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REPORT ON AIRBORNE GEOPHYSICAL SURVEYS ANYOX AREA, BRITISH COLUMBIA ON BEHALF OF ARCADIA EXPLORATIONS LIMITED

by

Richard O. Crosby, B.Sc., P.Eng.
and
John P. Steele, B.Sc.

December 15, 1969

CLAIMS:

Name	Record Number
CU 17 - 33 Inclusive	Sunshine 1 - 10 Inclusive
CU 35 - 57 Inclusive	Red Light Fraction
CU 59 - 62 Inclusive	Mick Fraction
CD 15 - 18 Inclusive	L1123 - 1127 Inclusive
CD 20 - 37 Inclusive	L1133, 34, 39, 40, 41, 42
CD 42, 43	L1508, 10, 14, 15, 16, 27, 30
CD #38A - 41A Inclusive	L1973
CUA 1 - 10 Inclusive	L3837
CUA, CUB, CUC	L2225

LOCATION:
About 65 miles northeast of
Prince Rupert, British Columbia
128° 55°
Skeena Mining Division

DATES:
June 14 through June 30, 1969

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SUMMARY

Helicopter-borne electromagnetic and magnetometer surveys were executed over approximately 30 square miles in the Anyox area, British Columbia. One hundred and twenty-three conductors have been revealed.

Recommendations for ground follow up have been made.

REPORT ON
AIRBORNE GEOPHYSICAL SURVEYS
ANYOX AREA, BRITISH COLUMBIA
ON BEHALF OF
ARCADIA EXPLORATIONS LIMITED

INTRODUCTION

On June 14 through 30, 1969 airborne geophysical surveys were executed on behalf of Arcadia Explorations Limited in the Anyox area, British Columbia covering approximately 30 square miles (see Plate 1).

The airborne survey included electromagnetic and magnetometer measurements. The former employed a Scintrex HEM-701 electromagnetic unit and the latter a Scintrex NPM-1 nuclear resonance, total intensity magnetometer.

Appendix "A", attached, gives full details of the airborne geophysical equipment and the ancillary equipment employed, as well as the treatment of data resulting from these surveys. A Hiller SL-4 helicopter, on charter from Haida Northwestern Helicopters, was employed as the basic transport vehicle.

The electromagnetic survey lines were flown at a nominal 1/8 mile line interval. Flight navigation and flight path recovery have been based upon a topographic map of the area on the scale of approximately 1" - 1320 feet.

The magnetometer sensor and the EM "bird" were flown separately behind the helicopter, the former 50' below the helicopter and the latter 100' below the helicopter.

The purpose of the present programme was to map the distribution of the subsurface conductors in the survey area. In the survey area the targets of economic interest are massive metallic sulphides. and disseminated !

The electromagnetic data provide the basic information relating to the possible presence of such bodies. The purpose of the magnetometer survey is primarily one of correlation with the electromagnetic conductors and secondarily to infer geological structure.

The total magnetic field in the survey area measures approximately 57,150 gammas. The inclination of the total field is approximately 74° and the declination is 23° east of geographic north.

PRESENTATION OF DATA

The results of the geophysical surveys are presented on Plates 1, 2, and 3 on the scale of 1" = 1320 feet. Some topographic features and flight lines are shown on the plates. Plate 1 shows the magnetic contours. The contours are at an interval of 100 gammas or less, according to magnetic relief. Plate 2 shows the electromagnetic results, contour half-widths and peak locations are shown, coded as described in Appendix "A". The in-phase amplitude, in-phase to out-of-phase ratio and magnetic correlation (if any) are indicated for each conductor intersection.

The EM and magnetometer data are presented together with altimeter and fiducial recording on a dual trace Moseley recorder.

In order to record three traces on the dual trace recorder, the in-phase and the out-of-phase utilize the same pen by alternately displaying one trace, then shifting the mean recording level and recording the other trace. The in-phase trace is displayed for a period twice that of the out-of-phase to distinguish between the traces.

The original geophysical traces are on the following scales:

EM	1" = 100 parts per million
MAGNETOMETER	1" = 100 gammas with automatic stops of 500 gammas. The magnetic base level is gammas.

DISCUSSION OF RESULTS

A total of 123 electromagnetic anomalies were recorded on the survey. A few are coincident with known mineralized areas, many occur in areas reported to be underlain by argillaceous sediments and others are located within the greenstone areas.

Those anomalies occurring over known mineralized areas are dominated by the intense electromagnetic and magnetic anomalies recorded over the main pit of the Hidden Creek deposit. This ore body is reported to have furnished approximately 22 million tons of equivalent 1 1/2 per cent copper. Line 22 was flown directly over the pit and recorded on 800 gamma magnetic anomaly flanked by two electromagnetic anomalies measuring 180 p.p.m. and 95 p.p.m. in-phase component. In-phase/out-of-phase ratios measured 2.4 and 2.3 respectively. Other lines adjacent to the pit recorded electromagnetic anomalies with in-phase amplitudes ranging between 287 p.p.m. on Line 20 to 103 p.p.m. on Line 23. The total anomalous area measured 1 1/2 miles by 2 miles.

