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**Ministry of Energy, Mines & Petroleum Resources**
Mining & Minerals Division
BC Geological Survey

**Assessment Report**
**Title Page and Summary**

**TYPE OF REPORT [type of survey(s)]:** Analysis of VLF Geophysical Data: Mac's Attack property **TOTAL COST:** $12,000.00

**AUTHOR(S):** Frederick A. Cook **SIGNATURE(S):** Frederick Cook Digitally signed by Frederick Cook DN: cn=Frederick Cook, o, ou, email=fcook@ucalgary.ca, c=US Date: 2015.05.18 10:01:26 -07'00'

**NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):** **YEAR OF WORK:** 2015

**STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):** Event 5544421: Dates Jan 29, 30, Feb 2, 3, 5, 16, 17, 18, 19, 2

**PROPERTY NAME:** Mac's Attack

**CLAIM NAME(S) (on which the work was done):** 1026397, Mac's Attack

**COMMODITIES SOUGHT:** Precious metals, massive sulphides

**MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:**

**MINING DIVISION:** Ft. Steele **NTS/BCGS:** 082F, 082G

**LATITUDE:** 49 ° 21 '08 " **LONGITUDE:** 115 ° 59 '29 " **(at centre of work)**

**OWNER(S):**
1) T. P. J. Kennedy 2)

**MAILING ADDRESS:**
2290 DeWolfe Ave.
Kimberley, BC V1A1P5

**OPERATOR(S) [who paid for the work]:**
1) Salt Spring Imaging, Ltd. 2)

**MAILING ADDRESS:**
128 Trincomali Heights
Salt Spring Island, BC, V8K1M8

**PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):**

Metasedimentary rock; silica veins; Proterozoic; Middle Aldridge Formation, silica veins and sedex deposits

**REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:** Bapty and Klewchuk, 1989 (AR19277); Hoy ar
Pighin, 2002 (AR27005A); O'Grady, 1987 (AR16606); Ryley et al, 1990 (AR19965); Wilson, 1979 (AR07660)

Next Page

| TYPE OF WORK IN THIS REPORT | EXTENT OF WORK (IN METRIC UNITS) | ON WHICH CLAIMS | PROJECT COSTS APPORTIONED (incl. support) |
| --- | --- | --- | --- |
| GEOLOGICAL (scale, area) | | | |
| Ground, mapping | | | |
| Photo interpretation | | | |
| GEOPHYSICAL (line-kilometres) | | | |
| Ground | | | |
| Magnetic | | | |
| Electromagnetic | VLF-EM data Processing and Interp. | 1026397 | $8,000.00 |
| Induced Polarization | | | |
| Radiometric | | | |
| Seismic | | | |
| Other | | | |
| Airborne | | | |
| GEOCHEMICAL (number of samples analysed for...) | | | |
| Soil | | | |
| Silt | | | |
| Rock | | | |
| Other | | | |
| DRILLING (total metres; number of holes, size) | | | |
| Core | | | |
| Non-core | | | |
| RELATED TECHNICAL | | | |
| Sampling/assaying | | | |
| Petrographic | | | |
| Mineralographic | | | |
| Metallurgic | | | |
| PROSPECTING (scale, area) | | | |
| PREPARATORY / PHYSICAL | | | |
| Line/grid (kilometres) | | | |
| Topographic/Photogrammetric (scale, area) | | | |
| Legal surveys (scale, area) | | | |
| Road, local access (kilometres)/trail | | | |
| Trench (metres) | | | |
| Underground dev. (metres) | | | |
| Other | Report | | $4,000.00 |
| | | TOTAL COST: | $12,000.00 |

Assessment Report:

# Analyses of VLF Geophysical Data:

# Mac's Attack Property,

# Southeastern British Columbia

## MTO event 5544421

**North 49° 21' 8"; West 115° 59' 29"**

**UTM Zone 11 573250E, 5467100N**

**NTS map sheets 082F and 82G**

**Fort Steele Mining Division**

**by**

**F. A. Cook, Ph.D., P.Geo.**
**Salt Spring Imaging, Ltd.**
**128 Trincomali Heights**
**Salt Spring Island, B.C.**

*Property Owner:*

**T. P. J. Kennedy**
**2290 DeWolfe Ave.**
**Kimberley, B.C. V1A1P5**

**May 2015**

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## Figures



## Table



## Appendices

## 1.0 Summary

Application of modern filtering and inversion techniques to existing Very Low Frequency (VLF-EM) geophysical data across parts of the Mac's Attack property in southeastern British Columbia has allowed quasi three-dimensional imaging of subsurface electrical conductors to approximately 150 m depth. The data were recorded in 1988 along 16 lines that were tied to a local grid system. For this work, the topographic information was digitized, and the VLF lines were reformatted into the UTM coordinate system. The results from each of the inverted profiles were plotted to provide cross sections of the near-surface conductivity structures to as much as 150m depth. The information was then displayed in a three dimensional representation of key conductivity isosurfaces.

## 2.0 Introduction

Salt Spring Imaging Ltd. undertook an analysis of existing VLF data on the Mac's Attack property in the Purcell anticlinorium of southeastern British Columbia (Figure 1). The objective of the work is to evaluate information bearing on the subsurface physical properties, in this case the electrical conductivity. The approach includes application of two-dimensional finite element inversion, and subsequent projection of the inversion results into (quasi-) three-dimensional images. This report provides a brief description of the setting, a description of the field procedures, data processing and interpretation.

The author is familiar with the geology and geophysics of the region, having been responsible for acquiring geophysical data in British Columbia since 1983 and as the transect leader for the Lithoprobe Southern Canadian Cordillera transect from 1985-1995 and Transect co-leader for the Lithoprobe Slave-Northern Cordillera transect from 1995-2005.

Metric units are used throughout the report.

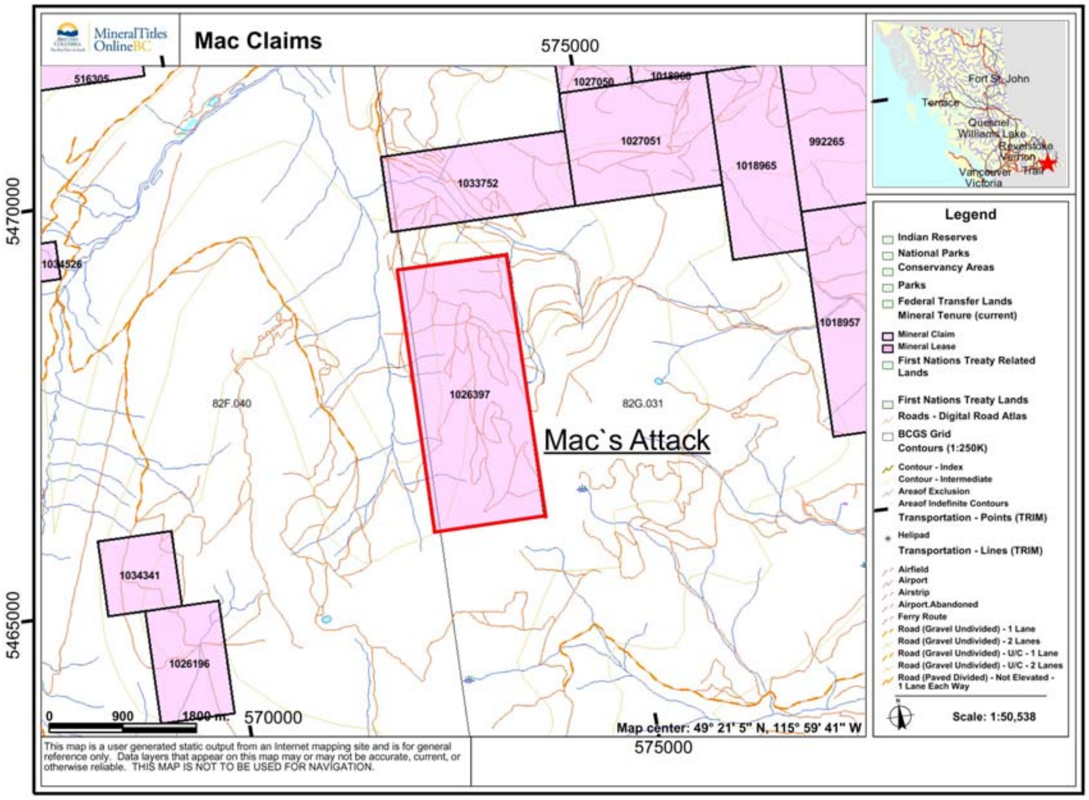


**Figure 1.** Map modified from MTonline with the Mac's Attack property indicated in red.

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## 3.0 Property Description and Location

### 3.1 *Location and Access*

The Mac's Attack Property is a rectangular claim that is located approximately 25 km southwest of Cranbrook, British Columbia (Figure 1). Access to the property is provided by the Lumberton Forest Service Road, and then by the McNeil Creek road and associated trails.

### 3.2 *Limits and Physiography*

The approximate geographical limits of the property are the following: (degrees latitude, degrees longitude; UTM easting, UTM northing**):** northwest (49$^o$ 21' 59.9", 116$^o$

0’ 3.8”; 572527, 5468693); northeast (49° 21’ 59.2”, 115° 58 54.1”; 573933, 5468693); southeast (49° 20’ 14.2”, 115° 58’ 56.3”; 573933, 5465450); southwest (49° 20’ 14.9”, 116° 0’ 5.9”; 572527, 5465450).

The property is located in hilly terrain with elevation differences of as much as 350m on a single grid line, and as much as 600-700m over the property.

### 3.3 *Property Definition and History*

The Mac’s Attack property consists of a single mineral tenure containing approximately 441.93 hectares (Table I). The mineral cell title was acquired online and as such there are no posts or lines marking the location of the property on the ground. The claims are owned by T. Kennedy of Kimberley, BC.

| Title Number | Claim Name/Property | Issue Date | Good To Date | New Good To Date | # of Days For-ward | Area in Ha |
|---|---|---|---|---|---|---|
| 1026397 | MAC'S ATTACK | 2014/mar/01 | 2015/mar/01 | 2018/Nov/15 | 1355 | 441.93 |

**Table 1**. Description of Mac’s Attack property mineral title.

The area in the vicinity of the property has been prospected since at least the 1970’s due to its proximity to the Sullivan deposit (about 25 km north) and due to showings of anomalous Pb, Zn, Ag, and Au in veins. According to Bapty and Klewchuk (1989), the initial discovery and geochemical work were done in 1979 after logging exposed mineralized quartz veins (Wilson, 1979). Line cutting, geological mapping and soil sampling were undertaken in 1986 (O’Grady, 1987), and a major program with geological mapping, trenching, VLF surveying, and drilling was undertaken in 1988 (Bapty and Klewchuk, 1989). The VLF data from this program are the focus of this study.

Additional geological mapping, drilling and geophysics were undertaken in the northern end of what is now the Mac’s Attack property (Ryley, et al. 1990). Most of this work was undertaken at the northern limit, or north of the Mac's Attack property and is not analysed in detail here.

## 4.0 Geological Setting

The property is situated in Purcell anticlinorium in the hangingwall of the Moyie fault and the footwall of the St. Mary's fault (Figure 2). Although exposures are not good, the surface rocks are known to be metasedimentary and metaigneous rocks of the Mesoproterozoic Middle Aldridge Formation (Figure 3).

