

83-#412-11521
7/84
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

MQ REPORT #34

11,521

**GEOLOGY OF THE ADAMS PLATEAU PROPERTY
ADAMS PLATEAU, B.C.**

Kamloops Mining Division

NTS 82M/4

Latitude 51°N Longitude 119°37'N

FOR ADAMS SILVER RESOURCES INC.

by Dr. G.J. Dickie

MineQuest Exploration Associates Limited

August 31, 1983

**CLAIMS: BEE 2,
ADAM 1, ADAM 2, ADAM 3, ADAM 4, ADAM 8,
ALPHA 1, ALPHA 2,
NOVA 1, NOVA 2**

**Crown Grants: L5227, L5228, L5229, L5230, L5231,
L5232**

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Appendix I - Certificate of Analysis

1.

SUMMARY AND RECOMMENDATIONS

Silver-lead-zinc sulphide occurrences on the Adams Plateau are generally of moderate grade (10% Pb+Zn, 100gm Ag/ton) over narrow widths. The sulphide zone, hosted in siliceous, limy, and graphitic phyllite, of Devonian-Mississippian age is discontinuous along strike for 2,500 metres and is structurally complex. The stratigraphic horizon containing the sulphide zone has been shown to extend around a major synformal structure. The prospective area on the property has been increased significantly.

Exploration should be directed at finding a thickening of the sulphide zone to mineable widths (>3 metres) where the grade remains at least moderate. Such thickening is most likely to be in an extension along strike of the stratigraphic host unit within the synclinal structure or in a structural culmination within the presently known sulphide zone. Geochemistry, structural mapping and diamond drilling is proposed.

1.1 Geochemical Survey

Because of the paucity of outcrop of the siliceous phyllite (host rock for the sulphide zone) and because soil is well developed, the most effective tool for finding a lateral extension would be a soil geochemical survey over the core of the syncline. A northeast-southwest trending base line should be established along the axis of the syncline and cross lines for sampling spaced at 150 metre intervals. Soil samples should be taken from the B horizon every 20-25 metres along these lines. It would be advisable to use hand augers for sampling because the surface layer could be greater than 20cm thick.

1.2 Structural Mapping Program

A structural thickening is most likely at a culmination of a second phase (F_2) fold with wavelength of 500-1000 metres. Some structural mapping has been completed for this report but a short detailed mapping program around the known showings would be useful in defining fold culmination for testing. The drill core from the 1981 program should be relogged and that data integrated with surface mapping.

1.3 Diamond Drilling

Testing of target defined by the structural mapping should be with a diamond drill program of approximately 1000 metres.

The target would be a pipe-shaped sulphide body which might be distorted by folding and faulting. For such a target, the drilling would have to be closely controlled, logged immediately, and new locations proposed from the synthesis of surface and drill data.

2.

