BRITISH COLUMBIA

Ministry of Energy & Mines
Energy & Minerals Division
Geological Survey Branch

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)]	TOTAL COST
Analyses of geophysical data:Silver Fox massive sulphide property	$12,955

AUTHOR(S) Frederick A. Cook SIGNATURE(S)

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S) YEAR OF WORK 2011

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PROPERTY NAME Silver Fox

CLAIM NAME(S) (on which work was done) KRL, KRL (2 and 3), KRL (4-10 through 31-10 and 33-10 through 36-10), and KRL (100-10 through 104-10); Black Tooth Grin

COMMODITIES SOUGHT Base metals

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN

MINING DIVISION Fort Steele NTS 82G

LATITUDE 49 o 8 ' 19 " LONGITUDE 115 o 38 ' 41 " (at centre of work)

OWNER(S)

1) Darlene Lavoie

2) J. Sean Kennedy
Sara A. Kennedy

MAILING ADDRESS

2290 DeWolfe Avenue
Kimberley, BC, V1A1P5

2290 DeWolfe Avenue
Kimberley, BC, V1A1P5

OPERATOR(S) [who paid for the work]

1) Kootenay Gold, Inc.

2)

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Suite 920 - 1055 W. Hastings St.
Vancouver, BC V6E2E9

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

Eastern flank of Moyie Anticline, hosts a crosscutting NW striking structural zone which controls mineral occurrences in Belt Purcell Aldridge, Creston and Kitchener sediments. Alteration consists of Chlorite, manganese, carbonate, hematite and silica. Mineralization noted: Pb, Zn, Ag and Cu

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS Report 18-128

(OVER)

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	~500 km^2 (reprocessing)	all	$1600.00
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic	~500 line km (reprocessing)	all	$4800.00
Other	Interpretation and synthesis	all	$4800.00
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	Misc, (plotting) and Report		$ 1,755.00
		TOTAL COST	$12,955.00

Analyses of Geophysical Data: Silver Fox Massive Sulphide Property, Moyie, Southern British Columbia

North 48° 08' 19"; West 115° 38' 41"
UTM Zone 11 600586E, 5334444N
NTS map sheet 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.

For

Property Operator: **Kootenay Gold Inc.**
Suite 920-1055 W. Hastings St.
Vancouver, B.C. V6E 2E9
Property Owners: **D. Lavoie , J. S. Kennedy, S. A. Kennedy of Kimberley, B.C.**

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1.0 Summary

The Silver Fox Property located in the Purcell anticlinorium of southeastern British Columbia is owned by D. Lavoie of Kimberley, B. C. Kootenay Gold, Inc., a Vancouver-based company, is the operator of the property. Kootenay Gold engaged Salt Spring Imaging, Ltd. in 2011 to undertake a study to evaluate existing geophysical data in the area for information on the subsurface structure, physical properties and relationships to potential sulphide deposits on the property.

The property consists of 42 tenures located between the U. S. border at 49^0 N. Latitude and the town of Moyie, British Columbia. (Figure 1). Fourteen days were spent accessing, preparing, reprocessing and interpreting seismic reflection and aeromagnetic data in conjunction with the known geological information from mapping and drill hole data.

The work has provided a number of new results that may help to evaluate the mineral potential of the Silver Fox property. Specifically, 1) the cross-sectional (2D) seismic data have images of west-dipping faults that beneath the property that project to as much as 20 km depth, 2) filtering and gradient analyses of the aeromagnetic data have identified truncations of anomalies that spatially correlate with surface showings, 3) magentotelluric data have images of elevated electrical conductivity in three zones: a shallow zone (0-0.5 km) in the hanging wall of the identified faults, an intermediate zone (~1.0 km) located within the stratigraphic interval (Middle to Lower Aldridge Formation) that hosts the Sullivan deposit about 50 km to the north, and a deep zone (~2.5 km) in the Lower Aldridge Formation, 4) The deep conductive zone is a regionally pervasive conductor that can be traced as far south as 48^0 N in Montana, 5) mapping of the 3D structure and stratigraphy on the seismic data appears to have identified sub-basins within the Middle and Lower Aldridge Formations, and fault surfaces that can be traced from the subsurface to outcrop.

Recommendations fro future work focus on delineating the near-surface physical properties and structure in the vicinity of the Silver Fox property. Proposed work includes high resolution geophysical data acquisition to map the aerial extent and subsurface dimensions of near-surface conductive rocks (e.g., sulphides) as well as

integration of the results into a 3D view of the property. If results continue to be promising, these products could provide an important basis for drilling.

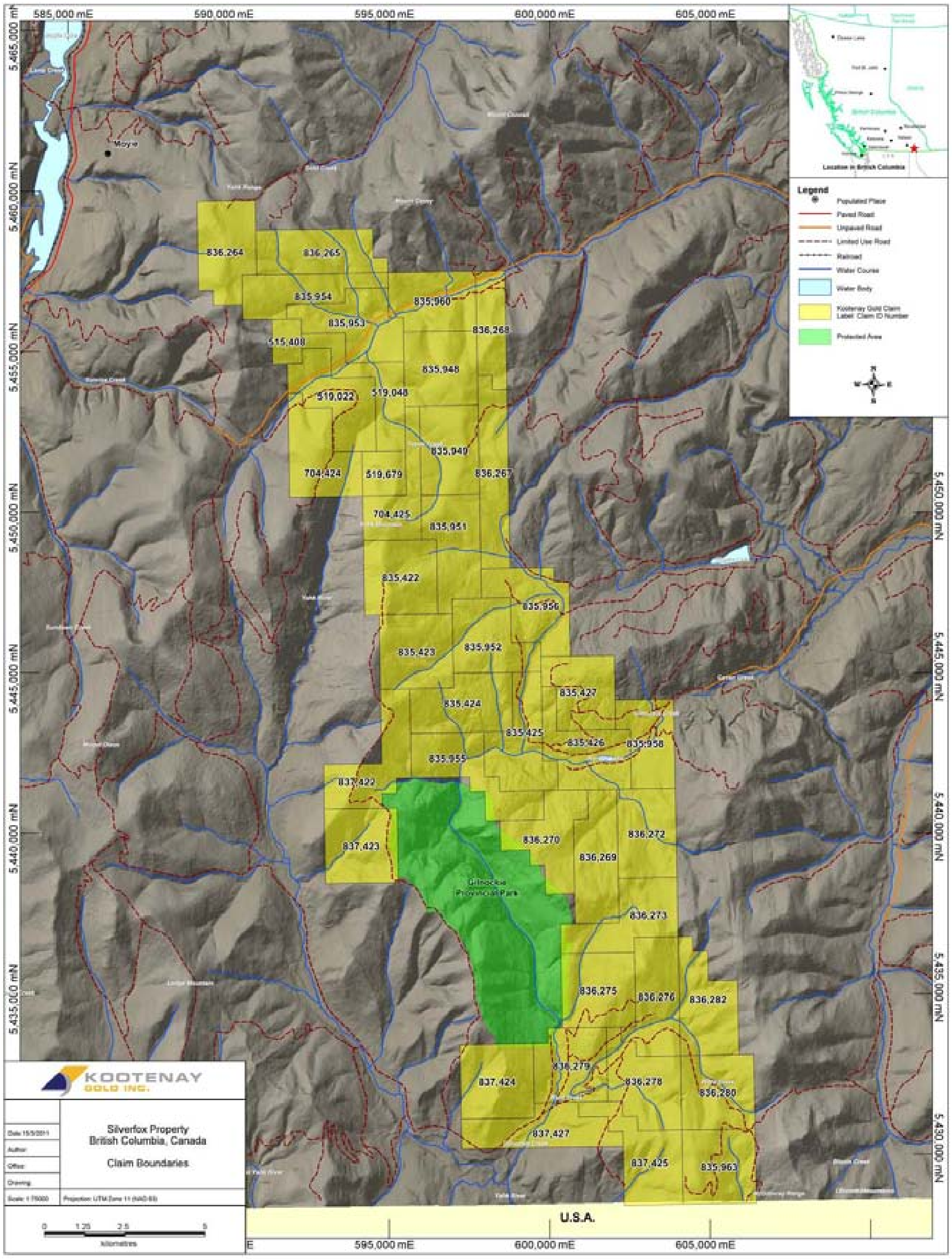


Figure 1. Digital elevation map showing location of the Silver Fox Property (yellow) southeast of Moyie, British Columbia.

