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STACKPOOL MINERALS LTD ASSESSMENT REPORT 9

SQUAMISH PROJECT AIRBORNE GEOPHYSICAL SURVEY

Squamish, B.C., Claims, Vancouver M. D.
Latitude 49°40' N.; Longitude 123° W.

92G/10W, 11E

By: W.G. Timmins, P. Eng., and
G.W.G. Sivertz, BSc.

November, 1982

Ring
Skook
Gin
Lard
Beans
etc.

W. G. TIMMINS EXPLORATION & DEVELOPMENT LTD.

CONSULTING GEOLOGISTS

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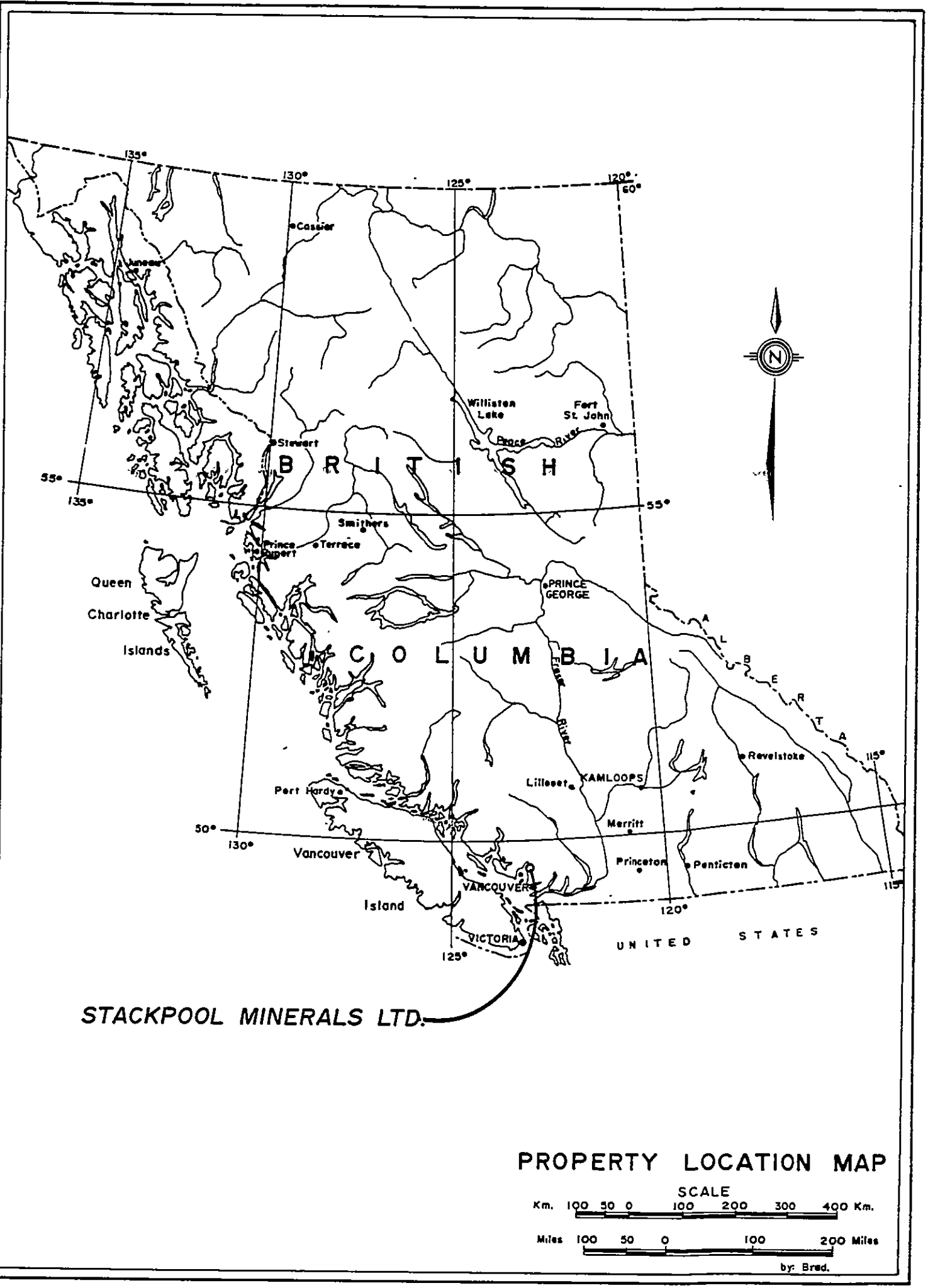
SUMMARY

This report describes the results of an extensive low level combined airborne geophysical survey conducted by Columbia Geophysical Services Ltd over claims held by Stackpool Minerals Ltd. near Squamish, B.C..

Stackpool Minerals Ltd. holds 60 metric grid claims comprising 1,063 units, and 25 2-post claims in this area. Four claims, the W.C. 1-4, are also currently held under option.

The claims are located both east and west of Howe Sound. The largest block is centered southeast of Squamish. This block is underlain by volcanic and sedimentary rocks of the Jurassic Gambier Group, granitic rocks of the Coast Intrusive Complex, and lavas of the Garibaldi Group, of Tertiary to Recent age. Claims to the west of Howe Sound are underlain by Coast Intrusive Complex rocks, small 'roof pendants' of Gambier Group rocks, and minor migmatite and gneiss.

A total of 2,343 line kilometers was flown over the claims during June, July, and August, 1982. The survey was designed to provide an initial assessment of structure and lithology of the extensive claim holdings, and to outline areas of possible economic interest. A large number of anomalous areas were defined by the survey, and some interesting structural data have been obtained.



PROPERTY LOCATION MAP

SCALE

Km. 100 50 0 100 200 300 400 Km.

Miles 100 50 0 100 200 Miles

by: Brad.

(1) INTRODUCTION

Columbia Geophysical Services Ltd., carried out a combined airborne magnetometer and VLF-EM survey for Stackpool Minerals Ltd. over claims held by Stackpool in the Squamish, B.C. area, during July, August and September 1982.

The report discusses the geology and mining history of the area and the geophysical results obtained by the airborne survey.

The following mineral claims, owned by Stackpool Minerals Ltd., were covered by the survey.

List of Mineral Claims

Name	No. of Units	Record No.	Record Date
Rain	20	942	July 17, 1981
Snow	20	943	July 17, 1981
Hail	20	944	" "
Ice	20	945	" "
Sleet	12	946	July 17, 1981
Rum	20	947	" "
Rye	18	948	" "
Cat	20	949	" "
Dog	18	950	" "
Scotch	18	951	" "
Moose	20	952	" "
Owl	20	953	" "
Fog	20	954	July 20, 1981
Fox	20	955	July 27, 1981
Otter	10	956	July 27, 1981
Elk	20	957	" "
Bear	20	958	" "
Gin	20	959	" "
Shovel	20	960	" "
Pick	20	961	" "

Name	No. of Units	Record No.	Record Date
Raven	20	962	July 27, 1981
Axe	16	980	August 10, 1981
Beans	20	981	" "
Lard	8	982	" "
Mink	18	983	" "
Rusty 1-4	4	976 - 979	" "
Rusty 5-6	2	997 - 998	August 24, 1981
Fire 1-4	4	999 - 1002	August 24, 1981
Martin	18	1003	" "
Eggs	18	1004	" "
Bacon	12	1005	" "
Sun	20	1013	September 8, 1981
Comet	20	1014	" "
Stars	20	1015	" "
Moon	20	1016	" "
Tango	15	1017	" "
Echo	20	1018	" "
Romeo	20	1019	" "
Sky	16	1020	" "
Skook	20	1021	" "
Coney 1	20	1022	" "
Coney 2	20	1023	" "
Coney 3	20	1024	" "
Bravo	15	1025	" "
Ace	20	1037	October 6, 1981
Deuce	4	1038	" "
King	20	1039	" "
Joker	20	1050	October 9, 1981
Queen	20	1051	" "
Jack	20	1052	" "
Spare	20	1053	" "
Jim Kim	15	1156	March 1, 1982
Ring 1	20	1235	August 10, 1982

Name	No. of Units	Record No.	Record Date
Ring 2	20	1236	August 10, 1982
Ring 3	16	1237	" "
Ring 4	20	1250	August 24, 1982
Ring 5	16	1251	" "
Ring 6	16	1238	August 10, 1982
Ring 7	15	1239	" "
Ring 8	12	1240	August 10, 1982
Ring 9	12	1241	August 10, 1982
WC 1-4	4	25054 - 25057	
Lisa Dawn	16	1234	August 10, 1982
Cat 2	4		
Llama 1	20	1260	September 24, 1982

(2) LOCATION, ACCESS and TOPOGRAPHY.

The large eastern block of claims is centered southeast of Squamish, B.C., and extends from 5 to 20 kilometers east of Britannia Beach.

The claims cover the drainages of Raffuse Creek, the Mamquam River, and the Stawamus River, and the intervening peaks and ridges including Goat Ridge and Mt. Habrich.

Good access to most of the drainage basins of the main streams is provided by logging roads which are maintained by the local logging company divisions. Access to the higher subalpine ridges can be gained by helicopter but the lower, heavily forested ridges are inaccessible except on foot.

The country is steep and mountainous, with elevations ranging from sea level to 2,000 meters. Local relief can exceed 500 meters per kilometer. Steep-walled, northwest and east trending valleys dissect the landscape. The ridge crests are irregular in outline due to scarps and bluffs of rock.

The original heavy forest cover of Douglas fir, cedar, and hemlock has been logged off along the valleys and gentler slopes, leaving thickets of blueberry, devil's club, and slide willow cut by numerous skid and haulage roads. Progress on foot in these clear-cut areas can be extremely slow and difficult due to unseen logs and small scarps which are obscured from view by the brush.

West of Howe Sound, scattered claim blocks are located just west of Squamish, just west of Woodfibre, in the Mt. Conybeare-Lake Lovely Water area, and just south of Phantom Lake at the head of Clowhom River. Access to all of these areas is best gained by helicopter, since they are all in steep terrain.

(3) MINING HISTORY

The history of the area dates back to 1898 when Oliver Furry and associates discovered and staked extensive copper showings which later became the Britannia mining camp. The Britannia camp produced, from 1905 to 1974, 55 million tons of ore grading 1.1% copper, 0.65% zinc, 0.2 oz/ton silver and 0.02 oz/ton gold. This ore came from a large number of separate orebodies within the Britannia shear zone.

