LOG NO: 1205	RD.
ACTION:	
FILE NO: 87-864-16603	

GEOPHYSICAL REPORT

on a

MAGNETIC AND VLF-ELECTROMAGNETIC

SURVEY

on the

CRONIN MINE PROPERTY

NTS 93L/15W Omineca Mining Division

Lat. 54° ~~57'~~ 55'34" N Long. 126° ~~50'~~ 48'35" W

for

FILMED

Owner/Operator: SOUTHERN GOLD RESOURCES LTD.

by

E. Trent Pezzot, B.Sc.

GeoSci Data Analysis Ltd.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,603

October 14,1987

Vancouver, B.C.

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FIGURES

SUMMARY

A magnetic and VLF-Electromagnetic survey was conducted across a portion of the Cronin Mine Property by Southern Gold Resources Ltd. in the summer of 1987. Past production of Ag, Pb and Zn has been recorded from quartz-ferrocarbonate veins, generally conformable with a rhyolitic/shale contact. It was the intention of this survey to assist the mapping of this contact and identify specific targets for ground investigations.

The rhyolitic unit which hosts most of the mineralization discovered to date appears to be reflected as a 50 nT to 100 nT magnetic high. This zone likely extends further south than currently mapped and is probably bordered to the north by a major fault zone. A much larger area of similiar magnetic intensity material is located immediately east of this unit, apparently separated from it by a northwesterly trending fault zone.

Inphase, quadrature and field strength measurements of three VLF-EM stations were gathered during the course of this survey. Neither the shale nor the rhyolite units are directly mapped by this technique however the contact between them is often reflected as a conductive lineation.

The field strength measurements of the VLF-EM signals outline a regional change in the surface conductivity which coincides with the discovered mineralization. This trend roughly follows the general topography and may be related to overburden variations.

A deep seated conductive lineatation, likely related to a structural formation enters the survey grid from the southwest and intersects a major east-west fault zone in the vicinity of the Cronin Mine.

1. INTRODUCTION

GeoSci Data Analysis Ltd. was commissioned by Southern Gold Resources Ltd. to process, plot and interpret magnetic and VLF-Electromagnetic data gathered across the Cronin Mine Property in central B.C. The data was gathered by Southern Gold Resources Ltd. personnel in the summer of 1987 with a Scintrex IGS-2 System. Total field magnetic intensity and inphase, quadrature and field strength measurements of three VLF-EM signals were recorded during the course of this study.

The grid surveyed at this time was centred over the Cronin Mine site where Pb, Ag and Zn mineralization has been discovered in veins near a rhyolite-shale contact. The geological setting appears to be volcanogenic and the search for additional deposits is warranted.

It was the intention of this survey to map extensions to the known contact zone and search for additional areas for geological ground investigations.

2. LOCATION AND ACCESS

The Cronin Mine is located in west-central British Columbia, some 28 kilometres northeast if the town of Smithers. It is on the east flank of Cronin Mountain in the Babine Range. The property lies within the Omineca Mining Division and NTS 93L/15. The approximate geographical coordinates are latitude 54° 57'N and longitude 126° 50'W. (Figure 1).

Access to the old millsite property is available via 10 km of rough road from km 32 on the Babine highway. This road has been nearly washed out by Cronin Creek at km 7. The road from the millsite to the mine has been taken out by a major slide at the first switchback and would require several hours of work by a large bulldozer to be made passable.

3. PROPERTY

The following information has been copied from a report prepared for Southern Gold Resources Ltd. by Nells Vollo, dated September, 1986. Figure 2 outlines the claim information.

> "The property consists of 8 mineral crown grants, 1 reverted crown grant, 23 two post claims and fractions and one MGS claim, as follows:
>
> CROWN GRANTS
> Sunflower Crown Grant, L. 7418
> Sunflower Fr.Crown Grant, L. 7417
> Homestake Crown Grant, L. 1859A
> Bonanza Crown Grant, L. 1860A
> Eureka Crown Grant, L. 1861A
> Lucky Strike Crown Grant, L. 1862A
> Babine Cheif Crown Grant, L. 1863A
> Bulkley Pioneer Crown Grant, L. 1864A
> Sunrise 7 Reverted Crown Grant, Record No. 94213,
> exp. Oct 30/87

2 POST CLAIMS

Jim A. Fr. Record No. 12081, exp. Jul. 11/87
Del 1-12 inc., Record Nos. 113982-93, exp. Jul. 27/87
View 1-8 inc., Record NOs. 115655-62, exp. Sept. 6/87
Mill 1,2. Record Nos. 115663-64, exp. Sept. 6/87

MODIFIED GRID SYSTEM

Red, 4 units, Record No. 80, exp. Aug. 18/87

All are in the Omineca Mining Division. The record claims are held by Hallmark Resources Ltd.; the Crown Grants by Kindrat Mines Ltd., a subsidiary of Hallmark. "

The author has not confirmed the status of the claims.

4. GENERAL GEOLOGY

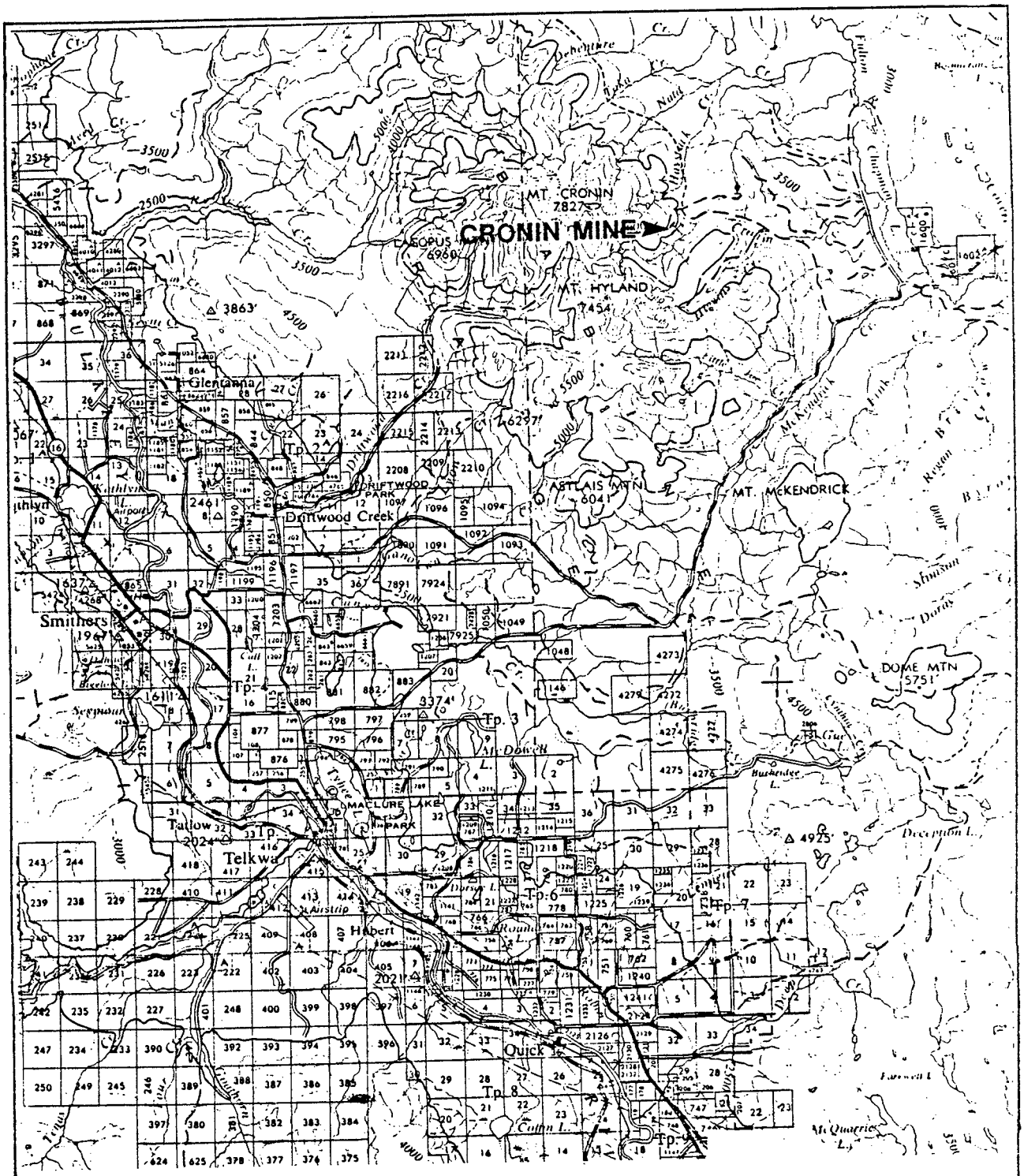
According to Richards (1977) the property is underlain by lower Jurassic sediments of the Ashman formation and middle to lower Cretaceous sediments of the Red Rose formation, between which is intruded a felsic body dated at 49 my. This package is overthrust from the west by lower Cretaceous volcanics of the Brian Boru formation.

A felsic body is extensively exposed in the mine workings and on surface. It has many of the characteristics of a massive rhyolite ash flow or ignimbrite and generally underlies black shales or argillites. Schroeder (1975) considers it to be intrusive. Scott and Ikona (1982) suggest it is a rhyolite dome. Wright Engineers Ltd. believe it is a volcanic complex consisting of extrusive domes, coeval ash flows and synvolcanic intrusions.

The rhyolite body trends northeasterly across the property and dips moderately to the steeply northwest, in rough conformity with the sediments. Drilling by Coca Metals suggest that it interfingers with sediments to the west. Only the upper contact has been explored in any detail.

Most of the productive mineralized veins occur at the rhyolite-shale contact and are essentially conformable with the contact. The veins are composed of white quartz, siderite and variable amounts of sphalerite and galena. "Massive" sulphides in the mined areas are reported to have been up to 1.5 metres wide, generally along the contacts of the quartz veins (Smith, 1984). Jones (1977) states that the dimensions of the mineralized zones are extremely variable, varying from a few feet wide and a few tens of feet long up to 30 feet wide and 250 feet long.

