

GEOPHYSICAL REPORT

ON A

VLF-EM SURVEY

OVER THE

ADAMS PLATEAU CLAIMS

SPILLMAN CREEK, KAMLOOPS M.D.

BRITISH COLUMBIA

CENTER OF CLAIMS : 7.0 km due east of Adams Lake
: 51° 119' SW
: N.T.S. 82M/4E

WRITTEN FOR : ADAMS SILVER RESOURCES INC.
c/o #1807-1450 West Georgia St.
Vancouver, B.C.
V6G 2T8

SURVEYED BY : TRANS-ARCTIC EXPLORATIONS LTD.
#1807-1450 West Georgia Street
Vancouver, B.C.
V6G 2T8

REPORT BY : David G. [redacted] ist
GEOTRONIC
#403-750
Vancouver

DATED : September



GEOT-
Engineer
VANCO

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SUMMARY

During May and June, 1982, a VLF-EM survey was carried out on the Adams Plateau property of Adams Silver Resources Inc. The property is located 70 km east of Kamloops and 3 km east of Adams Lake. Access to much of the property is easily gained by a 2-wheel drive vehicle. The terrain is gently rolling hills over the plateau section and steep slopes on the north and west edges of the plateau. The purpose of the survey was to extend the known zones of sulphide mineralization as well as to map structure.

Previous work on the property consists of trenching, diamond drilling, geological mapping and other geophysical surveys. The minerals are that of galena, sphalerite, chalcopyrite, and pyrite with silver and minor gold values. They form a banded replacement zone within a schistose and highly folded series of graphitic and limey rocks.

The VLF-EM readings were taken every 40 meters on 100-meter separated northwest-southeast lines. They were then Fraser Filtered, plotted and contoured.

CONCLUSIONS

1. A complex VLF-EM anomalous zone correlates with the main showings and has been labelled A. Complex zones are indicative of cross structure that is more amenable to sulphide deposition. There are other complex anomalous zones, the more prominent ones being labelled B to F.

2. There are many very intense VLF-EM anomalies within the survey area, some of which correlate directly with mineral showings. All of these anomalies are targets for future exploration.

RECOMMENDATIONS

1. The property should be geologically mapped at a scale of 1:5,000. The mineralized areas may need to be done at a larger scale.
2. A soil geochemistry survey should be undertaken, ideally over the whole property on the same grid. However costs may necessitate it to be confined to areas of stronger interest shown by geology and the VLF-EM results.
3. Resulting anomalous geochemistry zones should then be further detailed by VLF-EM. MaxMin EM and induced polarization surveys may be quite useful in delineating targets and should therefore be tested over the known zones. A larger survey by either method should then be carried out if the mineralization can be delineated.

GEOPHYSICAL REPORT

ON A

VLF-EM SURVEY

OVER THE

ADAMS PLATEAU CLAIMS

SPILLMAN CREEK, KAMLOOPS M.D.

BRITISH COLUMBIA

INTRODUCTION AND GENERAL REMARKS

This report discusses the survey procedure, compilation of data, and the interpretation of a very low frequency electromagnetic (VLF-EM) survey carried out over the Adams Plateau Claims belonging to Adams Silver Resources Inc. from May 15th to July 1st, 1982.

This survey was done as a result of the recommendations of an engineering report by T.R. Tough.

The survey was done under the field supervision of Larry Brewer, geologist, with the aid of a helper. A total of 160.0 line km of VLF-EM were done.

The primary purpose of the VLF-EM survey was to extend the known zones of sulphide mineralization found on the property. A secondary object of the VLF-EM survey was to delineate structure such as faults, contacts and shears, considered important to the deposition of mineralization.

PROPERTY AND OWNERSHIP

Adams Silver Resources Inc. owns 6 Crown Granted claims as well as 18 contiguous modified claim blocks. (266 units) as shown on Figure 2 and as follows:

<u>CLAIMS NAME</u>	<u>RECORD NO.</u>	<u>NO. OF UNITS</u>	<u>EXPIRY DATE*</u>
<u>Crown Grants</u>			
Ellsie)	5227	1	N/A
Billie)	5228	1	N/A
White Swan)	5229	1	N/A
Golden Eagle)	5230	1	N/A
Lucky Coon)	5231	1	N/A
Last Chance)	5232	1	N/A
RWS #1	2663	20	June 20, 1982
RWS #2	6664	20	June 20, 1982
Adam #1	81139	20	Feb. 26, 1983
Adam #2	813340	4	Feb. 26, 1983
Adam #3	813341	20	Feb. 26, 1983
Adam #4	813342	20	Feb. 26, 1983
Adam #5	81326	20	Feb. 26, 1983
Adam #6	81347	20	Feb. 26, 1983
Adam #7	81348	20	Feb. 26, 1983
Adam #8	4011	20	April 16, 1983
Adam #9	4012	16	April 16, 1983
Adam #10	4040	18	May 19, 1983
Adam #11	4039	12	May 19, 1983
Nova #1	3719	1	July 30, 1982
Nova #2	3720	1	July 30, 1982
Alpha #1	3717	6	July 30, 1982
Alpha #2	3718	8	July 30, 1982
Bee 2a	2707	<u>20</u>	June 27, 1982

