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ASSESSMENT REPORT
on

VLF-EM GEOPHYSICS

BUCK CLAIMS

Moyie River and Perry Creek Area

FORT STEELE MINING DIVISION

NTS 82 F/8 E and 82 G/5 W
Latitude 49 27' N
Longitude 116 03' W

by

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September 10, 1992

GEOLOGICAL BRANCH
ASSESSMENT REPORT

22,490

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1.00 INTRODUCTION

1.10 Location and Access

The Buck claims are located in the drainage areas of Moyie River and Perry Creek, approximately 20 kilometers due west of Cranbrook, B.C., in the Fort Steele Mining Division (Fig. 1). The property centers on Latitude 49 27' N and Longitude 116 03' W.

Access to the property is via good active logging roads which join main highways in the Cranbrook area. All the tributary drainages of Moyie River and Perry Creek which occur on the claim block have some road access but most high elevation areas must be accessed on foot or by helicopter.

1.20 Physiography

The property is situated west of the Rocky Mountain Trench within the Moyie Range of the Purcell Mountains. Topography is moderate to steep with glacially rounded ridges; elevation ranges from 1220 to 2130 meters.

Vegetation cover varies from immature to mature forests of larch, pine, spruce and fir. Considerable clear-cut logging has occurred on the claim block in the recent past and the logged areas are in various stages of regeneration.

1.30 History of Previous Exploration

Moyie River, Perry Creek, and numerous of their tributary streams which drain the area of the Buck claims have produced considerable placer gold. The Moyie River has very recently been commercially placer mined, and many small placer operations are worked on a small scale basis. The knowledge of significant placer gold in the main drainages and tributaries of Moyie River and Perry Creek has resulted in long-standing exploration activity for bedrock sources.

Many small lode gold occurrences have been discovered in the general area of the Buck claims and a few have seen minor production. Virtually all of the lode gold has come from relatively small quartz veins, usually in association with minor base metal sulfides. The advent of historically high gold prices in the late 1970's prompted staking which blanketed these areas of known placer gold production.

Exploration activity has been constrained by the extensive coverage of glacial drift, and although many small programs have been undertaken, few have been successful at delineating drill targets.

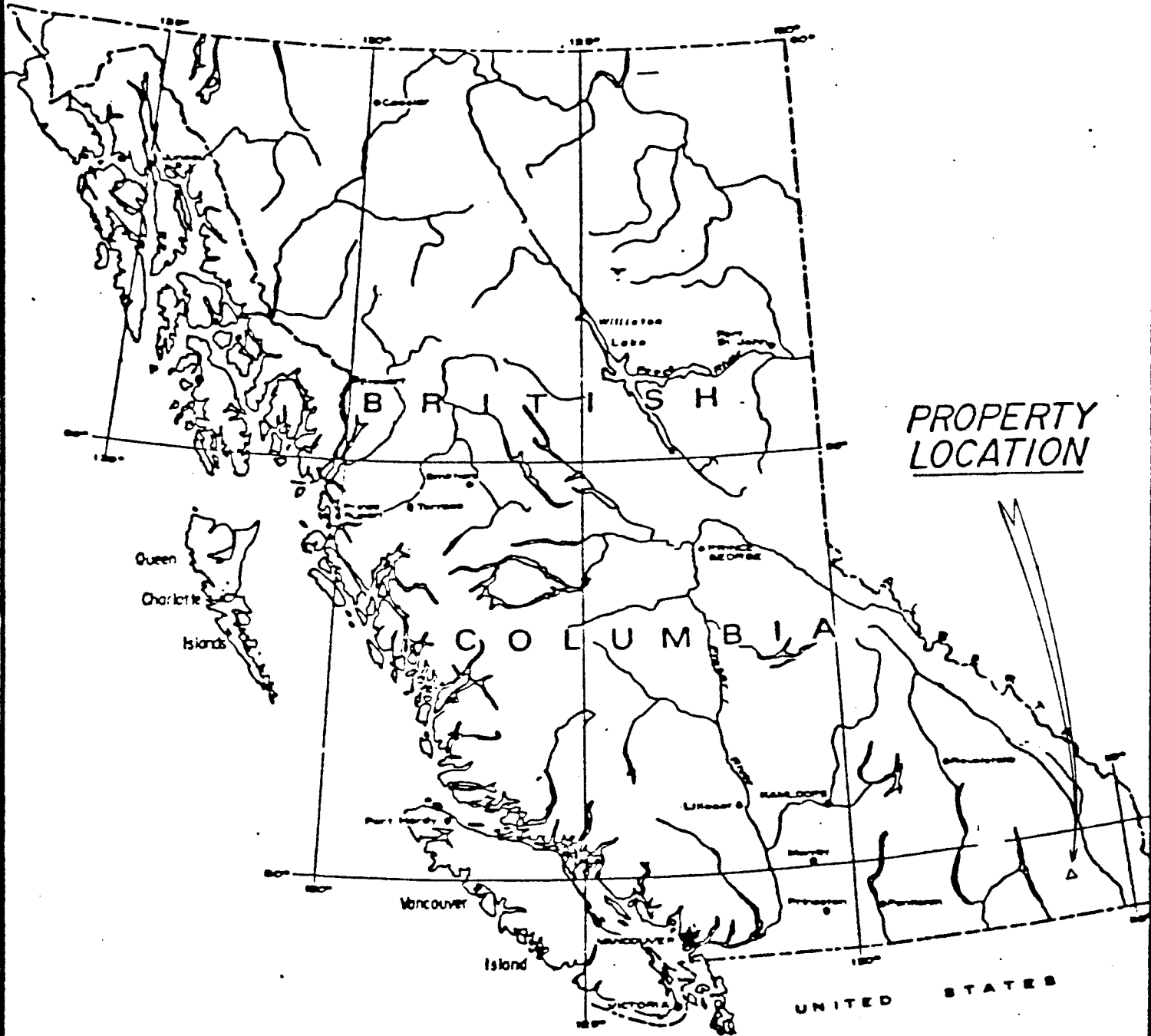


Figure 1
PURCELL CAMP PROPERTY
LOCATION MAP



Recent logging in the area has enhanced the exploration process by providing road access and exposing bedrock and float along haul roads, skid roads and in burned clear-cut areas.

In 1990-91, Dragoon Resources Ltd. explored the David property, approximately 10 kilometers south of the Buck claims but within the same structural belt. Significant gold mineralization was outlined within a shear zone. Average grades of 8 to 12 grams/tonne across widths up to 5 meters were obtained, and preliminary 'reserves' of about 100,000 tonnes have been calculated. The David deposit is to date one of the most significant gold discoveries in the East Kootenay region of B.C. and represents the type of structurally-controlled deposit being sought on the Buck claims.

1.40 Property

The Buck claim group is shown in Figure 2; Figure 3 shows the areas where geophysical surveying was completed on the claims in 1992.

