1990 Geophysical Report

on the

Kutcho 90A and 90B Claim Groups

Liard Mining Division
NTS: 104I/1
Lat: 58'12'N
Long: 128'22'W

Owned and Operated by:

Homestake Mining (Canada) Limited
#1000-700 W. Pender Street
Vancouver, B.C. V6C 1G8

By: M.D. McPherson

March 31, 1990

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SUMMARY

The Kutcho 90A and 90B claim groups are located in the Liard Mining Division on NTS map sheet 104I/1, approximately 100 km east of Dease Lake, B.C. The claim groups lie immediately to the south of, and are contiguous with, claims hosting the Kutcho Creek volcanogenic massive sulphide deposits.

Previous exploration in the vicinity of the claim groups was sporadic between 1968 and 1983. Since 1984-85, when geological mapping and a Questor airborne INPUT geophysical survey identified EM conductors within areas of favourable geology, exploration has been carried out on an annual basis. This report describes a program of 7.4 line km of large loop (fixed source) and moving source GENIE-EM geophysical surveying designed to verify the ground position of several airborne EM conductors, labelled targets A, B, and G.

Weak to strong EM conductors were located at all three targets. The conductors all trend approximately east-west and range in strike length from 220 to 400m. The strongest conductor was located at at target A and may indicate near surface sulphide mineralization. All of the other conductors had much weaker responses, indicating possible sulphide mineralization at greater depths below surface (50 to 75m). Only one conductor is attributed to a graphitic argillite bed; the southern conductor at target B. In general the positions of the EM conductors located by the ground geophysical survey were very close to those of the airborne survey.

Further evaluation of these targets should include a large loop GENIE-EM survey over targets B and G, to try to enhance the definition of the weaker conductors.

Favourable results should be followed by detailed geological mapping where possible, and drill testing.

1.0 INTRODUCTION

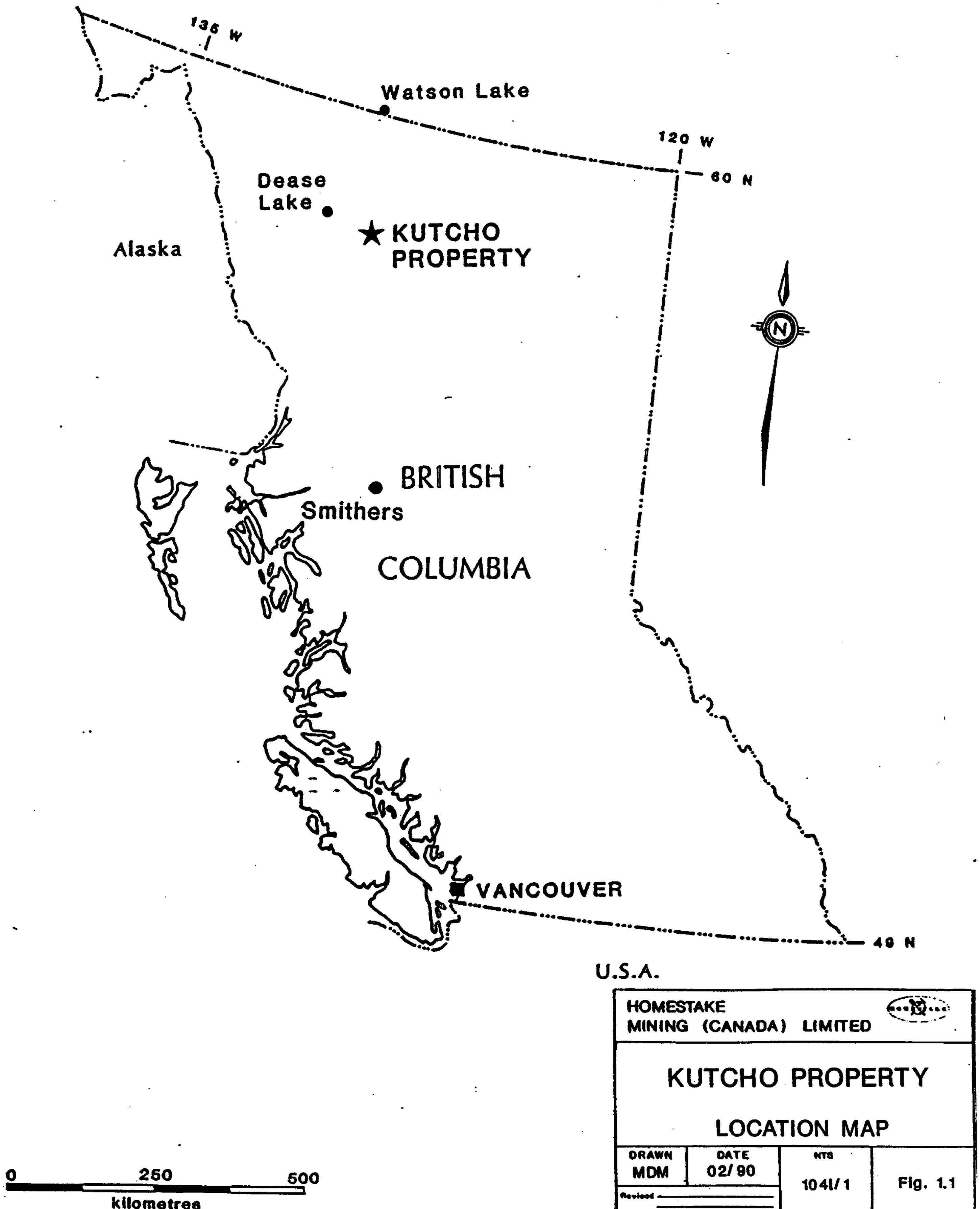
1.1 Location and Access

The Kutcho Creek property is located within the Liard Mining Division on NTS map 104I/1, approximately 100 km east of Dease Lake, in northwest British Columbia (Fig. 1.1). The property is centred at latitude 58'12'N and longitude 128'22'W. The Kutcho 90A Group is situated at the headwaters of Kutcho Creek, and the Kutcho 90B Group is located approximately 10km east of the headwaters of Kutcho Creek.

Access to the property is via fixed-wing aircraft from Smithers, Dease Lake or Watson Lake to the 1100m gravel airstrip located beside Kutcho Creek. The property is connected to the airstrip by an 8km long gravel road, however both the Kutcho 90A and 90B Groups are best accessed by helicopter.

1.2 Claim Status

The Kutcho 90A and 90B Groups are owned by Homestake Mining (Canada) Limited. The Kutcho 90A Group consists of 11 claims totalling 92 units. The Kutcho 90B Group consists of 19 claims totalling 100 units. Claim Groups are outlined on Figure 1.2 and claim status is summarized in Table 1.