2.0 Introduction

Salt Spring Imaging Ltd. was retained by Kootenay Gold Inc., a British Columbia company, to analyse geophysical data on, and in the vicinity of, the Silver Fox Property (hereafter referred to as ‘the Property’) with an objective of evaluating information bearing on the subsurface extent and future potential of the area.

This report provides a brief description of the geological setting, a description and analysis of the available geophysical data sets and the processing applied to them, and a presentation of interpretations based upon the results. Potential field geophysical data were obtained from the Geoscience Data Repository of the Geological Survey of Canada. Seismic and magnetotelluric data were acquired by Duncan Energy Corporation of Denver, Colorado in 1984-1985.

The author is familiar with the geology and geophysics of the region, having been responsible for acquiring geophysical data in the area since 1983 and as the transect leader for the Lithoprobe Southern Canadian Cordillera transect from 1985-1995 (e.g., Cook, 1995).

Metric units are used throughout the report.

3.0 Property Description and Location

The Silver Fox Property is a collection of claims that are located in southeastern British Columbia on the east flank of the Moyie Anticline, one of the nested anticlines that together comprise the regional, north-plunging Purcell anticlinorium (Figure 2). The approximate geographical limits of the property are the following (degrees; UTM): North (49^{o} 11’ 22”; 5955555); east (118^{o} 25’ 33”; 456000); south (49^{o} 00’ 00”; 5550000); west (120^{o}22’33”; 460000).

The Property comprises X mineral tenures containing approximately 20461.09 hectares (Table I). The mineral cell titles were acquired online and as such there are no posts or lines marking the location of the Property on the ground.

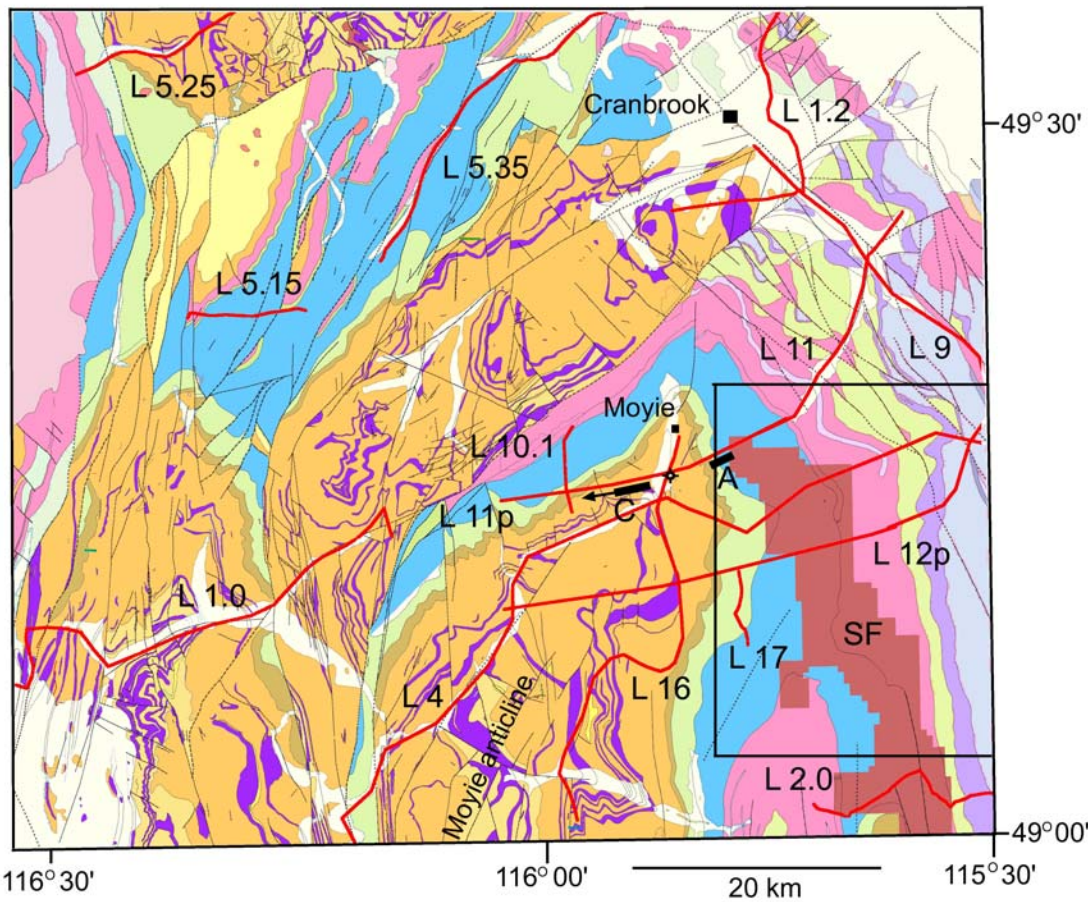


Figure 2. Geological map of the Purcell anticlinorium south of Cranbrook, BC. The north-plunging Moyie anticline has the deepest strata of the Belt-Purcell Supergroup (Aldridge Formation – orange) exposed within it. The ca. 1.468 Ga Moyie sills are shown in dark purple and the Creston and Kitchener formations are the blue an pink colours, respectively. Red lines are locations of seismic reflection profiles and the location of the Duncan Moyie drill hole is at the intersection of lines 16 and 4. A and C are locations of high conductivity anomalies in the subsurface along Line 4. SF is an outline of the Silver Fox property. The outlined area is the area in Figure 5.

Tenure Number	Claim Name	Owner	Map Number	Good To Date	Area (Ha)
515408	SP	146632 (100%)	082G.022	Aug-10-2012	126.5350
519022	KRL	132094 (100%)	082G.022	Aug-10-2012	527.4060
519048	KRL 2	132094 (100%)	082G.022	Aug-10-2012	400.8020
519679	KRL 3	132094 (100%)	082G.022	Aug-10-2012	189.9460
704424	KRL 04-10	132094 (100%)	082G.022	Aug-10-2012	527.5704
704425	KRL 05-10	132094 (100%)	082G.012/022	Aug-10-2012	379.9387
835422	KRL 06-10	142365 (100%)	082G.012	Aug-10-2012	527.935
835423	KRL 07-10	142365 (100%)	082G.012	Aug-10-2012	528.1525
835424	KRL 08-10	142365 (100%)	082G.012	Aug-10-2012	528.3202
835425	KRL 09-10	142365 (100%)	082G.012	Aug-10-2012	528.4385
835426	KRL 10-10	142365 (100%)	082G.012/013	Aug-10-2012	528.4733
835427	KRL 11-10	142365 (100%)	082G.012	Aug-10-2012	464.8987
835948	KRL 12-10	142365 (100%)	082G.022	Aug-10-2012	527.3183
835949	KRL 13-10	142365 (100%)	082G.022	Aug-10-2012	506.4601
835951	KRL 14-10	142365 (100%)	082G.012	Aug-10-2012	527.8481
835952	KRL 15-10	142365 (100%)	082G.012	Aug-10-2012	507.0073
835953	KRL 16-10	142365 (100%)	082G.022	Aug-10-2012	527.1879
835954	KRL 17-10	142365 (100%)	082G.022	Aug-10-2012	421.6778
835955	KRL 18-10	142365 (100%)	082G.012	Aug-10-2012	524.5569
835956	KRL 19-10	142365 (100%)	082G.012	Aug-10-2012	528.0383
835958	KRL 20-10	142365 (100%)	082G.013	Aug-10-2012	422.7539
835960	KRL 21-10	142365 (100%)	082G.022	Aug-10-2012	484.9516
835963	BLACK TOOTH GRIN	142365 (100%)	082G.003	Aug-10-2012	529.6923
836264	KRL 22-10	142365 (100%)	082G.022	Aug-10-2012	526.9818
836265	KRL 23-10	142365 (100%)	082G.022	Aug-10-2012	526.9791
836267	KRL 24-10	142365 (100%)	082G.012/022	Aug-10-2012	527.6424
836268	KRL 25-10	142365 (100%)	082G.022	Aug-10-2012	316.3192
836269	KRL 26-10	142365 (100%)	082G.002/012	Aug-10-2012	528.7888
836270	KRL 27-10	142365 (100%)	082G.002/012	Aug-10-2012	483.4412
836272	KRL 28-10	142365 (100%)	082G.003/013	Aug-10-2012	507.5639
836273	KRL 29-10	142365 (100%)	082G.002/003	Aug-10-2012	528.9604
836275	KRL 30-10	142365 (100%)	082G.002/003	Aug-10-2012	524.2431
836276	KRL 31-10	142365 (100%)	082G.003	Aug-10-2012	529.1933
836278	KRL 33-10	142365 (100%)	082G.002/003	Aug-10-2012	529.4402
836279	KRL 34-10	142365 (100%)	082G.002	Aug-10-2012	499.7333
836280	KRL 35-10	142365 (100%)	082G.003	Aug-10-2012	529.4758
836282	KRL 36-10	142365 (100%)	082G.003	Aug-10-2012	529.2259
837422	KRL 100-10	142365 (100%)	082G.012	Aug-10-2012	527.0675
837423	KRL 101-10	142365 (100%)	082G.002/012	Aug-10-2012	525.5498
837424	KRL 102-10	142365 (100%)	082G.002	Aug-10-2012	516.3739
837425	KRL 103-10	142365 (100%)	082G.002/003	Aug-10-2012	529.6493
837427	KRL 104-10	142365 (100%)	082G.002	Aug-10-2012	508.3735

