE	KARNIAN	VANCOUVER	KARMUTSEN	muTrK	4,500	basalic lava, pillow lava, breccia, tuff
MESOZOIC	TRIASSIC	MID	LADINIAN	VANCOUVER	Sediment-Sill Unit	Tds	750	metasiltstone, diabase, limestone
PALEOZOIC	PENN. and ? PERM.			SICKER	BUTTLE LAKE	CPBL	300	limestone, chert
PALEOZOIC	PENN. and ? PERM.			SICKER	"NANOOSE"	CPss	600	metagreywacke, argillite, schist, marble
PALEOZOIC	PENN. and ? PERM.			SICKER	Sediment- Sill Unit	PTds	500	metagreywacke, argillite diabase
PALEOZOIC	DEV. or EARLIER			SICKER	MYRA	PM	1,000	silicic tuff, breccia argillite
PALEOZOIC	DEV. or EARLIER			SICKER	NITINAT	PN	2,000	basic breccia, tuff, lava, greenschist

CRYSTALLINE ROCKS, COMPLEXES OF POORLY DEFINED AGE

NAME	SYMBOL	ISOTOPIC AGE Pb/U	ISOTOPIC AGE K/Ar	LITHOLOGY
SOOKE INTRUSIONS silicic	Tg		32–59	quartzdiorite, trondhjemite, agmatite, porphyry
SOOKE INTRUSIONS basic	Tgb		31–49	gabbro, anorthosite, agmatite
METCHOSIN SCHIST, GNEISS	TMn		47	chlorite schist, gneissic amphibolite
LEECH RIVER FM.	JKL		38–41	phyllite, mica schist, greywacke, argillite, chert
PACIFIC RIM COMPLEX	JKP			greywacke, argillite, chert, basic volcanics, limestone
ISLAND INTRUSIONS	Jg		141–181	granodiorite, quartzdiorite, granite, quartz monzonite
WESTCOAST COMPLEX silicic	PMns	264	163–192	quartz-feldspargneiss, metaquartzite, marble
WESTCOAST COMPLEX basic	PMnb			hornblende-plagioclase gneiss, quartz diorite, agmatite, amphibolite
diabase sills	PTrb			
metavolcanic rocks	PMmv			metavolcanic rocks, minor metasediments; limestone, marble
SALTSPRING INTR / TYEE QTZ. PORPHYRY	Pg	>390		metagranodiorite, metaquartzdiorite, metaquartz porphyry
COLQUITZ GNEISS	Pns	>390		quartz feldspar gneiss
WARK DIORITE GNEISS	Pnb	>200	163–182	hornblende-plagioclase gneiss quartz diorite, amphibolite

(after Muller, 1981)

sedimentary rocks in aggregate thickness (Muller, 1981). The unit may be coeval with the Buttle Lake Formation or slightly older. It is estimated to be 500 m thick.

The Buttle Lake Formation marks the top of the Sicker Group. It is composed dominantly of limestone, commonly crinoidal with associated chert, greywacke, and argillite. The formation is about 150 to 450 m thick (Fleming et al, 1983). It has been dated by paleontology as Middle Pennsylvanian and Early Permian (Muller, 1980).

The Sicker Group has been deformed and metamorphosed primarily in the greenschist facies. Folding and tectonic fabrics are variably developed, however, schistose and lineated rocks are common.

Property Geology

Introduction

The Saltspring Island geology is comprised of lower Sicker Group formations including the Nitnat and Myra Formations, the Sediment-Sill succession and the Saltspring Intrusions. These are uncomformably overlain by the Cretaceous Nanaimo Group comprised of sandstone and conglomerate.

Reconnaissance geologic mapping covering about 50 square km (1:10,000 scale) was conducted over the project-area (Figure 4). An up-to-date B.C. Government Municipal Planning Services Division map of the same scale was used for ground control. Several pace and compass traverses were conducted in areas of poor access, and minor shoreline work was conducted along the western coastline of Saltspring Island, south of Burgoyne Bay.

Detailed mapping (1:2,000 scale) was carried out over approximately 2.5 square km in the Fulford Harbour area (Figure 5). This was done to evaluate an airborne conductor known as the Musgrave zone. Cut lines were used for ground control.

The outcrop is abundant over much of the terrain but often bedrock is obscured by a thin veneer of ground vegetation. Hand stripping the vegetation reveals excellent quality bedrock exposure for mapping.

Lithology and Stratigraphy

Geology of the Saltspring project claims is shown at a scale of 1:10,000 on Figure 4. The more detailed geology (1:2,000) of the Musgrave anomaly is shown on Figure 5.

Five Formations were recognized on Saltspring Island. From oldest to youngest these Formations are: Myra Formation (map-unit 1), Saltspring Intrusion (map-unit 2), Sediment unit (map-unit 3), and the Mafic Intrusion (map-unit 4). All these Formations belong to the Sicker Group. The Youngest stratigraphic unit is the Extension-Protection Formation (map-unit 5) of the Nanaimo Group.

Lithological descriptions of the mapped units are given in Appendix B. The terms gabbro and diabase are used synonymously in this report.

The Sediment-Sill unit proposed by Muller (1980) has been divided into the Sediment unit (map-unit 3) and the Mafic Intrusion unit (map-unit 4).

Volcanic rocks of the Myra Formation (map-unit 1), occupy the northern part of the Saltspring project-area and are considered to be of greatest exploration importance; the sedimentary rocks of the Sediment unit (map-unit 4), lie mainly in the south and west part of the project area.

Volcanic rocks consist of felsic to intermediate tuff/crystal tuff/lapilli tuff, minor massive felsic flows or hypabyssal intrusions and mafic flows. Felsic tuffs are commonly laminated with light green and pale white bands. Where thinly bedded, these bands are often undulatory.

Mafic volcanic rocks, mapped as andesite, basaltic-andesite, and basalt (map-unit 3 m) with one exception, are always in close proximity to rocks of the Mafic Intrusion (map-unit 4). A good portion may therefore actually represent a chill margin to a gabbro intrusion. During mapping, medium- to course-grain size was used as the main criteria for discriminating between these two units. If future evidence proves map-unit 3 m to be a chilled gabbro intrusion then it must be included with map-unit 4a.

The Mafic volcanic rock encountered on the north side of the Musgrave Conductor has distinctly different textural characteristics than the mafics encountered elsewhere in the Myra Formation and Sediment Sill unit. This rock-type may represent the older Nitinat Formation which lies along strike with it on the west side of Sansum Narrows.

The iron formation, on the west slope of Mount Sullivan, is hosted in chlorite schist and lapilli tuff. Jaspilite and bedded chert with thinly bedded magnetite and rare, thin (1-3 mm) pyrite bands are present on the east side of the project-area near the Holling's Rhodonite Quarry. All three occurrences are approximately on-strike with one another and they represent a useful marker horizon.

The Sediment unit (map-unit 3) is composed predominantly of black shale. Medium-grained, dark green mafic volcanic rock is the subordinate lithology. The southwestern half of the project area is underlain by the Sediment unit.

Hypabyssal intrusions abound in the project-area. The Saltspring Intrusion (map-unit 2) is a holocrystalline, leucocratic quartz porphyry. It is present on the north shore of Burgoyne Bay. The Mafic Intrusion unit (map-unit 4) consists of gabbro/diabase, feldspar-glomerophyric diabase and amphibole pegmatite plutons and sills. The unit occurs throughout the Myra Formation and Sediment unit.

Structure

The volcanic and sedimentary rock succession present on the Saltspring project is steeply dipping and is interpreted to be overturned and isoclinally folded, as shown by the schematic cross-section on Figure 4. Fold axes have a shallow plunge to the northwest.

The succession generally strikes northwest with a mean dip of 57° to the southwest. Bedding is common in the felsic tuffs and siltstones of the Myra Formation. Soft sediment deformation is locally exemplified by load casts and slump structures. Angular shale rip-up clasts are locally present and suggest the presence of weak marine currents. Facing determinations are made difficult by fine-grain size in siltstone, the prevalence of laminate-type bedding and by the presence of minor fold structures. These determinations in laminated siltstones indicate bedding tops to the west, but the overall folding geometry is insufficiently known to relate them to fold limbs in the stratigraphy.

Schistosity in the shales of the Sediment unit (map-unit 3) is moderately well developed. Intersections of schistosity and subtle bedding are rare.

Two major faults occur in the project area. In the north, the Fulford Harbour Fault occupies the centre of the Burgoyne Bay-Fulford Harbour Valley and trends 120°. In the south, the Tzuhalem Fault separates the Extension-Protection Formations from the Sediment unit. The Tzuhalem Fault is northwesterly trending and northeasterly dipping (Graves, 1960). It brings in contact a small wedge of the Extension-Protection Formation conglomerate (map-unit 5) of the Nanaimo Group with the Sediment and Mafic Intrusion units of the Sicker Group.

Elsewhere in the project-area, faulting was not perceived as a major feature.

Metamorphism

The Myra Formation, the Sediment and Mafic Intrusion units on Saltspring Island have been affected by low-grade greenschist facies metamorphism.

Contact metamorphism was noted adjacent to gabbroic intrusions. It predates regional metamorphism of sedimentary and volcanic rocks and resulted in locallized zones of silicification and bleaching of country rock near the intrusive contact.

Veining, Mineralization

A magnetite iron formation on the west slope of Mount Sullivan is indicated on Figure 4. It strikes to the northwest and is about 250 m in length and 50 m in width. This showing consists of magnetite in bands up to 10 cm thick with interbeds (2.3 cm) of cherty material and dull red jasper. Soft sediment deformation has resulted in elliptical to oblate jasper clasts hosted in a granular magnetite. Specularite occurs locally in association with magnetite. Randomly oriented, barren white quartz veins (up to 2 cm in width) cut the iron formation at all angles. Neither they nor the host rock display enrichment in precious or base metals (Appendix C, samples AB 16811-AB 16817). Two samples of "solid iron ore" assayed by the Department of Mines (1918) revealed:

	Fe	**S**	**P**	**Si**	**Ti**
Sample 1	30%	Tr	0.2%	53.3%	nil
Sample 2	39.5%	Tr	1.02%	34 %	nil

The 1918 Annual Report of the Minister of Mines stated, "there are other outcroppings exposed by smaller open-cuts in which the mineralization is composed principally of pyrrhotite, with very little copper sulphide ore associated." These open cuts were not located.

An occurrence of jasper-hematite-rich mudstone siltstone (Plate 2) and magnetite-rich mudstone/siltstone, intermittently exposed over 1 km, was found by detailed mapping on the upper slopes of the Musgrave grid. This iron formation lies four kilometres to the southeast of and essentially along strike with the Mount Sullivan prospect. This occurrence, shown as IF on Figures 4 and 5, culminates 1 km farther to the southeast in a well known rhodonite deposit, the Hollings Rhodonite Quarry (Figure 4).

Plate 2

Jaspilite bifurcating
barren - white quartz veins
occupy spaces between
tectonically brecciated
Jasper fragments.
Line E 8+60 - 8+70W
DM-941-84-438

The exposure in the rhodonite quarry is about 20 m by 10 m. Exposed is massive, flesh pink rhodonite cut by randomly oriented, narrow, pale brown (rhodonite?) veinlets (5 to 10 mm, 2%). The hanging wall (?) consists of rhyolitic tuff and narrow beds (10 cm) of magnetite, jasper and medium green chert. Pyrite occurs as disseminations, exhibits bedding features and accounts for up to 10% of the rock.

Samples of pyrolusite-rhodonite from the quarry revealed low values in base and precious metals, but high values in Mn (19% to 21%) and Ba (5,500 ppm).

An auriferous quartz vein, located in the Ecological Reserve along Mountain Road near Cape Keppel, had an inclined adit sunk during the 1930's or 1940's. This vein plunges 32° to the north and contains significant Au values (2.0 to 3.4 ppm as indicated by samples AB 16822 to 16824, Apendix C). It lies close to the gabbro contact.

Massive, milky-white quartz veins, found sporadically on the claims, show close association to the margins of the gabbro. Vein widths range from 30 to 100 cm. The veins sometimes contain minor sulphides (less than pyrite, chalcopyrite, pyrrhotite).

GEOPHYSICS

Introduction

Results from an initial airborne electromagnetic survey, are covered separately in a contractor's report by Questor Surveys Ltd. (Konings, 1984). The airborne survey was done with the helicopter INPUT system. This report will cover the follow-up ground geophysical surveys with some comments on the relations to the airborne results.

A total of 9.5 kms of ground electromagnetic survey was completed. Ground magnetic surveys amounted to 6 km.

Comments on Results of Airborne Survey

A perusal of the airborne eletromagnetic and magnetic survey data combined with preliminary geological reconnaissance, indicated that zones 6C and 6D (referred to as the Musgrave conductors in this report) were the priority follow-up targets. Only the Musgrave conductors received ground geophysical surveys. Visual inspection of the area around airborne anomalies 37D and 7A strongly suggests cultural (man-made) sources. Anomaly 7A appears to be a well-grounded steel fence. Anomaly 37D appears to be a powerline, but may warrant a second inspection. Zone 13F appears to be of such limited size that follow-up is not warranted at this time.

Numerous, weak responses were recorded in the Sediment unit on the south side of the property. These are not of interest at this time due to the nature of the geology.

Data Presentation

The data is presented in profile form at a scale of 1:2,000, superimposed on the topography for each line (Figure 7a to 7k). This type of presentation can be regarded as a series of sections. Correlation between lines is at times tenuous due to the 200 meter line separation. A plan view of the Musgrave conductors' spatial position is provided at a scale of 1:10,000 (Figure 6).

All electromagnetic data is presented in percent of the primary field strength (at a scale of 1 cm = 20%).

Magnetic data is total field, as provided by the high resolution Scintrex Proton magnetometers. This data is generally plotted in profile form at a scale of 1 cm = 100 nanotesla.

Survey Procedure

Equipment

1 - Apex Parametrics Maxmin II electromagnetic system
1 - Apex Parametrics Maxmin III electromagnetic system
1 - Scintrex MP 3 magnetometer
1 - Scintrex I.G.S.-2 data acquisition system configured to be a base-station magnetometer.

In the area of anomalies 6C and 6D the heavily forested hillside has dense undergrowth which necessitated line cutting. A grid of 10 lines, orientated N 40E and spaced approximately 200 metres apart, was established over zones 6C and 6D. This grid is known as the Musgrave conductor zone. These lines are perpendicular to the assumed strike of the Myra Formation rocks. The ten lines, labelled A to J, were chained independently of each other. In addition, anomaly D, on airborne line 10210S, had one line cut over it. Here, severe powerline noise prevented the collection of any meaningful electromagnetic data; however, the magnetic data was acceptable. Reinterpretation of this airborne anomaly shifted its location eastward toward the lower end of the cut line. This anomaly is too close to the power line to be confidently evaluated on the ground.

All cut lines were chained with corrections for the slope. These corrections ensure a station separation of 20 metres in the horizontal dimension. Topographical profiles of each line were also created to provide the information necessary for coil orientation (horizontal coplanar coils) and to assist in the subsequent interpretation of the data.

Horizontal coplanar loop electromagnetic surveying was completed using various coil separations (80, 120 and 200 metres) and various fequencies (3555 HZ, 1777 Hz and 888Hz). The higher frequencies are necessary to detect and to resolve poor conductors. Electromagnetic readings were taken at 20-metre intervals along the lines and appropriate corrections for coil separation variations were applied to each in-phase reading.

The lighter, Maxmin II was used for the 80- and 120-metre coil separation work. The more powerful Maxmin III was used for the 200-metre coil separation work to maintain good signal-to-noise ratio. Note that depth of investigation is primarily a function of coil separation.

Magnetic (total field strength) readings were taken at 10-metre intervals along all lines. During the course of the magnetic survey, a base station magnetometer was run continuously to monitor the diurnal shift of the earth's magnetic field. The portable magnetometer was used with the sensor attached to a tall staff to ensure against errors created by magnetic objects on the operator. Both the portable and base station magnetometers were total-field, microprocessor-controlled instruments capable of performing automatic diurnal corrections and plotting when connected to each other and to a suitable printer. The base field chosen for the survey was 56300 nanotesla.

Due to a minor malfunction of the base station magnetometer, the data for lines J, G and F were not automatically correctable. The diurnal change during the day that these lines were read was also monitored by the portable unit and found to be less than 20 nanotesla, thus the data was accepted.

Lines C and D have not yet received magnetometer coverage.

Discussion of Results

Due to the microwave and radio transmitters located in the centre of the property, a high level of electromagnetic noise exists in the survey area. Therefore, maintaining excellent signal-to-noise ratios in the H.L.E.M. work was important.

The airborne magnetic data shows that only a portion of the rocks mapped as gabbro/diabase have a high magnetic susceptibility. Some of the stronger airborne magnetic anomalies are related to andesite flows. Clearly, the magnetic susceptibility of these rocks depends on their magnetite concentration.

The Sullivan magnetite-jasper showing is not obvious on the airborne magnetic map, probably because of its small size and its proximity to the magnetic gabbro immediately to the south.

The poor quality airborne conductors necessitated the use of a ground technique sensitive to poor conductivity. The 3555 frequency of the Maxmin II on the horizontal coplanar loop mode is ideal for this job. V.L.F. surveying would also be effective but would, require extensive filtering to remove terrain effects.

The Musgrave conductor zone consists of two parallel conductors (#1 and #2) approximately 200 metres apart at the southeast end of the grid. These two conductors may converge farther to the southeast. The Iron Formation, Rhodonite Quarry and conductors are much closer to each other in the southeast corner of the property. Conductor #1 has received the most work to date. This conductor is over 2 km long. Airborne E.M. results suggest the zone probably doesn't extend more than about 200 metres NW of Line A. The Southeast extent is not known and further work is certainly warranted southeast of Line J.

Musgrave conductor #1 is narrow (1-2 metres in width) and generally has weak conductivity. The quadrature H.L.E.M. data suggest that that the width may be slightly better than indicated. The best conductivity thickness occurs on Lines E, F, G and H. The conductivity thickness products are around 1-5 siemens. The conductor is hosted in rocks varying from rhyolite tuff to black siltstone. A moderate-strength zinc and silver, soil geochemical anomaly is associated with the conductor.

The attitide of Musgrave conductor #1 is approximately 60° to the SW, however, at Lines F and G, the dip appears to change to steeply NE. Geology in this area indicates directional change and a thickening of the stratigraphy. The conductor is also directly associated with an interesting, moderate strength magnetic anomaly. Conductive, magnetic zones generally are indicative of pyrrhotite mineralization.

Musgrave conductor #1a, appears as a small distortion on the south flank of the Musgrave #1 profiles for Line B. The nature of this response suggests a very conductive non-magnetic, rod-shaped conductor of limited strike extent, perhaps the pinched-out nose of a fold.

This conductor lies in very silica-rich rock mapped as rhyolitic tuff.

Musgrave conductor #2 also lies in interesting geology, however, it has only been partially outlined on the ground and no soil geochemical work has covered it to date.

Overburden is less than 2 or 3 metres thick on the grid. Outcrop areas are frequent. The Musgrave conductors probably subcrop below the overburden.

The large coil separation work distorts shallow conductors. The limited amount of completed large coil separation work does not indicate that conductivity thickness improves at depth. If evaluation of the shallow conductors is encouraging, further large coil separation work will be warranted. This would, however, be based first on a re-evaluation of the existing INPUT data over the grid.

GEOCHEMISTRY

Introduction

Soil sampling

The geochemical soil survey conducted on the Saltspring project was of a supplementary nature to determine whether a base metal association was present with the Musgrave conductor. The sampling was selective, restricted to soil coverage of the conductor zone. 270 soil samples were collected.

Sampling of the B-Fe soil horizon was carried out at 20 m intervals along cut lines B through I on the Musgrave Grid (Figure 8). Samples were also collected at 30 m intervals along a pace and compass line bearing 315°

about 100 m east of the Musgrave Road and along the road itself, in a direction paralleling the slope.

Soil horizon development is excellent in the vicinity of the Musgrave Anomaly Grid. The B-Fe horizon is commonly as little as 2 cm below the organic-rich A horizon and in some places, is up to 40 cm thick.

Soil sampling was carried out by using a soil mattock. Collecting sixty to seventy samples per man-day was considered good progress.

Samples were collected in Kraft paper envelopes, partially dried at room temperature, and delivered to Acme Analytical Laboratories Ltd. (Acme), Vancouver. The samples were dried at 60°C, sieved to -80 mesh and analysed. All pulp and oversize were retained.

The -80 mesh fraction was analysed as follows:- a 0.500 g sample was digested with 3 ml of a 3:1:3 solution of $HCl-HNO_3-M_2$ at 95°C for one hour and diluted to 10 ml with water. The solution was then analysed by inductively coupled plasma (ICP) for Ag, Cu, Pb, Zn and Mn. Using the same sample preparation as above, Atomic Absorption Spectrometry (AA) analysis was performed for Au on alternate samples. A larger sample (10 g) was used in this case.

Rock Sampling

Rock geochemical sampling is mainly restricted to the outcrops found on the Musgrave Anomaly Grid, but 26 samples were collected from sites scattered across the project area. A total of 74 rock samples was collected. Locations are plotted on the geology map (Figures 4 and 5).

Sample masses ranged from 0.5 to 4 kg of unweathered material. All samples were pulverized to -100 mesh. Cu, Pb, Zn, Ag and Mn were analysed by ICP and AA was used to analyse for Ba and Au. Acme performed major oxide whole rock analyses by ICP on two samples. X-Ray Assay Laboratories Limited (X-RAY) of Don Mills, Ontario, performed whole rock analysis by X-ray fluorescence (XRF) and 35-element analysis by neutron activation (NAA) and direct current plasma analysis (DCP) on 5 samples (Appendix C).

Analytical Control

Analytical control was maintained through the use of Kidd Creek's internal standard SB-B for each batch of twenty soil samples submitted. Comparisons between Acme's ICP results and the Bondar-Clegg's AA results are presented in Tables 5 and 6, which show that the Mn analysis by ICP read consistently higher than the accepted standard value given in Table 6.

Results

Presentation

The location of all soil geochemical samples is shown on Figure 8. Soil geochemical results are presented on Figures 9, 10.

Geochemical results for rock and soil are listed in Appendix C and statistics are condensed in Tables 3 to 5. Lithology for rock samples may be determined from the geology maps (Figures 4 and 5). Computer print-out reports for whole-rock analysis are given in Appendix F.

The methods used for the determination of "strong" and "weak" soil geochemical anomaly thresholds are discussed in Appendix D.

Soil Anomalies

The most significant geochemical soil anomaly consists of three related weak to strong Zn anomalies which lie along the Musgrave Road between Lines H and J. (Figure 9). These anomalies carry values ranging between 400 and 1100 ppm Zn. The strongest of the anomalous soil zones on Line J is open to the southwest. This group of Zn soil anomalies also shows a few scattered, weak Cu and Ag values, and is associated directly with the EM conductor. It is underlain at this locality by a narrow band of black siltstone, near its contact with feldspar crystal tuff to the northeast and gabbro to the southwest. Several smaller Zn soil anomalous zones are scattered northwest along the same conductive horizon as shown in Figure 9. These soil anomalies show similar weak Cu and Ag association here and there. No cultural contamination was noted during the soil survey so that the Zn anomalies are presumed to reflect zinc and related possibly weak Cu-Ag mineralization associated with the conductive zone.

A single Pb anomalous sample (60 ppm) at about 34+00W, Line G, is accompanied by a weak Cu (165 ppm) and a strong Mn (6642 ppm) anomaly. It occurs within centimetres of the magnetite iron-formation.

The only strong Au anomaly (50 ppb) indicated by a single sample is located about 80 m south of 27+20W, Line C. It is associated with a strong Zn sample (702 ppm) and overlies rhyolitic tuff along the extension of

Table 3 Definition of Soil Geochemical Anomalies

	Strong	**Weak**	**Background**
Ag (ppm)	> 1.6	> 0.7	0.3
Au (ppb)	> 60	> 20	7
Cu (ppm)	> 200	> 100	36
Mn (ppm)	> 500	>3500	880
Pb (ppm)	> 50	n/a	10
Zn (ppm)	> 600	> 300	110

Table 4 Statistics on Soil Geochemical Results

	n	**max**	**min**	**x**	$\tilde{x}$	σ
Ag (ppm)	225	1.5	0.1	0.3	0.3	0.2
Au (ppb)	110	50	5	6	7	5
Cu (ppm)	226	207	10	43	36	27
Mn (ppm)	226	6446	231	1050	880	771
Pb (ppm)	227	47	1	12	10	8
Zn (ppm)	226	1151	27	172	110	175

Table 5 Statistics on Rock Geochemical Results

	n	**max**	**min**	**x**	$\tilde{x}$	σ
Ag (ppm)	68	1.9	0.1	0.3	0.1	0.2
Au (ppb)	66	3400	5	6	5	4
Ba (ppm)	59	5480	9	117	100	133
Cu (ppm)	66	1874	1	35	13	51
Pb (ppm)	68	32	1	8	6	8
Zn (ppm)	66	153	2	52	45	38

n=number of samples
max = maximum value
min = minimum value
x = arithmetic mean
$\tilde{x}$ = median
σ = standard deviation

Table 6 Statistics on Reference Sample SB-B
Analysis by Acme Analytical Laboratories Ltd..
Vancouver, B.C.

	n	max	min	x	ɸ	σ
Ag (ppm)	12	0.3	0.1	0.15	0.1	0.07
Au (ppb)	9	5	5	5	5	0
Cu (ppm)	12	194	122	175	182	20
Mn (ppm)	12	408	259	343	348	38
Pb (ppm)	12	37	20	27	25	6
Zn (ppm)	12	98	60	85	87	10

Table 7 Statistics on Reference Sample SB-B
Analyses by Bondar-Clegg, Ottawa

	n	max	min	x	ɸ	σ
Ag (ppm)	15	0.1	<0.1	<0.1	-	-
Au (ppb)	-	-	-	-	-	-
Cu (ppm)	15	168	157	163	-	4
Mn (ppm)	15	270	255	263	-	6
Pb (ppm)	15	28	22	25	-	2
Zn (ppm)	15	81	75	78	-	2

n=number of samples
max = maximum value
min = minimum value
x = arithmetic mean
ɸ = median
σ = standard deviation

the Musgrave conductor. A weak single sample Au anomaly (30 ppb) at 2+40W, Line E, is accompanied with a weak Cu anomaly (101 ppm). It overlies rhyolitic tuff and a westerly dipping EM conductor.

Several Mn anomalous soil samples were taken between 30 and 130 m east of the Musgrave Road on Lines D and E. They are isolated, small anomalies, the strongest of which at 2+20E on Line E is 20 m downslope from weak Cu and Au values in soil. The source of anomalous Mn in soil is unknown. Immediately downslope of a thin magnetite iron formation on the upper part of Lines I and F, Mn displays values of 4275 ppm and 6642 ppm, respectively. A weak Cu anomaly (165 ppm) is associated with Mn on Line F. Two isolated Cu anomalous samples occur about 20 m upslope of the occur about 20 m upslope of the iron formation on Line I. The samples were taken in proximity to diabase, and so could reflect chalcopyrite mineralization in quartz veins.

Rock sampling results

Most of the rock samples were collected to determine the presence of base, precious metal and manganese content.

Two significant findings emerged. The iron formation contains locally anomalous Mn content with no base metal association and possibly Ba-enrichment.

The quartz vein upon which an adit was driven in the Cape Keppel area contains significant Au and minor Cu values.

The anomalous samples with explanations are listed in Table 8.