Other mineralized areas were over flown and the anomalies recorded were as follows:

Mineralized Zone	In-Phase Amp. (p.p.m.)	In-Phase Out-of-Phase	Mag. Correlation
Eden	10	1.0	No
Pit No. 6	33	0.8	120 F

The most intense anomalies recorded on the survey are those associated with the Hidden Creek deposit, however many, as shown in Table I, exhibit favourable electrical and magnetic characteristics.

CONCLUSIONS AND RECOMMENDATIONS

While interpretation of airborne geophysical data is subjective and somewhat tenuous at best, certain general statements can be made about the electromagnetic anomalies recorded on this survey.

The most intense and economically favourable anomalies are those recorded in the vicinity of the greenstone-argillite contact located generally in the eastern and southern portions of the survey area. Consequently it is suggested that these anomalies should be treated as prime targets for ground follow up. The remainder of the anomalies can be classified as to their geologic locations.

Second priority should be given to those electromagnetic anomalies recorded in areas underlain by greenstone and having either coincident or flanking magnetic anomalies. The next priority would be those anomalies recorded over the greenstone areas and having no magnetic correlation. Lowest priority should be assigned to those anomalies recorded in areas underlain by argillite, first, to those with magnetic correlating features and finally those with no correlating magnetic feature.

depth f.

While it is assumed that the majority of the electromagnetic conductors in the argillite areas are due to carbonaceous material, other causes could prove to be sources of the anomalies. A thin cover of argillite would allow conductors in the underlying greenstone to be recorded. Another possible source of such conductors could be dikes known to exist in the survey area.

It is recommended that each of the conductors be considered as a possible source of economic mineralization and that each be covered by ground magnetic and electromagnetic surveys. The priority for anomaly ground follow up should be as mentioned previously. Drilling of the anomalies will be predicated on the results of the ground geophysical surveys.

Respectfully yours,

SEIGEL ASSOCIATES LIMITED

Richard O. Crosby

Richard O. Crosby, B.Sc., P.Eng.
Geophysicist

John P. Steele per R.O.C

John P. Steele, B.Sc.

Vancouver, B. C.
December 15, 1969

TABLE ONE

LINE	PEAK FIDUCIAL	IN-PHASE AMP. (p.p.m.)	IP/OP RATIO	MAGNETIC CHARACTER	CATEGORY AND ELECTRICAL CHARACTER
2	137	15	1.5		2 - Moderate Ratio
3	368	10	2.0		2 - Good Ratio
	348	22	0.8		3 - Poor Ratio
5	608	17	1.4		3 - Moderate Ratio
6	699	28	0.9		1 - Moderate Ratio
	745	14	1.0		3 - Moderate Ratio
7	950	28	0.8		1 - Poor Ratio
	919	10	0.6		3 - Poor Ratio
8	110	10	0.8		3 - Poor Ratio
	158	23	2.9		2 - Good Ratio
9	367	62	0.6		2 - Poor Ratio
	362	14	1.0		3 - Moderate Ratio
	241	28	4.0		2 - Good Ratio
10	22	10	0.6		2 - Poor Ratio
	40	23	0.8		2 - Poor Ratio
	67	20	1.1		2 - Moderate Ratio
11	394	23	2.9		2 - Good Ratio
	378	30	1.7		2 - Moderate Ratio
	368	20	1.0		2 - Moderate Ratio
12	495	22	0.9		2 - Poor Ratio
	506	19	0.6		2 - Poor Ratio
	546	11	1.4		3 - Moderate Ratio
	558	14	1.6		2 - Moderate Ratio
	636	10	0.5		3 - Moderate Ratio

LINE	PEAK FIDUCIAL	IN-PHASE AMP. (p.p.m.)	IP/OP RATIO	MAGNETIC CHARACTER	CATEGORY AND ELECTRICAL CHARACTER
13	821	22	0.7		2 - Poor Ratio
	803	13	0.3		3 - Poor Ratio
	781	20	1.0		2 - Moderate Ratio
	774	10	0.6		2 - Moderate Ratio
	752	8	0.5		3 - Poor Ratio
14	906	20	0.6		3 - Poor Ratio
	929	30	0.7	170 F	2 - Poor Ratio
	933	24	0.5	120 C	3 - Poor Ratio
	941	20	0.5		3 - Poor Ratio
15	1262	8	0.6		3 - Poor Ratio
	1228	8	0.4		3 - Poor Ratio
	1193	38	0.7		2 - Poor Ratio
	1180	9	1.0		3 - Poor Ratio
16	1359	26	0.7		2 - Poor Ratio
	1372	42	0.7		2 - Poor Ratio
17	1712	11	0.7		4 - Poor Ratio
	1684	26	1.2		2 - Moderate Ratio
	1643	29	1.1		1 - Moderate Ratio
	1627	12	1.2		3 - Moderate Ratio
18	1786	22	0.8		2 - Poor Ratio
	1819	26	0.8		2 - Poor Ratio
	1829	69	1.4		1 - Moderate Ratio
19	2067	45	1.0		2 - Moderate Ratio
	2050	40	2.3		2 - Good Ratio
	2034	20	1.0		2 - Moderate Ratio
	2015	190	2.0	370 C	1 - Good Ratio