(Crown Grants and Claim Blocks) Total 272

* The expiry date as shown does not take into account the assessment credits that will be granted as a result of the work described in this report.

LOCATION AND ACCESS

The property is situated some 67 km east of Kamloops on the Adams Plateau between Adams Lake and the north fork of Scotch Creek in the Kamloops Mining Division, south-central British Columbia. Its western boundary is 3.0 km east of the eastern shore of Adams Lake.

The geographical coordinates of the center of the property are $51^{\circ} 04'$ N latitude and $119^{\circ} 37'$ W longitude.

The property is accessible by road from Squilax some 70 km east from Kamloops on the Trans-Canada Highway. The Canadian Pacific Railway services Squilax. Logging and mine access roads lead to the property from the south end of Adams Lake and from Celesta along Scotch Creek.

Helicopter service is also available at the airport in Kamloops.

PHYSIOGRAPHY

The property is located within the physiographic division known as the Shuswap Highlands which is a unit of the Interior Plateau System. The terrain is generally that of rolling hills which is characteristic of the Adams Plateau upon which the property is located. The northern and western parts of the property, however, are located over the edge of the plateau where the terrain is fairly steep with slopes

up to 45°.

The elevation ranges from 760 m asl at the northern end of the Adam #7 Claim within Spillman Creek to 1960 m at the southern end of the Alpha #1 Claim which gives a relief of 1200 m. The relief of the plateau itself is approximately 300 m.

Several north- and south-flowing creeks drain the property, the most prominent of which is the north-flowing Spillman Creek. Also the Nikwikwaia Lakes are located in the southwestern corner of the property.

The vegetation consists of extensive stands of spruce and balsam with alpine meadows being quite common.

HISTORY OF PREVIOUS WORK

The first discovery was in 1927 and was that of the Lucky Coon deposit. Several companies and individuals have owned the property since. The main work carried out has been extensive trenching and diamond drill programs along with some geological mapping and geophysical surveys. In addition, in 1977, a total of 1360 tons of ore was mined which graded 9.75 oz/ton silver, 7 to 8% lead, and 7 to 8% zinc.

A more thorough description of the history of the property is given in Tough's engineering report.

GEOLOGY

The following is quoted from T.R. Tough's 1982 engineering report.

"The Plateau is underlain by a thick series of sediments composed of argillite, limy argillite, and phyllitic schists with local thin beds of limestone and quartzite. The sedimentary rocks are generally highly sheared and tightly folded and are conformably overlain by a series of greenstones which in part are tuffaceous. The greenstones are overlain by the Tshinakin limestone which caps Pisima Mountain, the highest point on the Plateau.

"The stratified rocks are included as part of the Eagle Bay formation of Proterozoic or Early Paleozoic age and generally dip gently to the north.

"At the northern end of Adams Lake a biotite orthogneiss occurs which intruded and heavily metamorphosed the Adams Lake greenstones and interbedded sediments for a distance of some 1,000 feet from the contact.

"The mineralized zone has been traced on the property by trenching and surface mining for some 2,500 meters. The zone strikes at 045° and dips a 40° to the northwest. The minerals noted in the zone were galena, sphalerite, chalcopryrite, and pyrite, and they form a banded replacement zone within a schistose and highly folded series of graphitic and limey phyllitic rocks.

"The mineralized zone appears to attain widths of up to 3 or 4 meters."

INSTRUMENTATION AND THEORY

A VLF-EM receiver, Model 27, manufactured by Sabre Electronic Instruments Ltd. of Burnaby, B.C. was used for the survey. This instrument is designed to measure the magnetic component

of a very low frequency (VLF) electromagnetic field. The U.S. Navy submarine transmitter located at Seattle, Washington and transmitting at 24.8 KHz was used.