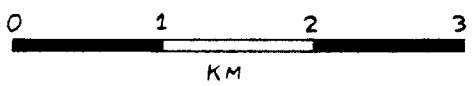
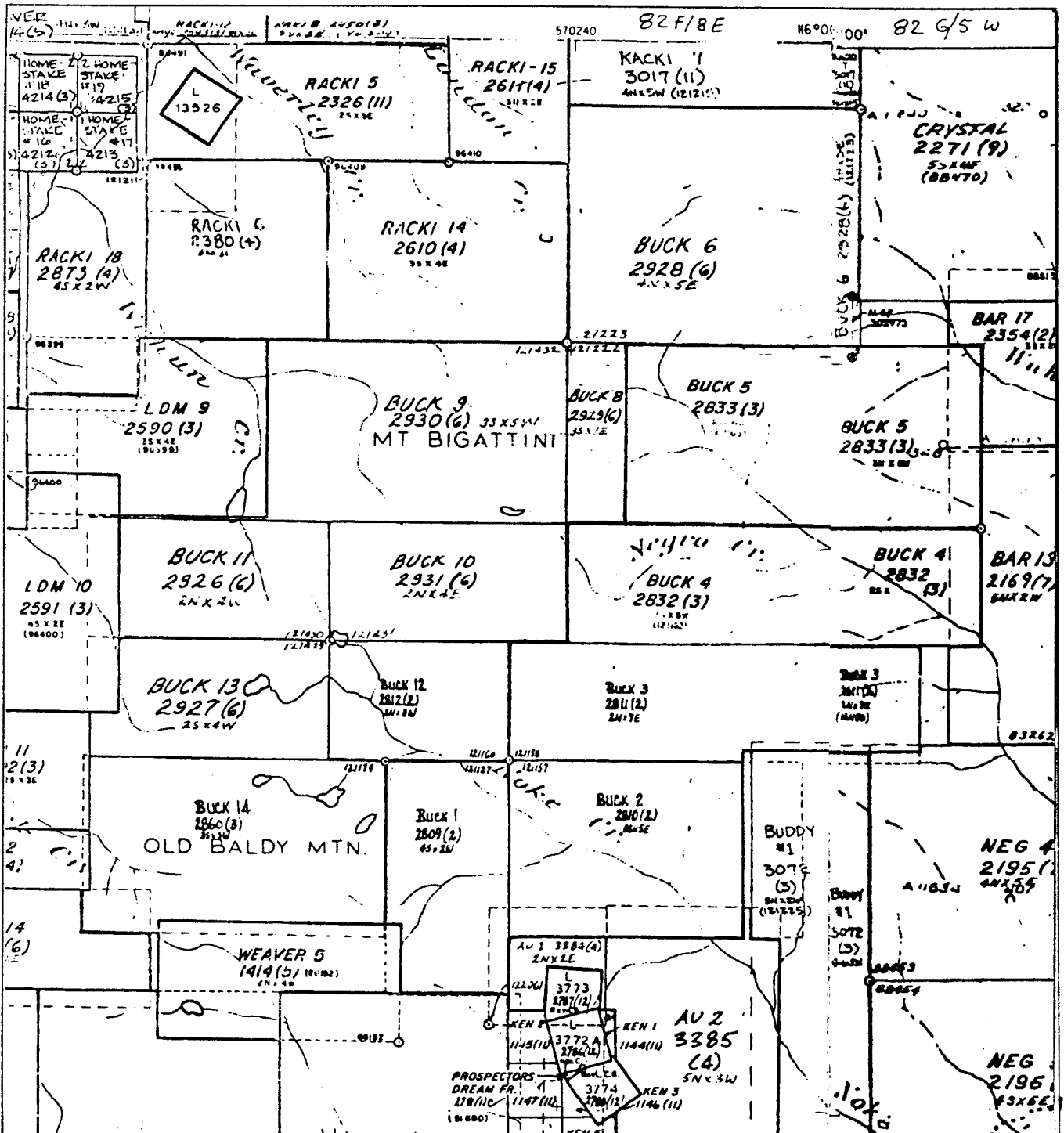
1.50 Purpose of Survey

In 1992, an extensive program of reconnaissance and grid VLF-EM surveying was conducted over much of the Buck claim group in a search for structures that might host shear zone gold mineralization.

2.00 GEOLOGY

The area of the Buck claims is underlain by Precambrian Purcell Supergroup rocks of the Aldridge, Creston and Kitchener Formations. The lowermost Aldridge Formation is a very thick (at least 4 kilometers) sequence of turbiditic quartzites, siltstones and argillites. The overlying Creston Formation consists of up to 2 kilometers of medium and thick bedded green quartzites and argillites of generally shallow water regime. The Kitchener Formation is a 1200 meter thick sequence of dolomitic siltstones and argillites.

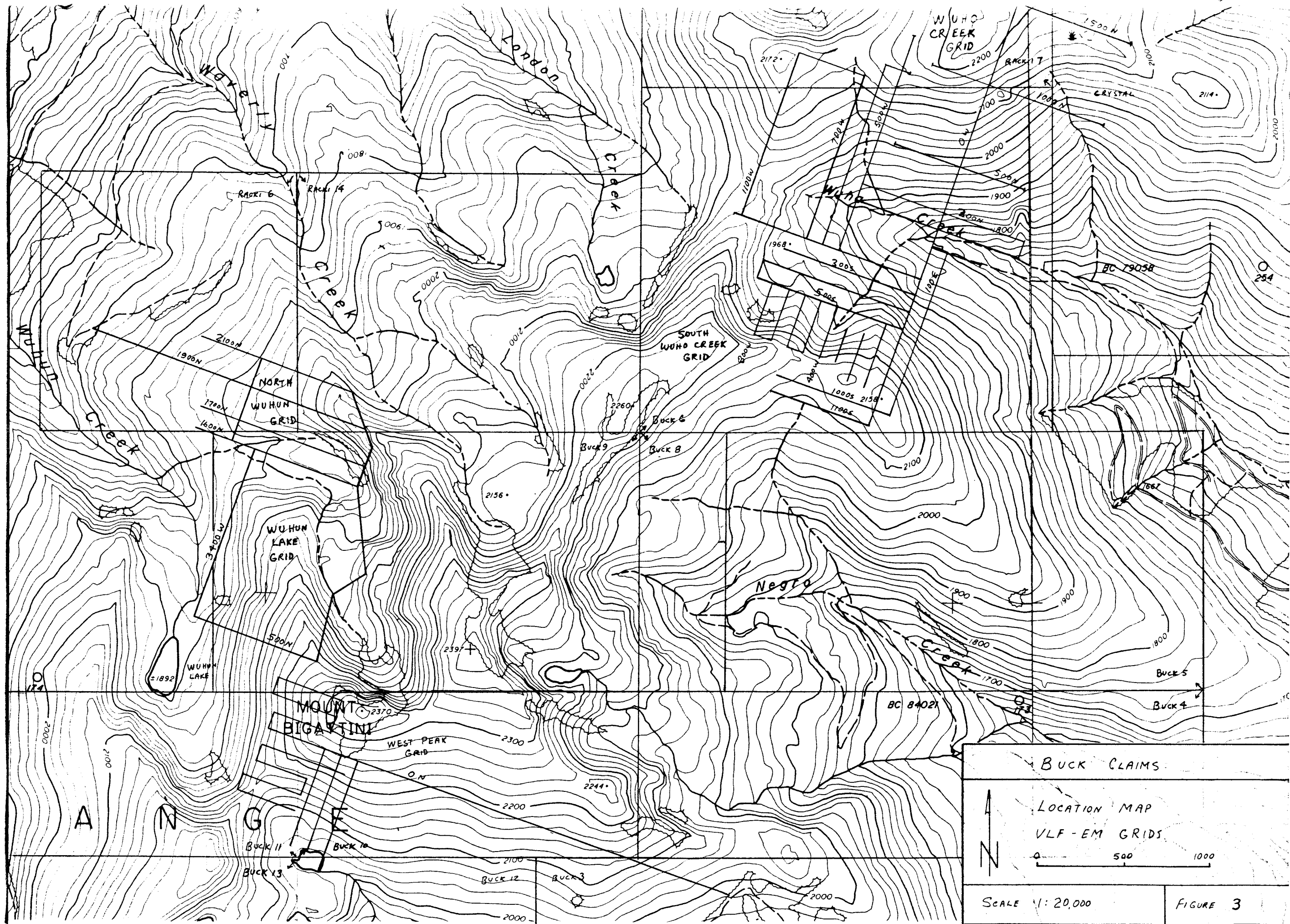
These units are intruded by Precambrian age diorite and gabbro composition sills and dikes of the Moyie Intrusions. These mafic intrusives are most common in the Lower Aldridge Formation and diminish upward, being quite rare in the Creston and Kitchener Formations. Cretaceous quartz monzonite and granodiorite stocks occur just off the property to both east and west and these are believed related to gold mineralization on the property.



SCALE 1:50,000



FIGURE 2. CLAIM MAP NTS 82 F/8E & 82 G/5W



BUCK CLAIMS

LOCATION MAP

VLF-EM GRIDS

0 500 1000

SCALE 1:20,000

FIGURE 3

A complex system of NE to NNE striking normal and reverse faults occur parallel to the regional strike of the sedimentary bedrock while a series of easterly-striking normal and reverse transverse faults cut across the regional trend at an oblique angle. This block-faulted area appears centered on the best known placer gold and it seems probable that gold mineralization is genetically related to both the structural complexity and the spatially-associated felsic intrusives.

3.00 GEOPHYSICS

3.10 Introduction

In 1992 parts of the Buck claims were surveyed with a VLF-EM instrument to identify structures that might be related to gold mineralization. Initial reconnaissance lines were run in areas where earlier work such as prospecting had identified significant gold mineralization in float or in bedrock.

Subsequently, some of the detected conductors were detailed with grid surveying.

Survey lines were run at azimuths of 020 degrees and 110 degrees to cross structures which were inferred to be at approximately these same attitudes. The survey areas are shown in Figure 3 and Figures 4 to 8 show more detailed plan maps of the survey lines. Lines were prepared using hip chain and compass with survey stations marked by numbered flagging. Survey stations are located every 25 meters along the lines.

