GEOLOGICAL AND GEOPHYSICAL REPORT

ON THE

T.E.L. 1 to 4 and SILVER BARON

MINERAL CLAIMS

NANAIMO MINING DIVISION

LAT.49 06'18"N, LONG.124 04'W, 92F/1E

OWNER: T.E. LISLE

OPERATOR: T.E. LISLE AND ASSOCIATES LTD.

APRIL 15, 1990

T.E. LISLE, P.ENG.

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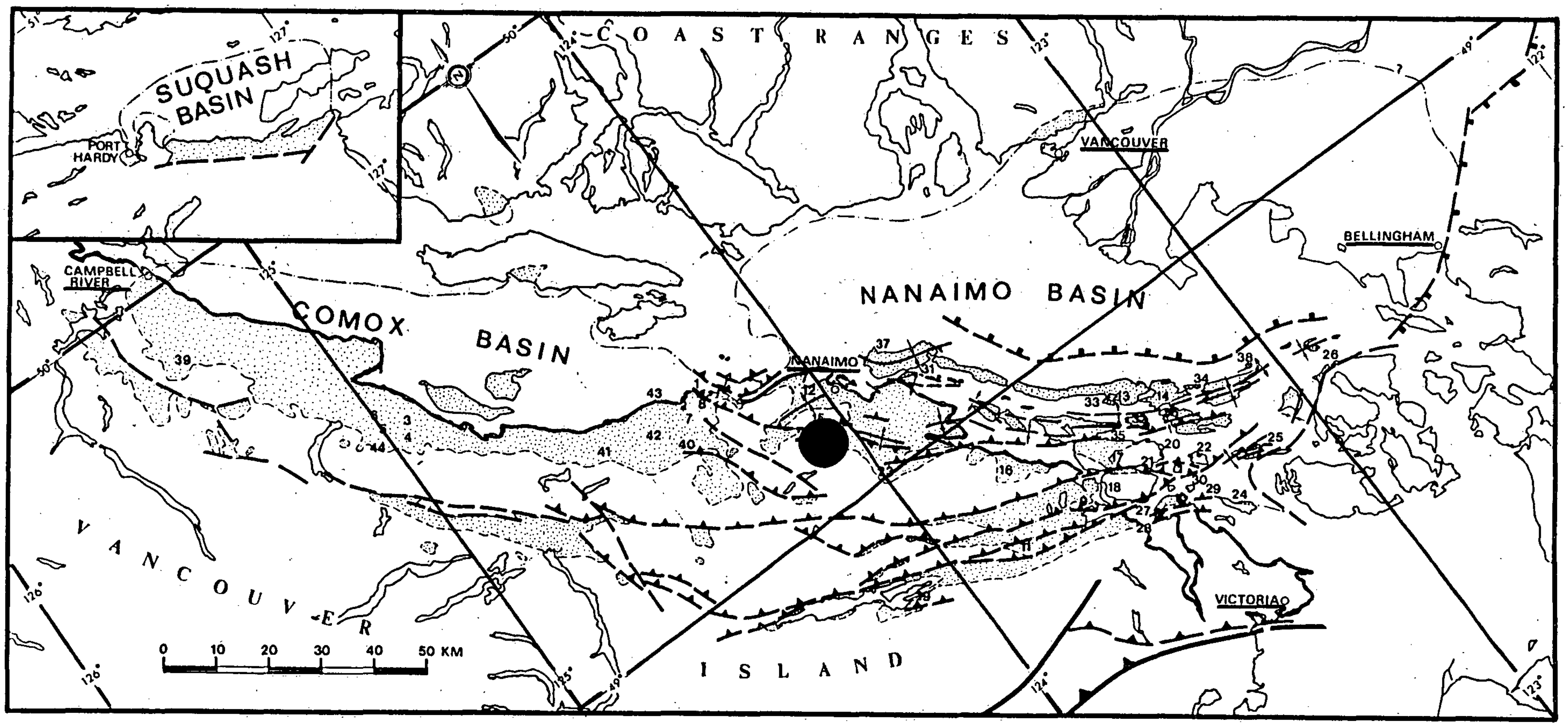


Map after T.D.J England.

GSC Paper 89-1E. Current Research, Part E.

LOCATION MAP. T.E.L. AND SILVER BARON

MINERAL CLAIMS
NANAIMO MINING DIVISION.

APRIL, 1990

INTRODUCTION.

A) PROPERTY.

The property is comprised of the T.E.L. 1 to 4 two post and the Silver Baron eight unit modified grid claim staked and recorded in the Nanaimo Mining Division.

Name	Units	Record	Record Date	Anniversary
T.E.L. 1	1	1345	Mar.15/83	Mar.15/93
T.E.L. 2	1	1346	Mar.15/83	Mar.15/94
T.E.L. 3	1	1347	Mar.15/83	Mar.15/92
T.E.L. 4	1	1348	Mar.15/83	Mar.15/92
Silver Baron	8	3355	May.10/89	May.10/91

B) LOCATION.

The property is situated in the Nanaimo lowlands near the southeast end of Blackjack ridge. Latitude 49 06'18"N, Longitude 124 04W, NTS 92F/1E.

Elevations range from 400 to 500 metres above sea level. The area is forested mainly by pine, fir and hemlock; and salal bush obscures much of the bedrock. Access to the claims is by all-weather paved, and poorly maintained old logging roads running generally southwest from the city of Nanaimo, a distance of about 13 kilometres.