In all electromagnetic prospecting, a transmitter produces an alternating magnetic field (primary) by a strong alternating current usually through a coil of wire. If a conductive mass such as a sulphide 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. It is this distortion that the EM receiver measures. The VLF-EM uses a frequency range from 16 to 24 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 pick up bodies of a low conductivity and therefore is more susceptible to clay beds, electrolyte-filling fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological contacts as well as sulphide bodies of too low a conductivity for other EM methods.

Consequently, the VLF-EM has additional uses in mapping structure and in picking up sulphide bodies of too low a conductivity for conventional EM methods and too small for induced polarization (in places it can be used instead of IP). However, its susceptibility to lower conductive bodies results in a number of anomalies, many of them difficult to explain and, thus, VLF-EM preferably should not be interpreted without a good geological knowledge of the property and/or other geophysical and geochemical surveys.

SURVEY PROCEDURE

The VLF-EM survey was run on a grid in which the lines run

northwest-southeast at 100-meter intervals from 2 baselines running northeast-southwest. Dip angle readings were taken every 40 meters with the instrument facing towards the transmitter at Seattle. Fluorescent flagging was placed at each 40-meter station with the grid coordinates marked thereon.

COMPILATION OF DATA

The readings were reduced with the aid of a computer by applying the Fraser Filter first at a 40-meter spacing and then at a 60-meter spacing. Filtered data, as shown on Sheets 2 and 3, are plotted between the reading stations. The positive filtered values were contoured at intervals of 5° starting at 0° .

The Fraser Filter is essentially a 4-point difference operator which transforms zero crossings into peaks, and a low pass smoothing operator which reduces the inherent high frequency noise in the data. Therefore, the noisy, non-contourable data are transformed into less noisy, contourable data. Another advantage of this filter is that a conductor that does not show up as a cross-over on the unfiltered data quite often will show up on the filtered data.

The results have been drafted onto 3 base maps each at a scale of 1:5,000. Sheet 1 consists of the dip angle readings taken in the field. The writer has also drawn on the conductive zones as mapped by the 40-meter Fraser Filtered VLF-EM data as well as cross-lineations that is indicative of structure. Sheet 2 consists of the 40-meter Fraser Filtered data contoured and Sheet 3 consists of the 60-meter Fraser Filtered data contoured.

DISCUSSION OF RESULTS

The major cause of VLF-EM anomalies, as a rule, are geologic structures such as fault, shear, contact and breccia zones. It is therefore logical to interpret VLF-EM anomalies to likely be caused by these structural zones. Of course, sulphides may also be a causative source. But in the writer's experience, where VLF-EM anomalies correlate with sulphide mineralization, the anomalies are usually reflecting the structure associated with the mineralization rather than the mineralization itself.

Many of the anomalies are also very long and linear in shape which is also suggestive of structure being the causative source.

the major trend of the VLF-EM anomalies, as seen on Sheet 1, is primarily northeast and secondarily north. Considering the VLF-EM anomalies are likely reflecting structure, the major strike of structure on this property is concluded to be in both these directions. This is in agreement with the geological maps produced by Preto, and Tough which show faults and contacts trending northeasterly and northerly across the property.

There is considerable variation in intensity from one VLF-EM anomaly to the next. This may not only be due to the conductivity of a causative source, but also the direction it strikes relative to the direction to the transmitter. In other words, those conductors lying closer to the same direction as the direction to the transmitter (S25W in this case), can be picked up easier than those that are lying at a greater angle. Depending upon its conductivity, a conductor may not be picked up at all if it is at too great an angle. For example, the VLF-EM survey has shown few conductors

striking northwesterly, a low optimum direction for the VLF-EM using the Seattle transmitter. Yet there is some evidence of structure striking in this direction.

As discussed above, the writer has drawn in cross-lineations. These are drawn along lineations of VLF-EM highs that seem to be more than coincidental and that probably reflect fault or shear zones. Since the grid is biased in a northeast direction, conductive zones other than this direction are not easily picked up.

Of particular interest is one lineation that has been drawn through a new showing in the area of the main showings. The lineations may indicate an extension of the mineralization or simply a fault associated with the showing.

The central part of the southeastern section of the survey area contains a number of high-amplitude VLF-EM anomalies. Through these the writer has drawn a series of east-west lineations. It is possible that the east-west direction is the direction that the anomalies should have been contoured. This would not be apparent, nevertheless, because of the northeast-southwest grid bias.

There are two features that should be looked for in VLF-EM results pertaining to sulphide mineralization, both of which are readily apparent within this survey.

The first is complexity. This is generally indicative of cross-structure which is always more amenable to sulphide deposition. Cross-structure is evident throughout the whole survey area. However, 6 areas have been labelled by the capital letters A to E to be the most complex, and therefore,

the areas of greater interest for mineralization. The main showings are located within area A.