Owner 132094 – D. Lavoie
Owner 142365 – J. S. Kennedy
Owner 146632 - S. Kennedy

Table 1. Description of Silver Fox (KRL) property mineral titles.

4.0 Geological Setting

The Property is situated on the east flank of the Moyie anticline in southeastern British Columbia. The Moyie anticline is the deepest exposed of a series of north-plunging nested anticlines that together form the regional Purcell anticlinorium between Kalispell, Montana and Golden, BC. The core of the Moyie anticline includes Aldridge turbiditic strata, the thickness of which is not known because the base has not been observed in outcrop.

The deposit is believed to be a series of stratabound massive sulphide enrichments in the Aldridge, Creston, and possibly the Kitchener Formations of the Mesoproterozoic Belt-Purcell Supergroup. It is located on the east flank of the north-plunging Moyie anticline that is cored by the Aldridge formation. Aldridge strata in the Moyie anticline host such historical deposits as the St. Eugene and Society Girl, and the Creston strata (equivalent to the Revett Formation in the United States) host major stratabound copper-silver deposits in Montana and Idaho. According to the U. S. Geological Survey, these deposits have either produced or have proven reserves of more than 454 x 10^6 kg of copper and 20 x 10^6 kg of silver (Boleneus et al. 2005). In an effort to determine the salient features of the property that may help to delineate the subsurface structure and physical properties, analysis and reinterpretation of a variety of geophysical data were undertaken.

5.0 Geophysical Data

5.1 Regional Geophysical Data

Geophysical data in the vicinity of the Property include magnetic and gravity anomaly data that are available from the Government of Canada Geoscience Data Repository, seismic reflection data acquired by Duncan Energy of Denver Colorado in the 1980's that have been published (e.g., Cook and van der Velden, 1995), and magnetotelluric (MT) data were also acquired for Duncan Energy and were published in Gupta and Jones (1995) and Cook and Jones (1995). The MT data were recorded in a series of six profiles between Moyie, British Columbia and northwestern Montana. To date, only one of the northern profiles near Moyie has been analysed with resolution that allows correlation to the seismic profiles and to drill hole information. Nevertheless, together with the seismic profiles these data provide an opportunity to synthesize the results with a focus on delineating the parameters related to the deposits.

An example of a cross section constructed from seismic reflection data is illustrated in Figure 3 (van der Velden and Cook, 1996) to illustrate the characteristics of the data. These data are described in more detail below; however, a critical question before interpretations were developed is the origin of the reflections. The Duncan Energy drill approximately 20 km south of Moyie provides the link between the strata and the seismic reflections.

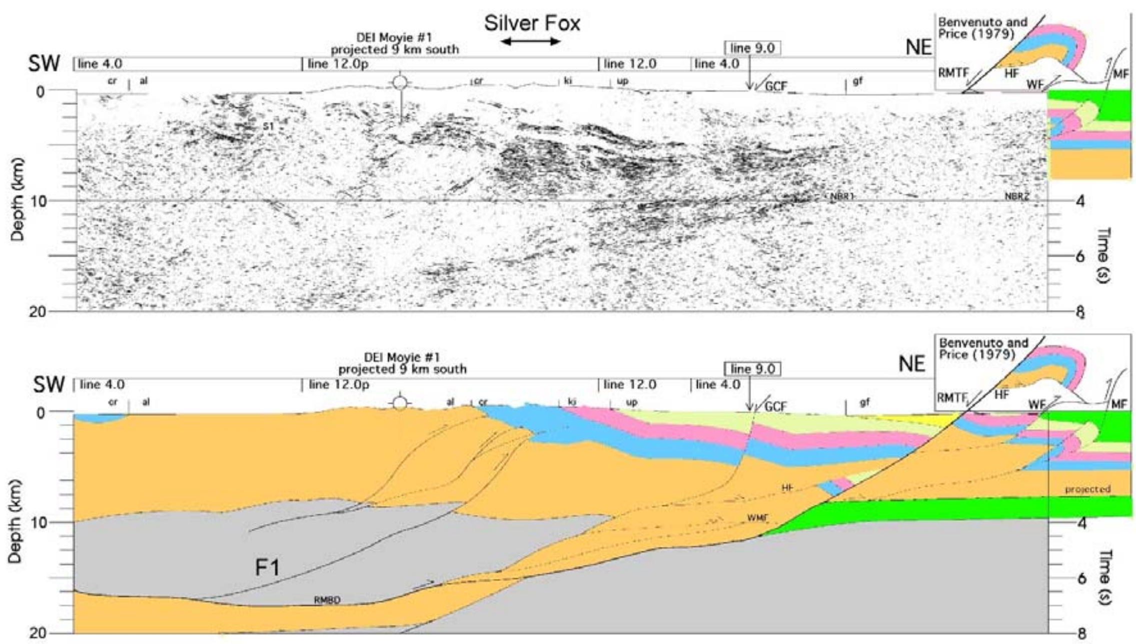
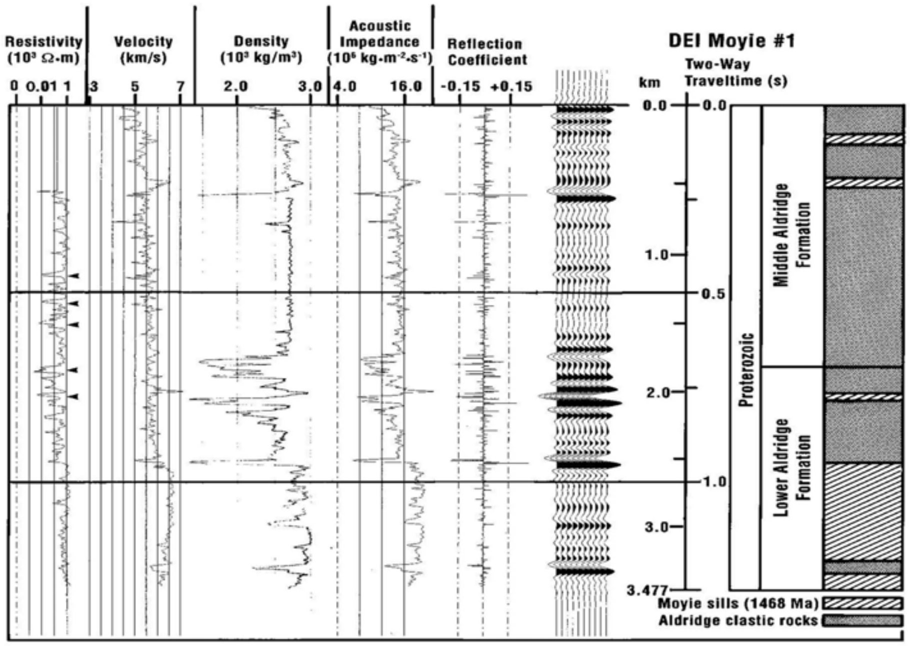


Figure 3. Composite seismic reflection profile across the Moyie anticline (modified from van der Velden and Cook, 1996). The approximate location of the Silver Fox property is indicated. Colours are as in Figure 3 with the addition of the bright green layers interpreted as Paleozoic strata.