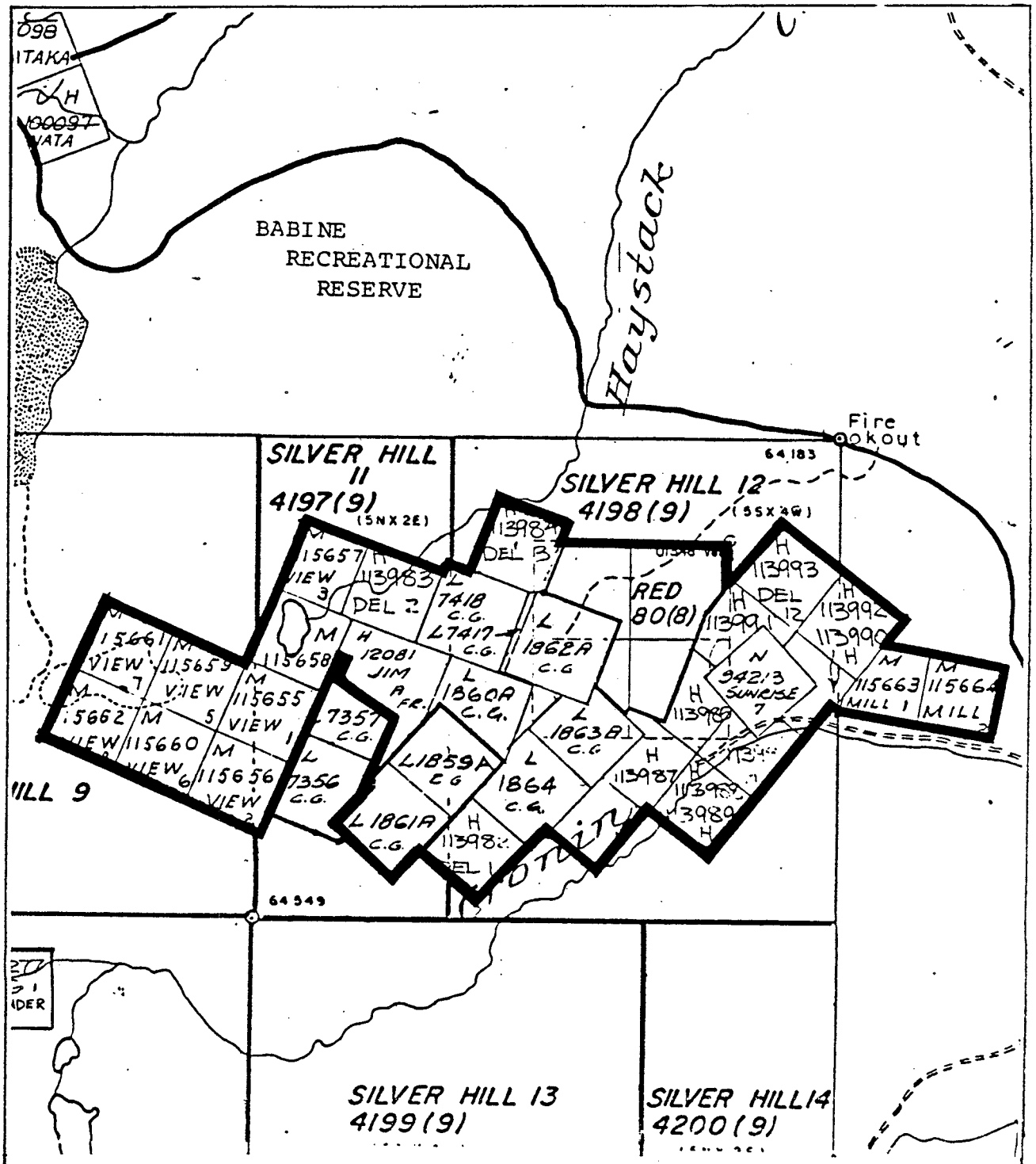
The outline of the rhyolite body hosting the observed mineralization is illustrated in relation to the current survey grid on Figure 3.



CRONIN MINE PROPERTY
LOCATION MAP

GEOSCI DATA ANALYSIS LTD

FIG. 1

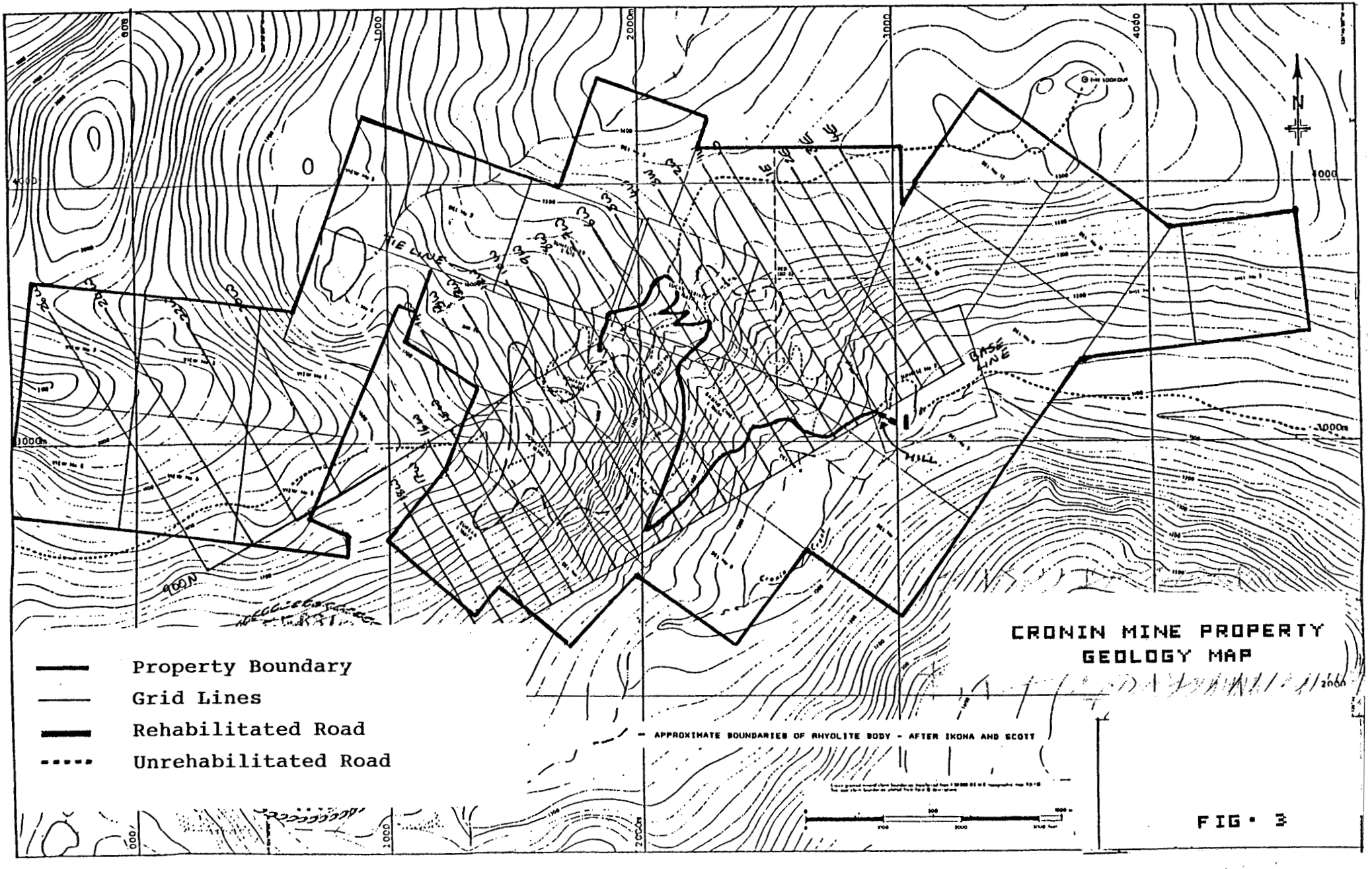


CRONIN MINE PROPERTY
CLAIM MAP

GEOSCI DATA ANALYSIS LTD

FIG. 2

SOUTHERN GOLD RESOURCES LTD.
#220 QUAYSIDE PLAZA
145 CHADWICK COURT
NORTH VANCOUVER, B.C.
V5M 3K1



CRONIN MINE PROPERTY
GEOLOGY MAP

FIG. 3

5. HISTORY AND PREVIOUS WORK

The property was discovered in 1905 and acquired by James Cronin in 1908. Between then and 1925 he drove most of the present workings.

The property remained idle until 1949 when it was acquired by New Cronin Babine Mines Ltd. who constructed a 50 ton mill and produced briefly in 1952. Production was resumed in 1956 and was continued by a lessee, Mr. Paul Kindrat, who operated it until 1972.

Hallmark Resources Ltd. optioned the property in 1972. They rehabilitated the mill and milled 1700 tons in 1973. Minor production was achieved in 1974.

Coca Metals Ltd. optioned the property in 1975. They drilled 1530 metres in 10 surface holes then terminated their option.

In 1977, Hallmark completed 11 diamond drill holes on the No. 3 level, did about 100 metres of drifting on levels 1 and 3 then drove two raises on level 1.

Little further work was done until 1983 when Goldsil Mining and Milling Inc. optained an option and drilled 482 metres in 14 holes on the Wardell vein. They dropped their option and little work has been recorded since.

Recorded production for the Cronin Mine totals 8,772 g Au, 8,170,000 g Ag, 10.4 tons Cu, 1,368 tons Pb and 1,518 tons Zn from 18,000 tons milled.

In 1986, Southern Gold Resources Ltd. retained Wright Engineers Ltd. to compile a qualifying report on the Cronin Mine Property. The property was visited in Sept, 1986 by Nells Vollo who compiled the report on the basis of his examination and a review of existing previous reports and government records.

No other production or exploration of this property prior to this magnetic and VLF-Electromagnetic survey is known of by the author.

6. GEOPHYSICAL SURVEY

The survey grid established and surveyed is comprised of 24 northwest-southeast lines, spaced at 100 metre intervals and centred across the main Cronin Mine workings. Additional lines, spaced at 200 metre intervals, were set up to the northeast and southwest of the main grid. Stations were occupied at 25 metre increments along the lines.

Each grid was surveyed with the Scintrex IGS-2 system which measured the earths' total magnetic field intensity and the inphase, quadrature and field strength values of three VLF-EM signals: Seattle, Washington (NLK, 24.8 kHz), Annapolis, Maryland (NSS, 21.4 kHz) and Lualualei, Hawaii (NPM, 23.4 kHz). Apparently the operator faced 180° to the preferred direction when recording the data, generating a reverse sign to the inphase data. This situation has been compensated for by picking the opposite inphase inflection point from what would normally be used to delineate a conductor axis with this system..

7. DATA PROCESSING

The data was presented to GeoSci Data Analysis Ltd. on computer disk with preliminary reductions applied. Both the magnetic and VLF-EM data had already been edited for noise spikes and diurnal variations. Inphase and quadrature data was provided in both field and Fraser filtered format. The Fraser filter appears to have been correctly applied to compensate for the operator facing the reverse direction.

VLF-EM inphase, quadrature and field strength measurements are presented in profile format at a scale of 1:5000. In addition, the Fraser filtered inphase data is presented as contours at the same scale. Smaller scale (1:15000) color contour maps of the field strength and Fraser filtered inphase data are presented in the text of this report.

The magnetic data is presented in contour format at a scale of 1:5000 and in colored contoured format in the text of this report.

DISCUSSION OF RESULTS

Figures 4 through 10 inclusive are small scale color contour maps of the survey data bound in the body of this report. These presentations clearly exhibit both the general and localized anomalous trends observed in the data. Figures 11 through 17 are 1:5000 scale maps and are stored in the pockets.

8.1 Magnetic Survey

No extremely strong magnetic variations were observed in this data set. Variations ranged from a low of 56496 nT to a high of 57654 nT although 95% of the recorded values were between 56928 nT and 57200 nT. In spite of the minor variations, trends are observed which can be related to the known geology.