The second feature is the intensity (or amplitude). The greater the intensity, the better the conductivity which is indicative of massive sulphides and/or severe faulting or shearing. A badly broken up fault or shear zone is also more amenable to mineral deposition.

Some of the showings correlate directly with VLF-EM conductors as exemplified by (1) the main showings, and (2) a showing at (L-36N, 3+50E). In both these cases the anomalies are quite intensive.

Intense anomalies are located throughout the survey area, but most prominently in and around the area marked B. Areas A and C are located along a fairly intense anomaly as well.

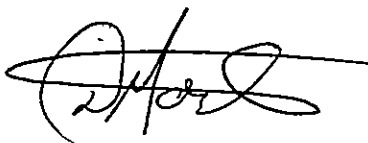
The two anomalies marked 'a' and 'b' may possibly reflect the same sedimentary bedding that has been folded into a syncline. This was noted in the field by the personnel of Trans-Arctic. In addition, both these anomalies are equally quite intense which means they are prime exploration targets for sulphide deposition.

The purpose of the 60-meter Fraser Filter was to delineate the conductors that have a greater depth. Most of these are regional faults but could also be deeper sulphide enriched zones.

In general most of the 40-meter filtered anomalies correlate quite well with the 60-meter filtered anomalies indicating

the conductive zones are quite strong with a good depth.

Respectfully submitted,
GEOTRONICS SURVEYS LTD.

A handwritten signature in black ink, appearing to read 'D. Mark', written over a horizontal line.

David G. Mark,
Geophysicist

September 23, 1982

SELECTED BIBLIOGRAPHY

Aeromagnetic Map, Adams Plateau, B.C. Geol. Survey of Canada,
Map 5320G, Sheet 82M/4, 1968.

Fraser, D.C., Contouring of VLF-EM Data, Geophysics, Vol.
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B.C. for Adams Silver Resources Inc., W.G. Timmins
Exploration and Development Ltd., April, 1981.

Tough, T.R., Geological Report on the Adams Plateau Property,
Kamloops M.D., B.C. for Adams Silver Resources
Inc., February, 1982.

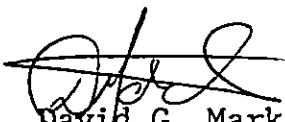
GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices at #403-750 West Pender Street, Vancouver, British Columbia.

I further certify:

1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
2. I have been practising my profession for the past 14 years and have been active in the mining industry for the past 17 years.
3. I am an active member of the Society of Exploration Geophysicists and a member of the European Association of Exploration Geophysicists.
4. This report is compiled from data obtained from a VLF-EM survey carried out by Trans-Arctic Explorations Ltd. from May 14th to July 1st, 1982.
5. I have no direct or indirect interest in the properties or securities of Adams Silver Resources Inc., nor do I expect to receive any as a result of writing this report.


David G. Mark,
Geophysicist

September 23, 1982

AFFIDAVIT OF EXPENSES

I, RICHARD SIMPSON, manager of Trans-Arctic Explorations Ltd. certify the following costs were incurred in carrying out an E.M. survey on the Alpha Group of mineral claims, Kamloops M.D., B.C. The survey started May 14th to June the 2nd, 1982 on the above group.

Bee Group - 100 Units

FIELD:

20 days - Skidoo Rental at \$75/day	\$ 1,500
20 days - Camp and supplies, 2 men at \$70/day	1,400
20 days - Two instruments (EM's) at \$30/day	600
20 days - Vehicle (Toyota computer car) transportation to town for supplies at \$35/day	700
20 days - Instrument operator at \$150/day	3,000
20 days - Assistant at \$125/day	2,500
6 days - Supervisor at \$200/day	1,200
5 days - 4 x 4, 3/4 ton pickup at \$75/day	375
20 days - Mobile radio at \$9/day	180
Air support, 180 Cessna	500
Survey supplies	300

REPORT

19 hours mapping (drafting and printing at \$20/hour)	380
Interpretation and report	1,100
	<u>\$ 13,735</u>

East Group - 24 km EM (June 25 to July 1, 1982)

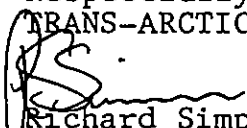
6 days - Skidoo rental at \$75/day	\$ 450
6 days - Camp and supplies, 2 men at \$70/day	420
6 days - Two instruments (EM's) at \$30/day	180