The discovery of the Britannia camp sparked a flurry of prospecting both to the east and west. A number of copper showings were discovered between 1908 and 1911 in the Indian River Valley, near the Stawamus -- Indian River divide, and also on Mt. Baldwin near the headwaters of Raffuse Creek. The Howe Sound Company, which controlled the Britannia mine, acquired many of the Indian River showings at this time. The showings in the Raffuse Creek area called the McVicar showings, were optioned by various companies including Consolidated Mining and Smelting (Cominco), and are presently held by Kidd Creek Mines Ltd.

Maggie Mines Ltd. holds the War Eagle and other claims on the Stawamus River -- Indian River divide, which cover copper-lead-zinc showings discovered in 1976 in the pass between Indian and Stawamus rivers. A 1982 discovery by Maggie, about one kilometer southeast of the pass, on the southwest side of the Indian River Valley, consists of copper-zinc mineralization with considerable values in gold. This is significant in that gold has not been of major importance in previously known deposits in the area, including the Britannia mine.

Minor, sporadic exploration work has been done on other copper properties near Ray Creek on the lower Stawamus River, near Martin Creek in the middle section of the Mamquam River, and south of Alpen Mountain at the headwaters of the Mamquam River.

(4) GEOLOGY.

The area is underlain by three major geologic units. The oldest unit is an assemblage of volcanic and sedimentary rocks, assigned by the Geological Survey of Canada to the Gambier Group of Jurassic age. Various types of granitic rocks are in contact with the Gambier Group rocks. These belong to the Coast Intrusive Complex, of Cretaceous age. Overlying and intruding both older groups are lavas and dykes of late Tertiary to Recent age, belonging to the Garibaldi Group.

The volcanic rocks of the Gambier Group range in composition from basaltic andesite (greenstone) to rhyolite. The greenstones are dominantly flows and sills with minor associated pyroclastic units. The felsic rocks are mostly tuff and agglomerate with porphyritic domes or flows near volcanic 'centers'.

Andesite predominates in the Goat Ridge-Sky Pilot Mountain area. Here the rocks are highly altered, and the original textures damaged to the point where tuffaceous rocks are difficult to distinguish from flows or sills. The andesite volcanics form durable, steep sided topographic features similar to those underlain by granitic rock.

Rhyodacite tuff, agglomerate, and porphyry are common in the Mt. Baldwin-Mt. Mulligan area. Tuffs with coarse porphyritic clasts form beds locally several hundred meters thick. Interbedded with the tuffs are units of porphyritic dacite and rhyodacite which are either subvolcanic sills or extrusive domes. Also present in the felsic pile are minor sedimentary rocks and more basic volcanic rocks. The felsic volcanic rocks underlie topographically subdued areas which contrast strongly with the nearby granitic terrain.

Sedimentary rocks, mostly shale, argillite, and siltstone, are present in most sections of the Gambier Group. Bands of hard, black, cherty argillite can be traced for kilometers along the north face of the Sky Pilot-Goat Ridge escarpment. These bands are marked

by prominent gossans, due to the fine grained pyrite pervading the rocks. The argillites are present in the lower section of the Sky Pilot greenstone unit, where they are marked by white weathering.

Other sedimentary units are found northwest of Clarion Lake and on the ridge between Raffuse Creek and the Mamquam River.

The granitic rocks in the area are quite varied. Quartz diorite predominates, but granodiorite is common in the western part of the area. Mafic constituents of the quartz diorite and granodiorite masses are mainly hornblende and biotite. Mafic rich and mafic poor phases of both rock types have been observed. Magnetite rich phases of quartz diorite have been observed northeast of Sky Pilot Mountain, northeast of Mt. Habrich, and on the ridge between Skookum Creek and Mamquam River. The magnetite rich phases also have higher mafic mineral contents.

Intrusive and extrusive rocks of late Tertiary to Recent age are present throughout the area, although lavas have not been seen south of the Stawamus River-Raffuse Creek divide. The largest lava flow in the area is the Ring Creek flow, which lies between Ring and Skookum Creeks. This flow is of dacite, and is one of the longest acid lava flows on earth. Smaller dacite flows are present on the north flank of Mt. Mulligan and on the Skookum Creek-Mamquam River divide.

Andesite and basalt dykes of Tertiary or younger age cut all rocks in the area; the dykes are usually narrow and steeply inclined. They are widespread but not numerous in any one area.

West of Howe Sound, the rocks covered by Stackpool claims are mostly granitics of the Coast Intrusive Complex. A narrow 'roof pendant' of Gambier Group rocks lies west of Lake Lovely Water. The composition of the band is unknown to the writer but is marked by a series of prominent gossans. Near Phantom Lake, sandstone and slate mapped as Gambier Group are in contact with migmatite and gneiss, which in turn are in contact with granodiorite.

(5) MINERALIZATION

The Gambier Group rocks in the Squamish area host a large number of mineral deposits and showings. The largest deposits, known collectively as the Britannia Mine, were of great importance to the economy of British Columbia through most of this century. Many smaller deposits are known but have yet to be proven commercially viable. Descriptions of the Britannia Mine and other deposits follow.

(a) Britannia Mine.

The following is an abstract from a paper entitled "Deformed Mesozoic Volcanogenic Cu-Zn Sulfides in the Britannia District, British Columbia" by J.T. Payne, J.A.Bratt, and B.G. Stone and published in Economic Geology, Vol. 75, pp 700-721.

" The Britannia copper-zinc sulfide deposits, previously described as having formed from hydrothermal solutions emplaced into foliated host rocks, are re-interpreted as volcanogenic in origin and to have been deposited from hydrothermal and exhalative solutions related to contemporaneous dacitic volcanism and then deformed during later shearing and faulting. Massive sulfide deposits occur near the upper contact of coarse dacitic tuff. Anhydrite, barite, and chert form related exhalative deposits.

Several periods of inhomogeneous strain produced a broad zone of S-Tectonites, the Britannia shear zone, which contains all of the known orebodies; metamorphic assemblages are those of lower greenschist facies of regional metamorphism. Sulfide textures are similar to metamorphic and deformational textures described in the literature. During ore formation and later shearing, the rocks were chemically altered with increases in K_2O, SiO_2, and H_2O, and decreases in CaO and total Fe. Following major metamorphism, dacite dykes were intruded into the sheared rocks and were contolled by foliation; sulfides were remobilized into late quartz veins during emplacement of dacite dykes.

A major system of late faults developed subparallel to the foliation.

A pre-deformation reconstruction suggests that the orebodies are segments of two original massive sulfide deposits; this requires a near-vertical displacement along one fault zone followed by sub-horizontal offset with right-lateral displacement of several thousand feet."

(b) Maggie Mines Ltd. Property.

Pyrite, pyrrhotite, chalcopyrite, sphalerite, and galena are the principal sulfide minerals. The mode of occurrence of gold and silver which have been reported in important quantities is unknown to the writer.

The sulfide minerals occur in several forms. Pyrite and pyrrhotite are frequently disseminated in some of the volcanic and volcaniclastic units, although not necessarily together. Observations suggest that the principal occurrence of the base metal sulfides is in association with silicified zones.

Reports and news releases from the Maggie Mines property indicate the presence of significant intersections of copper, lead, zinc, and silver mineralization indicated by drilling carried out within a possible massive sulfide bearing volcanic belt sub parallel to and approximately six kilometers northeast of the Britannia Mine area.

(c) McVicar Crown Grants.

Mineralization on the McVicar grants consists of lenses, veins, stockworks, and breccias containing chalcopyrite, sphalerite, and galena as the dominant ore minerals. The showings are located on the north flank of Mt. Baldwin, in a belt of rhyodacite volcanic rocks. They occur along a more or less sheared belt about one kilometer long. Several are of high grade, with values in copper, zinc, lead, and to a lesser extent, silver. Considerable diamond drilling over the past 50 years by different operators has apparently confirmed that the showings are discontinuous and of erratic grade. Nonetheless the property is an important

one with major mineralized structures which may yield economic discoveries in the future.

(d) W.C. Claims.

The W.C. 1-4 claims are held under option by Stackpool Minerals Ltd.. They are located on the southwest side of Indian River valley, about 3 kilometers south of the Stawamus-Indian River divide.

Part of the claim block is underlain by an altered, fine-grained, siliceous sill or flow with a southeast trend. This hosts several copper and zinc showings. Little is presently known about the size, grade, or shape of these showings.

(e) Other Mineralization.

Massive pyrite with small amounts of chalcopyrite is found in lenses and shears in the upper Ray Creek valley west of Mt. Mulligan. These showings have been explored off and on for years. Similar geological conditions exist on the northeast flank of Mt. Mulligan where large areas of andesite and dacite are sheared into quartz sericite and quartz chlorite schists. The sheared rocks contain abundant pyrite and occasional veinlets and irregular zones of quartz and carbonate with associated chalcopyrite and sphalerite. Fracture controlled quartz, pyrite, magnetite, and chalcopyrite mineralization is found on the ridge between Skookum Creek and the Mamquam River. Pyrrhotite and chalcopyrite are found in veinlets near Sky Pilot Creek west of the Maggie Mines property, and in Sky Pilot cirque. Quartz-carbonate veins in altered quartz diorite contain small amounts of pyrite and chalcopyrite on the south flank of Paul Ridge, and abundant pyrite is found in a faulted area on the southeast flank of this ridge. Shear zones along the east wall of Raffuse Creek valley contain pyrite, chalcopyrite, sphalerite, and rare galena. The dacite agglomerates in this area contain clasts and lenses of hematite rich iron formation.

(6) GEOPHYSICAL SURVEYS

(a) Survey Procedures.

The survey was contour flown at 75 meter elevation intervals. Detailed follow-up flying was done on straight east-west lines in three smaller areas. The mean bird terrain clearance was 50 meters. Navigation was visual, using 1:50,000 scale N.T.S. maps blown up to 1:10,000. For ease of reading, water features on these maps were coloured in blue, and topographic highs were outlined in orange and red. The flying was difficult, due to the rugged and varied terrain, but the chief navigator, Mr. Lloyd Brewer, who had previously done much of the claim staking in the area, was able to draw on his experience to overcome numerous navigational pitfalls. He carried out his duties in a thoroughly diligent and professional manner.

Aerial platforms used to conduct this survey were Bell Jet Ranger III helicopters owned and operated by Quasar Aviation and Corporate Helicopters Ltd. The pilots were Mr. Dave VanPatten and Mr. Jim Logue, who were chosen over other operators in the province because of their rotary-wing experience and their familiarity with the mountainous terrain east and west of Howe Sound.

Mr. Eugene Dodd, President of Columbia Geophysical Services Ltd., was the instrument operator and project supervisor.