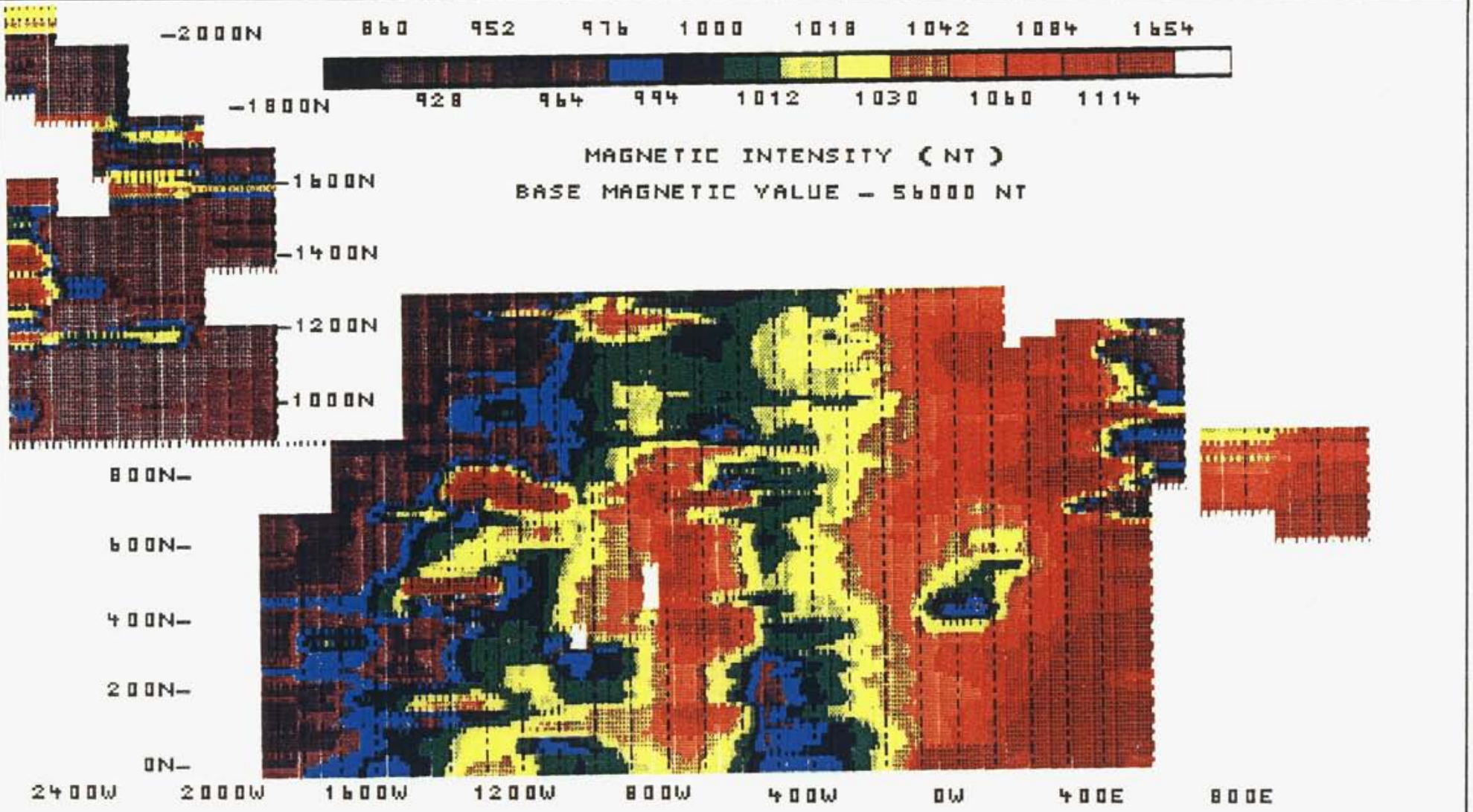
The magnetic intensity color contour map (Fig. 4) clearly reflects a general increase in the magnetic intensity from the southwest to the northeast. A northwest elongated magnetic high, centred on line 800W, generally coincides with the location of the main rhyolite body as mapped by Scott and Ikona. The magnetic mapping suggests that this body extends further to the southeast than previously indiated and that it is controlled by faulting to the north along survey grid position 800N and to the east along survey line 500W. A number of smaller outlying magnetic highs observed to the northwest and southwest of the main zone likely reflect similiar near surface rhyolite units.

The previous mining operations are centred about line 800N and station 750N along a rhyolite-shale contact. The magnetic information suggest that this contact is controlled by a major southwest-northeast fault and that a similiar environment is present along strike to the southwest on lines 1200W to 1400W.

A large magnetic high covers survey lines 200W to 1000E, with the exception of a small window of magnetic low values centred on line 100W station 425N and along the norther portions of lines 400E and 500E. This response is the same magnitude as that associated with the known rhyolite body and may reflect a similiar geological environment.

The westernmost survey lines, 2000W to 2600W are effectively separated from the main grid. Generally low magnetic intensities are observed in this area with a number of small magnetic highs, predominantly on line 2600W. Insufficient geological information about this area is known to draw conclusions but it is encouraging that the intensities observed correlate with those associated with the known mineralization environment.

No high frequency magnetic anomalies were noted which can be interpreted as a direct reflection of mineralization. Considering the target mineralization, this response is not unexpected.



SOUTHERN GOLD RESOURCES LTD.

CRONIN MINE PROPERTY

TOTAL FIELD MAGNETICS

COLOR CONTOUR MAP

GeoSci Data Analysis Ltd. | SCALE 1 : 15000 | DATE: OCT. /87 | FIG: 4

8.2 VLF-EM Survey

The VLF-EM data is presented in profile format on Figures 12, 13 and 14, representing the Lualualei, Seattle and Annapolis frequency information respectively. Interpreted high conductivity lineations are flagged on the profile and Fraser filtered inphase contour maps, Figures 15, 16 and 17.

The field strength measurements for all three frequencies monitored were relatively low. Seattle was the strongest with an average value of 32%. Lualualei and Annapolis averaged 7.5%. Extremely good correlation between the Annapolis and Lualualei field strength data was observed. They indicate two distinct surficial conductivity responses with the main contact between them striking at 040° and passing through the Cronin mine site. The Seattle frequency data is incomplete but infers a similiar contact in this same area. One major discrepancy is that the Seattle data indicates low conductivity to the north, opposite to the response observed in the other two frequencies. The surficial conductivity variations generally follow the topography and may be in part generated by it, but more likely are reflections of the surface layering ie. overburden and/or underlying geological horizons. These responses are most clearly evident on the colored contour maps of the field strength measurements, Figures 6, 8 and 10.

Two types of VLF-EM anomalies are observed in the inphase and quadrature data. One implies relatively deep (50m to 100m) sources which show distinct regional correlation. These are most clearly evident on the Fraser filtered contour maps (both color and line contour). The second type of anomaly is generated from surface or near surface conductivity variations and are best observed on the stacked profile maps. The inphase and quadrature readings generally parallel each other over most of the area indicating moderate conductivities to the source bodies however there are a couple of anomalously high conductivity-thickness values observed.

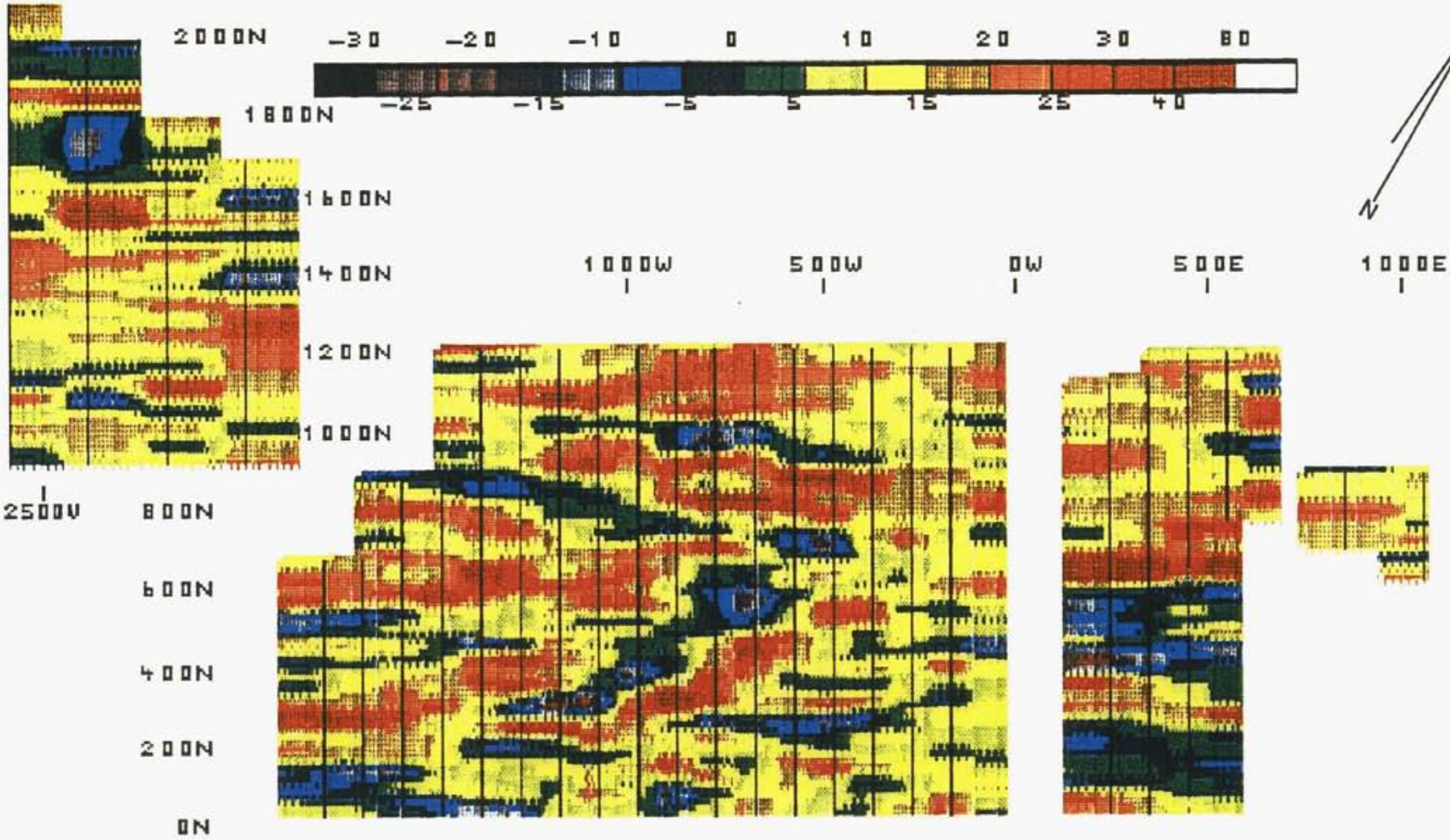
The regional, VLF-EM defined structures are best delineated on the Hawaii, Fraser filtered inphase color contour maps, Figures 5a and 5b. Figure 5b was generated by convolving the Fraser filtered data (Figure 5a) with a 150m x 120m x 60° smoothing filter to remove the high frequency, nearsurface responses. The trends reflected in this presentation are located at approximately 100 metres depth. Background structures generally trend perpendicular to the survey grid (060°). Two anomalously oriented structures are also evident: one striking at 075° and the other at 025°. These two trends intersect in the vicinity of line 800W and station 750N, coincident with the location of the Cronin Mine.

The magnetic evidence (and near surface VLF-EM data discussed later) suggest that the 075° structure is a major fault zone. The 025° structure coincides with the field strength defined contact zone. Both structures are reflected in the topography of the area.

Near surface conductivity lineations are flagged on the stacked profile maps and where appropriate, on the Fraser filtered inphase contour maps. Most are reflections from moderately conductive, narrow sources which generally parallel the patterns exhibited in the field

strength contour maps. Some of the trends flagged coincide with portions of the rhyolite-shale contact but they do not significantly differ from the numerous other anomalies. Considering the small size of the mineralized veins discovered to date, it is unlikely that individual sulphide lenses are being mapped. The trends are more likely reflections of varying overburden conditions.