LINE	PEAK FIDUCIAL	IN-PHASE AMP. (p.p.m.)	IP/OP RATIO	MAGNETIC CHARACTER	CATEGORY AND ELECTRICAL CHARACTER
20	2146	283	3.6		1 - Good Ratio
	2176	18	0.9		2 - Moderate Ratio
	2189	26	0.7		2 - Poor Ratio
	2204	33	0.8		1 - Poor Ratio
	2211	287	3.8	370 C	1 - Good Ratio
21	2450	162	1.5		1 - Moderate Ratio
	2435	57	5.2	300 C	2 - Good Ratio
	2410	35	0.4		3 - Poor Ratio
	2383	238	2.9	400 C	1 - Good Ratio
22	2479	458	1.9		1 - Good Ratio
	2511	53	0.6		2 - Poor Ratio
	2534	180	2.4	800 F	1 - Good Ratio
	2550	95	2.4		1 - Good Ratio
23	2744	70	0.7		2 - Poor Ratio
	2707	103	5.1	300 C	1 - Good Ratio
	2696	26	1.1		2 - Moderate Ratio
	2674	30	0.6	180 F	2 - Poor Ratio
24	2804	27	0.6		2 - Poor Ratio
	2830	19	0.7		3 - Poor Ratio
	2889	30	0.7	300 F	2 - Poor Ratio
	2914	40	1.5		1 - Moderate Ratio
25	3026	18	0.4		3 - Poor Ratio
	3004	22	0.8		2 - Poor Ratio
	2974	17	0.5		2 - Poor Ratio
	2954	90	1.2	200 F	1 - Moderate Ratio

LINE	PEAK FIDUCIAL	IN-PHAW AMP. (p.p.m.)	IP/OP RATIO	MAGNETIC CHARACTER	CATEGORY AND ELECTRICAL CHARACTER
26	3116	73	0.9		1 - Poor Ratio
	3129	27	1.0		2 - Moderate Ratio
	3140	23	1.5		2 - Moderate Ratio
	3149	50	0.8		1 - Poor Ratio
	3159	40	1.0		1 - Moderate Ratio
	3174	78	2.7		1 - Good Ratio
	3190	72	1.0	200 C	1 - Moderate Ratio
27	3280	67	0.7		1 - Poor Ratio
	3269	22	0.7		2 - Poor Ratio
	3224	25	0.8	180 C	2 - Poor Ratio
28	3355	28	0.5		3 - Poor Ratio
	3364	25	1.2		2 - Moderate Ratio
	3372	20	0.5		2 - Poor Ratio
	3380	24	0.9		2 - Poor Ratio
	3394	45	0.8	40 C	1 - Poor Ratio
	3420	15	0.6	80 C	2 - Poor Ratio
	3442	17	1.0		2 - Moderate Ratio
29	3560	76	1.1		1 - Moderate Ratio
	3538	24	0.8		2 - Moderate Ratio
	3494	67	1.0		1 - Moderate Ratio
30	3624	75	0.7		1 - Poor Ratio
	3637	56	1.1		1 - Moderate Ratio
	3644	70	0.6		1 - Poor Ratio
	3649	55	0.8		1 - Poor Ratio
	3667	20	0.9		2 - Poor Ratio

LINE	PEAK FIDUCIAL	IN-PHASE AMP. (p.p.m.)	IP/OP RATIO	MAGNETIC CHARACTER	CATEGORY AND ELECTRICAL CHARACTER
	3684	15	1.4		2 - Moderate Ratio
	3708	27	0.7		1 - Poor Ratio
	3730	75	1.1		1 - Moderate Ratio
31	3874	30	0.8		2 - Poor Ratio
	3861	28	1.0		2 - Moderate Ratio
	3855	33	0.8		1 - Poor Ratio
	3842	41	0.6		2 - Poor Ratio
	3827	25	0.8	90 F	2 - Poor Ratio
	3814	29	2.2	90 F	1 - Good Ratio
	3804	18	0.6		2 - Poor Ratio
	3793	52	1.3		1 - Good Ratio
32	3914	26	0.7		2 - Poor Ratio
	3946	36	2.0		2 - Good Ratio
	3971	45	1.3		1 - Moderate Ratio
	3991	18	0.9		2 - Poor Ratio
	4006	21	2.1		2 - Good Ratio
33	4084	20	1.1		2 - Moderate Ratio
	4070	20	1.3		1 - Moderate Ratio
34	4228	24	1.0	20 C	2 - Moderate Ratio
36	4706	13	0.5	140 C	3 - Poor Ratio
37	4864	17	1.0		3 - Poor Ratio
40	5128	10	1.0		3 - Poor Ratio