APPENDIX B

LITHOLOGICAL DESCRIPTIONS OF MAPPED ROCK-TYPES

Unit 5a Polymictic conglomerate

Polymictic conglomerate was mapped northeast of Cape Keppel on the north side of South Mount Tuam Road. Matrix-supported clasts (2 to 40 cm, 50%) are rounded and consist of chert, diorite and jasper magnetite. The matrix is beige to light green, and psammitic in nature. Granules of quartz, shale and sandstone (<4mm, <20%) are randomly distributed throughout the fine-grained groundmass. Jasper clasts (35%) are composed of angular jasper fragments (<10 m, 40%), supported in a massive, grey-white cryptocrystalline quartz-magnetite matrix.

Bedding is rare.

Unit 5b Siltstone

Siltstone is a black to dark grey, fine-grained gritty textured rock. Locally, dark and light-grey bedding is displayed on fracture/joint facies. It is locally calcareous, with carbonate existing as aphanitic interstitial grains (<2%).

Unit 4a Gabbro/Diabase

Gabbro/diabase of the mafic intrusion unit is massive, medium green, and fine- to coarse-grained. Plagiocalse and actinolite (0.5-10 mm, 50:50) phenocrysts are subhedral blocky to euhedral lath-like. They are randomly distributed throughout a fine-grained subophitic textured matrix of identical mineralogy. Massive equigranular phases will contain minor interstitial anhedral plagioclase and actinolite.

TABLE 8. ANOMALOUS ROCK SAMPLES

Sample	Result	Location	Remarks
AB 16819	1203 ppm Cu	southwest project-area on MUS claim.	Reflects copper content of weak, malachite-mineralized quartz vein material. Negligible precious metal content.
AB 16822	4298 ppm Cu 20.0 ppm Ag 3400 ppb Au	east of old adit beside Mountain Road, near Cape Keppel.	Quartz vein material with pyrite and malachite. Presence of Au and minor Ag indicated.
AB 16823	1074 ppm Cu 12.5 ppm Ag 2000 ppb Au	southwest wall of adit, same locality.	Minor disseminated pyrite and chalcopyrite. Presence of Au and minor Ag indicated.
AB 16824	3209 ppm Cu 9.4 ppm Ag 125 ppb Au	face of same adit.	Barrent white quartz material. Presence of copper indicated.
AB 16905	211600 ppm Mn	Hollings Rhodonite Quarry	Samples of rhodonite with pyrite, magnetite and quartz. Base and precious metals absent. Ba content indicated in last sample.
AB 16906	186466 ppm Mn	same	
AB 16907	191000 ppm Mn 5480 ppm Ba	same	
AB 16925	4744 ppm Mn	upper end of Line E on Musgrave Grid.	Jaspilite, white quartz-bearing iron formation. No oxide of suphides of Fe noted but Mn content indicated.
AB 16926	2964 ppm Mn	same	
AB 16943	1247 ppm Cu 65 ppb Au	upper end of Line H on Musgrave Grid.	Quartz vein material with minor suspected chalcopyrite. Weak precious metal associatio indicated.
AB 16944	1874 ppm Cu 1.9 ppm Ag	same.	

Discussion

Comparison of statistics of soil and rock geochemical results show the similarity of mean values for Ag, Au, Cu and Pb (Cu values are similar when the maximum values of 1874 and 1247 ppm attributed to chalcopyrite in quartz veins are eliminated), suggesting that metal values in soils reflect low metal values in rock. The difference between Zn background levels in soil and rock is attributed to an approximate threefold hydromorphic enrichment of Zn in the soils.

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APPENDIX A

CONVENTION FOR THE SAMPLE NUMBERING SYSTEM

APPENDIX A
CONVENTION FOR THE SAMPLE NUMBERING SYSTEM

The convention for designating rock samples from the Saltspring Island Massive Sulphide Project-area is based on a sequence of four sets of letters and numbers. A typical sample e.g., DM-941-84-180 is discussed below:-

DM-sampler First and last initial of the sampler.
DM - David Mallalieu
TM - Tim Huttemann

941 - Project Number 941 designates the project

84 - Year 1984 specifies the year of sampling

180 - Sample Number - 180 represents the number within a series.

The exception to this convention is where only one letter and one number is present e.g. E-13. This designates the sampler (Enns) and the number of a sample within a series.

APPENDIX B

LITHOLOGICAL DESCRIPTIONS OF MAPPED ROCK-TYPES

Unit 4b Feldspar-glomerophyric diabase

Feldspar-glomerophyric diabase (Plate 3a) is a fine-grained, medium dark green, massive rock in which glomerophyric textures are generated by the clustering of individual plagioclase phenocrysts into rosettes (1-2 cm <20%)) or snowflake patterns. The groundmass is composed predominantly of fine-grained actinolite and isolated, equant greenish-white (1-2 mm, 7%) plagioclase. This lithology often occurs near the diabase/gabbro contact and may be a contact phase.

Unit 4c Amphibole pegmatite

Amphibole pegmatite is a massive black rock composed of random oriented euhedral to subhedral (5-15 mm) amphibole laths (50-80%) locally dusted with red powdery hematite. Plagioclase is white, anhedral to subhedral lath-like (2 mm) and interstitial to amphibole.

Units 3s Blackshale-siltstone

The blackshale-silststone is a fine-grained fissile, to weakly fissile, dull black rock. It is thinly bedded. When in close proximity to diabase sill, silicification of this rock results in the 'bleaching' to a pale green-white.

Carbonate occurs as individual grains (<0.5 mm, <5%) randomly distributed throughout or as rare, narrow veinlets (1-6 mm) accounting for up to 40% of the rock. Veinlets are aligned parallel to cleavage. Minor pyrrhotite and pyrite (totalling <2%) occur locally as disseminations and blebs. Pyrite accounts for up to 5% of the mode as smears on fracture surfaces. Graptolite? or plant debris(?), fossils were encountered on a road quarry about 2 km south of Bruce Peak (EM 941-84-033).

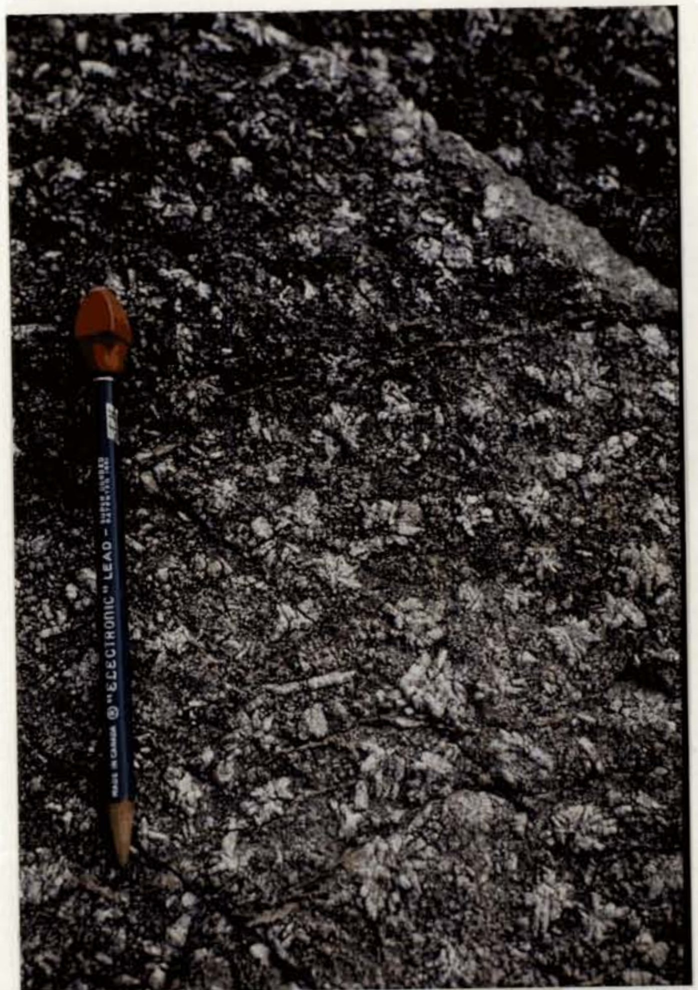


Plate 3a
Feldspar-glomerophyric diabase
TH-941-84-006

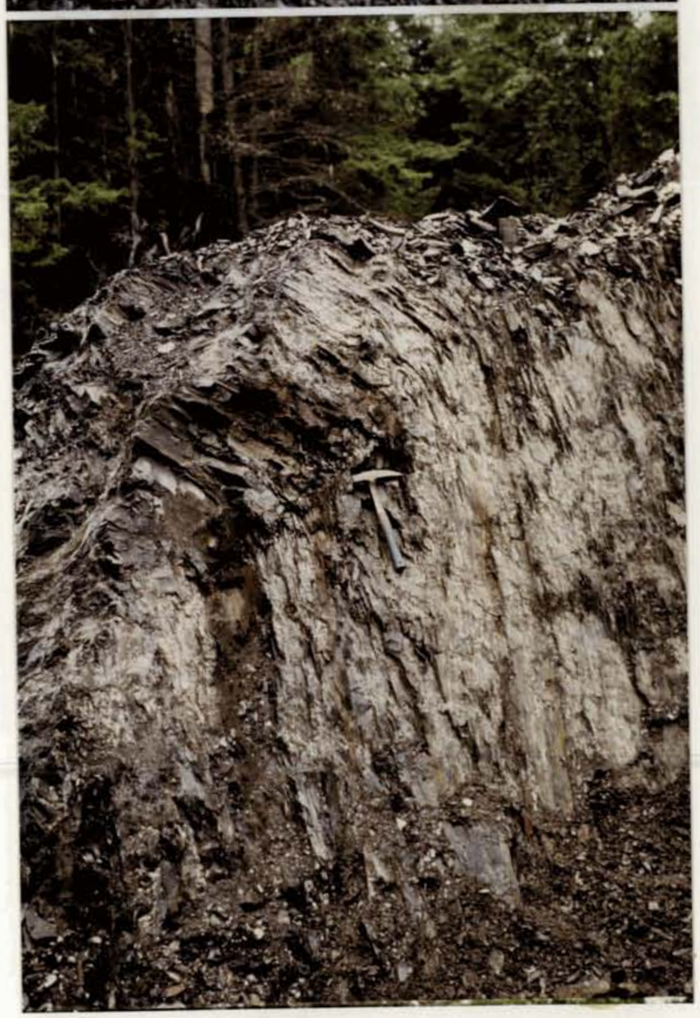


Plate 3b
Black Shale encountered at the road metal quarry. Section of a parallel fold? DM-941-84-033

Unit 3p Muscovite Schist

Muscovite schist was intersected on the south side of Musgrave Road in the vicinity of the road quarry (DM-941-84-033). It is a fine-grained, pale green, highly lustrous, schistose rock. A rusty weathered unknown metallic mineral (1 mm, <2%) is randomly distributed throughout. It is stretched into the plane of schistosity.

Unit 3g Greywacke, psammite

Greywacke is a massive, fine-grained grey to grey-green rock composed of detrital quartz, feldspar and calcite. Rock fragments are not evident.

Psammite is a light grey, fine-grained rock containing minor (<1%) fragments of feldspar (10 mm) hosted in a quartz-rich groundmass. Orange-weathered, needle-like (3 x 0.2 mm, 5%) mica grains defines a slight schistosity.

Unit 3c Marble and impure carbonate

Marble is a massive, fine-grained, transluscent white rock exhibiting a rough "scaley" fracture surface. The rock effervesces vigorously upon exposure to HCl. Impure carbonate is a fine-grained, (<0.1 mm) grey to grey-green rock with a gritty texture. Bedding is defined by subtle colour variations and by 5 to 10 mm thick, pale white siliceous interbeds. The rock reacts only slightly to HCl.

Unit 3i Lapilli tuff

Lapilli tuff was recognized in only one locality within the Sediment unit. It was intersected immediately west of Mount Tuam near the eastern property boundary of the Tibetan Buddhist retreat.

It is a medium green, slightly chloritic, massive, intermediate to mafic-composition rock. Randomly distributed throughout are anhedral white feldspar crystals (1 to 2 mm, 2 to 3%) and lithic clasts of felsic composition (1 by 2 cm, <5%). Lapilli are aligned parallel to a mild deformation fabric.

Unit 3m Mafic volcanic rocks

Mafic volcanic rocks are massive, fine- to coarse-grained and dark green. Only rarely is a slight foliation evident. Greenish-white, anhedral sub-equant to subhedral lath-like plagioclase phenocrysts (1 to 3 mm, 1 to 7%) are randomly distributed throughout a fine-grained groundmass. Matrix is subophitic textured. It is composed of subhedral lath-like amphibole (green to black) <2 mm, 40-50%) partially enclosing plagioclase laths.

Flow textures and fabrics are conspicuously absent.

Unit 3d Dacite

Dacite is a massive, buff-white weathering unit. The fresh surface is light greenish, composed of a fine-grained aggregate of quartz, feldspar and amphibole. A lineation is defined by acicular, dark grey amphiboles (1 by 10 mm) aligned parallel to a weak foliation.

Unit 2a Quartz porphyry

Quartz porphyry of the Saltspring Intrusion is a leucocratic granitoid rock occupying the north shore of Burgoyne Bay.

Grey to light-blue subhedral equant quartz-eyes (3 to 5 mm, 5%) and anhedral fine-grained hornblende and biotite clots (5mm, 5 to 15%) are randomly distributed throughout a fine-grained grey to white quartz-feldspar matrix.

Unit 1t Rhyolitic tuff

Rhyolitic tuff is a pale white to pale green, fine-grained to cryptocrystalline, finely laminated, cherty rock. Needle-like plagioclase crystallites (0.1 by 1 mm) are rare. Crystallites are off-white, aligned parallel to bedding and locally account for up to 5% of the mode.

The best example of rhyolitic tuff exhibiting laminated bedding is on Line B; east side of Musgrave Road (Plate 4a). Beds, 3 cm thick contain white, elliptical feldspar crystals (1.5 by 4 mm, 25%) alternate with beds 4 cm thick devoid of crystals (cherty interbeds). Grading in crystal-rich beds is not evident.

Unit 1x Feldspar crystal tuff

Feldspar crystal tuff is encountered north of the Musgrave Road and is most evident in the vicinity of the eastern half of the Musgrave Grid.

It is a grey fine-grained moderately schistose to massive intermediate composition rock. Randomly distributed throughout are equant to elliptical, cream-white plagioclase crystals (1 mm, 20%) on elongate, off-white, feldspar-rich lapilli (2 by10 mm, 10%), aligned parallel to schistosity (Plate 4b). Minor equant quartz crystals (<1 mm, <1%) are disseminated throughout.

Unit 1p Chlorite-sericite schist, chlorite schist

Chlorite-sericite schist and chlorite schist are gradational units. They are usually in close proximity to feldspar crystal tuff.

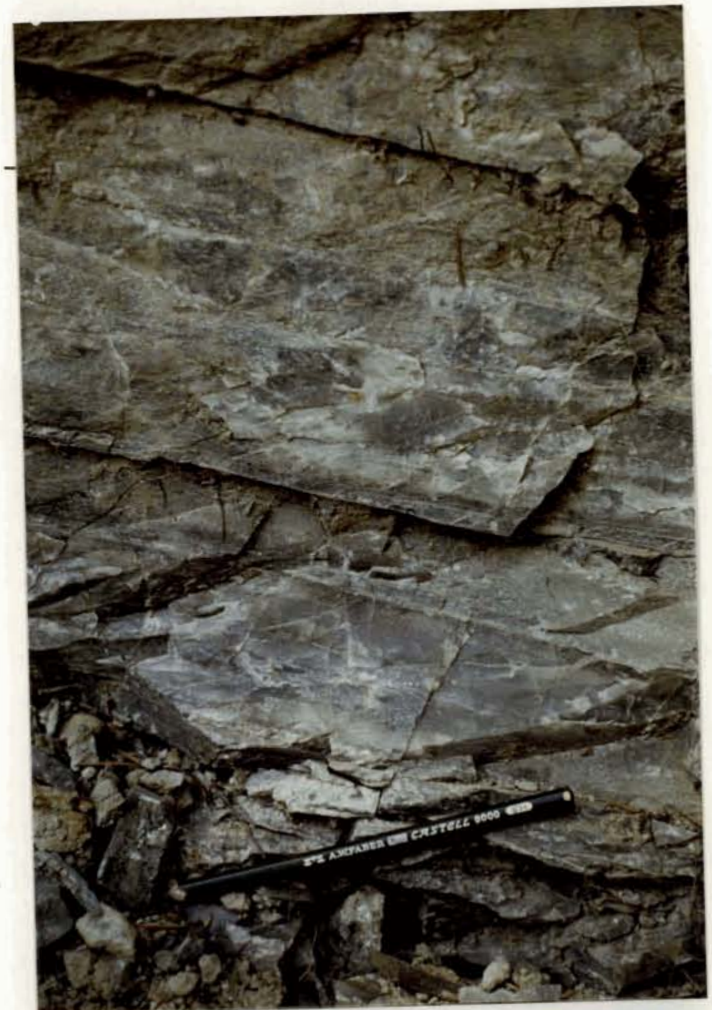


Plate 4a

Rhyolitic tuff. Cherty inter-beds dominate the photograph. Fine, white feldspar crystals dominate the second and third interbeds form the top.
Line B 3+00W 25 m S
DM-941-84-458

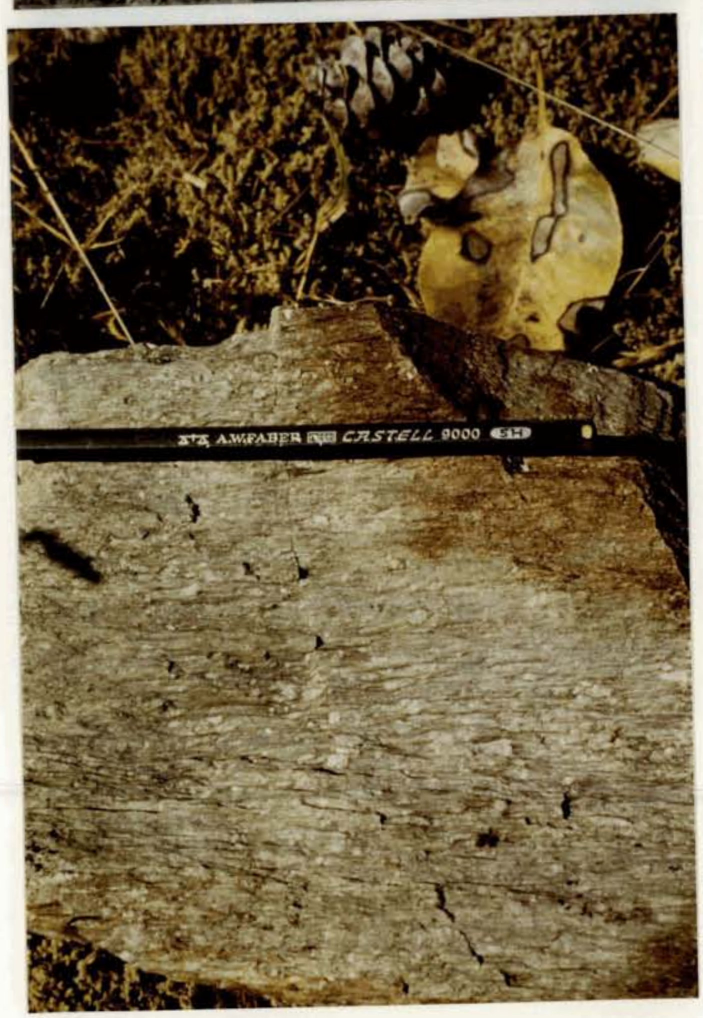


Plate 4b
Feldspar crystal tuff
E-13

The rock is pale-green, lustrous, aphanitic, and strong to weakly schistose. Rarely highly diffuse, elongate feldspar crystals (2 by 4 mm) account for up to 10% of the mode.

Unit 1i Lapilli tuff, lapilli-block tuff

Lapilli tuff, lapilli-block tuff was encountered in three areas within the Myra Formation:

a) the western slopes of Hope Hill

b) the northern and western slopes of Bruce Peak and

c) the western and northern slopes of Mount Sullivan

The rock is monolithic in all localities except in location (a), where its heterolithic nature is displayed (Plates 5a, b). The matrix of the rock is dark green, medium-grained, moderately chloritic to fine-grained grey. Sausseritized feldspar crystals (3 mm, 7%) are randomly distributed throughout. Composition ranges from mafic to intermediate.

Lapilli are buff-white, about 3 cm in diameter rounded to angular and account for 5 to 7% of the rock. Elliptical blocks, up to 100 cm in length and 15 cm in width (25%) are buff-white to grey-green and aligned parallel to a mild schistosity. Locally, (Hope Hill) a grey reaction 1 m 4 cm thick, surrounds the blocks.

Clasts are intermediate to mafic in composition. Mafic clasts are composed of fine-grained, lath-like actinolite and feldspar. Anhedral feldspar crystals (3mm, 15%) are randomly distributed throughout.

Plate 5a
Lapilli block tuff.
Heterolithic pyroclastic flow.
DM-941-84-022.

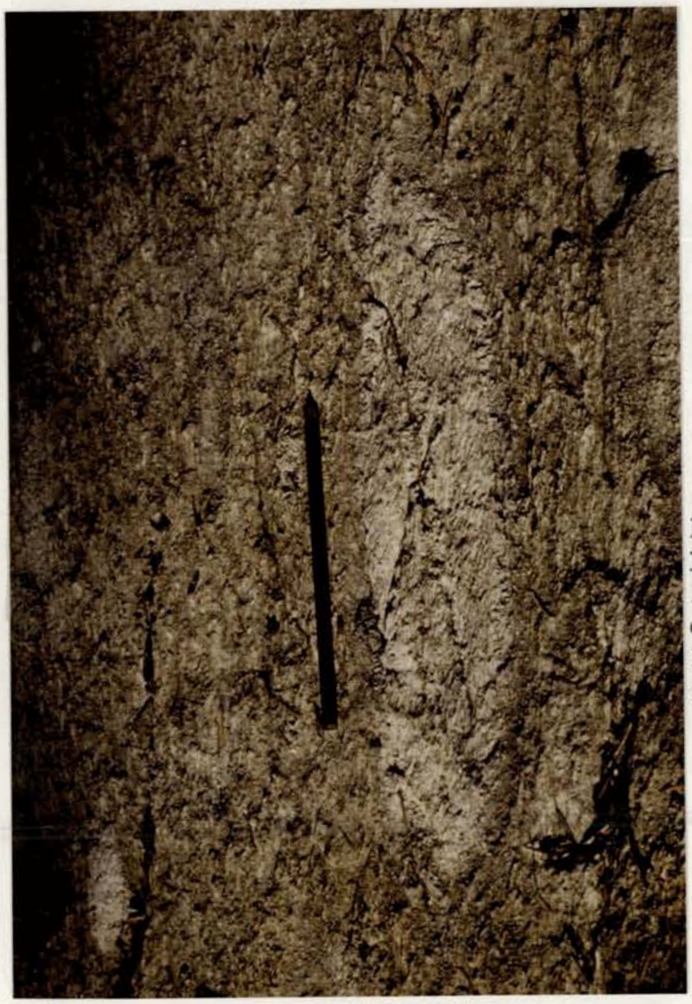


Plate 5b
Lapilli-block tuff
Intermediate composition
clast of tuffacoeus origin.
It exhibits a 2 cm thick
reaction rim.

Unit 1q Quartz-feldspar-phyric rhyodacite to rhyolite

Quartz-feldspar-phyric rhyodacite to rhyolite is a massive grey green to pale-white, fine-grained rock. Cream-white, subhedral blocky to anhedral plagioclase phenocrysts (3 mm, 10%) and locally subhedral quartz phenocrysts (1 mm, <2%) are randomly distributed throughout.

Randomly oriented, barren, white quartz veins (<100 cm) are locally present.

Unit 1d Dacite

Dacite is a massive grey to light-green, fine-grained, aphyric to feldspar phyric rock. Subhedral lath-like to blocky feldspar phenocrysts (1 mm, 3%) are yellowish-green and randomly distributed throughout.

Unit 1m Mafic volcanic rocks.

Mafic volcanic rocks are, for the most part, identical in composition and texture as those described in Unit 3m.

The mafic volcanic rock encountered on the Musgrave Grid is massive, fine-grained, grey with a slight mauve tinge. Anhedral, grey to transluscent grey feldspar phenocrysts (1 mm, 2%) are distributed through a non-chloritized matrix. Flow textures and fabrics are conspicuously absent.

Outcrop is typically rubbly and exposure is poor.

Unit 1a Amphibolite

Is a massive, blue-green, moderately chloritic rock. Amphibole is subhedral lath-like (< 1 cm, 80%), randomly oriented throughout. Feldspar is anhedral, equant, and interstitial to amphibole. It is up to 5 mm in diameter. It displays a greenish-white rim and dark green core. It locally accounts for 50% of the rock.

Amphibolite likely represents a metamafic flow.

Unit 1s Siltstone

Siltstone is a fine-grained blocky, massive to moderately fissile rock. It is thinly bedded and is 'bleached' to a pale green-white when in proximity to diabase sills.

Interbeds (< 1 cm) of grey to black siltstone (50%) and white, fine-grained felsic tuff (50%) locally exhibit graded bedding (Plate 6). Angular rip-up clasts of siltstone (3 x 15 cm, 15%) encompased in felsic tuff was encountered in one locality.

"Pillow-like" concretionary structures up to 50 cm in diameter were recognized in a single outcrop east of Burgoyne Bay.

Unit 1c Impure carbonate

Impure carbonate was encountered in a single outcrop on the Musgrave Grid. It is fine-grained, sugary textured, siliceous rock exhibiting diffuse thin, white and blue-black (4 cm) bedding. It is moderately calcareous.

The rock is likely related to interbedded siltstone and felsic tuff.