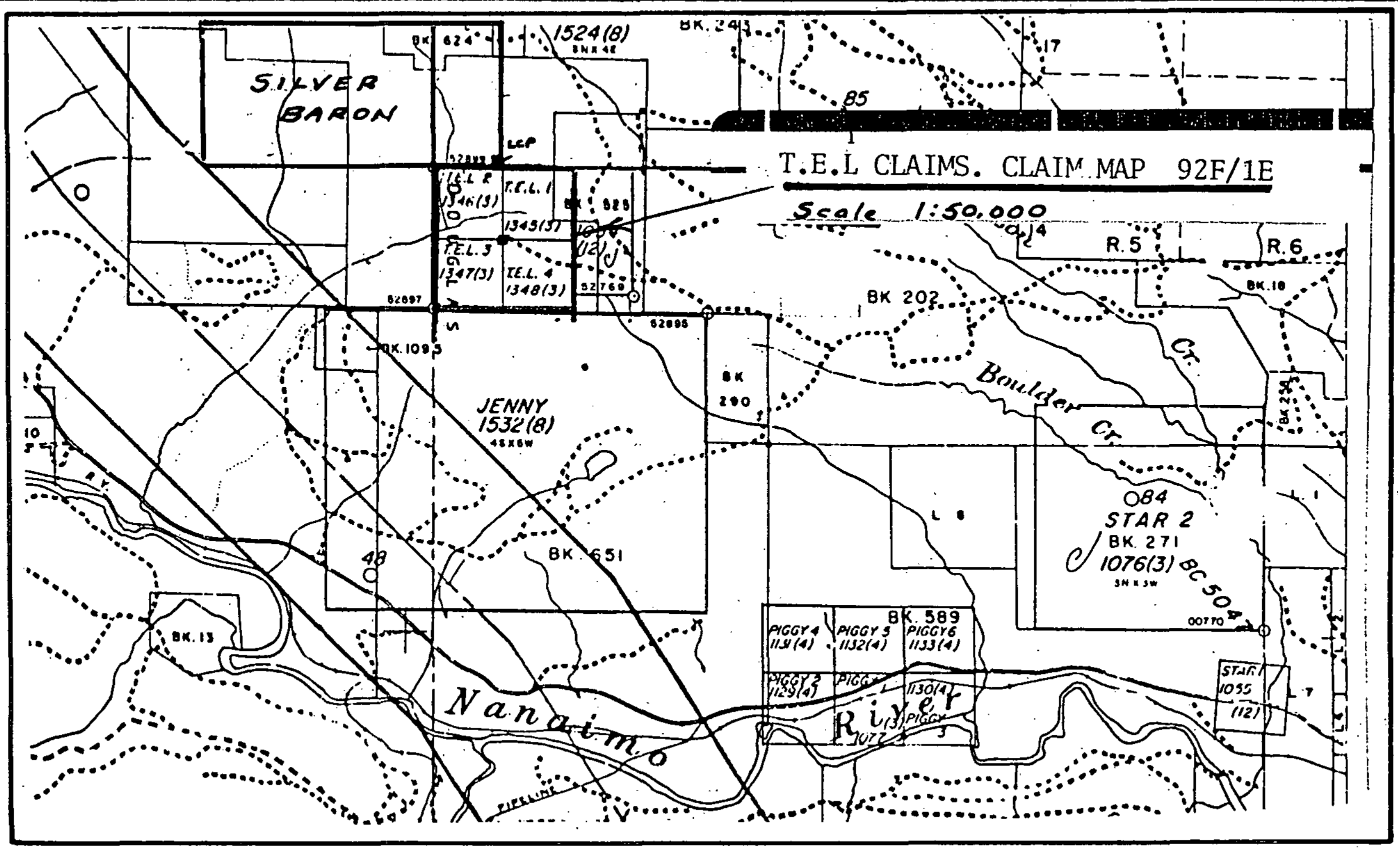
C) HISTORY.