For assessment purposes, work on the Buck claims has been applied to two claim groups, named Crystal Group and Buck Group. 22.0 kilometers of surveying were done on the Crystal Group and 26.2 kilometers of surveying were done on the Buck Group for a total of 48.2 kilometers of VLF-EM surveying.

A Crone Radem VLF-EM receiver, manufactured by Crone Geophysics Ltd. of Mississauga, Ontario was used for the VLF-EM survey. Seattle, Washington (24.8 KHz) was used as the transmitting station for most of the survey. Some of the lines surveyed on the South Wuho Creek Detailed Grid used Annapolis, Maryland (21.4 KHz).

In all electromagnetic prospecting, a transmitter produces an alternating magnetic (primary) field by a strong alternating current usually through a coil of wire. If a conductive mass such as a sulfide body is within this magnetic field, a secondary alternating current is induced within it which in turn induces a secondary magnetic field that distorts the primary magnetic field.

The VLF-EM receiver measures the resultant field of the primary and secondary fields and measures this as the tilt or 'dip angle'. The Crone Radem VLF-EM receiver measures not only the Dip Angle but also the total Field Strength.

The VLF-EM uses a frequency range from about 15 to 28 KHz, whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can detect zones of relatively lower conductivity. This results in it being a useful tool for geologic mapping in areas of overburden but it also often results in detection of anomalies that are difficult to explain. However the VLF-EM can also detect sulfide bodies which have too low a conductivity for other EM methods to pick up.

Results of the VLF-EM surveys on the Buck claim group were reduced by applying the Fraser Filter. These values are plotted on Figures 4 to 8; they are shown between the survey points and between the dip angle readings. The higher Fraser Filter values are contoured on these figures. Profiles of some of the data are plotted on Figures 9 to 11 with Field Strength (+ symbol), Dip Angle (. symbol) and Fraser Filter (x symbol) values shown.

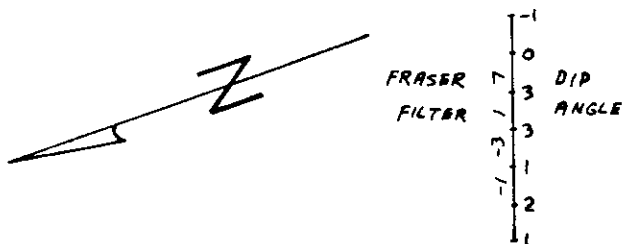
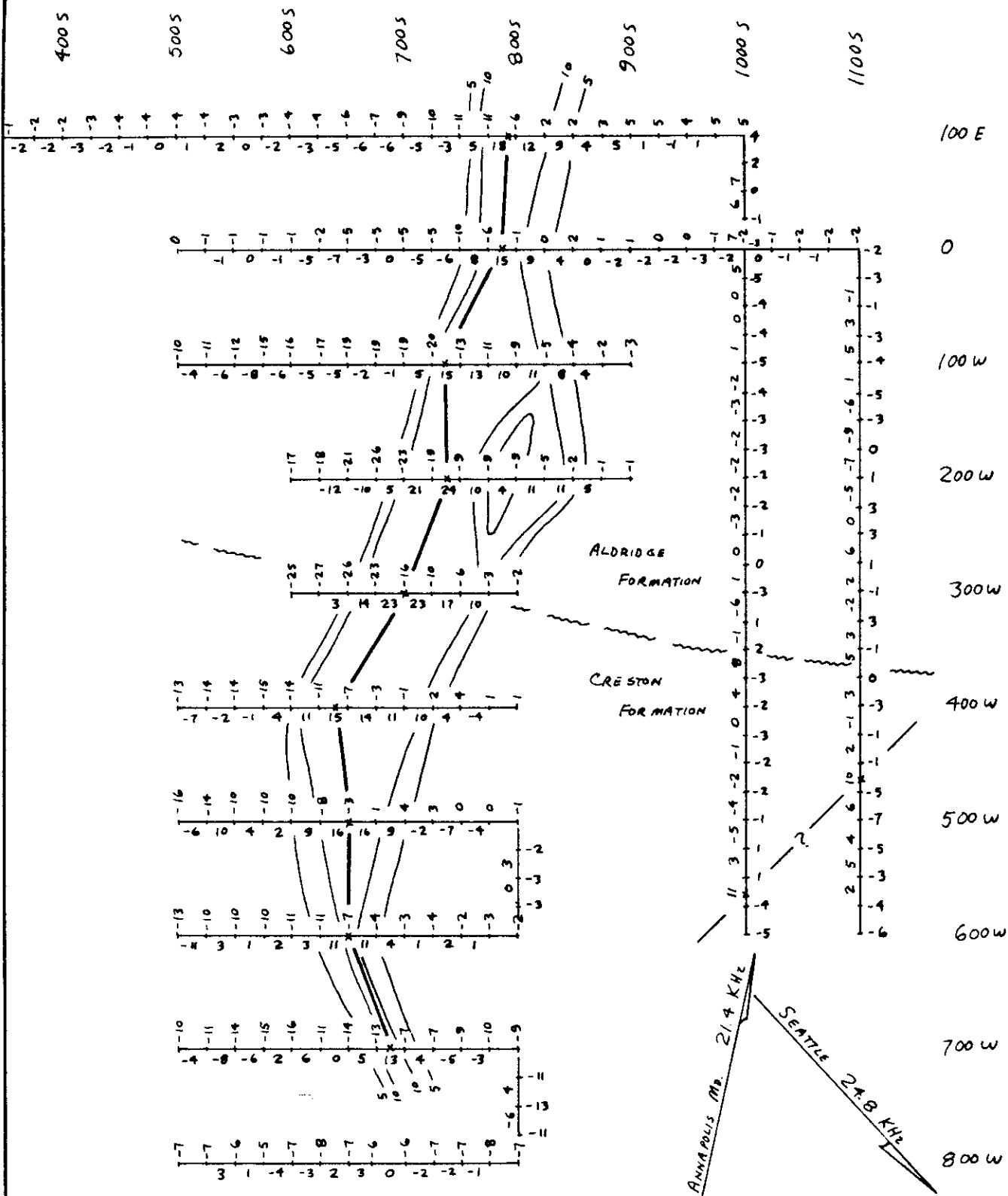
The Fraser Filter is essentially a four point difference operator, which transforms zero crossings into peaks, and a low pass smoothing operator which induces the inherent high frequency noise in the data. Thus the noisy non-contourable data are transformed into less noisy contourable data. Another advantage of this filter is that a conductor which does not show up as a crossover on the unfiltered data quite often shows up on the filtered data.

3.30 Discussion of Results

3.31 Wuho Creek Area; Crystal Claim Group

The upper Wuho Creek Area was surveyed to follow up on anomalous stream geochemistry obtained by 1987 silt sampling and 1988 heavy sampling. A prominent geologic feature in the area is a NNE fault which separates western Creston Formation rocks from eastern Aldridge Formation rocks. In the south part of the grid area this fault was apparently detected as a weak to moderate conductor (Figure 4).

A number of weak to moderate conductive responses were obtained elsewhere on the Wuho Creek Grid. There appears to be a preferred northeasterly orientation to these anomalies, although in many cases the VLF-EM survey lines are not close-spaced enough to provide adequate definition.



BUCK CLAIMS	
SOUTH WUHO CREEK DETAILED GRID VLF-EM DATA	
SCALE 1:5,000	FIGURE 5

Reconnaissance surveying on lines 0 W and 100 E detected an apparent east-west anomaly near 800 S; this anomaly was subsequently detailed as the South Wuho Creek Detailed Grid (Figures 5 and 10). A moderate to strong ESE oriented anomaly was defined along an 800 meter strike length, with the anomaly still open to the east. This feature may be of significance as an intersecting structure to northeast shear zones. It warrants continued surveying to delineate its extent and other exploration activity such as trenching to establish the cause of the anomaly.