Showings with anomalous metal concentrations are found in quartz veins and occasionally as stratabound sedimentary exhalative deposits. The key horizon that has been sought in the area is the transition from the Middle Aldridge to the Lower Aldridge Formations, as this is the stratigraphic horizon in which the Sullivan deposit is found. Accordingly, a number of the deep drill holes (e.g., M88-7) were drilled as stratigraphic tests to sample this important boundary. A number of gabbroic sills intrude the Middle Aldridge Formation and act as stratigraphic markers for correlation and mapping. For example, the sills outline a southwest plunging syncline south of the Mac's Attack property that is truncated by a north-south normal fault (McNeil Creek fault) immediately west of the property.

The McNeil Creek fault (Mcf in Figure 2) is a late structure that has as much as 1000m of displacement. It bounds, or is very close to, the eastern edge of a basin that has been interpreted in uppermost Lower Aldridge and Middle Aldridge strata (Hoy and Pighin, 2002). Accordingly, the fault may be a long-lived feature with an early phase that was associated with basin development in the late Lower Aldridge and Middle Aldridge times, and a late stage movement that offset these rocks by 1000m or so. The McNeil Creek fault has an associated strong magnetic anomaly that is apparently caused by concentrations of iron oxides and veining. Such veins are often polymetallic and have thus been attractive prospecting targets since the 1970's.

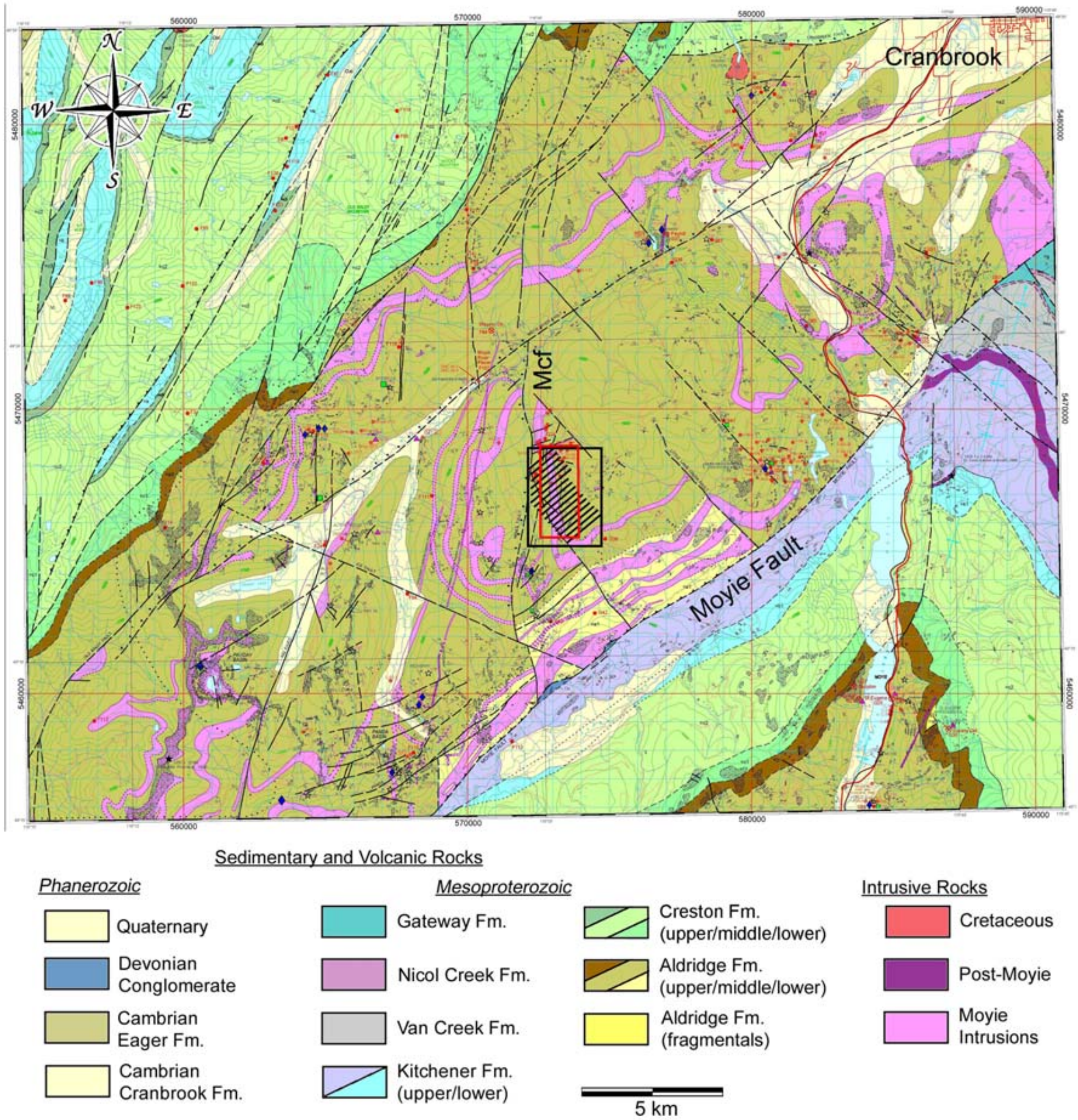


**Figure 2.** Geological map of the portion of the Purcell anticlinorium in the vicinity of the Mac's Attack property (modified from Brown, 1998). The red outlined area is the area of the Mac's Attack claims, and the black rectangle outlines the area of the VLF survey reprocessed here.

## 5.0 VLF Geophysical Data

### 5.1 *Data Acquisition*

The VLF data set was recorded in 1988 with an Omni plus VLF-EM system along a series of southwest-northeast parallel lines that were spaced 200 m apart on 16 lines (Lloyd, in Bapty and Klewchuk, 1989; Figure 3). Two additional lines were surveyed in the north at 100 m spacing, but they are off of the Mac's Attack property, so are not included here. The recording station interval was 12.5 m for a total of 2008 stations, or 24.9 km of lines. The raw data are shown as numerical values on maps in Bapty and Klewchuk (1989) and were transferred to a spread sheet for the data processing applied here. Readings were taken for two VLF stations simultaneously. Readings were for Cutler, Maine (24.0 kHz, NAA) and Seattle, Washington (24.8 kHz, NLK). Azimuths for these stations are shown in Figure 3 and the recorded field data are shown in Appendix 1.

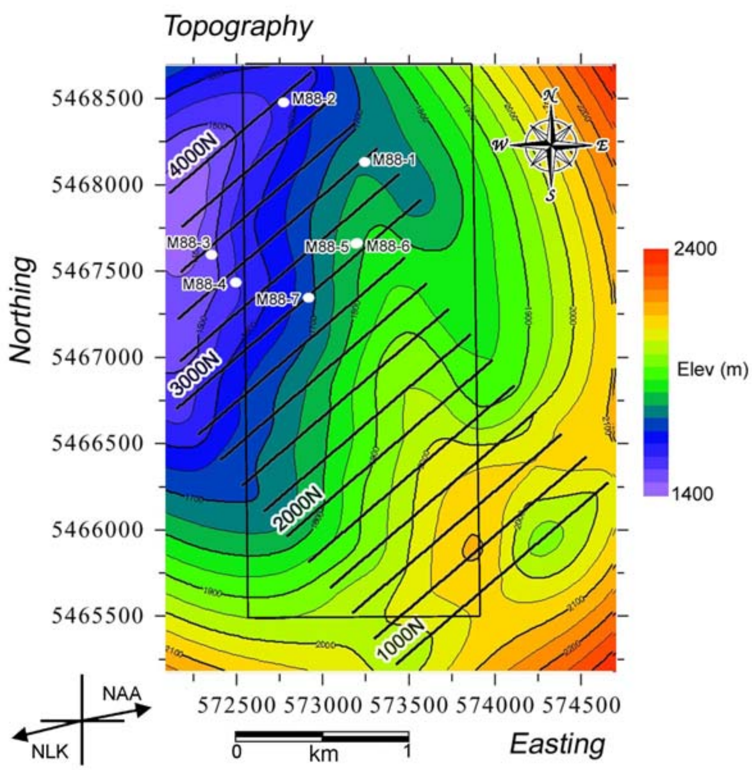


**Figure 3.** Topographic data digitized and contoured in the vicinity of the VLF grid. Azimuths of the two transmitters (Cutler, Maine = NAA; Seattle, Washington = NLK) are shown. Black lines are the VLF line locations. The rectangular outlined area is the location of the Mac's Attack property and white dots are drill hole locations.

The data were recorded along lines that had been surveyed for a local grid. In order to permit the information to be correlated other results (e.g., geology) with standardized coordinates, the points had to be tied to known UTM locations (Zone 11N, NAD83). In addition, the data processing requires information on the topographic variations so the local topography was digitized from the maps with the line locations (Bapty and Klewchuk, 1989) and converted to meters. The resulting information was then compiled onto the map in Figure 3.

### 5.2 *Data Processing*

The data were processed in the following manner. According to the Scintrex manual for the Omni Plus system, profiles plotted looking either north or east should have the proper crossover sign for subsurface conductors. Data were read from the original assessment report (Bapty and Klewchuk, 1989), converted to UTM coordinates and saved as individual lines. Elevations were digitized from the topographic map in order to include in the VLF inversions, as variations in elevation can focus (or defocus) the signal.

Data processing methods for the VLF data included examining the Karous-Hjelt transform and taking appropriate actions to minimize noise. Once the noise was reduced to acceptable levels, the filtered data were inverted using a finite element technique (Montero-Santos et al. 2006). Although each line is examined individually, there were a number of important factors that affected nearly all of the lines and that needed to be accounted for. They are illustrated in Figure 4 for Line 1000 (NAA transmitter). In Figure 4a the raw in-phase and quadrature data from are shown above filtered versions of the same data, which in turn are plotted above the Karous-Hjelt transforms of the raw data. All of the lines typically have a small amount of high frequency "chatter' that could be due to any of a number of issues, including instrument reading, local conductors, local topography, among others. This chatter is also visible in the K-H transforms as the linear 'herring-bone" appearance. It is not usually a concern because we are interested in the broader characteristics of the curves. To account for this chatter, I almost always smooth the curves using a running average as shown in the centre of Figure 1 unless other filtering is applied that accounts for the chatter. The filtered version of the data was then inverted, and the inversion is shown in the lower part of the figure.

The curves that were calculated for the inversion and fit to the (filtered) version of the data are shown plotted on the filtered curves (second graph on Figure 4a) along with the RMS error. In this case the RMS misfit was 5% and, although the shapes of the curves reasonably match the input (filtered) curves, they are offset, or shifted, substantially. This is likely due to a drift effect, either instrument drift, long wavelength topography, or some combination. In any case, it appears to be a common feature of these data. In other words, the curves, and particularly the in-phase (real) curves are commonly displaced relative to the horizontal axis. Because this shift is essentially a long-wavelength variation, it could be filtered with a simple bandpass filter. However, the non-stationary characteristics of VLF signals are better addressed with a filter such as Empirical Mode Decomposition (EMD; Jeng et al, 2007).

The effect of applying EMD filtering on the inversions is shown in Figures 4b and 4c. As in Figure 4a, the raw data are plotted at the top, and the EMD filtered data are next, with the K-H transforms next and the inversion of the filtered curves at the bottom. In the example in Figure 4a, a relatively mild filter was applied (i.e., most intrinsic mode functions are retained), whereas in Figure 4c a more severe filter was applied (fewer intrinsic mode functions are retained).