A two meter bird, specifically designed for the Squamish airborne project, was fitted with a magnetometer coil and two omni-directional EM receivers and towed beneath the helicopter on a 10 meter cable.

Airspeed was a constant 60 K.P.H., which provided safety, detailed coverage of boxed-in areas, and consistency of data retrieval, which is critical in rugged terrain. Increased airspeed would have increased the inconsistency of the results.

The project supervisor, Mr. Dodd, has over 14 years of experience in conducting aerial magnetic, electromagnetic, and radiometric surveys from fixed and rotary wing aircraft, under all types of terrain conditions.

(b) Instrumentation.

Magnetic Survey.

The magnetic data are detected using a nuclear free precession proton magnetometer, manufactured by Sabre Electronic Instruments Ltd., of Burnaby, B.C.. The magnetometer measures the total count of the earths' magnetic field intensity with a sensitivity of one gamma. The data are recorded on magnetic tape and a 12 cm. analog strip chart.

VLF-EM Survey.

A two frequency omni directional receiver unit, manufactured by Sabre Electronic Instruments Ltd., of Burnaby, B.C., is used for the VLF-EM survey. The transmitters used are NLK Arlington (Seattle) Washington, operating at 24.8 KHz, and Cutler (Annapolis) Maine, transmitting at 17.8 KHz. These signals are used due to their ideal orientation with respect to north-west and east-west geological structures, and their good signal strengths. The measurement taken during the survey is the variation in the horizontal component of the signal field strength.

(c) Data Reduction and Compilation

The observed magnetic total field was recorded on analogue strip charts. These were played-back together with audio recordings containing fiducial markers, and the fiducial markers were transferred to the strip charts. The fiducial markers were identified with topographic features along the flight lines.

Each flightline within each survey map-area was digitized using a Houston Hipad digital digitizer, and the data was stored on 5¼ inch microcomputer diskettes.

The fiducial marker locations and fightline paths between fiducial markers along non-linear flight lines were digitized with an accuracy of ± 12.5 meters.

After merging the flightline information with the flightline location coordinates, an equispaced map grid matrix was computed. The total magnetic field was interpolated at regularly spaced positions every 125 meters from the observed data. The interpolation method consisted of a linear skew norm method based on the potential field equation. All computations were completed on an Otrona Attache micro-computer.

The contour plans of the total magnetic field were generated by a computer printer plot contouring procedure. The accuracy of contour locations is believed to be ± 16 meters. The final contour plans were traced from the printer plot contour plans onto draughting film, and VLF-EM field strength peaks and geological information were superimposed.

(d) Interpretation Theory.

Magnetic.

The most significant magnetic property of rocks is their susceptibility, 'k'. The following table illustrates the normal range of some magnetic minerals and common rocks.

Material	Susceptibility ('k' x 10^6 cgs)
magnetite	300,000 to 1,000,000
pyrrhotite	125,000
ilmenite	135,000
basalt-gabbro	100 to 10,000
andesite-diorite	100 to 1,000
rhyolite	10 to 100
granite	10 to 1,000
shale, argillite	10 to 100
limestone, chert	1

The reason for the large susceptibility range of rocks is the large range of their magnetite contents. In special cases, pyrrhotite and ilmenite may be present in large enough quantities to materially affect the susceptibility of their host rocks. However, for most large scale magnetic surveys, the only mineral constuent of importance is magnetite. Generally speaking, the susceptibility of a body of rock is dependent on its magnetite content.

A simple relation expressing the expected amplitude of an anomaly over a magnetic body as a function of its magnetite content is as follows:

$$T = \frac{kF}{r^3}$$

(where T is the amplitude of the anomaly, F is the magnetic field of the earth at the location of the measurement, 'k' is the magnetic susceptibility of the body, and r is the depth of the anomalous body or its distance from the magnetometer. The susceptibility 'k' is calculated by multiplying the magnetic susceptibility of magnetite by the volume percent of magnetite in the anomalous body.)

It can be seen that in the case of a gabbro plug of small radius containing 20% magnetite, T = 12,000 gammas, while for a granite plug of the same dimensions, with a magnetite content of 1%, T = 600 gammas.

The magnetic patterns obtained from a regional airborne survey, then, are directly related to the distribution of magnetite in the surveyed area. However, the geology cannot be deduced from isomagnetic maps by simply assuming that all magnetic highs are underlain by gabbro or ultramafic rocks, and that all magnetic lows are caused by limestone or chert. The problem with such a simplistic approach is that magnetite is not uniformly distributed in any type of rock. Other problems arise from the fact that most geologic terrains have rocks of high susceptibility superimposed on less 'magnetic' rocks, and vice versa. Cultural features such as powerlines, pipelines, and

railways also complicate matters. So many variables can be involved that it may be impossible to make a strictly accurate analysis of the geology of an area from magnetic data alone. The researcher must make use of other data such as geological, photogeological, and electromagnetic information in combination with magnetic data to make accurate geological analyses.

Electromagnetic.

The VLF (Very Low Frequency) method uses powerful radio transmitters set up in various parts of the world for military communications. These powerful transmitters can induce electric currents in conductive bodies thousands of kilometers away from the radio source. The induced currents set up secondary magnetic fields which can be detected at surface through deviations in the normal VLF field. The VLF method is inexpensive and can be a useful initial tool for mapping structure and prospecting. Successful use of the VLF requires that the strike of the conductor be in the direction of the transmitting station so that the lines of magnetic field from the transmitter cut the conductor. Thus, a conductor with a northeast or southeast strike will respond to Annapolis, while a conductor striking south-southwest to east-northeast will respond to Seattle transmissions. Conductors striking southeast may respond to both stations, giving coincident field strength peaks.

The theory of VLF-EM interpretation is quite simple. Conductors are located at field strength maxima. In the Howe Sound area, one may assume that a Seattle field strength peak represents a conductor with a generally southeast trend, and an Annapolis peak will be a conductor with an east-west trend. This, of course, only applies to conductors with clearly linear trends and cannot be assumed for single line anomalies.

It is impossible to determine the quality of conductors with any reliability, using field strength data alone. The question

of linearity is in doubt if the conductor does not appear to cross adjacent flight lines. The relatively high frequency results in a multitude of anomalies from unwanted sources such as swamps, creeks, and cultural debris. However, the same characteristic also results in the detection of poor conductors such as faults, shear zones, and rock contacts, making the VLF-EM a powerful mapping tool.

The interpretive technique requires information from magnetic surveys, air photo analyses, and ground traverses to aid in discrimination between important and unwanted anomalies. Even armed with this information the interpreter can easily be misled.

(e) Interpretation.

The area flown during the airborne survey is in excess of 35,000 hectares. The rocks in this area are intrusives ranging in composition from granite to gabbro, volcanics ranging from rhyolite to olivine basalt, and sediments ranging from cherty argillite to sandstone. These rocks are intruded in places by an almost bewildering array of dykes and sills of varying composition. Magnetite content of large areas (up to several tens of hectares) of rock traversed in granitic terrains ranges from 0 to 20%.

Structurally, the major trend is northwest. This is cross-cut by numerous strong east to northeast trending structures. Minor faults and shear zones encountered during field work tend to be parallel or sub parallel to the major trends.

Magnetically, the overall pattern reflects the known structural and lithological patterns described. Areas of low magnetic gradients correspond to large homogeneous masses of rock such as Goat Ridge, Mt. Habrich, Alpen Mountain, and the ranges east of the upper Mamquam River. Steep magnetic gradients, up to 10 gammas per meter, associated with magnetic highs are due to high local magnetite enrichments in shallow or outcropping plutonic rocks (Sky Pilot), or flank magnetic lows (Slug Creek), or lie on contacts between different plutonic rock masses (middle Stawamus River valley). Steep magnetic

gradients associated with magnetic lows form linears in many parts of the area, such as Slug Creek valley and Mt. Mulligan, or are irregular in outline and are associated with felsic volcanic rocks and areas of hydrothermal alteration, such as in the Mt. Baldwin area.

The VLF-EM pattern is extremely complex, as may be expected in a complex area. Single-line conductors abound, and coincident Seattle-Annapolis conductors are also numerous.

This report will attempt to deal with the VLF conductors using a priority system, as follows:

(1) Linear conductors in felsic volcanic terrain.
(2) Linear conductors in mixed volcanic terrain.
(3) Single-line conductors in volcanic terrain.
(4) Linear conductors in granitic terrain.
(5) Single-line conductors in granitic terrain.

In all cases, magnetic, air photo, and geological criteria will be used to weed out unwanted or spurious conductors.

Discussion of the combined data will begin with a review of major structural features and then cover the smaller-scale features on an areal basis, working northwest to southeast along the regional trend.

Major Features.

The main structural components of the area in terms of topography and magnetics are mountain blocks of 2500 to 5000 hectares in area, cut by deep northwest and east to northeast trending valleys.

The magnetics indicate that the mountain blocks are lithologically homogeneous and not profoundly disturbed structurally. The major valleys are coincident with or very near magnetic lows. The major linear lows lie along the northeast wall of the Indian River-Stawamus River valley, along the north and south flanks of the Ring Creek-Mamquam River valley, along the southeast side of the Skookum Creek valley, and up Crawford, Martin, Raffuse, and Slug Creek valleys.

The longest of these features is the Indian-Stawamus linear,

which extends from the Indian River shear zone to the mouth of the Stawamus valley, a distance of at least 16 kilometers.This linear is defined by a series of 400 to 1800 gamma lows, flanked by highs of 2200 to 3400 gammas.It lies sub parallel to a volcanic-plutonic contact for the northern half of its length, and a southern section parallels a major fault in the Indian River valley. It does not have a major topographic expression; however, it is associated with minor faults, air photo linears, and VLF-EM anomalies throughout its length. It may be a major fault zone or a smaller feature associated with a postulated major fault in the axis of the Indian-Stawamus valley.

Two series of magnetic lows appear to define linears on the south side of the middle Mamquam River valley. One of these is a series of 1600 to 1800 gamma lows, flanked by highs of 2000 to 2400 gammas about 1.5 kilometers south of the river and extending from Stawamus River to Martin Creek. This linear crosscuts Gambier Group contacts and topographic expression is nil except near its western end. However, shearing and faulting in exposures along its inferred trace lend some basis for interpreting it as a fault. The other series of magnetic lows lies along the Mamquam River, immediately south of the lava flow. It is very unlikely that the river is following a fault zone at this point in its course, since the river was displaced by the Ring Creek flow within the past 12,000 years and its present course is controlled by the south edge of the flow.