Plate 6
Interbedded felsic tuff and siltstone displaying graded and cross bedding.
Line 1 3+10E
E-1

APPENDIX C
GEOCHEMICAL RESULTS

KIDD CREEK MINES   PROJECT - 941   FILE # 84-3528

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb
SA-20995	20	6	93	.3	289	16
SA-20996	38	20	100	.3	921	-
SA-20997	43	14	112	.1	1129	1
SA-20998	17	31	377	.1	1305	-
SA-20999	19	23	106	.2	474	3
SA-21000	22	21	105	.2	1447	-
SA-21001	62	21	930	.2	1686	1
SA-21002	50	20	184	.3	1365	-
SA-21003	29	20	66	.1	937	1
SA-21004	20	18	62	.2	1310	-
SA-21005	15	15	58	.1	614	1
SA-21006	23	5	71	.2	775	-
SA-21007	108	30	993	1.5	2783	11
SA-21008	57	25	573	.3	1678	-
SA-21009	40	16	259	.5	755	1
SA-21010	50	14	283	.4	651	-
SA-21011	32	22	320	.3	2382	1
SA-21012	60	15	560	1.2	631	-
SA-21013	38	11	275	.4	756	1
SA-21014	189	30	87	.2	357	-
SA-21015	35	18	263	.5	1275	3
SA-21016	54	19	593	.8	2978	-
SA-21017	42	15	212	.4	1142	1
SA-21018	34	12	298	.4	1253	-
SA-21019	14	18	628	.2	921	1
SA-21020	46	12	64	.2	606	-
SA-21021	46	16	71	.3	465	3
SA-21022	29	17	67	.1	1352	-
SA-21023	17	9	91	.2	1502	1
SA-21024	47	24	103	.2	4275	-
SA-21025	39	10	50	.2	474	3
SA-21026	30	16	91	.1	2263	-
SA-21027	40	12	114	.3	2691	5
SA-21028	36	11	105	.3	923	-
SA-21029	20	11	86	.1	1803	5
SA-21030	51	16	101	.4	2223	-
SA-21031	218	12	75	.4	2321	3
STD C/AU 0.5	61	41	130	6.8	1123	500
SA-21032	119	8	48	.1	808	-
SA-21033	43	29	108	.1	1794	2
SA-21034	165	31	75	.2	326	-
SA-21035	67	14	109	.3	1623	1
SA-21036	90	17	132	.5	1014	-
SA-21037	40	15	175	.1	2638	1
SA-21038	165	60	136	.6	6642	-
STD C/AU 0.5	56	40	118	6.8	1041	495

KIDD CREEK MINES   PROJECT # 941   FILE # 84-3229

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb
SA-20976	22	12	167	.2	1000	-
SA-20977	17	13	197	.1	1668	5
SA-20978	23	1	110	.1	1082	-
SA-20979	21	12	135	.1	708	5
SA-20980	34	22	187	.3	992	-
SA-20981	19	6	53	.1	231	5
SA-20982	29	17	759	.1	872	-
SA-20983	37	6	888	.2	1136	5
SA-20984	182	25	98	.1	354	-
SA-20985	21	8	227	.3	456	5
SA-20986	52	5	44	.5	295	-
SA-20987	195	2	110	.2	624	5
SA-20988	38	23	137	.3	2782	-
SA-20989	34	17	63	.1	600	5
SA-20990	41	5	84	.4	905	-
SA-20991	91	1	66	.1	776	5
SA-20992	62	4	35	.1	780	-
SA-20993	62	7	35	.1	792	5
SA-20994	60	2	34	.1	790	-
STD C/AU 0.5	62	38	127	6.6	1080	505

KIDD CREEK MINES   PROJECT # 941   FILE # 84-3229

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb
SA-20939	42	15	101	.7	1635	5
SA-20940	31	1	64	.3	398	-
SA-20941	48	9	195	.3	632	5
SA-20942	39	1	73	.3	809	-
SA-20943	98	7	116	.8	1043	5
SA-20944	194	23	87	.1	370	-
SA-20945	104	9	144	.5	1507	5
SA-20946	24	5	46	.2	355	-
SA-20947	32	5	57	.1	298	5
SA-20948	19	9	42	.2	372	-
SA-20949	30	4	73	.1	501	5
SA-20950	51	8	79	.1	777	-
SA-20951	29	12	54	.1	495	5
SA-20952	24	11	69	.1	1133	-
SA-20953	46	7	53	.2	474	5
SA-20954	42	3	61	.2	808	-
SA-20955	38	5	90	.1	1053	5
SA-20956	25	12	81	.2	1315	-
SA-20957	33	5	66	.2	341	5
SA-20958	27	19	63	.1	580	-
SA-20959	34	9	75	.1	953	5
SA-20960	16	1	64	.3	785	-
SA-20961	33	7	63	.2	385	5
SA-20962	20	9	54	.2	725	-
SA-20963	32	8	109	.4	686	5
SA-20964	191	20	89	.2	355	-
SA-20965	25	2	111	.1	1023	5
SA-20966	27	19	181	.2	1567	-
SA-20967	22	10	154	.1	2722	5
SA-20968	36	1	75	.1	726	-
SA-20969	30	5	63	.1	438	5
SA-20970	12	7	170	.2	921	-
SA-20971	17	2	102	.1	549	5
SA-20972	48	13	114	.2	862	-
SA-20973	61	4	85	.1	1398	5
SA-20974	69	5	158	.2	1359	-
SA-20975	32	8	158	.1	916	5
STD C/AU 0.5	61	38	125	6.8	1057	510

KIDD CREEK MINES PROJECT # 941 FILE # 84-3229

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb
SA-20902	17	14	58	.4	1210	-
SA-20903	164	24	77	.3	342	5
SA-20904	26	11	73	.2	812	-
SA-20905	29	12	73	.1	719	5
SA-20906	26	6	58	.2	574	-
SA-20907	43	13	111	.3	3534	5
SA-20908	47	9	130	.4	2314	-
SA-20909	60	3	255	.5	2295	5
SA-20910	46	7	203	.2	1015	-
SA-20911	82	23	372	.4	6446	5
SA-20912	31	11	190	.2	487	-
SA-20913	31	12	61	.1	1563	5
SA-20914	63	9	58	.2	594	-
SA-20915	20	8	41	.1	286	5
SA-20916	17	17	70	.1	1404	-
SA-20917	37	8	60	.1	549	5
SA-20918	35	14	59	.2	1668	-
SA-20919	38	12	93	.3	1442	5
SA-20920	132	7	57	.9	712	-
SA-20921	19	9	41	.3	298	5
SA-20922	48	7	129	.4	1875	-
SA-20923	122	20	60	.2	259	5
SA-20924	49	10	161	.5	718	-
SA-20925	70	13	90	.4	1194	5
SA-20926	22	4	44	.3	508	-
SA-20927	40	11	119	.3	2154	5
SA-20928	24	16	78	.1	775	-
SA-20929	16	11	66	.2	419	5
SA-20930	21	12	81	.2	597	-
SA-20931	25	7	67	.1	421	5
SA-20932	29	8	105	.4	447	-
SA-20933	20	16	89	.2	1528	5
SA-20934	35	17	158	.2	1617	-
SA-20935	10	9	55	.1	601	5
SA-20936	19	8	45	.1	812	-
SA-20937	30	2	40	.1	268	5
SA-20938	22	7	48	.1	550	-
STD C/AU 0.5	58	38	123	6.6	1067	500

KIDD CREEK MINES   PROJECT # 941   FILE # 84-3229

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb
SA-20865	65	1	190	.3	1299	5
SA-20866	64	13	1151	.2	1445	-
SA-20867	23	4	78	.2	467	5
SA-20868	37	6	57	.1	381	-
SA-20869	45	6	214	.4	1177	5
SA-20870	42	8	252	.2	879	-
SA-20871	43	10	245	.2	486	5
SA-20872	54	12	137	.2	1492	-
SA-20873	189	25	93	.1	378	5
SA-20874	34	8	266	.3	1371	-
SA-20875	60	7	110	.2	681	5
SA-20876	107	10	115	.3	1078	-
SA-20877	144	16	87	.2	1021	5
SA-20878	38	6	93	.4	647	-
SA-20879	49	9	83	.5	1041	5
SA-20880	37	1	54	.2	397	-
SA-20881	26	6	206	.3	776	5
SA-20882	26	10	89	.2	614	-
SA-20883	51	22	133	.3	1350	5
SA-20884	41	10	58	.3	743	-
SA-20885	82	11	112	.2	1182	5
SA-20886	51	1	54	.1	389	-
SA-20887	14	4	36	.3	315	5
SA-20888	19	33	101	.2	602	-
SA-20889	24	12	113	.3	455	5
SA-20890	37	7	63	.2	353	-
SA-20891	68	18	100	.3	1197	5
SA-20892	47	14	83	.2	1458	-
SA-20893	170	37	87	.1	332	5
SA-20894	58	27	198	.5	3760	-
SA-20895	55	16	244	.5	5024	5
SA-20896	39	21	277	.4	3189	-
SA-20897	52	25	312	.7	1128	5
SA-20898	26	14	210	.2	2245	-
SA-20899	62	2	202	.7	4381	5
SA-20900	90	6	93	.3	1108	-
SA-20901	207	10	105	.5	1234	5
STD C/AU 0.5	59	41	129	6.5	1038	490

KIDD CREEK MINES PROJECT # 941 FILE # 84-3229

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb
SA-20828	66	18	183	.7	508	-
SA-20829	58	3	60	.3	320	5
SA-20830	29	29	117	.4	2583	-
SA-20831	31	14	112	.3	1313	5
SA-20832	25	9	100	.1	561	-
SA-20833	167	25	79	.2	311	5
SA-20834	37	6	49	.2	256	-
SA-20835	34	12	27	.3	493	5
SA-20836	25	13	41	.1	261	-
SA-20837	32	8	179	.3	283	5
SA-20838	37	12	423	.4	1281	-
SA-20839	89	12	326	.8	1055	5
SA-20840	119	19	728	1.2	1675	-
SA-20841	52	22	624	.3	1904	5
SA-20842	19	7	148	.3	752	-
SA-20843	47	22	487	.5	2452	5
SA-20844	101	11	603	.6	517	-
SA-20845	47	11	299	.6	332	5
SA-20846	43	4	137	.3	347	-
SA-20847	37	3	123	.5	282	5
SA-20848	25	24	275	.3	1327	-
SA-20849	48	9	170	.3	542	5
SA-20850	44	25	853	.7	1590	-
SA-20851	47	14	83	.3	326	5
SA-20852	36	12	153	.3	742	-
SA-20853	166	22	83	.1	317	5
SA-20854	49	13	460	.6	2900	-
SA-20855	54	8	558	.4	914	5
SA-20856	25	19	231	.2	1600	-
SA-20857	34	10	500	.3	713	5
SA-20858	25	9	579	.1	664	-
SA-20859	23	14	727	.1	1182	5
SA-20860	30	19	409	.2	1437	-
SA-20861	35	22	295	.4	1488	5
SA-20862	32	6	206	.1	1043	-
SA-20863	53	12	151	.1	1075	5
SA-20864	65	5	230	.1	1054	-
STD C/AU 0.5	61	38	129	6.7	1040	490

KIDD CREEK MINES PROJECT # 941 FILE # 84-3229

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb
SA-20775	68	11	105	.1	1616	5
SA-20776	35	5	64	.2	583	-
SA-20777	181	37	84	.1	329	5
SA-20778	66	11	93	.2	1219	-
SA-20779	23	11	47	.2	470	5
SA-20780	66	13	74	.2	1097	-
SA-20781	62	12	125	.1	1172	5
SA-20782	22	19	81	.2	2675	-
SA-20783	20	10	48	.1	592	5
SA-20784	62	10	83	.2	664	-
SA-20785	41	4	61	.2	524	5
SA-20786	29	15	55	.1	398	-
SA-20787	20	8	51	.1	581	5
SA-20788	21	6	67	.4	419	-
SA-20789	36	12	58	.1	396	5
SA-20790	33	8	58	.1	502	-
SA-20791	31	9	55	.1	334	5
SA-20792	21	9	54	.1	376	-
SA-20793	24	13	74	.1	560	5
SA-20794	24	7	61	.1	1017	-
SA-20795	13	2	54	.1	881	5
SA-20796	23	11	141	.2	1266	-
SA-20797	191	28	91	.1	366	5
SA-20798	22	14	108	.1	909	-
SA-20799	40	10	214	.2	1511	5
SA-20800	23	12	111	.1	764	-
SA-20817	31	9	134	.1	2134	5
SA-20818	67	6	102	.1	921	-
SA-20819	44	9	70	.1	927	5
SA-20820	40	15	94	.1	1182	-
SA-20821	58	20	125	.2	1236	5
SA-20822	84	9	122	.1	1230	-
SA-20823	27	9	64	.2	475	5
SA-20824	30	18	121	.1	838	-
SA-20825	25	14	97	.1	726	5
SA-20826	102	17	195	.2	2069	-
SA-20827	101	9	186	.5	1028	30
STD C/AU 0.5	61	41	128	6.6	1035	510

KIDD CREEK MINES   PROJECT # 941   FILE # 84-3229

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb
SA-20738	26	8	62	.2	582	-
SA-20739	49	4	81	.5	787	5
SA-20740	62	21	391	.5	1180	-
SA-20741	34	23	428	.4	788	5
SA-20742	63	32	618	.4	1158	-
SA-20743	35	13	118	.5	471	5
SA-20744	100	47	535	.2	2004	-
SA-20745	56	20	199	.4	1190	5
SA-20746	35	12	110	.6	1030	-
SA-20747	43	6	221	.1	656	5
SA-20748	66	21	438	.1	639	-
SA-20749	81	28	702	.7	1182	50
SA-20750	67	17	123	.1	436	-
SA-20751	86	13	130	.2	866	5
SA-20752	51	30	110	.3	822	-
SA-20753	89	21	121	.1	1878	10
SA-20754	69	15	128	.2	1241	-
SA-20755	39	7	71	.1	859	5
SA-20756	30	14	243	.1	1435	-
SA-20757	190	34	97	.2	408	5
SA-20758	28	20	241	.3	1333	-
SA-20759	66	20	166	1.5	522	10
SA-20760	31	12	185	.6	905	-
SA-20761	42	15	605	.3	1254	5
SA-20762	27	9	196	.1	608	-
SA-20763	27	16	154	.2	586	5
SA-20764	31	18	383	.2	1872	-
SA-20765	33	8	286	.2	1448	5
SA-20766	38	12	510	.4	2776	-
SA-20767	31	24	647	.1	2442	5
SA-20768	20	1	171	.3	1125	-
SA-20769	30	12	137	.1	472	15
SA-20770	35	3	91	.1	556	-
SA-20771	18	31	61	.3	1262	5
SA-20772	40	29	116	.2	2079	-
SA-20773	33	8	69	.1	628	5
SA-20774	37	10	261	.1	904	-
STD C/AU 0.5	62	42	130	6.7	1055	485

KIDD CREEK   PROJECT # 941   FILE # 84-1893

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	MN PPM	AU* PPB	BA* PPM	Total C %
AB-16906	1	24	46	.2	186466	5	150	-
AB-16907	1	32	85	.2	191000	5	5480	-
AB-16908	31	9	31	.5	1740	5	150	-
AB-16909	7	3	25	.2	2853	5	250	-
AB-16910	10	6	26	.5	386	5	170	-
AB-16911	19	4	47	.8	751	5	150	-
AB-16912	13	2	45	.4	360	5	160	-
AB-16913	4	6	26	.3	187	5	150	-
AB-16914	2	3	52	.3	205	5	160	-
AB-16915	5	27	129	.3	323	5	100	-
AB-16916	126	1	26	.6	385	5	100	-
AB-16917	10	2	31	.1	343	5	150	-
AB-16919	11	9	78	.3	515	5	160	-
AB-16920	1	18	76	.1	733	5	120	-
AB-16921	4	4	67	.1	315	5	120	-
AB-16922	3	15	107	.1	284	5	150	-
AB-16923	182	7	43	.3	472	5	90	-
AB-16924	18	7	58	.9	517	5	200	-
AB-16925	4	3	6	.1	4744	5	140	-
AB-16926	4	7	3	.1	2964	5	230	-
AB-16927	4	9	65	.1	1206	5	1020	-
AB-16928	20	2	39	.3	342	5	60	-
AB-16929	2	3	11	.1	164	5	50	-
AB-16933	95	2	38	.6	584	10	170	-
AB-16935	1	3	2	.1	47	5	60	-
AB-16936	17	4	4	.4	250	5	720	-
AB-16937	1	11	17	.1	185	5	100	-
AB-16938	10	13	35	.2	173	5	170	-
AB-16939	29	10	64	.2	217	5	150	-
AB-16940	15	12	45	.4	267	5	170	-
AB-16941	151	1	50	.4	557	5	100	-
AB-16942	30	8	62	.1	568	5	60	-
AB-16943	1247	8	20	1.0	183	65	50	-
AB-16944	1874	9	32	1.9	225	35	40	-
AB-16945	114	9	40	.1	479	5	50	-
AB-16946	44	9	94	.3	614	5	30	.56
AB-16947	179	9	65	.8	888	5	40	-
STD S-1/AU-0.5	124	118	185	33.5	480	520	-	-

KIDD CREEK   PROJECT # 941   FILE # 84-1972

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AU* PPB	BA* PPM
AB-16948	24	11	44	.6	5	410
AB-16949	7	31	153	.1	5	150
AB-16950	6	3	12	.1	5	75

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

GEOCHEMICAL ICP ANALYSIS

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

DATE RECEIVED: MAY 29 1984 DATE REPORT MAILED: June 4/84 ASSAYER. D. Toye DEAN TOYE. CERTIFIED B.C. ASSAYER

KIDD CREEK MINES PROJECT # 941 FILE # 84-0899

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM
AB-16819	1	1203	4	29	1.7	11	7	227	2.16	4	2	ND	2	6	1	2	2
AB-16820	1	499	1	98	.6	5	18	661	6.37	6	2	ND	2	25	2	2	2
AB-16821	1	506	1	102	.4	3	17	727	6.87	3	2	ND	3	25	2	2	2
AB-16822	1	4298	2	65	20.4	5	4	159	1.62	3	2	10	2	3	4	2	2
AB-16823	1	1074	1	20	12.5	6	3	47	.98	2	3	2	2	1	1	2	3
AB-16824	1	3209	2	81	9.4	14	18	233	1.31	2	2	ND	2	8	5	2	2
AB-16825	1	36	5	43	.3	3	1	334	2.06	4	6	ND	2	6	1	2	2
AB-16826	1	47	15	109	.3	53	15	720	4.34	28	2	ND	3	29	1	2	2
STD A-1	1	30	39	186	.4	36	13	1050	2.80	9	2	ND	2	37	2	2	2

SAMPLE#	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU* PPB
AB-16819	37	.64	.05	2	17	.46	32	.09	10	.91	.01	.01	2	5
AB-16820	62	1.10	.25	6	1	.69	384	.25	4	2.11	.02	.10	2	5
AB-16821	43	1.26	.31	11	1	.67	490	.20	7	2.22	.03	.09	2	5
AB-16822	6	.27	.01	2	1	.11	41	.01	15	.23	.01	.01	2	3400
AB-16823	6	.01	.01	2	5	.04	19	.01	11	.08	.01	.01	2	2000
AB-16824	9	1.74	.01	2	5	.13	20	.01	9	.24	.01	.01	2	125
AB-16825	20	.05	.02	2	17	.58	90	.05	11	1.00	.01	.02	2	5
AB-16826	60	.83	.08	4	35	.99	84	.01	2	2.72	.01	.02	2	5
STD A-1	56	.62	.10	7	64	.63	255	.10	7	2.06	.01	.20	2	-

KIDD CREEK MINES   PROJECT # 941   FILE # 84-0839

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	BA* PPM	AU* PPB
AB-16802	34	7	83	.3	159	15
AB-16803	115	1	51	.1	15	5
AB-16804	3	1	2	.1	12	5
AB-16805	188	1	103	.3	10	5
AB-16806	39	3	115	.2	29	5
AB-16807	41	5	106	.1	29	5
AB-16808	34	5	124	.2	49	5
AB-16809	6	1	10	.1	15	5
AB-16810	194	1	73	.1	54	5
AB-16811	3	2	4	.1	10	5
AB-16812	5	1	3	.1	10	5
AB-16813	2	1	4	.1	9	5
AB-16814	7	2	91	.1	9	5
AB-16815	3	1	3	.1	9	5
AB-16816	6	3	68	.1	10	5
AB-16817	3	4	13	.1	10	5
AB-16818	24	1	97	.1	34	5
STD A-1/AU 0.5	30	39	186	.3	-	510

KIDD CREEK   PROJECT # 941   FILE # 84-1545

SAMPLE#	CU PPM	PB PPM	ZN PPM	AG PPM	AU* PPB	BA* PPM	MN PPM
AB-16905	9	16	79	.2	5	630	211600
STD A-1/AU 0.5	30	39	186	.3	515	-	-

KIDD CREEK MINES   PROJECT # 941   FILE # 84-3229

SAMPLE#	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mn ppm	Au* ppb	Ba* ppm
AB-18572	24	26	15	.4	302	20	16
AB-18573	57	11	11	.6	123	5	-
AB-18574	28	15	92	.2	310	5	-
AB-18575	61	3	11	.2	200	5	-
AB-18576	19	12	71	.1	463	5	-
AB-18577	16	14	66	.1	679	5	-
AB-18578	21	1	58	.1	806	5	-
AB-18579	11	6	73	.1	825	5	-
AB-18580	67	6	132	.1	652	5	-
STD C/AU 0.5	61	43	126	6.7	1094	470	-

APPENDIX D

METHODS FOR DETERMINATION OF FIRST AND SECORD ORDER SOIL GEOCHEMICAL ANOMALIES

APPENDIX D

METHODS FOR DETERMINATION OF FIRST AND SECORD ORDER SOIL GEOCHEMICAL ANOMALIES

Soil geochemical first and second order threshold values and background values were determined on a semi-quantitative basis. Cumulative frequence distribution plots (Appendix E) were inspected for the presence of significant breaks in the curve. The intersection of the 2.5, 5.0 and 50.0 percent ordinates with the curve were also noted.

Initially if the significant break in the curve occurred within the top 2.5 percent of the population or less, it was accepted as the threshold value for first order (strong) anomalies. Lower, second order (weak) threshold values were then set at values coincident with geochemical values associated with the 5.0 percent ordinate.

Median was considered to closely represent background levels.

Where these values do not accurately reflect strong and weak anomaly threshold values, threshold values were adjusted to more realistic values by visual inspection.

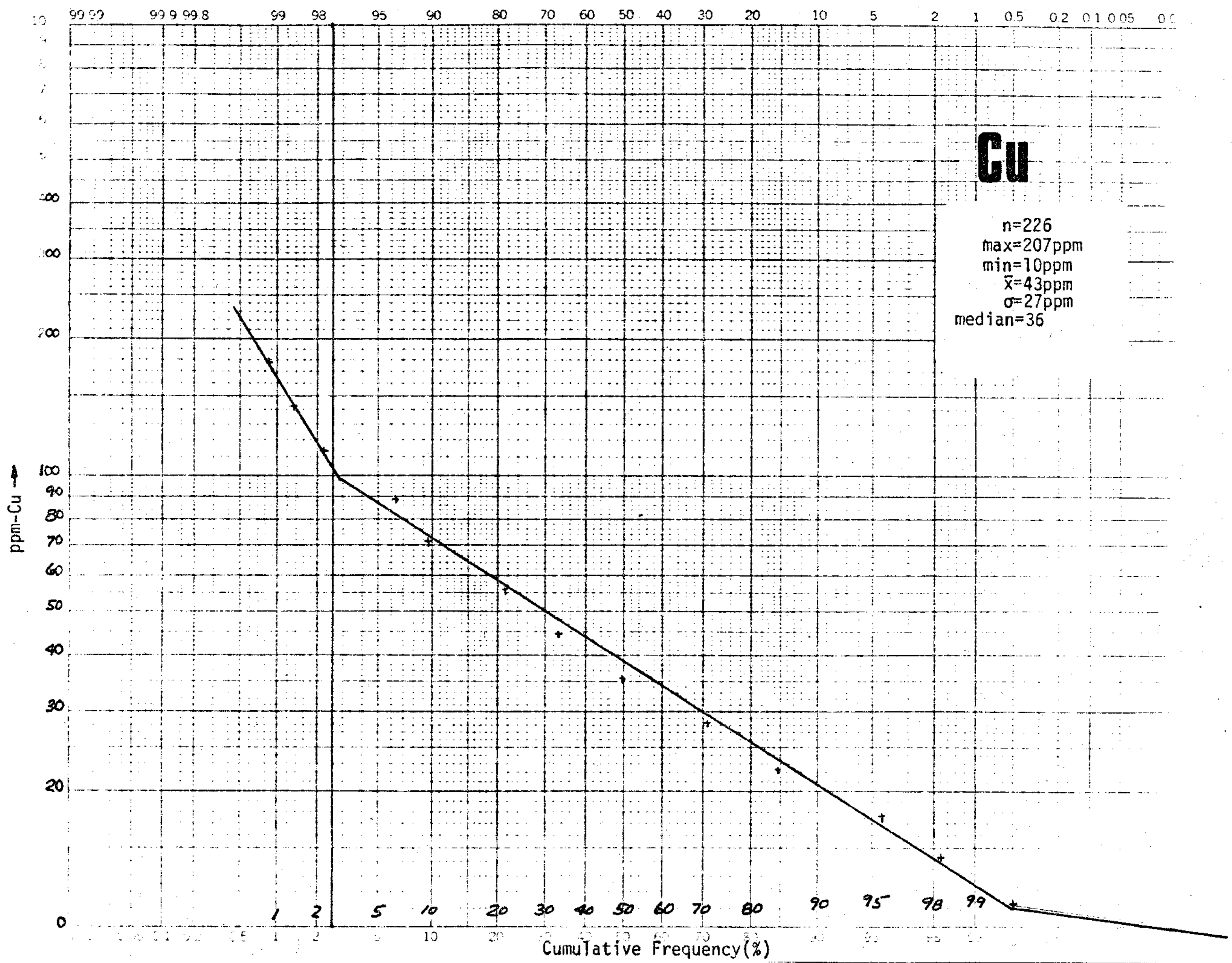
Threshold values were not determined on rock geochemical data, as simple statistics given in Table 5 sufficed for presentation and most information purposes.