5.2 Duncan Energy Drill Hole

Correlation of the stratigraphic layering in the DEI 1 drill hole to the seismic reflection data has been presented in a number of publications and is summarized in Figure 4. Two key observations are particularly relevant here. First, the prominent reflections in the synthetic seismic trace calculated from the drill hole logs, and thus in the seismic profiles, are caused by the acoustic impedance contrasts between the sedimentary rocks (approximately 14-15 kg-m^{-2}-s^{-1}) and the Moyie sills (approximately 18 kg-m^{-2}-s^{-1}) (Figure 4). Second, The resistivity log from the drill hole exhibits a number of low resistivity (high conductivity) zones with resistivities as low as 10 Ohm-m (left side of Figure 4). These are important for interpreting the magnetotelluric data



below.

Figure 4. Log characteristics of the Duncan Moyie drill hole (Cook and Jones, 1995). The first three columns on the left are log information measured in the drill hole. The acoustic impedance was calculated as the product of the velocity and density, and the reflection coefficient is calculated from the contrast in acoustic impedance across layer boundaries. The reflection coefficient log was then convolved with a wavelet that was appropriate for the seismic profiles (e.g., Figure 3) to provide a synthetic seismic trace in column 6. The column on the far right is a generalized stratigraphic column showing the Middle Aldridge marker sill near 500 m depth and the Lower Aldridge sills near 2.5 km depth.

6.0 Reprocessing and Reanalysis

6.1 Aeromagnetic Data Reprocessing

Reanalysis of the magnetic data (Figures 5a and b) has taken place with two objectives: 1) to correlate known alteration zones to the magnetic patterns, 2) to seek anomalous behaviour in the magnetic patterns that may focus additional field work. Processing included bandpass (wavelength) filtering (Figure 5c), vertical and horizontal derivatives, and tilt derivative (Figure 4d). The tilt derivative is particularly useful

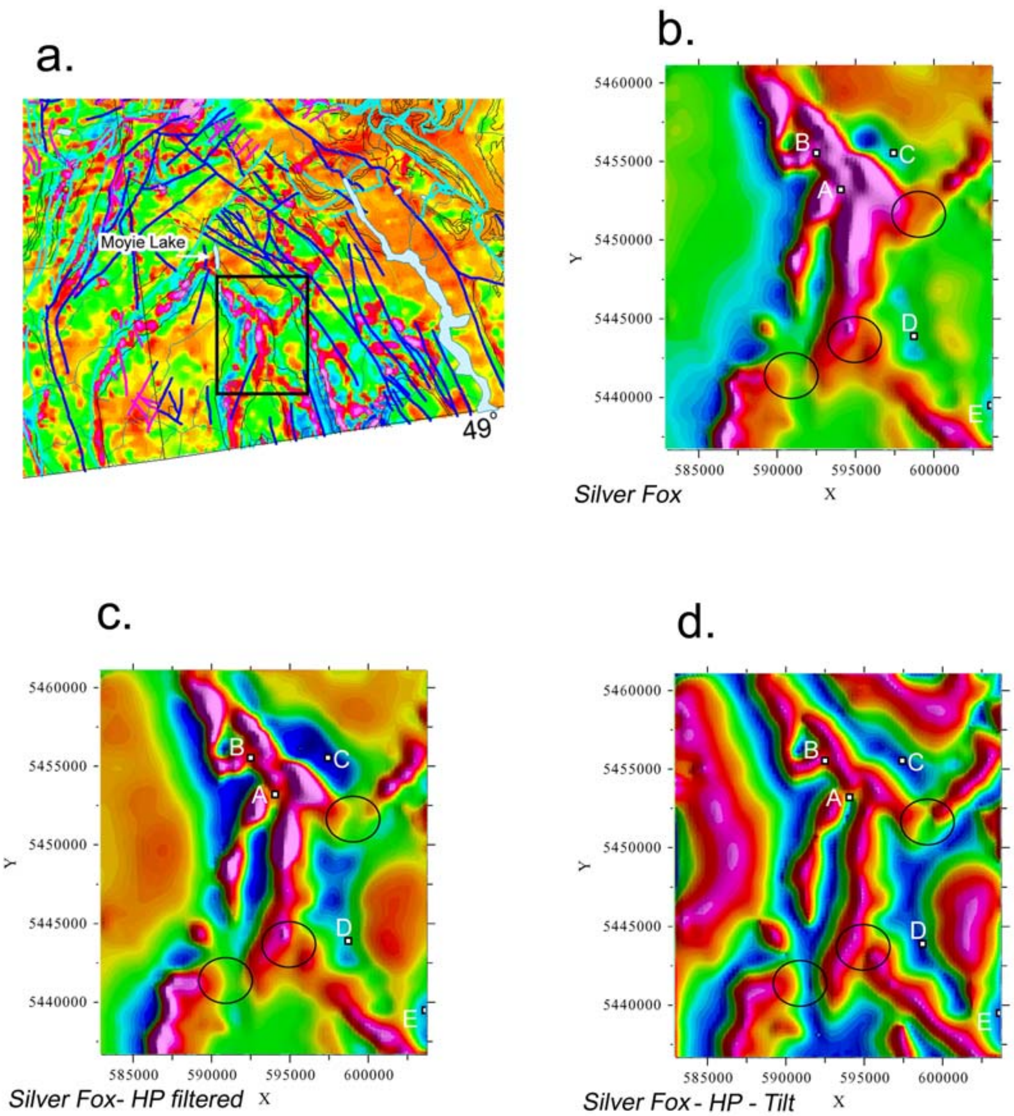


Figure 5. Reprocessing of magnetic anomaly data in the vicinity of the Silver Fox property. a) Vertical magnetic gradient map (from http://www.mapplace.ca) showing the area enlarged in b), c), and d). b) unfiltered magnetic data, 200m grid spacing, reduced to pole (obtained from http://gdr.nrcan.gc.ca/aeromag/index_e.php). c) High pass filtered (16 km cutoff wavelength); d) tilt gradient (upward continued 500 m). Locations A, B, C and D are locations where alteration is observed in outcrop. Circled locations identify anomaly truncations.

because it acts as a gain function that enhances some of the less prominent anomalies and their relationships to regional trends.

Locations A through E on Figure 5 are locations that that show varying degrees of alteration; alteration at location A is illustrated in Figure 6 Two of the most prominent altered zones are the KRL (location A) and the Silver Pipe (location B). Both of these occur where magnetic anomalies appear to merge, or to be truncated (Figure 5). Additional locations of anomaly truncations that may warrant further investigation in the field are outlined by the circles.

Figure 6. Photograph of alteration features at location A in Figure 4. Scale of the image is about 3 m across.

6.2 Seismic Reprocessing and Magnetotelluric Data

The seismic data were recorded by Duncan Energy of Denver, Colorado (USA) in 1984-1985 and made available to the researchers at University of Calgary. The data have been reprocessed and published for regional analyses in the mid-1990`s (Cook and van der Velden, 1995). Additional reprocessing to enhance near-surface information was undertaken in 2008-2010 (e.g., Ainsworth, 2009), such that some of these profiles could be used to map the subsurface structures on the east flank of the Moyie anticline in the vicinity of the Silver Fox property.

Figure 1 shows a map with the line locations. Four seismic lines cross parts of the Silver Fox property. From north to south they are: Lines 11, 4, 12, and 2. A regional cross section that was constructed from Lines 4 and 12 is shown in Figure 3 (van der Velden and Cook, 1996) indicates the location and correlation of the Duncan Energy Moyie well.

Four reflection patterns are significant on the section in Figure 3. First, in the lower part of the section, a zone of reflections labeled NBR2 and NBR1 are interpreted to be from at or near the top of autochthonous North American basement rocks (Cook and van der Velden, 1995). Second, these are overlain by a thick, eastward-tapering zone of prominent reflections between 0.0 and 4.0 sec (about 12.0 km). These reflections are from the Moyie sills (labeled S1 and S2 on Figure 3). Third, the massive sill `package` is disrupted east of the well by west-dipping reflections that can be followed, in one case, to approximately 20 km depth. These have been interpreted as thrust faults. Finally, the upper part of the sill reflections is characterized by prominent reflections that are underlain by a ca. 0.25-0.50 s non-reflective zone above more extensive reflections. The upper reflection correlates to a sill in the Middle Aldridge Formation that the drilling penetrated near 500 m depth; the lower reflections are sills in the Lower Aldridge (Cook and van der Velden, 1995).