A very distinct series of 1600 to 1800 gamma lows extends due west across the Ring Creek flow, from Skookum Creek to the west end of the flow. There is a flanking high of 2600 gammas near the east end of the linear defined by the lows. Considering the Recent age of the flow, it is unlikely that the lows represent a fault zone. The flow rocks might have regular variations in their magnetite contents caused by differentiation in the magma chamber and subsequent eruption of the differentiated phases at different times.

A series of elongated and irregular 1400 to 1600 gamma lows forms a southwest striking linear parallel to Ring Creek, along the base of Paul Ridge. This linear is marked on the ground near its northeast end by an intensely faulted area in basal Garibaldi Group pyroclastics. This area appears to be the area of intersection of a major northeast striking fault and a less important northwest striking zone.

The Raffuse Creek valley has two sets of parallel magnetic lows, forming linear trends on either side of the valley axis. These linears are marked by 1200 to 1800 gamma lows on the east side of the creek and 400 to 1600 gamma lows on the west side. The linears parallel the strike of the volcanic rocks in this area, and correspond to sheared zones that have been extensively explored since 1925.

East and southeast striking magnetic linears in the valleys of the southeast Mamquam River, Slug Creek, Crawford Creek, and upper Martin Creek are marked by 1600 to 1800 gamma magnetic lows, flanked in some cases by very high positive magnetic gradients. The best example is the Slug Creek valley, where an elongated 1800 gamma low is flanked to the northeast and southwest by highs up to 3600 gammas. The magnetic linears are in all cases paralleled by air photo linears (the creek valleys). The causes of the magnetic lows are not known but deep topographic incisions in granitic terrain are often fault controlled.

Areal Discussion

The airborne data are presented on a series of maps, which are discussed in the following order:

(1) Lake Lovely Water
(2) Echo Lake
(3) Woodfibre Creek
(4) Sky Pilot Mountain Area
(5) Britannia Creek
(6) Loch Lomond
(7) Ring Creek
(8) Mt. Mulligan
(9) Clarion Lake
(10) Alpen Mountain
(11) Skookum Creek Area
(12) Crawford Creek
(13) S.E.Mamquam Area

(1) Lake Lovely Water.

This area is underlain by gabbro, quartz diorite, and diorite of the Coast Intrusive Complex, and a thin 'roof pendant' of Gambier Group rocks.

The airborne magnetometer accurately defined the gabbro plug underlying Mt. Conybeare, but indicates little magnetic contrast between diorite south of Lake Lovely Water and quartz diorite to the north. A linear magnetic low lies along the northeast flank of Mt. Conybeare, roughly parallelling the diorite-gabbro contact. The linear low is probably a fault, as is the nearby contact. Both features appear to be conductive at intervals along strike, as indicated by the Seattle VLF-EM peaks.

An irregular magnetic low to the northwest of Mt. Conybeare overlies diorite mantled by glacial debris. Small magnetic lows with associated VLF-EM conductors to the west of Lake Lovely Water are

overlain by a glacier.

A complex pattern of VLF conductors is apparent on Mt. Conybeare. The writer has examined some east-west trending fault zones on the west and north flanks of the mountain. These are marked by a series of small intense gossans caused by variable amounts of pyrite with very minor chalcopyrite. The sulfides occur in disseminations and small fracture fillings within the fault zones. Two single-line Annapolis conductors in this area may represent these fault zones.

A linear trend of Annapolis conductors on the south side of Mt. Conybeare is of doubtful value because the apparent trend is exactly parallel to the Annapolis field. This and two Seattle VLF linears may represent relatively conductive areas rather than linear features.

(2) Echo Lake.

This area is underlain by granodiorite and young lavas. Magnetic highs over the western section of the lava may be caused by magnetite rich phases or by large thicknesses of lava in vent areas.

Air photo linears are abundant in the steep country above Howe Sound and west of the mouth of the Squamish River. A number of fault controlled mineral showings are known in the same belt. One of these examined by the writer is a north trending fault zone with abundant pyrite and minor copper mineralization. This fault structure does not respond to airborne VLF-EM, nor is there any correlation between the air photo linears and the VLF results. The widely scattered Annapolis and Seattle anomalies in the Echo Lake area do not seem to form any recognizeable pattern; it seems probable that they are weak conductors of little economic consequence.

(3) Woodfibre Creek.

The area is underlain by quartz diorite, diorite, and granodiorite of the Coast Intrusive Complex. The main magnetic trend crosses all three rock types and seems to parallel the axis of the Mill Creek-Woodfibre Creek ridge. Two series of irregular, 1400 to 1800 gamma lows

appear to define linear trends in and to the north of Woodfibre Creek valley. A prominent fault zone marked by gossans and steep gulches crosses the divide in a northerly direction. Scattered VLF-EM anomalies correlate in some cases to known faults or contacts; in other cases their causes are unknown.

(4) Sky Pilot Mountain Area.

This area is underlain by greenstone, argillite, and rhyolite of the Gambier Group, and granodiorite of the Squamish Pluton. The magnetic survey data reflect the contrast between the magnetite-poor granodiorite and the more 'magnetic' greenstone of Goat Ridge, and indicate a gradual magnetic buildup on the west end of Goat Ridge.

Magnetic highs with very steep gradients lie to the north of Sky Pilot Mountain and northeast of Mt. Habrich. The strong high 1.5 kilometers northeast of Sky Pilot was investigated during the 1982 field season and found to be due to a magnetite rich zone or phase of granitic rock. The area of exposure of this magnetite rich rock is about 25 hectares, and the magnetite content averages 15-20%. The magnetic highs northeast of Mt. Habrich are on a contact between granodiorite of the Squamish Pluton and quartz diorite. It is probable that the contact zone contains magnetite rich hybrid phases similar to the one northeast of Sky Pilot Mountain.

The magnetic highs lying a kilometer north and northwest of Sky Pilot are within the Gambier Group volcanic pile. The 2800 gamma high north of Sky Pilot was investigated and corresponds to a thick andesite sill or plug with locally high concentrations of pyrite and pyrrhotite in fracture zones. Pyrrhotite abundances range from 1% to 10% in the best-mineralized parts of the zones. It is not known whether or not this mineral occurrence explains the anomaly. The 3800 gamma high to the northwest of Sky Pilot was not investigated during the survey. It may be a magnetite skarn deposit of somewhat larger size than those examined by the writer farther west on the ridge.

It is recommended that this high be examined during follow up operations. A simple geological examination should suffice since the area has excellent bedrock exposure.

Magnetic lows are present at the head of Shannon Creek, in Marmot Creek basin, and along the south slope of Goat Ridge. The Shannon Creek low is a major feature of 600 gammas, flanked to the south by the magnetically high areas previously described. It lies in the axis of the deep, east-southeast trending Shannon Creek valley, which is probably a structurally controlled feature. The Marmot basin and Goat Ridge lows are not high-gradient lows and may correspond to dip slope outcrops of argillite, which has a lower magnetite content than the under and overlying greenstone.

VLF-EM anomalies are widely scattered in the Goat Ridge and Mt. Habrich areas. The anomalies on Mt. Habrich probably are caused by weakly conductive joints. Conductors in granitic rocks on the west end of Goat Ridge might belong in the same category.

Seattle conductors on Goat Ridge are caused by north and northeast striking fault zones crosscutting the west-northwest trending volcanic rocks. Two single Seattle conductors east of Sky Pilot Mountain are caused by vertically dipping north-northeast striking fault zones which form deep couloirs in the south wall of Sky Pilot cirque. Two more Seattle conductors 750 and 1250 meters north-northwest of Sky Pilot correspond to deep, ice and gravel filled topographic breaks in the cirque west of Sky Pilot cirque. Since other sharp breaks cut Goat Ridge at regular intervals, it is reasonable to assume that some of the scattered Seattle conductors are due to weakly conductive sections of these breaks. Annapolis conductors on Goat Ridge may be due to contacts within Gambier rocks or east-west trending fault structures.

The Goat Ridge area has been prospected since 1900 by many companies and individuals. Magnetite bearing calc-silicate skarn zones, gossans, and pyrite bearing fracture zones encountered by the writer during traverses all bear signs of previous work. The excellent rock

exposure, easy access, and general abscence of obstacles to prospecting and exploration make the area a poor bet for new discoveries.

(5) Britannia Creek.

The geology, structure, and mining history of the Britannia camp are described in the literature. The Britannia shear zone, by far the most economically significant structure in mainland southwestern B.C., crosses the western half of the map-area. It is not delineated by the magnetic pattern, nor does it appear to respond to the VLF. The area between Jane Basin and the No. 10 mine area has many scattered VLF-EM anomalies which form a dense grouping of no discernible pattern. These are obviously of some significance, and follow-up work would undoubtedly locate some interesting mineralization in this area.

(6) Loch Lomond.

The area is underlain by quartz diorite and granodiorite of the Coast Intrusive Complex, and greenstone, rhyolite, and argillite of the Gambier Group.

The magnetics indicate a large number of shallow, contrasting features along the Indian River ridge. Medium and small scale linear lows are flanked by highs ranging up to 4000 gammas. The quartz diorite -volcanic contact on the north and east sides of Indian River ridge is only vaguely defined by the magnetic contrast between the two rock types. The cause of the magnetic contrast between the rocks north and south of Delta Lake must be a major lithological change; this is not indicated by existing maps of the area. To the north of the presumed contact, on the east side of Indian River ridge, a few irregular 1800 gamma lows mark the location of a body of leucocratic, fine grained siliceous rock with a general southeastern trend. This body of rock hosts many copper showings and may be of considerable economic importance.

Three linear VLF-EM anomalies are present in the volcanic rocks on the north end of Indian River ridge. Two are southeast trending

Seattle conductors and one is an east-west Annapolis conductor. Their causes are unknown to the writer but they should be investigated by ground VLF-EM, magnetometer, soil, and geological surveys.

The volcanic terrain on Indian River ridge has been the subject of intensive exploration since the early 1900's. New showings continue to be found and the area is of considerable economic importance.

(7) Ring Creek.

The areas north and south of the Ring Creek lava flow are underlain by quartz diorite of the Coast Complex and mixed volcanic and sedimentary rocks of the Gambier Group. The northern section of the area is not open to mineral exploration, since it is within Garibaldi Park. The large scale magnetic features are discussed in an earlier section of this report.

A few scattered VLF-EM anomalies on the southeast flank of Paul Ridge are associated with a zone of intense faulting in basal Garibaldi Group rocks. This faulted zone contains many pyritized fractures which were sampled for base and precious metals by the writer. The results were negative.