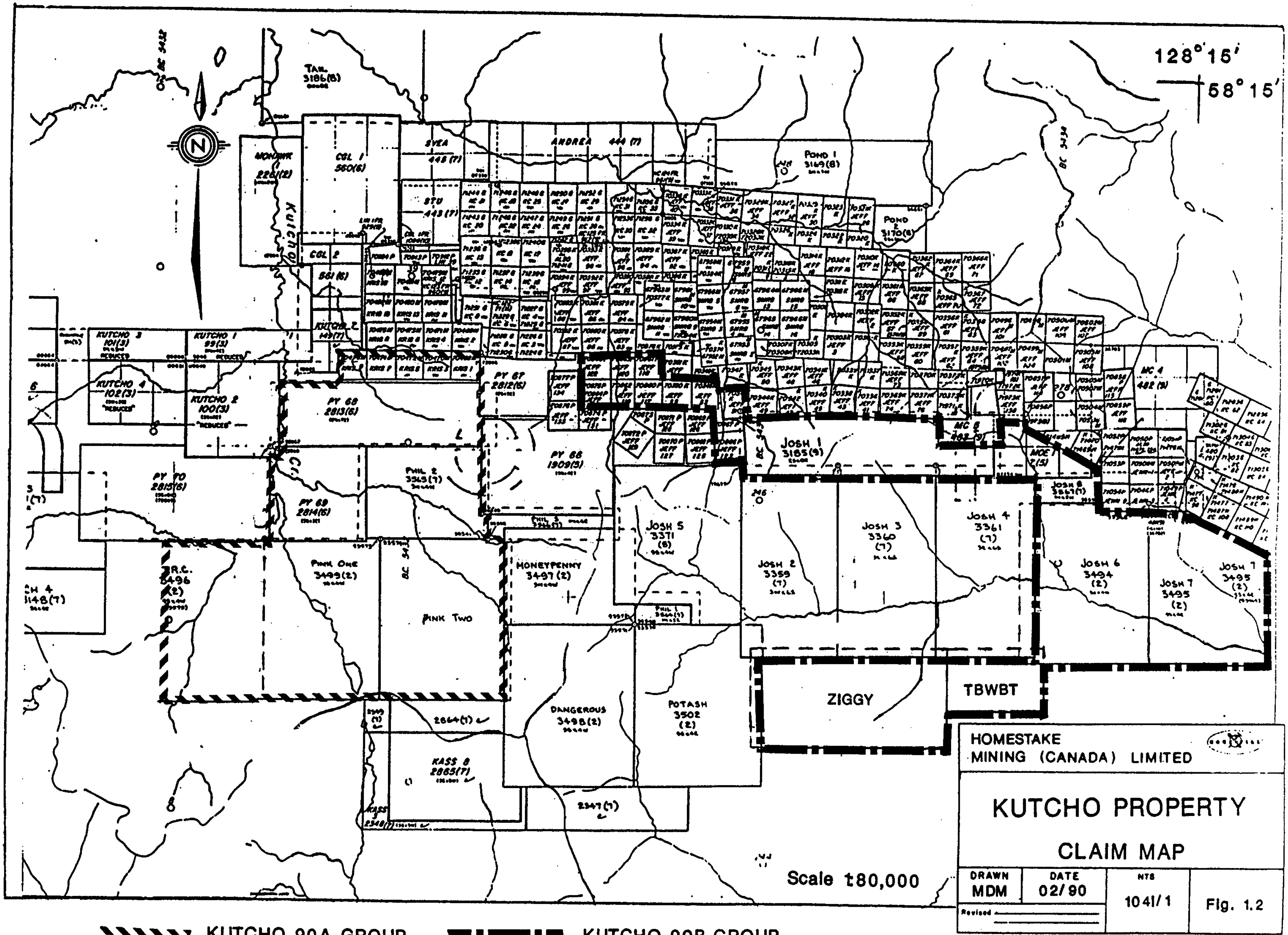


HOMESTAKE MINING (CANADA) LIMITED

KUTCHO PROPERTY

LOCATION MAP

DRAWN	DATE	NTS	
MDM	02/90	104I/1	Fig. 1.1
Revised			



KUTCHO 90A GROUP
KUTCHO 90B GROUP

TABLE 1 - CLAIM STATUS

KUTCHO 90A GROUP

CLAIM NAME	UNITS	RECORD NO.	EXPIRY DATE
TRC	15	3496	Feb. 7, 1991
Pink One	20	3499	Feb. 7, 1991
Pink Two	20	3500	Feb. 7, 1991
PY 68	14	2813	June 21, 1992
PY 69	9	2814	June 21, 1991
Phil 2	12	3565	July 7, 1990
Kris 1	1	70468	Sept. 7, 1993
Kris 3	1	70470	Sept. 7, 1993
Kris 5	1	70472	Sept. 7, 1993
Kris 7	1	70474	Sept. 7, 1993
Kris 9	1	70476	Sept. 7, 1993

KUTCHO 90B GROUP

CLAIM NAME	UNITS	RECORD NO.	EXPIRY DATE
Josh 1	16	3185	Sept. 7, 1990
Josh 6	20	3494	Feb. 7, 1991
Josh 7	20	3495	Feb. 7, 1991
Josh 8	2	3567	July 7, 1993
Moe 1	6	7	May 12, 1991
TBWBT	6	201138*	Feb. 7, 1993
Ziggy	18	201137*	Feb. 7, 1993

TABLE 1 - CLAIM STATUS CONT'D

CLAIM NAME	UNITS	RECORD NO.	EXPIRY DATE
Jeff 51	1	70346	Aug. 27, 1993
Jeff 53	1	70348	Aug. 27, 1993
Jeff 55	1	70350	Aug. 27, 1993
Jeff 117	1	70860	Nov. 13, 1991
Jeff 118	1	70861	Nov. 13, 1992
Jeff 119	1	70862	Nov. 13, 1991
Jeff 120	1	70863	Nov. 13, 1991
Jeff 121	1	70864	Nov. 13, 1991
Jeff 122	1	70865	Nov. 13, 1991
Jeff 123	1	70866	Nov. 13, 1991
Jeff 124	1	70867	Nov. 13, 1991
Jeff 125	1	70868	Nov. 13, 1991

* - Claim Tag Number

1.3 Physiography

The Kutcho Creek Property is located within the Cassiar Mountains, on the divide between the Arctic and Pacific watersheds. The area is moderately rugged with elevations ranging from 1400m to 2200m. Most of the area is alpine, with treeline at approximately 1500m. Vegetation consists of scrub, sub-alpine fir and mountain willow. Snow cover can persist for nine months of the year.

1.4 Exploration History

The Kutcho 90A and 90B Groups lie to the south of, and are contiguous with, claims covering the Kutcho Creek polymetallic volcanogenic massive sulphide deposits. Various portions of the property have been held and worked by different companies in the past. The most significant exploration was carried out by Imperial Oil Ltd. (Esso Minerals Canada). Geological mapping in 1984 and 1985 suggested that altered felsic volcanics on the property were structurally related to rocks hosting the Kutcho deposits. A Questor helicopter-borne MKVI INPUT EM and magnetometer survey flown in November 1985 identified a number of conductors within areas of favourable geology on the property. Since then, evaluation of the airborne conductors, consisting of relogging and lithogeochemical sampling of drill core, ground geophysics, geological and geochemical surveys, has been carried out on an annual basis.

1.5 Current Work

The 1990 exploration program was carried out between February 1 and 5, and consisted of both large loop (fixed source) and moving source GENIE-EM geophysical surveys. The object of this work was to verify the ground position of several airborne EM conductors located during the 1985 Questor helicopter-borne MKVI INPUT EM survey.

A total of 2.0 line km of large loop and 5.4 line km of moving source GENIE - EM surveying was completed on three separate grids; 'A', TRC and Ziggy grids. These grids respectively cover airborne EM conductors 'A', 'B', and 'G'.