APPENDIX 'A'

DESCRIPTION OF AIRBORNE SYSTEMS

ELECTROMAGNETIC SYSTEM - SCINTREX HEM-701

Equipment

The Scintrex HEM-701 is a solid state, fixed-configuration, electromagnetic system especially designed for helicopter transport. It consists of two coaxial coils, one serving as transmitter and the other as receiver, which are mounted, 30 ft. apart, in a rigid "bird" with their axes horizontal and in the direction of flight. The bird is towed approximately 100 ft. below the helicopter, by means of a suitable cable which also carried electrical signals and power to and from the bird.

The system operates at 1600 Hertz. Changes in the alternating magnetic field at the receiver coil are observed and these changes are converted into two components, one whose phase is the same as that of the transmitted signal (the "In-Phase" component).and the other whose phase is 90° apart (the "Out-of-Phase" component). These changes are expressed in terms of the normal undistorted primary field. They are so small as to be expressed usually in parts-per-million or p. p. m.

The In-Phase and Out-of-Phase variations are presented in graphic time-shared form on a single channel of a graphic recorder. The full scale chart width employed is commonly 1000 p. p. m., although in areas of low geologic noise levels 500 p. p. m. may be employed. At one or more points during each flight the scale sensitivity is checked by means of calibration signals, usually 100 p. p. m. on each trace.

The reference or "zero" level for each EM trace is an arbitrary one and is obtained empirically from the regional level of each trace. These levels may drift slowly during a flight because of temperature changes affecting the bird dimensions. These drifts are very gradual and are readily distinguishable from much quicker, local changes due to conductors of a geologic origin. Similarly, severe turbulence effects sometimes introduce low-order, primarily in-phase disturbances which are of such short period that they may also readily be distinguished from the effects of geologic conductors.

Man-made disturbances are often to be seen, including power lines, pipe lines, metal fences, railways, etc. The former are generally recognizable as such because they usually show through as cyclic noise of irregular shape and phase relationship. Non-energized, grounded power lines (e.g. 3 phase systems) may also give rise to proper conductor indications, however. Such indications, as well as those from pipe lines and metal fences, etc. are usually of short duration and can be distinguished from proper geologic sources except for very narrow, near-surface lenses. In some instances ground investigation may be necessary in order to resolve the ambiguity of possible source. Whereas the airborne geophysical crew attempts to note visible man-made conductors of the above types, the ground moves by so rapidly at the low flight elevation employed that 100% recognition of such sources cannot be expected from the air.

The normal terrain clearance of the bird is 100 ft. - 200 ft. depending on the surface topography and tree cover, etc., with the helicopter 100 ft. above. The established useful depth of detection of the system for moderate-to-large conducting bodies is about 350 ft. sub-bird under conditions of low extraneous geologic noise, i.e. where the general level of conductivity of the overburden and rock types of the area is low. The useful depth of detection of the system is therefore between 150 ft. and 250 ft. beneath the ground surface under these conditions.

Interpretation of Results

The EM records are interpreted to determine the presence of conducting bodies and to obtain some information relating to their character. The intervalometer time marks (see below) are synchronized with the positioning camera film strip (also see below) and thereby permit the relating of the conductors with appropriate ground locations. The altimeter data (see below) indicate, for each conductor, what the terrain clearance was at the time of detection.

A plan is prepared, either using a subdued photo-mosaic ("grayflex") or an overlay from a mosaic or topographic plan as base. The flight path of each survey line is obtained by means of "tie points", which are features on the mosaic or topographic plan which are also recognizable on the positioning camera film. The flight path is interpolated between these tie points.

For each conductor the following quantities are measured and recorded.

a) Half width. This is the distance between the points of half the maximum conductor disturbance. For a very thin, steeply dipping body or pipe line, etc., the half width will be about 1.6 times its depth below the bird. If the bird is at a mean conductor clearance of 150 ft. the half width would be about 250 ft. Larger half widths reflect either more deeply buried or, more likely, thicker conductors.

Flat-lying conductors (e.g. overburden) characteristi
give large half widths.