APPENDIX E

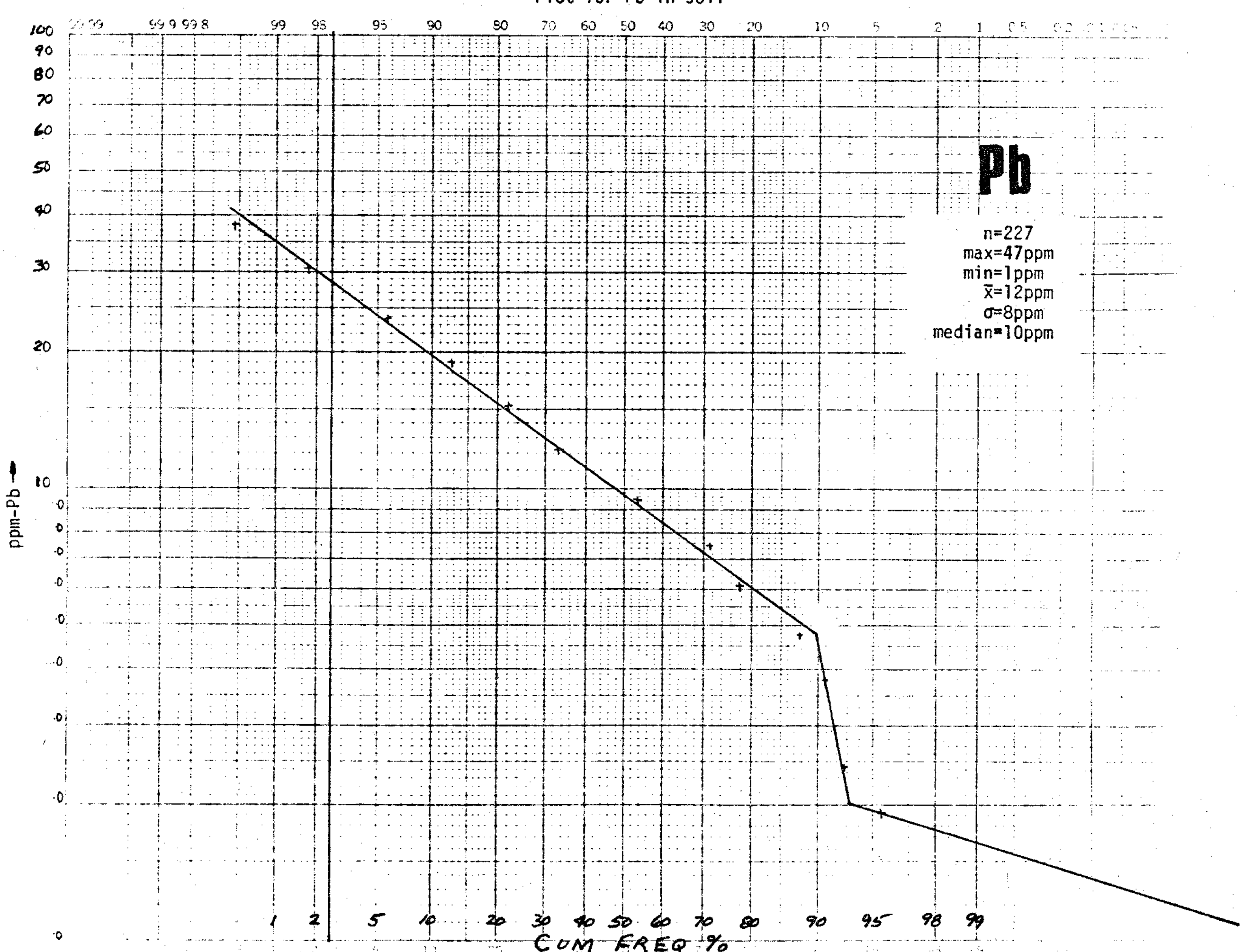
LOG PROBABILITY PLOTS OF Cu, Pb, Zn, Mn, Ag, Au IN SOIL

MUSGRAVE ANOMALY GRID

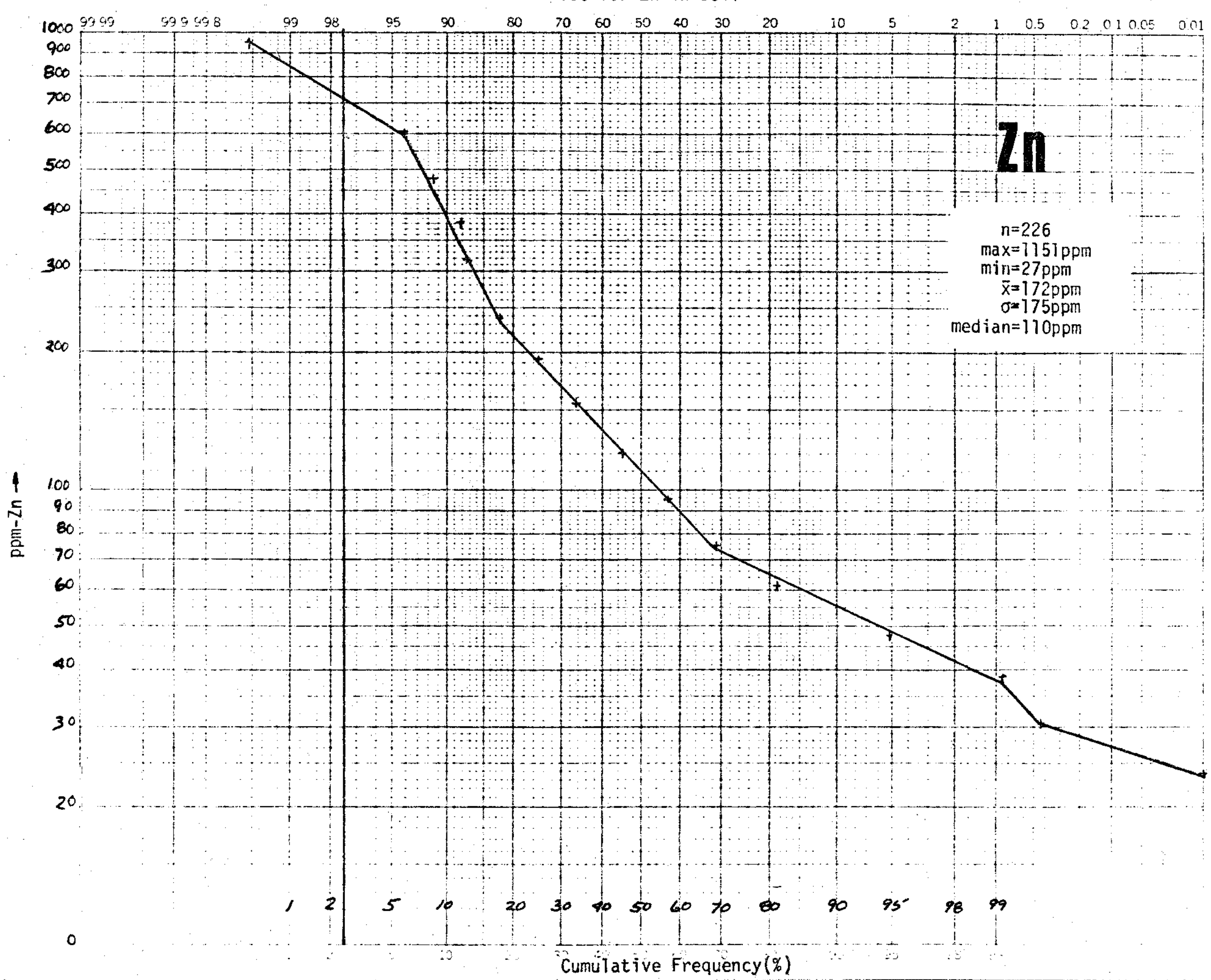
Cumulative Frequency Distribution
Plot for Cu in soil



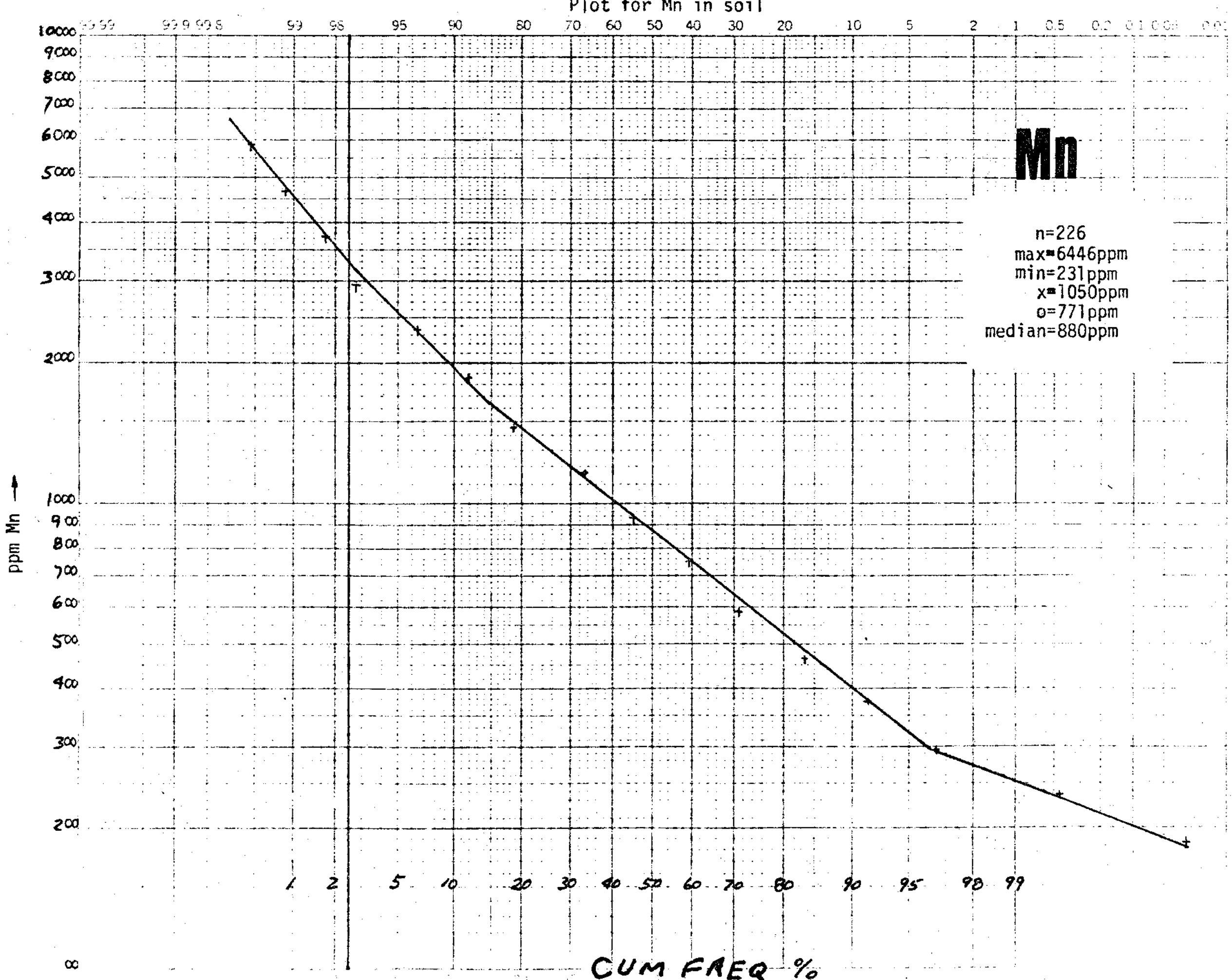
Cumulative Frequency Distribution
Plot for Pb in soil



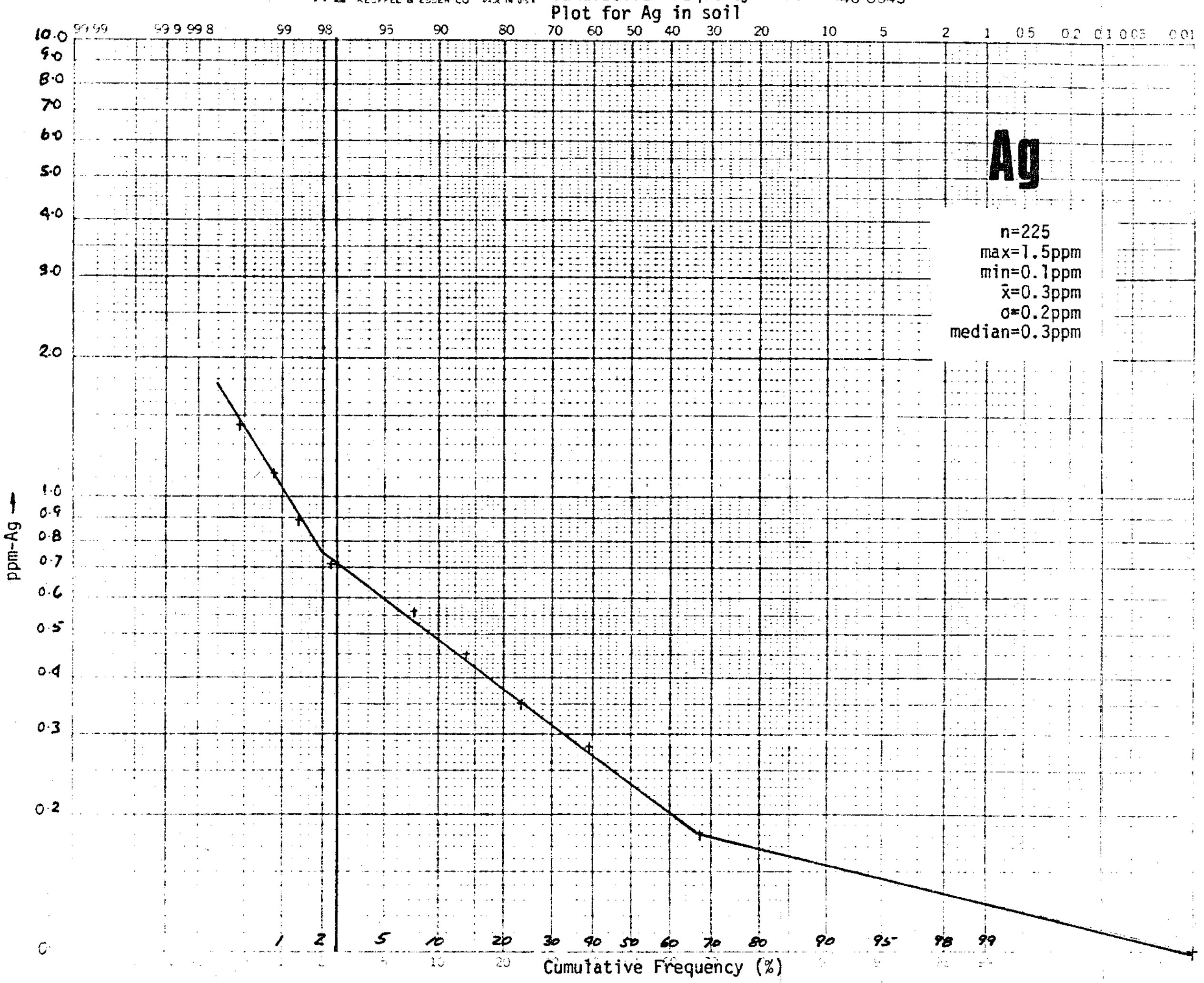
Cumulative Frequency Distribution
Plot for Zn in soil



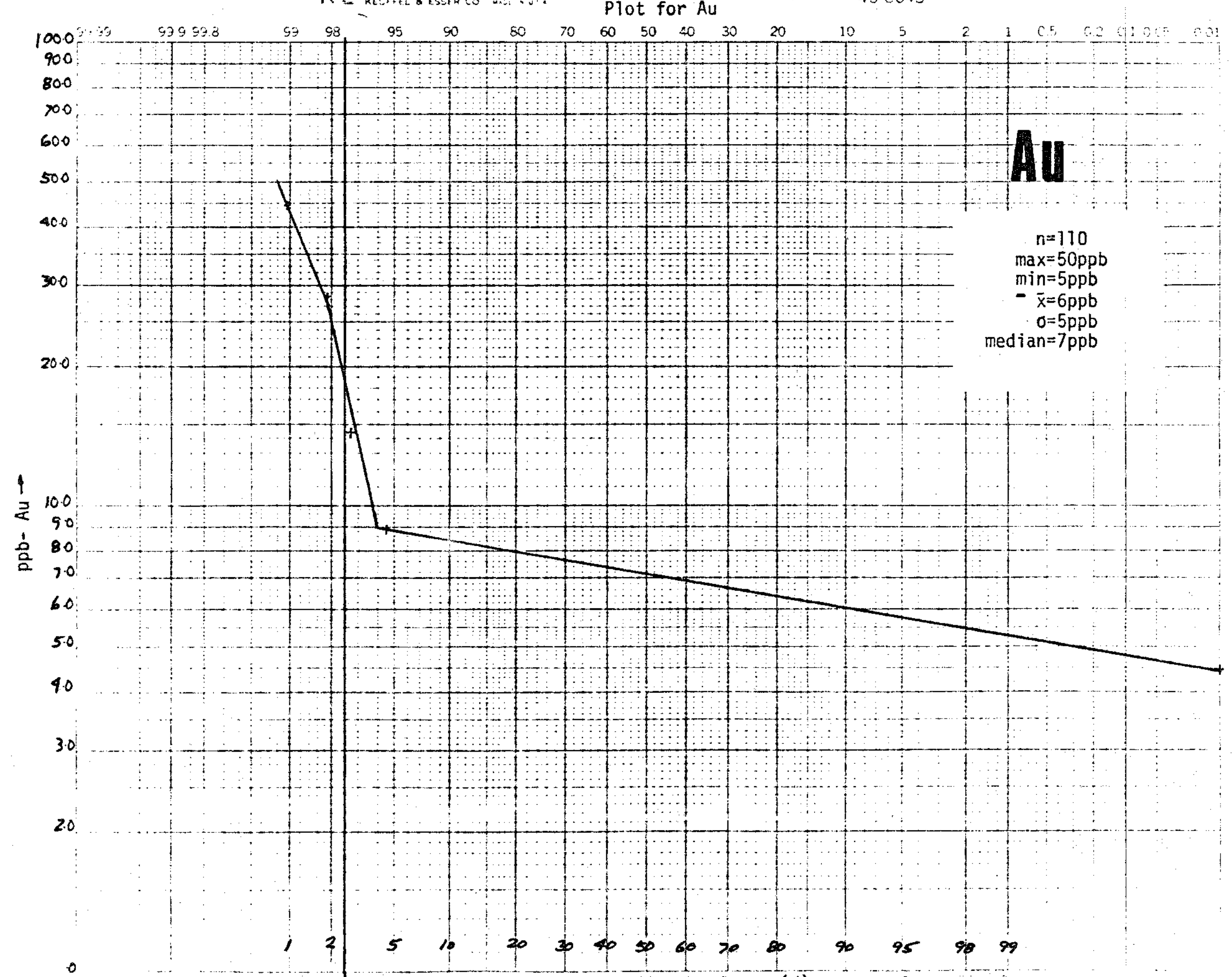
Cumulative Frequency Distribution
Plot for Mn in soil



Cumulative Frequency Distribution
Plot for Ag in soil



Cumulative Frequequency Distribution
Plot for Au



APPENDIX F
WHOLE ROCK GEOCHEMICAL ANALYSIS REPORTS

==== K I D D C R E E K M I N E S L T D ====
=== KIDD CREEK MINESITE COMPUTER SYSTEM ===

REPORT #2000

PRINTED 21-NOV-84
08:33:42

SAMPLE ID # AB16805

WHOLE ROCK GEOCHEMICAL ANALYSIS

LAB REPORT # 84-0839
TOWNSHIP :
NTS : 092B11
UTM ZONE : 10
SAMPLE TYPE : GRAB SAMPLE

FIELD NUMBER : DM94184034
LOT : 0 CONCESSION :
GRID COORDINATES : E : 462460.0 N : 5399325.0 EL : 0.0

PROJECT # 941
PROVINCE : BRITISH COLUMBIA
PROJECT : SALTSPRING BASE METAL

FIELD NAME : METAMORPHIC ,MAFIC ,MEDIUM,SCHIST,NO COMMENT,NO COMMENT.
FINAL NAME :
ALTERATION :
MINERALIZATION : DISSEMINATED AND BLEBS,<1% ,PYRITE.
FORMATION :

SAMPLED BY : D.MALLALIEU DATE : 11-MAY-84
ANALYZED BY : ACME DATE : 30-MAY-84
ANALYTICAL TECHNIQUE :

	WT %	NORMALIZED ANHYDROUS WT %	NORMALIZED ANHYDROUS CATION %	NORMS	
SIO2	46.92	52.12	50.71	Q	18.19
AL2O3	13.91	15.45	17.72	C	0.00
FE2O3	14.53	4.21	3.08	OR	1.17
FEO	0.00	10.73	8.74	AB	2.10
CAO	7.83	8.70	9.07	AN	42.67
MGO	4.83	5.37	7.78	LC	0.00
NA2O	0.20	0.22	0.42	NE	0.00
K2O	0.17	0.19	0.23	KP	0.00
TIO2	2.29	2.54	1.86	AC	0.00
P2O5	0.22	0.24	0.20	DI	0.46
MNO	0.20	0.22	0.18	HE	0.33
S	0.00	0.00	0.00	EN	15.33
NIO	0.00	0.00	0.00	FS	10.87
CR2O3	0.00	0.00	0.00	FO	0.00
CO2	0.00	0.00	0.00	FA	0.00
H2O+	0.00	0.00	0.00	WO	0.00
H2O-	0.00	0.00	0.00	LN	0.00
LOI	4.50	0.00	0.00	MT	4.62
				IL	3.72
TOTAL	90.02	100.00	100.00	CR	0.00
				HM	0.00
				AP	0.54
				PO	0.00
				NS	0.00
				KS	0.00
				RU	0.00
				AG	0.00
				OL	0.00
				OPX	26.20
				CPX	0.79
				AB*	2.10

CLASSIFICATIONS AND INDICES

NA2O+K2O	0.41	SIO2			52.12	SUBALKALINE
OL*	42.27	NE*	2.70	Q*	55.03	SUBALKALINE
CPX	2.94	OL	0.00	OPX	97.06	SUBALKALINE
A	2.02	F	71.54	M	26.43	THOLEITIC
AL2O3	15.45	NORM PLAG			95.32	THOLEITIC
AN	92.88	AB*	4.56	OR	2.55	K-RICH SERIES
CI	35.34	NORM PLAG			95.32	BASALT

JENSEN HIGH IRON THOLEIITIC BASALT
AL 45.02 FE 35.22 MG 19.76

COLOR INDEX : 35.34
HASHIMOTO INDEX : 38.37

TRACE ELEMENTS (P.P.M.) AU,PT (P.P.B.)

COMMENTS : WHOLE ROCK ANALYSIS PERFORMED BY ICP
MODERATELY CHLORITIC MAFIC, CACO3 VEINLETS PARALLEL TO FOLIATION.

==== K I D D   C R E E K   M I N E S   L T D ====
=== KIDD CREEK MINESITE COMPUTER SYSTEM ===

REPORT #2000 | PAGE 1
PRINTED 21-NOV-84
08:35:29

SAMPLE ID # AB16810

WHOLE ROCK GEOCHEMICAL ANALYSIS

LAB REPORT # 84-0839 | FIELD NUMBER : DM94184066 | PROJECT # 941
TOWNSHIP : | LOT : 0 CONCESSION : | PROVINCE : BRITISH COLUMBIA
NTS : 092B12 | | PROJECT : SALTSPRING BASE METAL
UTM ZONE : 10 | GRID COORDINATES : E : 461980.0 N : 5399175.0 EL : 0.0
SAMPLE TYPE : GRAB SAMPLE

FIELD NAME : VOLCANIC,MAFIC ,MEDIUM,GNEISSIC,MASSIVE ,TECTONIZED.
FINAL NAME :
ALTERATION :
MINERALIZATION : DISSEMINATED AND BLEBS,1-5%,NO COMMENT.
FORMATION :

SAMPLED BY : D.MALLALIEU | DATE : 16-MAY-84 | ANALYTICAL
ANALYZED BY : ACME | DATE : 30-MAY-84 | TECHNIQUE :

	WT %	NORMALIZED ANHYDROUS WT %	NORMALIZED ANHYDROUS CATION %	NORMS	
SIO2	47.90	49.54	47.36	Q	6.86
AL2O3	17.21	17.80	20.06	C	0.00
FE2O3	12.98	4.26	3.07	OR	2.59
FEO	0.00	8.25	6.59	AB	20.32
CAO	10.75	11.12	11.39	AN	38.69
MGO	3.16	3.27	4.66	LC	0.00
NA2O	2.12	2.19	4.06	NE	0.00
K2O	0.41	0.42	0.52	KP	0.00
TIO2	2.62	2.71	1.95	AC	0.00
P2O5	0.22	0.23	0.18	DI	7.85
MNO	0.20	0.21	0.17	HE	5.53
S	0.00	0.00	0.00	EN	5.39
NIO	0.00	0.00	0.00	FS	3.79
CR2O3	0.00	0.00	0.00	FO	0.00
CO2	0.00	0.00	0.00	FA	0.00
H2O+	0.00	0.00	0.00	WO	0.00
H2O-	0.00	0.00	0.00	LN	0.00
LOI	2.00	0.00	0.00	MT	4.60
				IL	3.90
TOTAL	96.68	100.00	100.00	CR	0.00
				HM	0.00
				AP	0.49
				PO	0.00
				NS	0.00
				KS	0.00
				RU	0.00
				AG	0.00
				OL	0.00
				OPX	9.18
				CPX	13.37
				AB*	20.32

CLASSIFICATIONS AND INDICES

NA2O+K2O	2.62	SIO2			49.54	SUBALKALINE
OL*	18.94	NE*	33.53	Q*	47.53	SUBALKALINE
CPX	59.29	OL	0.00	OPX	40.71	ALKALINE
A	14.57	F	67.24	M	18.19	THOLEITIC
AL2O3	17.80	NORM PLAG			65.57	CALC-ALKALINE
AN	62.81	AB*	32.99	OR	4.20	AVERAGE SERIES
CI	31.05	NORM PLAG			65.57	BASALT

JENSEN THOLEIITIC ANDESITE
AL 54.97 FE 32.27 MG 12.76

COLOR INDEX : 31.05
HASHIMOTO INDEX : 21.72

TRACE ELEMENTS (P.P.M.) AU,PT (P.P.B.)

COMMENTS : WHOLE ROCK ANALYSIS PERFORMED BY ICP
MAFIC VOLCANIC WITH SLIGHT GNEISSIC FABRIC,METALLIC MINERAL MAYBE ILMENITE?

==== K I D D   C R E E K   M I N E S   L T D ====

=== KIDD CREEK MINESITE COMPUTER SYSTEM ===

REPORT #2000

PRINTED 21-NOV-84
08:36:56

SAMPLE ID # AB16918

WHOLE ROCK GEOCHEMICAL ANALYSIS

LAB REPORT # 22063
TOWNSHIP :
NTS : 92B14
UTM ZONE : 10
SAMPLE TYPE : GRAB SAMPLE

FIELD NUMBER : DM94184418
LOT : 0   CONCESSION :

GRID COORDINATES :   E :   465311.0   N :   5399255.0   EL :   0.0

PROJECT # 941
PROVINCE : BRITISH COLUMBIA
PROJECT : SALTSPRING BASE METAL

FIELD NAME : VOLCANICLASTIC,FELSIC,ASH,TECTONIZED,LOOK AT COMMENTS FILE.
FINAL NAME :
ALTERATION : METAMORPHOSED ,SERICITIZATION,MODERATE.
MINERALIZATION : NIL ,NIL.
FORMATION :

SAMPLED BY : D.MALLALIEU   DATE : 21-JUL-84
ANALYZED BY : XRAL   DATE : 24-AUG-84

ANALYTICAL
TECHNIQUE : X-RAY FLUORESCENCE

	WT %	NORMALIZED ANHYDROUS WT %	NORMALIZED ANHYDROUS CATION %		NORMS
SIO2	75.00	77.51	74.40	Q	55.07
AL203	9.72	10.05	11.37	C	6.25
FE203	4.75	2.04	1.47	OR	7.29
FEO	0.00	2.59	2.08	AB	12.21
CAO	0.81	0.84	0.86	AN	3.04
MGO	3.64	3.76	5.38	LC	0.00
NA20	1.27	1.31	2.44	NE	0.00
K20	1.15	1.19	1.46	KP	0.00
TIO2	0.47	0.49	0.35	AC	0.00
P205	0.18	0.19	0.15	DI	0.00
MNO	0.05	0.05	0.04	HE	0.00
S	0.00	0.00	0.00	EN	10.76
NIO	0.00	0.00	0.00	FS	2.06
CR203	0.00	0.00	0.00	FO	0.00
CO2	0.00	0.00	0.00	FA	0.00
H20+	0.00	0.00	0.00	WO	0.00
H20-	0.00	0.00	0.00	LN	0.00
LOI	2.47	0.00	0.00	MT	2.21
				IL	0.70
TOTAL	96.76	100.00	100.00	CR	0.00
				HM	0.00
				AP	0.40
				PO	0.00
				NS	0.00
				KS	0.00
				RU	0.00
				AG	0.00
				OL	0.00
				OPX	12.83
				CPX	0.00
				AB*	12.21

CLASSIFICATIONS AND INDICES

NA20+K20	2.50	SIO2			77.51	SUBALKALINE
OL*	12.01	NE*	9.15	Q*	78.85	SUBALKALINE
CPX	0.00	OL	0.00	OPX	100.00	SUBALKALINE
A	23.42	F	41.36	M	35.22	THOLEITIC
AL203	10.05	NORM PLAG			19.94	THOLEITIC
AN	13.50	AB*	54.18	OR	32.32	K-RICH SERIES
CI	15.73	NORM PLAG			19.94	DACITE

JENSEN   CALC-ALKALINE BASALT
AL 54.94 FE 19.04 MG 26.02

COLOR INDEX : 15.73
HASHIMOTO INDEX : 69.72

TRACE ELEMENTS (P.P.M.)   AU,PT (P.P.B.)