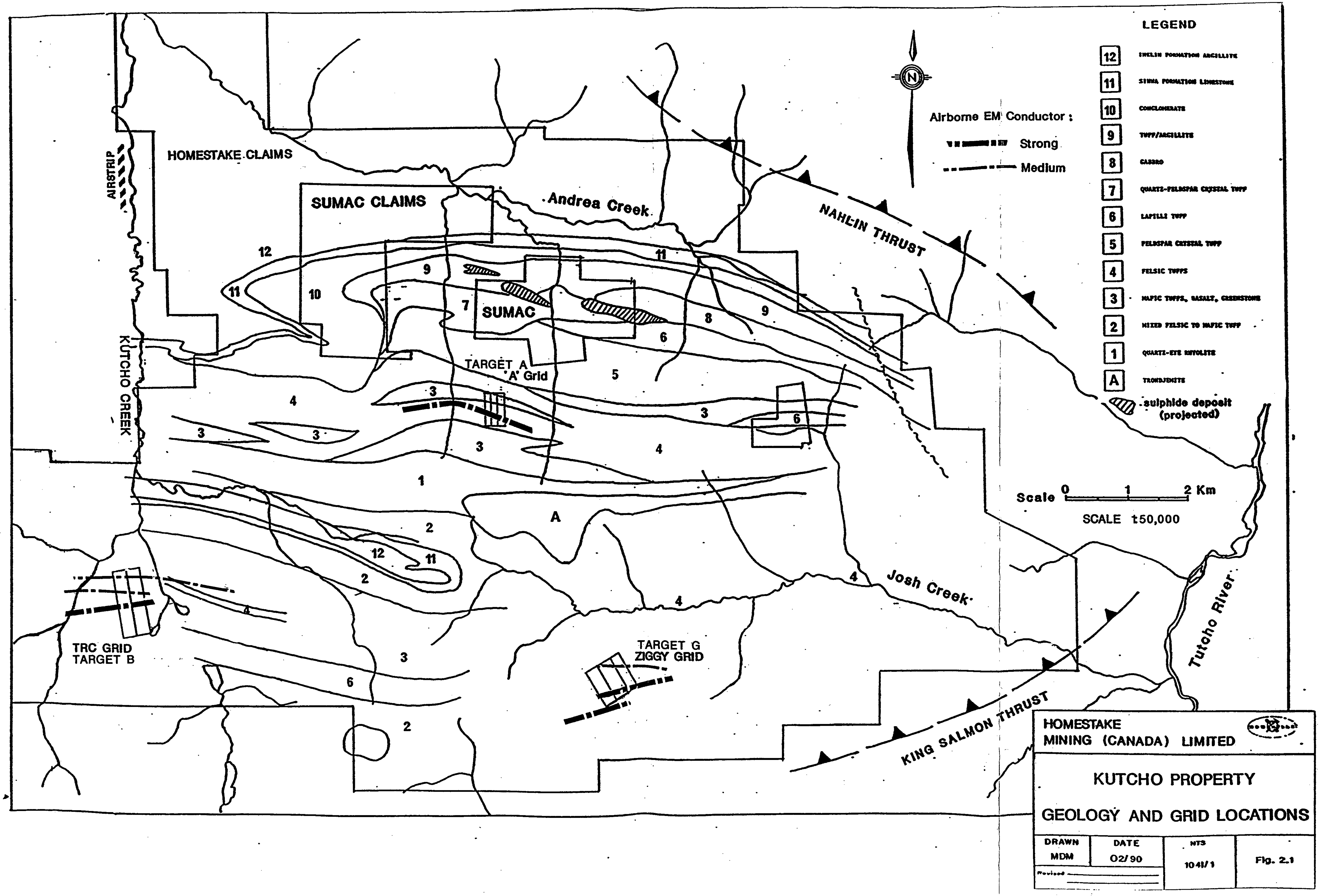
2.0 GEOLOGY

2.1 Regional Setting

The Kutcho property lies within the King Salmon Allocthon, a narrow belt of Triassic island arc volcanics and Jurassic sediments sandwiched between two northerly dipping thrust faults. Penetrative foliation and axial planes of the major folds are parallel to these bounding faults. The belt of volcanics is thickest in the area where it hosts volcanogenic massive sulphide deposits; due in part to primary deposition, but also to stratigraphic repetition by folding and thrusting. Major folds are delineated by the Sinwa Limestone and the contact between Kutcho Formation volcanics and Inklin Formation argillites (Fig. 2.1).

Volcanogenic mineralization of the Kutcho deposits occurs at the contact between footwall lapilli tuffs and hanging wall quartz and quartz-feldspar crystal tuffs. The main sulphide bearing horizon is marked by extensive hydrothermal alteration and the presence of thinly bedded ash tuffs, the latter indicating a temporary hiatus in volcanic activity. This sulphide horizon is geometrically, and often visually, recognizable over a strike length of 8 km.

The coarsest grained pyroclastic rocks of the Kutcho Formation occur in the vicinity of the known sulphide deposits and become noticeably finer grained towards the south and east. The major center of volcanism is postulated to be northeast of the Kutcho sulphide lens, although subordinate centers may exist elsewhere on the property.


LEGEND
12 INKLIN FORMATION ARGILLITE
11 SINWA FORMATION LIMESTONE
10 CONGLOMERATE
9 TUFF/ARGILLITE
8 GABBRO
7 QUARTZ-FELDSPAR CRYSTAL TUFF
6 LAPILLI TUFF
5 FELDSPAR CRYSTAL TUFF
4 FELSIC TUFFS
3 MAFIC TUFFS, BASALT, GREENSTONE
2 MIXED FELSIC TO MAFIC TUFF
1 QUARTZ-EYE RHYOLITE
A TRONDJEMITE
sulphide deposit (projected)
Airborne EM Conductor :
Strong
Medium
N
Scale 0 1 2 Km
SCALE 1:50,000
HOMESTAKE CLAIMS
SUMAC CLAIMS
SUMAC
AIRSTRIP
KUTCHO CREEK
Andrea Creek
NAHLIN THRUST
TARGET A
'A' Grid
Josh Creek
Tutcho River
KING SALMON THRUST
TRC GRID
TARGET B
TARGET G
ZIGGY GRID
HOMESTAKE MINING (CANADA) LIMITED
KUTCHO PROPERTY
GEOLOGY AND GRID LOCATIONS
DRAWN MDM
DATE 02/90
NTS 104I/1
Fig. 2.1
Revised

2.2 Property Geology

Rocks which underlie the Kutcho 90A and 90B claim groups are part of the Kutcho Formation (Gabrielse and Thorstad, 1986), and consist of pyroclastic, flow and minor sedimentary rocks of mafic and felsic compositions. Lithological units in the present survey areas tend to be more thinly bedded and finer grained than their compositional counterparts which host the Kutcho sulphide deposits (Holbek, 1989). All rock units dip steeply to moderately to the north.

The geology of the TRC grid is assumed to be similar to that of the 'C' target, located 2 km to the east (Holbek,1989). On the 'C' target, the main EM conductor is underlain by a thin (10 to 50m) band of sericite schist which hosts weakly mineralized chert or silica exhalite layers and small lenses of semi-massive to massive pyrite (Holbek and Thiersch, 1987). This felsic band is bounded on both sides by chlorite-epidote schists, inferred to be basaltic flows. Sinwa limestone and argillite occur along the northern margin of the grid and support the hypothesis that the stratigraphic positions of the conductors and the Kutcho deposits are correlative.

The 'A' grid is underlain by a sequence of felsic and mafic tuffs, basaltic flows, and greenstone of the Kutcho Formation. Argillite is also included in this sequence as indicated in drill hole 105, located 1 km to the west. The airborne EM conductor is coincident with several previously identified occurrences of pyrite and chalcopyrite.

The geology underlying the Ziggy grid is unknown as outcrop exposure is poor. Geology to the north suggests that the conductor may occur within siliceous lithic and crystal ash tuffs interbedded within mafic ash tuffs. Pyrite concentrations within the felsic rocks north of the grid area range from trace to 10%, as disseminations or thin laminations (Holbek and Heberlein, 1986).

3.0 GEOPHYSICS

3.1 Methods and Equipment

Airborne EM conductors were evaluated on the ground using a Scintrex SE-88 GENIE electromagnetic system. 2.0 line km of large loop survey were run over the 'A' grid, with readings taken at 25m intervals over four 100m spaced lines. 3.0 line km of moving source survey were run over the TRC grid, and 2.4 line km were run over the Ziggy grid, with readings taken at 25m intervals along 150 to 200m spaced lines. Grid locations are shown on figure 2.1. The geophysical surveys were performed by Quest Canada Exploration Ltd., under the supervision of the author.

GENIE is an acronym for Geometry Normalized In-Phase Electro-magnetometer.

The moving source frequency domain system is comprised of a transmitter and receiver that, unlike conventional horizantal loop EM systems, does not require a linking reference cable. Instead, the transmitter simultaneously outputs a selectable signal frequency and reference frequency which can be varied for the desired depth sensitivity. The separation of the two units is maintained constant, with station readings usually taken at intervals equal to one quarter of the separation.

The large loop, or fixed source configuration consists of laying out a loop of 18-gauge wire which is connected to a transmitter, and powered by a 5 h.p. motor-generator. The long edge of this loop is laid parallel to the geological strike in the area, and the survey is carried out from the long sides of the transmitter loop. Measurements are read with the standard GENIE receiver unit. This fixed source configuration generally gives greater depth penetration than the moving source system.