The conductor half width is indicated on the plan by an
open bar symbol along the flight line. In the event of
very narrow conductors only the peak location may be
shown (see below).

b) Peak Location. The in-phase conductor peak location
shown on the plan by a circle in the appropriate locati
In the case of broad conductors or closely spaced
multiple conductor zones there may be more than one
peak, in which event all major peaks are shown. If a
conductor is of short half width there may be no room
for a half width bar and only the peak circle will be s
A conductor which is likely man-made will be indicat
by an X rather than by a circle.

c) In-Phase and Out-of-Phase Amplitudes. These ampli
are scaled from the EM traces and noted in parts per
million. On the flight plan, opposite each peak locati
(circle) will be given the peak in-phase amplitude and
the ratio of peak in-phase to peak out-of-phase respo
(see below).

d) Conductor Coding. Conductor intersections are grad
in electrical categories 1, 2 and 3, based on the in-p
amplitude but taking into account the terrain clearanc
For tabular bodies such as sheet-like ore deposits,
strata bound conductors and overburden, their respo
drops off almost in accordance with the inverse cube
power of the elevation. Assuming an average 50 ft.
overburden, a category 1 conductor has a peak in-ph
response equivalent to 350 p.p.m. or over at 100 ft.
bird terrain clearance. A category 2 conductor has
peak in-phase response under similar conditions of
between 100 p.p.m. and 350 p.p.m. A category 3
conductor has an equivalent peak in-phase response
less than 100 p.p.m.

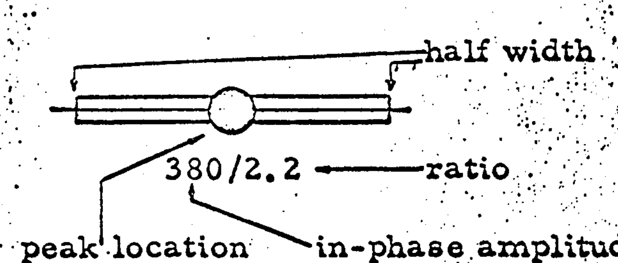
The respective peak circles are shaded to reflect the
electrical category, with category 1 fully shaded,
category 2 half shaded and category 3 unshaded.

For each conductor peak the ratio of peak in-phase t
peak out-of-phase amplitude is calculated and plotted

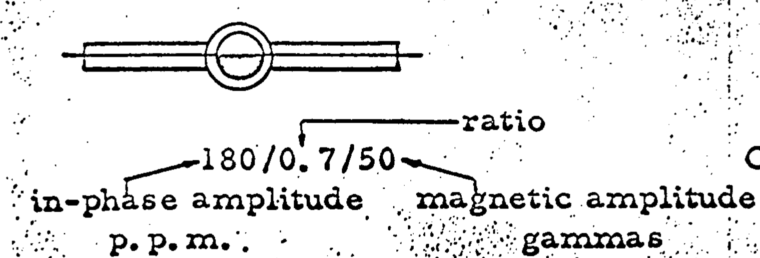
the plan. This ratio is indicative of a conductivity-size factor for the conductor. Large, high conducting bodies such as massive sulphides or graphite and sea-water, etc., generally have ratios of 3 or over. Moderate conductivity-size bodies will have ratios between 1 and 3. Poor conductivity bodies (e.g. most overburden and some sulphide and graphitic zones) will have ratios of less than 1. In areas where there is a clear differentiation in conductivity between the targets of potential economic interest and other possible conductors, the ratio is a diagnostic feature. In some areas, however, there is an overlap of conductivity ranges and then the ratio cannot be too rigidly relied upo

Where magnetic data is available, preferably from a coincident recording magnetometer, any correlating magnetic activity will be noted for the pertinent conducto peak. A conductor peak with apparently direct magnetic correlation will be indicated by a double concentric circle. Although a conducting body which is appreciably magnetic is more likely to be a sulphide body than one which is non-magnetic, there are many very important base metal ore bodies which are quite non-magnetic.

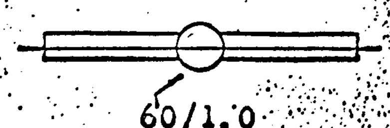
Examples of conductor coding are given below.



Category one, no magnetic correlation



Category two, magnetic correlation.



Category three, no magnetic correlation.

X Probably man-made conductor.

ANCILLARY EQUIPMENT

1. Altimeter

A Bonzer, high frequency solid state radioaltimeter is employed to continuously indicate the mean terrain clearance of the helicopter or other transporting aircraft. The altimeter is installed in the aircraft (unless otherwise indicated) so that the elevation of the sensing birds (electromagnetic or magnetic) will be less by the usual vertical displacement of these birds below the aircraft.

The output of the Bonzer may be expressed in analogue form on a suitable graphic recorder, or may be, for convenience, converted to a semi-digital form on a recorder side pen. In the latter event the altimeter record is a series of spaced pulses whose separation is proportional to the mean terrain clearance.

2. Positioning Camera

A Vinten Mark 3 16 mm positioning camera is employed with a wide angle lens. Photographs of the ground are taken with sufficient frequency to give a complete record of the flight path of the aircraft or helicopter. The frequency of exposure is controlled by the intervalometer referred to below.