CR	10.00:RB	30.00:SR	110.00:Y	30.00:ZR	50.00:NB	10.00:AU	-20.00:SC	0.14:CO	8.00:
NI	12.00:CU	18.00:ZN	58.00:AS	-2.00:SE	-3.00:BR	-1.00:RB	30.00:SR	-500.00:MO	-5.00:
AG	-0.50:CD	-0.20:SB	-0.20:CS	-0.60:BA	3200.00:LA	7.90:CE	21.00:ND	10.00:SM	3.80:
EU	1.00:YB	3.00:LU	0.39:HF	0.10:TA	-1.00:W	-3.00:PB	10.00:BI	-0.50:TH	0.90:
U	0.80:								

COMMENTS : SPS300/70SW
PALE GREEN WELL FOLIATED RHYODACITIC TUFF. SERICITIC CLEAVAGE SURFACES NON MINERALIZED

==== K I D D   C R E E K   M I N E S   L T D ====
=== KIDD CREEK MINESITE COMPUTER SYSTEM ===

REPORT #2000
PRINTED 21-NOV-84
SAMPLE ID # AB16930 — WHOLE ROCK GEOCHEMICAL ANALYSIS — 08:38:21

LAB REPORT # 22063 | FIELD NUMBER : DM94184445 | PROJECT # 941
TOWNSHIP : | LOT : 0 CONCESSION : | PROVINCE : BRITISH COLUMBIA
NTS : 92B14 | | PROJECT : SALTSPRING BASE METAL
UTM ZONE : 10 | GRID COORDINATES : E : 464395.0 N : 5400610.0 EL : 0.0
SAMPLE TYPE : GRAB SAMPLE

FIELD NAME : PLUTONIC,MAFIC OR MELANOCRATIC,MEDIUM,EQUIGRANULAR,MASSIVE ,LOOK AT COMMENTS FILE.
FINAL NAME :
ALTERATION :
MINERALIZATION : NIL ,NIL.
FORMATION :

SAMPLED BY : D.MALLALIEU | DATE : 26-JUL-84 | ANALYTICAL
ANALYZED BY : XRAL | DATE : 24-AUG-84 | TECHNIQUE : X-RAY FLUORESCENCE

	WT %	NORMALIZED ANHYDROUS WT %	NORMALIZED ANHYDROUS CATION %		NORMS
SIO2	47.70	48.79	45.54	Q	0.00
AL2O3	18.60	19.03	20.93	C	0.00
FE2O3	8.75	2.70	1.90	OR	0.67
FEO	0.00	5.62	4.39	AB	22.54
CAO	15.20	15.55	15.55	AN	40.10
MGO	4.07	4.16	5.79	LC	0.00
NA2O	2.57	2.63	4.76	NE	0.75
K2O	0.11	0.11	0.13	KP	0.00
TIO2	1.14	1.17	0.82	AC	0.00
P2O5	0.11	0.11	0.09	DI	20.09
MNO	0.12	0.12	0.10	HE	9.44
S	0.00	0.00	0.00	EN	0.00
NIO	0.00	0.00	0.00	FS	0.00
CR2O3	0.00	0.00	0.00	FO	1.15
CO2	0.00	0.00	0.00	FA	0.54
H2O+	0.00	0.00	0.00	WO	0.00
H2O-	0.00	0.00	0.00	LN	0.00
LOI	1.54	0.00	0.00	MT	2.85
				IL	1.64
TOTAL	97.76	100.00	100.00	CR	0.00
				HM	0.00
				AP	0.24
				PO	0.00
				NS	0.00
				KS	0.00
				RU	0.00
				AG	0.00
				OL	1.70
				OPX	0.00
				CPX	29.53
				AB*	23.79

CLASSIFICATIONS AND INDICES

NA2O+K2O	2.74	SIO2			48.79	SUBALKALINE
OL*	6.79	NE*	57.13	Q*	36.09	ALKALINE
CPX	94.57	OL	5.43	OPX	0.00	ALKALINE
A	18.33	F	53.84	M	27.83	THOLEITIC
AL2O3	19.03	NORM PLAG			62.77	CALC-ALKALINE
AN	62.12	AB*	36.84	OR	1.04	K-POOR SERIES
CI	35.70	NORM PLAG			62.77	BASALT

JENSEN CALC-ALKALINE ANDESITE
AL 61.70 FE 21.23 MG 17.07

COLOR INDEX : 35.70
HASHIMOTO INDEX : 19.04

TRACE ELEMENTS (P.P.M.) AU,PT (P.P.B.)

CR	100.00:RB	20.00:SR	350.00:Y	-10.00:ZR	60.00:NB	10.00:AU	-20.00:SC	27.00:CO	27.00:
NI	72.00:CU	47.00:ZN	64.00:AS	4.00:SE	3.00:BR	1.00:RB	-20.00:SR	-500.00:MO	-5.00:
AG	-0.50:CD	-0.20:SB	1.30:CS	-0.50:BA	200.00:LA	5.80:CE	22.00:ND	10.00:SM	2.70:
EU	1.40:YB	2.00:LU	0.27:HF	2.00:TA	-1.00:W	-3.00:PB	22.00:BI	-0.50:TH	0.70:
U	-0.50:								

COMMENTS : MASSIVE MESOCRATIC GABBRO/DIORITE NON MINERALIZED

==== K I D D   C R E E K   M I N E S   L T D ====
=== KIDD CREEK MINESITE COMPUTER SYSTEM ===

REPORT #2000

PRINTED 21-NOV-84
08:39:22

SAMPLE ID # AB16931

WHOLE ROCK GEOCHEMICAL ANALYSIS

LAB REPORT # 22063
TOWNSHIP :
NTS : 92B14
UTM ZONE : 10
SAMPLE TYPE : GRAB SAMPLE

FIELD NUMBER : DM94184457
LOT : 0 CONCESSION :

PROJECT # 941
PROVINCE : BRITISH COLUMBIA
PROJECT : SALTSPRING BASE METAL

GRID COORDINATES : E : 464509.0 N : 5400718.0 EL : 0.0

FIELD NAME : VOLCANICLASTIC,FELSIC,ASH,BEDDED,HOMOGENEOUS ,LOOK AT COMMENTS FILE.
FINAL NAME :
ALTERATION : NOT VISIBLE.
MINERALIZATION : NIL ,NIL.
FORMATION :

SAMPLED BY : D.MALLALIEU   DATE : 26-JUL-84
ANALYZED BY : XRAL   DATE : 24-AUG-84

ANALYTICAL
TECHNIQUE : X-RAY FLUORESCENCE

	WT %	NORMALIZED ANHYDROUS WT %	NORMALIZED ANHYDROUS CATION %		NORMS
SIO2	95.00	95.37	93.84	Q	85.76
AL203	2.24	2.25	2.61	C	0.00
FE203	0.34	0.34	0.25	OR	0.32
FEO	0.00	0.00	0.00	AB	11.78
CAO	0.29	0.29	0.31	AN	0.47
MGO	0.31	0.31	0.46	LC	0.00
NA20	1.23	1.23	2.36	NE	0.00
K20	0.05	0.05	0.06	KP	0.00
TIO2	0.11	0.11	0.08	AC	0.00
P205	0.02	0.02	0.02	DI	0.74
MNO	0.02	0.02	0.02	HE	0.00
S	0.00	0.00	0.00	EN	0.54
NIO	0.00	0.00	0.00	FS	0.00
CR203	0.00	0.00	0.00	FO	0.00
CO2	0.00	0.00	0.00	FA	0.00
H20+	0.00	0.00	0.00	WO	0.00
H20-	0.00	0.00	0.00	LN	0.00
LOI	0.39	0.00	0.00	MT	0.00
				IL	0.03
TOTAL	99.61	100.00	100.00	CR	0.00
				HM	0.25
				AP	0.04
				PO	0.00
				NS	0.00
				KS	0.00
				RU	0.06
				AG	0.00
				OL	0.00
				OPX	0.54
				CPX	0.74
				AB*	11.78

CLASSIFICATIONS AND INDICES

NA20+K20	1.29	SIO2			95.37	SUBALKALINE
OL*	0.42	NE*	7.21	Q*	92.38	SUBALKALINE
CPX	57.53	OL	0.00	OPX	42.47	ALKALINE
A	67.51	F	16.14	M	16.35	CALC-ALKALINE
AL203	2.25	NORM PLAG			3.87	THOLEITIC
AN	3.77	AB*	93.72	OR	2.51	K-POOR SERIES
CI	1.57	NORM PLAG			3.87	RHYOLITE

JENSEN CALC-ALKALINE DACITE
AL 76.36 FE 10.28 MG 13.36

COLOR INDEX : 1.57
HASHIMOTO INDEX : 19.15

TRACE ELEMENTS (P.P.M.) AU,PT (P.P.B.)

CR 10.00:	RB -10.00:	SR 70.00:	Y -10.00:	ZR -10.00:	NB 10.00:	AU -20.00:	SC 2.50:	CO 1.00:
NI 7.00:	CU 3.50:	ZN 9.50:	AS -2.00:	SE -3.00:	BR -1.00:	RB -20.00:	SR -500.00:	MO -5.00:
AG -0.50:	CD -0.20:	SB -0.20:	CS 0.05:	BA 200.00:	LA 1.10:	CE 3.00:	ND -10.00:	SM 0.50:
EU -0.20:	YB -1.00:	LU 0.07:	HF -1.00:	TA -1.00:	W -3.00:	PB 4.00:	BI -0.50:	TH 1.10:
U 1.10:								

COMMENTS : SP0285/79SW,PC106/76NE
WELL BEDDED CHERTY TUFF,RHYODACITIC TO RHYOLITIC IN COMPOSITION

==== K I D D   C R E E K   M I N E S   L T D ====
=== KIDD CREEK MINESITE COMPUTER SYSTEM ===

REPORT #2000

PRINTED 21-NOV-84
08:40:23

SAMPLE ID # AB16932

WHOLE ROCK GEOCHEMICAL ANALYSIS

LAB REPORT # 22063
TOWNSHIP :
NTS : 92B14
UTM ZONE : 10
SAMPLE TYPE : GRAB SAMPLE,THIN SECTION

FIELD NUMBER : DM94184458A
LOT : 0 CONCESSION :
GRID COORDINATES : E : 464540.0 N : 5400755.0 EL : 0.0

PROJECT # 941
PROVINCE : BRITISH COLUMBIA
PROJECT : SALTSPRING BASE METAL

FIELD NAME : VOLCANICLASTIC,FELSIC,ASH,BEDDED,HOMOGENEOUS ,LOOK AT COMMENTS FILE.
FINAL NAME :
ALTERATION : NOT VISIBLE.
MINERALIZATION : NIL ,NIL.
FORMATION :

SAMPLED BY : D.MALLALIEU DATE : 26-JUL-84
ANALYZED BY : XRAL DATE : 24-AUG-84

ANALYTICAL
TECHNIQUE : X-RAY FLUORESCENCE

	WT %	NORMALIZED ANHYDROUS WT %	NORMALIZED ANHYDROUS CATION %		NORMS
SIO2	77.40	80.03	77.85	Q	62.10
AL203	11.30	11.68	13.40	C	8.33
FE203	3.33	2.03	1.48	OR	21.32
FEO	0.00	1.27	1.04	AB	3.70
CAO	0.12	0.12	0.13	AN	0.15
MGO	0.45	0.47	0.67	LC	0.00
NA20	0.38	0.39	0.74	NE	0.00
K20	3.32	3.43	4.26	KP	0.00
TIO2	0.46	0.48	0.35	AC	0.00
P205	0.07	0.07	0.06	DI	0.00
MNO	0.02	0.02	0.02	HE	0.00
S	0.00	0.00	0.00	EN	1.35
NIO	0.00	0.00	0.00	FS	0.00
CR203	0.00	0.00	0.00	FO	0.00
CO2	0.00	0.00	0.00	FA	0.00
H20+	0.00	0.00	0.00	WO	0.00
H20-	0.00	0.00	0.00	LN	0.00
LOI	3.08	0.00	0.00	MT	2.12
				IL	0.70
TOTAL	96.71	100.00	100.00	CR	0.00
				HM	0.07
				AP	0.16
				PO	0.00
				NS	0.00
				KS	0.00
				RU	0.00
				AG	0.00
				OL	0.00
				OPX	1.35
				CPX	0.00
				AB*	3.70

CLASSIFICATIONS AND INDICES

NA20+K20	3.83	SIO2			80.03	SUBALKALINE
OL*	1.51	NE*	3.31	Q*	95.18	SUBALKALINE
CPX	0.00	OL	0.00	OPX	100.00	SUBALKALINE
A	51.77	F	41.93	M	6.30	THOLEITIC
AL203	11.68	NORM PLAG			3.86	THOLEITIC
AN	0.59	AB*	14.72	OR	84.69	K-RICH SERIES
CI	4.23	NORM PLAG			3.86	RHYOLITE

JENSEN THOLEIITIC RHYOLITE
AL 79.01 FE 17.02 MG 3.98

COLOR INDEX : 4.23
HASHIMOTO INDEX : 88.29

TRACE ELEMENTS (P.P.M.) AU,PT (P.P.B.)

CR	10.00:RB	-10.00:SR	-10.00:Y	-10.00:ZR	20.00:NB	30.00:AU	0.20:SC	3.20:CO	1.00:
NI	4.00:CU	25.00:ZN	43.00:AS	-2.00:SE	-3.00:BR	-1.00:RB	-20.00:SR	-500.00:MO	-5.00:
AG	-0.50:CD	-0.20:SB	-0.20:CS	-0.50:BA	-150.00:LA	2.50:CE	12.00:ND	10.00:SM	1.70:
EU	-0.20:YB	1.00:LU	0.14:HF	1.00:TA	-1.00:W	-3.00:PB	10.00:BI	-0.50:TH	5.10:
U	2.20:								

COMMENTS : SP0123/42NE PC297/59SW
BEDDED FELDSPAR XTAL - RHYODACITIC TO RHYOLITIC TUFF INTERBEDDED WITH HOMOGENEOUS CHERTY TUFF

==== K I D D   C R E E K   M I N E S   L T D ====

=== KIDD CREEK MINESITE COMPUTER SYSTEM ===

REPORT #2000 — PAGE 1

PRINTED 21-NOV-84 08:42:06

SAMPLE ID # AB16934

WHOLE ROCK GEOCHEMICAL ANALYSIS

LAB REPORT # 22063
TOWNSHIP :
NTS : 92B14
UTM ZONE : 10
SAMPLE TYPE : GRAB SAMPLE

FIELD NUMBER : E-13
LOT : 0 CONCESSION :
GRID COORDINATES : E : 465189.0 N : 5399938.0 EL : 0.0

PROJECT # 941
PROVINCE : BRITISH COLUMBIA
PROJECT : SALTSPRING BASE METAL

FIELD NAME : VOLCANIC,FELSIC,FINE,FELDSPAR PORPHYRITIC,MASSIVE.
FINAL NAME :
ALTERATION : PERVASIVE ,SILICIFICATION,STRONG.
MINERALIZATION : NIL ,NIL.
FORMATION :

SAMPLED BY : D.MALLALIEU — DATE : 27-JUL-84
ANALYZED BY : XRAL — DATE : 24-AUG-84

ANALYTICAL TECHNIQUE : X-RAY FLUORESCENCE

	WT %	NORMALIZED ANHYDROUS WT %	NORMALIZED ANHYDROUS CATION %
SIO2	76.80	77.32	71.58
AL2O3	12.40	12.48	13.62
FE2O3	1.17	1.18	0.82
FEO	0.00	0.00	0.00
CAO	0.38	0.38	0.38
MGO	0.52	0.52	0.72
NA2O	5.59	5.63	10.10
K2O	2.10	2.11	2.50
TIO2	0.27	0.27	0.19
P2O5	0.07	0.07	0.06
MNO	0.03	0.03	0.02
S	0.00	0.00	0.00
NIO	0.00	0.00	0.00
CR2O3	0.00	0.00	0.00
CO2	0.00	0.00	0.00
H2O+	0.00	0.00	0.00
H2O-	0.00	0.00	0.00
LOI	0.62	0.00	0.00
TOTAL	99.33	100.00	100.00

	NORMS
Q	32.48
C	0.45
OR	12.50
AB	50.51
AN	1.44
LC	0.00
NE	0.00
KP	0.00
AC	0.00
DI	0.00
HE	0.00
EN	1.44
FS	0.00
FO	0.00
FA	0.00
WO	0.00
LN	0.00
MT	0.00
IL	0.05
CR	0.00
HM	0.82
AP	0.15
PO	0.00
NS	0.00
KS	0.00
RU	0.17
AG	0.00
OL	0.00
OPX	1.44
CPX	0.00
AB*	50.51

CLASSIFICATIONS AND INDICES

NA2O+K2O	7.74	SIO2			77.32	SUBALKALINE
OL*	1.28	NE*	35.89	Q*	62.83	SUBALKALINE
CPX	0.00	OL	0.00	OPX	100.00	SUBALKALINE
A	83.02	F	11.37	M	5.61	CALC-ALKALINE
AL2O3	12.48	NORM PLAG			2.77	CALC-ALKALINE
AN	2.23	AB*	78.37	OR	19.40	AVERAGE SERIES
CI	2.31	NORM PLAG			2.77	RHYOLITE

JENSEN CALC-ALKALINE RHYOLITE
AL 88.58 FE 6.72 MG 4.70

COLOR INDEX : 2.31
HASHIMOTO INDEX : 30.50

TRACE ELEMENTS (P.P.M.) AU,PT (P.P.B.)

CR	10.00:RB	30.00:SR	290.00:Y	20.00:ZR	140.00:NB	20.00:AU	-20.00:SC	5.90:CO	3.00:
NI	3.00:CU	11.00:ZN	57.00:AS	-2.00:SE	-3.00:BR	-1.00:RB	-20.00:SR	-500.00:MO	-5.00:
AG	-0.50:CD	-0.20:SB	-0.20:CS	1.60:BA	1300.00:LA	21.20:CE	46.00:ND	10.00:SM	3.80:
EU	1.40:YB	3.00:LU	0.56:HF	5.00:TA	-1.00:W	-3.00:PB	10.00:BI	-0.50:TH	5.10:
U	2.20:								

COMMENTS : SPS310/99
POSSIBLE THIN FLOW, FELDSPAR-PHYRIC RHYODACITE

APPENDIX G

STATEMENT OF EXPENDITURES

SALTSPRING ISLAND

MONTHLY PROJECT EXPENSE REPORT

PROJECT: Saltspring Base Metal PROJECT NO. 941 AFE NO. E-323

OFFICE: Vancouver MONTH: December, 1984

BUDGET ITEM		TOTAL TO DATE
01	Salaries and Wages	$34,525.69
03	Camp Expense	5,858.23
05	Travel Expenses	1,133.79
07	Office and Technical Supplies	511.16
08	Communications	38.96
11	Geological	59.75
12	Geophysical	36,944.80
13	Geochemical	4,671.55
14	Photogrammetry	5.35
17	Auto Operation and Maintenance	2,911.00
21	Equipment Purchase and Maintenance	46.00
23	Surveying and Line Cutting	990.00
63	Property Acquisition - Staking and Surveying	6,960.00
65	Government Fees	2,521.00
	TOTAL	$97,177.28

APPENDIX G

STATEMENT OF EXPENDITURES

SALTSPRING ISLAND

CLAIMS: Sul 1, Sul 2, Mus, Salt 1, Salt 2, Salt 3, Bruce 1, Bruce 2, Musgrave 1, Musgrave 2.

MINING DIVISION: Victoria

NTS: 92B/11, 12, 13, 14

SUMMARY OF WORK: Geophysical mapping and airborne geophysical survey.

PERIOD OF WORK: May 5 to June 13, 1984

COSTS:

A. GEOPHYSICAL SURVEY			
AIRBORNE EM AND MAGNETOMETER SURVEY - INPUT SYSTEM			
Questor Surveys, Mississauga, Ontario		36,944.80	
PERSONNEL			
G. Hendrickson Geophysicist May 14-16, June 11-13	6 days @ $192/day	1,152.00	
ROOM AND BOARD			
6 man-days @ $40/day		240.00	
		38,336.80	38,336.80
B. GEOLOGICAL MAPPING: 1:10,000 scale 50 km^2			
PERSONNEL			
D. Mallalieu, geologist May 5, 8-31, June 1-5	30 days @ $ 88/day	2,640.00	
T. Huttemann, geological assistant May 8-31, June 1-5	29 days @ $ 72/day	2,080.00	
ROOM AND BOARD			
59 man-day days @ $40		2,360.00	
TRANSPORTATION			
8 ferry crossings @ 24.25		194.00	
Toyota diesel 4x4 a month at $1,000 Redhawk Rentals, Burnaby, B.C.		1,000.00	
Diesel fuel @ $60/wk		240.00	
		8,514.00	8,514.00
TOTAL: Geophysical Survey and Geological Mapping			$46,850.80

$36,600 of this cost to be applied to:

Sul 1	20 units	Record No. 1173	Feb	3 years @ 6,000
Sul 2	20 units	Record No. 1174	Feb	3 years @ 6,000
Mus	6 units	Record No. 1175	Feb	3 years @ 1,800
Salt 1	12 units	Record No. 1168	Feb	3 years @ 3,600
Salt 2	16 units	Record No. 1169	Feb	3 years @ 4,800
Salt 3	2 units	Record No. 1170	Feb	3 years @ 600
Bruce 1	20 units	Record No. 1171	Feb	3 years @ 6,000
Bruce 2	20 units	Record No. 1172	Feb	3 years @ 6,000
Musgrave 1	2 units	Record No. 1340	July	3 years @ 600
Musgrave 2	4 units	Record No. 1344	August	3 years @ 1,200

The excess $10,250.80 to be transferred to Kidd Creek Mines Ltd. PAC account.

CLAIMS:	Hope Group Comprised of Bruce 1, Bruce 2, Salt 1, Musgrave 1, Musgrave 2.
MINING DIVISION:	Victoria
NTS:	92B/11, 12, 13, 14
SUMMARY OF WORK:	Linecutting, detailed geological mapping, geochemical sampling, ground geophysical surveying.
PERIOD OF WORK:	July 12 to November 2, 1984
COSTS:	

A. LINECUTTING AND GRID CHAINING: 9 1-km, 20 m stations, horiz. chaining

PERSONNEL

D. Mallalieu, geologist July 12-16, 23-24, Oct 22-26	12 days @ $88/day	$1,056.00	
T. Huttemann, geological assistant July 12-16, 23-24	7 days @ $72/day	504.00	
G. Hendrickson, geophysicst July 14-16, Oct 24-26	7 days @ 192/day	1,152.00	
S. Enns - geologist July 23-24, Oct 22-26	7 days @ 192/day	1,344.00	
F. Renaudat, technical assistant Oct 22-28, 27	5 days @ 90/day	450.00	
		4,506.00	$4,506.00

ROOM AND BOARD

36 man-days @ $40/day	1,440.00	1,440.00

TRANSPORTATION

Toytoa diesel 4 x 4 Redhawk Rentals, Burnaby, B.C.	2 weeks @ $250/week	500.00	
Diesel fuel	@ $60/week	120.00	
		620.00	620.00
TOTAL COST: Linecutting and grid			$6,566.00

$6,400 of this cost to be applied to:

Bruce 1	20 units	Record No. 1172	Feb	1 year @ 4,000
Salt 1	12 units	Record No. 1168	Feb	1 year @ 2,400

B. GROUND GEOPHYSICS: HLEM and Magnetometer surveys - 9 1-km

PERSONNEL

G. Hendrickson, geophysicst July 17-18, Oct 27	3 days @ 192/day	576.00	
T. Huttemann, geological assistant July 17-18, 20, 24, 25	5 days @ 72/day	360.00	
D. Mallalieu, geologist July 17-18, 20,	3 days @ 88/day	264.00	
S. Enns - geologist July 25	1 day @ 192/day	192.00	
F. Renaudat, technical assistant Oct 26	1 day @ 90/day	90.00	
		$1,482.00	$1,482.00

ROOM AND BOARD

13 man-days @ $40/day		520.00	520.00

TRANSPORTATION

Toyota diesel 4 x 4 Redhawk Rentals, Burnaby, B.C.	1 week @ $250/week	250.00	
Diesel fuel	@ $60/week	60.00	
		310.00	310.00
TOTAL: Ground Geophysics			$2,312.00

C. GEOCHEMICAL SAMPLING: soil and rock geochemistry

PERSONNEL

F. Renaudat, technical assistant Oct 28-29	2 days @ 90/day	180.00	
S. Enns, geologist Oct 29-31	3 days @ 192/day	576.00	
D. Mallalieu, geologist Oct 30, Nov 1-2	3 days @ 88/day	264.00	
		$1,020.00	$1,020.00

ROOM AND BOARD

8 man-days @ $40		320.00	$ 320.00

TRANSPORTATION			
Toyota diesel 4 x 4 Redhawk Rentals, Burnaby, B.C.	1 week @ $250/week	250.00	
Diesel fuel	@ $60/week	60.00	
		$ 310.00	$ 310.00
GEOCHEMICAL ANALYSIS			
Acme Analytical Laboratory, Vancouver, B.C.			
230 soil for Cu,Pb,Zn,Ag,Mn @ 4.60		1,058.00	
115 soil for Au @ 4.00		460.00	
69 rock for Cu, Pb, Zn, Ag @ 6.75		465.75	
69 rock for Au, Ba @ 7.00		483.00	
		$2,466.75	$2,466.75
TOTAL: Geochemical Sampling			$4,116.75

D. GEOLOGICAL MAPPING: 1:2,000 scale over 2.5 km^2

PERSONNEL			
D. Mallalieu, geologist July 19, 21-22, 25-27, Oct 27-29	9 days @ 88/day	792.00	
S. Enns - geologist July 26-27, Sep 27, Oct 19, 27-28, Nov 1	8 days @192/day	1,536.00	
T. Huttemann, geological assistant July 22, 26-27	3 days @ 72/day	216.00	
		$2,544.00	$2,544.00
ROOM AND BOARD			
20 man-days @ $40/day		800.00	800.00
TRANSPORTATION			
Toyota diesel 4 x 4 Redhawk Rentals, Burnaby, B.C.	1 week @ $250/week	250.00	
Diesel fuel	@ $60/week	60.00	
8 ferry crossings @ 24.25		194.00	
		504.00	504.00
REPORT PREPARATION		750.00	750.00
TOTAL: Geological Mapping			$4,598.00

TOTAL COST: Ground geophysics, geochemical sampling and Geological Mapping **$11,026.75**

$5,200 of this cost to be applied to:

Bruce 2	20 units	Record No. 1172	Feb	1 year @	4,000.00
Musgrave 1	2 units	Record No. 1340	July	1 year @	400.00
Musgrave 2	4 units	Record No. 1344	Aug	1 year @	800.00

The excess $5,826.75 to be transferred to Kidd Creek Mines Ltd. PAC account.

APPENDIX H

STATEMENTS OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

NAME:	S. G. Enns
ADDRESS:	701 - 1281 West Georgia, Vancouver, B.C. V6E 3J7
EDUCATION:	B.Sc. - Honours Geology 1967 University of Manitoba
	M. Sc. - Economic Geology 1971 University of Manitoba

EXPERIENCE:

Geol. Assist.	Manitoba Mines Branch	- 1964 (field season)
Geol. Assist.	Sherritt Gordon Mins	- 1965 (field season)
Geol. Assist.	Amax Exploration Inc.	- 1966-70 (field season)
Geologist	Cerro Mining of Canada	- 1971
Geologist	Hudson's Bay Oil & Gas	- 1972
Geologist	BP Minerals Canada	- 1973-75
Geologist	BP Alaska Exploration	- 1975-79
Geologist	Amax of Canada	- 1979-81
Geologist	Kidd Creek Mines Ltd.	- 1982 - present

STATEMENT OF QUALIFICATIONS

NAME:	David Mallalieu
ADDRESS:	701 - 1281 West Georgia, Vancouver, B.C. V6E 3J7
EDUCATION:	B.Sc. - Honours Geology, 1983
	Carleton University

EXPERIENCE:

May-Sept 1981	Mattagami Lake Exploration Ltd. Junior Geological Assistant
May-Sept 1982	Mattagami Lake Exploration Ltd. Senior Geological Assistant
April-Dec 1983	Billiton Canada Ltd. - Vancouver Senior Geological Assistant
May-Dec 1984	Kidd Creek Mines Ltd. Geologist

STATEMENT OF QUALIFICATIONS

NAME:	Tim Huttemann
ADDRESS:	701 - 1281 West Georgia, Vancouver, B.C. V6E 3J7
EDUCATION:	B.Sc. - III year, applied mathematics University of British Columbia

EXPERIENCE:

Summer 81	Newmont - geological, geophysical assistant
Summer 82	Newmont - geological, geophysical assistant
Summer 83	Kidd Creek Mines - geophysical assistant
Summer 84	Kidd Creek Mines - geophysical, geological assistant.