The moving source system utilized signal frequencies of 3037.5, 1012.5, and 337.5Hz in combination with a reference frequency of 112.5Hz. The fixed source system utilized signal frequencies of 3037.5, 1012.5, 337.5, and 112.5Hz in combination with a reference frequency of 37.5Hz. All frequency pairs were read over conductive areas, while only the 3037.5Hz signal frequency was used over non-conductive areas.

The receiver detects the vertical magnetic field components at the selected frequencies and computes the amplitude ratio defined by the following equation:

$$\frac{Aws}{NAwr} \times 100\% = R$$

Where:
- R = GENIE reading in percent
- Aws = Amplitude of vertical magnetic field at the signal frequency
- Awr = Amplitude of vertical magnetic field at the reference frequency
- N = Normalizing factor which corrects for differences in transmitter moments between signal and reference frequencies

Thus, the GENIE reading is a measure of the difference im amplitudes of the vertical field components detected at the signal frequency and normalized reference frequency. The response in an area of no conductors or of conductive overburden is zero (0%). Over a conductor the response is identical for both types of survey configuration, with a characteristic crossover at the conductor.

3.2 Description of Results

3.2.1 'A' Grid

The 'A' grid consists of four 500m long, north-south lines spaced 100m apart. Readings were taken at 25m stations using the large loop GENIE-EM system, with a loop size of 200 x 400m. This grid was designed to ground test a pair of airborne EM conductors known as target 'A', located in the Twenty Creek valley. The survey located both EM conductors on the ground (Figs. 3.1.1, 3.1.2).

The southern conductor lies at approximately 1+65N on lines 1+00E, 0+00W and 2+00W, with a slight northerly curve to 1+87N on line 1+00W. It trends approximately 095 degrees, has a strike length in excess of 280m, and a probable dip to the north. It is of moderate strength and does not show characteristics of an argillite bed (S. Lowe, per. comm.). The northern conductor, located at 3+00N, is much weaker, but could be an expression of sulphides at depth (>50m). This conductor lies sub-parallel to the southern conductor and has its strongest response on line 0+00W.

3.2.2 TRC Grid

The TRC grid consists of three 1000m long lines run at 350 degrees and spaced 200m apart. Readings were taken at 25m stations using the moving source GENIE-EM system. This grid was designed to ground test a series of three parallel airborne EM conductors, collectively known as target 'B', located just west of Kutcho Creek. All three conductors were located on the ground (Fig. 3.1.3).

The three conductors are roughly parallel, trending between 075 and 090 degrees. The southern-most conductor lies at 2+00N and is very well defined, but has a response characteristic of a graphitic argillite bed. The 1985 airborne EM survey indicated a strike length of approximately 1000m, of which 400m was ground tested and proven by the 1990 survey. The conductor has a probable dip to the north. The central conductor lies at 7+50N. This conductor has a weaker response than the one to the south, but is more characteristic of sulphides at depth (>50m). This conductor seems to improve toward the east as opposed to the west. The northern conductor, located between 9+00N and 9+25N also has a relatively weak response, but it too could signify sulphides at depth. This conductor may be located north of the grid on line 4+00W. The weak response of the two northern conductors may be enhanced by using a more sensitive survey method such as large loop GENIE.

3.2.3 Ziggy Grid

The Ziggy grid consists of four 600m long lines run at 150 degrees and spaced 150 to 200m apart. Readings were taken at 25m stations using the moving source

GENIE-EM system. This grid was designed to ground test the location of two sub-parallel conductors known as target G, south of Josh Creek. The survey located two very weak conductors (Fig. 3.1.4).

The results of this survey were inconclusive. Two very weak conductors were located, but their positions are poorly defined as a result of lack of strength and continuity. The southern-most conductor is the stronger of the two, and may be closer to surface. It trends approximately 080 degrees and has a strike length in excess of 370m. This conductor is centred at 2+00E, 4+50S, but is cut-off to the west before it reaches line 2+00W. It seems to be weakening towards the east. The northern conductor is centred at 1+00W, 1+50S, trends approximately 075 degrees and has a strike length in excess of 220m. This conductor is not present on lines 2+00E or 3+50E, and seems to be weakening towards the west. Both of these conductors might be enhanced by a more sensitive survey such as a large loop GENIE or UTEM survey.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The 1990 geophysics program was designed to ground test the positions of several EM conductors located in the 1985 Questor airborne INPUT geophysical survey. A total of 7.4 line km of large loop and moving source GENIE-EM surveying was carried out over three grids, to cover targets A, B, and G.

Weak to strong conductors were located at all three target areas. The conductors all trend approximately 080 to 090 degrees and range in strike length from 220 to 400m. The strongest conductor is located at target A, and may indicate sulphide mineralization near surface. All of the other conductors had weaker responses, indicating either weaker conductor strength, and hence smaller sulphide concentrations, or greater depths of the mineralization below surface. The southern conductor at target B is attributed to a graphitic argillite bed.

Recommendations for further work include the following:

1) Soil geochemistry over targets B and G; the TRC grid should be extended 400m to the east and west.

2) Large loop GENIE-EM over targets B and G to enhance the conductor response in these areas. The TRC grid should be extended to the north to try and pick up the extension of the conductor located at 9+50N, 2+00W.

3) Target A is ready for drill testing, and favourable results from parts 1) and 2) above could bring target B to the drill ready stage.

5.0 REFERENCES

Gabrielse, H. and Thorstad, L. (1986): The Upper Triassic Kutcho Formation, Cassiar Mountains, north-central British Columbia, G.S.C. paper 86-16.

Holbek, P. (1989): 1988 Geochemical and Geophysical Report on the Kutcho 89A and 89B Claim Groups, an in-house report for Esso Minerals Canada Ltd.

Holbek, P. and Heberlein, D. (1986): 1985 Exploration Report on the Kutcho Property, an in-house report for Esso Minerals Canada Ltd.

Holbek, P. and Thiersch, P. (1987): 1987 Geochemical and Geophysical Report on the Kutcho Mineral Claims, an in-house report for Esso Minerals Canada Ltd.

6.0 STATEMENT OF COSTS

LABOUR: February 1 to 5, 1990

Project Geologist	P. Holbek	5 days @ $220/day	$1100
Geologist	M. McPherson	5 days @ $180/day	$ 900
Geophysicist	S. Lowe	5 days @ $250/day	$1250
Geophysicist	G. Price	5 days @ $200/day	$1000

EQUIPMENT RENTAL:

Scintrex SE-88 GENIE-EM	5 days @ $150/day	$ 750

LOGISTICS:

Food and Accomodation	20 man-days @ $60/day	$1200
CAI - Vancouver to Smithers return	4 @ $470	$1880
Yukon Airways Ltd - Bell 206 helicopter		
9 hours @ $725/hr including fuel		$6525
Truck rental - two 4x4 vehicles, km, gas		$ 650
Field Supplies		$ 300

Report Writing	$ 500

Sub-total	$16055
10% D.S.S	$ 1606
	======
TOTAL	$17661

STATEMENT OF QUALIFICATIONS

I, Margaret D. McPherson, DO HEREBY CERTIFY THAT:

1. I am presently employed as a geologist with Homestake Mineral Development Company located at #1000-700 West Pender Street, Vancouver, B. C. V6C 1G8.