3. Intervalometer

A Scintrex IA-2 intervalometer provides regularly spaced timing pulses which drive the positioning camera exposure mechanism and produces synchronous "fiducial marks" on the side pen of the geophysical graphic recorder or recorders. Because of the synchronization of the geophysical traces and the positioning camera it is then possible to relate the geophysical events of interest to their proper ground location. The timing pulse frequency may be adjusted in accordance with the ground speed of the aircraft so that an adequate flight path record is obtained.

MAGNETOMETER - SCINTREX NPM-1

The Scintrex NPM-1 nuclear resonance airborne magnetometer is based on a Newmont modification of a Varian Associates magnetometer and is produced under license to both companies. It is a very light weight, solid state unit, especially designed for use in a helicopter or light fixed-wing aircraft where weight is an important consideration.

Its cycle period is 1.1 seconds. Each cycle it measures the total intensity of the earth's magnetic field and this quantity, in gammas, is recorded, in analogue form, on a suitable graphic recorder. The full scale sensitivity is usually 1000 gammas and the recorder automatically steps each 500 gammas. In very active areas a full scale sensitivity of 5000 gammas with steps of 2,500 gammas may be employed. Only the magnetic variations are actually recorded although the absolute base level may be established from the NPM-1 as well.

The magnetic sensing head may be on a cable as much as 100 ft. below the aircraft or, in some installations, may be rigidly attached to the aircraft on a suitable boom.

The intrinsic noise level of each reading is about 5 gammas.

Where it is intended to contour the NPM-1 information it is customary to fly tie lines across the survey grid. A fixed magnetic field monitor is often used as well, on the ground, primarily to indicate periods of magnetic storms during which the aeromagnetic data should be considered as unreliable.

The aeromagnetic data may be contoured if desired, using a contour interval of 25 gammas or up, depending on the amount of magnetic relief. Alternatively they may be used simply for purposes of correlation with simultaneously obtained electromagnetic data to determine which conductor zones are appreciably magnetic.

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 15, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 γ full scale

NAVIGATOR

f. 11 T.O. 15:50 T.D. 16:00

FLIGHT NO. 4

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
Mag.	inoperat	ional,	no lines	done		
				Total	Time	:10

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 16, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 full scale

NAVIGATOR

f. T.O. T.D.

FLIGHT NO. 5

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
	Ferry to Prince Rupert					1:15 Equipment Broken
				Total	Time	1:15

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 23, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Ton

SENSITIVITY: 1000 p.p.m. & 1000 γ Full Scale

NAVIGATOR

f. T.O. T.D.

FLIGHT NO. 6

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
Prince Rupert			5:18			
Anyox			6:28		1:10	
Anyox						
Prince Rupet					1:25	
	Flight to Ferry - Equipment to Prince Rupert					
	(Bonzer					
			Total Time		2:35	

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 25, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 γ Full Scale

NAVIGATOR

f. ____ T.O. ____ T.D. ____

FLIGHT NO. 7

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
Prince Rupert			1:10			Ferry to Anyox for Resumption
Anyox						of Survey

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 14, 1969

AREA: Anyox, B. C.

OPERATOR: Tony Szanto

SURVEY TYPE: E.M. & Mag.

PILOT: Tom Scheer

SENSITIVITY: 1000 p.p.m. & 1000 γ
Full Scale Steps 500 γ

NAVIGATOR

f. T.O. T.D.

FLIGHT NO. 1

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
Smithers		10:50		0:55		
Terrace		11:45				Ferry Bird
Terrace		11:55		1:55		
Prince Rupert		12:55				
				Total	Time	1:55

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 15, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE:

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 full scale

NAVIGATOR

f. T.O. T.D.

FLIGHT NO. 2

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
Prince Rupert			10:40			Ferry Bird
Anyox			12:10			
			Total Time		1:30	

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 15, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 Y Full Scale

NAVIGATOR

f. T.O. T.D.

FLIGHT NO. 3

Mag. Base 54K

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
				+ 220		
1S	1	129				
2N	133	254				
3S	258	383				
4N	387	540				
5S	544	688				
6N	692	827				
7S	831	967				
				Total	Time	1:20

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 25, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 γ Full Scale

NAVIGATOR

f. 4.0 T.O. 20:20 T.D. 20:52

FLIGHT NO. 8

Mag. Base 54K

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
8N	1	222				O.K.
9S	226	415		fids taken 418		
				Total	Time	:32

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 26, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 Y Full Scale

NAVIGATOR

f. 5.6 T.O. 11:22 T.D. 11:30

FLIGHT NO. 9

Mag Set at 54K

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
Flight abandoned due to very low clouds						
				Total Time 0:08		

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 26, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 γ Full Scale

NAVIGATOR

f. 5.6 T.O. 15:52 T.D. 17:45

FLIGHT NO. 11

Mag. Set at 54K

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
20N	2137	2295			BASE LEVEL	
21S	2299	2463				
22N	2467	2622				
23S	2626	2766				
24N	2770	2925				
25S	2929	3064				
26N	3068	3206				
27S	3210	3324				
28S	3328	3472				
29S	3476	3591				
30N	3595	3761				
31S	3765	3884				
32N	3888	4040				
33S	4044	4162				
34N	4166	4308				
			Total Time		1:53	