The first 3.0 sec of reprocessed Lines 11, 4 and 12 are shown in Figure 7. Reprocessing of these lines included migrations and filtering to enhance the near-surface structures. The dominant reflections described above are apparent: the Middle Aldridge sill is highlighted in green and apparent offsets (faults) in red.

No reprocessing was undertaken for the magnetotelluric data. These data were processed by Gupta and Jones (1995) and were correlated to the seismic and Duncan Moyie drill hole (DEI-1) in Cook and Jones (1995).

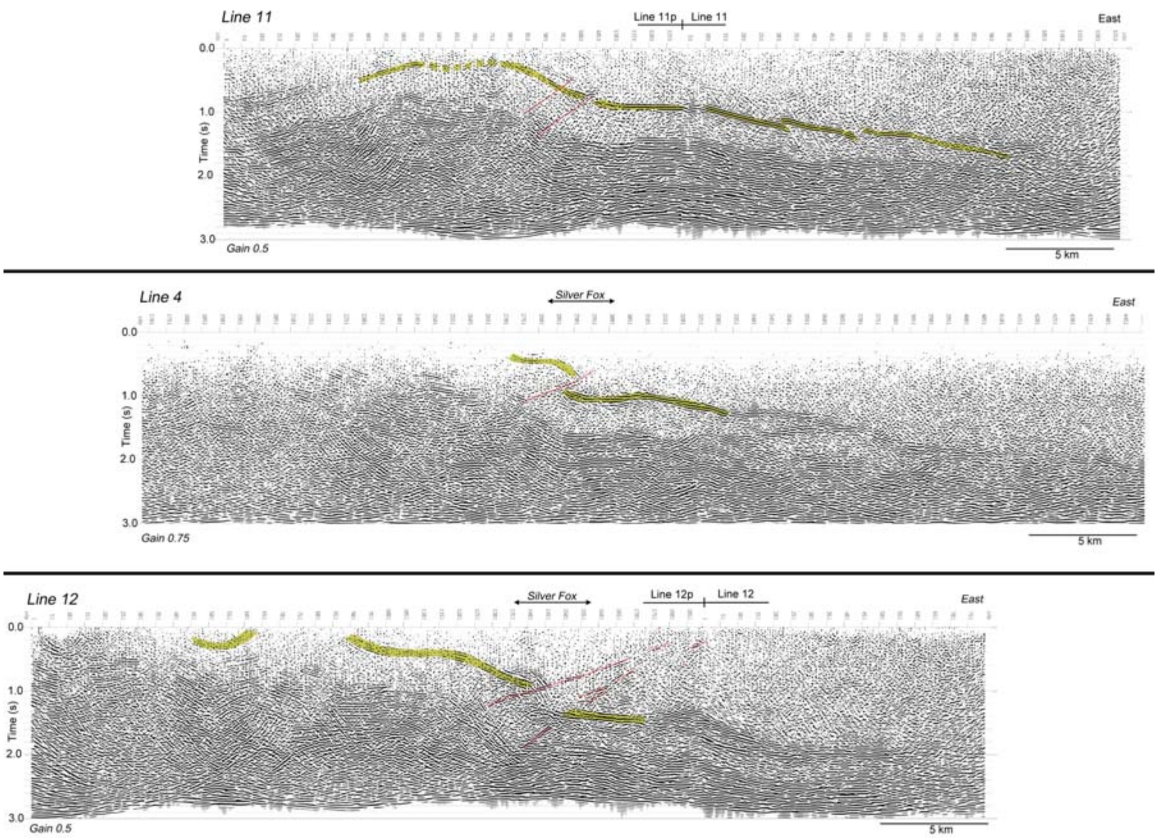


Figure 7. Reprocessed versions of seismic lines 4, 11, and 12 (top to bottom; north to south). The green horizon is the Middle Aldridge sill marker (= Lumberton sill). The red lines represent locations of interpreted faults. In the lower section (Line 12), there are two red lines. The upper one is likely a fault, and the lower is likely a reflected refraction.

7.0 Enhanced Interpretation

7.1 Seismic Structures

Regional seismic structures were outlined by Cook and van der Velden (1995) and van der Velden and Cook (1996) as illustrated in Figure 3. All of the data were reprocessed in 2009 at the University of Calgary to enhance near-surface structures. The reprocessed data have enhanced further and incorporated into this study in order to focus on the relationships between subsurface structures and the Silver Fox property.

These results are shown in Figure 7 with the three lines displayed (Lines 11-11p, 4 and 12-12p from north to south) oriented across strike.

Two key features are observed along these three profiles. The Middle Aldridge marker sill horizon (equivalent to the Lumberton sill and highlighted in green) outlines the Moyie anticline and is more or less continuous across the anticline in Line 11. In addition, highlighted in red are locations where this sill horizon is offset, apparently on one or more contractional faults that dip west and that display increasing offset from north to south. These faults project westward to at least 15 – 20 km depth (Figure 3). Significantly, these faults are not visible on the surface. Rather, they appear to lose displacement up dip as they project to the surface location of Silver Fox property (Figure 7).

7.2 Correlation of Seismic Structures to Conductivity Structures

Correlation of the seismic data to the electrical conductivity structure delineates three important electrically conductive features (labeled A, B and C on Figure 8) and their relationship to the seismic data. First, a zone of relatively high conductivity (zone A, with resistivity between 50 and 200 Ohm-m, or 0.005 - 0.02 Siemens) is situated above the Middle Aldridge sill reflection on the east flank of the Moyie anticline. Zone A appears to be above the location of faulting in the sill reflection, although where zone A is visible along Line 11, the fault(s) appear to have little displacement.

A second zone of even higher electrical conductivity, zone B with conductivity values greater than 0.02 Siemens, is located at approximately 1 km depth beneath the drill hole (Figure 8). The third, and more regionally extensive, high conductivity zone, labeled C in Figure 7, also has conductivity values greater than 0.02 Siemens.

The Duncan Moyie drill hole penetrated zone B, and results of geochemical analyses were presented in Schulze (1988). These are graphically illustrated in Figure 9 where I have plotted the results for Pb, Zn and Cu, all with equivalent scales, adjacent to the drill hole information from Figure 4. Two observations are significant from this correlation. First, enriched zones of metals correlate at depth with zones of decreased electrical resistivities, or high conductivities (left side of Figure 9). Second, there is a distinct separation of lead and zinc enrichment, located in the intermediate zone, B, versus copper enrichment, which dominates in the lower zone, C. The reasons for this are not known at the present time, but the significance of this for the Silver Fox property is the following.

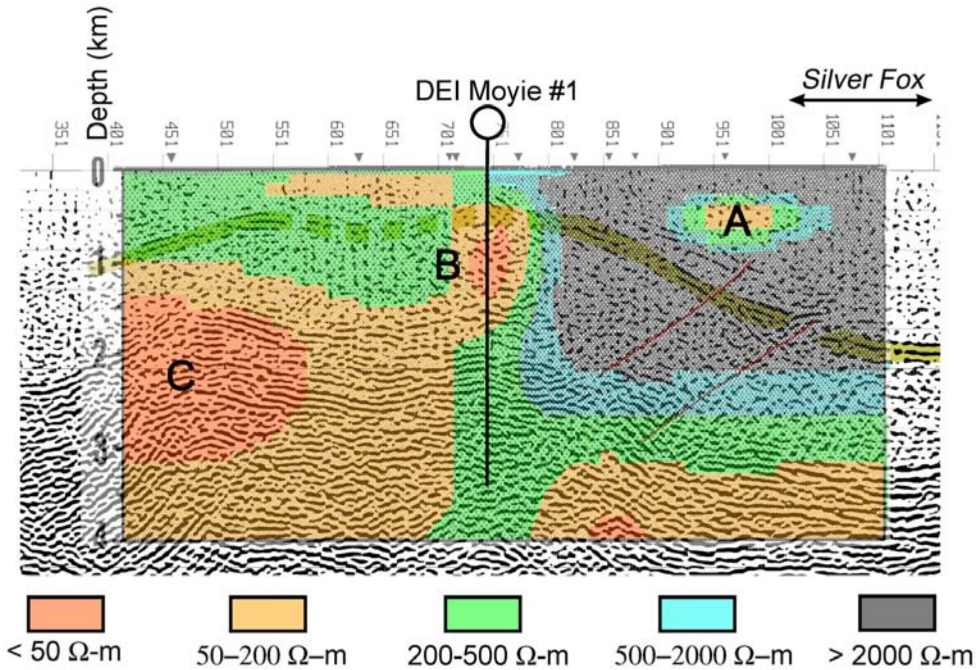


Figure 8. Part of seismic line 4 illustrating the position of the Duncan Moyie drill hole and the locations of elevated electrical conductivity (A, B, and C). The location of the Silver Fox property is shown on the right. The numbers at the top of the section are sequential trace numbers.