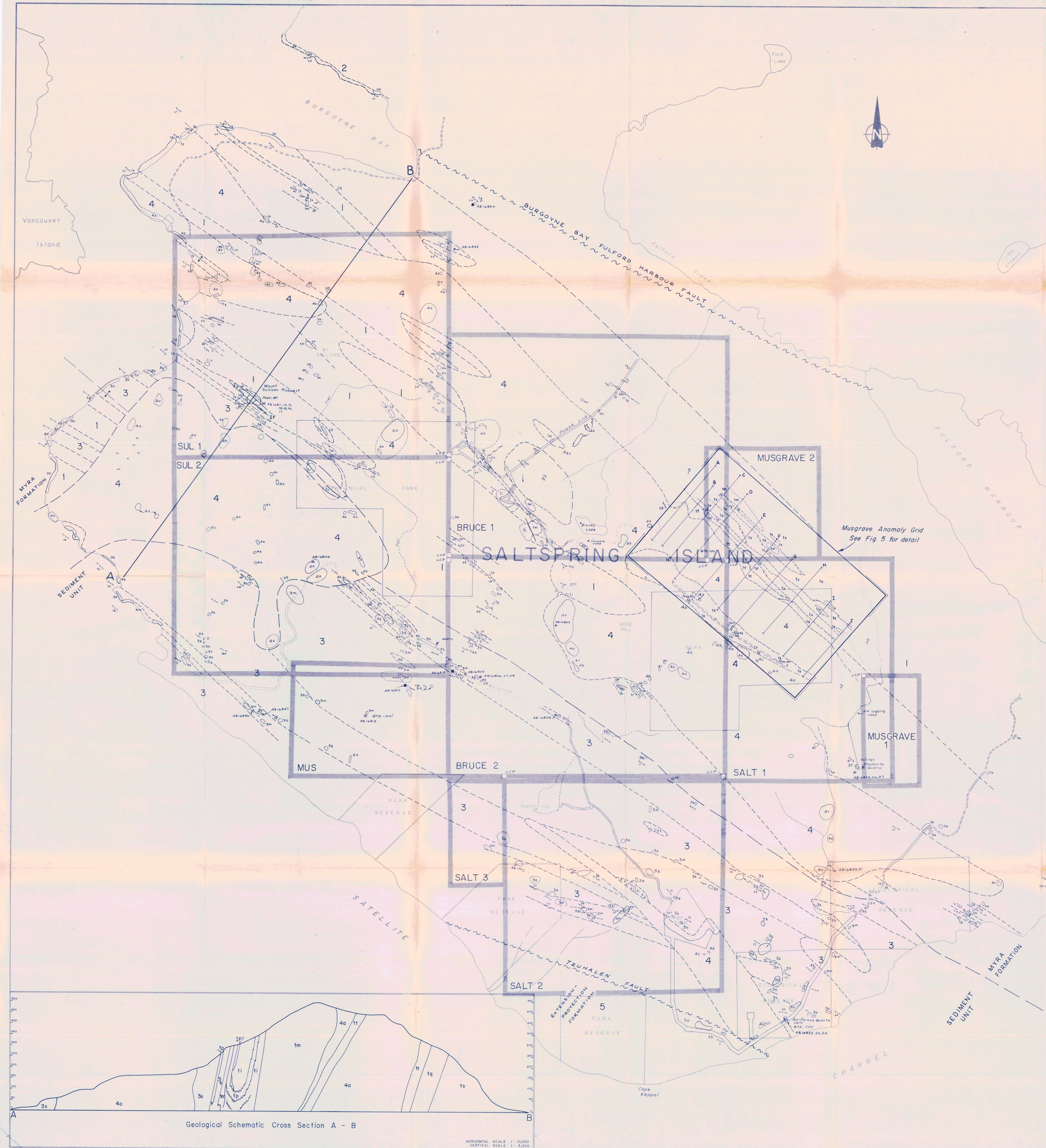
STATEMENT OF QUALIFICATIONS

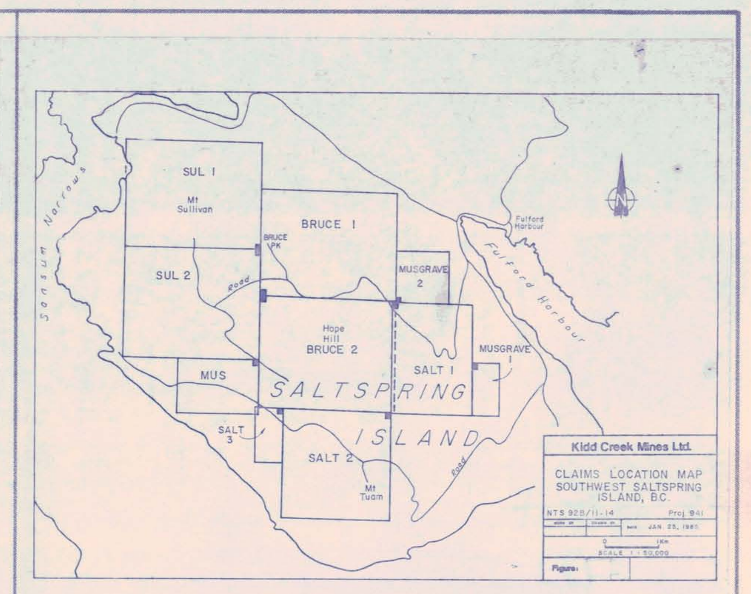
NAME: Frank Renaudat

ADDRESS: 701 - 1281 West Georgia, Vancouver, B.C. V6E 3J7

EXPERIENCE:

Summer 1981	Kidd Creek Mines Ltd. Geochemical sampler, gridding
Summer 1982	Kidd Creek Mines Ltd. Gridding, geochemical sampler
Summer 1983	Kidd Creek Mines Ltd. Sampling, geophysical assistant
Summer 1984	3 weeks, geophysical assistant soil sampling





LEGEND

NANAIMO GROUP

Extension - Protection Formation (Map Unit 5)

5a Polymictic conglomerate, 5b Siltstone

SICKER GROUP

Mafic Intrusion Unit (Map Unit 4)

4a Gabbro/Diabase, 4b Feldspar-glomerophyric diabase, 4c Amphibole pegmatite

SEDIMENT UNIT (Map Unit 3)

3s Black shale/Siltstone
3p Muscovite schist
3g Greywacke, psammite
3c Marble and impure carbonate
3i Lapilli tuff
3m Mafic volcanic rocks: andesite, basaltic-andesite, basalt

SALTSPRING INTRUSION (Map Unit 2)

2a Quartz porphyry

MYRA FORMATION (Map Unit 1)

1t Rhyolitic tuff
1x Feldspar crystal tuff
1p Chlorite-sericite schist, chlorite schist
1i Lapilli tuff, lapilli-block tuff
1q Quartz-feldspar-phyric rhyodacite to rhyolite
1d Dacite
1m Mafic volcanic rock
1a Amphibolite
1s Siltstone
1c Impure carbonate

SYMBOLS

Outcrop; defined, approximate
Geologic contact; defined, inferred
Formational contact
Bedding; horizontal, vertical, inclined
Bedding with tops direction indicated; horizontal, vertical, inclined
Foliation, cleavage; horizontal, vertical, inclined
Fold axis; antiformal, synformal
Fold axis plunge
Fault; defined, approximate, inferred
Rock sample for major oxides
Rock sample for base-precious metals

Qtz	Quartz
Py	Pyrite
Mt	Magnetite
Cpy	Chalcopyrite
Jasp	Jaspellite
Rho	Rhodonite
F	Fossil locality
Ca	Pervasive carbonate veining

Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

PROPERTY GEOLOGY

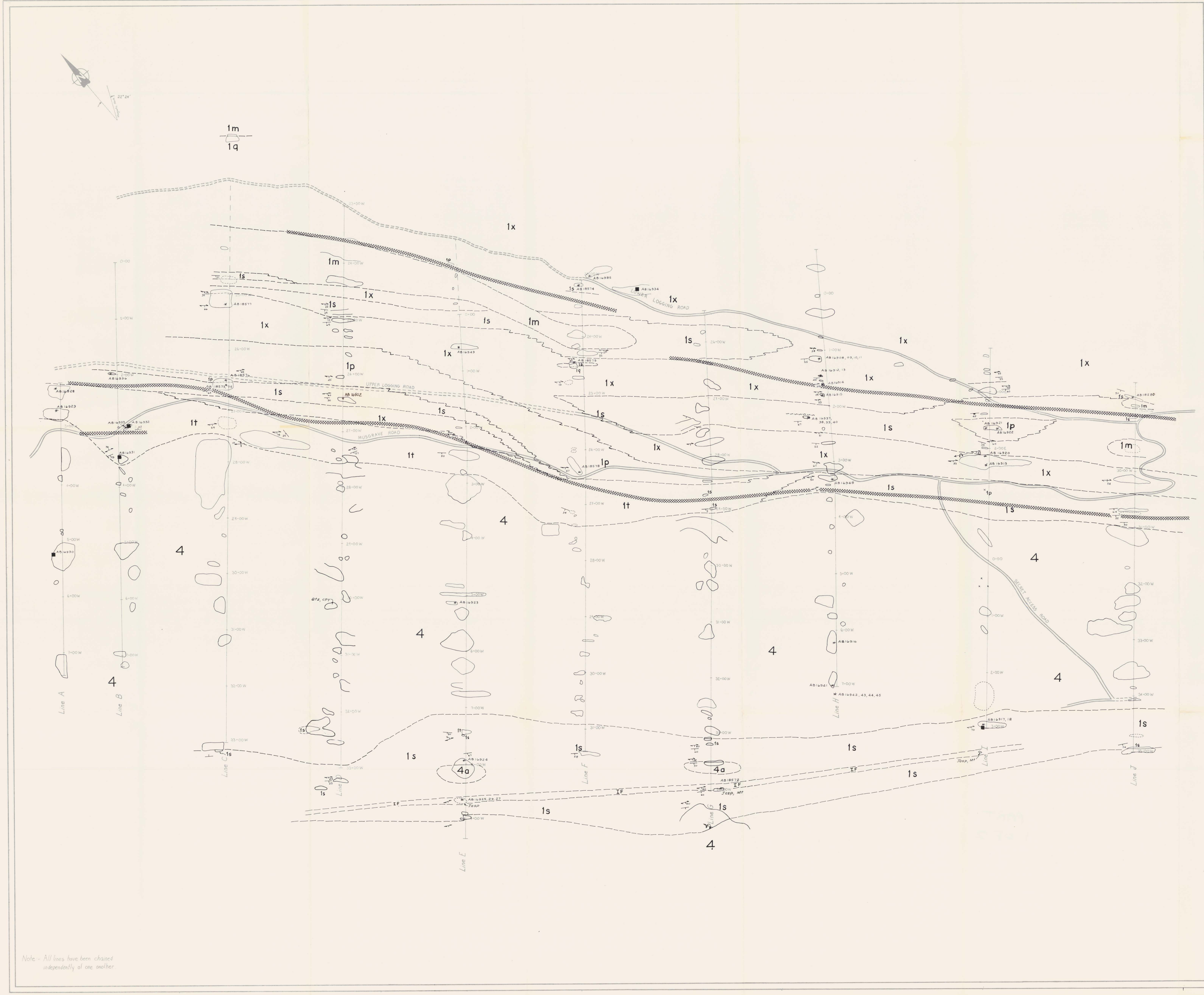
NTS 92B/11-14 Proj. 941

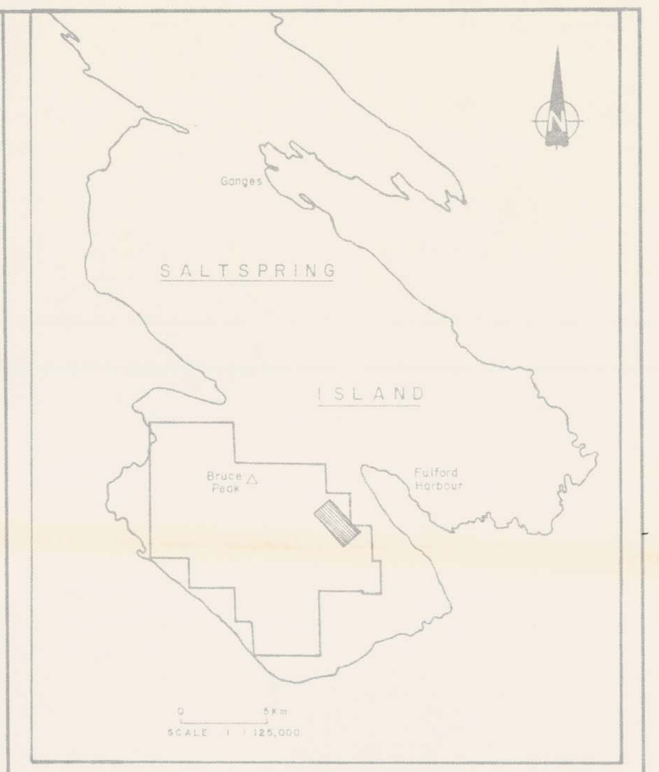
WORK BY | DRAWN BY | DATE FEB. 18, 1985

200 0 200 400 600 800 m

SCALE IN METRES 1:10,000

Figure: 4





— LEGEND —

MAFIC INTRUSION UNIT

	Gabbro/diabase
4	Feldspar-glomeophyric diabase
	Amphibole pegmatite

MYRA FORMATION

1t	Rhyolitic tuff
1m	Mafic volcanic rock
1q	Quartz-feldspar-phyric rhyodacite to rhyolite
1x	Feldspar crystal tuff
1p	Chlorite-sericite-schist, chlorite schist
1s	Black siltstone
IF	IRON FORMATION

SYMBOLS

	Outcrop; defined, approximate
×	Float
	Geologic contact; defined, inferred
	Bedding; horizontal, vertical, inclined
	Bedding with tops, direction indicated; horizontal, vertical, inclined
	Foliation, cleavage; horizontal, vertical, inclined
	Fold axis; antiformal, synformal
←	Fold axis plunge
Qtz	Quartz
Mt	Magnetite
Cpy	Chalcopyrite
Jasp	Jaspellite
■	Rock sample for major oxides
*	Rock sample for base-precious metals
	H.L.E.M. Conductor

GEOLOGICAL BRANCH ASSESSMENT REPORT

13,375 PART 1 OF 2

Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

MUSGRAVE GRID GEOLOGY

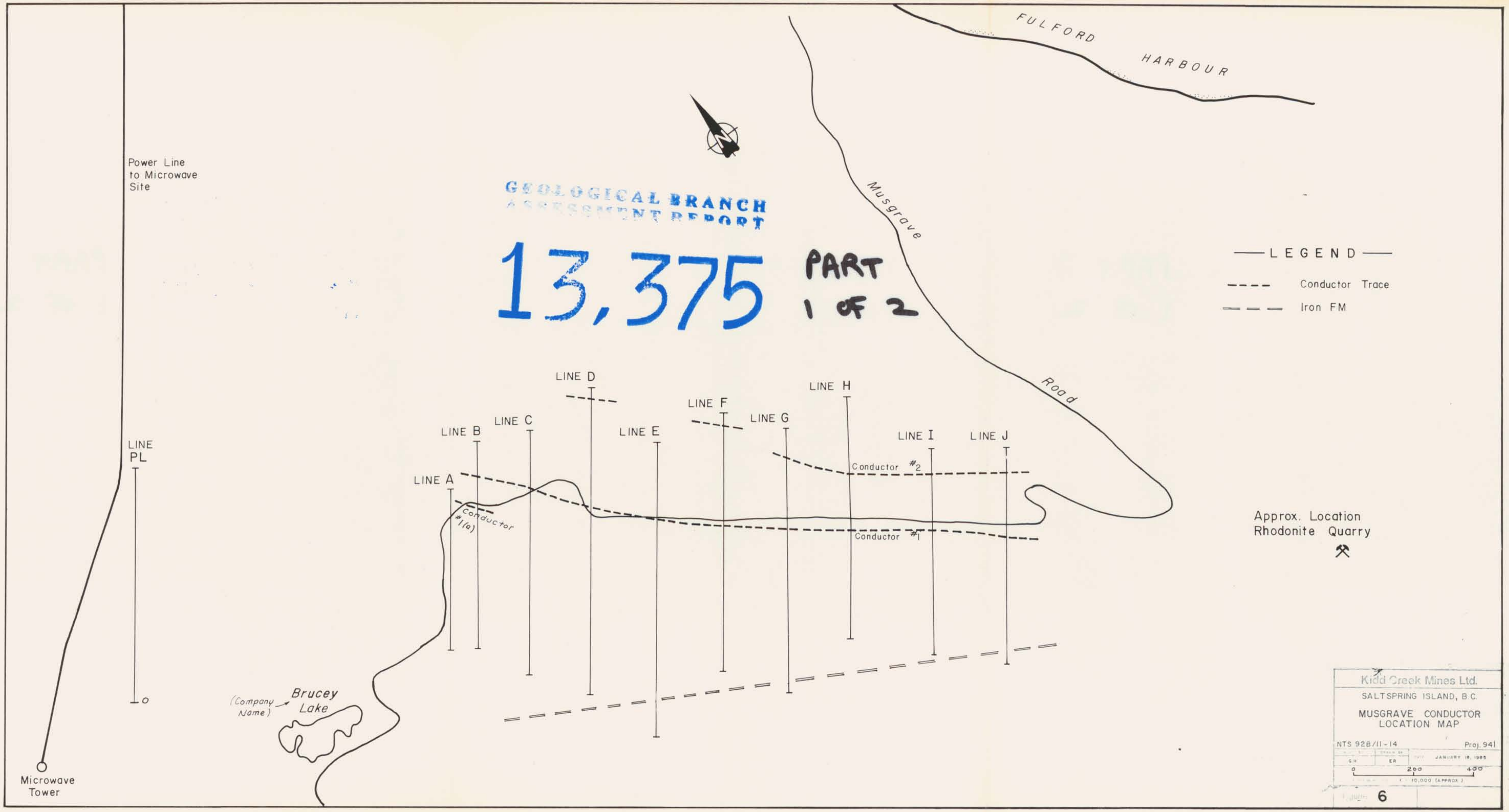
NTS 92B/11-14 Proj. 941

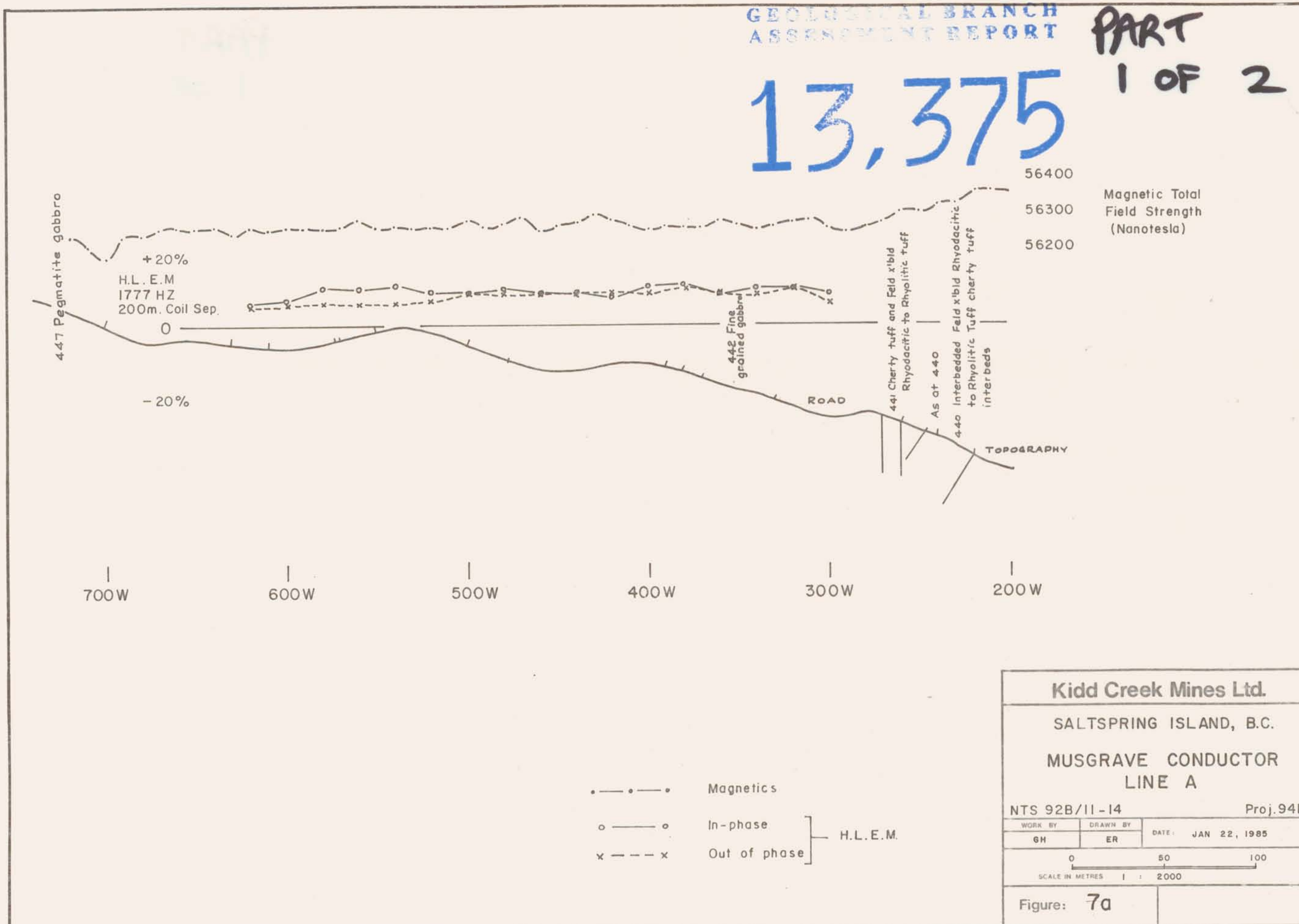
WORK BY	DRAWN BY	DATE: FEB. 6, 1985

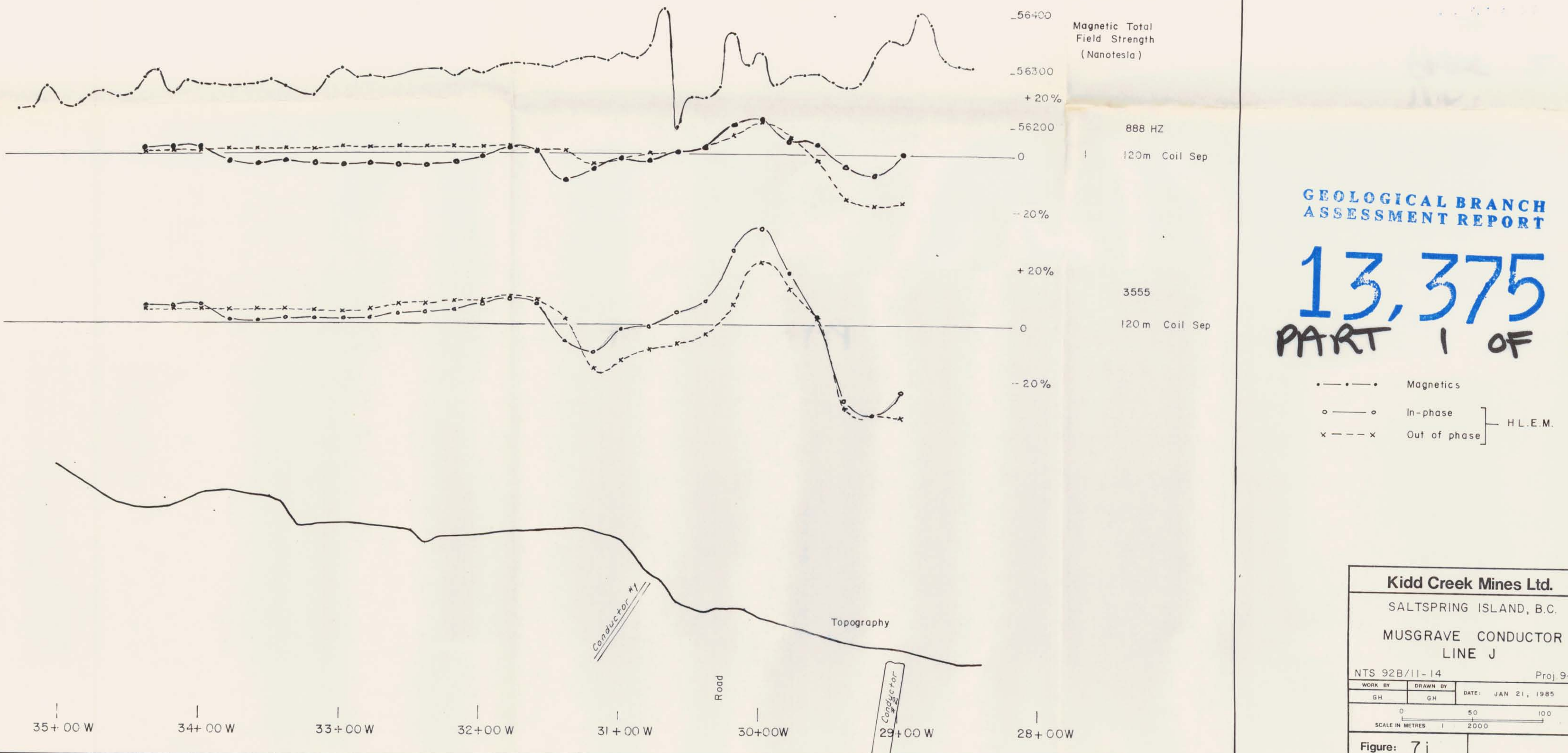
40 20 0 40 80 120 160m

SCALE IN METRES 1:2000

Figure: 5


FULFORD HARBOUR
Musgrave Road
Power Line to Microwave Site
GEOLOGICAL BRANCH ASSESSMENT REPORT
13,375
PART 1 OF 2
LEGEND
Conductor Trace
Iron FM
LINE PL
LINE A
LINE B
LINE C
LINE D
LINE E
LINE F
LINE G
LINE H
LINE I
LINE J
Conductor #2
Conductor #1
Conductor #1(a)
Approx. Location Rhodonite Quarry
(Company Name)
Brucey Lake
Microwave Tower
Kidd Creek Mines Ltd.
SALTSPRING ISLAND, B.C.
MUSGRAVE CONDUCTOR LOCATION MAP
NTS 92B/11-14
Proj. 941
GH
ER
JANUARY 18, 1985
0 200 400
1:10,000 (APPROX.)
6


GEOLOGICAL BRANCH
ASSESSMENT REPORT
13,375
PART 1 OF 2
56400
56300
56200
Magnetic Total Field Strength (Nanotesla)
+20%
H.L.E.M
1777 HZ
200m. Coil Sep.
0
-20%
447 Pegmatite gabbro
442 Fine grained gabbro
ROAD
441 Cherty tuff and Feld x'bld Rhyodacitic to Rhyolitic tuff
As at 440
440 Interbedded Feld x'bld Rhyodacitic to Rhyolitic Tuff cherty tuff interbeds
TOPOGRAPHY
700W
600W
500W
400W
300W
200W
Magnetics
In-phase
Out of phase
H.L.E.M.
Kidd Creek Mines Ltd.
SALTSPRING ISLAND, B.C.
MUSGRAVE CONDUCTOR
LINE A
NTS 92B/11-14
Proj. 941
WORK BY GH
DRAWN BY ER
DATE: JAN 22, 1985
0 50 100
SCALE IN METRES 1 : 2000
Figure: 7a