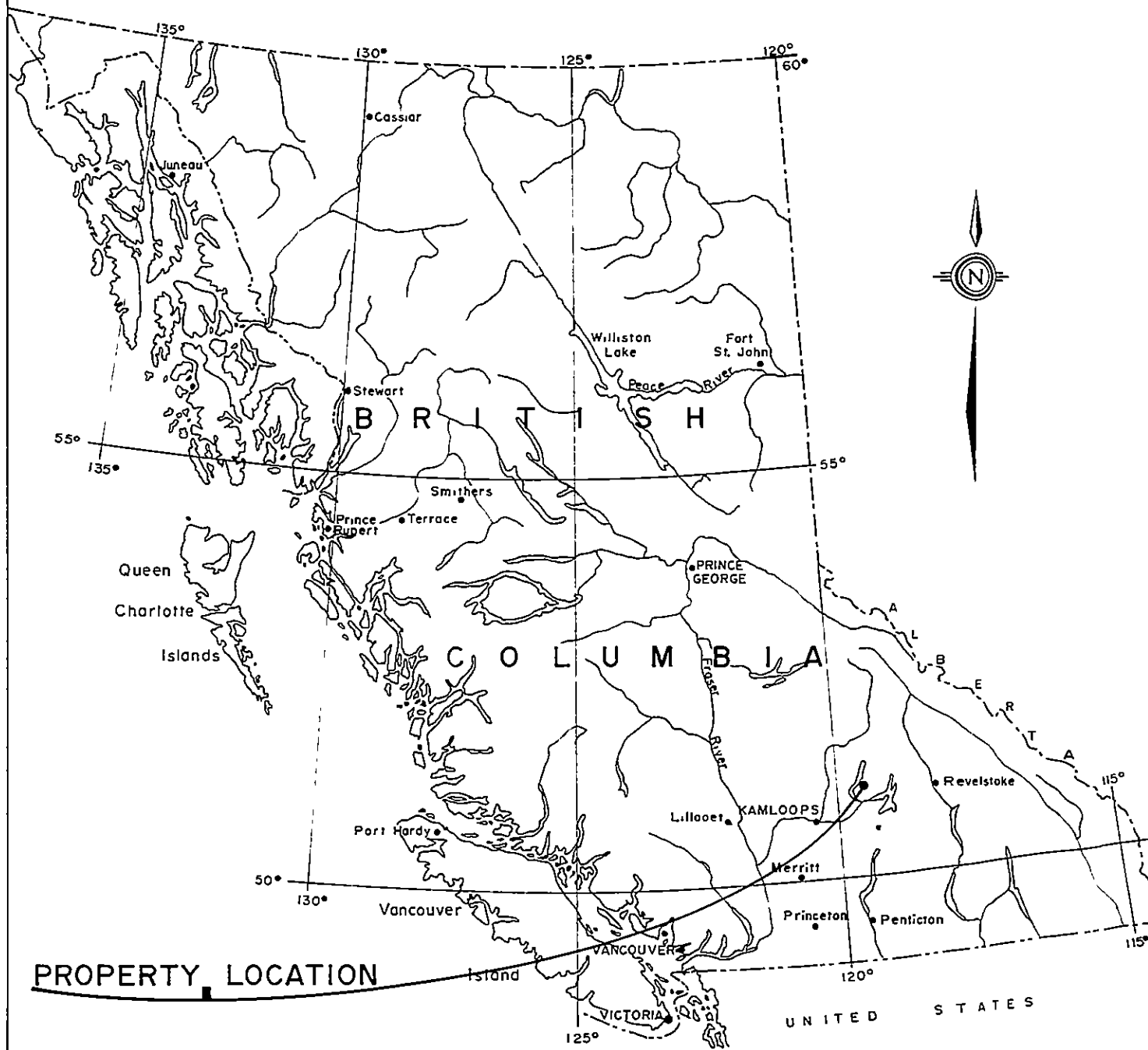
6 days - Vehicle (Toyota computer car) transportation to town at \$35/day	\$	210
6 days - Operator at \$150/day		900
6 days - Assistant at \$125/day		750
1 day - Supervisor at \$200/day		200
1 day - 4 x 4, 3/4 ton pickup at \$75/day		75
6 days - Mobile radio at \$9/day		54
Report		500
Mapping charged to Bee Group		
		<hr/>
	\$	<u>3,918</u>

Adam Group - 62 km EM (June 3 to June 24, 1982)

22 days - Skidoo rental at \$75/day	\$	1,650
22 days - Camp and supplies, 2 men at \$70/day		1,540
22 days - Two instruments at \$30/day		660
22 days - Vehicle (Toyota computer car) transportation to town at \$35/day		770
22 days - Instrument operator at \$150/day		3,300
22 days - Assistant at \$125/day		2,750
1 day - Supervisor at \$200/day		200
1 day - 4 x 4, 3/4 ton pickup at \$75/day		75
22 days - Mobile radio at \$9/day		198
Report and interpretation		400
		<hr/>
	\$	<u>11,543</u>

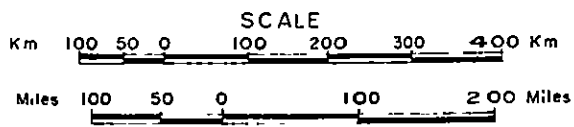
Respectfully submitted,
TRANS-ARCTIC EXPLORATIONS LTD.