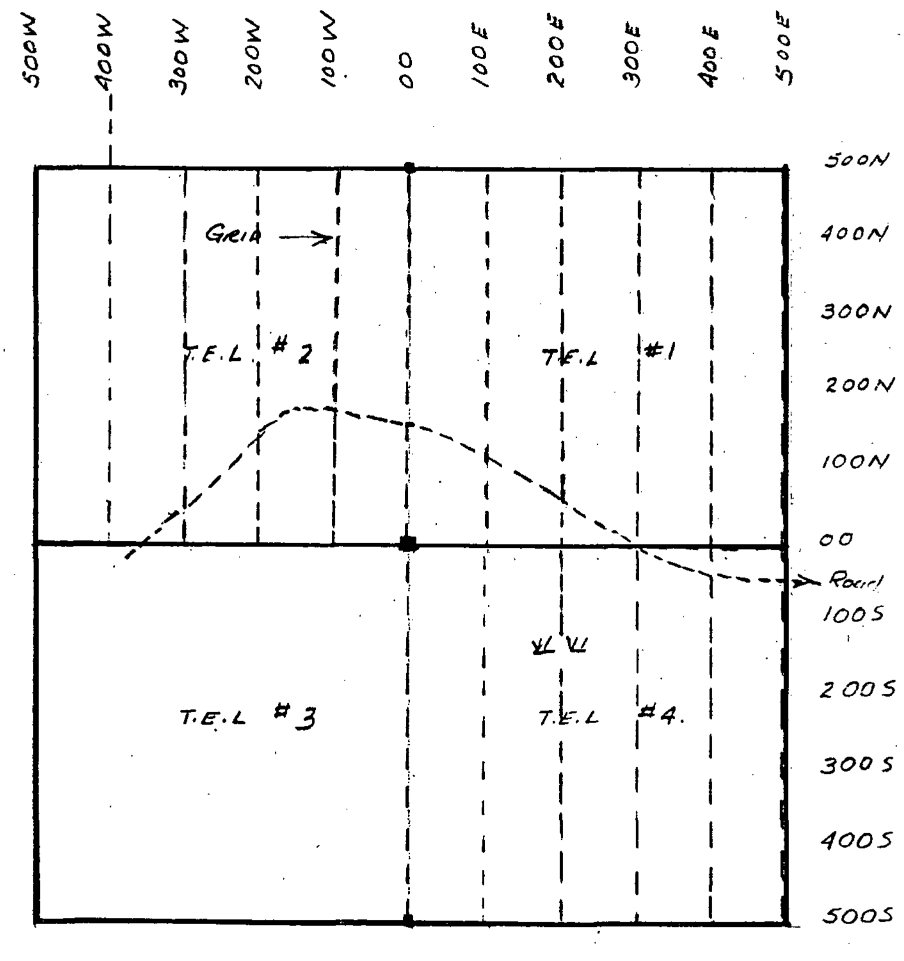
The property was initially staked in 1962 by MacMillan and Godfrey who were reported to have trenched an area 30.5 x 61.0 metres. The original claims expired and were re-staked as the Bear Group by Gunnex in 1963. Gunnex carried out geological and geochemical surveys and further trenching before allowing the claims to lapse.

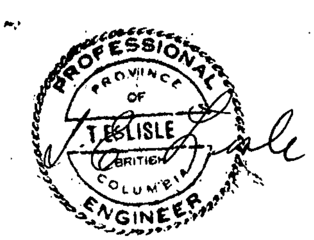
Gary Mined Limited subsequently re-staked the ground and completed 23.9 kilometres of geochemical surveys and approximately 28 square metres of trenching.

The property was staked by C. Kowall in 1979 and by Specogna Minerals in 1982. The author staked the main showings in 1983 and the Silver Baron claim in 1989.

Chevron Minerals Limited briefly optioned the property in 1987 and carried out reconnaissance geological and geochemical surveys before returning the claims.







T.E.L. MINERAL CLAIMS.

NANAIMO M.D.

MAP 92F/1E

Scale 1:10,000.

FIG. 2. MAY/89.

D) PROGRAM OBJECTIVES.

The geology of the MacMillan breccia has been described in vague and general terms and there is considerable speculation as to its origin. The possibility that the unit is related to Tertiary low angle thrust faults(?) requires examination.

The preliminary objective of exploration is to determine the geological configuration of the breccia, and to assess the usefulness of geophysical surveys in defining it's trace.

EXPLORATION PROGRAM.

Five kilometres of grid line were chained and marked over the main showings during March, 1989, and a further four kilometres of line were marked in during April and May of the same year. The lines were run north-south at 100 metre spacing and stations marked at 50 metre centres. The geology of the grid area was mapped, and extended traverses were made along the perimeter of the Silver Baron claim.

Gerle Gold Limited made a property examination in April, 1989. As part of that work, the company had personnel from Quest Canada Exploration Ltd. (S. Lowe, C. Hrkac) run approximately 3.5 kilometres of combined VLF-EM and magnetic survey over the central sections of the grid. Gerle Gold Limited offered the data from the survey, which is included and with modifications form part of this report.

GEOLOGY.

The MacMillan Breccia occurs in part at an unconformable contact between the upper Triassic Karmutsen volcanics, and sedimentary rocks of the upper Cretaceous Nanaimo Group. This contact is not well defined but appears to trend northwest.

Exposures of the Nanaimo Group are limited. The assemblage includes fossiliferous sandstone and conglomerate of the basal Comox formation. These units appear to strike northwest and dip northeasterly from 20 to 30 degrees. To the north of the sedimentary rocks, the Karmutsen volcanics are commonly fine grained, possibly tuffaceous, and marked by a strong east northeast joint system dipping about 35 degrees to the north. South of the sedimentary rocks, the volcanics are massive basalts.

A fault trending northeast, roughly parallel to the jointing in the basalts is postulated to offset all formations in the northern section of the claims. To the north of this structure, the Comox formation is bounded to the north and south by Karmutsen volcanics, while to the south of the structure, Karmutsen rocks are found only to the south of the Comox Formation.

The MacMillan Breccia occurs mainly along the southerly contact of the Comox Formation in the central area of the T.E.L. claims. The Breccia is marked by a strong iron carbonate alteration, banded chalcedonic quartz, calcite, and in places hematite.

Tetrahedrite, with minor bornite is evident as irregular massive veins in the more siliceous sections of the breccia, and as fine disseminations in the less silicified areas. Covellite, chalcopyrite, chalcocite and pyrite are also evident. Select samples have assayed up to 8.95% copper and 0.60 oz/ton silver.