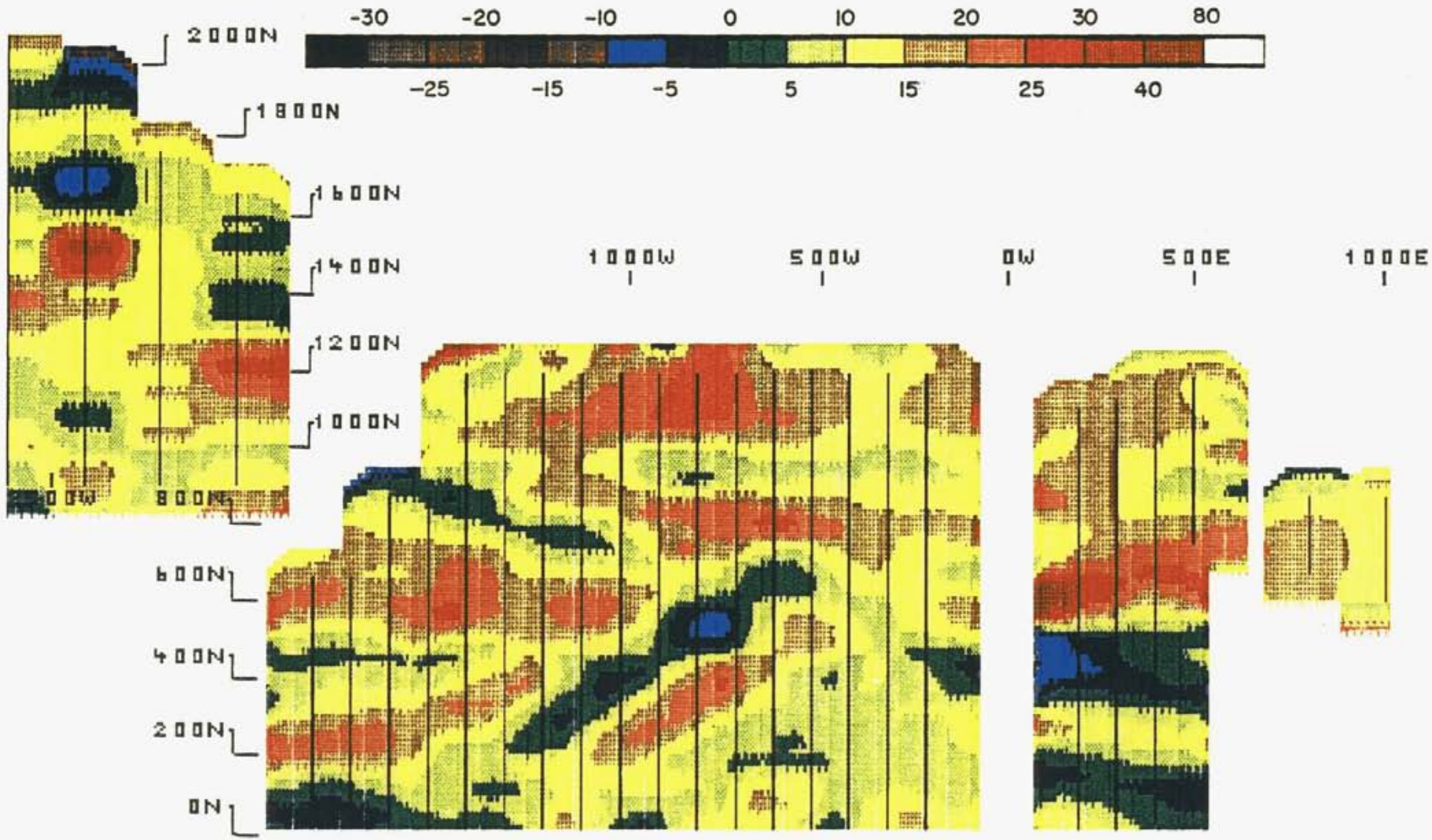
A few of the near surface lineations exhibit a reverse quadrature component, characteristic of a high conductivity source. The most dramatic of these is a VLF-EM anomaly which extends from line 1000W to line 500W about station 800N and is observed on all three frequencies. This anomaly coincides with the magnetic gradient interpreted as a fault, and appears to be related to the Cronin Mine mineralization. The rest of the high conductivity responses are noted only in the Hawaii data, although good correlation to weaker zones mapped in the Annapolis data is observed. In general, the Hawaii and Annapolis frequency VLF-EM data show very good correlatation and appear to delineate the anomalous conductivity variations better than the Seattle data.



SOUTHERN GOLD RESOURCES LTD.
CRONIN MINE PROPERTY

FRASER FILTERED
VLF-EM INPHASE
COLOR CONTOUR MAP
LUALUALEI, HAWAII

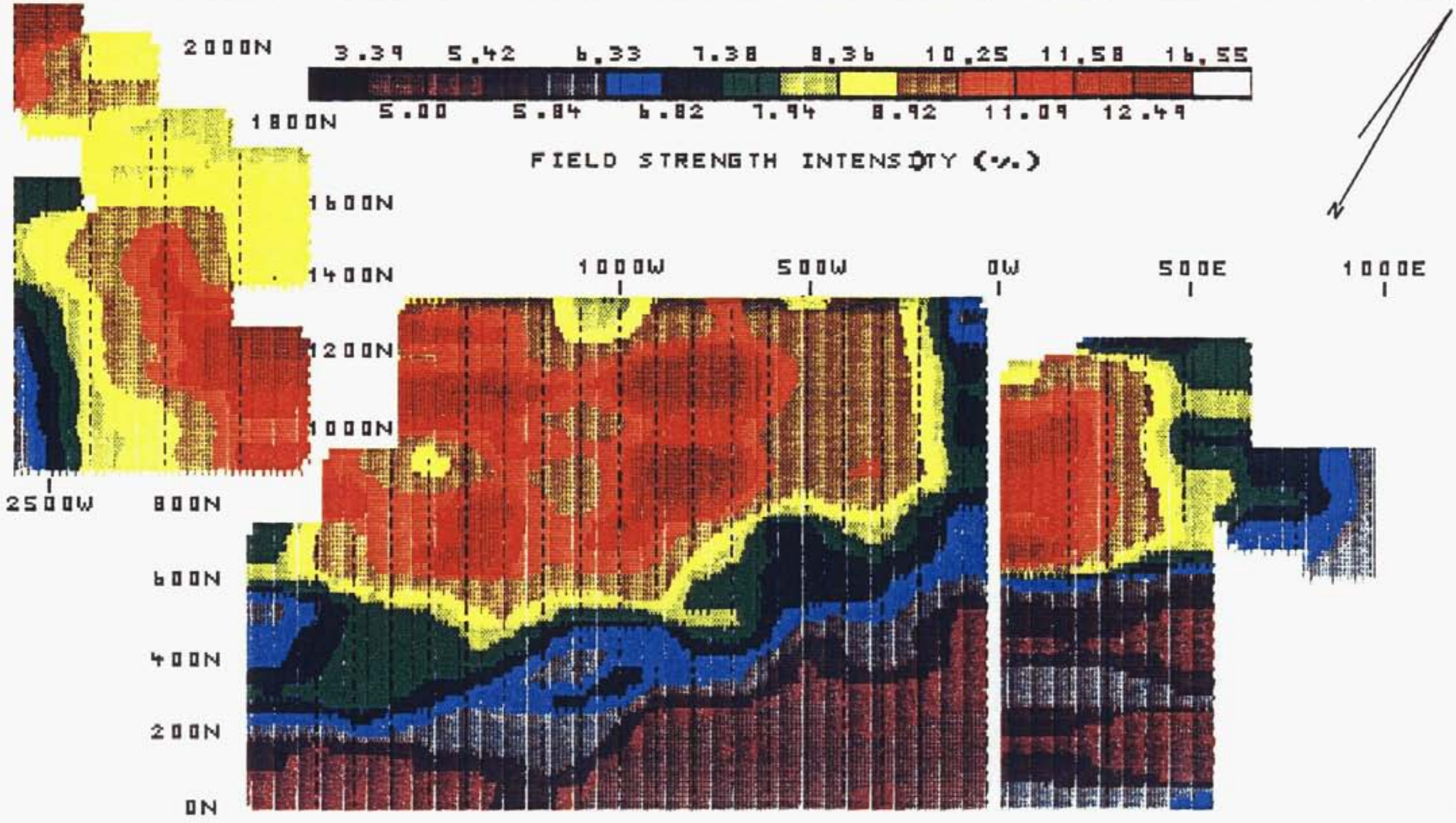
GEOSCIDATA ANALYSIS LTD. | SCALE 1:15000 | OCTOBER, 1987 | FIG: 5a



SOUTHERN GOLD RESOURCES LTD.
CRONIN MINE PROPERTY

FRASER FILTERED
VLF-EM INPHASE
COLOR CONTOUR MAP
LUALUALEI, HAWAII

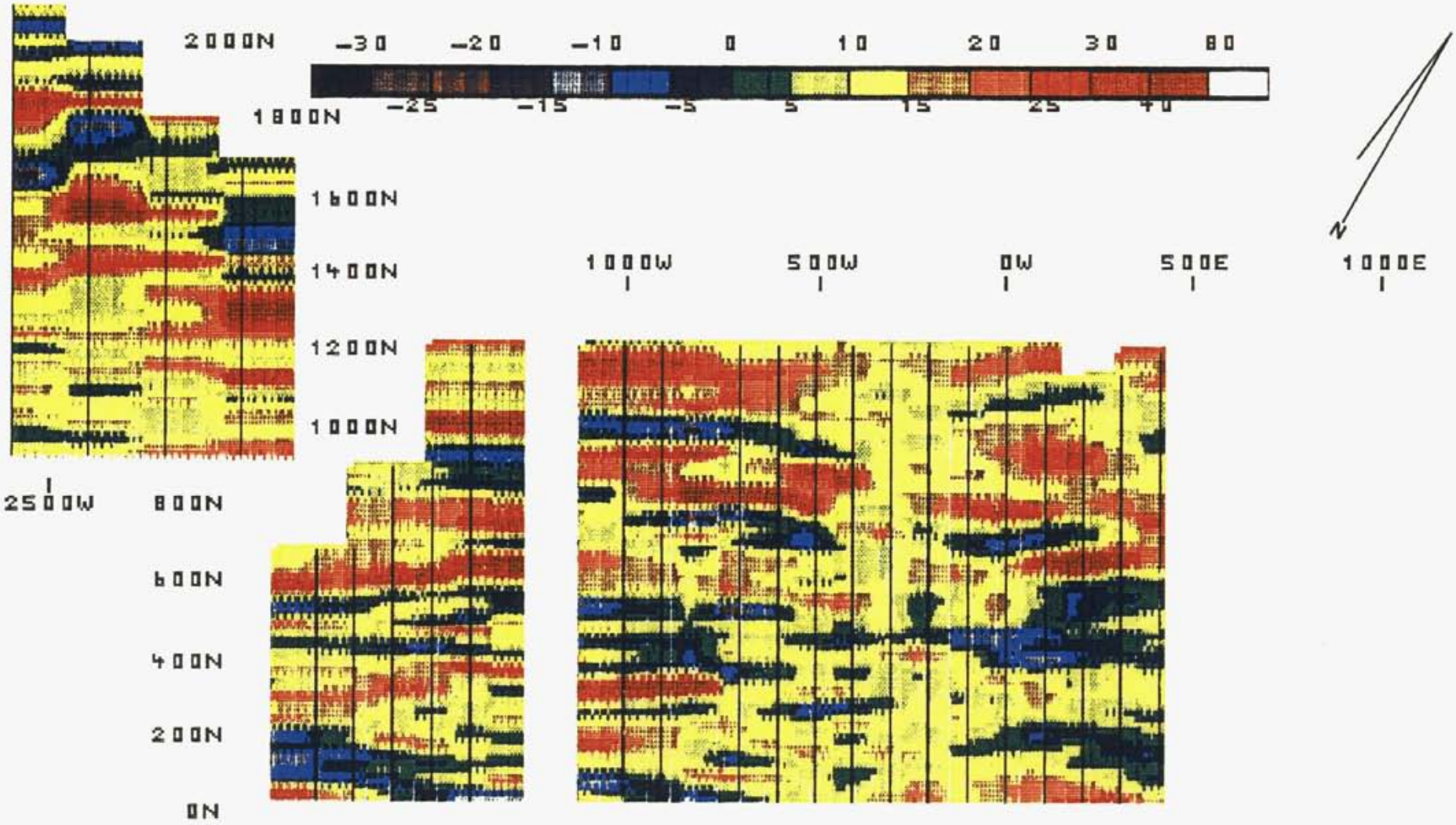
GEOSCI DATA ANALYSIS LTD. | SCALE 1:15000 | OCTOBER, 1987 | FIG: 5b