Richard Simpson
Manager



ADAMS SILVER RESOURCES INC.
ADAMS PLATEAU

PROPERTY LOCATION MAP



by Brad.

Adams Lake

Tshinak
ck

ADAM 7
81348(2)

ADAM 6
81347 (2)

RSW 1
2663 (6)

RSW 2
6664(6)

ADAM 6
81347 (2)

Spillman
Creek

ADAM 4
813342(2)

BEE-2A
2707 (6)

NOVA 2
3720 (7)

ADAM 8
4011 (4)

ADAM 9
4012 (4)

ADAM 3
813341 (2)

NOVA 1
3719 (7)

PLATEAU

ADAM 2
813340(2)

ALPHA 1
3717(7)

ALPHA 2
3718 (7)

ADAM 10
4040(5)

Nkwikwaia
Lks

ADAM 1
81139(2)

ADAMS

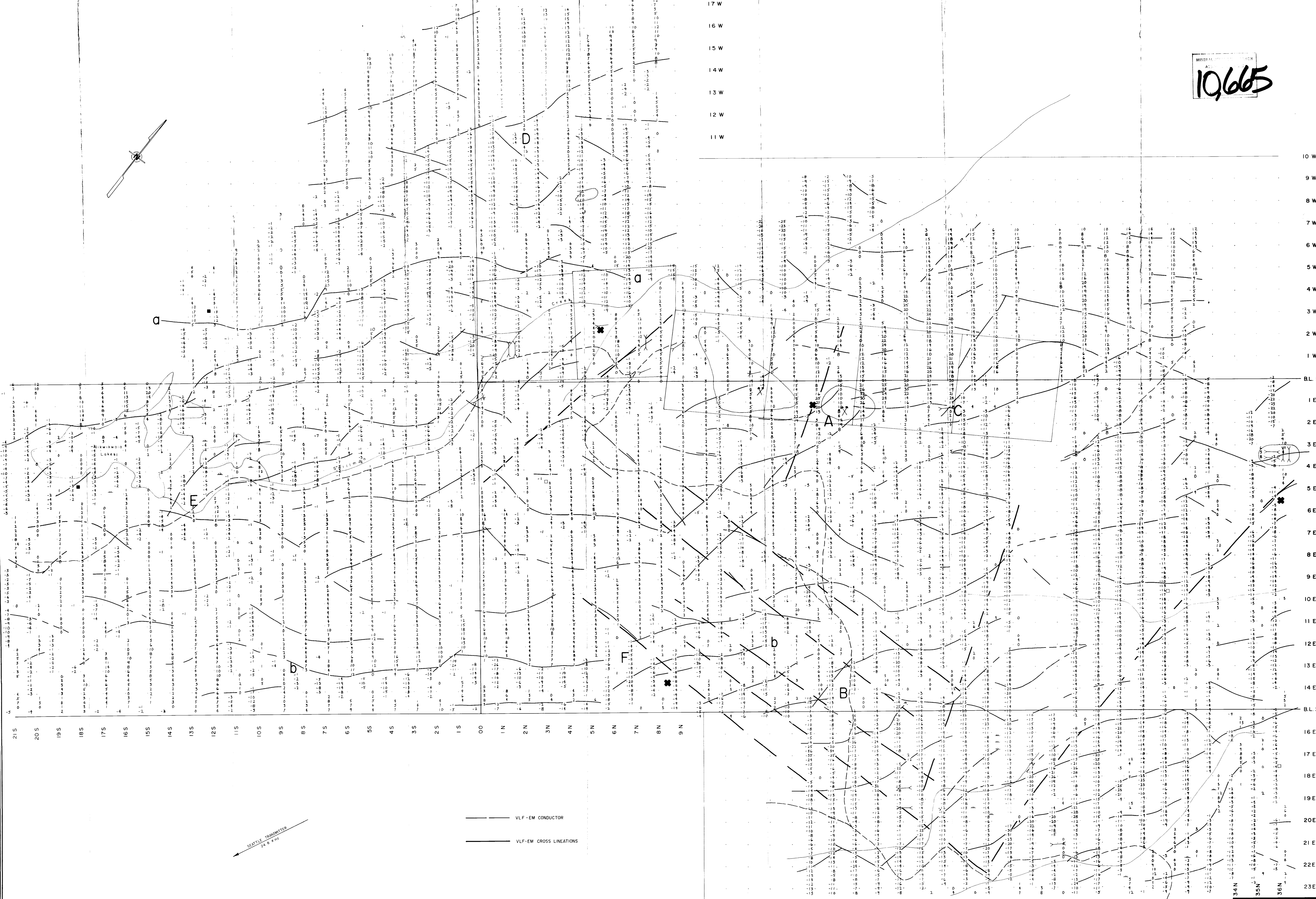
ADAM 11
4039(5)