The main section of the breccia is poorly exposed over a northwest trending belt 400 to 500 metres in length. The zone is evident near the northwest corner of the T.E.L. claims and is also indicated about 1.50 kilometres further to the northwest.

The breccia zone near the northwest corner of the T.E.L claims is relatively unaltered and contains 30 to 40% small (-1.0 cm) clasts in a black fine grained matrix that contains finely disseminated sulphide. The clasts are commonly angular but many show a high degree of rounding.
In other areas, highly bleached clasts are present in the dark matrix, and in the more siliceous areas, altered angular clasts are present in the massive sulphide.

GEOPHYSICS.

3.5 line kilometres of combined VLF-EM and magnetic survey were completed over sections of the grid on May 4, 1989. The survey was undertaken with an IGS-2 system, the particulars and specifications of which are detailed in appendix 3 to this report. Figure 4 to this report details profiles of residual magnetics, and figure 5 profiles the in phase and quadrature data of the VLF EM survey.

Magnetics.

Geological Survey of Canada map 5322G, a 1:63,360 scale map of the Nanaimo Lakes area shows the property to be in an area of low magnetic relief, varying around 56,650 gammas. The claim area however is adjacent to the northerly flank of a northwesterly trending zone of high magnetic relief varying from about 56,650 to (+) 57,500 gammas. This contrast in magnetics is believed to reflect in part the Nanaimo sediments to the north, and Karmutsen basalts on the south.

The magnetic data reveals a line to line correlation of moderate magnetic lows that is largely coincident with the trace of the mineralized breccia. A one line magnetic low (Line 0-225N) is evident in an area believed to be marked by a strong northeasterly fault. A number of other magnetic variations are present , however due to limited coverage , their present significance is uncertain.

VLF EM

The survey was completed with the transmitter in Hawaii. The Seattle station was not used due to frequent down time for maintenance. The results compiled on figure 5 to this report show good correlation with the magnetic data.

A sharp change to the in phase curve occurs about 225N on line 0. This area is part of a broad drift covered creek valley believed to be coincident with a northeasterly fault. From line 0 to 400E, the in phase shows increasingly peaked responses over the area underlain by the mineralized breccia.

Almost identical changes occur on the in phase curve near 325S on lines 0 and 100E.The magnetics in this area are highly variable and it is possible that both responses reflect an easterly trending fault.

CONCLUSIONS.

The extent of the MacMillan breccia within the claims has not been determined due largely to limited exposure. The trace of the breccia zone is well marked by both magnetic and electromegnetic surveys, and these surveys would appear to offer a low cost method of identifying zones of potential economic interest.

A crude layering locally evident in the breccia, along with the strong jointing in Karmutsen volcanics supports the view that the breccia developed along shallow northeasterly dipping zones, perhaps related to thrust faults along the southwest edge of the Nanaimo Basin.

The highest known concentration of copper-silver mineralization occurs near the centre of the T.E.L. claim group associated with highly silicified breccia. Highly silicified mineralized zones have also been identified about 1.50 kilometres to the northwest of this zone, and neither the trace of the zone or the down-dip potential of the mineralization has been examined.

RECOMMENDATIONS.

1) Define by prospecting and mapping, the trace of the silicified breccia complex in both directions along trend.

2) Extend the grid coverage over the projected trace of the zone and run both magnetic and electromagnetic (VLF EM) surveys to trace the zone in drift covered areas.

3) Expose the main zone of mineralization with back hoe trenches, and other zones identified by the above surveys.

4) Test the down dip extent of mineralization with shallow drill holes.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA T.E. LISLE

T.E. Lisle, P.Eng.

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Appendix 2

Cost Statement.

Wages:	T.E. Lisle, P.Eng. April 27 to May 12, 1989 5 at $250.00	$1,250.00
Misc.:	Truck, Fuel, Ferry, Field supplies meals etc.	379.25
Geophysics:	3.50 line kilometres at $180.00	630.00
"	: Misc transportation, meals etc.	120.00
Report:		300.00
		$2,679.25

T.E. Lisle, P.Eng.
April 15, 1990

APPENDIX 1. QUALIFICATIONS.

I,THOMAS E, LISLE, OF 145 WEST ROCKLAND ROAD, DISTRICT OF NORTH VANCOUVER, BRITISH COLUMBIA, CANADA, DO HEREBY DECLARE:

1) THAT I AM A GEOLOGIST AND RESIDENT AT THE ABOVE ADDRESS.

2) THAT I HOLD A BACHELOR OF SCIENCE DEGREE FROM THE UNIVERSITY OF BRITISH COLUMBIA, AND HAVE MORE THAN 25 YEARS OF PRACTICAL EXPERIENCE IN EXPLORATION GEOLOGY, MAINLY IN WESTERN NORTH AMERICA.

3) THAT I AM A MEMBER OF :

   A) ASSN.OF PROFESSIONAL ENGINEERS OF BRITISH COLUMBIA.

   B) GEOLOGICAL ASSN OF CANADA.

4) THAT I CARRIED OUT THE WORK DESCRIBED IN THIS REPORT ON THE DATES SHOWN. THE COSTS ASCRIBED TO THE WORK ARE SHOWN IN APPENDIX 2

DATED THIS DAY OF , 19

T.E.LISLE, P.ENG.