SOUTHERN GOLD RESOURCES LTD.
CRONIN MINE PROPERTY

YLF-EM FIELD STRENGTH
COLOR CONTOUR MAP
LUALUALEI, HAWAII

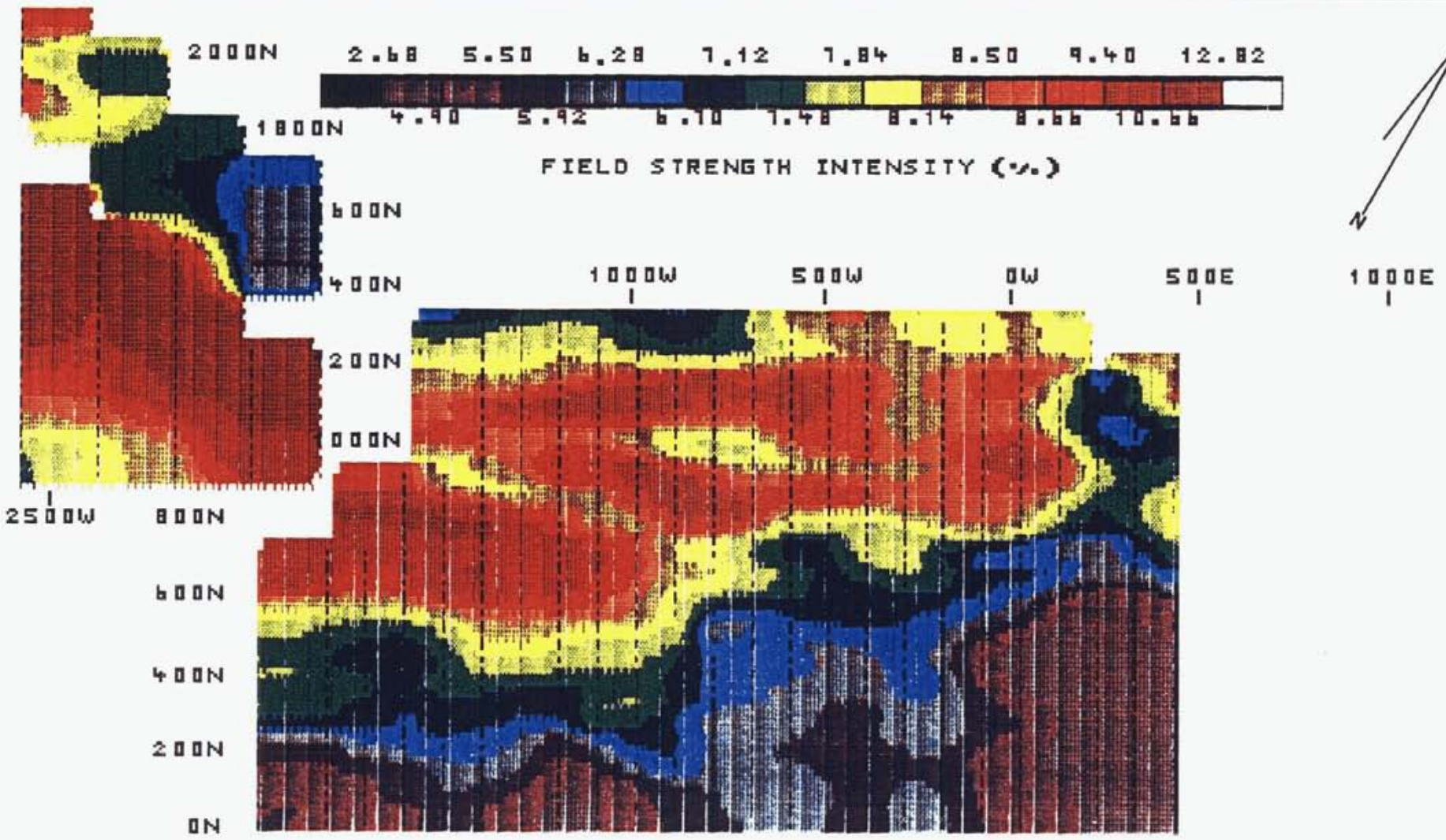
GEOSCI DATA ANALYSIS LTD. | SCALE 1:15000 | OCTOBER 1987 | FIG: 6



SOUTHERN GOLD RESOURCES LTD.
CRONIN MINE PROPERTY

FRASER FILTERED
VLF-EM INPHASE
COLOR CONTOUR MAP
ANNAPOLIS, MARYLAND

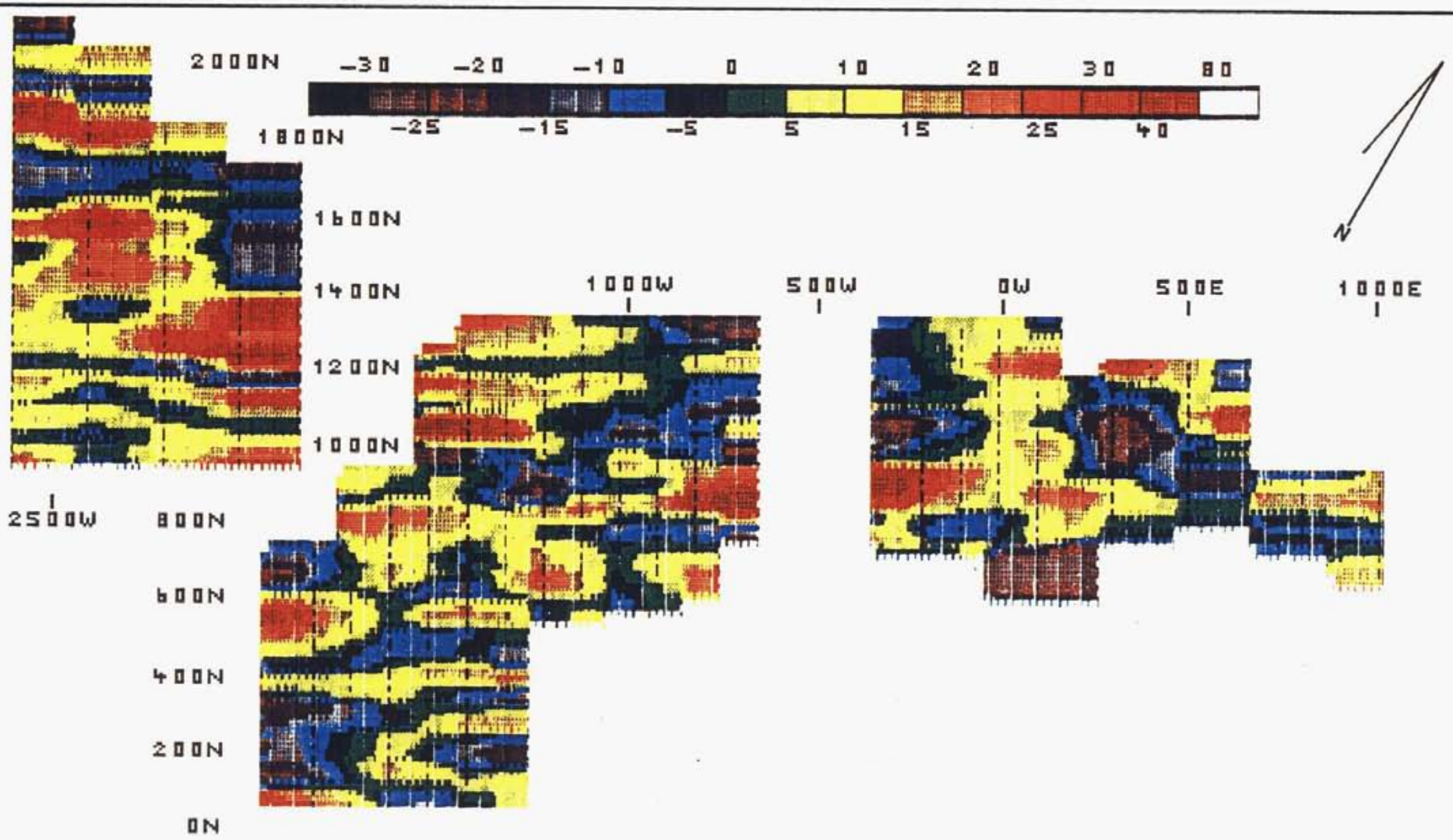
GEOSCI DATA ANALYSIS LTD. | SCALE 1:15000 | OCTOBER, 1987 | FIG: 7