The lower conductor (zone C) is regionally extensive and can be followed southward into the U. S. (Gupta and Jones, 1995). It essentially coincides with a thick `package`of sills in the Lower Aldridge Formation (Figure 10). The shallower conductors (zones A and B) are likely less extensive, both laterally and vertically (Gupta and Jones, 1995; Cook and Jones, 1995), but may be related to `conduits` (e.g., Figure 12 of Gupta and Jones, 1995).

These results coupled with the dichotomy between the lead-zinc rich upper zone and the copper-rich lower zone may be significant for outlining the origin of copper in the Montana copper belt and its northward projection into southern British Columbia. In most interpretations, the copper-silver deposits, ``formed as a result of upward migration of metal-bearing solutions through syndepositional, basement-controlled faults.``(Lange and Sherry, 1983, p. 643). The conductivity ``conduits`` coupled with the faults observed on the seismic data can be interpreted to represent such faults. Analyses of the three-dimensional structure provide additional subsurface control.

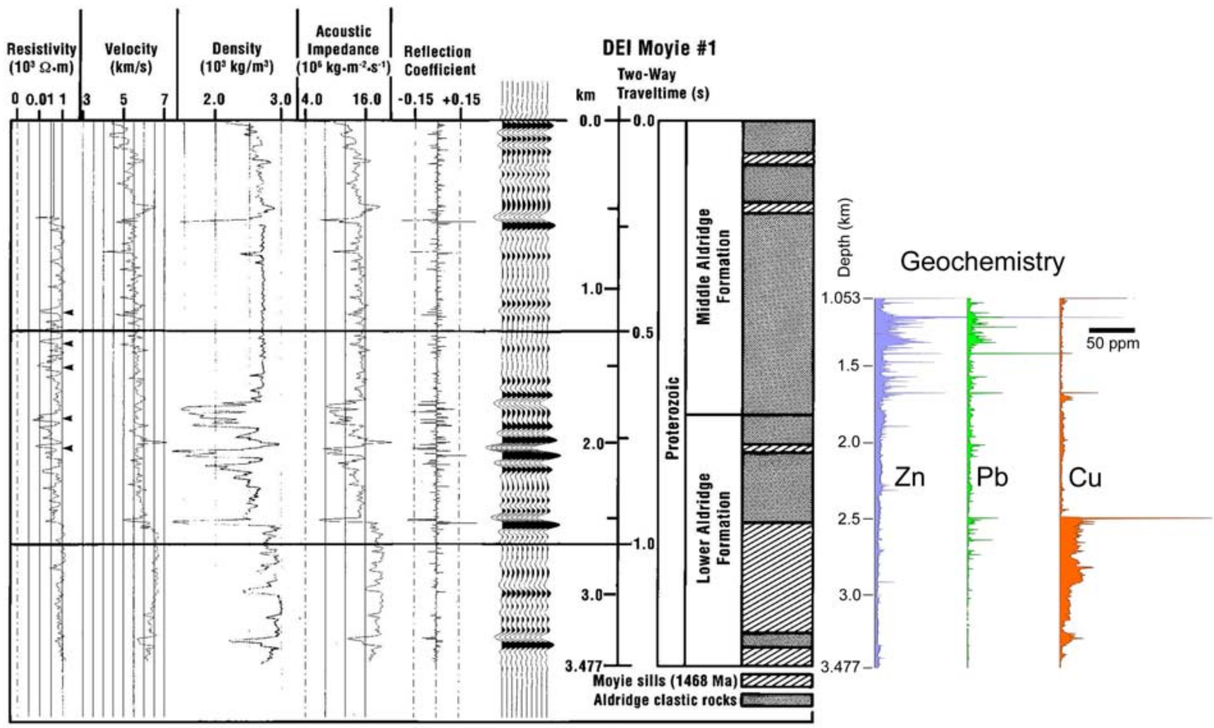


Figure 9. Same figure as Figure 4 with the addition of geochemical information (from Schulze, 1988) on the right. The geochemistry was done on sample (3 m intervals) below 1.053 km. Note the correlation of Pb and Zn with the conducive zones between 1.0 and 1.5 km (zone B in Figure 8), whereas the rocks below 2.5 km (zone C in Figure) have higher concentrations of Cu.

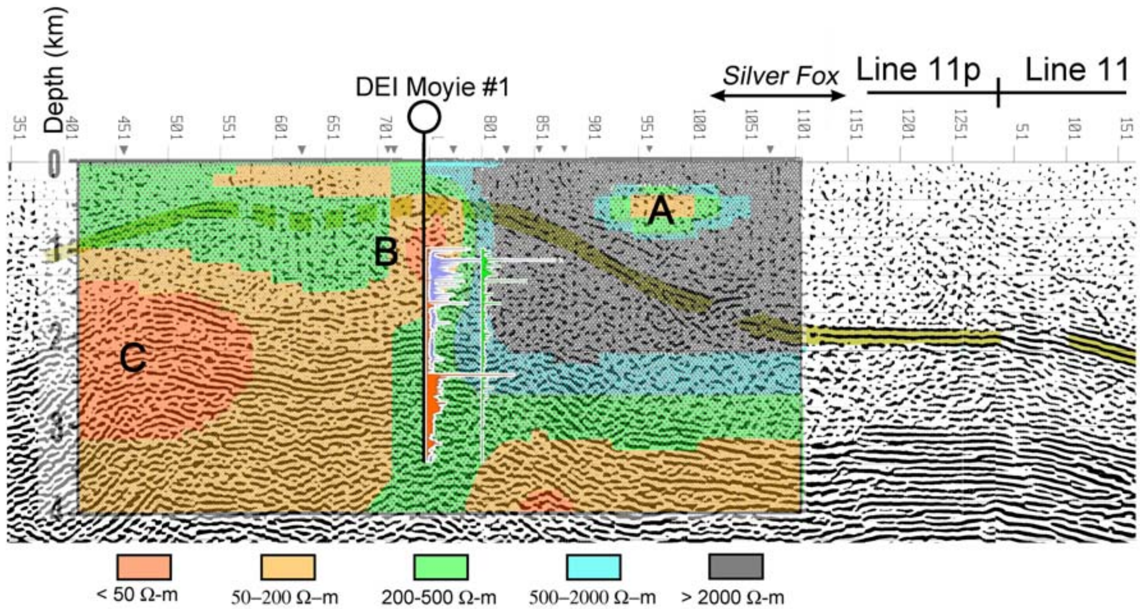


Figure 10. Same as Figure 8 with the geochemical information included. Note the correlation of zone B with Pb-Zn and zone C with Cu. Gupta and Jones (1995) have shown that the deep zone of high conductivity, zone C, extends far to the south into the U. S.

7.3 Three-Dimensional Basin Structure

The grid of seismic profiles allows subsurface geometry to be mapped in three dimensions. Results can be displayed as maps (Figure 11) or fence diagrams (Figure 11) that illustrate correlations from line to line. Map views are particularly valuable for illustrating detailed variations of structure or stratigraphy, whereas fence diagrams are helpful for visualizing the geometry of surfaces.

The map shown in Figure 11 is one of a series of maps that were constructed during an MSc project (Ainsworth, 2009) that illustrate the geometrical characteristics of key mappable horizons on the seismic profiles. In this case, Ainsworth (2009) first constructed maps of the Middle Aldridge marker sill and the top of the Lower Aldridge sills and then calculated the difference between them. The result is analogous to an isopach map of stratigraphic horizons, except that it is in two-way travel time and is thus an "isochron map". The choice of these markers was intentional as the transition from the Middle Aldridge to the Lower Aldridge encompasses the time of the well-know Sullivan Pb-Zn deposit near Kimberly, British Columbia.

There are two key assumptions necessary to interpret this map as representing subsurface geometric variations. First, it is assumed that the sills represent time-stratigraphic markers. This is probably a reasonable assumption as the intrusions are indeed sills and appear to generally follow stratigraphic horizons (e.g., Hoy, 1995). Second, we assume that there are no large lateral variations in acoustic impedance of the layers. This is also probably a reasonably good assumption because the lithologies of the Aldridge Formation are laterally consistent over a large region.