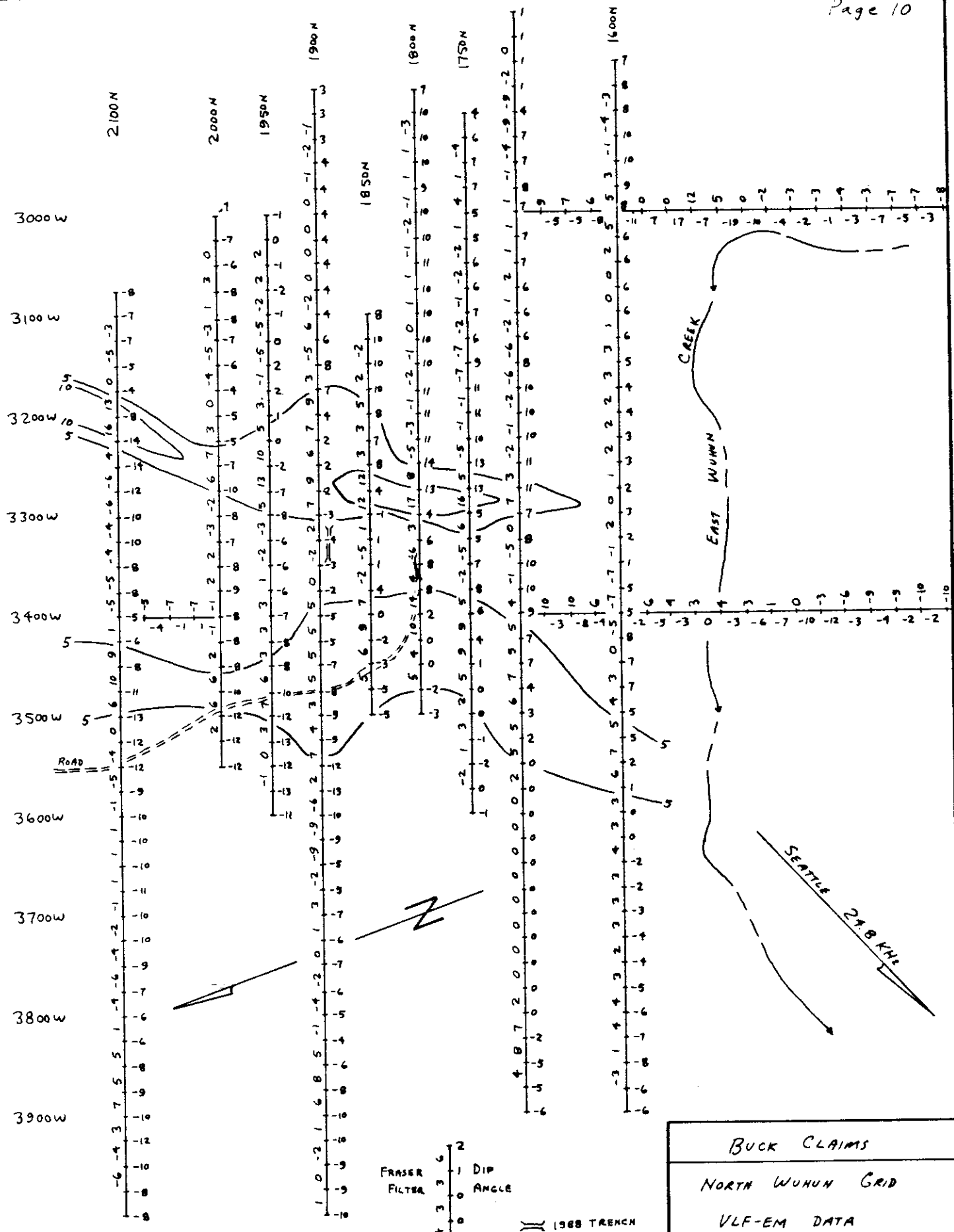
3.32 Wuhun and Noke Creek Area; Buck Claim Group

Previous exploration in the area of Wuhun and Noke Creeks established the presence of anomalous gold. Three grid areas were surveyed with VLF-EM in the hope of detecting favourable structures.

The North Wuhun Grid (Figure 6) covers an area of anomalous gold mineralization previously explored by soil geochemistry and trenching. The VLF-EM survey established two NNE conductive zones in the vicinity of the 1988 trenches. These trenches occur between the two VLF-EM anomalies. The trenches should be extended to cross the VLF-EM anomalies which could be favourable structures and may host better gold mineralization than previously seen.

The Wuhun Lake Grid (Figure 7) covers two areas of anomalous gold mineralization; one is near 1100 N, 2800 W and the other is near 700 N, 3300 W. No distinct anomalous responses were detected in either area. A broad NNE response in the eastern part of the grid may be a topographic effect related to the north ridge of the West Peak of Mount Bigattini. A stronger response near 3400 W, 800 N on the west edge of the grid should be further delineated to better understand its attitude; it occurs in an area of overburden close to Wuhun Creek and could be an important structure.

The West Peak Grid covers an area of anomalous gold detected by 1991 prospecting. A moderate to strong NNE anomaly which crosses the western part of the grid (Figures 8 and 11) coincides with the southwest ridge of the West Peak of Mount Bigattini and with known anomalous gold mineralization. It warrants follow-up with soil geochemistry and trenching. Another anomaly, trending northwesterly, occurs in the south part of the grid. The dip angle data on the east-west lines northwest of the anomaly suggest this anomaly does not cross the NNE anomaly. A potential favourable structural intersection should be further pursued here on this grid.