(8) Mt. Mulligan.

The Mt. Mulligan area is underlain by quartz diorite, Gambier Group rocks, and a small, Recent lava flow. The Gambier Group rocks are andesite, rhyolite, rhyodacite porphyry, agglomerate, and tuff, and minor argillite and shale. Many mineral showings are known, mostly near Ray and McVicar Creeks.

An arcuate trend of magnetic highs curves along and across the western and northern flanks of Mt. Mulligan. This trend crosses the major contacts and may represent a deep seated feature. A broad magnetic low reflects the felsic volcanic rocks on Mt. Mulligan and Mt. Baldwin. Linear lows, as discussed in a previous section, flank the Stawamus and Raffuse Creek valleys.

The most prominent feature in the upland section of the map-area is upper Ray Creek valley. This valley, referred to locally as 'the basin', is a northwest trending, fault-bounded valley with a low amplitude magnetic high on the valley floor, flanked by magnetic lows. Based on the magnetic pattern, the VLF-EM pattern, and geological observations, the writer believes that the valley is a graben.

Other areas with interesting magnetic and VLF-EM patterns lie along the magnetic low on the west side of Raffuse Creek. The most northerly of these areas is about 1.5 kilometers north of Mt. Mulligan and just east of the Recent lava flow. Here, a strong north-northwest striking shear zone is marked by a magnetic low, possibly due to intense hydrothermal alteration associated with the shearing. Low copper values accompany intense pyritization in siliceous zones within the sheared rocks. A strong negative tilt angle ground VLF-EM anomaly delineates the shear on the ground.

The Slide Creek area, east of Mt. Mulligan, hosts a number of polymetallic base metal showings controlled by strong north-south and east-west shear zones. The magnetic linear flanking Raffuse Creek valley and a linear Annapolis conductor appear to correspond to the locations of the shear zones.

North of Mt. Baldwin, in the McVicar Creek drainage, a host of high grade showings are controlled by north-northwest trending stratigraphy and structure. The showings were discovered in 1925 and are collectively known as the McVicar showings. They occur as lenses and stockworks in more or less sheared rhyodacite. The area of the showings is cut by numerous faults and siliceous stockwork zones, some of which are reflected by magnetic lows and numerous VLF-EM anomalies. Some of the VLF conductors may be known or yet undiscovered mineralization. A careful ground VLF-EM survey might be useful in this interesting and well-mineralized area.

(9) Clarion Lake.

Quartz diorite and mixed Gambier Group rocks underlie this area. Three major magnetic linear lows cross the northwest trending regional structure. Magnetic highs of 2000 gammas and up parallel the Indian River valley on the northeast side.

Three 400 gamma lows lie east of Mt. Baldwin and form a broad north-south linear belt. These lows overlie felsic volcanic rocks which may be hydrothermally depleted in magnetic minerals.

Dense concentrations of VLF anomalies in the creek basin west of Clarion Lake, in an area of magnetic highs, are due to causes unknown to the writer. This area and the area of deep lows near Mt. Baldwin should be investigated with ground VLF-EM and magnetometer surveys. If the geological conditions warrant, soil surveys and low frequency electromagnetic surveys should also be done here.

(10) Alpen Mountain.

This area marks the easternmost limit of the Indian River Pendant of the Gambier Group. Rocks farther east are granitics of the Coast Intrusive Complex. The narrow band of Gambier Group rocks on the east side of Raffuse Creek comprises andesite and dacite tuff, agglomerate, and porphyry similar to that on the west side of the valley.

No mineral showings of major importance are presently known on the east side of the creek but in the canyon of the creek west of the peak of Alpen Mountain are exposed two large shear zones with north-northwest strikes. Abundant pyrite with small amounts of chalcopyrite and galena is present in these zones.

The linear magnetic low extending along the east flank of Raffuse Creek valley may be an expression of the shear zones; Seattle VLF anomalies in and north of the creek where the shear zones are exposed indicate a long, broad conductive structure in the sheared area. The area along Raffuse Creek underlain by Gambier Group rocks should be investigated more thoroughly with ground VLF-EM surveys, and areas

that respond to Annapolis, in particular, should be carefully investigated with soil and low frequency EM surveys.

The granitic terrain of central and eastern Alpen Mountain is not favourable for the occurrence of massive volcanogenic sulfide deposits. Several magnetic linears and scattered VLF anomalies here appear to be due to structural features, and coincide with air photo linears. The VLF-EM anomalies are generally low priority, single-line peaks.

(11) Skookum Creek Area.
(12) Crawford Creek.
(13) S.E. Mamquam Area.

These areas are dealt with together because they are all underlain by quartz diorite of the Coast Intrusive Complex and lie in a north-south belt on the east side of the Mamquam River.

Large scale magnetic features are dealt with in an earlier section of this report. The most interesting part of the map-area is the Slug Creek valley, which has the magnetic and topographic characteristics of a graben. The writer has not visited this area and the true nature of the Slug Creek structure is a matter of conjecture.

Small scale magnetic features in the eastern Mamquam area correspond as a rule to air photo linears; they are probably not economically significant.

VLF-EM anomalies are widely scattered. The relatively dense concentration of anomalies between upper Martin Creek and the Crawford Creek valley is in an area of high magnetic contrasts, which may be structurally more complex than other areas to the north and south.

(7) CONCLUSIONS AND RECOMMENDATIONS.

The combined magnetic, VLF-EM, and geological characteristics of certain of the surveyed areas warrant follow-up work. These areas are:

(1) Mt. Mulligan.
(2) Raffuse Creek Valley.
(3) Northern Indian River Ridge.
(4) Indian River Valley.
(5) Upper Shannon Creek Valley.

Mt. Baldwin and the head of Indian River valley have been left out of the list because these areas have already received a large amount of intensive exploration work, and further work is intended by the operators of the properties held in these areas.

Recommended follow-up programs in the listed areas should proceed as follows:

(1) Detailed, low frequency airborne EM surveys flown on straight east-west lines. A recommended system would be a towed-bird, multi channel input, time domain type.

(2) Ground geological, geochemical, magnetometer, VLF-EM, and low-frequency EM surveys in areas of airborne EM anomalies.

(3) Trenching and diamond drilling of zones with coincident geochemical, geological, and electromagnetic anomalies. Since some known mineralized structures in the areas listed are not conductive, some intensive work should be concentrated on zones with attractive geological and/or geochemical characteristics, whether or not they are geophysically anomalous.

(8) COST STATEMENT.

This assessment report describes the procedures and discusses the results of an extensive airborne geophysical survey carried out during July, August, and September, 1982, for Stackpool Minerals Ltd., a wholly-owned subsidiary of Stackpool Resources Ltd..

Columbia Geophysical Services Ltd. was the operator of the survey and supervised the data reduction and compilation, and the production of the isomagnetic maps submitted with this report. For these services, Stackpool Minerals Ltd. paid Columbia Geophysical Services Ltd. a lump sum based on the distance flown during the survey.

COST ITEM 1:	Columbia Geophysical Serivices: 2,343 line kilometers of helicopter-borne survey at $100.00 per kilometer, all-inclusive:	$ 234,300.00
COST ITEM 2:	Assessment report preparation:	
	G.W.G. Sivertz, 10 days at $135.00/day:	$ 1,350.00
	W.G. Timmins, 4 days at $ 400.00/day:	$ 1,600.00
	Stationery and report printing:	$ 100.00
	Grand Total:	$ 237,350.00

W. G. TIMMINS EXPLORATION & DEVELOPMENT LTD.

CONSULTING GEOLOGISTS

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(5) VAN BLARICOM, R. (Editor): Practical Geophysics For The Exploration Geologist. Northwest Mining Association, 1980.

CERTIFICATE

I, WILLIAM G. TIMMINS, maintain offices at #203, #4 Parkdale Crescent N.W., Calgary, Alberta and do hereby certify that:

(1) I am a geologist and have practised my profession for eighteen years.

(2) I am a graduate of the Provincial Institute of Mining at Haileybury, Ontario, and have attended Michigan Technical University at Houghton, Michigan.

(3) I am a member in good standing of the Association of Professional Engineers, Geologists, and Geophysicists of Alberta.

(4) I have no interest, direct or indirect, in the properties or securities of Stackpool Minerals Ltd. or Stackpool Resources Ltd., nor do I expect to receive any such interest.

(5) This report is based on a study of private and published reports and maps, a careful study of the raw and compiled geophysical data, and many visits to the property from July, 1981, to October, 1982.

Dated November 15, 1982 at Calgary, Alberta:

W.G. Timmins, P. Eng., P. Geol.
W.G. Timmins Exploration and Development Limited.

W. G. TIMMINS EXPLORATION & DEVELOPMENT LTD.

CONSULTING GEOLOGISTS

CERTIFICATE

I, GEORGE WILLIAM GUSTAV SIVERTZ, reside at 3016 West 19th Avenue, Vancouver, British Columbia, and do hereby certify that:

(1) I am a geologist and have practised my profession for six years.

(2) I have a BSc (honours) degree in Geology from the University of British Columbia at Vancouver, B.C.; I graduated in 1976.

(3) I am a member in good standing of the Canadian Institute of Mining and Metallurgy.

(4) I have no interest, direct or indirect, in the properties or securities of Stackpool Minerals Ltd. or Stackpool Resources Ltd., nor do I expect to receive any such interest.

(5) I am the author of this report, which is based primarily upon personal knowledge of the area gained during a regional exploration program supervised by W.G. Timmins and conducted by myself and a field crew from August 9, 1982, to October 19, 1982. Interpretation of airborne geophysical data from areas not visited by myself was much aided by published and private maps and reports, and personal communications from individuals familiar with the area. I have carefully examined the raw and compiled geophysical data and believe that the airborne survey and data analysis were carried out in a thoroughly professional and competent manner by the individuals involved.