SOUTHERN GOLD RESOURCES LTD.
CRONIN MINE PROPERTY

YLF-EM FIELD STRENGTH
COLOR CONTOUR MAP
ANNAPOLIS, MARYLAND

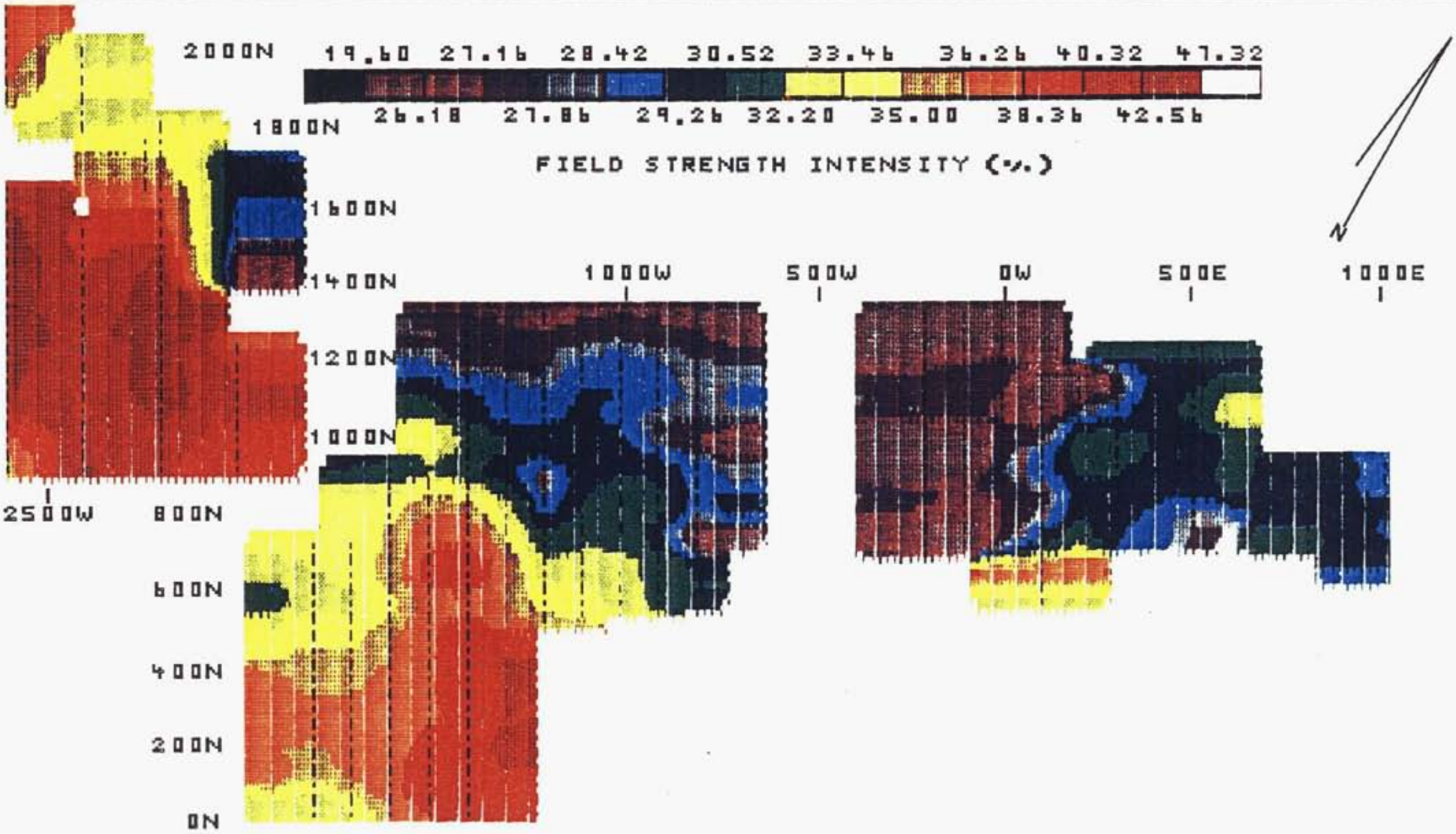
GEOSCI DATA ANALYSIS LTD. | SCALE 1:15000 | OCTOBER 1987 | FIG: 8



SOUTHERN GOLD RESOURCES LTD.
CRONIN MINE PROPERTY

FRASER FILTERED
VLF-EM INPHASE
COLOR CONTOUR MAP
SEATTLE, WASHINGTON

GEOSCI DATA ANALYSIS LTD. | SCALE 1:15000 | OCTOBER, 1987 | FIG: 9



SOUTHERN GOLD RESOURCES LTD.
CRONIN MINE PROPERTY

VLF-EM FIELD STRENGTH
COLOR CONTOUR MAP
SEATTLE, WASHINGTON

GEOSCI DATA ANALYSIS LTD. | SCALE 1:15000 | OCTOBER 1987 | FIG: 10

9. CONCLUSIONS

Both the magnetic an VLF-Electromagnetic components of this survey have provided useful information for this project.

The magnetometer data appears to outline the area of the rhyolite body mapped by Scott and Ikona as a weak but distinct magnetic high. This zone appears to extend further south than presently mapped. It is highly probable that its' northern limit, the area of the Cronin Mine, is controlled by a fault striking at approximately 075° and that the same geological environment extends for some 500 metres along this structure. Magnetic evidence suggests that the eastern border of the mapped rhyolite body is also fault controlled. The western edge of the rhyolite body is less distinct and appears to interfinger with the country rock producing three small outliers of higher susceptibility materials.

The eastern edge of the survey grid is covered by a large magnetic high, of similiar intensity to that associated with the rhyolite body. No geological input for this area is available to the author but the similiarity of the magnetic field intensities in this area suggest a similar rhyolitic unit might be present. The same conclusions may be drawn for the western most lines of the survey grid, where "rhyolite" type magnetic highs are observed .

Inphase, quadrature and field strength measurements of three VLF-EM stations were gathered during the course of this survey. A large number of near surface conductive lineations were mapped. Some of these coincide with the outline of the rhyolite but they are indistinguishable from many other anomalies which are believed related to overburden variations. The VLF-EM response associated with the fault immediately north of the Cronin Mine appears to be the most conductive lineation observed within this grid.

The VLF-EM system mapped two major structures which intersect in the general area of the Cronin Mine. One is the above mentioned fault zone. The second approaches the minesite from the southwest and terminates against the fault. This second feature is also reflected as a contact between two distinct surficial conductivity background levels and to a certain degree by the local terrain.

10. RECOMMENDATIONS

The recent geophysical survey has outlined a number of areas which warrant further investigation. Where outcrop conditions permit, general prospecting and geological mapping is recommended as the next exploration phase. A regional program of geochemical soil sampling and analysis for Pb, Zn, Cu, Ag and Au is also warranted.

Particular attention should be afforded to the high conductivity area along the magnetically and electromagnetically delineated fault zone which borders the Cronin Mine site to the north. Also, outlines of the magnetic highs likely reflect the surface expressions of the shale-rhyolite contact, and require detailed examinations.

The major structures mapped by the geophysical survey should be identified to determine whether they can be related to the target mineralization.

Respectively submitted,

E. Trent Pezzot, BSc.
Geology, Geophysics

CERTIFICATION

I, E. TRENT PEZZOT, of the City of Richmond, Province of British Columbia, hereby certify as follows:

- I am a principal of GeoSci Data Analysis Ltd., a company incorporated under the laws of the Province of British Columbia.
- The Richmond office of GeoSci Data Analysis Ltd. is located at 3740 Lockhart Road, Richmond, B.C.
- I graduated from the University of British Columbia in 1974 with a BSc. degree in the combined honors Geology and Geophysics program.
- I have practiced my profession continuously from that date.
- I hold no interest, direct or indirect, in Southern Gold Resources Ltd. or any of its' affiliates, nor do I expect to recieve any.
- I consent to the use of this report or the information contained within it, provide the context is not changed to alter the intended meaning, in or in connection with a Prospectus or in a Statement of Material Facts.

E. TRENT PEZZOT
BSC. Geophysics/Geology

Oct. 15, 1987

COST BREAKDOWN

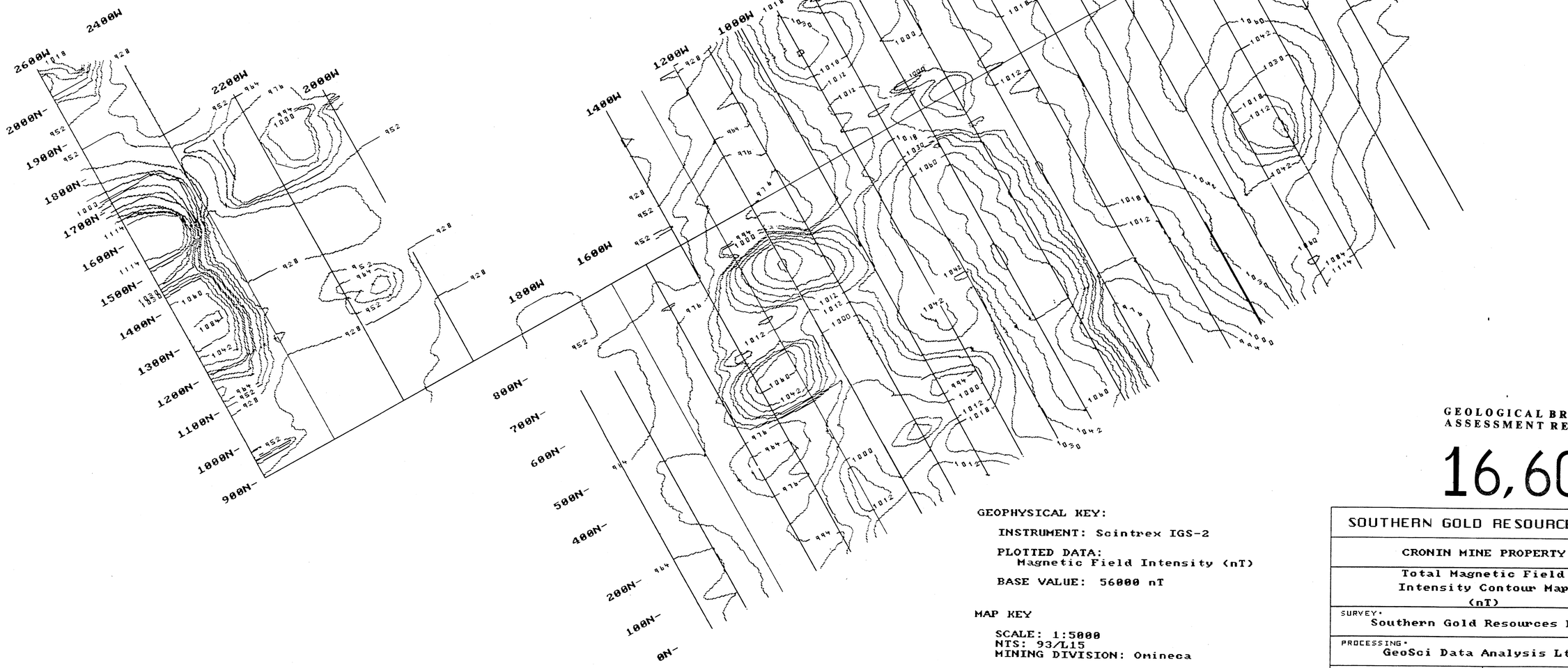
OFFICE

Processing & Plotting	
Stacked profiles (Hawaii,Annapolis,Seattle)	$ 344.00
Fraser filter contour (Hawaii,Annapolis,Seattle)	$ 464.00
Contour (magnetic)	$ 200.00
False Color mapping	$ 360.00
Data Transcription	$ 120.00
Data handling (File structuring, duplicate station and line removal/ diurnal corrections)	$ 240.00
Drafting	$ 400.00
Reproduction	$ 375.00
Secretarial/Materials	$ 195.00
Interpretation & Report Compilation	$ 650.00
Report collation/delivery/sundry	$ 65.00
SUB TOTAL	$3713.00

FIELD

Costs supplied by S.P. Quin, Vice President-Exploration, Southern Gold Resources Ltd., for field and logistical costs of acquiring data.

Survey	
Equipment rental (12.5 days @ $163)	$1956.00
Payroll (12.5 days @ $150.00)	$1875.00
Support	
Hotel and Meals (12.5 days @ $55.00)	$ 687.50
SUBTOTAL	$4518.50
TOTAL ASSESSMENT VALUE	$8231.50



GEOPHYSICAL KEY:

INSTRUMENT: Scintrex IGS-2

PLOTTED DATA:
Magnetic Field Intensity (nT)

BASE VALUE: 56000 nT

MAP KEY

SCALE: 1:5000
NTS: 93/L15
MINING DIVISION: Omineca

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,603

SOUTHERN GOLD RESOURCES LTD.