INTRODUCTION

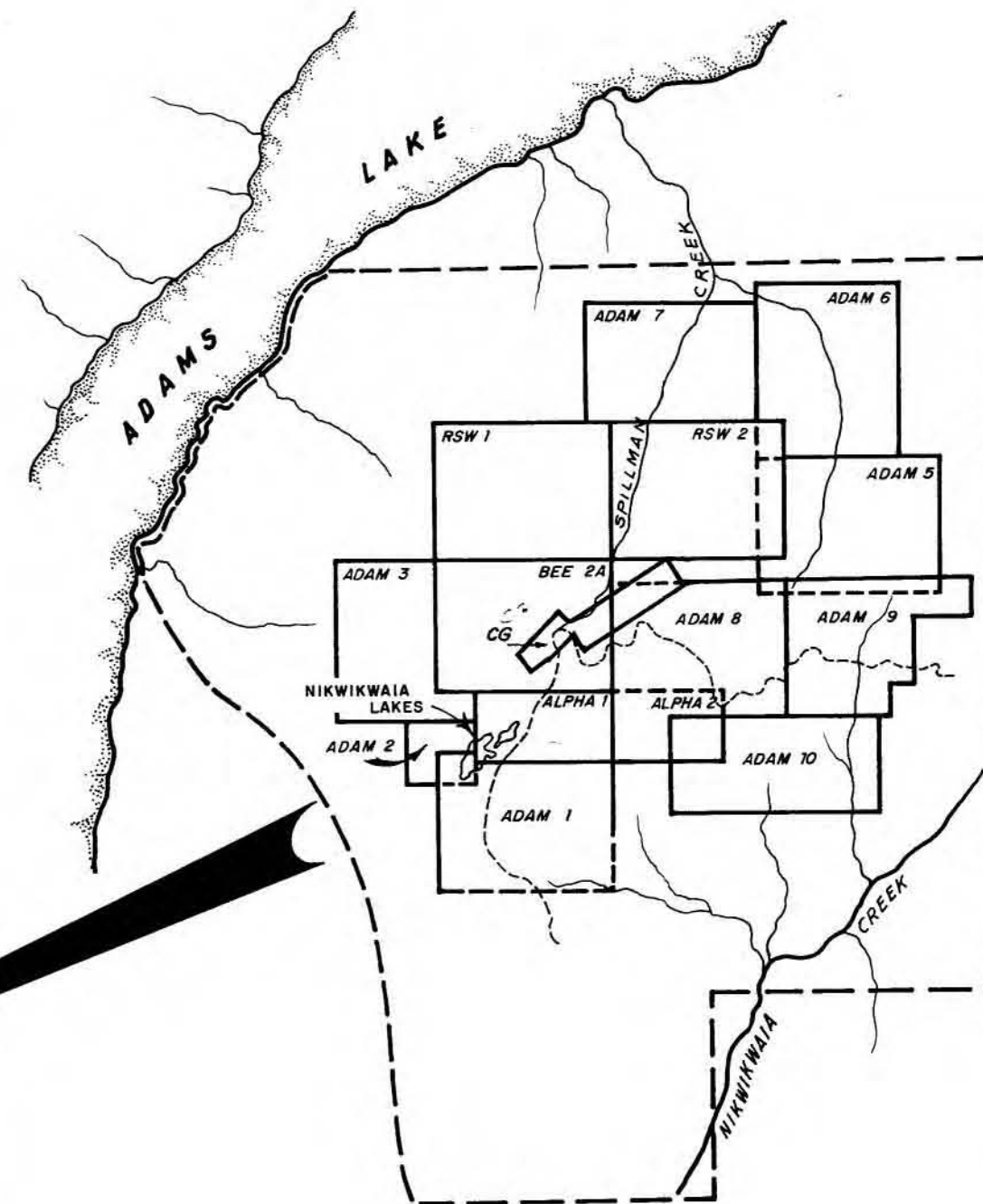
The Adams Plateau property of Adams Silver Resources Inc. has been explored intermittently for silver, lead and zinc since its discovery in 1927. The history of the property was recorded in detail by Tough (1982) who recommended a thorough geological mapping of the property.

Eight days were spent on the property by the writer and an assistant in June and July 1983 during which time the mapping and observations for this report were made.

2.1 Previous work

Considerable small scale trenching, underground testing and diamond drilling was carried out in the vicinity of the Lucky Coon showings in the period 1927-1940. Two pits were mined in 1977 and 1360 tons of material was shipped to a mill. In 1981, 19 diamond drill holes totalling 1112.8 metres were completed around the known mineralization.

Since 1960, regional exploration programs of airborne EM surveys and ground follow-up of conductive targets have covered various parts of the property. The area was mapped geologically in 1980 as part of a provincial government sponsored regional mapping program (Preto, 1981) which resulted in a new interpretation of the stratigraphy and structure.



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Scale : 1 = 100,000

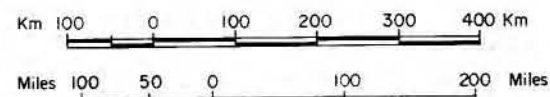
ADAMS SILVER RESOURCES INC.