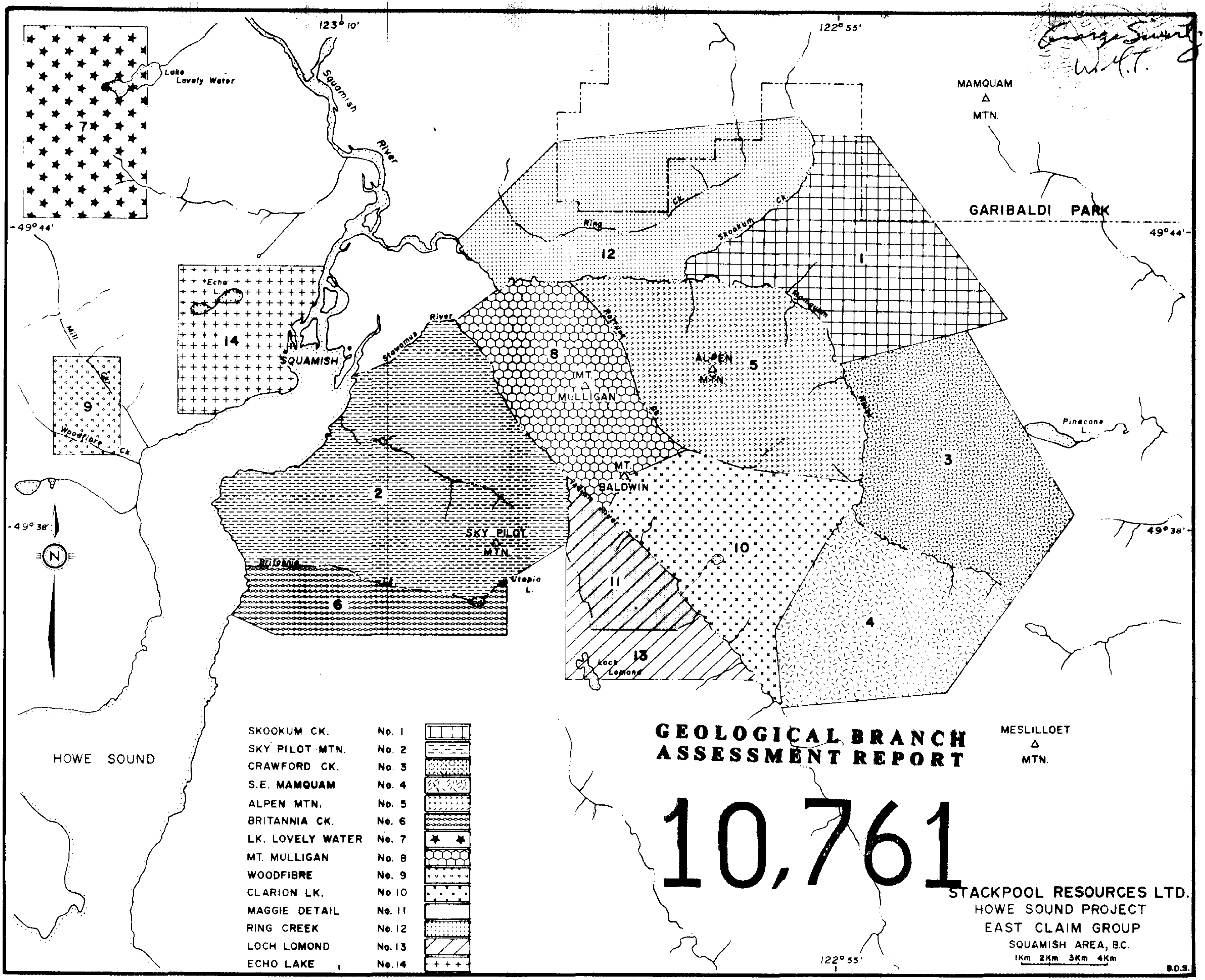
Vancouver, B.C., Nov. 15, 1982:

George Sivertz

George W.G. Sivertz

W. G. TIMMINS EXPLORATION & DEVELOPMENT LTD.

CONSULTING GEOLOGISTS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GARIBALDI PARK
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Skookum Ck.
Echo L.
SQUAMISH
Stawamus River
Mamquam
ALPEN MTN.
MT. MULLIGAN
Mill Ck.
Woodfibre Ck.
Pinecone L.
MT. BALDWIN
49° 38'
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Britannia Ck.
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Loch Lomond
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HOWE SOUND
SKOOKUM CK. No. 1
SKY PILOT MTN. No. 2
CRAWFORD CK. No. 3
S.E. MAMQUAM No. 4
ALPEN MTN. No. 5
BRITANNIA CK. No. 6
LK. LOVELY WATER No. 7
MT. MULLIGAN No. 8
WOODFIBRE No. 9
CLARION LK. No. 10
MAGGIE DETAIL No. 11
RING CREEK No. 12
LOCH LOMOND No. 13
ECHO LAKE No. 14
GEOLOGICAL BRANCH ASSESSMENT REPORT
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MESLILLOET MTN.
STACKPOOL RESOURCES LTD.
HOWE SOUND PROJECT
EAST CLAIM GROUP
SQUAMISH AREA, B.C.
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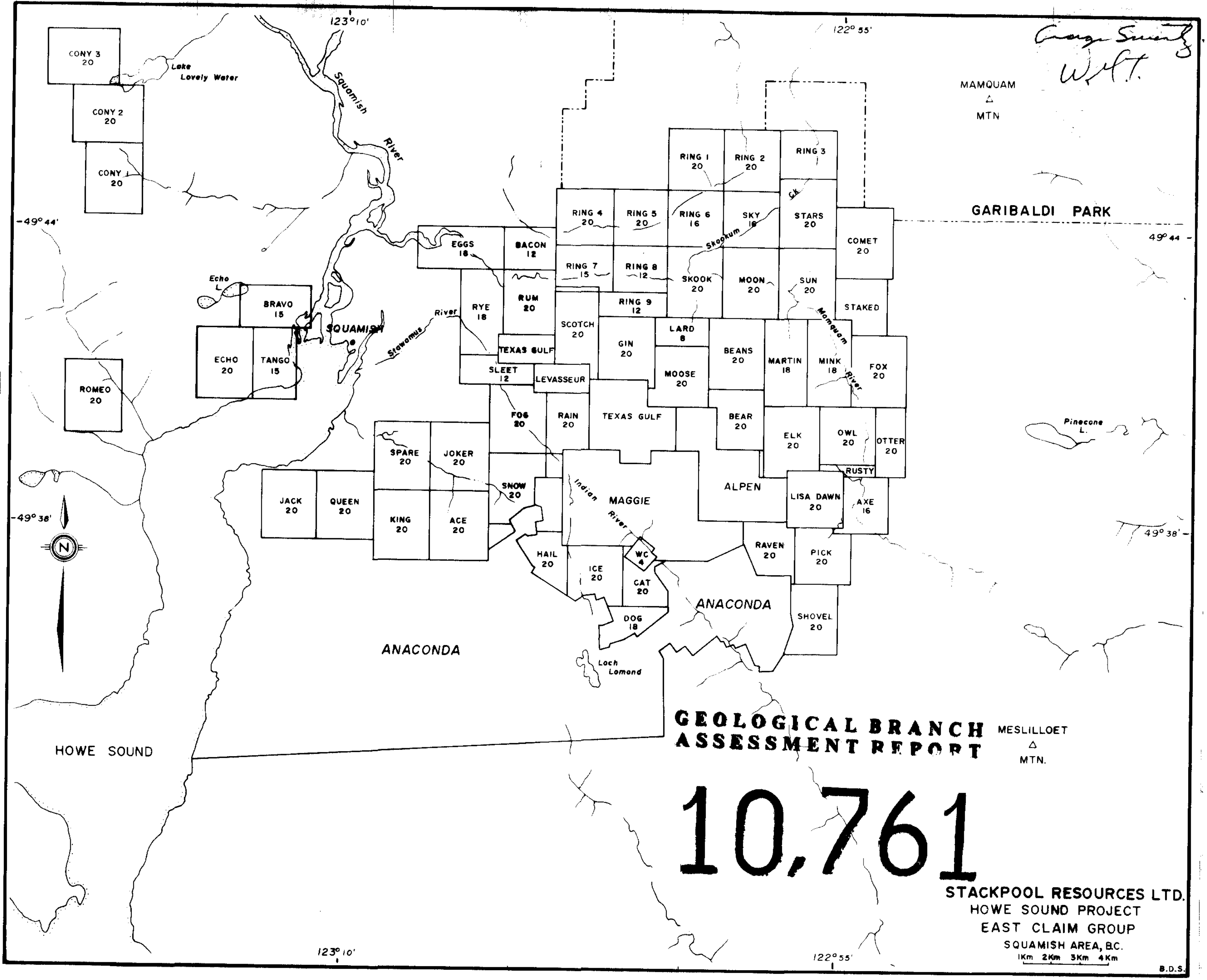
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RING 6 16
SKY 16
STARS 20
COMET 20
RING 7 15
RING 8 12
RING 9 12
SKOOK 20
MOON 20
SUN 20
STAKED
Skookum Ck
EGGS 18
BACON 12
RYE 18
RUM 20
SCOTCH 20
GIN 20
LARD 8
BEANS 20
MARTIN 18
MINK 18
FOX 20
Mamquam River
Echo L.
BRAVO 15
ECHO 20
TANGO 15
SQUAMISH
Stawamus River
TEXAS GULF
SLEET 12
LEVASSEUR
MOOSE 20
ROMEO 20
FOG 20
RAIN 20
TEXAS GULF
BEAR 20
ELK 20
OWL 20
OTTER 20
RUSTY
Pinecone L.
SPARE 20
JOKER 20
SNOW 20
MAGGIE
Indian River
ALPEN
LISA DAWN 20
AXE 16
JACK 20
QUEEN 20
KING 20
ACE 20
HAIL 20
ICE 20
WC 4
CAT 20
RAVEN 20
PICK 20
DOG 18
ANACONDA
SHOVEL 20
ANACONDA
Loch Lomond
HOWE SOUND
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HOWE SOUND PROJECT
EAST CLAIM GROUP
SQUAMISH AREA, B.C.
1Km 2Km 3Km 4Km
B.D.S.

122° 59'

49° 43'

N

L 2700

L 3200

L 3700

L 4200

L 4700

L 5000

L 4800

L 4000

L 3000

PROVINCIAL PARK

Recent Garibaldi Group
dacite lava flow

quartz diorite

quartz diorite

quartz diorite

Skookum

Mamquam

River

Creek

STACKPOOL BASE CAMP

ALPEN
MTN

LCP 1020(9)

LCP 1015(9)

LCP 1014(9)

LCP 1016(9)

LCP 1003(8)

LCP 298(7)

1800

2000

2500

3000

3500

4000

4500

5000

5500

6000

N — NSS 29.0 KHz Annapolis

NLK 24.9 KHz Seattle

LEGEND

Magnetic linear
Fault
Geologic contact
NLK FS anomaly
NSS FS anomaly
Linear conductor NLK
Linear conductor NSS
Depression zones

500m 250m 0 250m 500m 750m 1 Km.