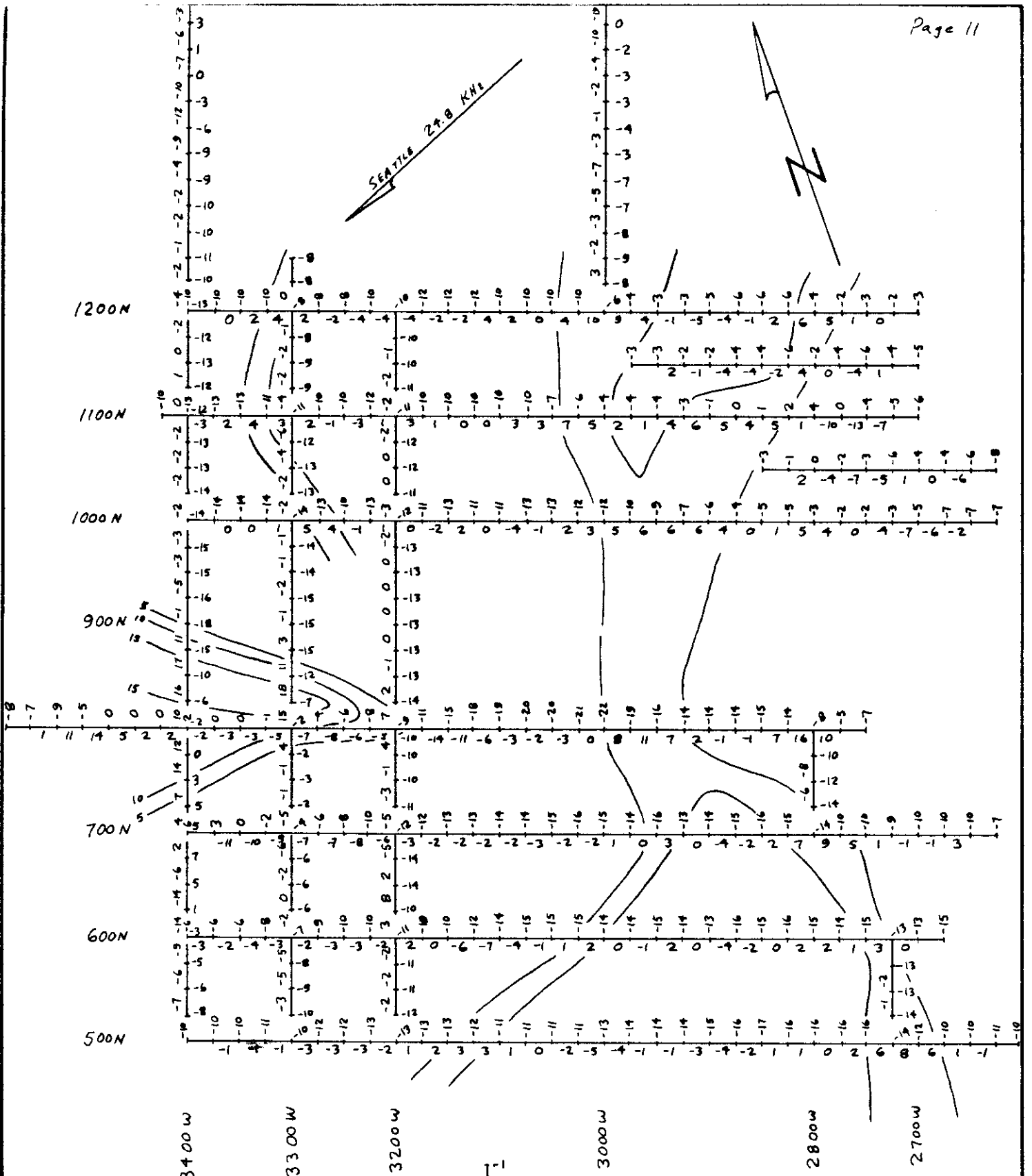


FRASER FILTER

1 2
3 4
0 1
-1 0
-2 1

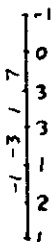
DIP ANGLE

BUCK CLAIMS	
NORTH WUHM GRID	
VLF-EM DATA	
SCALE 1:5000	FIGURE 6



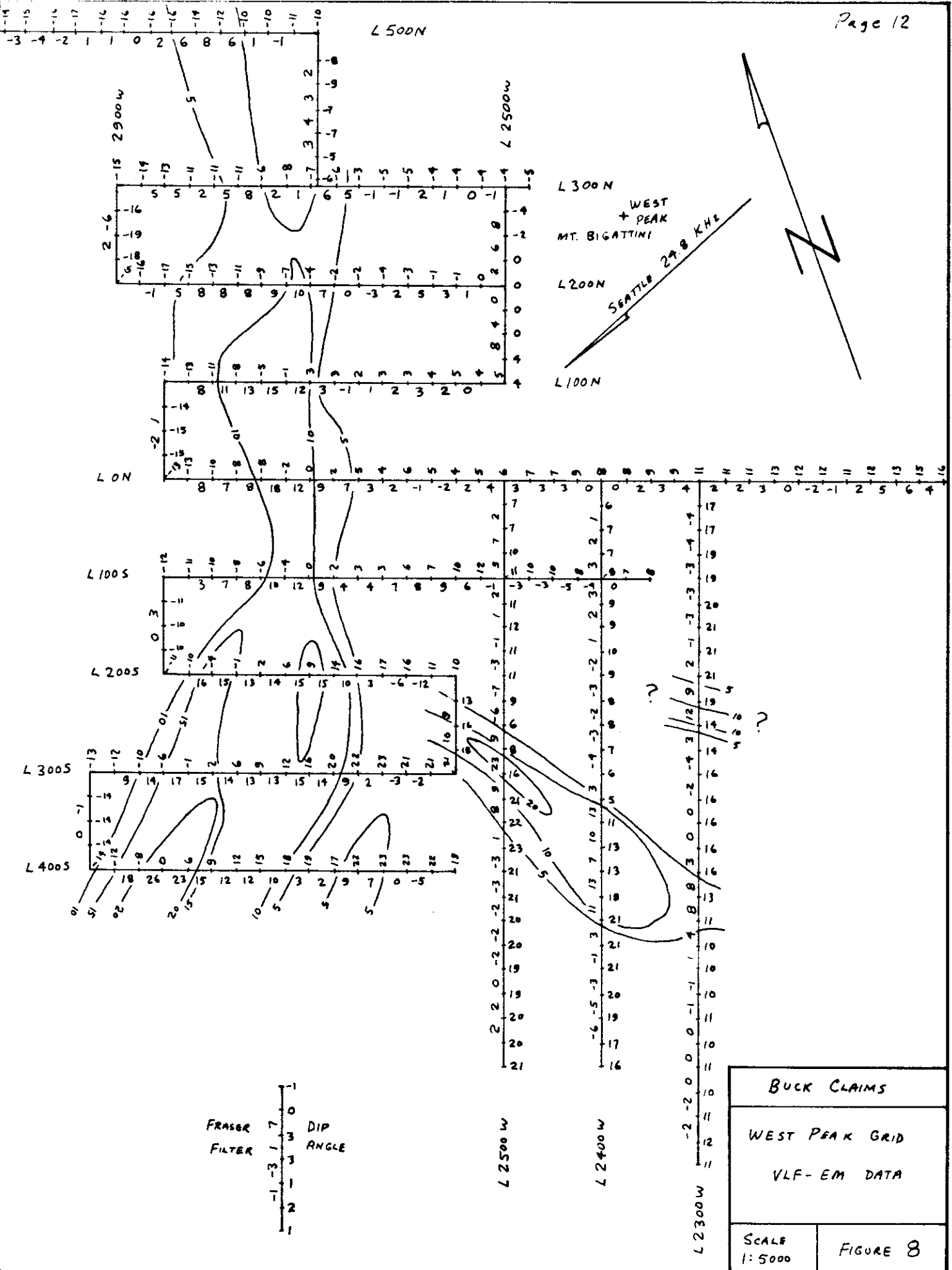
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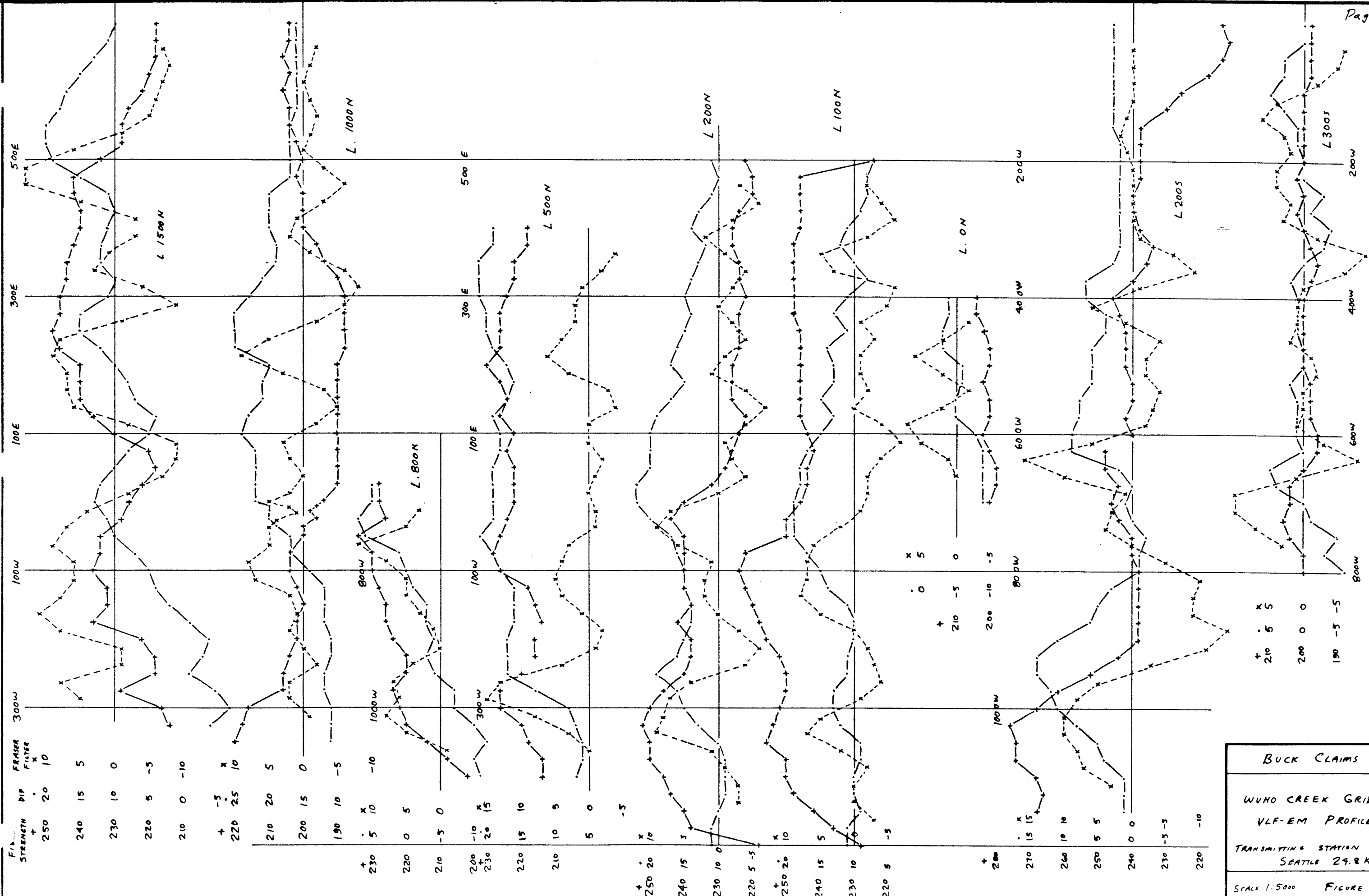
DIP
ANGLE