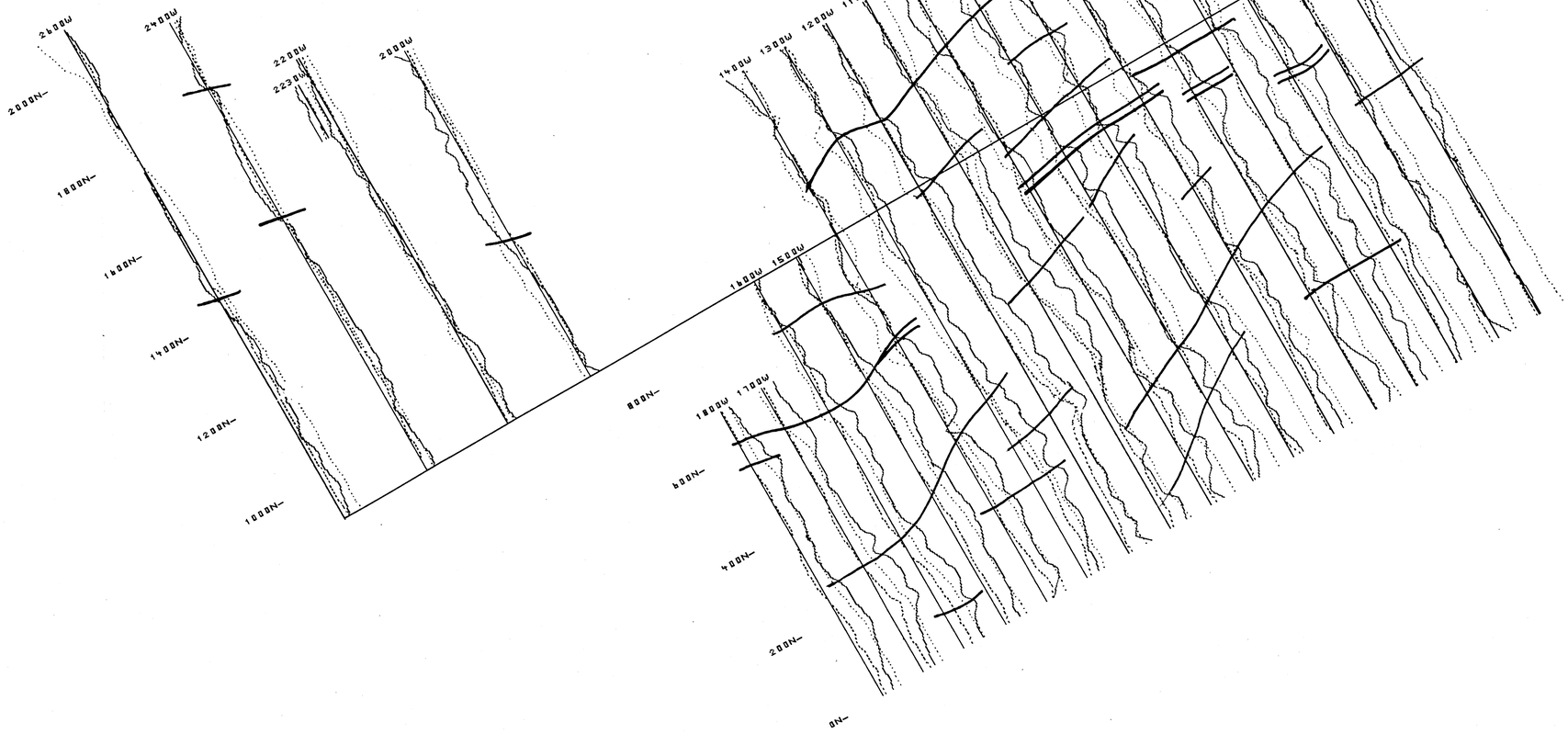
CRONIN MINE PROPERTY

Total Magnetic Field
Intensity Contour Map
(nT)

SURVEY:
Southern Gold Resources Ltd.

PROCESSING:
GeoSci Data Analysis Ltd.

DATE: Oct 7, 1987 | Fig: 11



GEOPHYSICAL KEY

INSTRUMENT: Scintrex IGS-2

PLOTTED DATA:
InPhase-> Solid Line
Quadrature-> Dashed Line
Field Strength-> Dotted Line

VERTICAL SCALE: (POSITIVE TO WEST)
InPhase-> 5.0% per mm.
Quadrature-> 5.0% per mm.
Field Strength-> 0.5% per mm.

BASE VALUE: (SURVEY LINE)
InPhase-> 0%
Quadrature-> 0%
Field Strength-> 10%

MAP KEY

SCALE: 1:5000
NTS: 93/L15
MINING DIVISION: Omineca

MODERATE CONDUCTIVITY

HIGH CONDUCTIVITY

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,603

SOUTHERN GOLD RESOURCES LTD.

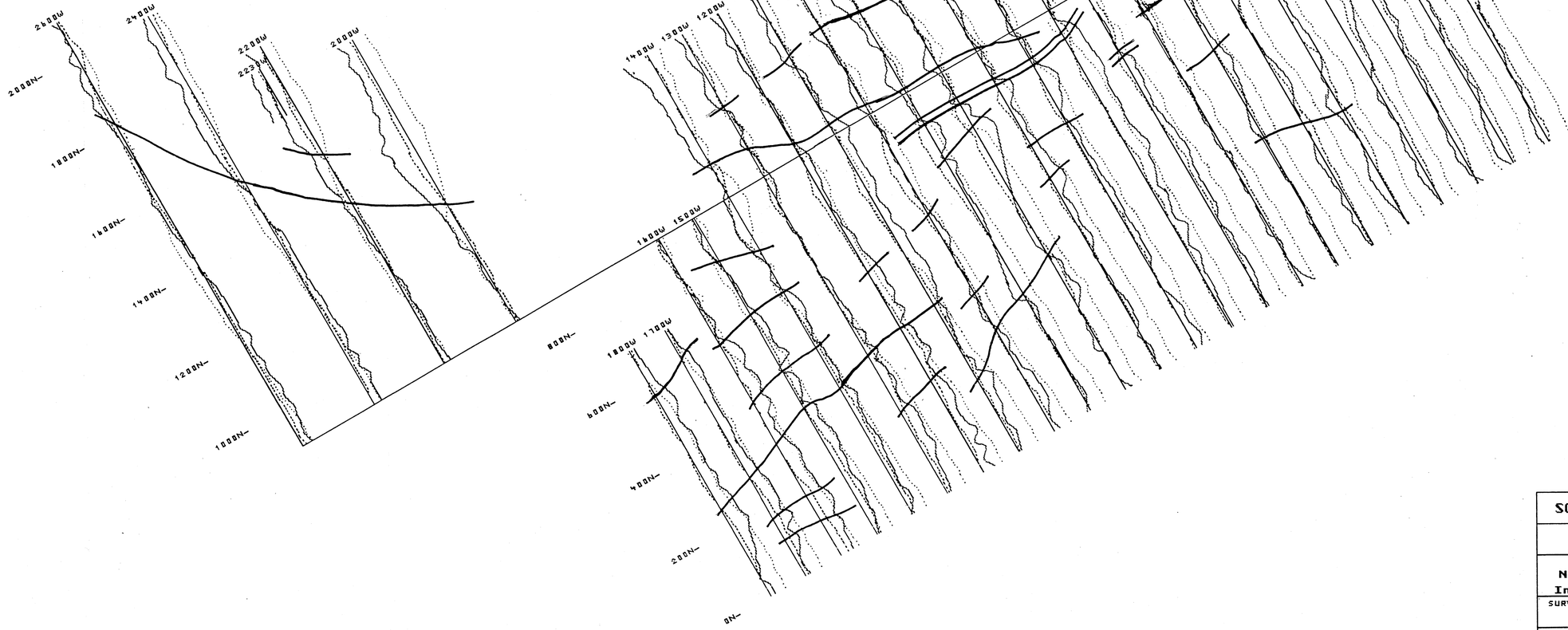
CRONIN MINE PROPERTY

VLF-EM Stacked Profile Map
NPM Lualualei, Hawaii (23.4 kHz)
InPhase, Quadrature, Field Strength

SURVEY:
Southern Gold Resources Ltd.

PROCESSING:
GeoSci Data Analysis Ltd.

DATE: Oct 7, 1987 | Fig: 12



N

GEOPHYSICAL KEY

INSTRUMENT: Scintrex IGS-2

PLOTTED DATA:
InPhase-> Solid Line
Quadrature-> Dashed Line
Field Strength-> Dotted Line

VERTICAL SCALE: (POSITIVE TO WEST)
InPhase-> 5.0% per mm.
Quadrature-> 5.0% per mm.
Field Strength-> 0.5% per mm.

BASE VALUE: (SURVEY LINE)
InPhase-> 0%
Quadrature-> 0%
Field Strength-> 10%

MAP KEY

SCALE: 1:5000
NTS: 93/L15
MINING DIVISION: Omineca

MODERATE CONDUCTIVITY

HIGH CONDUCTIVITY

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,603

SOUTHERN GOLD RESOURCES LTD.

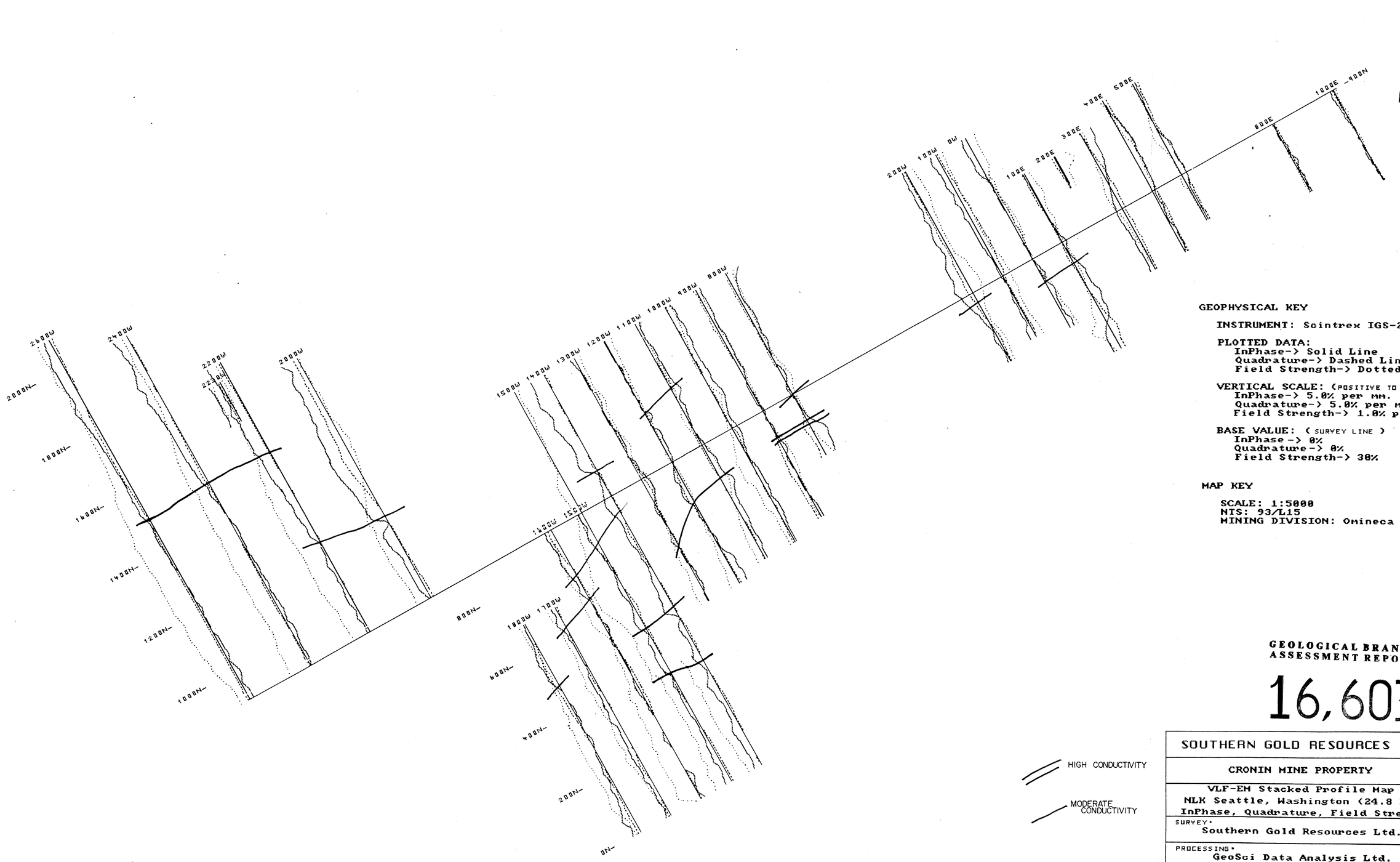
CRONIN MINE PROPERTY

VLF-EM Stacked Profile Map
NSS Annapolis, Maryland (21.4 kHz)
InPhase, Quadrature, Field Strength

SURVEY:
Southern Gold Resources Ltd.