N.T.S. 92G/10W

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SKOOKUM CREEK AREA

ISOMAGNETIC MAP
CONTOUR INTERVAL = 200 GAMMAS

Scale	Date	Figure	Drawing No.	Author
1:10,000	JULY '82	82-31	1	BRAD.

COLUMBIA GEOPHYSICAL SERVICES LTD.


HOWE SOUND
Shannon
Darrell Bay
Squamish District Municipality
MURRIN PROVINCIAL PARK
granodiorite
granodiorite
granodiorite
Mount Habrich
GOAT RIDGE
Gambier Group
Gambier Group
Sky Pilot Mountain
Utopia Lake
Mount Sheer
Britannia
Creek
Transmission Lines
NSS 19.0 KHz Annapolis
NLK 24.9 KHz Seattle
49°39'
123°11'
LEGEND
Magnetic linear
Fault
Geologic contact
NLK FS anomaly
NSS FS anomaly
Linear conductor NLK
Linear conductor NSS
Depression zones
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SQUAMISH AIRBORNE PROJECT
SKY PILOT MTN. AREA
ISOMAGNETIC MAP
CONTOUR INTERVAL : 200 GAMMAS
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BRAD.
COLUMBIA GEOPHYSICAL SERVICES LTD.


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L 3500
L 3200
L 2850
Crawford Ck
Slug Ck
Mamquam River
Bright Ck
LCP 955(7)
LCP 956(7)
LCP 1234(8)
49°40'
22°30'E
quartz diorite
quartz diorite
NSS
19.0 KHz
Annapolis
NLK
24.9 KHz
Seattle
LEGEND
Magnetic linear
Fault
Geologic contact
NLK FS anomaly
NSS FS anomaly
Linear conductor NLK
Linear conductor NSS
Depression zones
500m 250m 0 250m 500m 750m 1Km.
N.T.S. 92 G/10W
GEOLOGICAL BRANCH
ASSESSMENT REPORT
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SQUAMISH AIRBORNE PROJECT
CRAWFORD CREEK AREA
ISOMAGNETIC MAP
CONTOUR INTERVAL : 200 GAMMAS
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BRAD
SERVICES LTD.

N

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Mamquam

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L 3500

L 4000

L 4500

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L 3750

L 3250

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quartz diorite

quartz diorite

quartz diorite

2500

1500

2000

LCP
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122°55'

Mesachie Ck

NSS
19.0 KHz
Annapolis

NLK
24.9 KHz
Seattle

LEGEND

- Magnetic linear
- Fault
- Geologic contact
- NLK FS anomaly
- NSS FS anomaly
- Linear conductor NLK
- Linear conductor NSS
- Depression zones

500m 250m 0 250m 500 750m 1Km

N.T.S. 92G/10W

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,761

STACKPOOL RESOURCES LTD.
SQUAMISH AIRBORNE PROJECT
S.E. MAMQUAM AREA

ISOMAGNETIC MAP
CONTOUR INTERVAL: 200 GAMMAS

scale	date	job no.	sheet no.	drawn by
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COLUMBIA GEOPHYSICAL SERVICES LTD.

123° 03'

49° 41'

Gambier Group

Railroad

quartz diorite

L 2000

L 3400

L 3500

L 3700

L 3850

L 5000

L 4700

L 4500

L 4350

ALPEN MTN

L 4000

L 4200

5500

5000

quartz diorite

L 2200

LCP 959(7)

Gambier Group

LCP 952(7)

quartz diorite

L 2700

LCP 667(5)

LCP 666(5)

L 3200

LCP 958(6)

L 2500

L 3000

NSS 29.0 KHz Annapolis

NLK 24.9 KHz Seattle

LEGEND

Magnetic linear
Fault
Geologic contact
NLK FS anomaly
NSS FS anomaly
Linear conductor NLK
Linear conductor NSS
Depression zones

500m 250m 0 250m 500m 750m 1Km

N.T.S. 92G/10W

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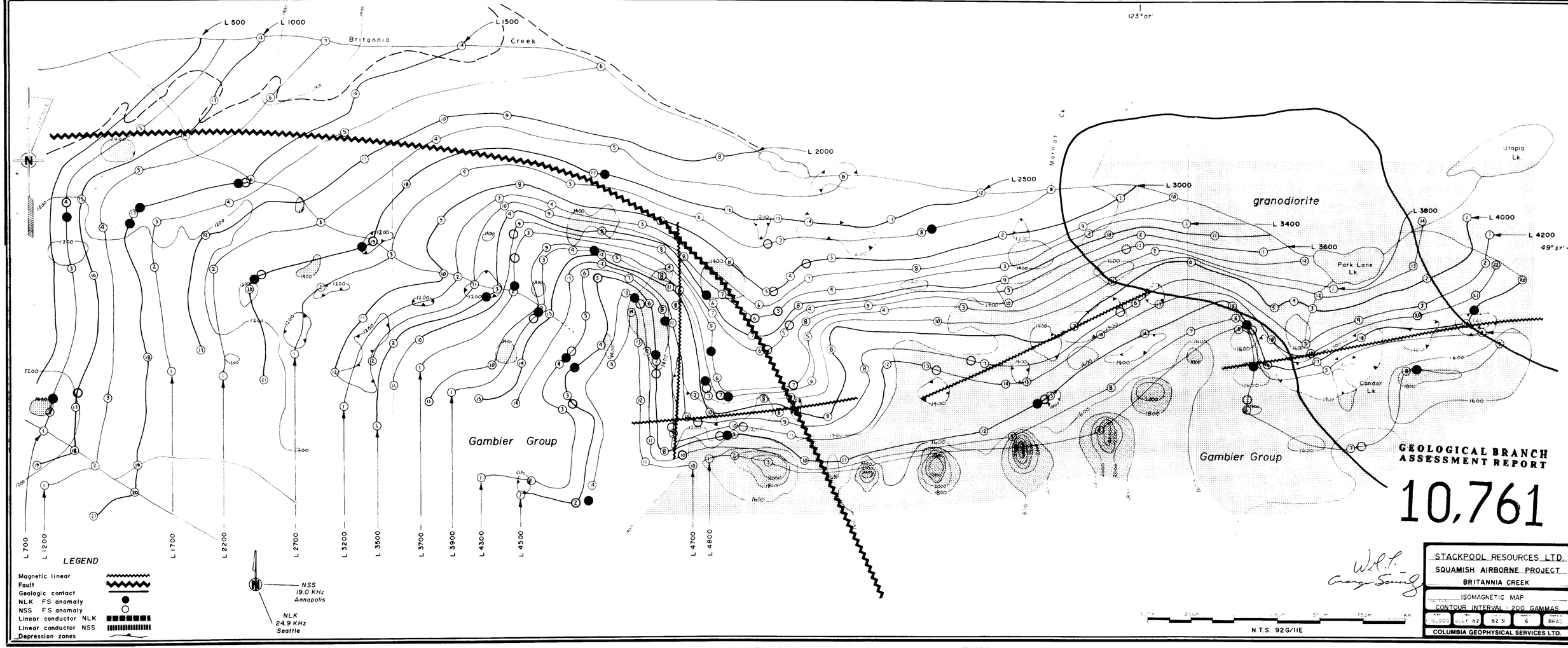
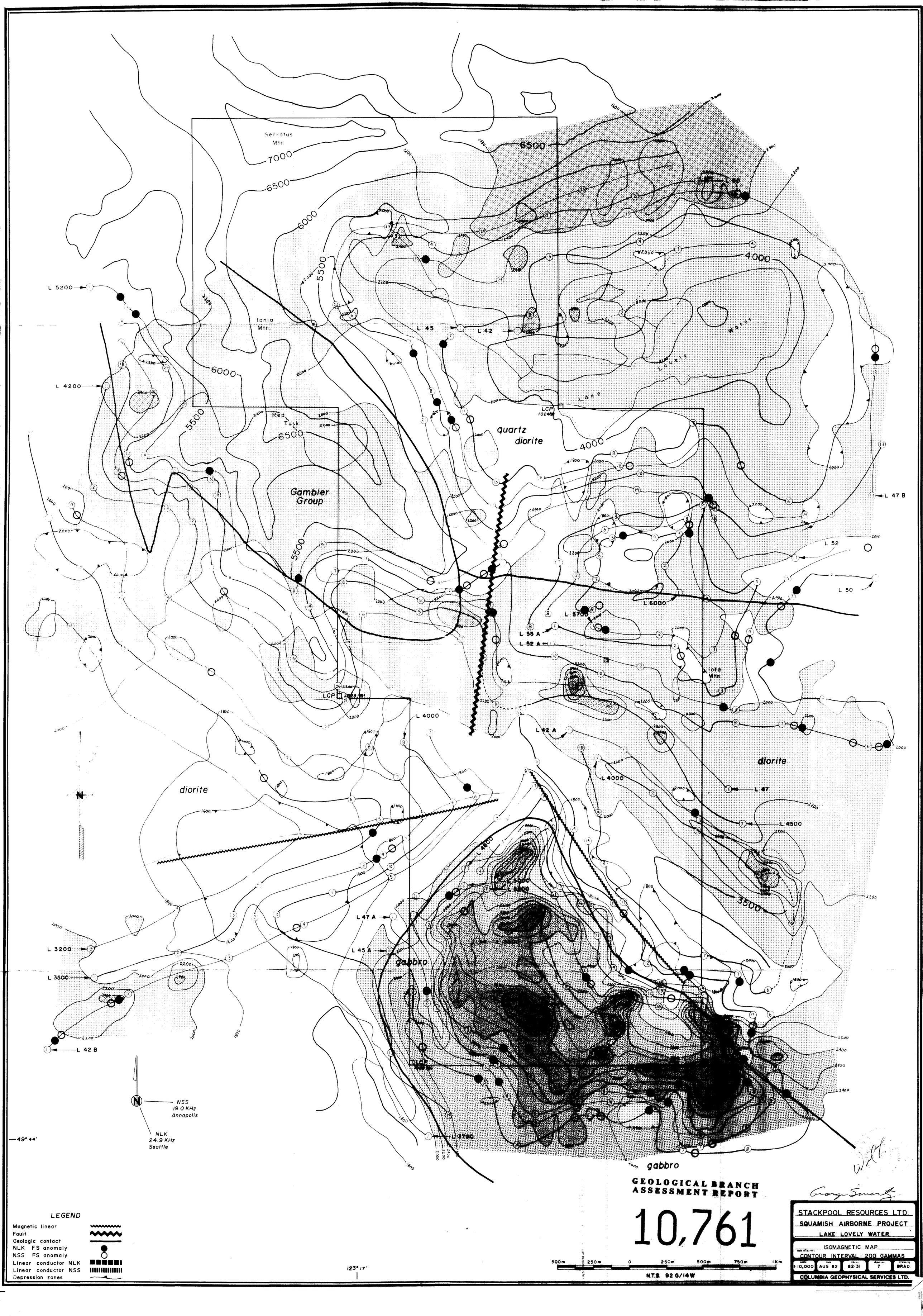
SQUAMISH AIRBORNE PROJECT
ALPEN MTN. AREA
ICOMAGNETIC MAP
CONTOUR INTERVAL 200 GAMMAS

SCALE	DATE	FIGURE	DRAWING
1:10,000	JULY 82	82.31	5 BRAG

COLUMBIA GEOPHYSICAL SERVICES LTD.