The effects are significant in that the EMD filtering has shifted the real curve to the vicinity of the horizontal axis, the RMS error has been reduced to 1.8% (Figure 4b) or even lower (0.2%) in Figure 4c. More importantly, the inversion images for the filtered curves show a near-surface conductor dipping slightly eastward to station ~1600, whereas the inversion of the original data had a conductor dipping shallowly westward from about station 2400. The major difference between the inversion in Figure 4b and that in Figure 4c is that the magnitude of the shallow conductor is slightly higher in Figure 4b. This is expected as increasingly severe filters remove signal.

The geology indicates that the strata are dipping eastward into the hill with a geometry that is similar to that of Figures 4b and c. Thus, the filtering has apparently effectively removed the drift problem and produced a geologically reasonably result.

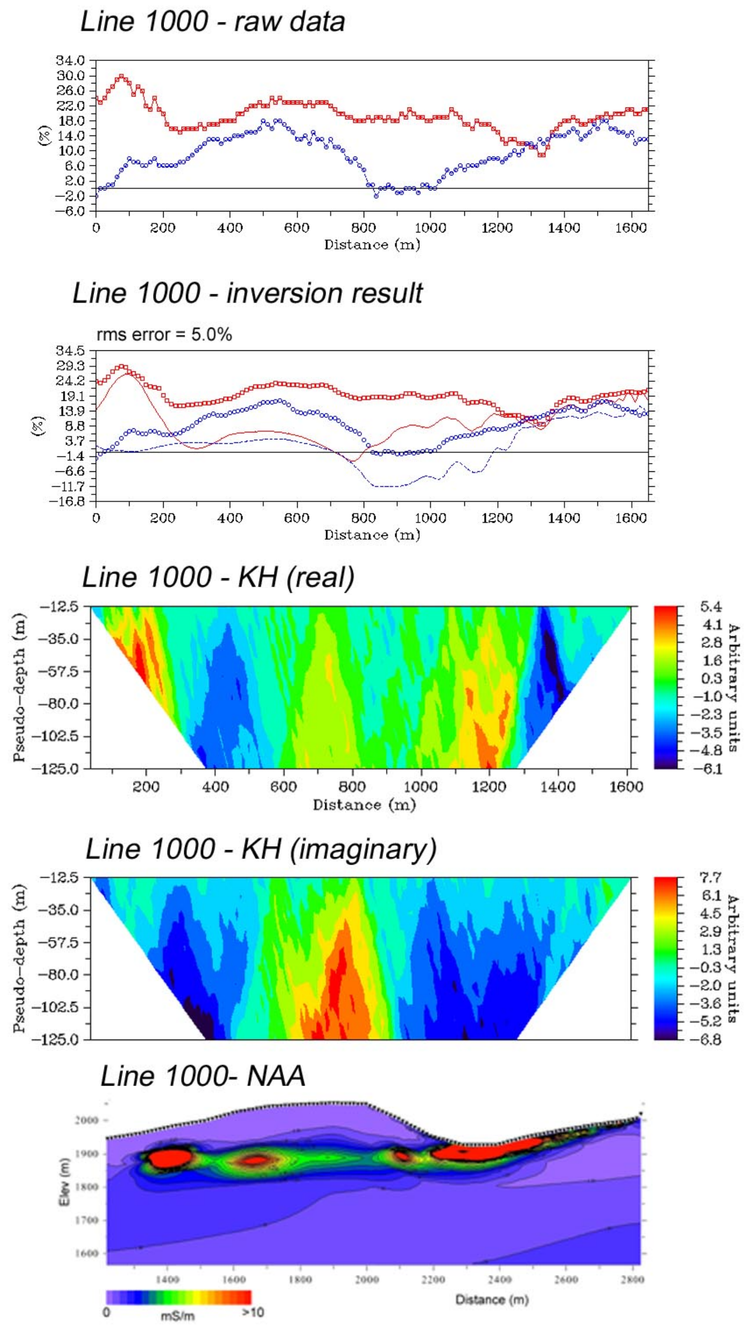


**Figure 4a**. Raw data (top) are shown above filtered results (running average in this case). And the inversion curves. Karous-Hjelt transforms are the third and fourth images with the inversion of the filtered results shown at the bottom. Note that for each of the inversions (bottom), the stations numbers follow those in the original work. Thus the first station is 1200 for this line.

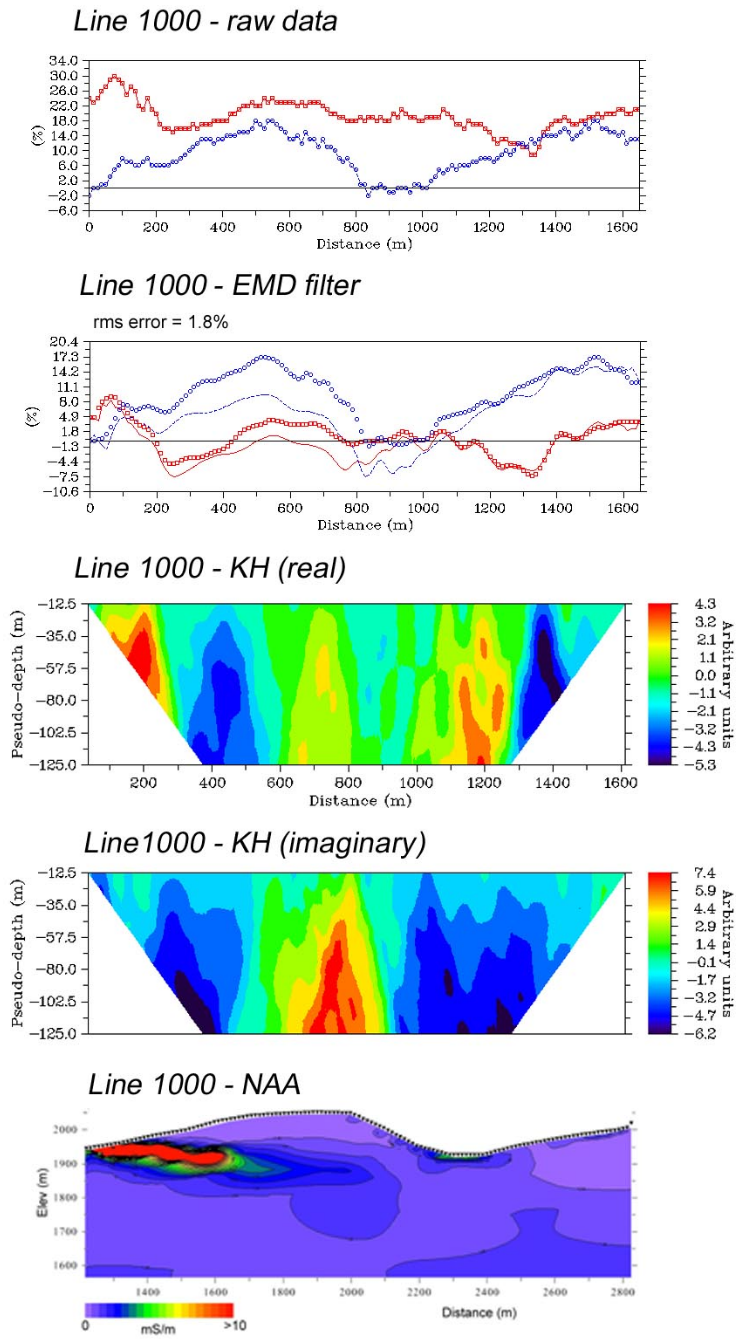


**Figure 4b.** Similar plot as that shown in Figure 4a, except that the filtered version (second image from the top) uses the EMD filter. The inversion result (lower image) shows a conductor dipping east from near station 1200 and is consistent with the geometry of near surface strata.

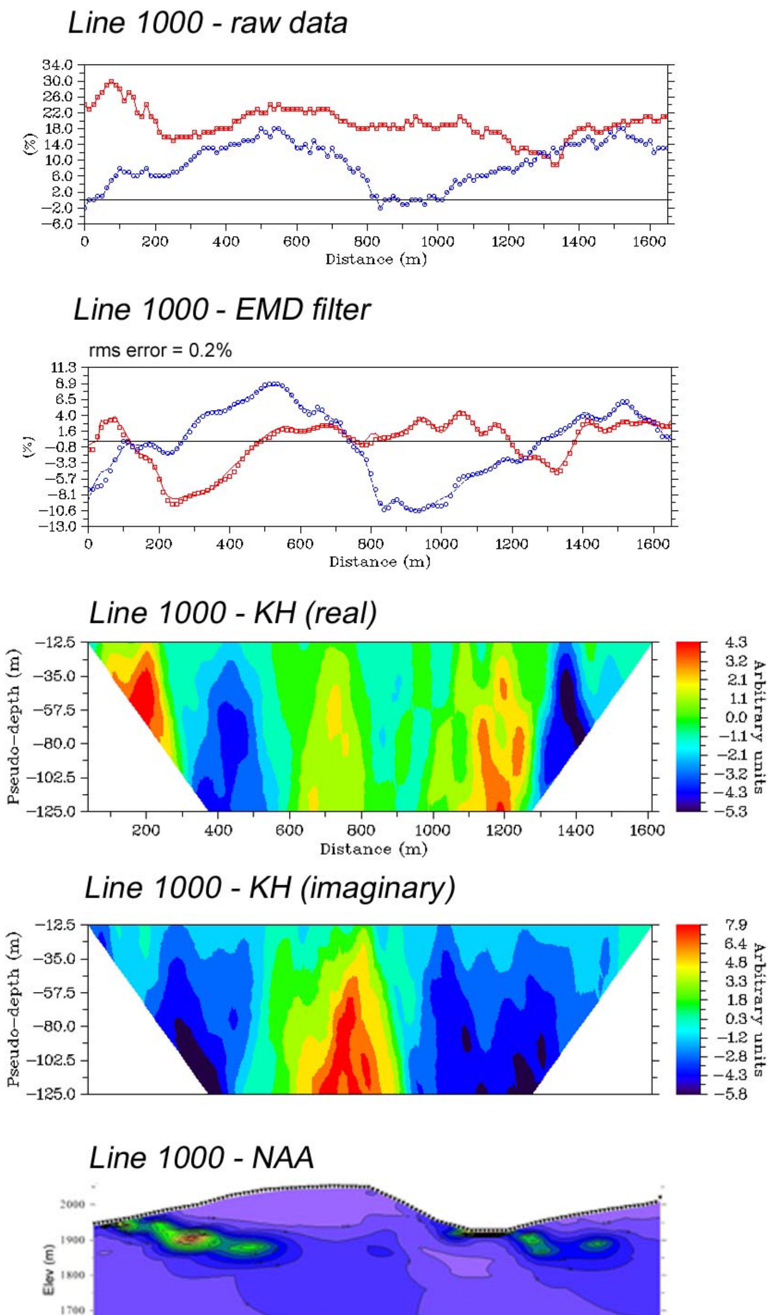


**Figure 4c**. Similar plot as that shown in Figures 4a and 4b, except that the filtered version (second image from the top) uses the EMD filter. As in Figure 4b, the inversion result (lower image) shows a conductor dipping east from near station 1200, although the magnitude of the calculated conductivity is lower.

Figure 5 shows inversion results for each of the lines and for each transmitter (NLK and NAA), and the inversions are displayed at 1:10000 scale in Appendix 2. The data for each profile were inverted after application of EMD filters using a finite element program based on Monteiro-Santos et al. (2006; http://www.emtomo.com). The program includes elevation variations. For each inversion calculation, the background resistivity is assumed to be 1000 Ohm-m based on previous large-scale magnetotelluric studies (e.g., Cook and Jones, 1995).