Nkwikwaia
ck

ADAMS SILVER RES.
KAMLOOPS M.D.
CLAIM LOCATION MAP
1 50,000 AUG 82 B.D.S.

10665



CREEKS
ROADS
LAKES
TRENCH
ADIT
OLD SHOWING
NEW SHOWING
L.C.P.
OLD POST
SWAMP

SEATTLE TRANSMITTER
24.6 MHz

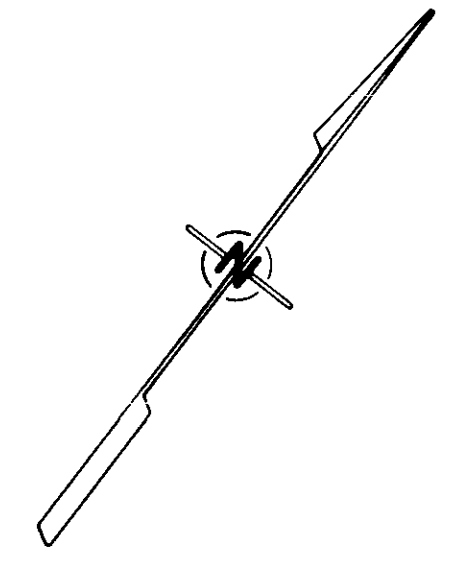
--- VLF-EM CONDUCTOR
--- VLF-EM CROSS LINEATIONS

250m 125m 0 250m 500m

N.T.S. 82 M/4E

ADAMS SILVER RESOURCES INC
ADAMS PLATEAU
KAMLOOPS, B.C.
VERY LOW FREQUENCY E.M.
DIP ANGLE DATA
1-SPD AUG 82
TRANS ARCTIC EXPLORATIONS LTD

10665



17 W
16 W
15 W
14 W
13 W
12 W
11 W

10 W
9 W
8 W
7 W
6 W
5 W
4 W
3 W
2 W
1 W
BL 1
1 E
2 E
3 E
4 E
5 E
6 E
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BL 2
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8 N
9 N

- CREEKS
- ROADS
- LAKES
- TRENCH
- ADIT
- OLD SHOWING
- L.C.P.
- OLD POST

WATTLE TRANSMITTER
24.0 kHz

VLF-EM CROSS LINES



NTS. B2 M/4E

ADAMS SILVER RESOURCES INC.
ADAMS PLATEAU
KAMLOOPS B.C.

VERY LOW FREQUENCY E.M.
30 m FRASER FILTER
1500 AUG 82 1:2 85 S

TRANS ARCTIC EXPLORATIONS LTD.