2. I graduated from the University of British Columbia in 1987, with a Bachelor of Science degree in Geology.

3. I have been employed in the mineral exploration industry since 1985.

4. The work described in this report was done with my participation.

Margaret McPherson

Margaret McPherson

February 1, 1990

APPENDIX I

GEOPHYSICAL DATA

ANOMALY "A"

line -200

LINE	STATION	112/37	337/37	1012/37	3037/37
		FREQUENCY			
-165	0	*	*	*	*
-166.75	25	-.9	-.6	-.8	-.4
-168.5	50	-.5	-.3	.3	3.2
-170.25	75	-.5	0	2.1	7.9
-172	100	-.5	.5	4.7	17.3
-173.75	125	-.6	.7	5.3	19.4
-175.5	150	-.8	-.4	-1.5	-3.9
-177.25	175	-1.2	-1.6	-6.5	-18.8
-179	200	-.8	-2.8	-10	-25.5
-180.75	225	-.9	-3.5	-11.1	-28.1
-182.5	250	-1.5	-5	-14.1	-33.1
-184.25	275	-1.9	-5.2	-16.4	-36.5
-186	300	-2.7	-8.3	-19.8	-41.7
-187.75	325	-2.6	-8.7	-21.6	-44.1
-189.5	350	-2.7	-10.8	-24.8	-48.1
-191.25	375	-3.3	-11.6	-26.2	-50.4
-193	400	-3.5	-13.1	-29	-53
-194.75	425	-3.2	-13.8	-30.4	-55.4
-196.5	450	-3.6	-14.9	-32.9	-58.4
-198.25	475	-2.8	-14.9	-32.9	-59.3
-200	500	-3.8	-16.2	-35.2	-60.3

line -100

LINE	STATION	112/37	337/37	1012/37	3037/37
		FREQUENCY			
-80	-5	*	*	*	*
-81	20.25	-.7	-.9	-1.2	-1.6
-82	45.5	-.5	-.6	-.7	.3
-83	70.75	-.8	-.3	.5	3.7
-84	96	-.5	0	2	8.8
-85	121.25	-.4	.6	4.9	18
-86	146.5	-.4	1.1	7.6	27
-87	171.75	-.7	0	1.1	4.7
-88	197	-1	-1.6	-6.1	-19.2
-89	222.25	-1.3	-3	-9.7	-27.7
-90	247.5	-1.6	-4.4	-12.2	-31.5
-91	272.75	-1.9	-5.9	-15	-34.7
-92	298	-2.4	-8.1	-19.1	-40.1
-93	323.25	-2.8	-9	-21.1	-43.5
-94	348.5	-2.8	-10.9	-24.4	-46.9
-95	373.75	-3.2	-12	-25.8	-49
-96	399	-3.7	-12.7	-27.5	-51.2
-97	424.25	-3.8	-14.2	-30.5	-54.7
-98	449.5	-3.7	-14.7	-31.5	-55.9
-99	474.75	-3.8	-16	-33	-58
-100	500	-4.2	-16.4	-34.1	-59.6

ANOMALY "A"

line 00

FREQUENCY

LINE	STATION	112/37	337/37	1012/37	3037/37
0	0	*	*	*	*
0	25	-.2	-.7	-.6	-1.1
0	50	-1.4	-.5	-.2	.8
0	75	-.9	0	.3	4.6
0	100	-.7	.3	2.5	11.7
0	125	-2	1.1	6.4	21.2
0	150	-.3	.2	7.8	25.1
0	175	-.3	-2.3	-1	-15.8
0	200	0	-1.5	-5.5	-23.6
0	225	-1.9	-3.5	-9.3	-27.3
0	250	-1.9	-5.3	-12.7	-29.9
0	275	-2.4	-7.5	-16.4	-34.2
0	300	-2.8	-9.3	-19.5	-38.9
0	325	-2.7	-11	-23.1	-44.3
0	350	-3.2	-12.6	-26.1	-47.4
0	375	-3.9	-13	-27.6	-49.8
0	400	-3.3	-14.1	-29.5	-52.6
0	425	-3.6	-14.8	-31.8	-55.3
0	450	-3.4	-15.7	-33	-55.2
0	475	-3.4	-16.1	-33.7	-56.1
0	500	-4.5	-17.1	-35.2	-58.6

line 100

FREQUENCY

LINE	STATION	112/37	337/37	1012/37	3037/37
100	35	-.6	-.3	-.9	-1
100	58.25	-.4	-.1	-.3	2
100	81.5	-.5	-.3	1.3	5.8
100	104.75	-.3	1	3.6	13.1
100	128	-.1	1.2	6.1	21.3
100	151.25	.4	2.4	10.8	38.4
100	174.5	-.1	.8	.5	-4.3
100	197.75	-.2	.3	-1.7	-14.3
100	221	-1	-2.3	-6.4	-20.6
100	244.25	-1.4	-5	-10.9	-27
100	267.5	-2.8	-7.7	-15.7	-31.9
100	290.75	-3.1	-10.2	-19.3	-36.6
100	314	-3.2	-11.7	-22.6	-40.8
100	337.25	-3.6	-12.8	-26.3	-46.4
100	360.5	-3.9	-14	-28.6	-49.9
100	383.75	-3.7	-15.1	-30	-51.4
100	407	-6	-15.4	-31.5	-53.5
100	430.25	-5.4	-16.1	-32.4	-54.9
100	453.5	-3.9	-16.5	-33.6	-56.6
100	476.75	-7.1	-17.1	-34.4	-57.5
100	500	-5.5	-17.2	-35.2	-57.9

ANOMALY "B"

line -400

LINE	STATION	STATION	337/112	1012/112	3037/112
			FREQUENCY		
-400	00	00	*	*	*
-400	25	25	*	*	*
-400	50	50	1.7	2.8	2
-400	75	75	.1	1.9	4.1
-400	100	100	-.3	1.7	4
-400	125	125	2.3	4.3	9.4
-400	150	150	.4	.8	1.8
-400	175	175	-4.5	-14.1	-31.2
-400	200	200	-4.5	-12.5	-27.9
-400	225	225	-2.6	-9	-21.4
-400	250	250	-1.5	-3.5	-9.7
-400	275	275	1.8	8.4	17.9
-400	300	300	.7	4.3	11.6
-400	325	325	*	*	6.7
-400	350	350	*	*	4.8
-400	375	375	*	*	3
-400	400	400	*	*	3
-400	425	425	*	*	1.6
-400	450	450	*	*	1.2
-400	475	475	*	*	1.5
-400	500	500	*	*	1.4
-400	525	525	*	*	1.5
-400	550	550	*	*	2
-400	575	575	*	*	2.3
-400	600	600	*	*	1.9
-400	625	625	*	*	2
-400	650	650	*	*	1.3
-400	675	675	*	*	.5
-400	700	700	*	*	1.8
-400	725	725	*	*	2.8
-400	750	750	*	*	1.4
-400	775	775	*	*	.2
-400	800	800	*	*	0
-400	825	825	*	*	1.2
-400	850	850	*	*	2.8
-400	875	875	*	*	4.8
-400	900	900	*	*	3.6
-400	925	925	*	*	.9
-400	950	950	*	*	1.2
-400	975	975	*	*	*
-400	1000	1000	*	*	*

ANOMALY "B"

line -200

LINE	STATION	STATION	337/112	1012/112	3037/112
			FREQUENCY		
-235	-25	-25	*	*	*
-235	0	0	*	*	*
-235	25	50	.1	1.1	1.3
-234.0278	50.69445	75	.4	.9	1.6
-233.0556	76.38889	100	1.1	1.2	1.1
-232.0833	102.0833	125	.9	2.4	5.2
-231.1111	127.7778	150	1	4.1	7.5
-230.1389	153.4722	175	3	7.4	15.1
-229.1667	179.1667	200	-6.8	-14	-23.5
-228.1944	204.8611	225	-11.2	-21.7	-31.3
-227.2222	230.5556	250	-11.1	-18.4	-27.2
-226.25	256.25	275	-4.8	-6.7	-12.2
-225.2778	281.9445	300	-.5	3.9	9.5
-224.3056	307.6389	325	2.9	6.1	9.6
-223.3333	333.3333	350	*	*	7.3
-222.3611	359.0278	375	*	*	5.2
-221.3889	384.7222	400	*	*	3.9
-220.4167	410.4167	425	*	*	4.4
-219.4444	436.1111	450	*	*	3.4
-218.4722	461.8056	475	*	*	2.1
-217.5	487.5	500	*	*	2.2
-216.5278	513.1945	525	*	*	2.2
-215.5556	538.8889	550	*	*	2.4
-214.5833	564.5833	575	*	*	3
-213.6111	590.2778	600	*	*	2.7
-212.6389	615.9722	625	*	*	2
-211.6667	641.6667	650	*	*	3
-210.6944	667.3611	675	*	*	2.5
-209.7222	693.0555	700	*	*	3
-208.75	718.75	725	*	*	2
-207.7778	744.4445	750	.5	1.5	-.8
-206.8056	770.1389	775	.2	.9	-2.9
-205.8333	795.8333	800	0	.2	-2.5
-204.8611	821.5278	825	.6	.7	1.7
-203.8889	847.2222	850	.7	1.8	2.4
-202.9167	872.9167	875	.5	2.4	3.2
-201.9444	898.6111	900	-.2	-.8	-4.1
-200.9722	924.3055	925	-.4	-1.5	-5.8
-200	950	950	.3	.4	-.6
-200	975	975	*	*	*
-200	1000	1000	*	*	*