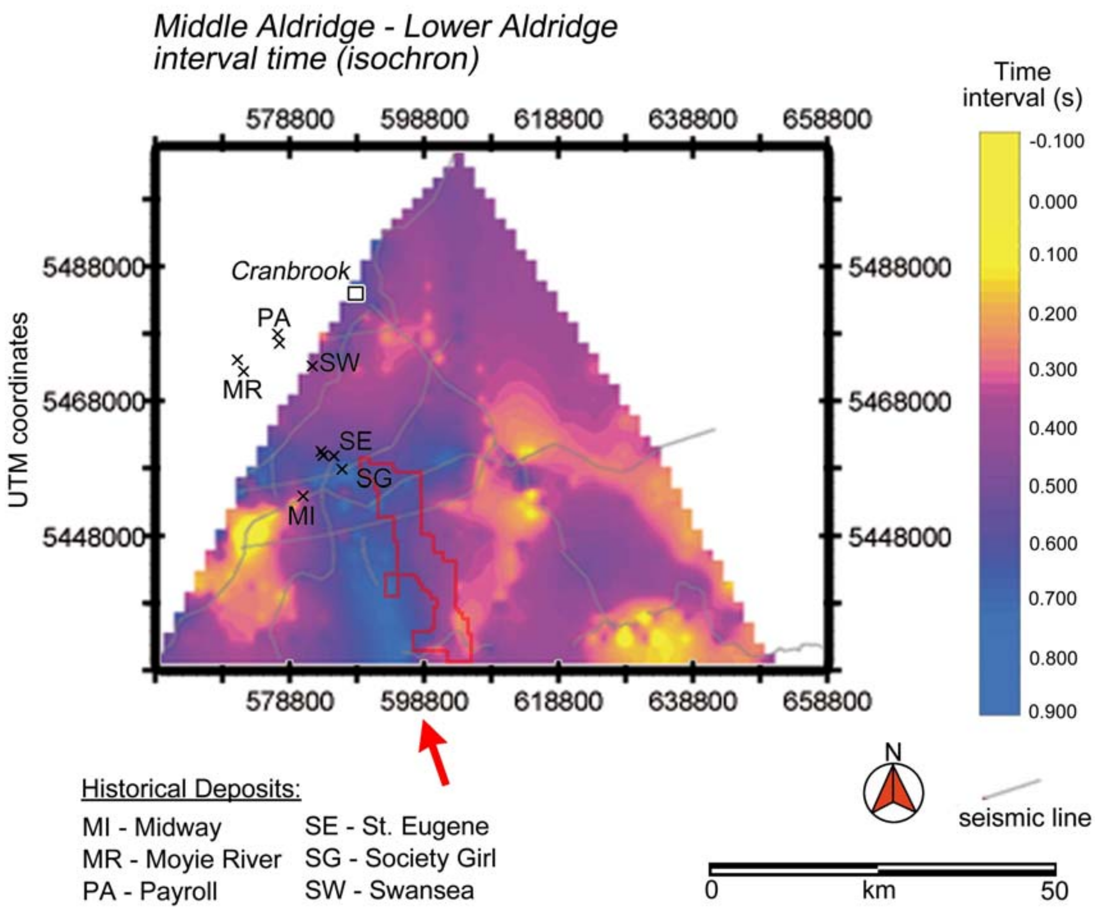


Figure 11. Map of the isochron interval between the Middle Aldridge marker sill and the Lower Aldridge sill; thus, encompassing the Sullivan zone, for the region south of Cranbrook, BC (from Ainsworth, 2009). The contours are in two-way time interval. Thus for a velocity of 5.0 km/s, each 0.100 s interval represents about 250 m. Note the northwest striking zone of thickened time interval (thus thickened stratigraphic interval) indicted by the arrow. The X's represent locations of historical metal deposits and the red outline is the location of the Silver Fox Property.

By mapping the Middle Aldridge – Lower Aldridge isochron, the map effectively flattens the structure on the Middle Aldridge marker, and thus illustrates the geometry of the basin at the time of the Middle Aldridge marker. Significant observations from this map are the following. First, there appears to be a prominent thickened zone (basin) that strikes about 340 degrees or N20W (arrow in Figure 11). This orientation is significantly different than the orientation of the Moyie anticline, the axial plane of which has an average strike of about 020 degrees, or N20E (Figure 1). According to the map, the basin may be as much as 0.4-0.6 seconds or about 1.0-1.5 km thicker than the surrounding areas for an average velocity of 5.0 km/s.

Second, there appear to be subsidiary basins striking northeast and northwest in the vicinity of the St. Eugene mine. Together with the primary basin, these appear to form a Y-geometry. It is not known how far any of these basins project to the north, as the data set has only been mapped in this way as far north as Cranbrook.

One implication of this map is that the Silver Fox property, outlined in Figure 10, is located on the eastern edge of this basin, and that it is likely that the basin margin was characterized by normal faults which facilitated the "upward migration of metal-bearing fluids". It is possible, though not yet established, that the thrust faults visible in Figure 3 may have been reactivated and inverted basin-margin normal faults. In any case, it appears that the Moyie anticline which, as part of the large-scale basin inversion that formed the Purcell anticlinorium, is underlain by one or more smaller sub-basins that formed during deposition of the Aldridge strata.

7.4 Three-Dimensional Surfaces

Mapping of surfaces provides information on how structures correlate throughout the region. As part of the efforts to evaluate the subsurface structures in the vicinity of the Silver Fox property, the seismic profiles have been loaded into interpretation software that allows surfaces to be mapped (Figure 12). In Figure 12, the prominent mapped and colour-contoured surface is the fault plane interpreted in Figures 2 and 5. It is projected southward from seismic line 12 to line 2 and a map of it is shown in Figure 13. One significant result from this approach is that the subsurface fault that is visible along lines

11, 4 1nd 12 may project to exposed fault(s) near 49^o that are the northern projection of the Libby thrust belt in Montana (e.g., Harrison, 1972).

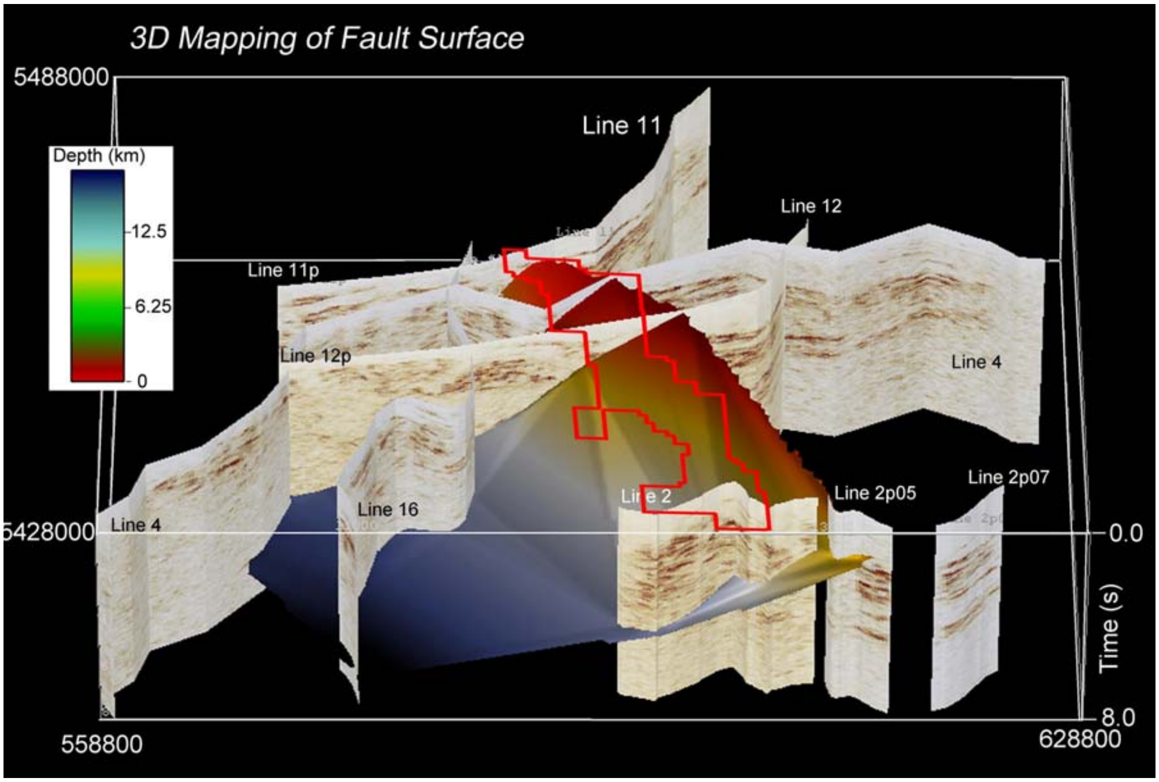


Figure 12. Three-dimensional perspective view of the area south of Cranbrook, BC with the seismic profiles shown as vertical sections and the Silver Fox property outlined in red. The colour contoured surface is the interpreted position of fault F1 in Figure 3.