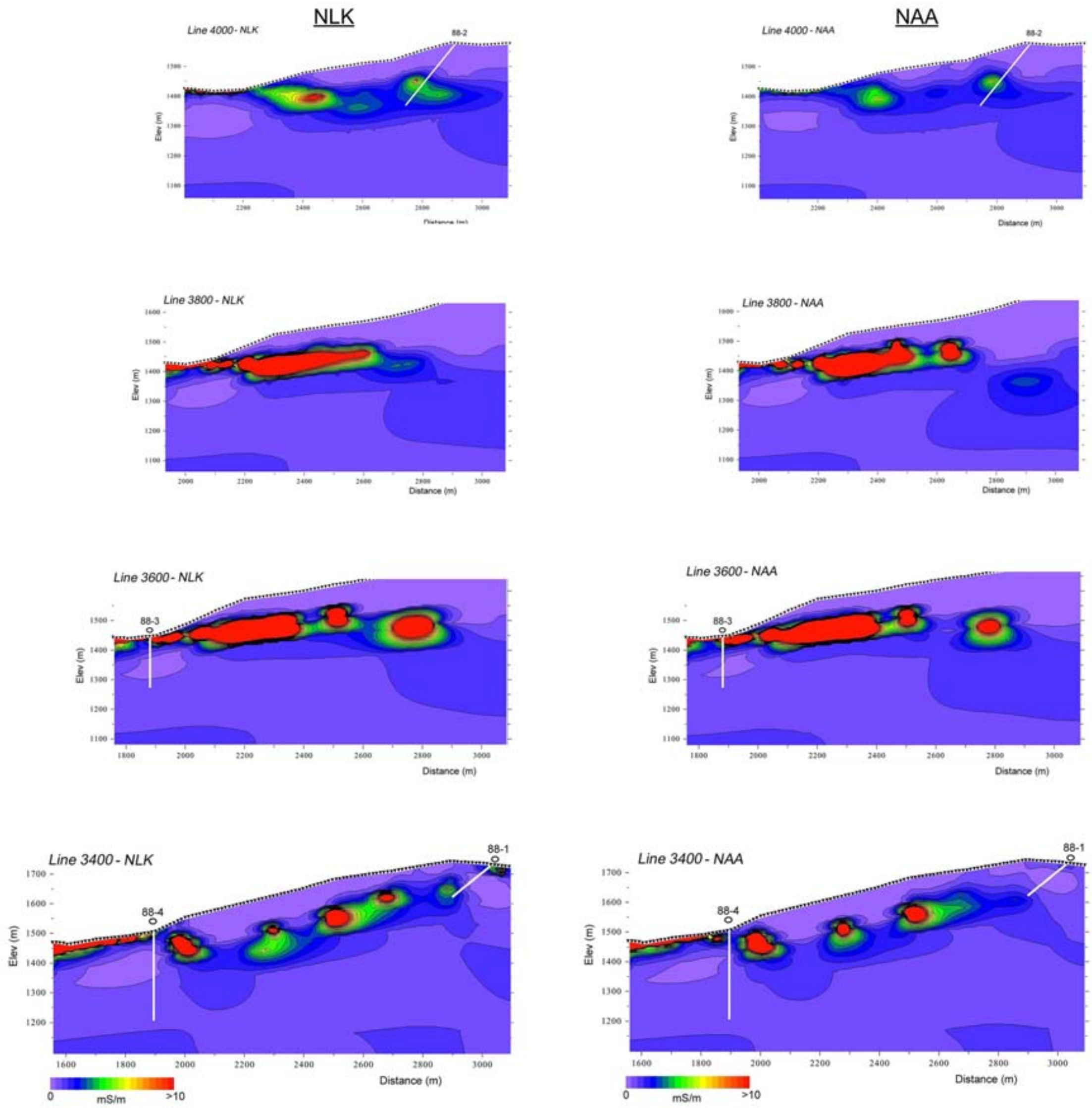


**Figure 5a.** Inversions (2D) for lines 4000 (top) to 3400. The images in the right column are from the Seattle (NLK) transmitter, and those on the left are from the Cutler, Maine (NAA) transmitter. Drill holes are also shown after projection into the nearest line.