ANOMALY "B"

line -100

LINE	STATION	STATION	FREQUENCY 337/112	1012/112	3037/112
0	00	00	*	*	*
0	25	25	*	*	*
0	50	50	*	*	1.9
0	75	75	.7	2.9	13.5
0	100	100	.6	4.2	11.9
0	125	125	1.5	4.6	12.2
0	150	150	-2	-8.1	-18.1
0	175	175	-4.1	-11.6	-22.1
0	200	200	-4.2	-11.5	-21.5
0	225	225	-1.4	-3.6	-9
0	250	250	2.4	7.8	15.5
0	275	275	1.8	5.2	11.6
0	300	300	1.4	4	6.6
0	325	325	.1	1.5	3.8
0	350	350	0	2.1	3.8
0	375	375	*	*	4.8
0	400	400	*	*	5.8
0	425	425	*	*	6.3
0	450	450	*	*	6.4
0	475	475	*	*	5
0	500	500	*	*	5.5
0	525	525	*	*	1.8
0	550	550	*	*	1.6
0	575	575	*	*	3.6
0	600	600	*	*	1.9
0	625	625	*	*	3.8
0	650	650	*	*	3.2
0	675	675	*	*	3.9
0	700	700	*	*	4.6
0	725	725	*	*	1.6
0	750	750	.4	-1.1	-3
0	775	775	-.5	-2.1	-5.5
0	800	800	-1.3	-1.9	-4.9
0	825	825	0	1.2	4.1
0	850	850	.1	2.2	2.9
0	875	875	.5	1.4	.9
0	900	900	-.2	0	-2.8
0	925	925	1.3	.8	-2.9
0	950	950	.7	1.5	1.9
0	975	975	*	*	*
0	1000	1000	*	*	*

ANOMALY "G"

line -200

LINE	STATION	STATION	FREQUENCY 3037/112
-200	-550	-550	1.9
-200	-525	-525	2.2
-200	-500	-500	1.7
-200	-475	-475	2
-200	-450	-450	1.6
-200	-425	-425	1.5
-200	-400	-400	1.9
-200	-375	-375	1.7
-200	-350	-350	2.1
-200	-325	-325	2.2
-200	-300	-300	2.6
-200	-275	-275	2.3
-200	-250	-250	2.4
-200	-225	-225	1.8
-200	-200	-200	1.6
-200	-175	-175	2.1
-200	-150	-150	1.2
-200	-125	-125	-.4
-200	-100	-100	.8
-200	-75	-75	1.6
-200	-50	-50	2

line 0

LINE	STATION	STATION	FREQUENCY 3037/112
0	-550	-550	1.7
0	-525	-525	4.2
0	-500	-500	3.9
0	-475	-475	3.4
0	-450	-450	2.7
0	-425	-425	3.2
0	-400	-400	3
0	-375	-375	3.4
0	-350	-350	4.8
0	-325	-325	4.2
0	-300	-300	-.4
0	-275	-275	-1.3
0	-250	-250	.8
0	-225	-225	3
0	-200	-200	1.5
0	-175	-175	.2
0	-150	-150	2.9
0	-125	-125	4.2
0	-100	-100	6.1
0	-75	-75	7.9
0	-50	-50	6

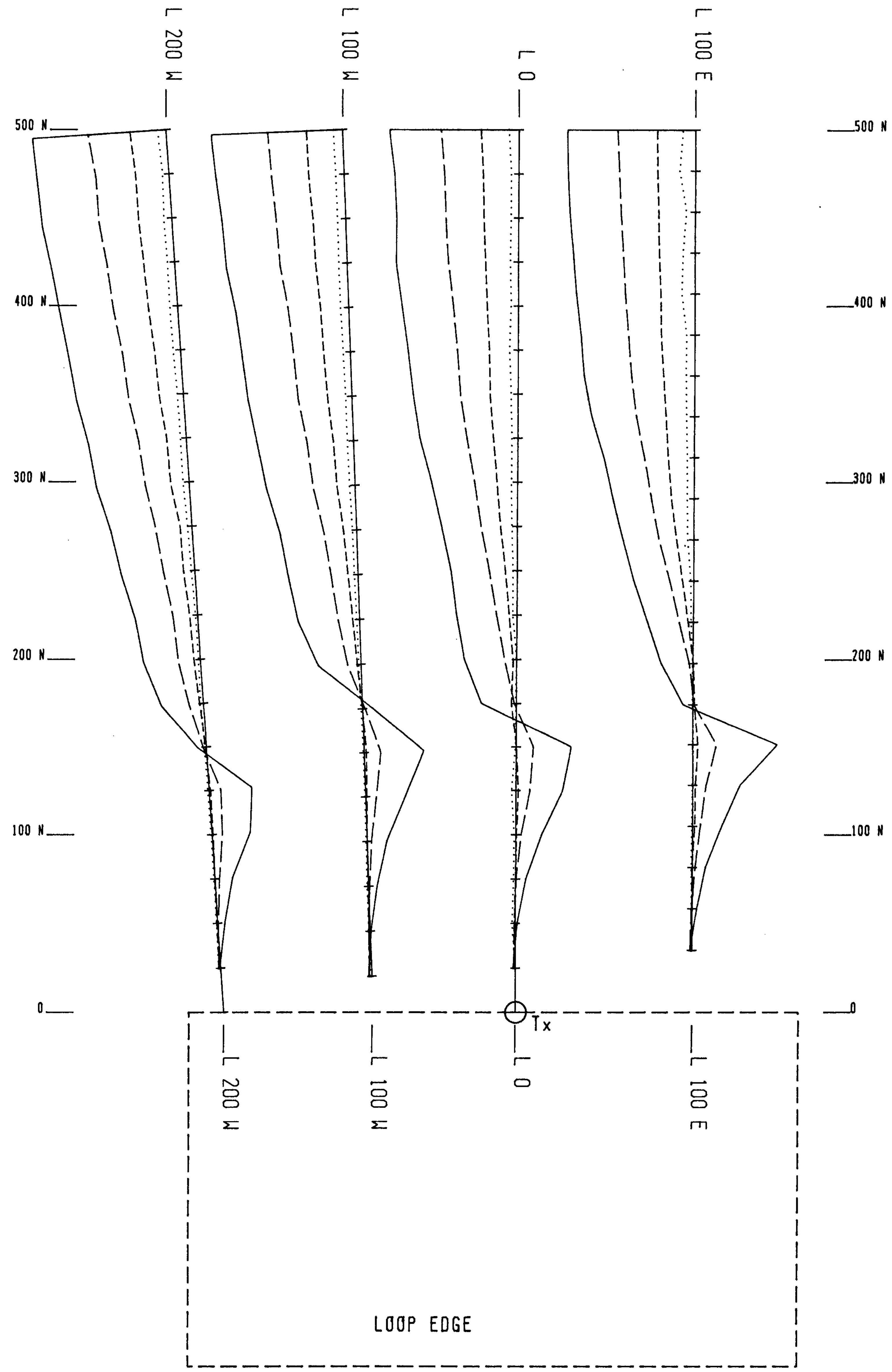
ANOMALY "G"