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,375

PART 1 OF 2

Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

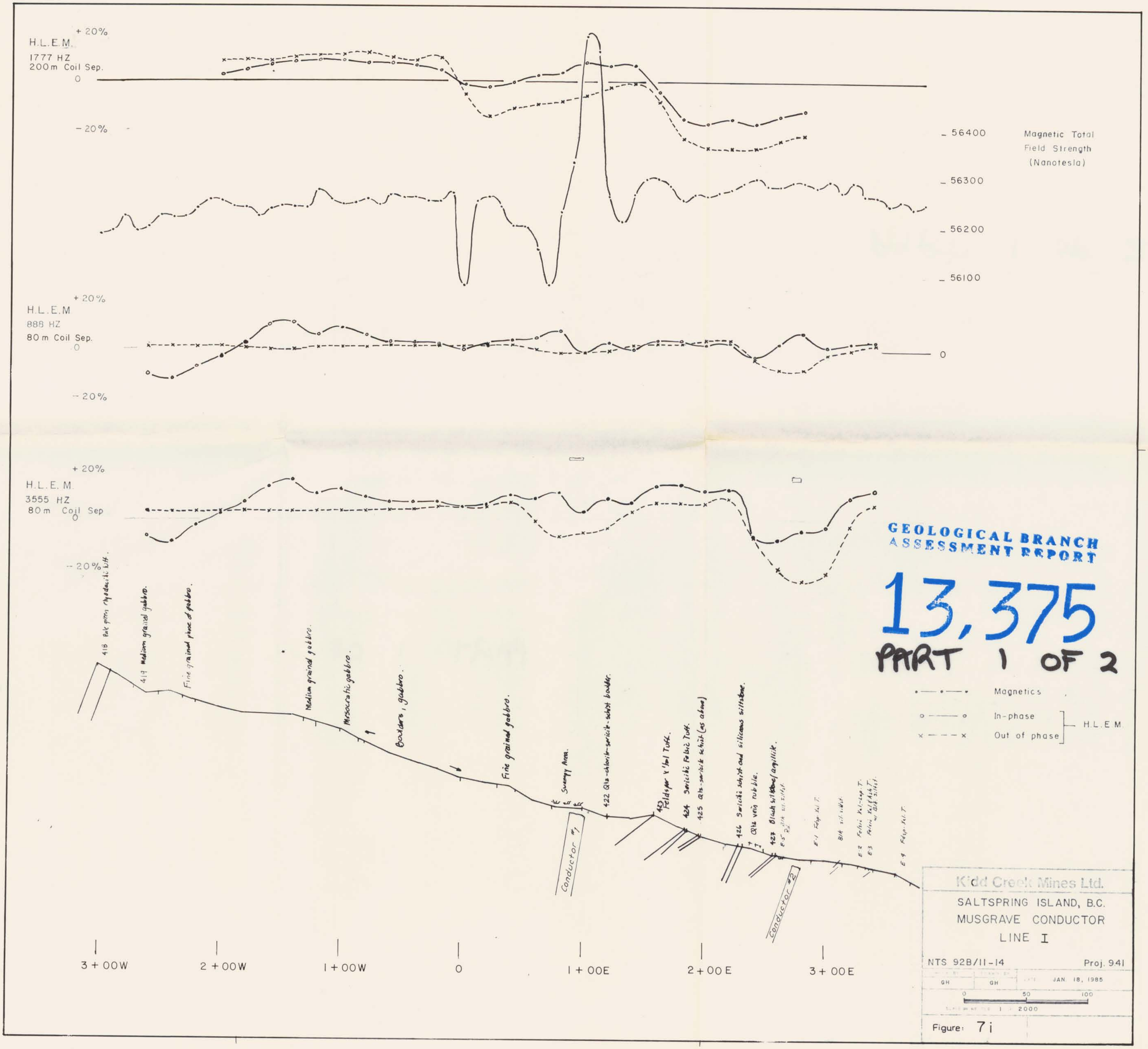
MUSGRAVE CONDUCTOR
LINE J

NTS 92B/11-14 Proj. 941

WORK BY	DRAWN BY	DATE: JAN 21, 1985
GH	GH	

0 50 100
SCALE IN METRES 1 : 2000

Figure: 7j



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,375

PART 1 OF 2

Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.
MUSGRAVE CONDUCTOR
LINE I

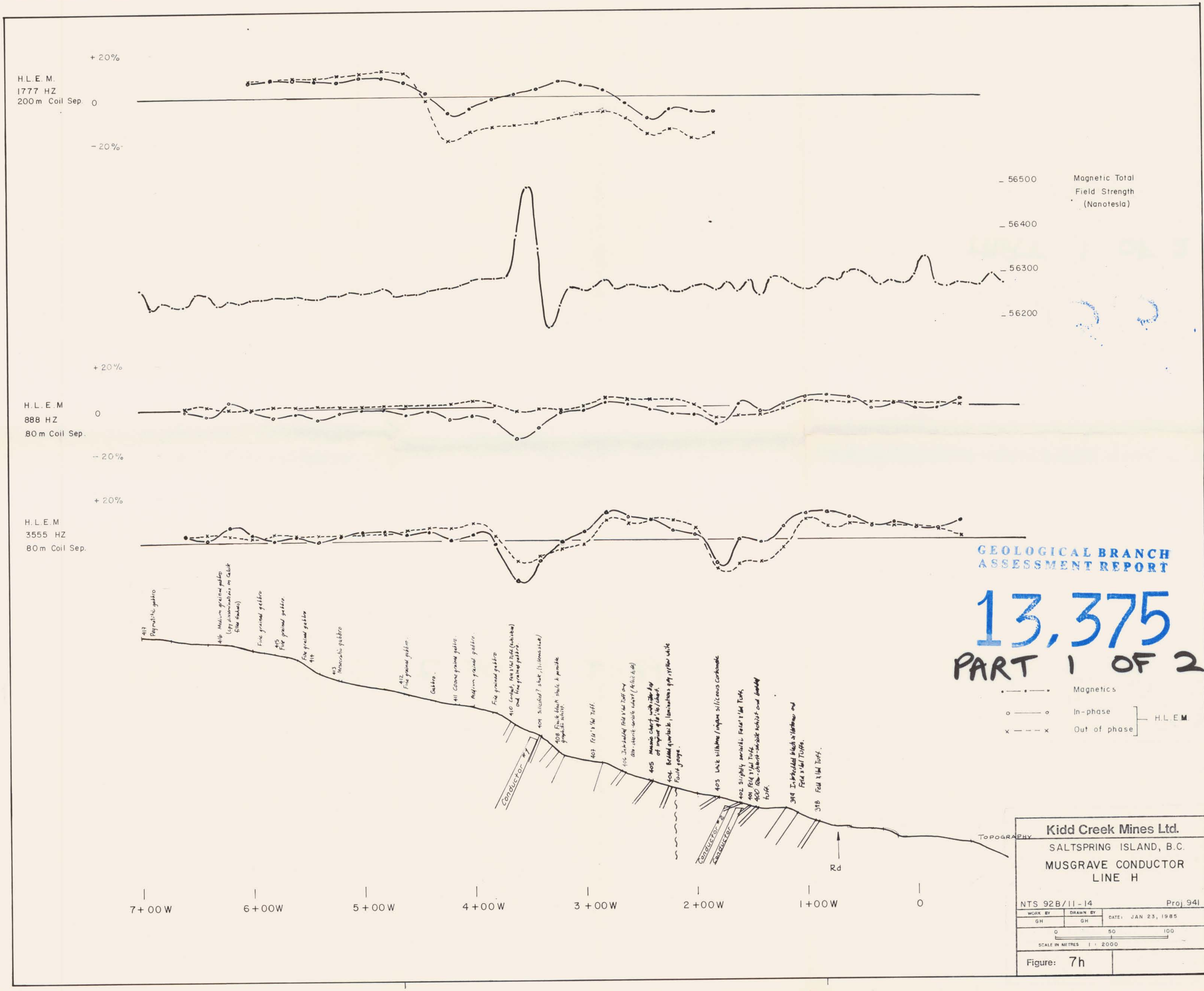
NTS 92B/11-14 Proj. 941

GH GH JAN. 18, 1985

0 50 100

1 : 2000

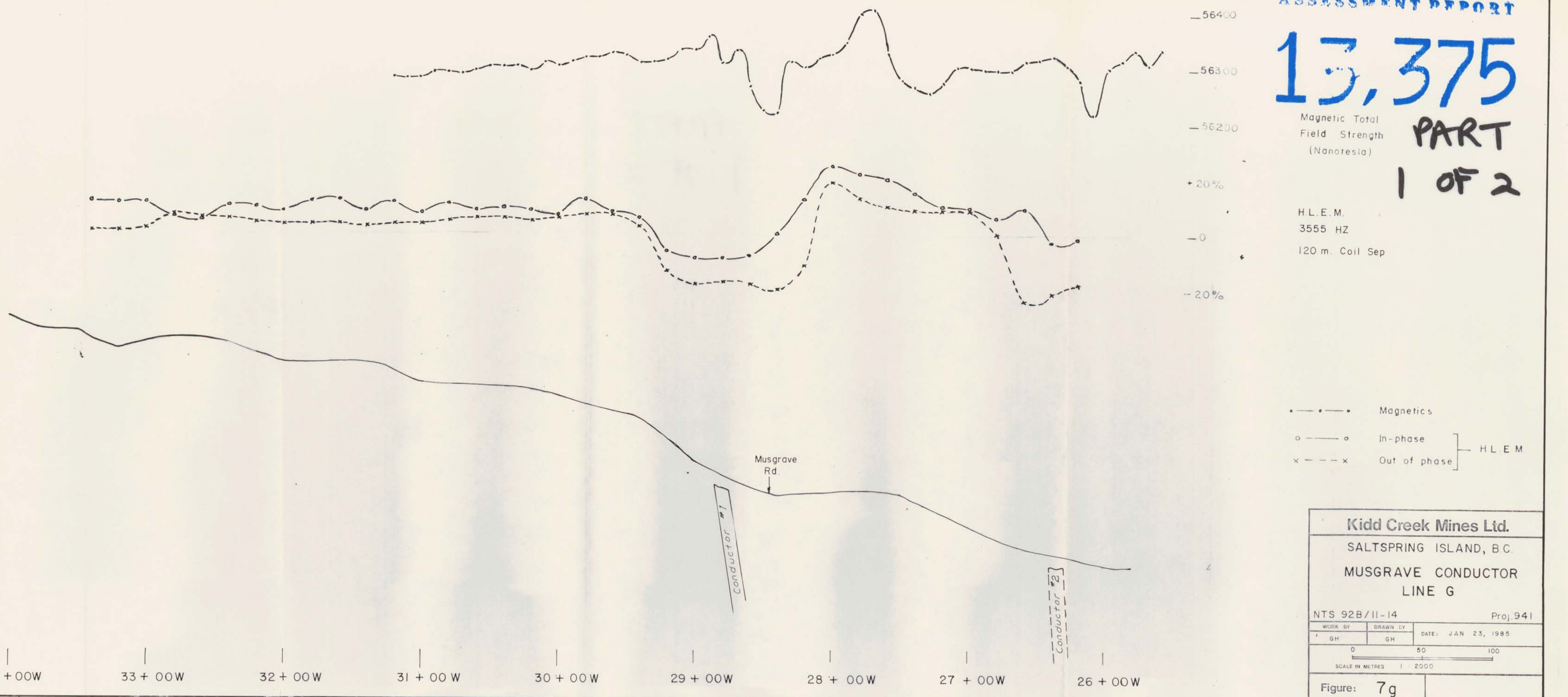
Figure: 7i


H.L.E.M.
1777 HZ
200 m Coil Sep.
+ 20%
0
- 20%
56500
56400
56300
56200
Magnetic Total
Field Strength
(Nanotesla)
H.L.E.M
888 HZ
80 m Coil Sep.
+ 20%
0
- 20%
H.L.E.M
3555 HZ
80 m Coil Sep.
+ 20%
GEOLOGICAL BRANCH
ASSESSMENT REPORT
13,375
PART 1 OF 2
417 Pegmatitic gabbro
416 Medium grained gabbro
Fine grained gabbro
415 Fine grained gabbro
Fine grained gabbro 414
413 Mesocratic gabbro
412 Fine grained gabbro
Gabbro
411 Coarse grained gabbro
Medium grained gabbro
Fine grained gabbro
410 Contact, Feld x'tal Tuff (schistose) and fine grained gabbro
409 Silicified ? shale, (siliceous shale)
408 Fissile black shale & possible graphitic schist.
407 Feld x'tal Tuff.
403 White siltstone / impure siliceous Carbonate
402 Slightly sericitic Feld x'tal Tuff,
401 Feld x'tal Tuff
399 Interbedded black siltstone and Feld x'tal Tuffs.
398 Feld x'tal Tuff.
Conductor #1
Conductor #2
Conductor
Rd
TOPOGRAPHY
7+00W
6+00W
5+00W
4+00W
3+00W
2+00W
1+00W
0
Magnetics
In-phase
Out of phase
H.L.E.M.
Kidd Creek Mines Ltd.
SALTSPRING ISLAND, B.C.
MUSGRAVE CONDUCTOR
LINE H
NTS 92B/11-14
Proj 941
WORK BY GH
DRAWN BY GH
DATE: JAN 23, 1985
0 50 100
SCALE IN METRES 1 : 2000
Figure: 7h

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,375

PART 1 OF 2



Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

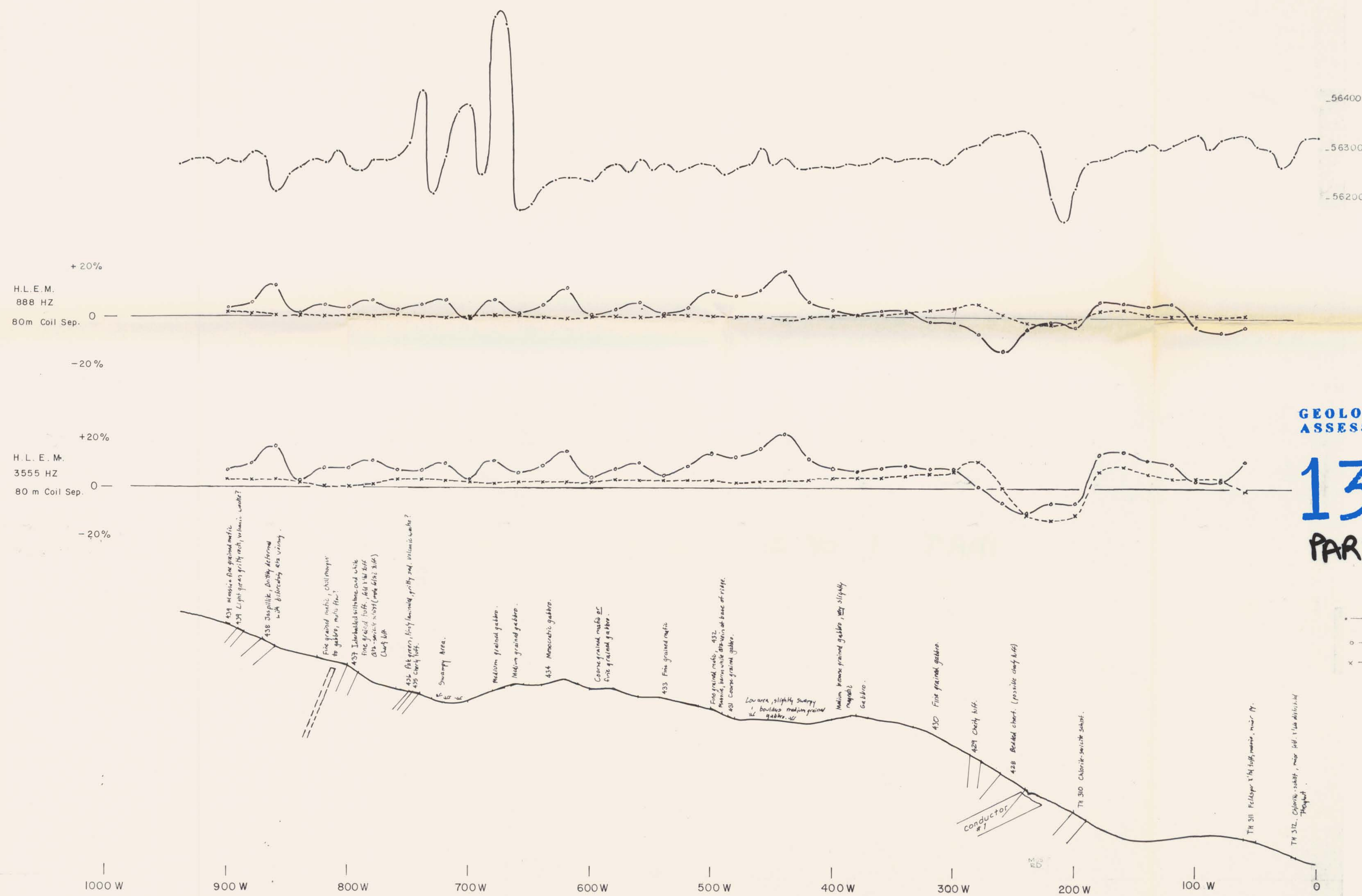
MUSGRAVE CONDUCTOR
LINE G

NTS 92B/11-14 Proj. 941

WORK BY	DRAWN BY	DATE: JAN 23, 1985
GH	GH	

SCALE IN METRES 1 : 2000 (0, 50, 100)

Figure: 7g



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,375

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Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

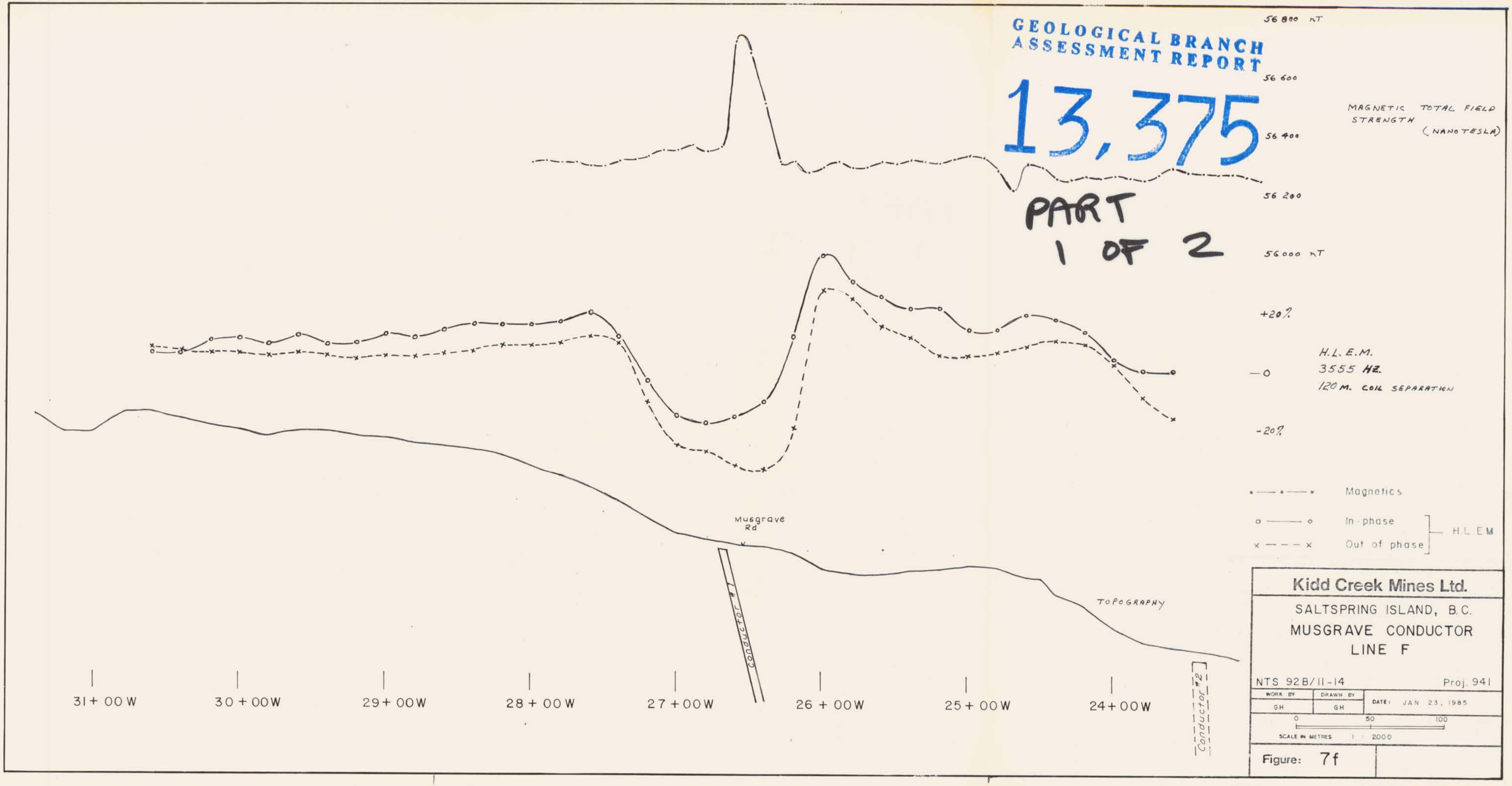
MUSGRAVE CONDUCTOR

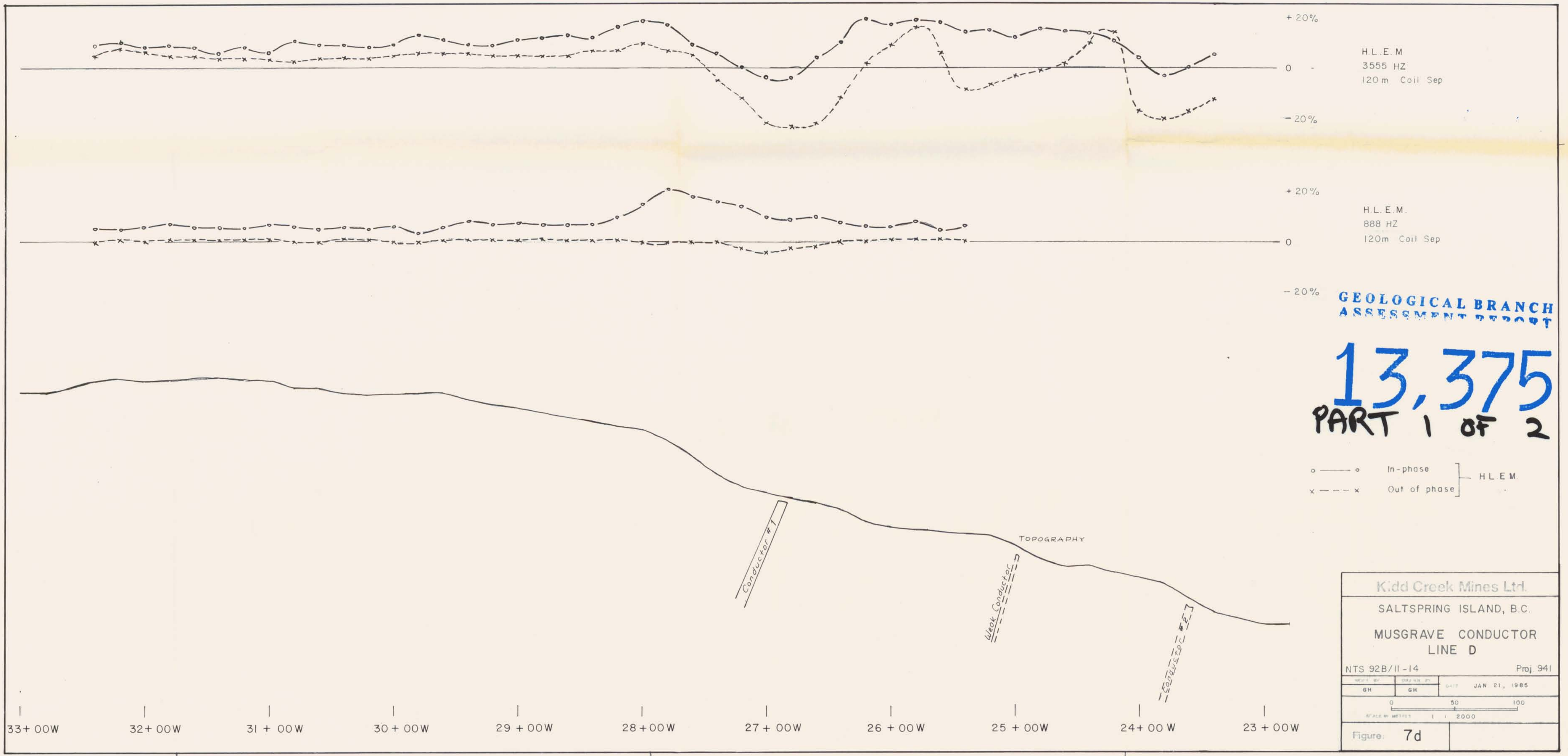
LINE E

NTS 92 B/11-14		Proj. 941
WORK BY GH	DRAWN BY GH	DATE: JAN 22, 1985

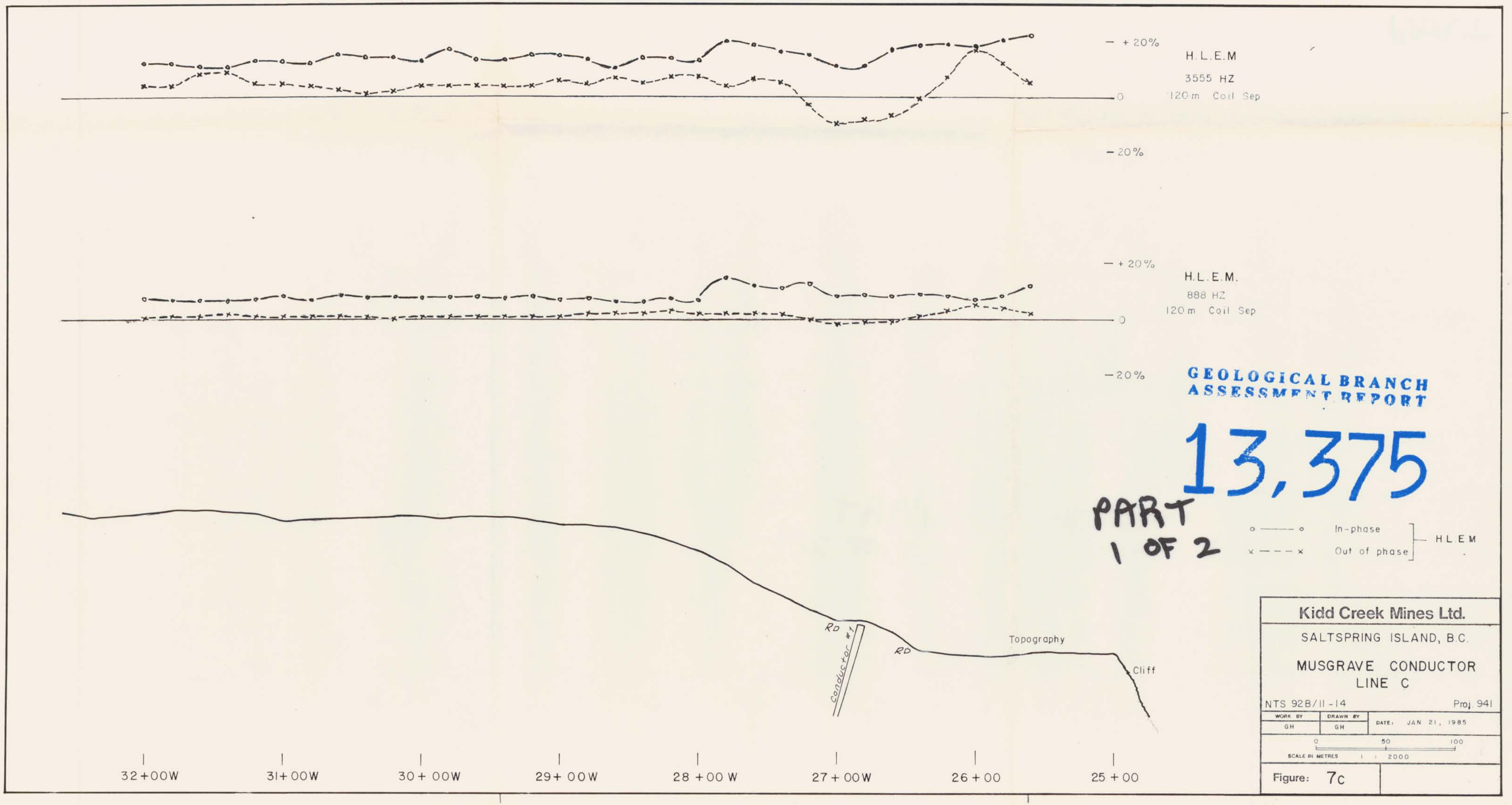
SCALE IN METRES 1 : 2,000 (0, 50, 100 m)