APPENDIX 3

THE IGS-2 SYSTEM

General Information

The IGS-2 Integrated Geophysical System is a portable microprocessor-based instrument which allows more than one type of survey measurement to be performed by a single operator during a survey.

The IGS-2 is a modular system which can easily be configured to suit different and changing survey requirements. Reconfiguring the system is easy and offers both operational flexibility and minimal redundancy with a minimum number of spare consoles and/or modules.

When configured with any of the available sensor options, the IGS-2 System Control Console becomes a method-specific instrument according to the sensor option(s) utilized. In addition, the IGS-2 Console is an electronic notebook into which geophysical, geological or other data may be manually entered and digitally stored.

Data is stored in the IGS-2 in an expandable, solid state memory and can be output in the field by connecting the instrument to a printer, tape recorder, modem or microcomputer.

The 32 character digital display uses full words in most cases, ensuring clear communication. Both present and previous data are displayed simultaneously, allowing comparisons to be made at a glance during a survey.

The IGS-2 records header information, data values, station number, line number, grid number and the time of each observation in its internal memory. Data are first sorted by grid number, then in order of increasing line number and, within each line, by increasing station number. In this way, the data are organized logically regardless of the sequence in which they were taken. Ancillary data can also be manually entered and recorded at a given station, along with the survey parameters.

SURVEY METHOD

Field readings were taken using an IGS-2 Digital Acquisition System capable of reading/recording total field mag and up to 3 VLF-EM stations.

The mag readings were taken using a backpack mounted sensor with the operator facing north and corrected for diurnal variation using a base station mag taking readings at 5 second intervals. The VLF readings were taken with the operator, in all cases, facing the station to ensure correct (ie: left to right across grid) cross-over direction.

VLF Specifications (cont.)

VLF-Magnetic Field Sensor	Two air-cored coils in a backpack mounted housing with an electronic level for automatic tilt compensation. The error in the vertical in-phase component is less than 1% for tilts up to +15 .

SPECIFICATIONS

Magnetometry Specifications

Total Field Operating Range	20,000 to 100,000 nT (1 nT = 1 gamma).
Gradient Tolerance For Total Field:	+5000 nT/m.
Total Field Absolute Accuracy	+1 nT at 50,000 nT +2 nT over total field operating and temperature range.
Resolution	0.1 nT.
Tuning	Fully solid-state. Manual or automatic mode is keyboard selectable.
Reading Time	2 seconds. For portable readings this is the time taken from the push of a button to the display of the measured value.
Continuous Cycle Times	Keyboard selectable in 1 second increments upwards from 2 seconds to 999 seconds.
Operating Temperature Time	-40 C to +50 C provided optional Display Heater is used below - 20 C.

Sensor Options

Portable Total Field Sensor Option	Includes sensor, staff, two 2 m cables and backpack sensor harness. Weight of sensor, cable and staff is 1.9 kg.

SPECIFICATIONS

VLF Specifications

Frequency Tuning	Automatic digital tuning. Can be tuned to any frequency in the range 15.0 to 29.0 kHz with a bandwidth of 150 Hz. Up to three frequencies can be chosen by keyboard entry for sequential measurements.
Field Strength Range	Fields as low as 100 mA/m can be received. In practice, background noise may require fields up to 5-10 times this level. Maximum received field is a 2 mA/metre. These values are specified for 20 kHz. For any other frequency, calculate the above limits by multiplying by the station frequency in kHz and dividing by 20.
Signal Filtering	Narrow bandpass, low pass and sharp cut-off high pass filters.
Measuring Time	0.5 seconds sample interval. As many as 2.0+E16 samples can be stacked to improve measurement accuracy.
VLF-Magnetic Field Components Measured	1) Horizontal amplitude, 2) Vertical in-phase component, and 3) Vertical quadrature components. Vertical components are displayed as a percentage of horizontal component and are related in phase to the horizontal components. Their range is +120%; reading resolution 1%.