line 200

LINE	STATION	STATION	FREQUENCY 3037/112
200	-550	-550	2.7
200	-525	-525	3.2
200	-500	-500	2.5
200	-475	-475	3.4
200	-450	-450	4.7
200	-425	-425	4.1
200	-400	-400	2.5
200	-375	-375	.1
200	-350	-350	-1.2
200	-325	-325	-.5
200	-300	-300	1.1
200	-275	-275	3
200	-250	-250	3.1
200	-225	-225	3.8
200	-200	-200	5.1
200	-175	-175	7.2
200	-150	-150	5.3
200	-125	-125	5.2
200	-100	-100	4.9
200	-75	-75	4.8
200	-50	-50	4.7

line 350

LINE	STATION	STATION	FREQUENCY 3037/112
350	-550	-550	3.7
350	-525	-525	1.9
350	-500	-500	2.7
350	-475	-475	2.8
350	-450	-450	1
350	-425	-425	.2
350	-400	-400	-.4
350	-375	-375	.9
350	-350	-350	.7
350	-325	-325	2.2
350	-300	-300	3
350	-275	-275	4.1
350	-250	-250	3.5
350	-225	-225	3.9
350	-200	-200	4.7
350	-175	-175	4.3
350	-150	-150	4.6
350	-125	-125	5.5
350	-100	-100	3.9
350	-75	-75	4.9
350	-50	-50	6
350	-25	-25	4.7
350	0	0	5.9

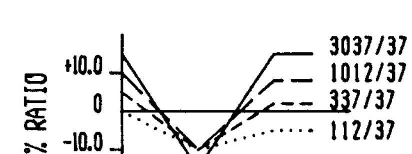


GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,875

INSTRUMENT : Tx : GENIE TF-2

Rx : IGS-2



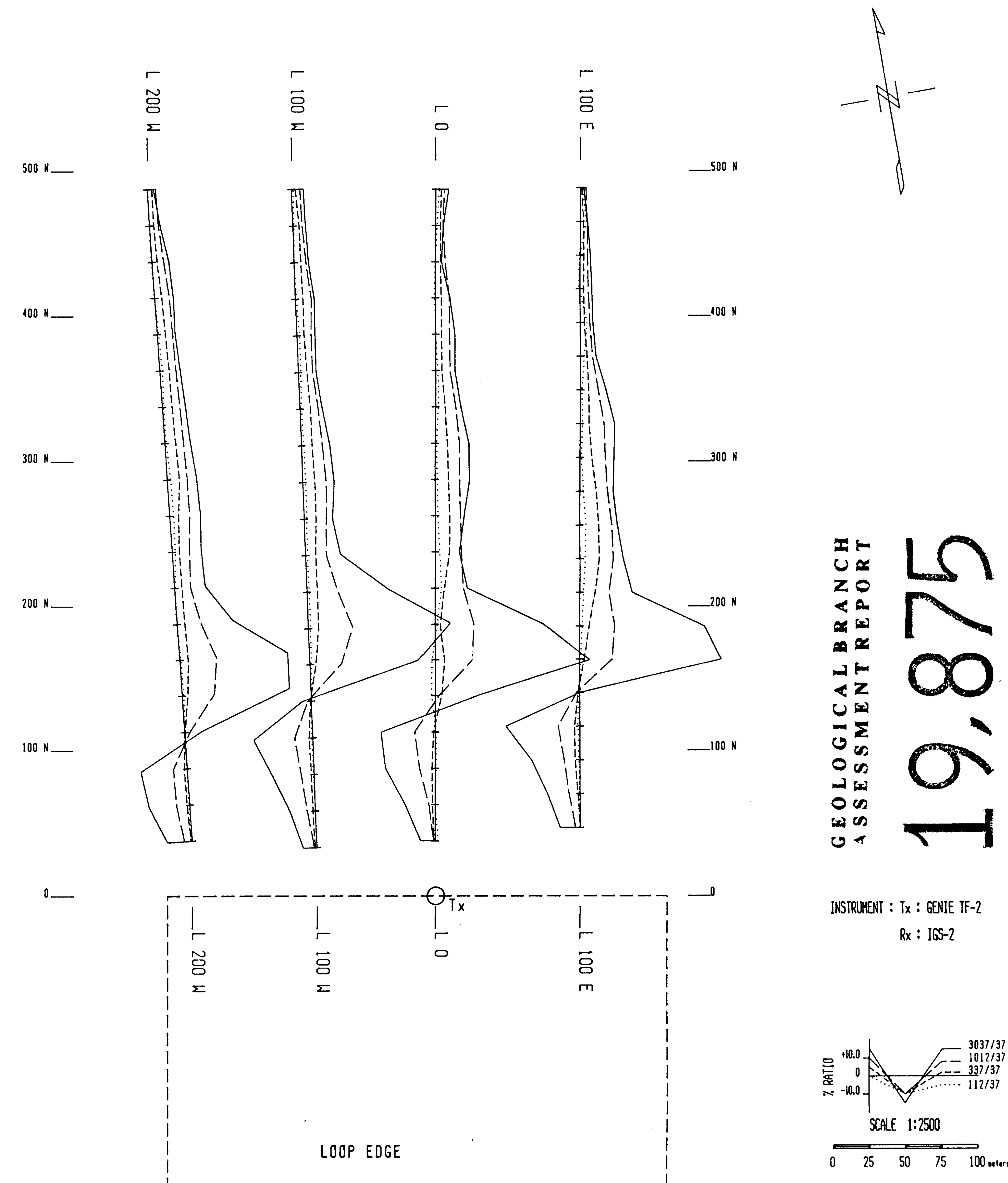
SCALE 1:2500

0 25 50 75 100 meters

HOMESTAKE MINERALS	
KUTCHO PROPERTY ANOMALY ''A'' LARGE LOOP EM PROFILE MAP 'A' Grid	
To accompany a report by M.McPherson	
Project No: 3174	Report No:
Mining Div: Liard	N.T.S.: 104I/1W
Date: 02/05/90	Map No: FIG.3.1.1
QUEST CANADA EXPLORATION SERVICES INC.	

REVISIONS

By	Date	Approv.By



REVISIONS

By	Date	Approv.By

HOMESTAKE MINERALS

KUTCHO PROPERTY

ANOMALY ''A''