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 26, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 γ Full Scale

NAVIGATOR

f. 5.6 T.O. 13:52 T.D. 15:30

FLIGHT NO. 10

Mag.Set at 54K

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
10N	1	242	Add	100		
11S	246	448				
12N	452	654				
13S	658	856				
14N	860	1068				
15S	1072	1277				
16N	1281	1508				
17S	1512	1726				
18N	1729	1921				
19S	1925	2108	Part one			
19S	2113	2132	Part two			Last part re-flown - Loop
				Total	Time	1:38

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 26, 1969

AREA: Anyox, B. C.

OPERATOR: Tony

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

SENSITIVITY: 1000 p.p.m. & 1000 γ Full Scale

NAVIGATOR

f. 5.6 T.O. 18:10 T.D. 19:12

FLIGHT NO. 12

Mag Base 54k

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
T.L.#2 (S.W.)	4316	4427				
T.L.#1 (N.W.)	4431	4560				
35N	4564	4672	O.K.			
36S	4676	4780				
37N	4784	4874				
38S	4878	4976				
40S	5062	5181				
T.L.#3 (E)	5185	5195	N/A started at wrong spot, re fly.			
T.L.#3 (E)	5199	5395	Fids at 5418			
				Total Time		1:02

SEIGEL ASSOCIATES LIMITED

DAILY FLIGHT REPORT

JOB: Arcadia Mines

DATE: June 27, 1969

AREA: Anyox, B.C.

OPERATOR:

SURVEY TYPE: E.M. & Mag.

PILOT: Tom

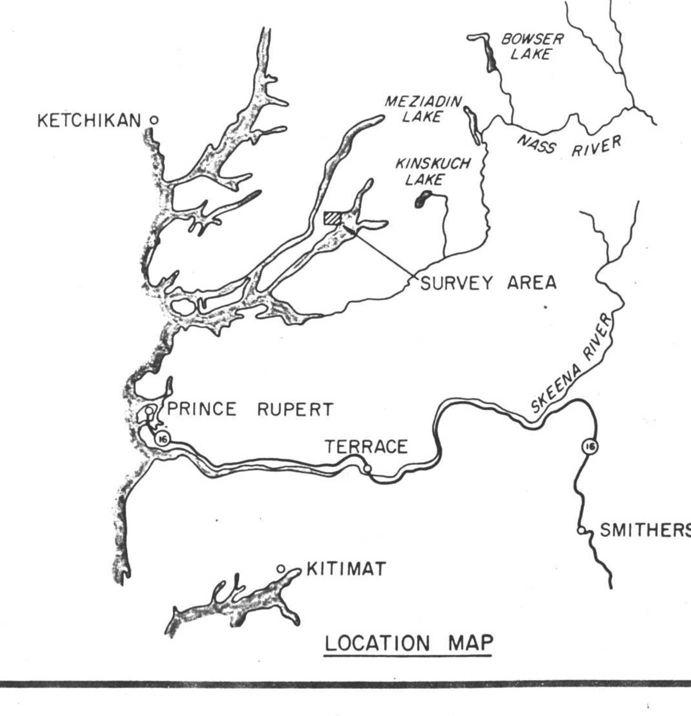
SENSITIVITY: 1000 p.p.m. & 1000 γ Full Scale

NAVIGATOR

f. ______ T.O. ______ T.D. ______

FLIGHT NO. 13

LINE NO.	FIDUCIALS START	FIDUCIALS END	TIME START	TIME END	LINE LENGTH	REMARKS
Anyox		1:30				
Prince Rupert						



LOCATION MAP

LEGEND

L9 —o— 427	FLIGHT LINE, FLIGHT LINE NUMBER AND NUMBERED FIDUCIAL POINT
	100 GAMMA ISOMAGNETIC CONTOUR INTERVAL
	20 GAMMA ISOMAGNETIC CONTOUR INTERVAL
	MAGNETIC LOW.
	BASE VALUE ARBITRARY

PLATE I

ARCADIA EXPLORATIONS LIMITED

ANYOX AREA, BRITISH COLUMBIA

AIRBORNE GEOPHYSICAL SURVEY

MAGNETOMETER CONTOUR PLAN

SCALE: 1" = 1320'   1 = 15840

INTERPRETATION BY SEIGEL ASSOCIATES LIMITED
SURVEY BY SEIGEL ASSOCIATES LIMITED

inches 0 1 2
0 1 2 3 4 5 centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

Notations added by [illegible]

LEGEND

LR —614— FLIGHT LINE, FLIGHT LINE NUMBER AND NUMBERED FIDUCIAL POINT

A.E.M. CONDUCTOR REPRESENTATION

NEGATIVE IN-PHASE PEAKS NO MAGNETIC CORRELATION		CATEGORY		NEGATIVE IN-PHASE PEAKS MAGNETIC CORRELATION
-120/1·2	120/1·2	1	120/1·2/75	-120/1·2/75
-80/2·0	80/2·0	2	80/2·0/140	-80/2·0/140
-25/1·0	25/1·0	3	25/1·0/50	-25/1·0/50

PEAK IN-PHASE (P.P.M.)