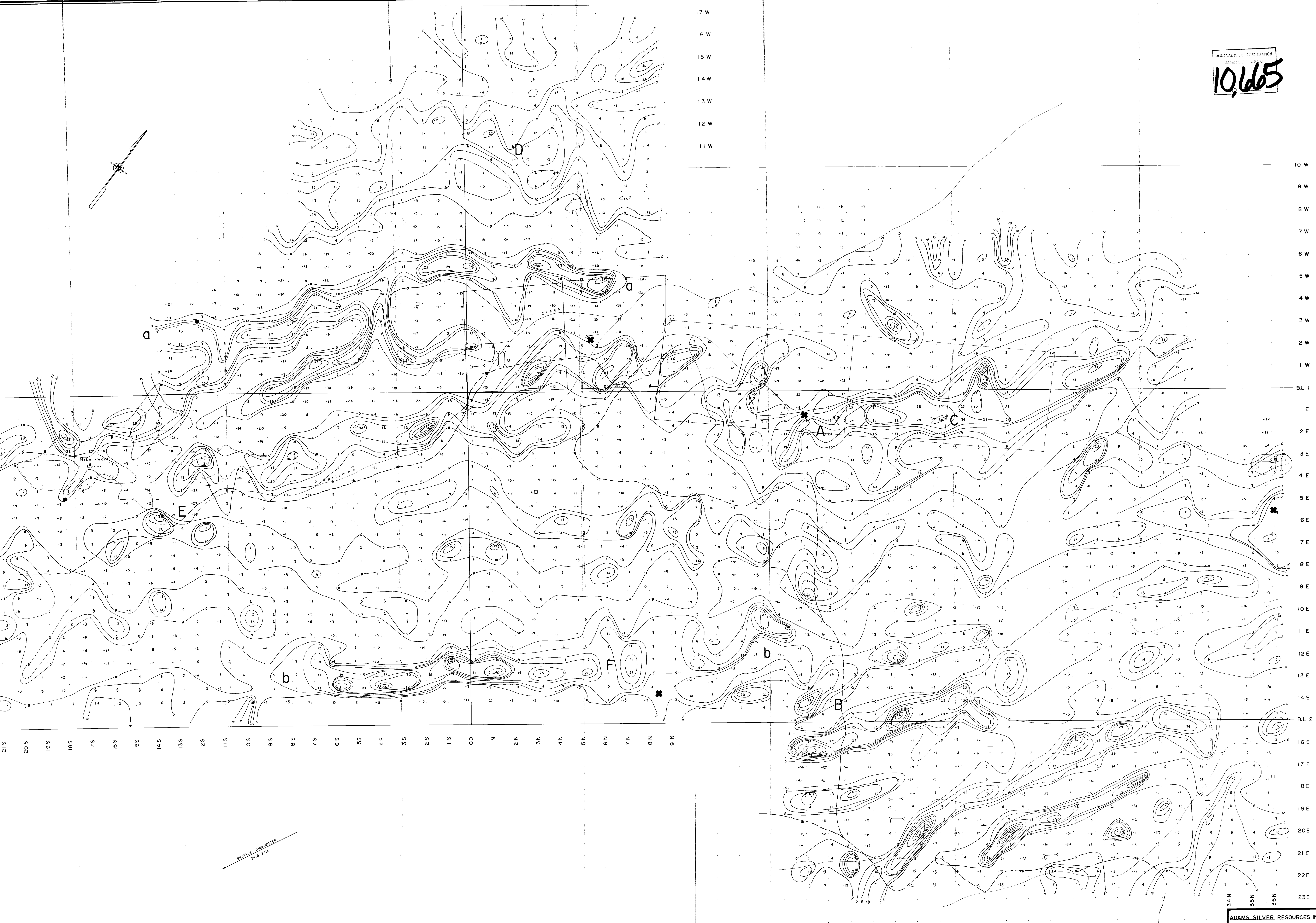
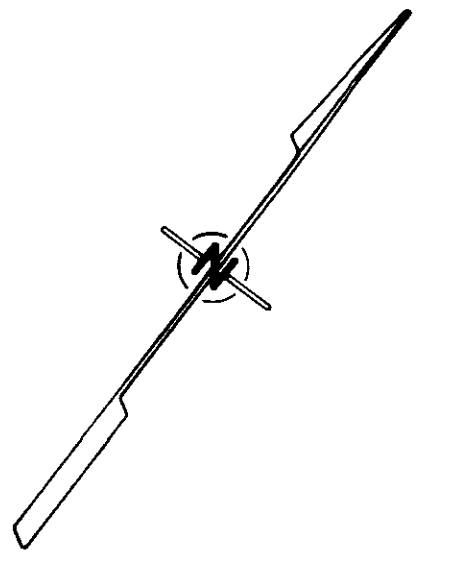
Contour interval = 5'

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,665

17 W
16 W
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14 W
13 W
12 W
11 W

10 W
9 W
8 W
7 W
6 W
5 W
4 W
3 W
2 W
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BL. 1
1 E
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3 E
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6 E
7 E
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9 E
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12 E
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BL. 2
16 E
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CREEKS
ROADS
LAKES
TRENCH
ADIT
OLD SHOWING
NEW SHOWING
L.C.P.
OLD POST
SWAMP

250m 125m 0 250m 500m
N.T.S. 82 M/4E

10 N
11 N
12 N
13 N
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18 N
19 N
20 N
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23 N
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27 N
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30 N
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32 N
33 N

ADAMS SILVER RESOURCES INC
ADAMS PLATEAU
KAMLOOPS M.D.
VERY LOW FREQUENCY E.M.
80 m FRASER FILTER
1:5000 AUG 82 3 80'S
TRANS ARCTIC EXPLORATIONS LTD.