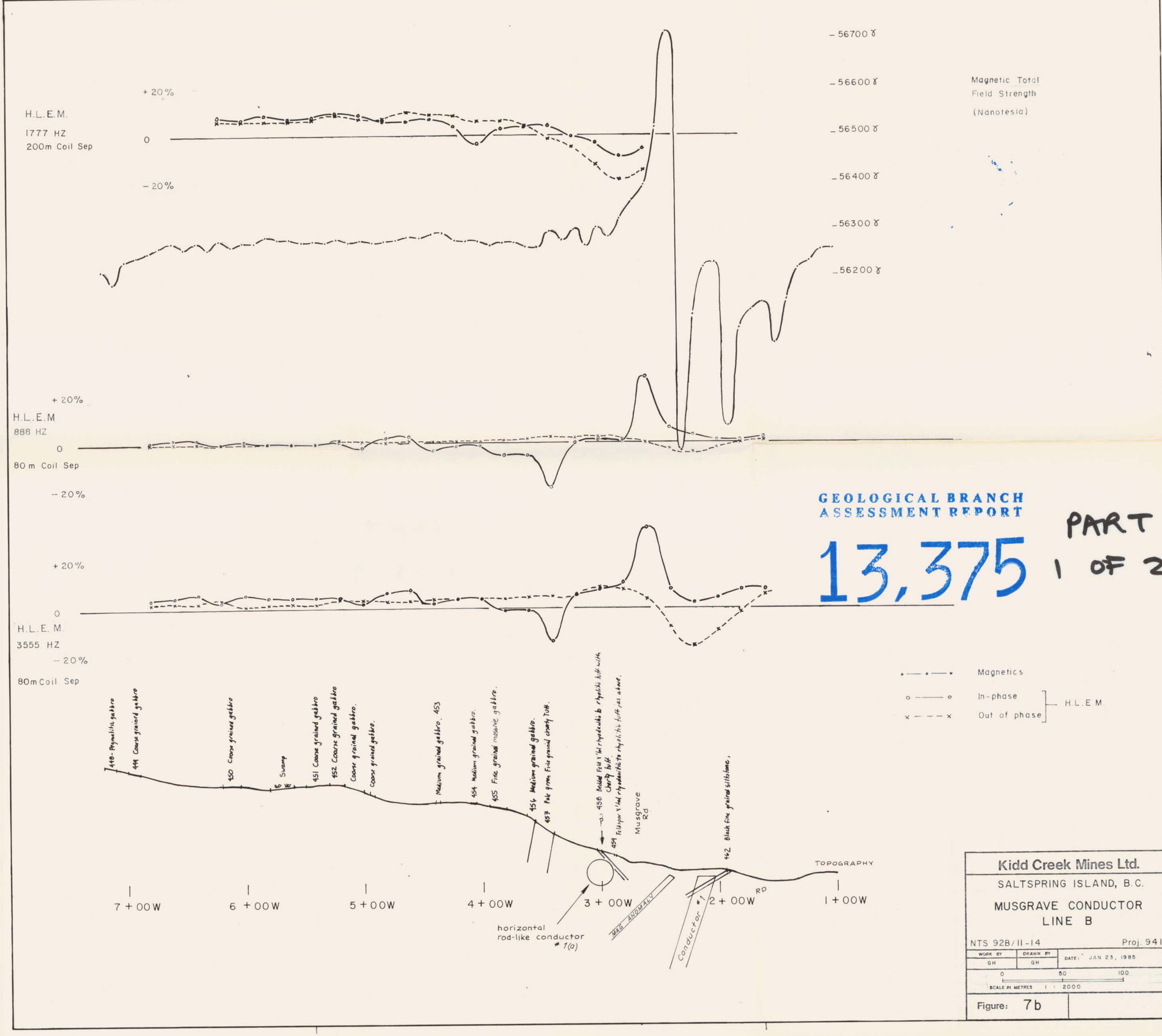
Figure: 7e


GEOLOGICAL BRANCH
ASSESSMENT REPORT
13,375
PART 1 OF 2
56 800 nT
56 600
56 400
56 200
56 000 nT
MAGNETIC TOTAL FIELD STRENGTH (NANOTESLA)
+20%
—0
-20%
H.L.E.M.
3555 HZ.
120 M. COIL SEPARATION
Magnetics
In-phase
Out of phase
H.L.E.M.
Musgrave Rd
Conductor
Conductor #2
TOPOGRAPHY
31+00W
30+00W
29+00W
28+00W
27+00W
26+00W
25+00W
24+00W
Kidd Creek Mines Ltd.
SALTSPRING ISLAND, B.C.
MUSGRAVE CONDUCTOR
LINE F
NTS 92B/11-14
Proj. 941
WORK BY GH
DRAWN BY GH
DATE: JAN 23, 1985
0 50 100
SCALE IN METRES 1 : 2000
Figure: 7f



+20%
0
-20%
H.L.E.M
3555 HZ
120m Coil Sep
+20%
0
-20%
H.L.E.M.
888 HZ
120m Coil Sep
GEOLOGICAL BRANCH
ASSESSMENT REPORT
13,375
PART 1 OF 2
In-phase
Out of phase
H.L.E.M.
TOPOGRAPHY
Conductor #1
Weak Conductor
Conductor #2
33+00W
32+00W
31+00W
30+00W
29+00W
28+00W
27+00W
26+00W
25+00W
24+00W
23+00W
Kidd Creek Mines Ltd.
SALTSPRING ISLAND, B.C.
MUSGRAVE CONDUCTOR
LINE D
NTS 92B/11-14
Proj. 941
GH
GH
JAN 21, 1985
0
50
100
1 : 2000
Figure: 7d


+ 20%
0
- 20%
H.L.E.M
3555 HZ
120 m Coil Sep
+ 20%
0
- 20%
H.L.E.M.
888 HZ
120 m Coil Sep
GEOLOGICAL BRANCH
ASSESSMENT REPORT
13,375
PART
1 OF 2
In-phase
Out of phase
HLEM
RD
conductor #1
RD
Topography
Cliff
32+00W
31+00W
30+00W
29+00W
28+00W
27+00W
26+00
25+00
Kidd Creek Mines Ltd.
SALTSPRING ISLAND, B.C.
MUSGRAVE CONDUCTOR
LINE C
NTS 92B/11-14
Proj. 941
WORK BY
GH
DRAWN BY
GH
DATE: JAN 21, 1985
0
50
100
SCALE IN METRES
1 : 2000
Figure: 7c



GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,375

PART 1 OF 2

Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

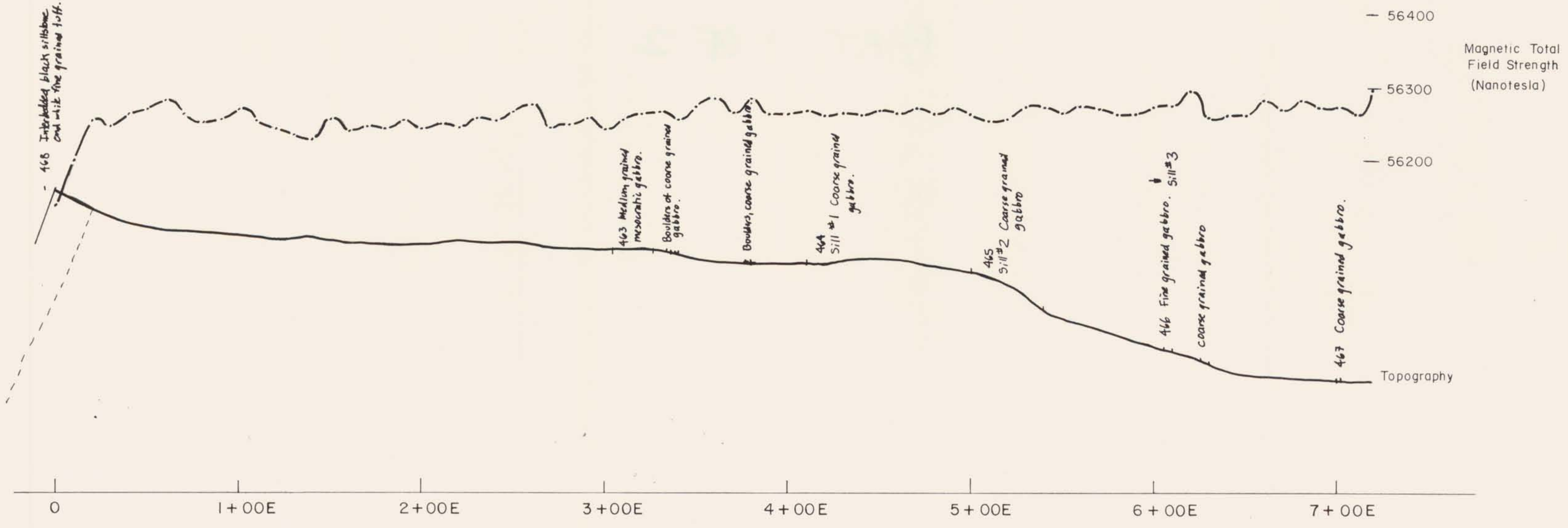
MUSGRAVE CONDUCTOR
LINE B

NTS 92B/11-14 — Proj. 941

WORK BY	DRAWN BY	DATE: JAN 23, 1985
GH	GH	

SCALE IN METRES 1 : 2000 (0 — 50 — 100)

Figure: 7b



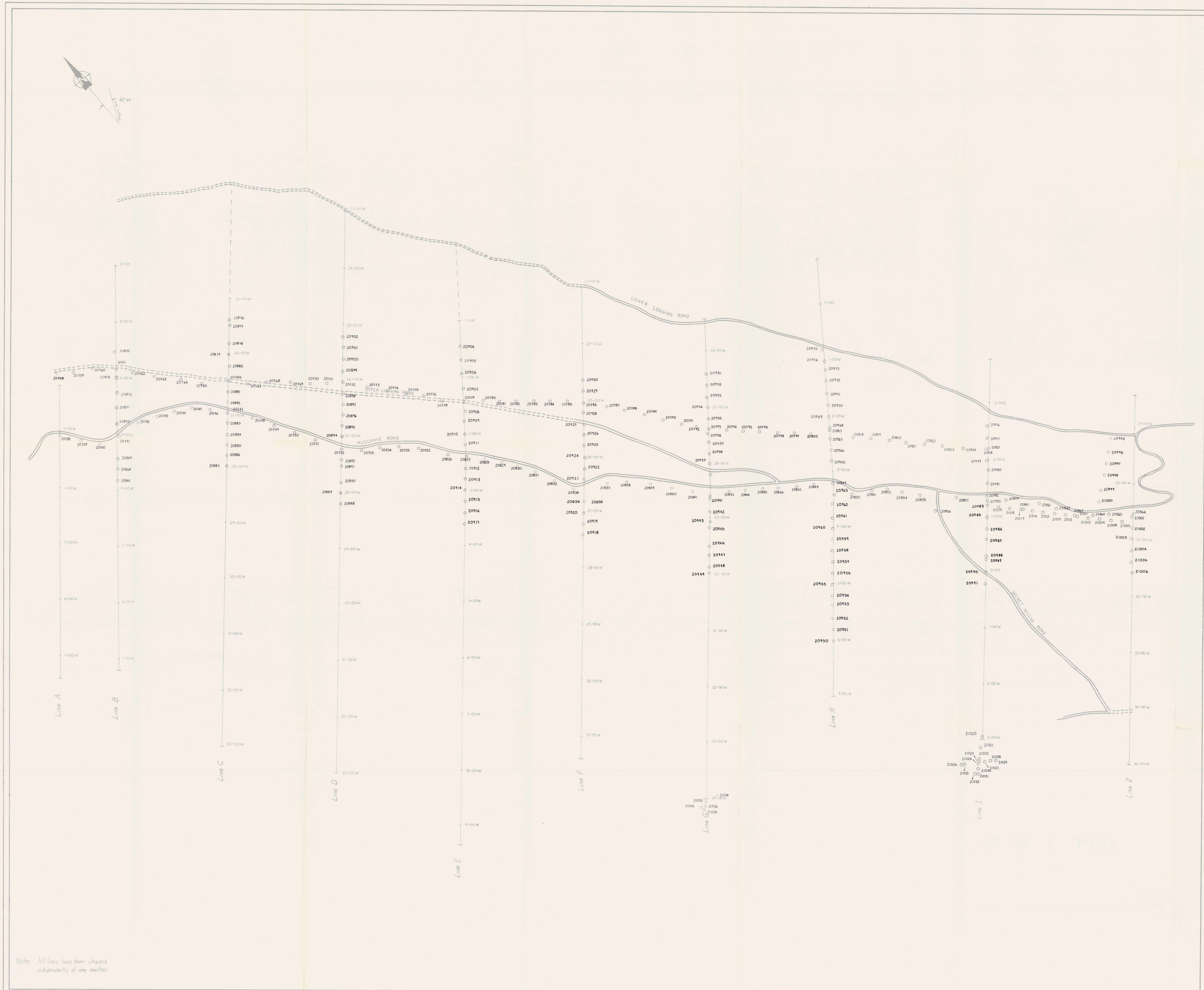
Kidd Creek Mines Ltd.

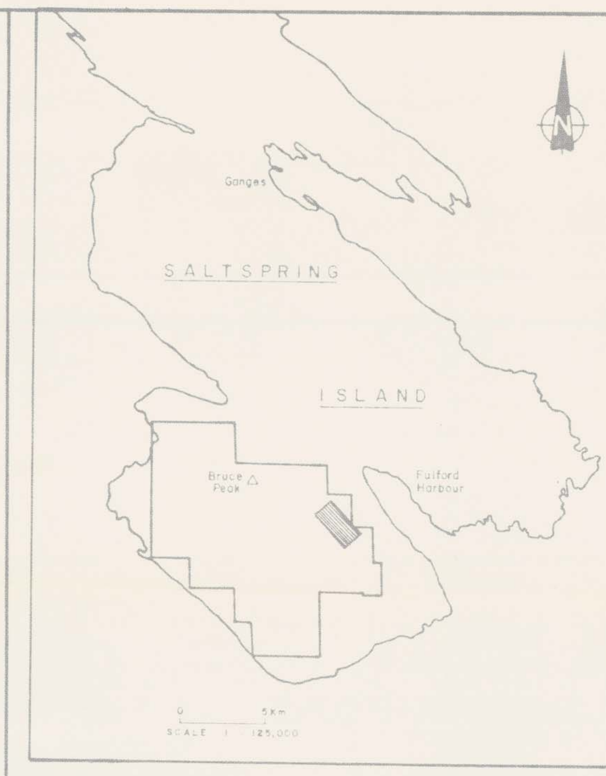
SALTSPRING ISLAND, B.C.
MUSGRAVE CONDUCTOR
LINE PL

NTS 92B/11-14		Proj. 941
WORK BY: GH	DRAWN BY: GH	DATE: JAN. 18, 1985

0 50 100
SCALE IN METRES 1 : 2000

Figure: 7 PL





o Soil Sample, SA series

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,375

PART 1 OF 2

Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

MUSGRAVE GRID

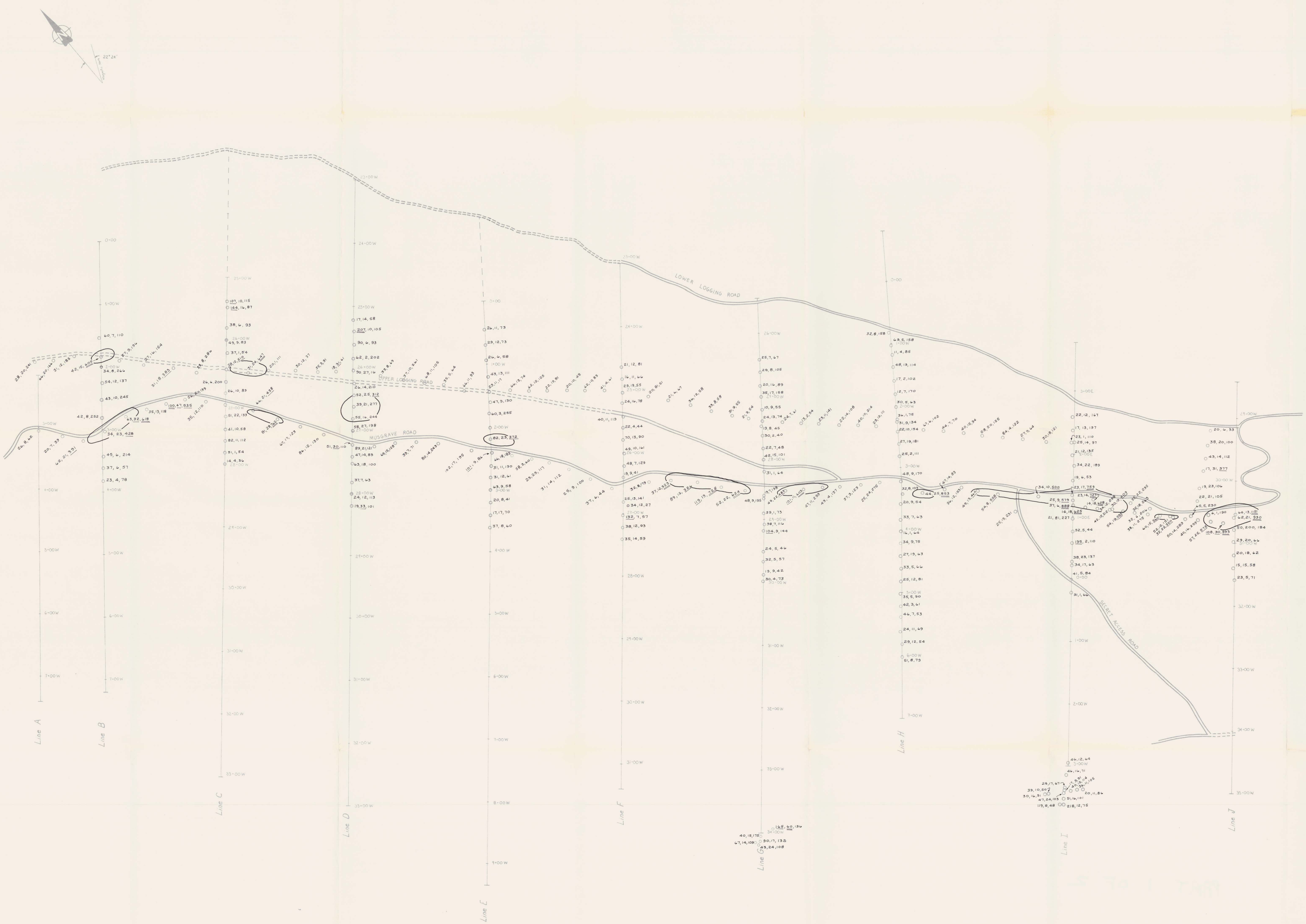
SOIL SAMPLE LOCATIONS

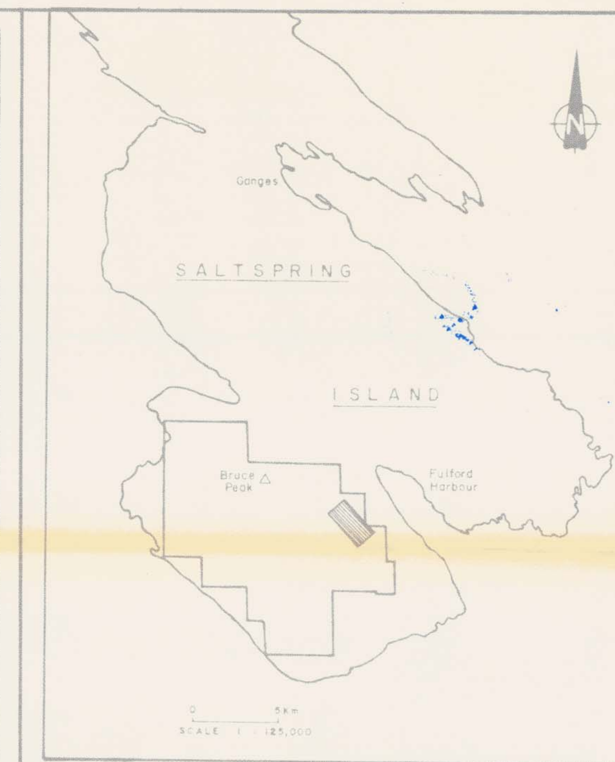
NTS 92B/11-14 Proj. 941

Date: Feb 1, 1985

SCALE IN METRES 1:2000

Figure: 8





Note - All lines have been chained independently of one another.

LEGEND

o Cu, Pb, Zn (all values in ppm)

Threshold Values

	Cu	Pb	Zn
Weak -	>100	>30	>300
Strong -	>200	>50	>600

Limit of anomalous Zn in Soils

GEOLOGICAL BRANCH ASSESSMENT REPORT

13,375

PART 1 OF 2

Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

MUSGRAVE GRID

Cu, Pb, Zn SOIL RESULTS

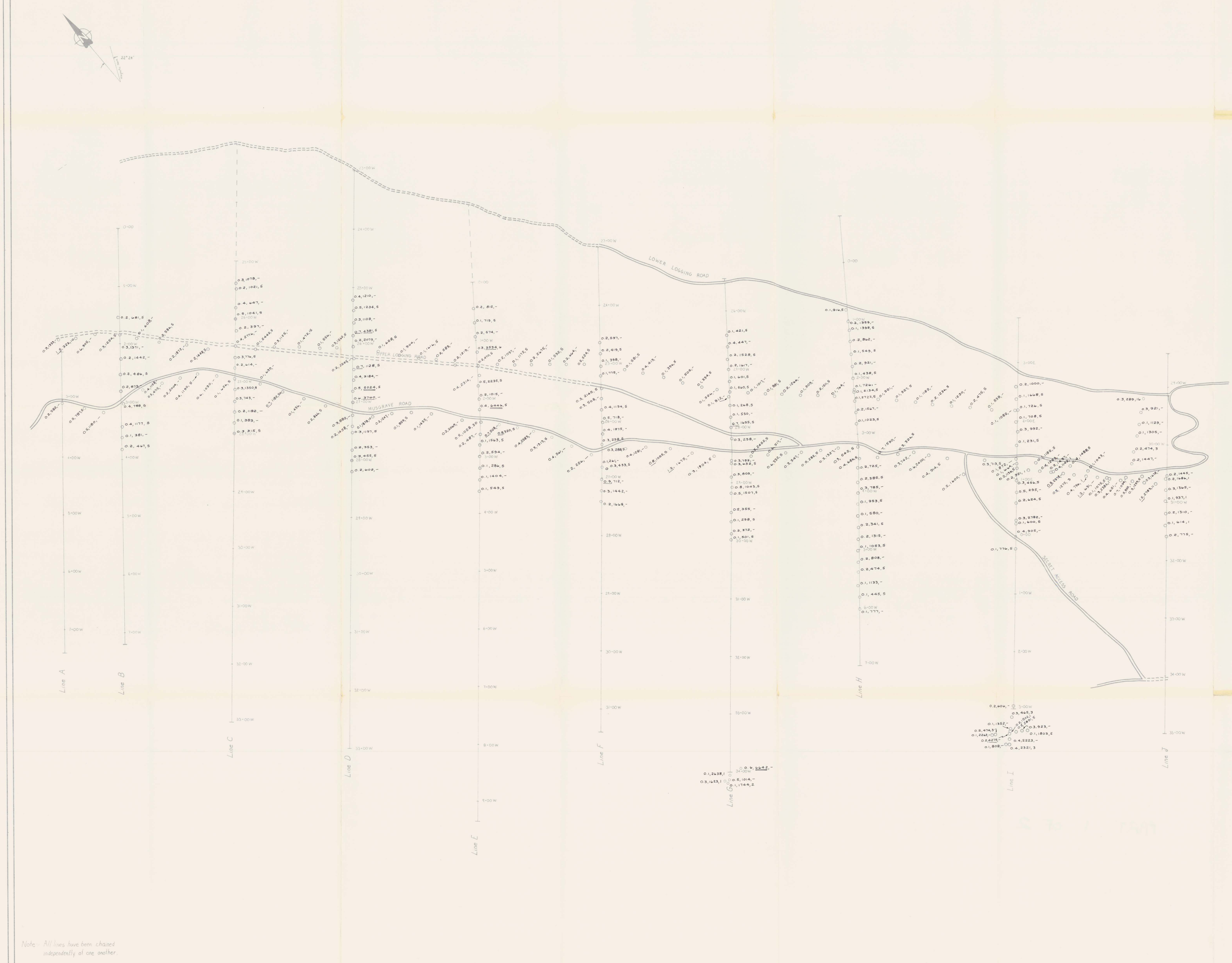
NTS 92B/11-14 Proj. 941

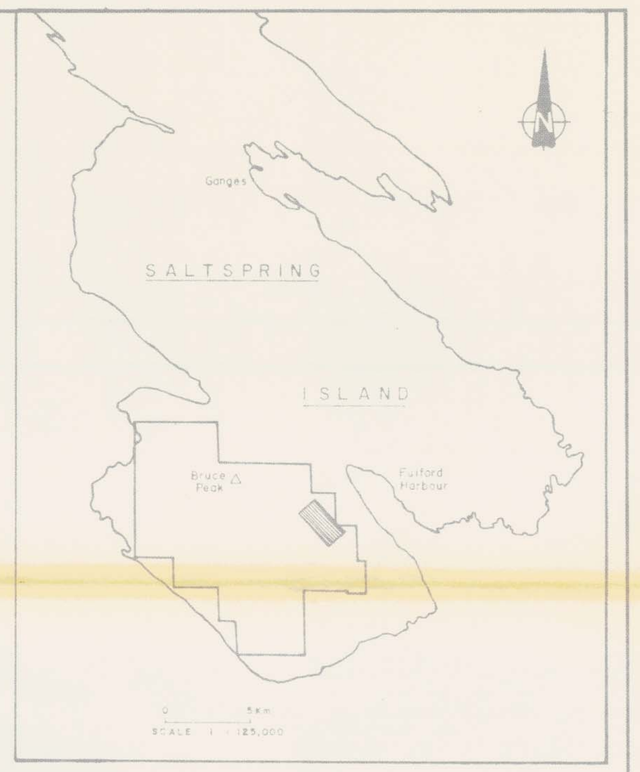
WORK BY | DRAWN BY | DATE Jan. 31, 1985

40 20 0 40 80 120 160m

SCALE IN METRES 1:2000

Figure: 9





LEGEND

o Ag, Mn, Au (all values ppm, except Au in ppb)

Threshold Values

	Ag	Mn	Au
Weak	>0.7	>3500	>20
Strong	>1.6	>5000	>50

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,375

PART 1 OF 2

Kidd Creek Mines Ltd.

SALTSPRING ISLAND, B.C.

MUSGRAVE GRID

Ag, Mn, Au SOIL RESULTS

NTS 92B/11-14 Proj. 941

WORK BY | DRAWN BY | DATE Jan. 31, 1985

40 20 0 40 80 120 160m
SCALE IN METRES 1:2000

Figure: 10