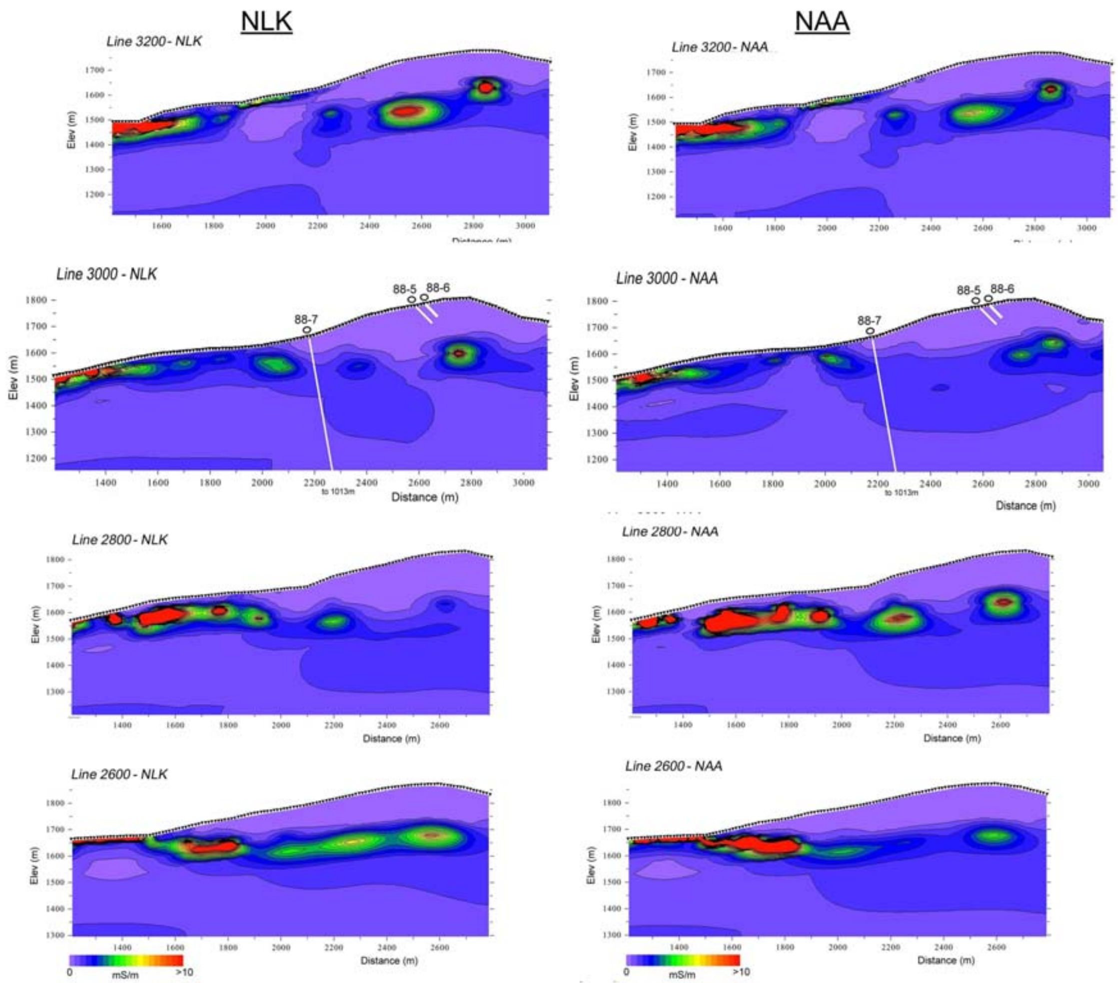


**Figure 5b.** Inversions (2D) for lines 3200 (top) to 2600.

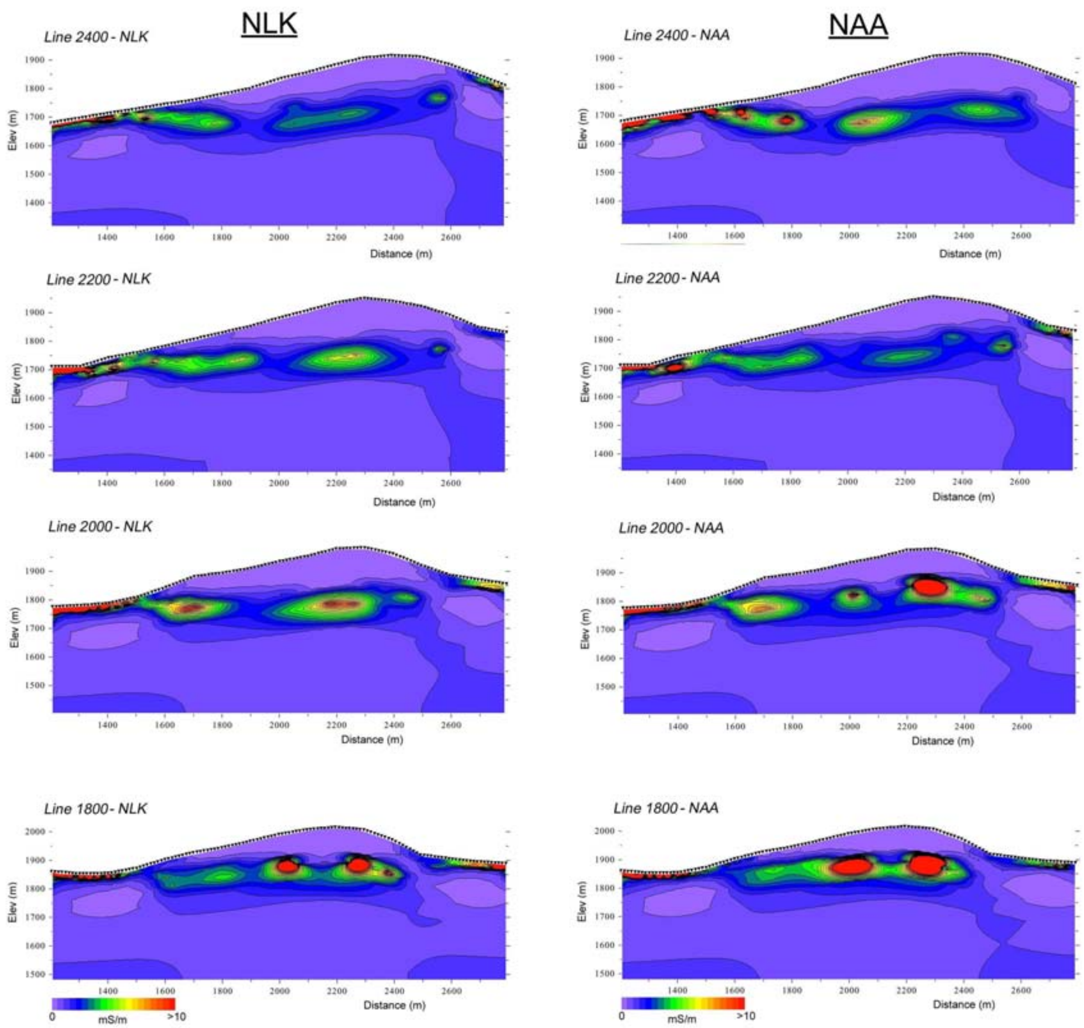


**Figure 5c.** Inversions (2D) for lines 2400 (top) to 1800.

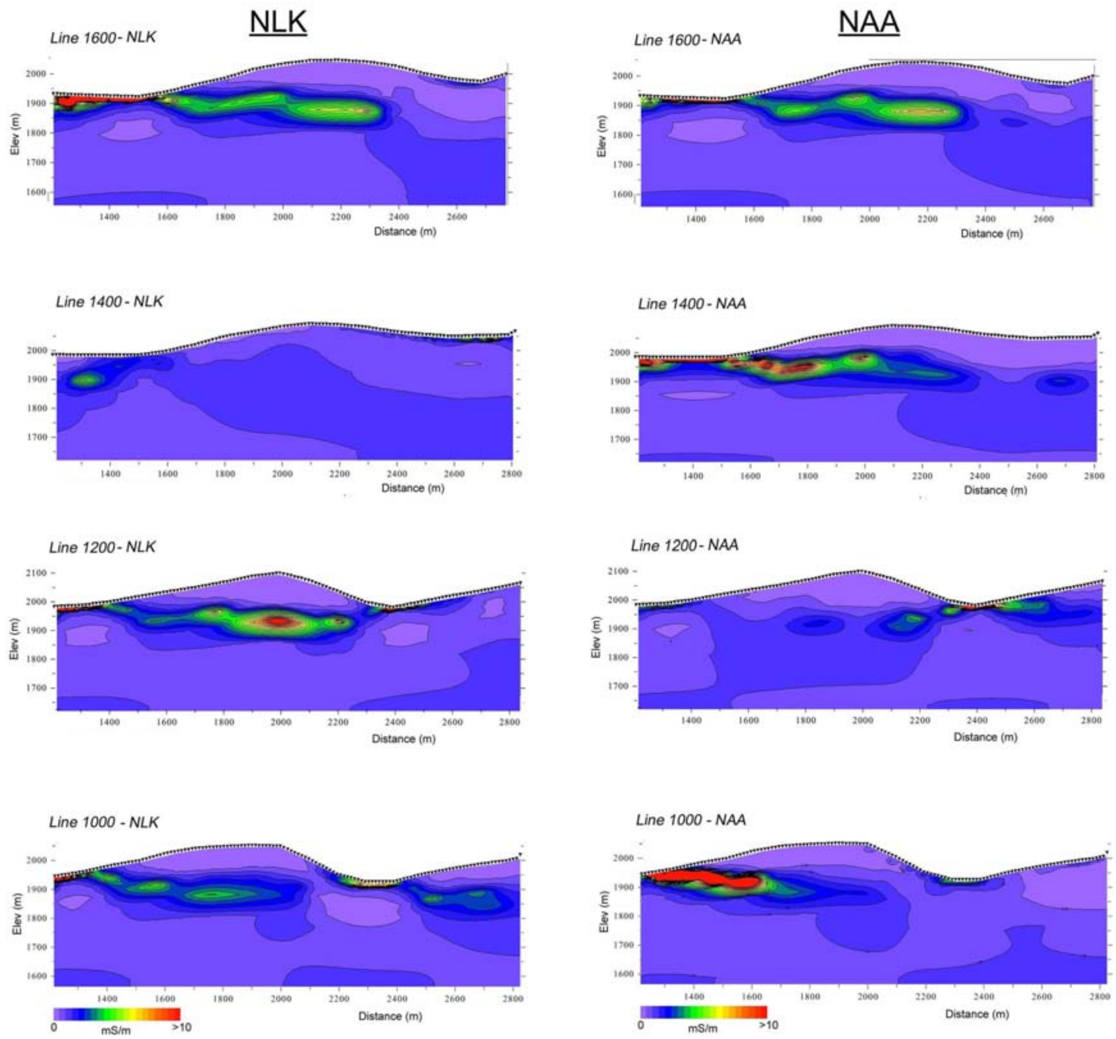


**Figure 5d.** Inversions (2D) for lines 1600 (top) to 1000.

### 5.3 *Inversion results*

Inversions of the data were completed on a line-by-line basis and are thus two-dimensional calculations. The results indicate that there are a number of high conductivity zones of varying sizes. These lead to the following observations:

1) Nearly all of the lines exhibit a conductor that dips eastward from near the west end of the lines to about 100m depth.
2) The magnitudes of the calculated conductivities for this western zone vary from line to line.
3) The northern lines and particularly lines 3400-3800 have some of the most prominent conductor anomalies.

Some of the variations in magnitudes may be due to the non-ideal orientation of the lines relative to the transmitters (Figure3). If it is assumed that the conductors generally have a north or northwest strike, a transmitter should ideally be to the southeast or northwest. The two used were to the southwest (Seattle, Washington; azimuth about $255^{o}$) and northeast (Cutler, Maine; azimuth about $79^{o}$). It is thus possible that the magnitudes of anomalous conductivities could be larger than indicated here.

### 5.4 *Quasi – Three Dimensional Geometry*

The systematic regular geometry of the VLF grid is conducive to calculating the geometry in quasi-three dimensions. To accomplish this, the calculated results from each of the profile inversions were added into a 3D volume so that contours of isosurfaces for different values of conductivity could be calculated. An example of the volume space with the 3 and 10 mS/m isosurfaces is shown in Figure 6. Results are considered quasi-3D because the inversion calculations were made for 2D profiles, and the results were then extended into a 3D volume space. A true 3D image would require 3D inversion.

Figure 7 shows an image of the 3D volume from vertically above. This allows the location of the conductivity anomalies to be seen in map view. As noted previously, there appears to be a concentration of high conductivity in the northern profiles. A horizontal plane at 1600 metres elevation is also shown in Figure 8 (with appropriate colours for the conductivity values along the plane). The addition of the plane highlights the conductivities and the apparent northward dip of them.

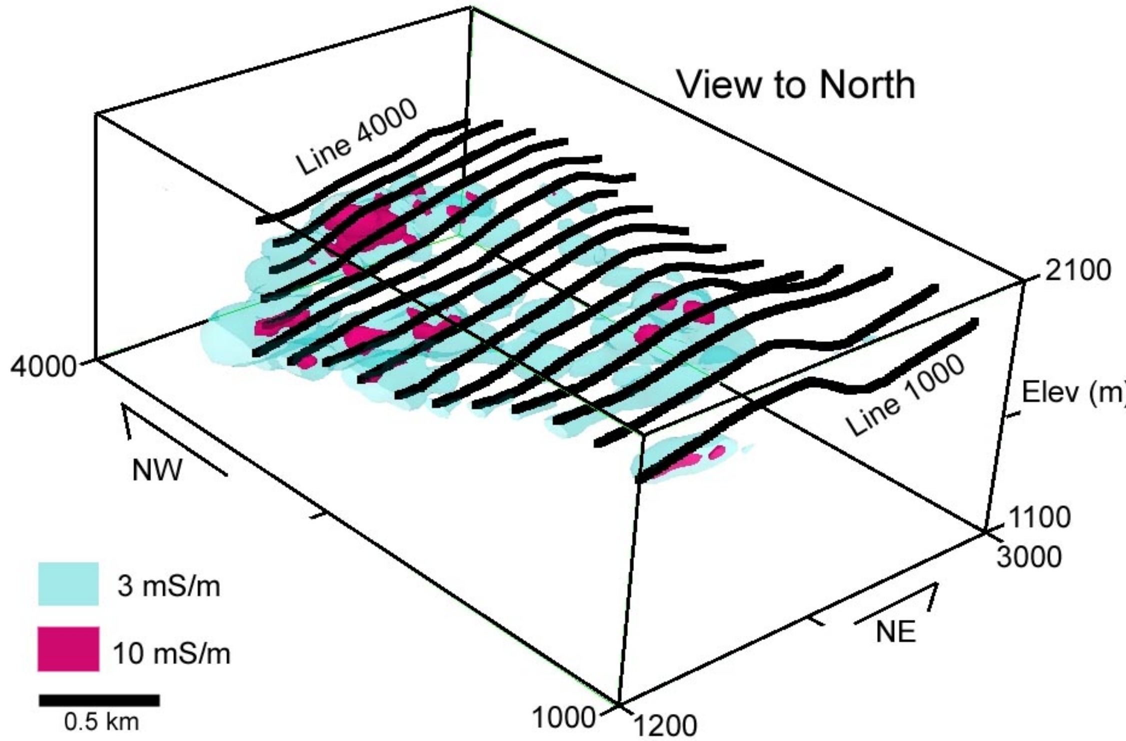


**Figure 6.** Quasi-three dimensional view of the results of the inversion for the VLF grid (NML transmitter only). The view is to the north and the 3 and 10 mS/m isosurfaces are shown as the blue and red contours, respectively.

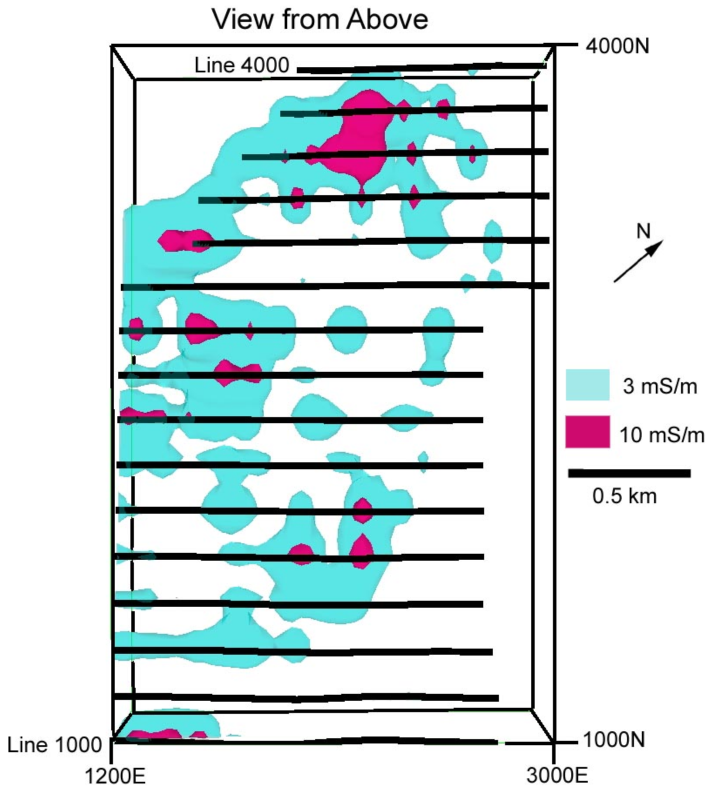


**Figure 7.** View of the 3D volume from above.

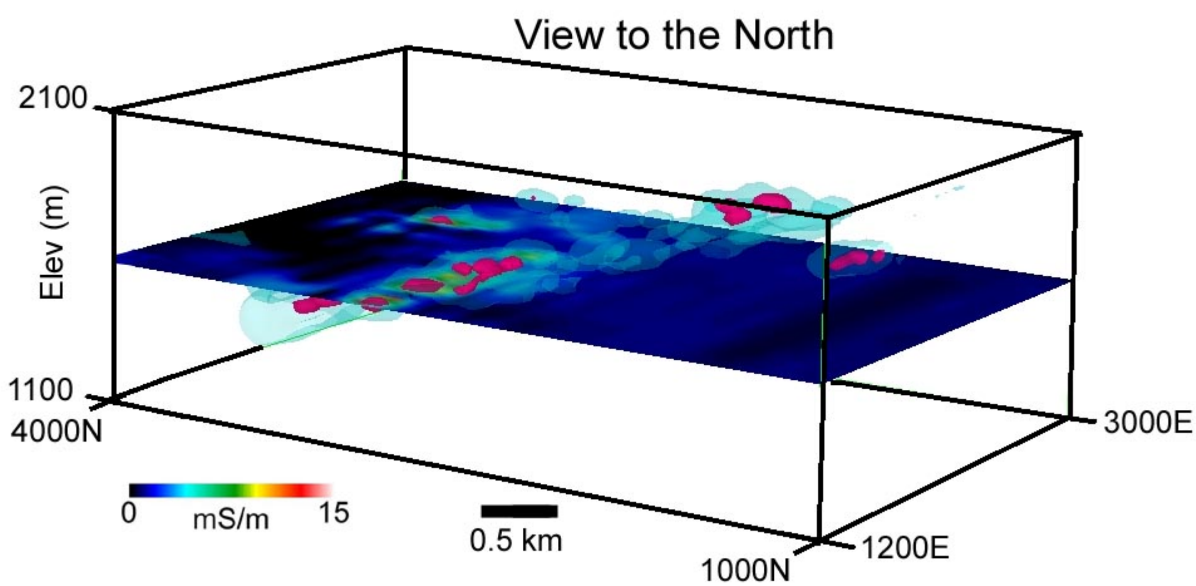


**Figure 8.** View of the 3D volume looking north with a horizontal plane at about 1600m shown to highlight the northward dip of the high conductivity zones.