LARGE LOOP EM

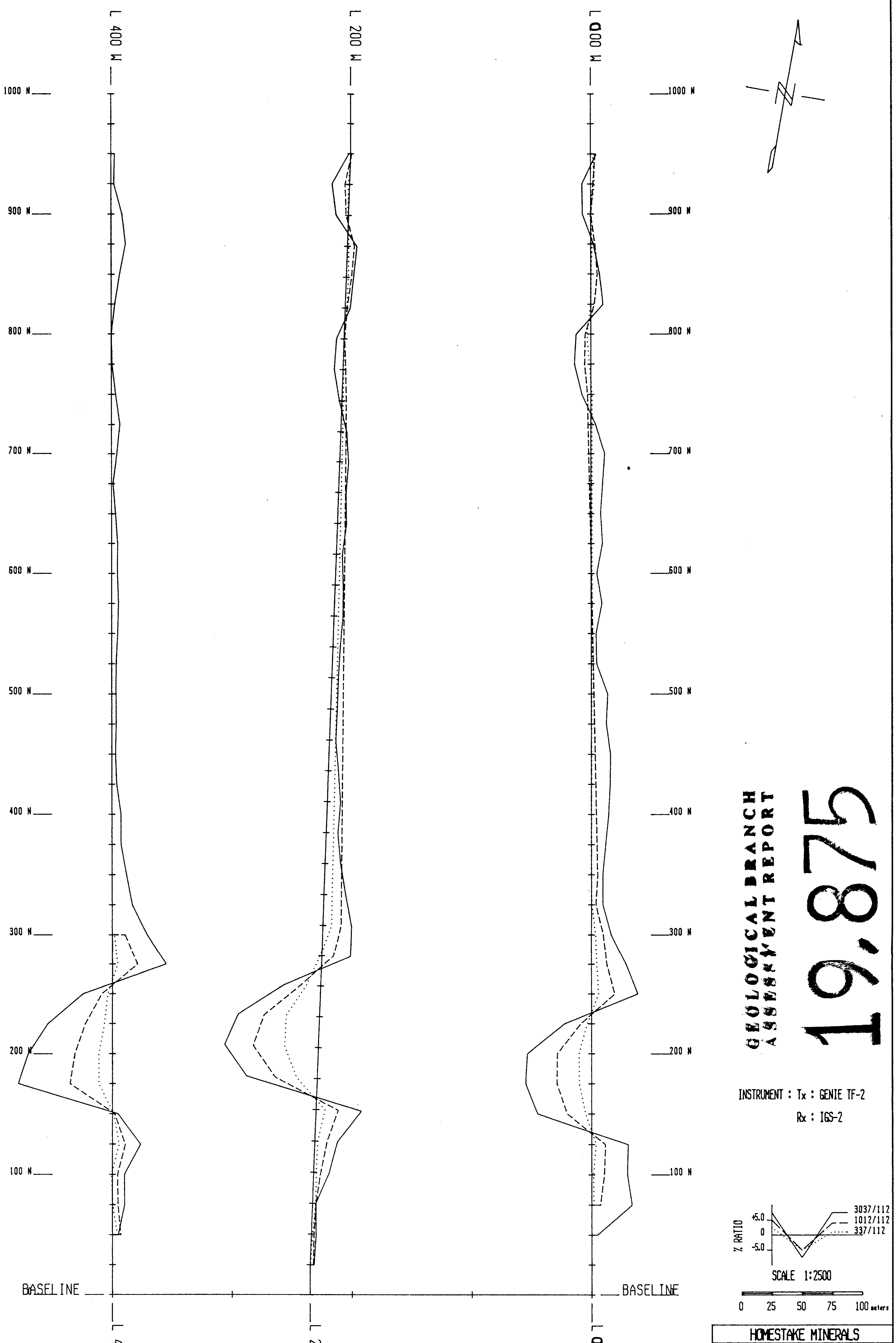
FILTERED PROFILE MAP

'A' GRID

To accompany a report by M.McPherson

Project No:	3174	Report No:	
Mining Div:	Liard	N.T.S.:	104I/1W
Date	02/05/90	Map No:	FIG.3.1.2

QUEST CANADA EXPLORATION SERVICES INC.



REVISIONS		
By	Date	Approv.By

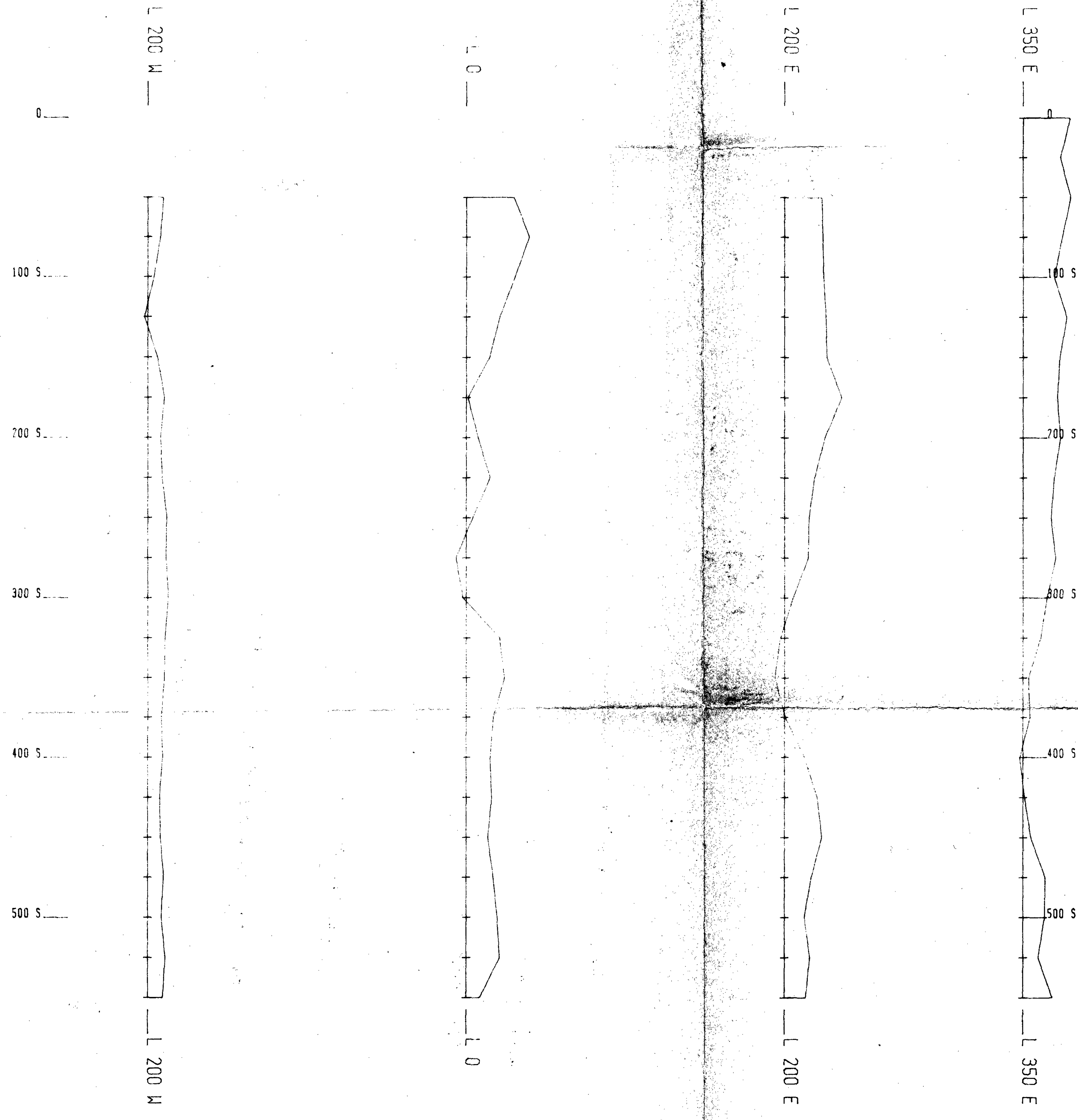
HOMESTAKE MINERALS

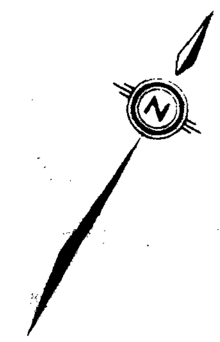
KUTCHO PROPERTY
ANOMALY "B"
MOVING SOURCE GENIE
PROFILE MAP
TRC Grid

To accompany a report by M.McPherson

Project No:	3174	Report No:	
Mining Div:	Liard	N.T.S.:	104I/1W
Date	02/05/90	Dwg No:	FIG.3.1.3

QUEST CANADA EXPLORATION SERVICES INC.



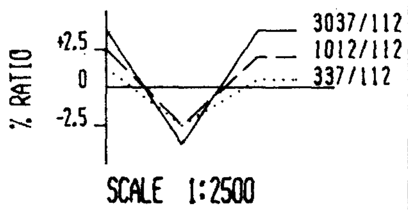


GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,875

INSTRUMENT : Tx : GENIE TF-2

Rx : IGS-2



SCALE 1:2500

0 25 50 75 100 meters

REVISIONS

By	Date	Approv. By

HOMESTAKE MINERALS

KUTCHO PROPERTY
ANOMALY ''G''
MOVING SOURCE GENIE
PROFILE MAP
Ziggy Grid

To accompany a report by M.McPherson

Project No:	3174	Report No:	
Mining Div:	Liard	N.T.S.:	104I/1W
Date	02/05/90	Map No:	FIG.3.1.4

QUEST CANADA EXPLORATION SERVICES INC.