APPENDIX 3

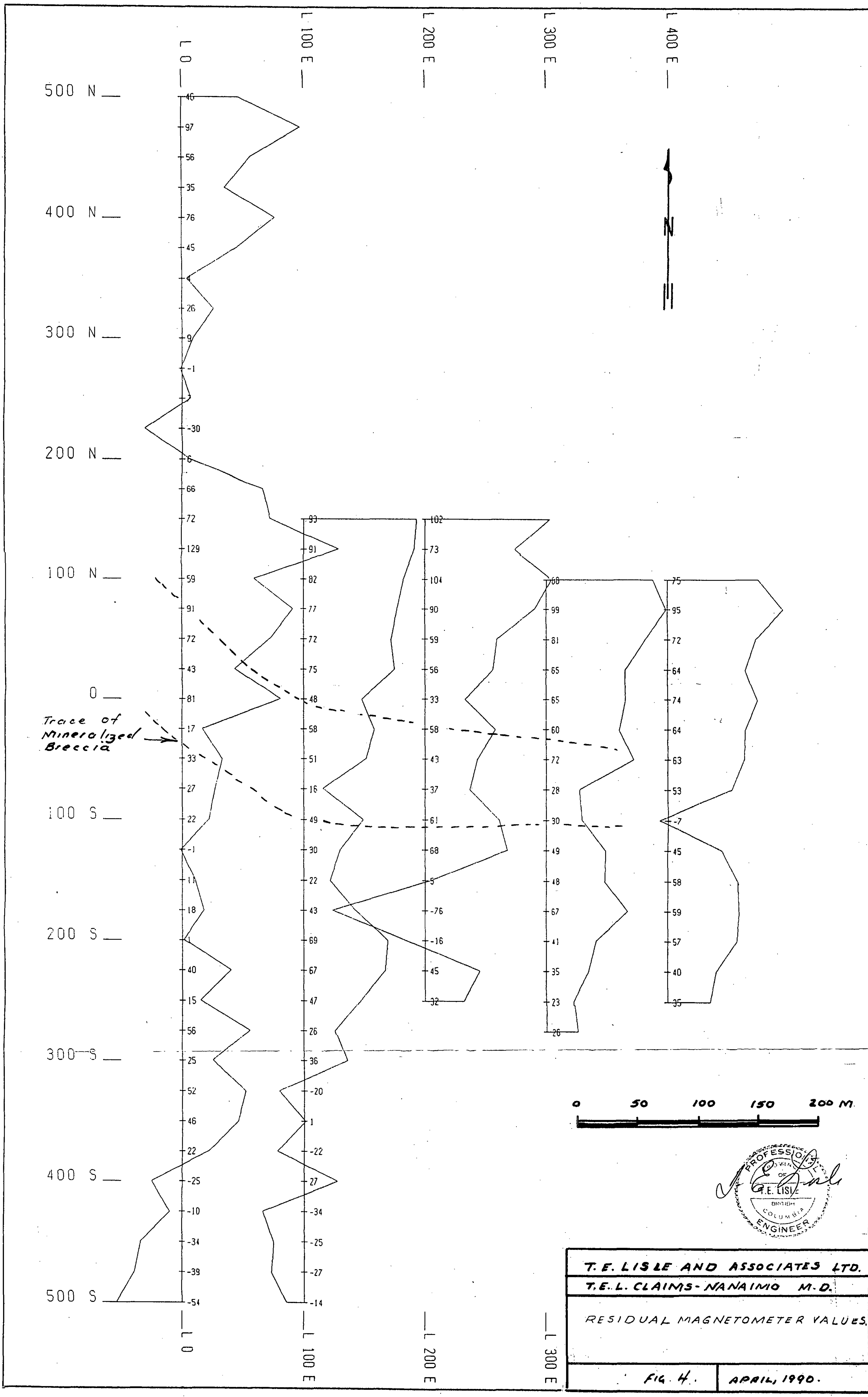
T.E.L.CLAIMS, NANAIMO MINING DIVISION.

VLF-EM (HAWAII TRANSMITTER) AND MAGNETIC DATA.

LINE	STATION	IN-PHASE	QUADRATURE	FIELD STRENGTH	RESIDUAL MAG.
0	500N	26	11	2.05	46
	475N	27	9	1.49	97
	450N	25	10	1.39	56
	425N	25	7	1.33	35
	400N	25	11	.75	76
	375N	17	12	.69	45
	350N	15	12	.47	4
	325N	8	11	.99	26
	300N	0	12	.60	9
	275N	-8	12	.55	-1
	250N	-20	8	.84	7
	225N	-23	10	1.44	-30
	200N	-19	10	2.42	6
	175N	-7	12	3.00	66
	150N	3	8	3.26	72
	125N	13	3	3.09	129
	100N	16	0	2.66	59
	75N	18	-7	2.59	91
	50N	19	-12	2.56	72
	25N	21	-14	2.19	43
	00	25	-11	2.32	81
	25S	23	-10	2.10	17
	50S	24	-10	2.05	33
	75S	23	-9	1.67	27
	100S	22	-7	1.53	22
	125S	25	-8	1.32	-1
	150S	18	-9	1.28	11
	175S	17	-5	1.20	18
	200S	15	-9	1.09	1
	225S	13	-6	1.18	40
	250S	16	-5	1.17	15
	275S	14	-6	1.12	56
	300S	15	-4	.95	25
	325S	6	-9	1.16	52
	350S	18	4	1.65	46
	375S	20	5	1.20	22
	400S	18	4	.89	25
	425S	13	2	1.14	10
	450S	12	1	1.06	34
	475S	10	-1	1.04	39
	500S	9	0	1.20	54

LINE	STATION	IN-PHASE	QUADRATURE	FIELD STRENGTH	RESIDUAL MAG.
300E	100N	1	-6	2.61	88
	75N	5	-12	3.07	99
	50N	15	-17	3.25	61
	25N	22	-21	3.27	65
	00	30	-20	3.46	65
	25S	36	-21	3.19	60
	50S	47	-16	3.19	72
	75S	67	-12	2.11	28
	100S	63	-11	.79	30
	125S	49	-16	.61	49
	150S	41	-13	.49	48
	175S	39	-15	.31	67
	200S	30	-14	.18	41
	225S	18	-14	.68	35
	250S	10	-13	.83	23
	275S	9	-7	1.01	26
400E	100N	-1	-6	3.12	75
	75N	5	-12	3.43	95
	50N	11	-14	3.95	72
	25N	19	-17	4.07	64
	00	26	-20	4.19	74
	25S	37	-19	3.94	64
	50S	45	-19	3.37	63
	75S	56	-17	2.27	53
	100S	48	-21	1.42	-7
	125S	49	-17	0.91	45
	150S	39	-18	.79	58
	175S	34	-16	.67	59
	200S	27	-14	.65	57
	225S	20	-12	.79	40
	250S	10	-12	.62	35