Gupta and Jones (1995) presented a series of magnetotelluric profiles on the east flank of the Moyie anticline between the Moyie fault in the north and central Montana in the south. One of these is the same as the profile shown in Figures 7 and 9; others illustrate similar effects, with the highly conductive lower zone (zone C in Figures 7 and 9) the dominant feature. In the vicinity of the Libby thrust belt in Montana, Gupta and Jones (1995) identified zones of high electrical conductivity that appear to project upwards from the deeper conductor (C) that may be similar to conductor B or A in Figure 8.

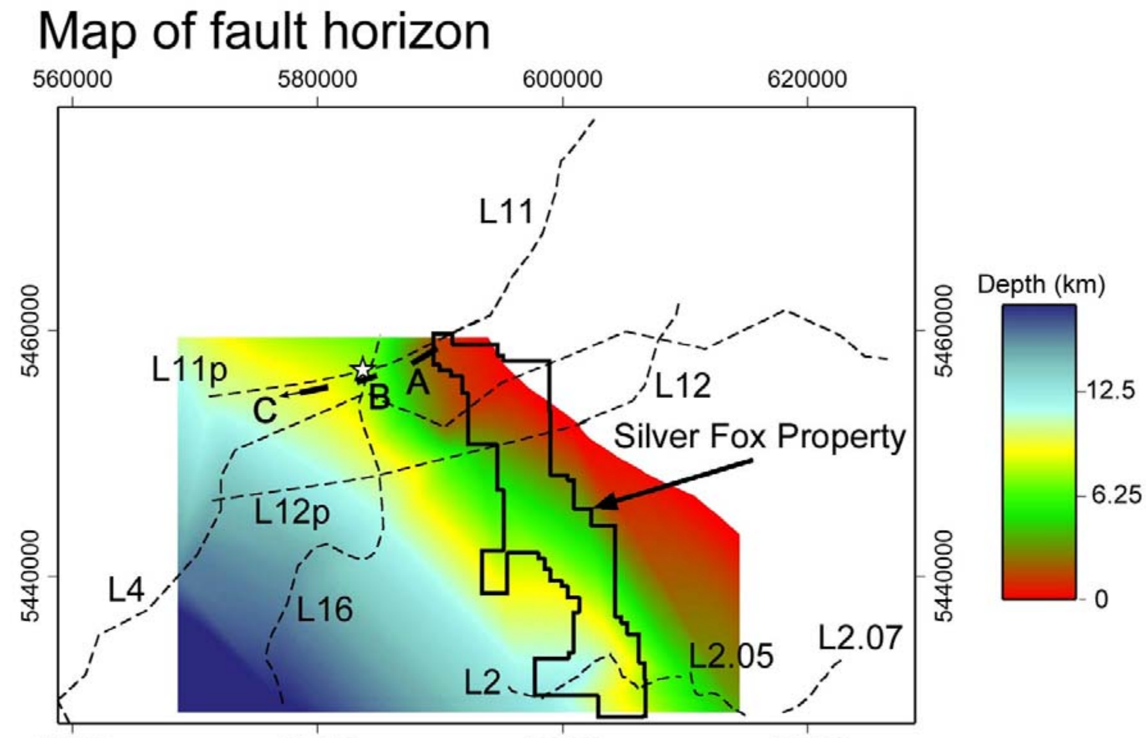


Figure 13. Contour map of the fault surface in Figure 12. Dashed lines are the locations of seismic profiles, and A, B, and C are the locations of conductive zones A, B, and C on Figure 8.

8.0 Conclusions

It is the author's opinion that geophysical data coupled with geological mapping will provide key components for future exploration and delineation of mineralization of the Silver Fox property as well as other zones of mineral enrichment in these rocks. In contrast to most mineral belts, exploration in the Purcell anticlinorium further benefits from a number of seismic reflection profiles that provide subsurface geometry that is not obtainable with other methods.

Compilation, reprocessing and re-evaluation of these geophysical data in the vicinity of the Silver Fox property in southeastern British Columbia provide critical data for mapping the subsurface structures and stratigraphy in the vicinity of the Silver Fox property. Important elements that derive from this approach are the following:

1) Reprocessing and analyses of regional aeromagnetic data using gradient analyses and the tilt derivative provide evidence that some showings are located where magnetic anomalies are truncated or merge. Whether these are due to faults is not known.
2) Seismic reflection data provide images of subsurface faults in the near subsurface that dip west from the Silver Fox property to as much as 20 km depth.
3) Mapping the (time) thickness between the Middle Aldridge and Lower Aldridge (Sullivan zone) has produced an image of the approximate basin geometry at the time of the Middle Aldridge sill. The map illustrates a northwest-striking trough whose eastern margin spatially coincides with the Silver Fox property.
4) Regional magnetotelluric data recorded in a series of profiles on the east flank of the Moyie anticline (and projection southward into the U. S.) provides evidence of three types of conductors. They are: a) shallow conductors (0-500 m east of the DEI Moyie drill hole) that are above the Middle Aldridge. The along-strike extent of these is not known; b) intermediate conductors (~1 km depth at the DEI Moyie drill hole) that coincide with the Middle Aldridge-lower Aldridge transition and thus are within the approximate stratigraphic position of the Sullivan mine, and c) a deeper, regionally extensive conductive zone that coincides with prominent layered sills in the Lower Aldridge Formation.
5) Correlation of information from the drill hole to the seismic and magnetotelluric data permits identification of the prominent reflectors as Moyie sills (~1.468 Ga). Geochemical analyses from the drill hole show that the Lower Aldridge conductor is primarily due to copper, whereas the middle (~1 km) conductor is primarily due to lead and zinc.
6) The physical cause of the shallow conductor (A in Figure 8) is not known at this time. However, its proximity to the surface showings in the Silver Fox property as well as its position near deeply-penetrating faults are encouraging for interpreting a mineral system in this area that is similar to, and perhaps an extension of, the Montana copper-silver belt.

9.0 Recommendations

An exploration program that contains three initial components is recommended. The first phase should include the following:

1) Airborne magnetic and TEM data recorded with sufficiently high resolution (e.g., 50 m flight line spacing) to correlate the results to outcrop.
2) Ground –based geophysics, especially TEM profiling to identify the spatial relationships of any near-surface conductors that may indicate zones of elevated metals in the upper 500 m or so.
3) Integration of these data into the regional study of the Silver Fox property to focus on the optimum locations for drilling.
4)

A second phase would be a drilling program guided by the results of the subsurface mapping combined with geological fieldwork that is ongoing.

10.0 References

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11.0 Statement of Costs

Personnel:	
F. Cook (14 person days @ $800.00/day) …………………..….	$ 11,200.00
- data processing and interpretation	
Miscellaneous:	
Plotting of maps/sections ………………………………….….	$ 155.00
Report preparation ………………………………………………………	$ 1,600.00
TOTAL ……………………………………………………………….	**$ 12,955.00**

12.0 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 36 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.
7) I have recently (2011) been appointed an International Consultant for the Chinese SinoProbe project.
8) I have a thorough knowledge of the geology of southern British Columbia based on extensive geological and geophysical field work.
9) I have authored more than 100 scholarly publications in peer-reviewed journals and books, and am co-editor of a book in press on the Tectonic Styles of Canada.
10) I was retained by Kootenay Gold Inc. to undertake analyses of the geophysical data in the vicinity of the Silver Fox property.
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.
13) I have no interest, direct or indirect, in the Silver Fox property.

“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 6th day of January, 2012
Reg. No. 160664 **Association of Professional Engineers and Geoscientists of British Columbia**