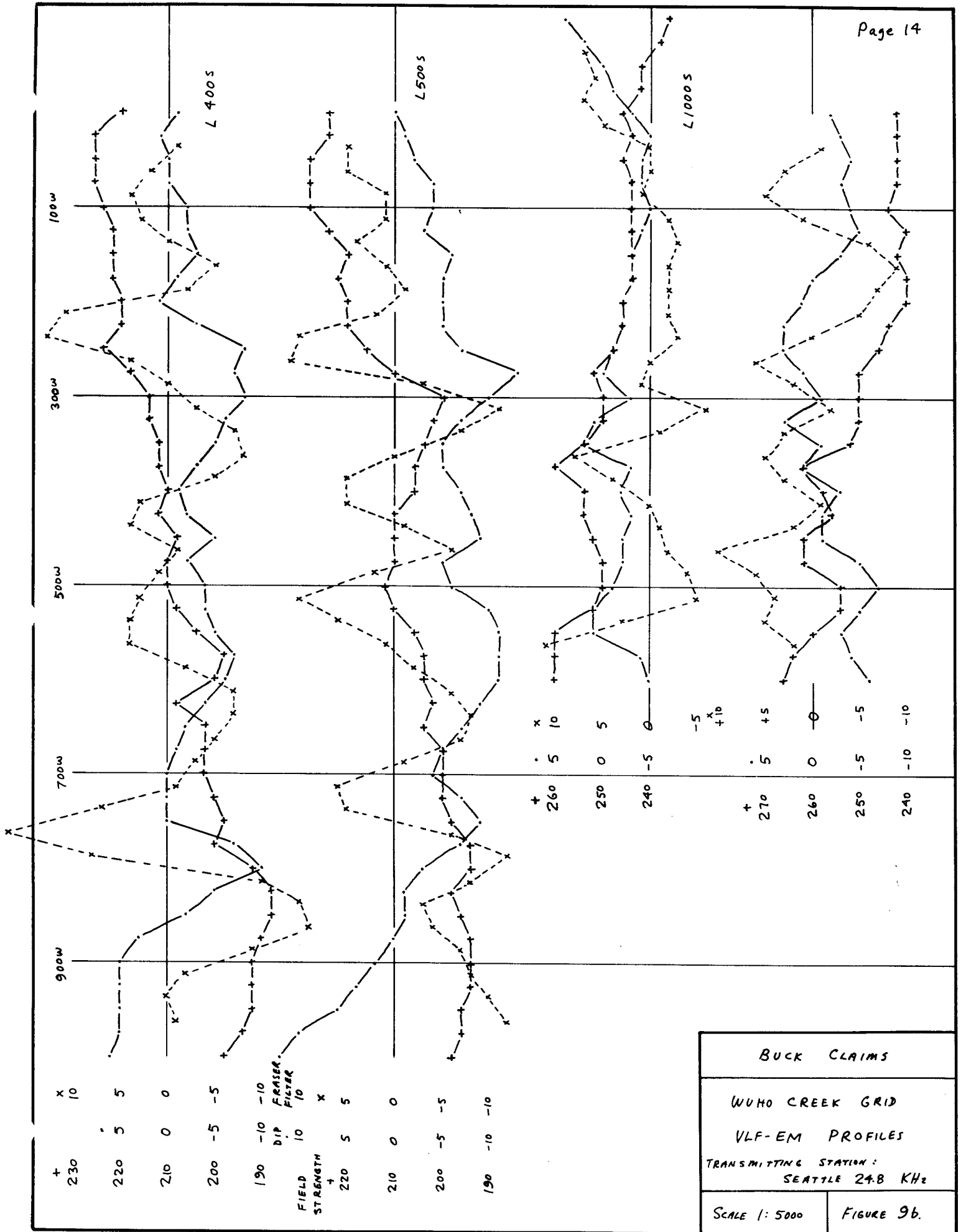
BUCK CLAIMS	
WUHUN LAKE GRID	
VLF-EM DATA	
SCALE 1:5000	FIGURE 7

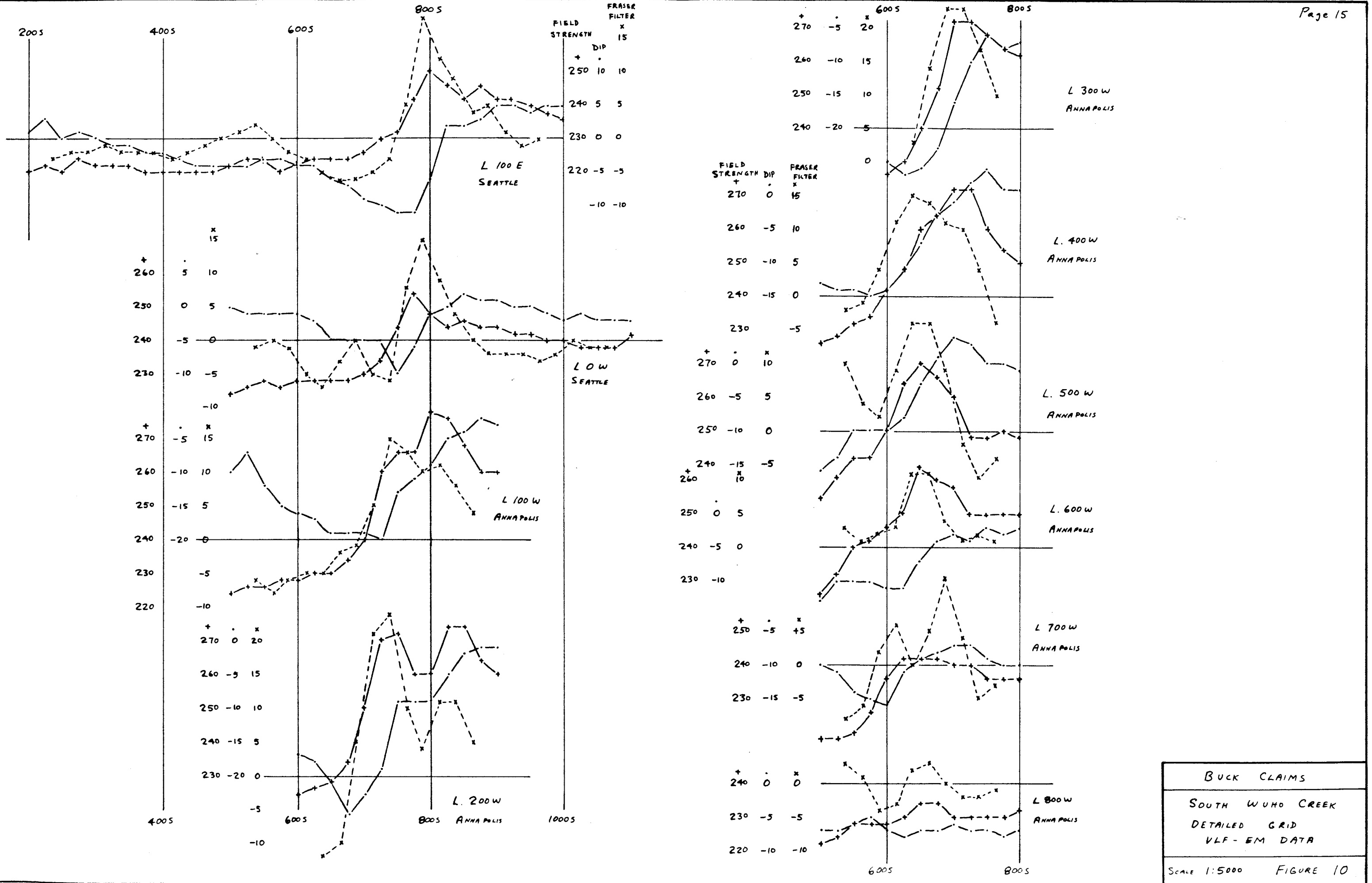
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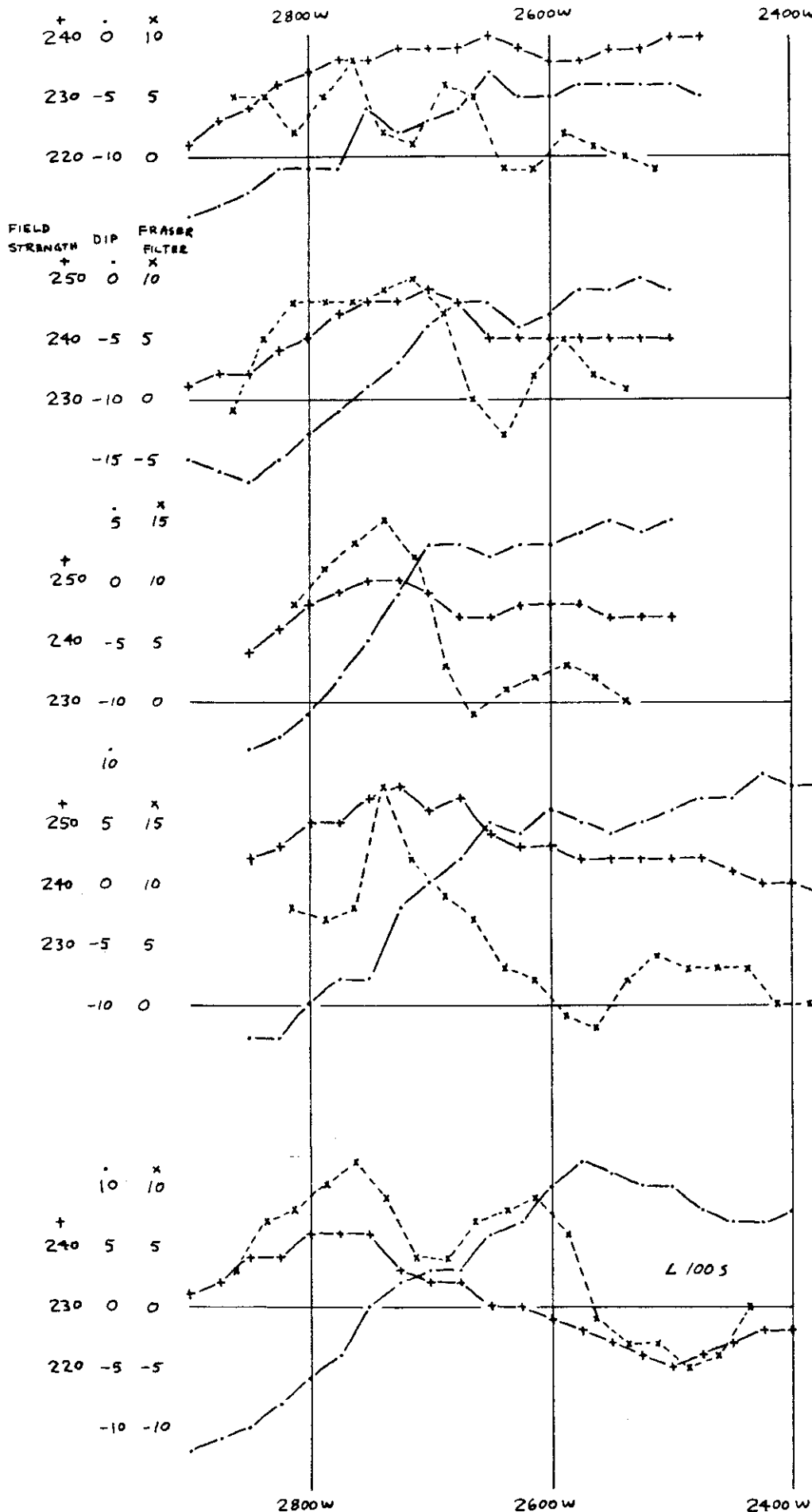