ADAMS PLATEAU

LOCATION AND CLAIM MAP

PLAN No. 489	DRAWN C.D.	DATE AUG. '83	FIGURE 1
Revised		NTS 82M/4E	

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2.2 Access

Logging and mine roads provide access to the property from Squilax, 70km east of Kamloops on the Trans-Canada Highway. One road leads from Scotch Creek across the Adams Plateau to the open pits on the Lucky Coon property. A more direct route is provided by a new logging road from the south end of Adams Lake to within 2km of the property.

2.3 Topography

The topography on the plateau is gentle with relief of 300 metres but becomes very steep where it drops off to Adams and Shuswap Lakes, especially in the valley of Spillman Creek.

3.

REGIONAL GEOLOGY

The property is underlain by strata of the Eagle Bay Formation of probable Devono-Mississippian age described by Preto (1981) in his report on a regional mapping survey in the Barriere - Adams Lake area. Preto's mapping identified a continuously outcropping quartzite unit which defined a north-plunging overturned syncline, the Nikwikaia Lake synform, centred on the Adams Plateau property. The syncline is surrounded by greenschist derived from mafic flows and tuffs and is cored by phyllites and limestones which host the sulphide mineralization.

Structure in the synform is complex, the area having undergone at least three phases of folding and considerable faulting.

4.

PROPERTY GEOLOGY

Preto (1981) recognized that detailed stratigraphy was necessary to define the structural pattern of the Adams Plateau. With detailed stratigraphy, exploration for the conformable sulphide deposits can be confined to the correlative host rocks and structures affecting the sulphide unit can be delineated.

4.1 Stratigraphic Sequence

No reliable indicators of younging direction within the stratigraphic sequence were observed (e.g. graded bedding, current structures) so the sequence suggested by Preto (1981) of phyllitic sediments overlying greenschist was accepted. Consequently, the detailed stratigraphic sequence on the property is taken as:

	UNIT	LITHOLOGY
youngest	E	dark grey to black siliceous and graphitic phyllite, pyrite 5-10% along foliation; interbedded with dark grey finely crystalline limestone
	D	green chloritic phyllite and light green calcsilicate, in part tuffaceous
	C	dark brown to black siliceous and graphitic phyllite and dark grey phyllitic limestone; Ag-Pb-Zn sulphide unit towards the top

	B	black and white banded quartzite to siliceous phyllite; partly limy
oldest	A	green to dark green phyllitic greenstone usually magnetic, textures of basic flows and tuffs

While this is the general stratigraphic sequence, units B, C, and E appear to be facies equivalents and are in part laterally equivalent to one another. It is clear in most parts of the structure that the quartzite of unit B overlies the greenstone of unit A and the sulphide mineral zone is above the quartzite. This confines the prospective area of the syncline to a more manageable size for further exploration.

UNIT A

The chlorite-magnetite phyllite of unit A surrounds the synclinal structure and correlates with a greenschist unit mapped regionally by Preto (1981). Intense isoclinal folding is evident in numerous outcrops but remnants of the original basic flow and tuff textures can be recognized.

The unit regionally is a complex of basic volcanics and sediments, all metamorphosed to chlorite-rich phyllite but in places showing evidence of original acid volcanic or quartz-lithic sandstone composition. It contains many known showings such as Homestake and Bowler Creek and is prospective throughout its occurrence for massive sulphide deposits.

UNIT B

This distinctive black and white banded phyllitic quartzite outcrops continuously in the southwestern part of the synclinal structure and is critical in defining the structure. There appear to be rapid lateral facies changes on the north and south limb to siliceous and graphitic phyllite of unit C although a thinner band of quartzite does persist on the southern limb.

The quartzite was originally a sandstone with variable amounts of shale and as such does not appear attractive as an exploration target for bedded Ag-Pb-Zn sulphide deposits.