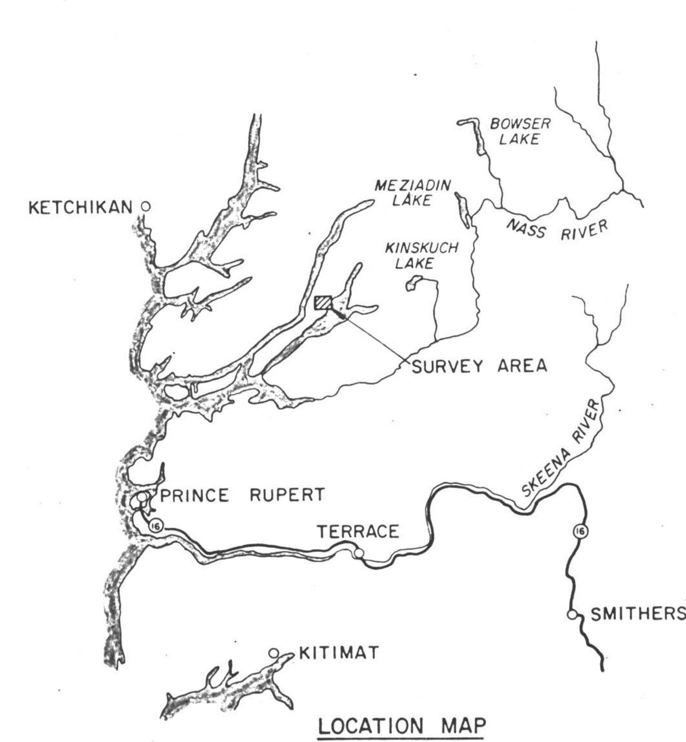
RATIO IN-PHASE / OUT OF PHASE

MAGNETIC AMPLITUDE GAMMAS

NO MAGNETIC CORRELATION (NO DATA)

DIRECT MAGNETIC CORRELATION

— — — — CONDUCTOR AXIS



LOCATION MAP

PLATE 2

ARCADIA EXPLORATIONS LIMITED

ANYOX AREA, BRITISH COLUMBIA

AIRBORNE GEOPHYSICAL SURVEY

ELECTROMAGNETIC CONDUCTORS

SCALE: 1" = 1320'

INTERPRETATION BY SEIGEL ASSOCIATES LIMITED

SURVEY BY SEIGEL ASSOCIATES LIMITED

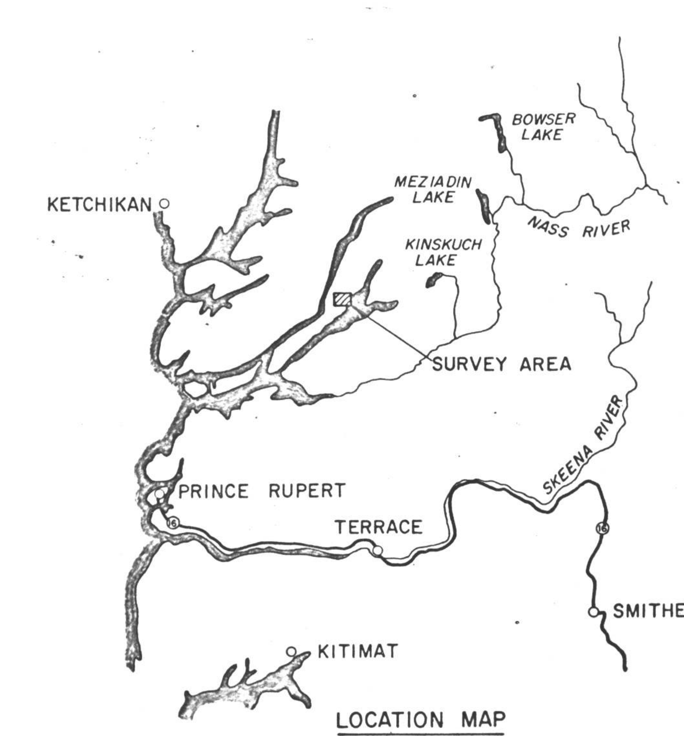


PLATE 3

ARCADIA EXPLORATIONS LIMITED

ANYOX AREA, BRITISH COLUMBIA

AIRBORNE GEOPHYSICAL SURVEY

CLAIMS PLAN

SCALE: 1" = 1320'

INTERPRETATION BY SEIGEL ASSOCIATES LIMITED
SURVEY BY SEIGEL ASSOCIATES LIMITED