PROCESSING:
GeoSci Data Analysis Ltd.

DATE: Oct 7, 1987 | Fig: 13



GEOPHYSICAL KEY

INSTRUMENT: Scintrex IGS-2

PLOTTED DATA:
InPhase-> Solid Line
Quadrature-> Dashed Line
Field Strength-> Dotted Line

VERTICAL SCALE: (POSITIVE TO WEST)
InPhase-> 5.0% per mm.
Quadrature-> 5.0% per mm.
Field Strength-> 1.0% per mm.

BASE VALUE: (SURVEY LINE)
InPhase -> 0%
Quadrature-> 0%
Field Strength-> 30%

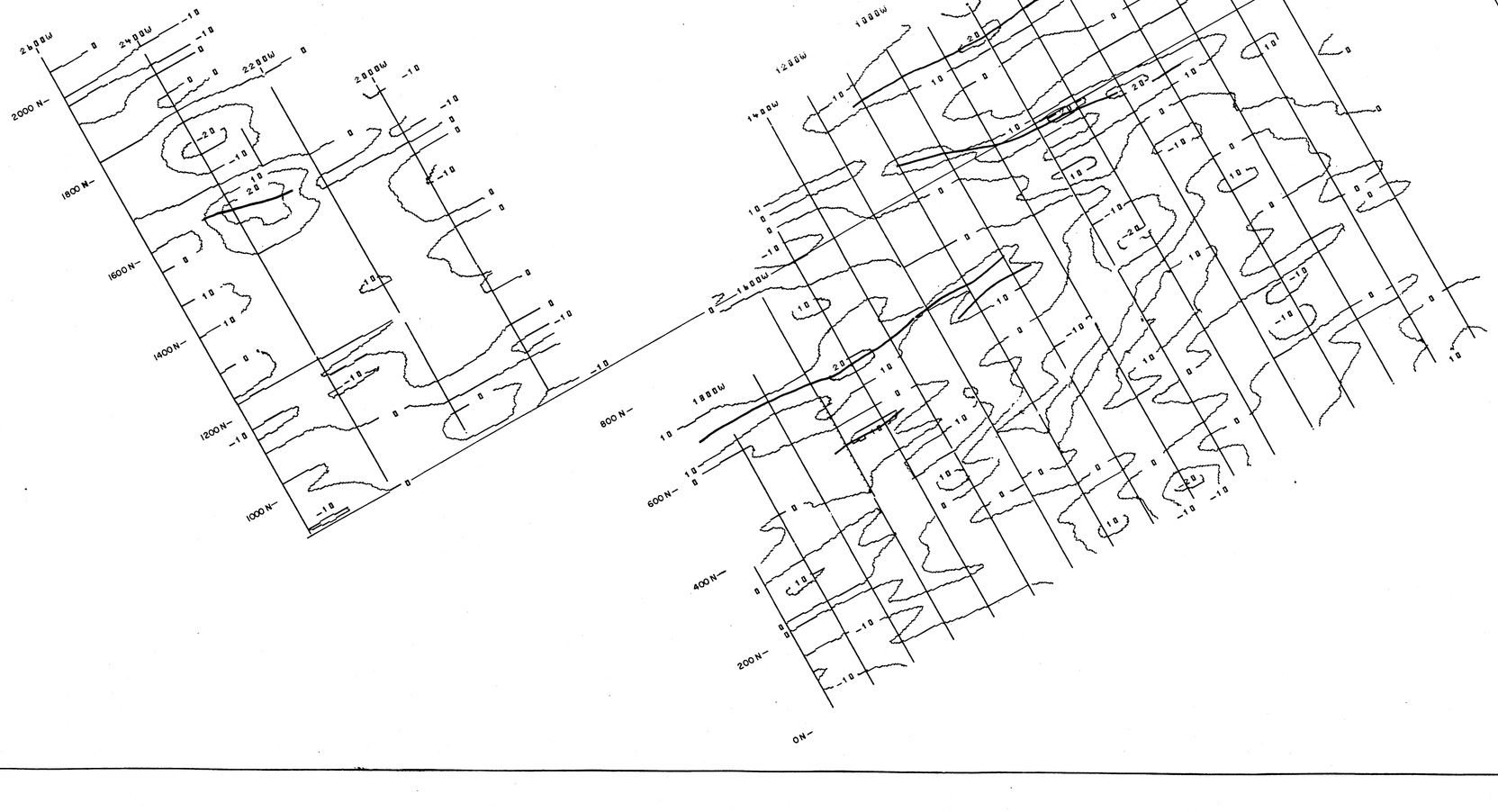
MAP KEY

SCALE: 1:5000
NTS: 93/L15
MINING DIVISION: Omineca

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,603

SOUTHERN GOLD RESOURCES LTD.
CRONIN MINE PROPERTY
VLF-EM Stacked Profile Map NLK Seattle, Washington (24.8 kHz) InPhase, Quadrature, Field Strength
SURVEY: Southern Gold Resources Ltd.
PROCESSING: GeoSci Data Analysis Ltd.
DATE: Oct 7, 1987 — Fig: 14



GEOPHYSICAL KEY:

INSTRUMENT: Scintrex IGS-2

PLOTTED DATA:
Fraser Filtered InPhase (%)

MAP KEY

SCALE: 1:5000
NTS: 93/L15
MINING DIVISION: Omineca

CONDUCTIVITY TREND

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,603

SOUTHERN GOLD RESOURCES LTD.

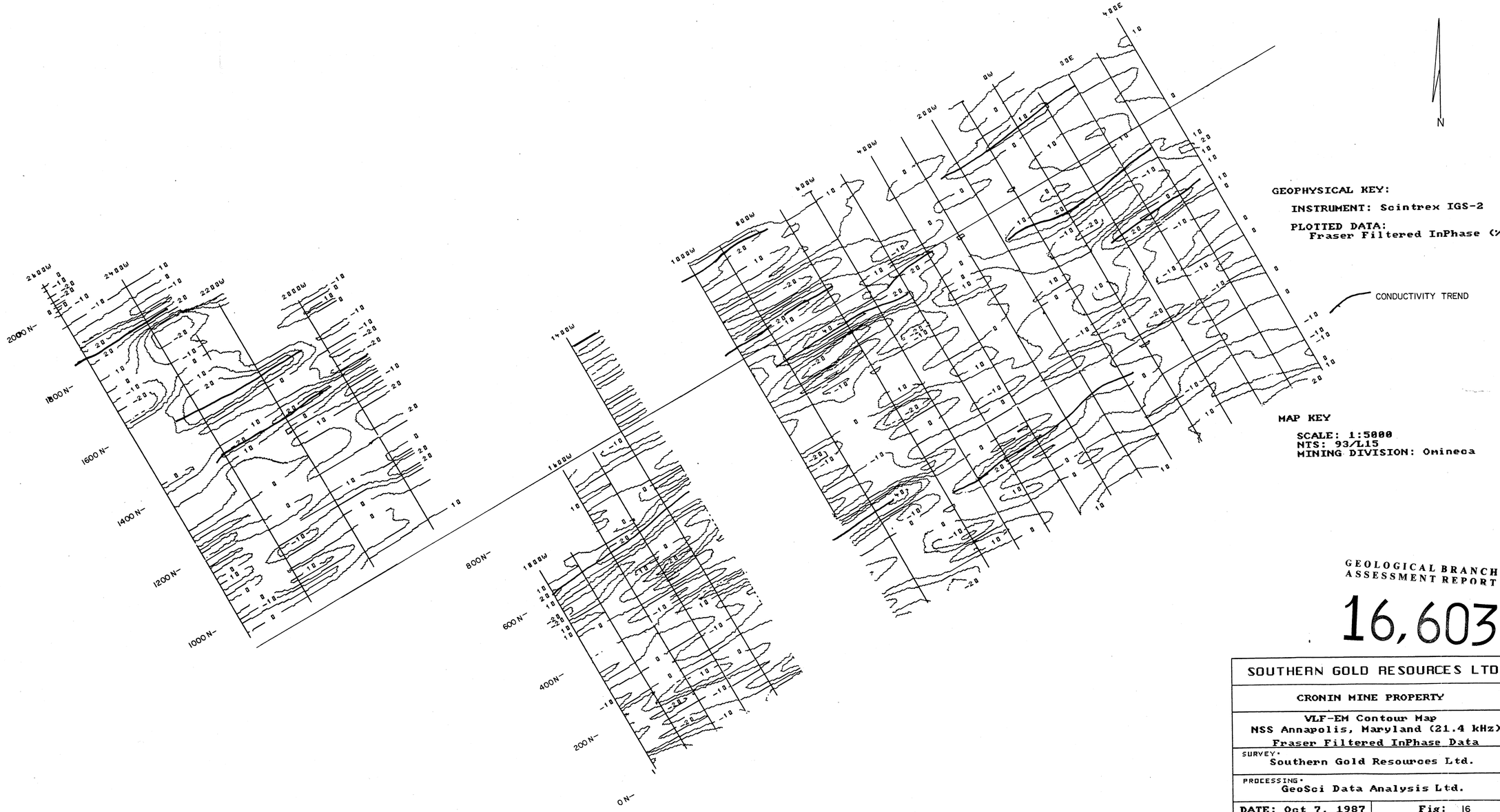
CRONIN MINE PROPERTY

VLF-EM Contour Map
NPM Lualualei, Hawaii (23.4 kHz)
Fraser Filtered InPhase Data

SURVEY:
Southern Gold Resources Ltd.

PROCESSING:
GeoSci Data Analysis Ltd.

DATE: Oct 7, 1987 | Fig: 15



GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,603

SOUTHERN GOLD RESOURCES LTD.	
CRONIN MINE PROPERTY	
VLF-EM Contour Map NSS Annapolis, Maryland (21.4 kHz) Fraser Filtered InPhase Data	
SURVEY: Southern Gold Resources Ltd.	
PROCESSING: GeoSci Data Analysis Ltd.	
DATE: Oct 7, 1987	Fig: 16

GEOPHYSICAL KEY:

INSTRUMENT: Scintrex IGS-2

PLOTTED DATA:
Fraser Filtered InPhase (%)

MAP KEY

SCALE: 1:5000
NTS: 93/L15
MINING DIVISION: Omineca

CONDUCTIVITY TREND

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,603

SOUTHERN GOLD RESOURCES LTD.

CRONIN MINE PROPERTY

VLF-EM Contour Map
NLK Seattle, Washington (24.8 kHz)
Fraser Filtered InPhase Data

SURVEY:
Southern Gold Resources Ltd.

PROCESSING:
GeoSci Data Analysis Ltd.

DATE: Oct 7, 1987 | Fig: 17