UNIT C

The dark brown weathering, dark grey to black siliceous and graphitic phyllite with interbeds of dark grey, finely-crystalline limestone is the most common lithology on the property but is also the least well exposed. A good section of unit C outcrops north of the open pits on the Lucky Coon down into Spillman Creek. It is impossible to distinguish between units C and E at this time on lithology alone and only the presence of the "greenstone" of unit D allows the distinction.

The sulphide mineralization exposed on the north limb of the syncline occurs near the top of unit C and in one pit is at the contact with unit D. It seems to occur in association with a white to light brown sericitic quartz phyllite which may be an alteration effect of the sulphides or it may be a real stratigraphic unit. In any case, the presence of the sericitic quartz phyllite within the siliceous phyllite lithology seems to be a positive indicator of nearby sulphides.

UNIT D

This unit consists of light green limy chlorite-quartz phyllite and white to light green calcsilicate with tuffaceous texture in places. It outcrops on the northern limb of the syncline in overturned anticlines. There is only one mapped band of unit D on the south limb where outcrop is poor.

This unit was originally a tuffaceous shale and limestone and not likely to be host for bedded sulphide deposits.

UNIT E

This unit is indistinguishable at this time from unit C and is not well exposed on the property. It forms the core of the syncline and is present in the soil cover as small flakes of micaceous phyllite. The best occurrences are in trenches along the northern road leading in to the property.

Units E and C were originally shale and siltstone with variable amounts of carbonaceous material and pyrite. The rhythmic bedding of these fine grained sediments was observed on L5228 in the creek near the old Elsie adit. This lithology is very attractive as a host for silver-lead-zinc sulphide deposits and units C and E should be the main targets for exploration.

GRANITE DIKE

On the south limb of the syncline, a white granitic foliated dike rock (quartz-feldspar porphyry of Preto) outcrops in a couple of locations. Similar units, mapped on the Mosquito King property some kilometres to the east represent dikes intruded between fold phases. They are cross-cutting to a certain extent but have been folded by later structures.

BASIC DIKES

A number of fine crystalline basic dikes cut across the property but are not well exposed and their orientation is not definitely known. On nearby properties, the dikes trend approximately north-south.

4.2 Rock Geochemistry

Sixteen chip samples were taken from various locations shown in Figures 1 and 2 within unit C and E at varying stratigraphic distances from the sulphides. The intention was to characterise the phyllite near the sulphides and try to identify other occurrences of the phyllite which might be proximal to mineralization. The results are in Table 1.

The sample ASL 1001 was taken from strata adjacent to the rich sulphide zone mined in the north pit of the Lucky Coon. These strata are anomalously high in Ag, Pb, Zn, Fe, Cu, Mn and As although no mineralization was visible in outcrop. All these elements are anomalously high in sample ASL 1002 which was 150 metres along strike from the Elsie showing and in ASL 1003 from a trenched showing north of Nikwikaia Lake. All three samples were taken from Unit C and support the attractiveness of that unit as the main target for exploration.

The remainder of the samples, graphitic siliceous phyllites of Units C and E, contain background values of Ag, Pb and Zn except for the elevated Zn in ASL 1004 and 1005. The stratigraphic level of these two samples should be examined in some detail because the high Zn may be the marginal effect of a sulphide deposit.

There is a good correlation between Fe, Mn and As and the base metals so these elements might be used to identify potential mineralized horizons in the absence of Ag, Pb and Zn anomalies.