## 6.0 Interpretations

In the original study that described the acquisition and interpretation of these data Lloyd (in Bapty and Klewchuk, 1989) noted that there were few obvious conductors. The only clear one observed at that time was seen on the west end of lines such as 2200 and 2800. Other anomalies tended to be broad and less well defined. The filtering applied here may provide evidence that there are a number of anomalous conductive sources, but their depth and the signal drift make it difficult to see them in the raw data.

The origin(s) of these anomalies is not known. They may be metals, fluids, rocks with contrasting electrical properties, or some combination. The consistency in the geometry from line to line is encouraging, indicating that they are not some form of isolated noise. Unfortunately, although there were several drill holes completed on or close to these lines (Figures 3 and 5), none of them intersected the major anomalies at depth. However, drill hole M88-3 was drilled adjacent to line 3600 where the western conductor appears to rise toward the surface (Figure 5a). The description of the core indicates that the shallow part of the hole intersected breccias at about 20-21m and then veins at 36-54m that contain pyrrhotite, sphalerite, chalcopyrite and galena (Bapty and Klewchuk, 1989). Drill hole M88-2 is located adjacent to line 4000 and may have intersected a weak local anomaly at depths of about 100 -150m (approximately 150-200m drilled length: Figure 5a). Bapty and Klewchuk (1979) describe the core from this part of the hole as having breccia with significant amounts of magnetite, pyrite and pyrrhotite. On the other hand, some drill holes, such as M88-6, also had showings of veins with metallic minerals, but were drilled where there are no indications of anomalies (Figure 5b).

## 7.0 Conclusions

Application of the VLF electromagnetic method for mapping subsurface variations of electrical properties in the Mac's Attack property in southeastern British Columbia has produced evidence of prominent zones of elevated electrical conductivity after application of advanced processing and inversion techniques. The results include a prominent subhorizontal to slightly east dipping anomaly on the west side of most of the lines, and a slightly west-dipping prominent anomaly in the northern region of the survey.

The data were processed using inversion and mapping techniques, and the results were combined with 3D graphics to provide some quasi - three-dimensional information of conductivity variations within the grid area. Although VLF has been a popular geophysical tool for many years, the ability to enhance the results with images of high conductivity zones at depth makes it an attractive tool for reconnaissance exploration.

## 8.0 Recommendations

As with most geophysical data, the interpretations of the VLF sections are enhanced by detailed knowledge of the geology. For rocks such as these, elevated conductivity may be caused by fluids, carbon (e.g., graphite, coal) or metals. Although the existing drill holes indicate there are metallic horizons that could be responsible for the anomalies, the origin(s) of the prominent conductive zones will not likely be known until tested by additional drilling.

## 9.0 References

Bapty, M. and Klewchuk, P. 1989. Summary of the geological, geochemical, geophysical, diamond drilling and physical work programs on the McNeil creek property, British Columbia Ministry of Energy and Mines, Assessment Report 19277, 169pp.

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O'Grady, J. 1987. A report on geological and geochemical surveys on the McNeil creek group, including mineral claims Ram 1, Ram2, and Mar 3 situated in the Fort Steele Mining Division, British Columbia Ministry of Energy and Mines, Assessment Report 16606, 20pp.

Ryley, J., Klewchuk, P. and Bapty, M. 1990. Property development report Gold Creek, British Columbia Ministry of Energy and Mines, Assessment Report 19965, 163pp.

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## 10.0 Statement of Costs

| | | |
|---|---|---|
| Property: | Mac's Attack | |
| Event # | 5544421 | |
| Start - End Date: | Jan 29 - Feb 24, 2015 | |
| Tenure work done on: | 1026397 | |
| Type of work done: | Geophysical | |
| Fred Cook<br>--Data Interpretation | Jan 29, 30, Feb 2, 3, 5, 16, 17, 18, 19, 20, 23, 24, 2015 | |
| | 10 Man days @ 800/day | $ 8,000.00 |
| | Report & Maps | 4,000.00 |
| | Total | **$12,000.00** |

## 11.0 Statement of Qualifications

I, Frederick A. Cook do hereby certify that:

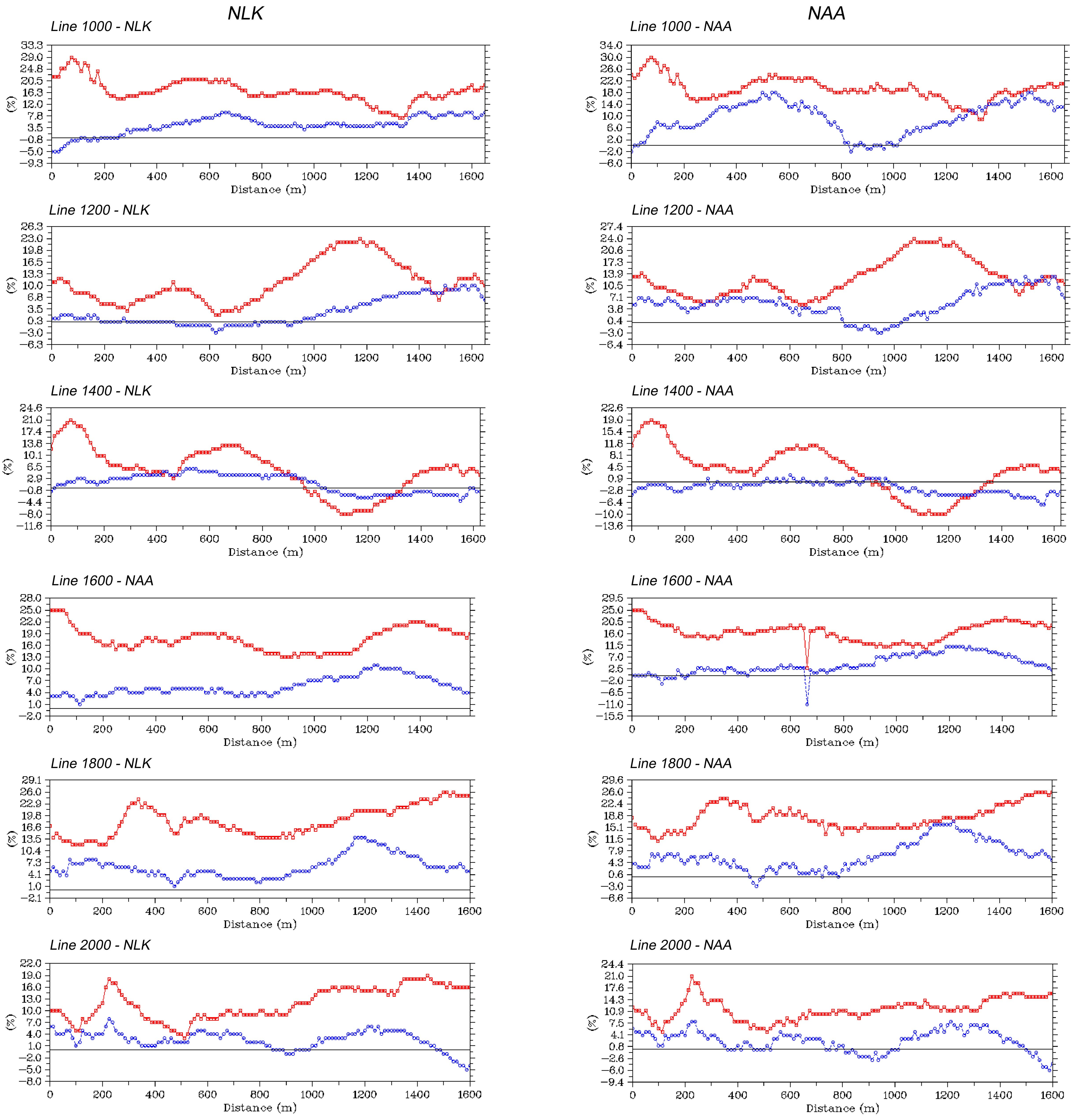
1) I attained the degree of Doctor of Philosophy (Ph.D.) in geophysics from Cornell University in Ithaca, New York in 1981.
2) I have a B.Sc. in geology (1973) and an MSc. in Geophysics (1975) from the University of Wyoming in Laramie, Wyoming.
3) I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia (P. Geo. 2009). Previously, from 1984-2009, I was registered with the Association of Professional Engineers, Geologists and Geophysicists of Alberta as both a P. Geol. and a P. Goph.
4) I am a member of the American Geophysical Union and the Geological Society of America.
5) I have worked as a geophysicist/geologist for a total of 40 years since my graduation from university.
6) I have worked for the Continental Oil Company (1975-1977) and the University of Calgary (1982-2010).
7) I was the Director of the Lithoprobe Seismic Processing Facility at the University of Calgary from 1987-2003.
8) I have recently (2011) been appointed an International Consultant for the Chinese SinoProbe project.
9) I have a thorough knowledge of the geology of southern British Columbia based on extensive geological and geophysical field work.
10) I have authored more than 125 scholarly publications in peer-reviewed journals and books.
11) I am the sole author of this report.
12) I am not aware of any material fact or material change with respect to the subject matter of this report, which is not reflected in this report.

“signed and sealed” at Salt Spring Island, B.C.