LINE	STATION	IN-PHASE	QUADRATURE	FIELD STRENGTH	RESIDUAL MAG
100E	150N	2	3	2.13	93
	125N	5	1	2.26	91
	100N	4	0	2.30	82
	75N	5	-5	2.48	77
	50N	8	-5	2.78	72
	25N	15	-10	2.50	75
	00	12	-14	2.65	48
	25S	18	-14	2.72	58
	50S	27	-14	2.22	51
	75S	27	-15	1.66	16
	100S	29	-13	1.40	49
	125S	27	-10	1.33	30
	150S	27	-6	1.04	22
	175S	24	-9	.97	43
	200S	21	-7	.93	69
	225S	19	-7	.84	67
	250S	11	-5	.94	47
	275S	12	-4	1.04	26
	300S	10	-6	1.04	36
	325S	8	-3	1.61	-20
	350S	26	5	1.43	1
	375S	23	7	1.04	-22
	400S	17	1	1.05	27
	425S	15	0	.95	-34
	450S	13	0	1.14	-25
	475S	13	-1	1.11	-27
	500S	12	0	1.20	-14
200E	150N	2	0	2.11	102
	125N	1	0	2.40	73
	100N	2	-3	2.85	104
	75N	7	-10	3.34	90
	50N	16	-13	3.43	59
	25N	16	-16	3.67	56
	00	20	-18	3.93	33
	25S	32	-19	3.71	58
	50S	34	-19	3.64	43
	75S	40	-17	2.83	37
	100S	40	-19	2.25	61
	125S	39	-18	2.21	68
	150S	49	-11	.21	5
	175S	34	-13	.30	-76
	200S	26	-12	.40	-16
	225S	18	-8	.84	45
	250S	17	-5	.72	32



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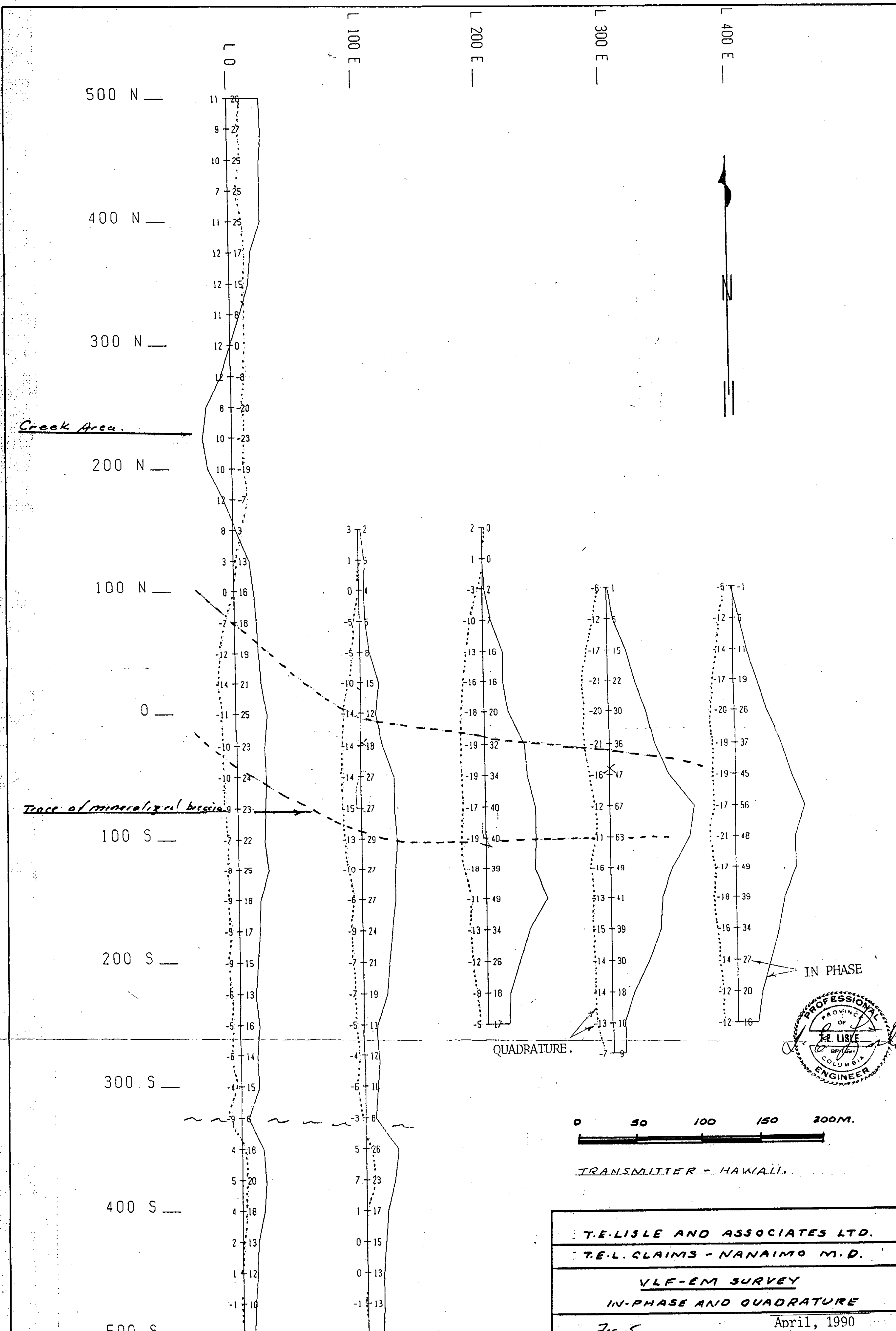
T. E. L. CLAIMS - NANAIMO M. D.