TABLE 1

Rock Geochemistry of Siliceous Graphitic Phyllite

Sample No.	Lithology	Ag ppm	Pb ppm	Zn ppm
ASL 1001	Quartz-sericite phyllite	14.6	5630	4010
ASL 1002	Limy and graphitic phyllite	2.6	1070	4640
" 1003	Chloritic limy phyllite	0.8	128	370
" 1004	Graphitic siliceous phyllite	< 0.2	45	155
" 1005	Limy phyllite	< 0.2	15	134
" 1006	Graphitic siliceous phyllite	< 0.2	29	46
" 1007	"	< 0.2	18	68
" 1008	"	< 0.2	16	78
" 1009	"	< 0.2	15	78
" 1010	"	< 0.2	11	30
" 1011	"	< 0.2	26	50
" 1012	"	< 0.2	12	52
" 1013	Graphitic phyllite	< 0.2	< 1	78
" 1014	Graphitic siliceous phyllite	< 0.2	40	90
" 1015	Sericite-quartz-chlorite phyllite	< 0.2	22	76
" 1017	Graphitic phyllite	< 0.2	20	51

4.3 Structure

FOLDING

At least three phases of folding (designated F₁, F₂ and F₃) have affected the strata on the property with the result that original bedding is folded isoclinally and bedding is usually sub-parallel to foliation.

F₁ - The present orientation of bedding on the large scale is defined by the quartzite of unit B and on the outcrop scale by isoclinal folds in the quartzite and limestone. The actual position of bedding is difficult to determine in the phyllite because of the strong imposed foliation.

In the north pit of the Lucky Coon, the sulphide bed is contained in an isoclinal fold with the axial plane sub-parallel to foliation and the fold axis plunging southwest at 8 degrees. The sulphide bed is 25cm thick on the limbs of the fold and 45cm thick at the nose. Such structures will control the local distribution of the sulphides, and explain the highly variable mineral zone thickness down the foliation.

F₂ - The second phase of folding is slightly asymmetric about east-west trending axes and nearly vertical axial planes with the wavelength of significant folds of 500-1000 metres. These folds account for much of the variability of the orientation of the foliation and probably provide a locus for increased thicknesses of sulphides at fold culminations. The culminations of those structures in the area of known mineral occurrences should be one of the primary targets for further exploration.

The paucity of outcrop and the lack of detailed controlled mapping make the definition of these folds difficult at this time. An example of this type of fold is the flexure in the main synformal axis at its southwest culmination. (Figure 2b).

F₃ - Open folds with vertical axial planes trending generally north-south are the latest phase of folding to affect strata in the area. The effects of this folding are not significant on the location and size of sulphide mineralization.

FAULTING

No significant faults were mapped on the property but it is almost certain that normal faults and axial plane faults occur but need more detailed mapping and structural analysis for definition.

4.4 Silver-Lead-Zinc Sulphide Occurrences

To date, all Ag-Pb-Zn sulphide occurrences have been in outcrops on the north west part of the property on the east bank of Spillman Creek. The Lucky Coon showing has been mined in two open pits. An adit (now collapsed) has been driven on the Elsie showing. Numerous trenches have been cut across the general trend of the host unit and drilling in 1981 tested the sulphide-bearing unit around and between showings (Tough, 1982). It is probably significant that these showings have been found in the area of best outcrop of the favourable stratigraphy.

The sulphide unit is generally continuous for 2500 metres at a specific stratigraphic level but in detail the zone is thin and discontinuous and correlations are not clear. One reason for discontinuity of the sulphides is the isoclinal folding described in a previous section which causes thickening at fold culminations and attenuation on the limbs. In addition, later folding has increased the complexity of the sulphide bed location and has caused some remobilization of the sulphides.

In detail, the sulphides are confined to a bedding unit within the siliceous phyllite or limestone but the sulphides have been remobilized and original texture has been obscured. This close stratigraphic control and continuity along strike strongly suggest an original stratiform deposit. As such the potential for significant depositional thickening of the sulphides at some point on the property is high. Such a thickening should be accompanied by an increase in the graphite, pyrite and silica contents of the adjacent phyllite.