**Frederick A. Cook**, P. Geo.
Salt Spring Imaging, Ltd
128 Trincomali Heights
Salt Spring Island, B.C.

Dated at Salt Spring Island, B.C. this 15th day of May, 2015
Registration License No. 34585
**Association of Professional Engineers and Geoscientists of British Columbia**

# Appendix 1: Recorded Data

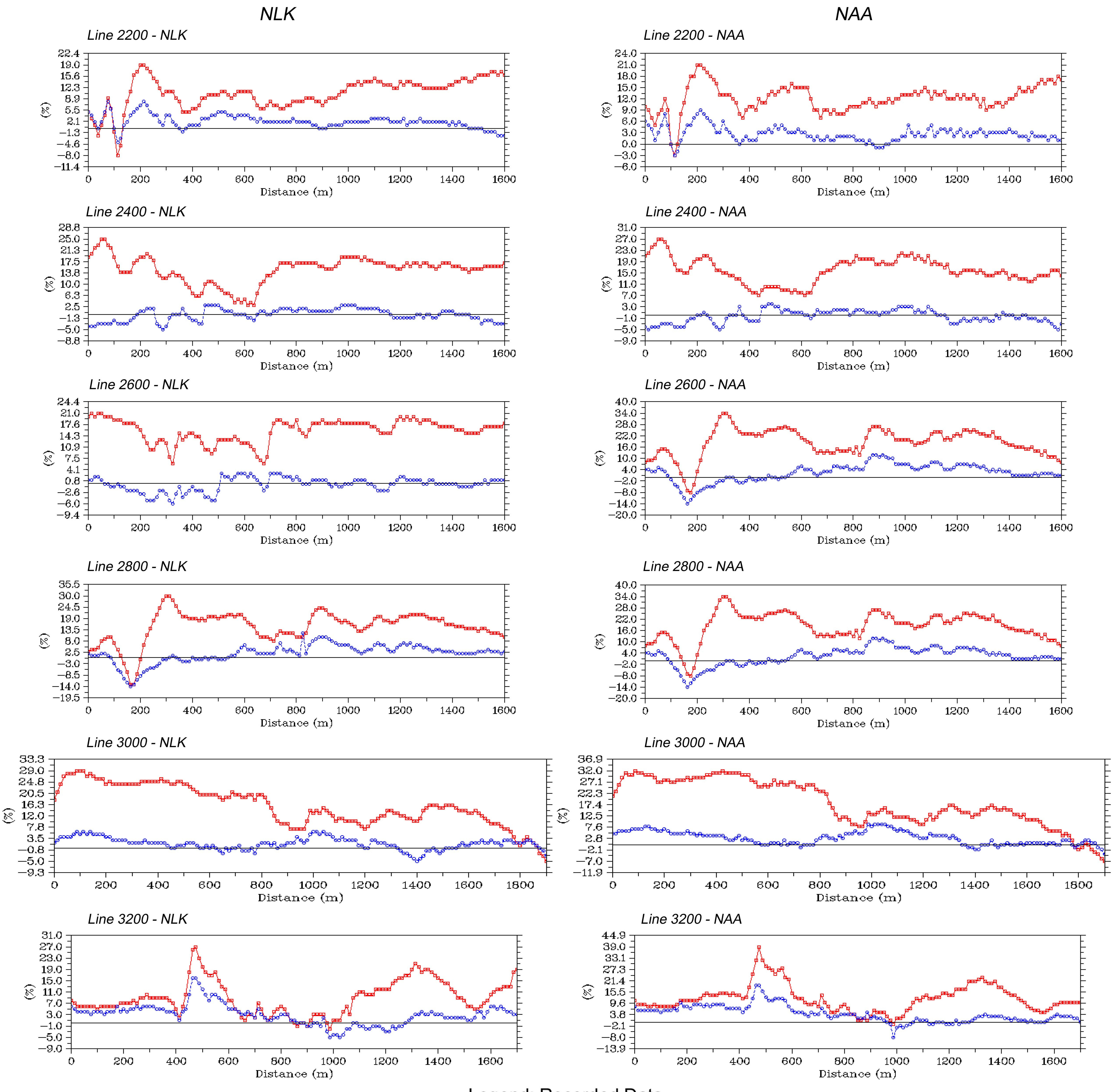



Legend: Recorded Data

Horizontal Scale - 1:10000

Vertical scale - % of total field

in-phase quadrature

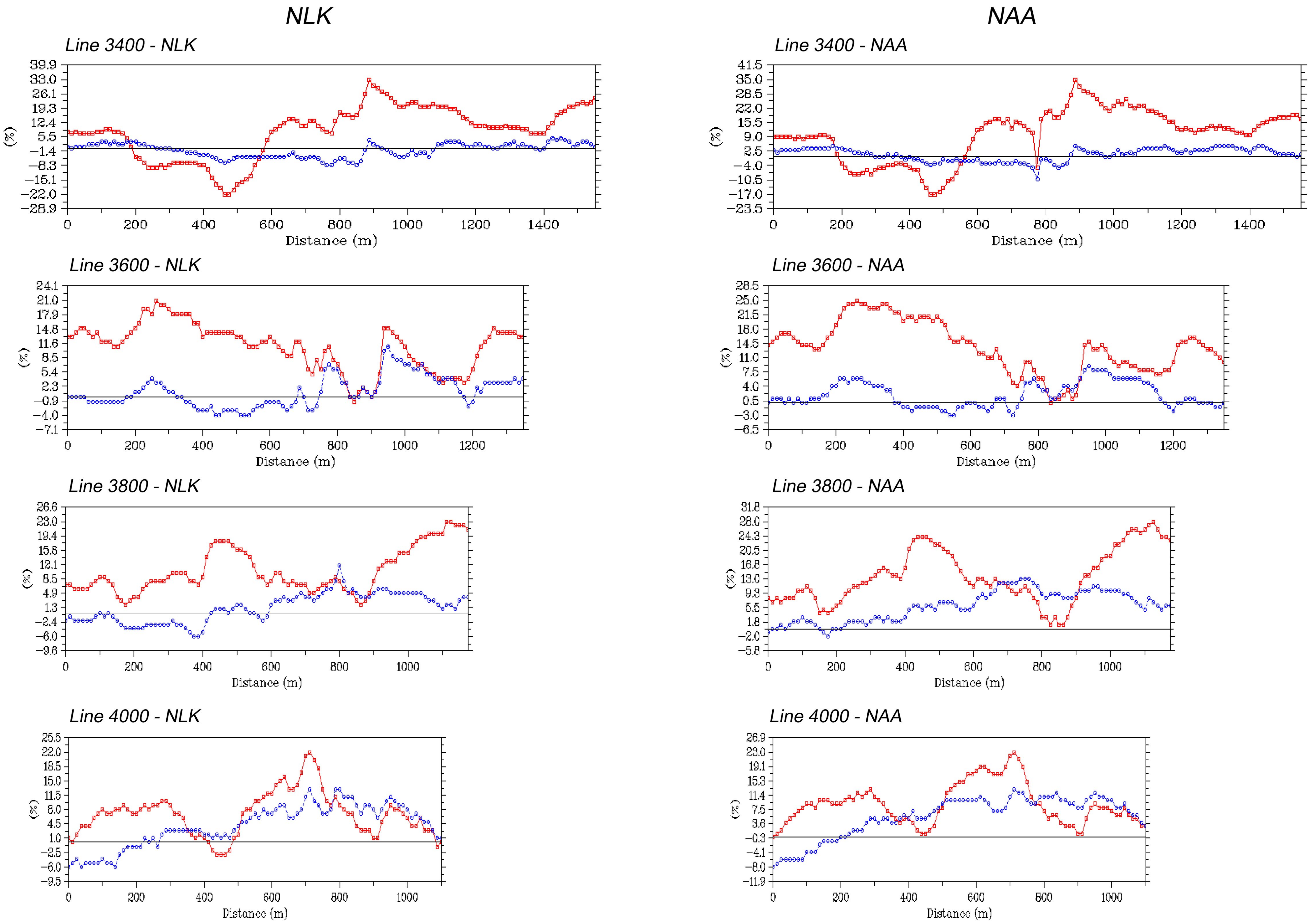



<u>Legend: Recorded Data</u>

Horizontal Scale - 1:10000

Vertical scale - % of total field