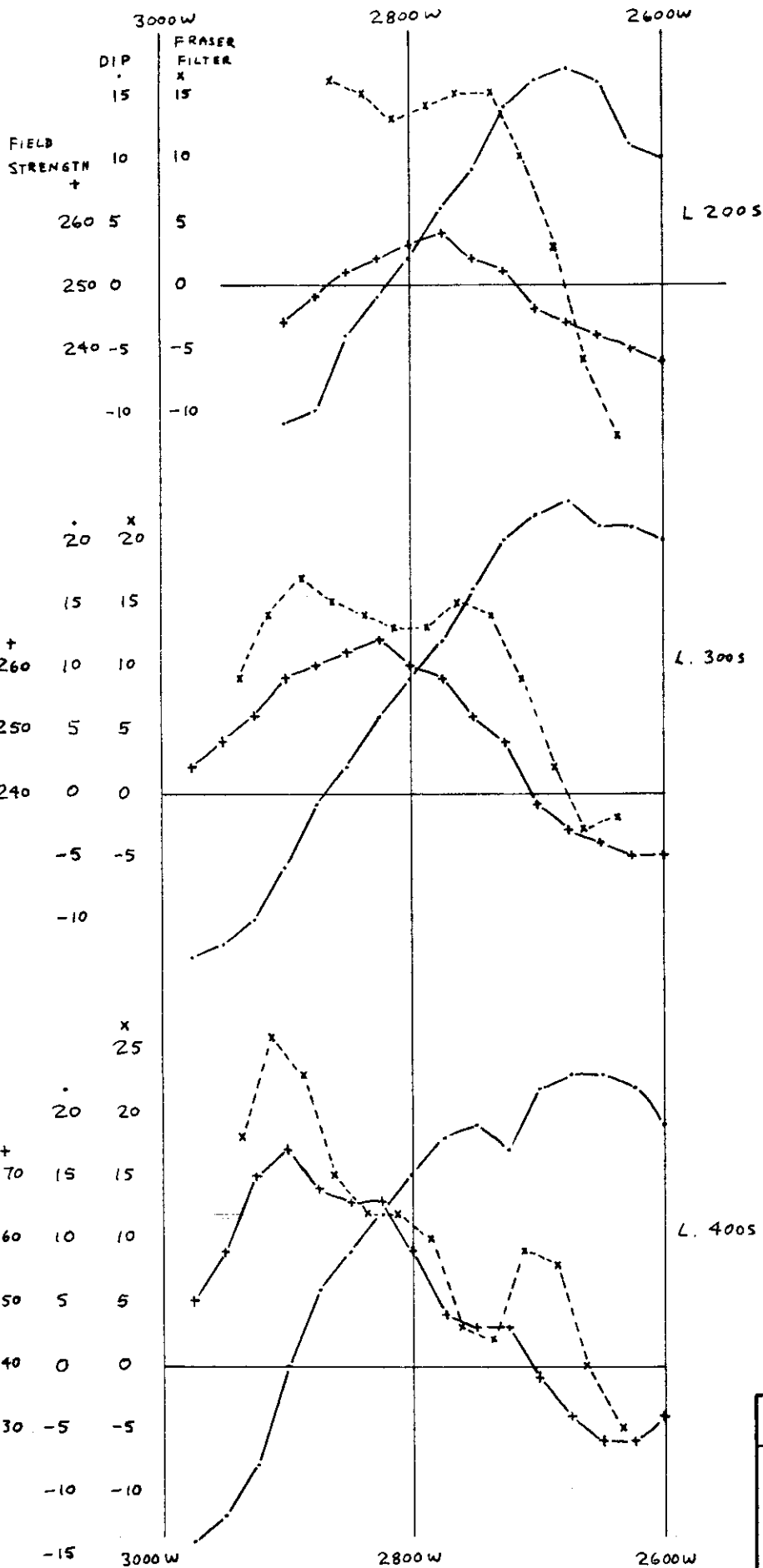
BUCK CLAIMS
 WUHO CREEK GRID
 VLF-EM PROFILES
 TRANSMITTING STATION
 SEATTLE 24.8 KHz
 SCALE 1:5000 FIGURE 9a