All known exposures and drill intersections to date have been too thin and discontinuous to justify an economic mining operation. Some drill intercepts (e.g. hole 81-1, 12 feet of 5.8 oz/Ag, 5.72% Pb, 2.42% Zn) indicate the potential for thickening of the sulphides within the stratigraphic unit. Such thickening could be anticipated in two circumstances:

- 1) a favourable structural setting in the area of known occurrences where the relatively thin bed of sulphides could be thickened in culminations of F_1 and F_2 structures and would be a body with pipe-like dimensions elongate along the F_2 fold axis.
- 2) a favourable stratigraphic setting elsewhere on the property in areas of poor exposure. The sulphide deposit would be more sheet-like in that instance.

5.

REFERENCES

Preto, V.A. 1981,
Barrier Lakes-Adams Plateau Area in
Geological Fieldwork 1980,
Paper 1981-1 Geological Division,
Mineral Resources Branch, Ministry
of Energy, Mines and Petroleum
Resources, Victoria, B.C.

Tough, Thomas, R. 1982,
Geological Report on the Adams Plateau
Property, Kamloops Mining Division
Prepared for Adams Silver Resources
Assessment Report

6.

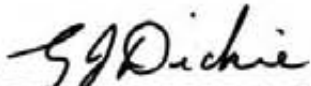
CERTIFICATE OF QUALIFICATIONS

I, Geoffrey J. Dickie, Of MineQuest Exploration Associates Limited of 311 Water Street, Vancouver certify that:

I graduated with a B.Sc. degree in geology from the University of Queensland, Australia in 1965 and with a Ph.D. in geology from the University of Alberta, Edmonton in 1972.

I am a Fellow of the Geological Association of Canada and a member of the Canadian Institute of Mining and Metallurgy.

I have practised geology for the past 17 years.



G.J. Dickie

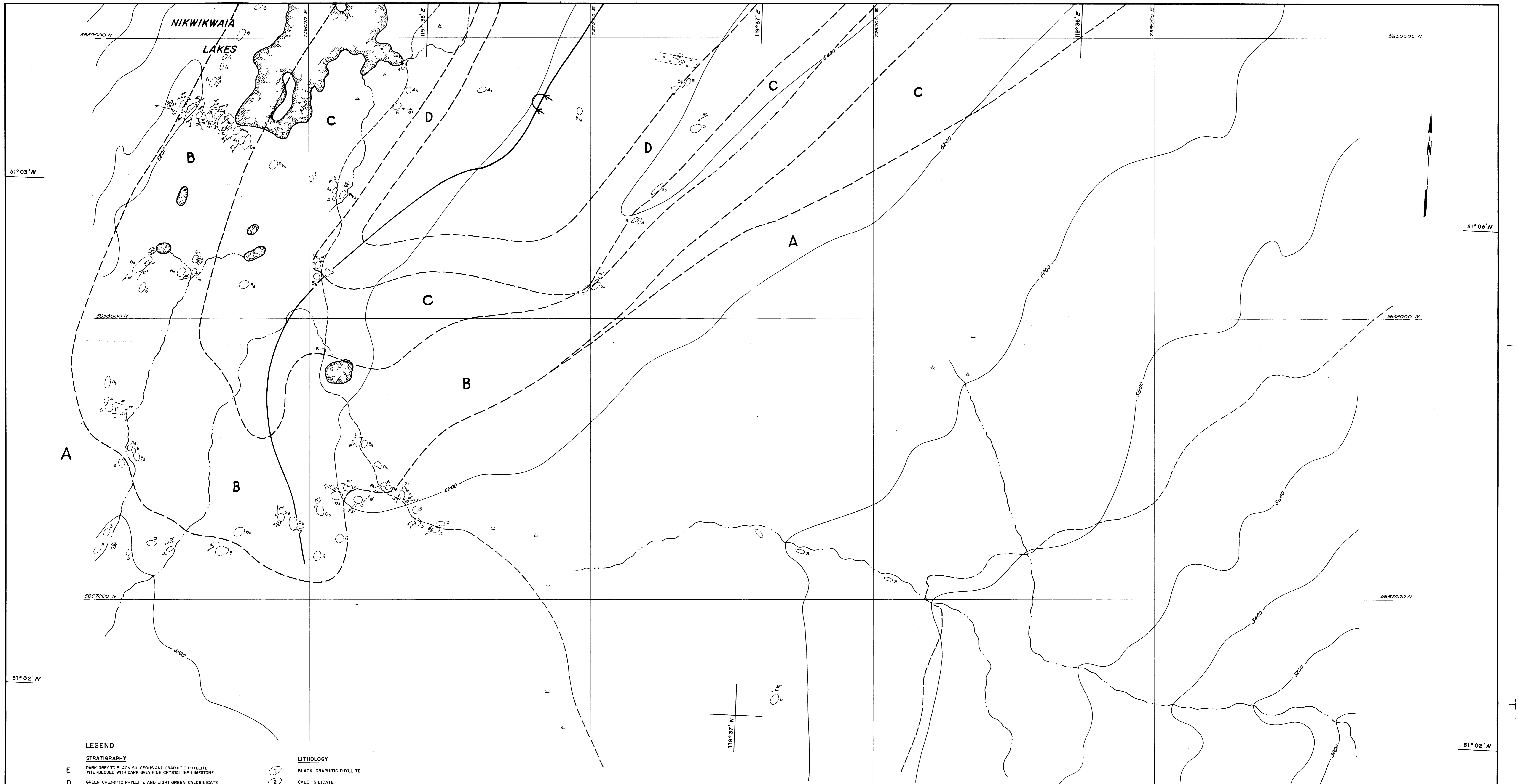
7.