L 500
L 1000
Britannia
Creek
L 1500
L 2000
L 2500
L 3000
L 3400
L 3600
L 3800
L 4000
L 4200
123°07'
49°37'
granodiorite
Utopia Lk.
Park Lane Lk.
Condor Lk.
Marmot Ck.
Gambier Group
Gambier Group
L 700
L 1200
L 1700
L 2200
L 2700
L 3200
L 3500
L 3700
L 3900
L 4300
L 4500
L 4700
L 4800
LEGEND
Magnetic linear
Fault
Geologic contact
NLK FS anomaly
NSS FS anomaly
Linear conductor NLK
Linear conductor NSS
Depression zones
NSS
19.0 KHz
Annapolis
NLK
24.9 KHz
Seattle
N.T.S. 92G/11E
GEOLOGICAL BRANCH
ASSESSMENT REPORT
10,761
STACKPOOL RESOURCES LTD.
SQUAMISH AIRBORNE PROJECT
BRITANNIA CREEK
ISOMAGNETIC MAP
CONTOUR INTERVAL - 200 GAMMAS
1:5,000
JULY 82
82 31
6
BRAS
COLUMBIA GEOPHYSICAL SERVICES LTD.



LEGEND

- Magnetic linear
- Fault
- Geologic contact
- NLK FS anomaly
- NSS FS anomaly
- Linear conductor NLK
- Linear conductor NSS
- Depression zones

500m 250m 0 250m 500m 750m 1Km

N.T.S. 92 G/14W

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,761

STACKPOOL RESOURCES LTD.
SQUAMISH AIRBORNE PROJECT
LAKE LOVELY WATER

ISOMAGNETIC MAP
CONTOUR INTERVAL : 200 GAMMAS

scale	date	job no.	sheet no.	drawn by
1:10,000	AUG 82	82-31	7	BRAD

COLUMBIA GEOPHYSICAL SERVICES LTD.

Mamquam River

L 1350

LCP 951(7)

L 1500

quartz diorite

Gambier Group

Gambier Group

L 3700

Garibaldi Group

L 3500

Rafuse

LCP 947 (7)

LCP 948 (7)

L 3000

L 3350

L 3850

Mt Mulligan

L 4000

L 4500

L 4350

L 4200

5000

quartz diorite

LCP 959(7)

L 2200

Creek

River

L 2350

Transmission Line

quartz diorite

N

Mt. Baldwin

4500

Gambier Group

L 2000

L 2500

L 2850

L 3200

3850

L 3700

L 3500

L 3200

L 3000

L 2700

Indian River

Gambier Group

49°39'

123°05'

NSS 19.0 KHz Annapolis

NLK 24.9 KHz Seattle

LEGEND

- Magnetic linear
- Fault
- Geologic contact
- NLK FS anomaly
- NSS FS anomaly
- Linear conductor NLK
- Linear conductor NSS
- Depression zones

500m 250m 0 250m 500m 750m 1Km

N.T.S. 92 G/11 E

GEOLOGICAL BRANCH ASSESSMENT REPORT

10,761

STACKPOOL RESOURCES LTD.

SQUAMISH AIRBORNE PROJECT

MT. MULLIGAN

ISOMAGNETIC MAP

CONTOUR INTERVAL: 200 GAMMAS

SCALE	DATE	FILE	DWG.	BRAD.
1:10,000	AUG 82	82-31	-8	

COLUMBIA GEOPHYSICAL SERVICES LTD.

123° 16'

49° 41'

L 2700

L 2200

L 3200

L 1200

L 1700

L 3500

L 3000

L 2500

L 2000

L 700

L 1500

L 1000

Mill Creek

Woodfibre Creek

quartz diorite

diorite

granodiorite

4000

2000

LCP
1019(B)

N

N
NSS
19.0 KHz
Annapolis

NLK
24.9 KHz
Seattle

LEGEND

Magnetic linear
Fault
Geologic contact
NLK FS anomaly
NSS FS anomaly
Linear conductor NLK
Linear conductor NSS
Depression zones

500m 250m 0 250m 500m 750m

N.T.S. 92 G/11 W

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,761

STACKPOOL RESOURCES LTD.

SQUAMISH AIRBORNE PROJECT

WOODFIBRE CREEK

ISOMAGNETIC MAP

CONTOUR INTERVAL: 200 GAMMAS

1:10,000	AUG 82	82 31	9	BRAD

COLUMBIA GEOPHYSICAL SERVICES LTD.

L 2850
L 3200
L 2500
L 2750
L 3000
L 3350
L 3500
L 3700
L 3850
L 4000
L 4200
L 4350
MT BALDWIN
4500
LCP 667(5)
LCP 556(5)
710 (6) LCP 957(7)
LCP 696(6)
L 3200
L 2850
L 2500
L 2200
Gambier Group
Clarion Lk
4000
L 4500
L 4200
Gambier Group
quartz diorite
204(9) LCP
L 1850
3500
L 3000
4000
962(7) LCP 961(7)
L 2700
49° 37'
L 1500
L 2350
L 1200
L 2000
L 1700
960(7) LCP
L 1350
N
123°00'
500m 250m 0 250m 500m 750m 1Km
N.T.S. 92 G/10 W

NSS 29.0KHz Annapolis
NLK 24.9 KHz Seattle

LEGEND
Magnetic linear
Fault
Geologic contact
NLK FS anomaly
NSS FS anomaly
Linear conductor NLK
Linear conductor NSS
Depression zones

GEOLOGICAL BRANCH
ASSESSMENT REPORT
10,761

STACKPOOL RESOURCES LTD.
SQUAMISH AIRBORNE PROJECT
CLARION LAKE
ISOMAGNETIC MAP
CONTOUR INTERVAL : 200 GAMMAS

scale	date	job no.	sheet no.	drawn by
1:10,000	AUG 82	82 31	10	BRAD.

COLUMBIA GEOPHYSICAL SERVICES LTD.


Garibaldi Group
Gambier Group
granodiorite
Recent Garibaldi Group Dacite Lava Flow
LAVA
quartz diorite
FALL RIDGE
PROVINCIAL PARK
Mamquam
River
Stackpool's base camp
Transmission Lines
L 4500
L 4200
L 3700
L 3200
L 2700
L 43
L 39
L 37
L 35
L 33
L 31
L 27
L 3500
L 4350
L 4000
L 3000
L 2500
L 44
L 42
L 38
L 36
L 34
L 32
49°44'
123°06'
NTS 92 G/11E
LEGEND
Magnetic linear
Fault
Geologic contact
NLK FS anomaly
NSS FS anomaly
Linear conductor NLK
Linear conductor NSS
Depression zones
NSS
19.0 KHz
Annapolis
NLK
24.9 KHz
Seattle
750m
1 Km
GEOLOGICAL BRANCH
ASSESSMENT REPORT
10,761
STACKPOOL RESOURCES LTD.
SQUAMISH AIRBORNE PROJECT
RING CREEK
ISOMAGNETIC MAP
CONTOUR INTERVAL: 200 GAMMAS
scale 1:10,000
date SEPT 82
job no. 82-31
sheet no. 12
drawn by BRAD.
COLUMBIA GEOPHYSICAL SERVICES LTD.

123° 03'

49° 38'

2500

Indian River

quartz diorite

L 3000

LCP 945(7)

Gambier Group

L 4700

L 4500

L 4350

L 4200

L 4000

3500

L 3350

L 40 A

4500

granodiorite

L 43 A

5000

quartz diorite

L 3700

LCP 950(7)

LCP 949(7)

Delta Lk.

2000

2500

Gambier Group

L 3850

L 3250

quartz diorite

4000

L 47 A

Gambier Group

Loch Lomond

L 4250

L 42 A

L 3500

L 45 A

L 2850

N

LEGEND

- Magnetic linear
- Fault
- Geologic contact
- NLK FS anomaly
- NSS FS anomaly
- Linear conductor NLK
- Linear conductor NSS
- Depression zones

N — NSS 29.0 KHz Annapolis

NLK 24.9 KHz Seattle

500m 250m 0 250m 500m 750m 1Km

N.T.S. 92 G/11 E

GEOLOGICAL BRANCH
ASSESSMENT REPORT

10,761

STACKPOOL RESOURCES LTD.

SQUAMISH AIRBORNE PROJECT

LOCH LOMOND

ISOMAGNETIC MAP

CONTOUR INTERVAL = 200 GAMMAS

scale	date	job no.	sheet no.	drawn by
1:10,000	OCT. 82	82-31	13	BRAD.

COLUMBIA GEOPHYSICAL SERVICES LTD.

123°13'

49°43'

22°30' E

N

L 3700

L 4200

L 4000

L 4700

L 4500

L 3500

L 3000

L 2500

L 2000

L 1500

L 1000

L 3200

L 2700

L 2200

L 1700

L 1200

L 700

Echo Lake

Alec Lake

Monmouth Cr.

granodiorite

Garibaldi Volcanics

LCP 1025(9)

LCP 1017(9)

LCP 1018(9)

SQUAMISH RIVER

HOWE SOUND

NSS 19.0 KHz Annapolis

NLK 24.9 KHz Seattle

LEGEND

- Magnetic linear
- Fault
- Geologic contact
- NLK FS anomaly
- NSS FS anomaly
- Linear conductor NLK
- Linear conductor NSS
- Depression zones

GEOLOGICAL BRANCH ASSESSMENT REPORT

10,761

500m 250m 0 250m 500m 750m 1Km

N.T.S. 92 G/11E

STACKPOOL RESOURCES LTD.

SQUAMISH AIRBORNE PROJECT

ECHO LAKE

ISOMAGNETIC MAP

CONTOUR INTERVAL : 200 GAMMAS

1:10,000	OCT 82	82 31	14	BRAD.

COLUMBIA GEOPHYSICAL SERVICES LTD.