RESIDUAL MAGNETOMETER VALUES.

FIG. 4. APRIL, 1990.



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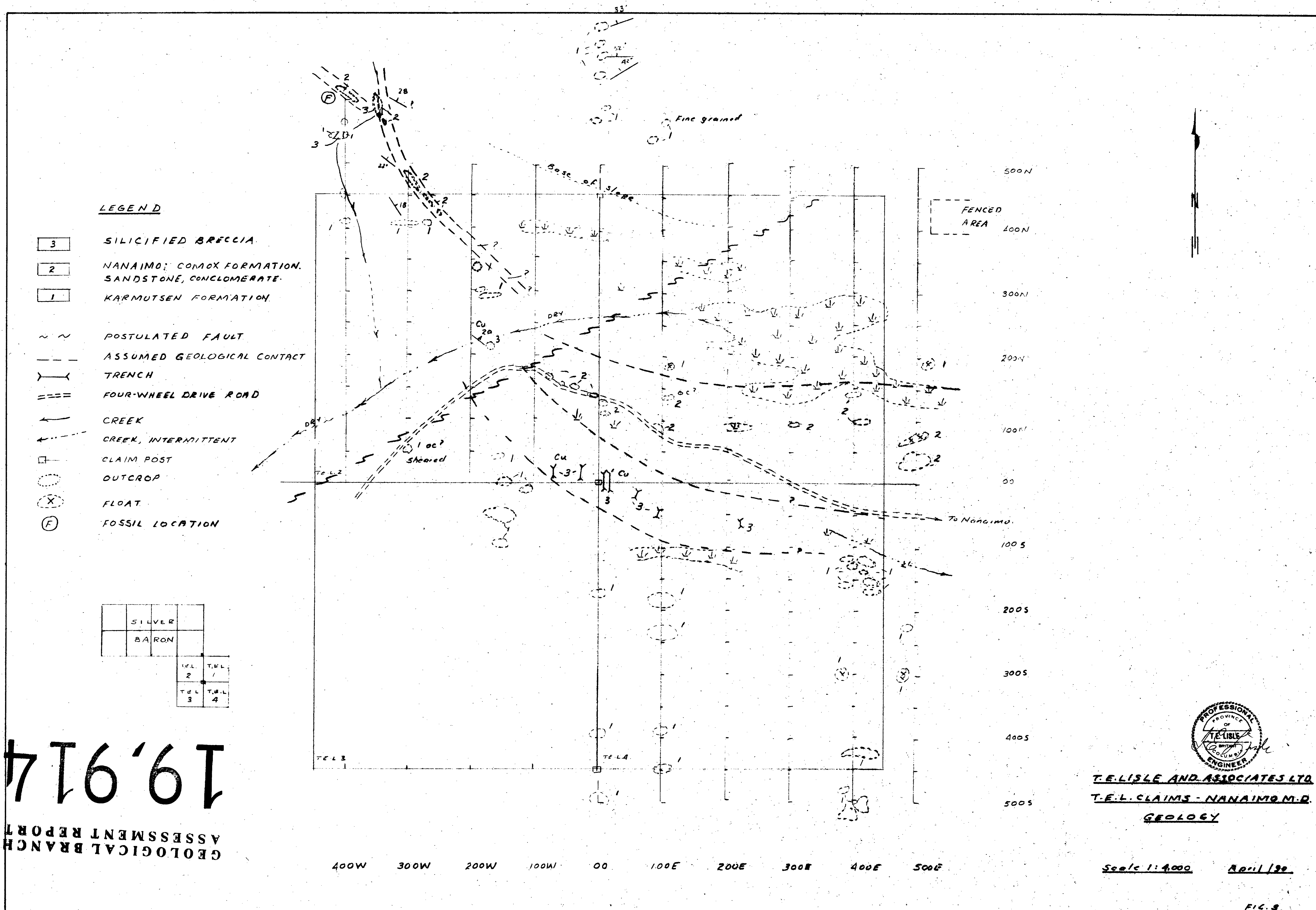
VLF-EM SURVEY

IN-PHASE AND QUADRATURE

Fig 5

April, 1990


LEGEND
3 SILICIFIED BRECCIA
2 NANAIMO: COMOX FORMATION. SANDSTONE, CONGLOMERATE.
1 KARMUTSEN FORMATION
POSTULATED FAULT
ASSUMED GEOLOGICAL CONTACT
TRENCH
FOUR-WHEEL DRIVE ROAD
CREEK
CREEK, INTERMITTENT
CLAIM POST
OUTCROP
FLOAT
FOSSIL LOCATION
SILVER BARON
T.E.L. 2
T.E.L. 1
T.E.L. 3
T.E.L. 4
Fine grained
Base of slope
FENCED AREA
DRY
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sheared
To Nanaimo
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GEOLOGY
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FIG. 8.