in-phase quadrature




Legend: Recorded Data

Horizontal Scale - 1:10000

Vertical scale - % of total field

in-phase quadrature

# Appendix 2: VLF Inversions

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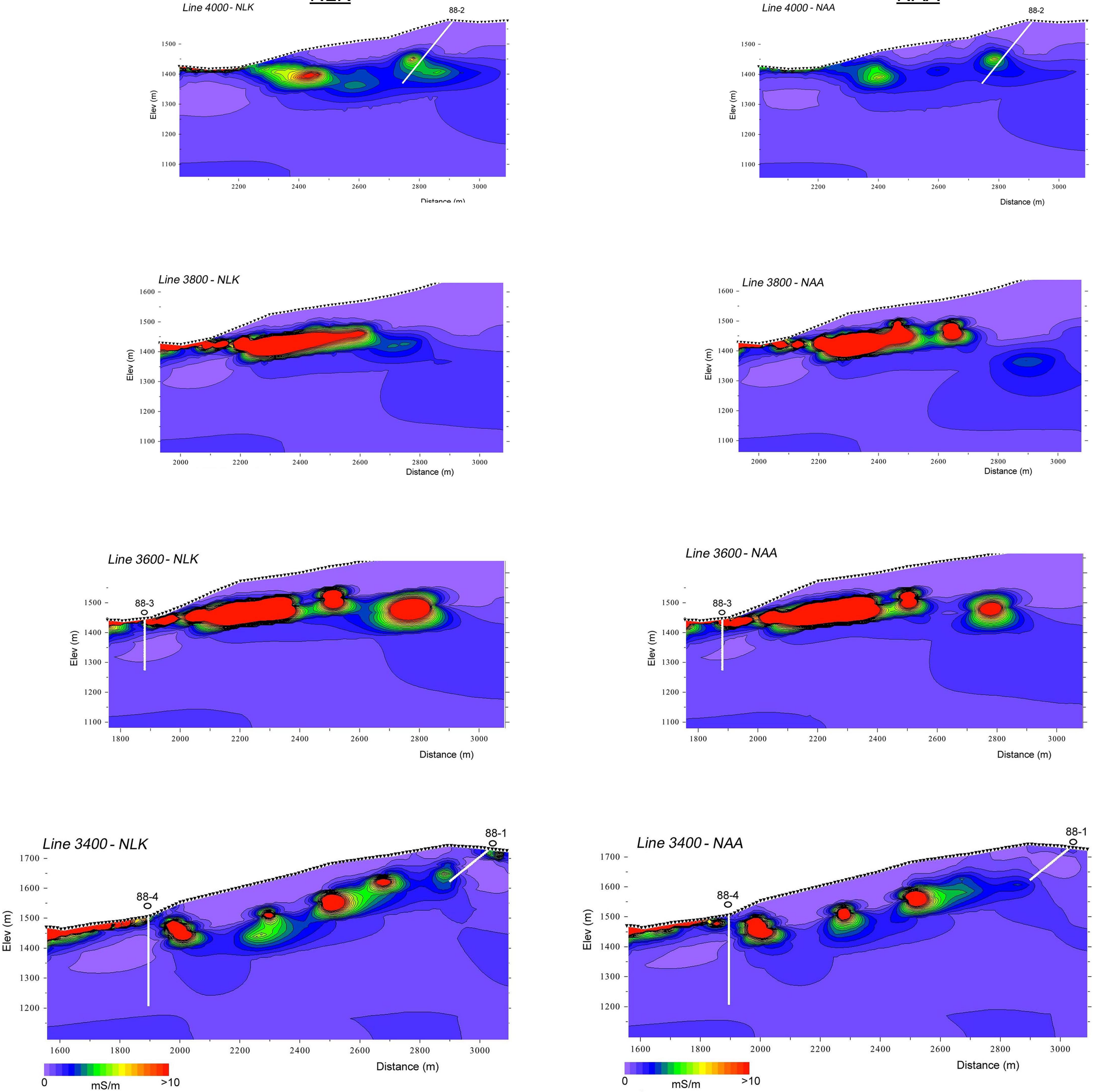
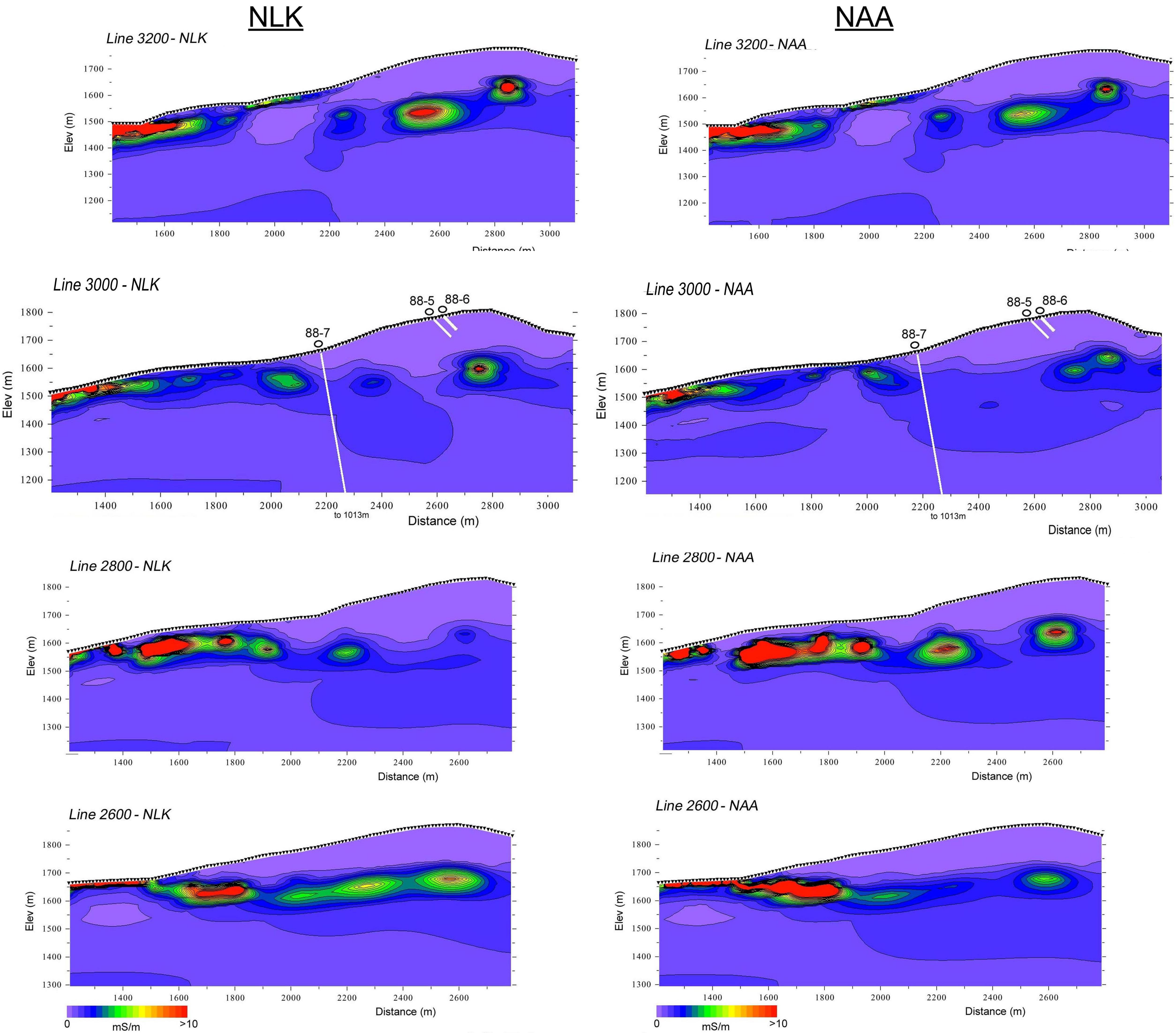
Note: All inversions were completed after
      application of any filters.
```

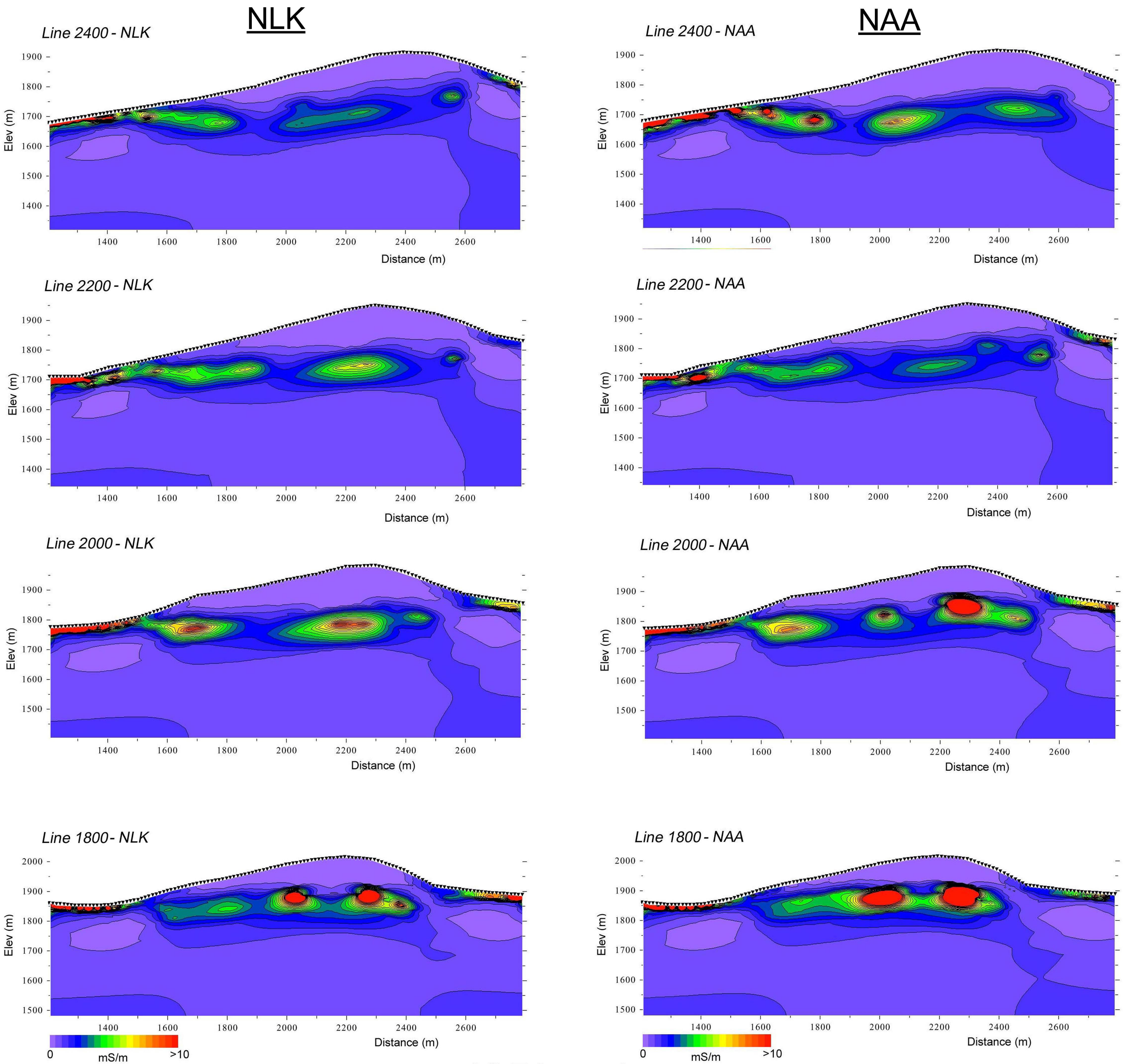
NLK NAA



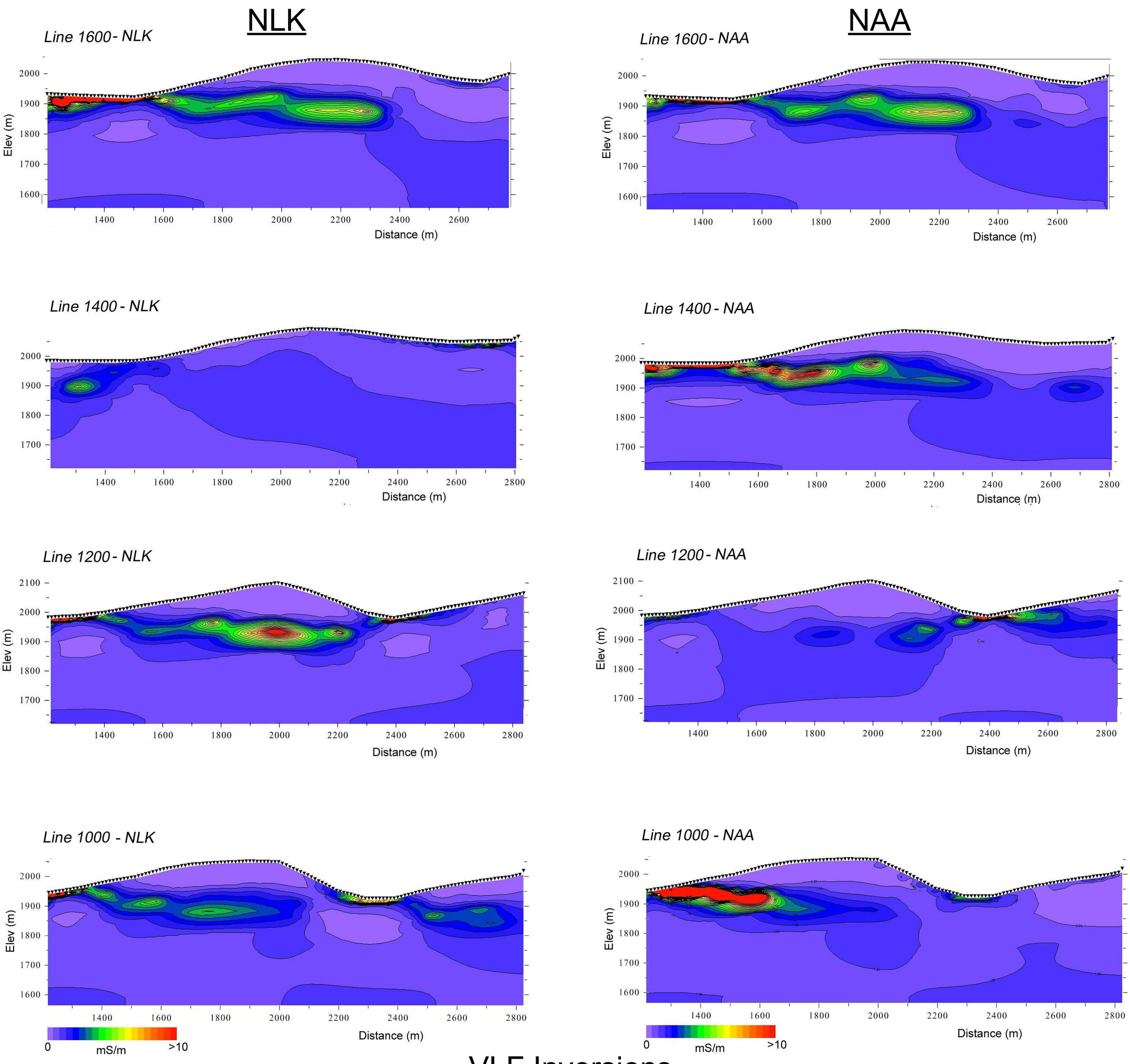

VLF Inversions
scale - 1:10000




VLF Inversions
scale - 1:10000




VLF Inversions
scale - 1:10000




## VLF Inversions

scale - 1:10000