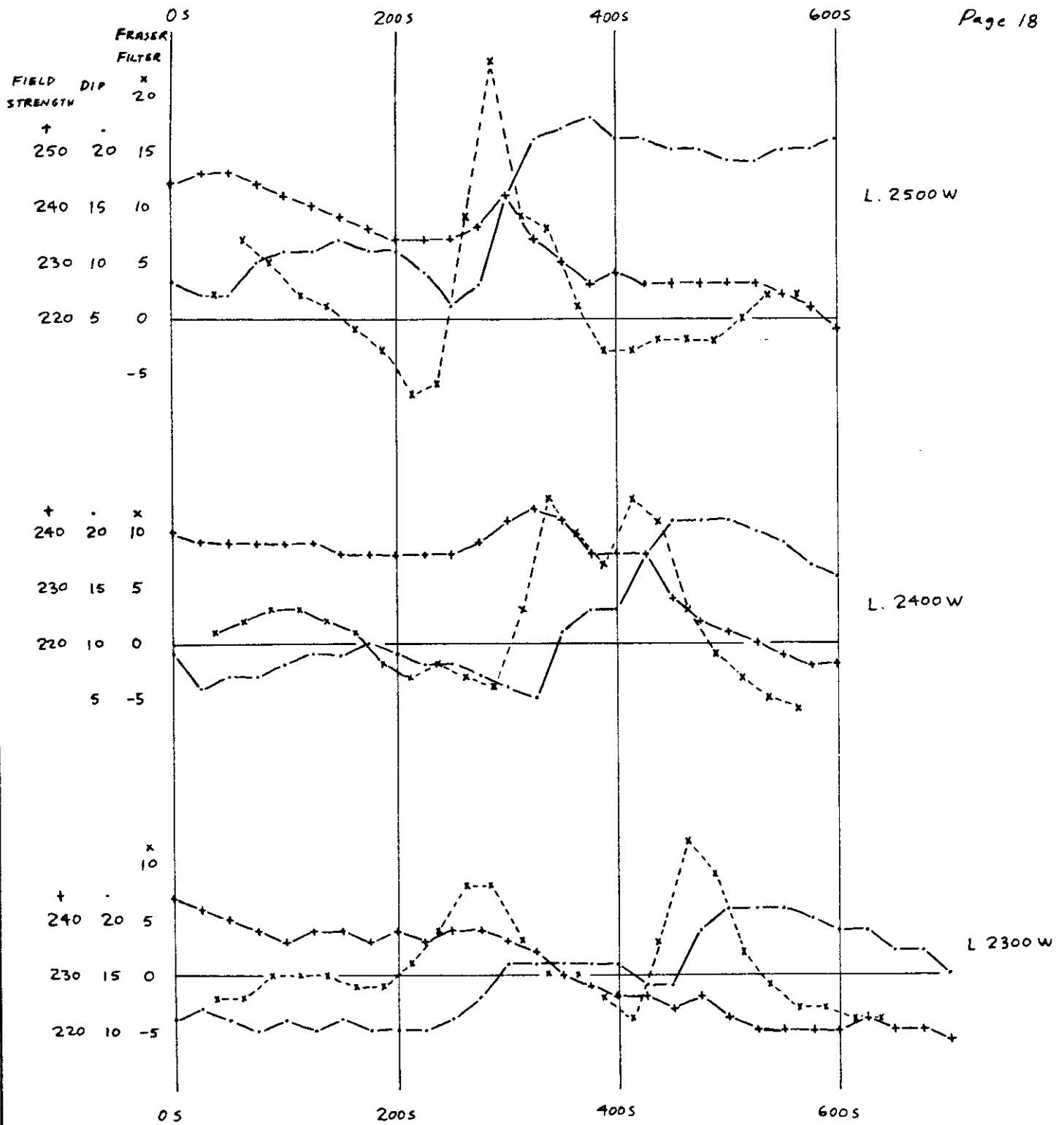




BUCK CLAIMS
WEST PEAK GRID
VLF-EM PROFILES
TRANSMITTING STATION: SEATTLE 29.8 KM
SCALE 1:5000 FIGURE 11a



BUCK CLAIMS
WEST PEAK GRID
VLF-EM PROFILES
TRANSMITTING STATION SEATTLE 24.8 KHz
SCALE 1:5000 FIGURE 116



BUCK CLAIMS	
WEST PEAK GRID	
ULF-EM PROFILES	
TRANSMITTING STATION: SEATTLE 2FBKH	
SCALE 1:5000	FIGURE 11c

5.00 CONCLUSIONS

1. Reconnaissance VLF-EM surveying on the Buck Claims has identified numerous conductive responses. Further surveying should be done to delineate these responses.
2. Grid VLF-EM surveying in the vicinity of two known gold occurrences on the Wuhun Lake Grid did not detect any significant anomalies.
3. Grid VLF-EM surveying on the North Wuhun Grid in an area of previous exploration suggests that favourable structures may have been missed by the previous work.
4. Grid VLF-EM surveying on the South Wuho Creek and West Peak Grids has defined NNE and NW to WNW conductive responses which may be indicative of intersecting structural features. These are of particular interest because they occur near known gold mineralization. Follow-up work of soil geochemistry and trenching is warranted.

6.00 STATEMENT OF EXPENDITURES

CRYSTAL GROUP

23 man days, field work, drafting and report, @ \$225/day	\$5175.00
Truck rental 11 days @ \$50.00/day	550.00
VLF-EM rental 11 days @ \$30.00/day	330.00
Field and report supplies	168.00
Total Expenditure	\$6223.00
	=====

BUCK GROUP

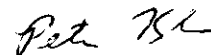
30 man-days, field work, drafting and report, @ \$225/day	\$6750.00
Truck rental 16 days @ \$50.00/day	800.00
VLF-EM rental 16 days @ \$30.00/day	480.00
Field and report supplies	179.00
Total Expenditure	\$8209.00
	=====

7.00 AUTHOR'S QUALIFICATIONS

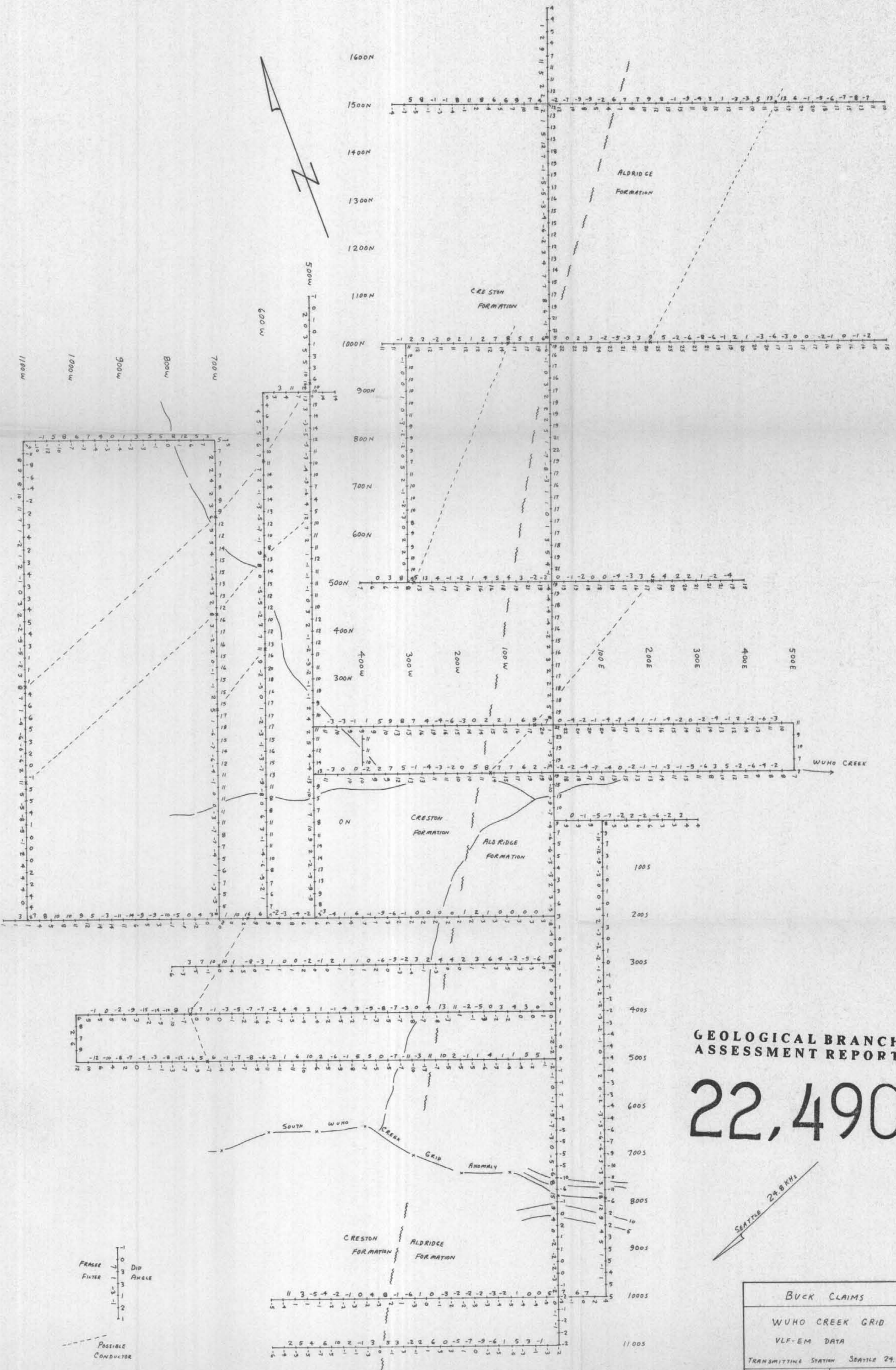
As author of this report I, Peter Klewchuk, certify that:

1. I am an independent consulting geologist with offices at 246 Moyie Street, Kimberley, British Columbia.
2. I am a graduate geologist with a BSc degree (1969) from the University of British Columbia and an MSc degree (1972) from the University of Calgary.
3. I am a Fellow in good standing of the Geological Association of Canada.
4. I have been actively involved in mining and exploration geology, primarily in the province of British Columbia, for the past 18 years.
5. I have been employed by major mining companies and provincial government geological departments.

Dated at Kimberley, British Columbia, this 10th day of September, 1992.



Peter Klewchuk



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ASSESSMENT REPORT**

22,490

BUCK CLAIMS	
WUHO CREEK GRID	
VLF-EM DATA	
TRANSMITTING STATION	SEATTLE 29.8 KHz
SCALE 1:5000	FIGURE 4