COST STATEMENTPERSONNEL

Dr. G.J. Dickie	Geologist	14.08 days at \$485/day	\$ 6,828.80
D. Treisman	Field		
S. Syroishko	Assistants	10 days	968.26
Casual Labour	Map Preparation		50.00
		PERSONNEL SUB-TOTAL	<u>\$ 7,847.06</u>
TRAVEL	2 trips Vancouver-Kamloops return		332.55
FOOD AND ACCOMMODATION			566.00
VEHICLE RENTAL	4wd trucks - 2 trips		683.82
FIELD EQUIPMENT RENTAL			125.00
FUEL			176.22
GENERAL SUPPLIES	chemicals, field supplies		157.60
REPROGRAPHICS	air photo mosaic, enlargements, prints		876.48
ANALYTICAL			168.00
DRAFTING			668.75
REPORT PREPARATION	typing, copying		<u>194.34</u>
DISBURSEMENTS	SUB-TOTAL		\$ 3,948.76
	10% OVERRIDE		394.87
	SUB-TOTAL		<u>\$ 4,343.63</u>
	TOTAL COST		<u>\$12,190.69</u>

APPENDIX I

Certificate of Analysis



LEGEND

STRATIGRAPHY

- E DARK GREY TO BLACK SILICEOUS AND GRAPHITIC PHYLLITE INTERBEDDED WITH DARK GREY FINE CRYSTALLINE LIMESTONE
- D GREEN CHLORITIC PHYLLITE AND LIGHT GREEN CALC SILICATE
- C DARK GREY TO BLACK SILICEOUS AND GRAPHITIC PHYLLITE INTERBEDDED WITH DARK GREY FINE CRYSTALLINE LIMESTONE SULPHIDE BED TOWARDS THE TOP
- B BLACK AND WHITE BANDED QUARTZITE TO SILICEOUS PHYLLITE, PARTLY LIMY
- A GREEN TO DARK GREEN CHLORITIC PHYLLITE "GREENSTONE" USUALLY MAGNETIC, TEXTURES OF BASIC FLOWS AND TUFFS

LITHOLOGY

- 1 BLACK GRAPHITIC PHYLLITE
- 2 CALC SILICATE
- 3 GREEN CHLORITIC PHYLLITE
- 4 DARK GREY LIMESTONE
- 5 SILICEOUS PHYLLITE
- 6 QUARTZITE
- 7 SILICEOUS PHYLLITE WITH MINOR GRAPHITIC PHYLLITE

SYMBOLS

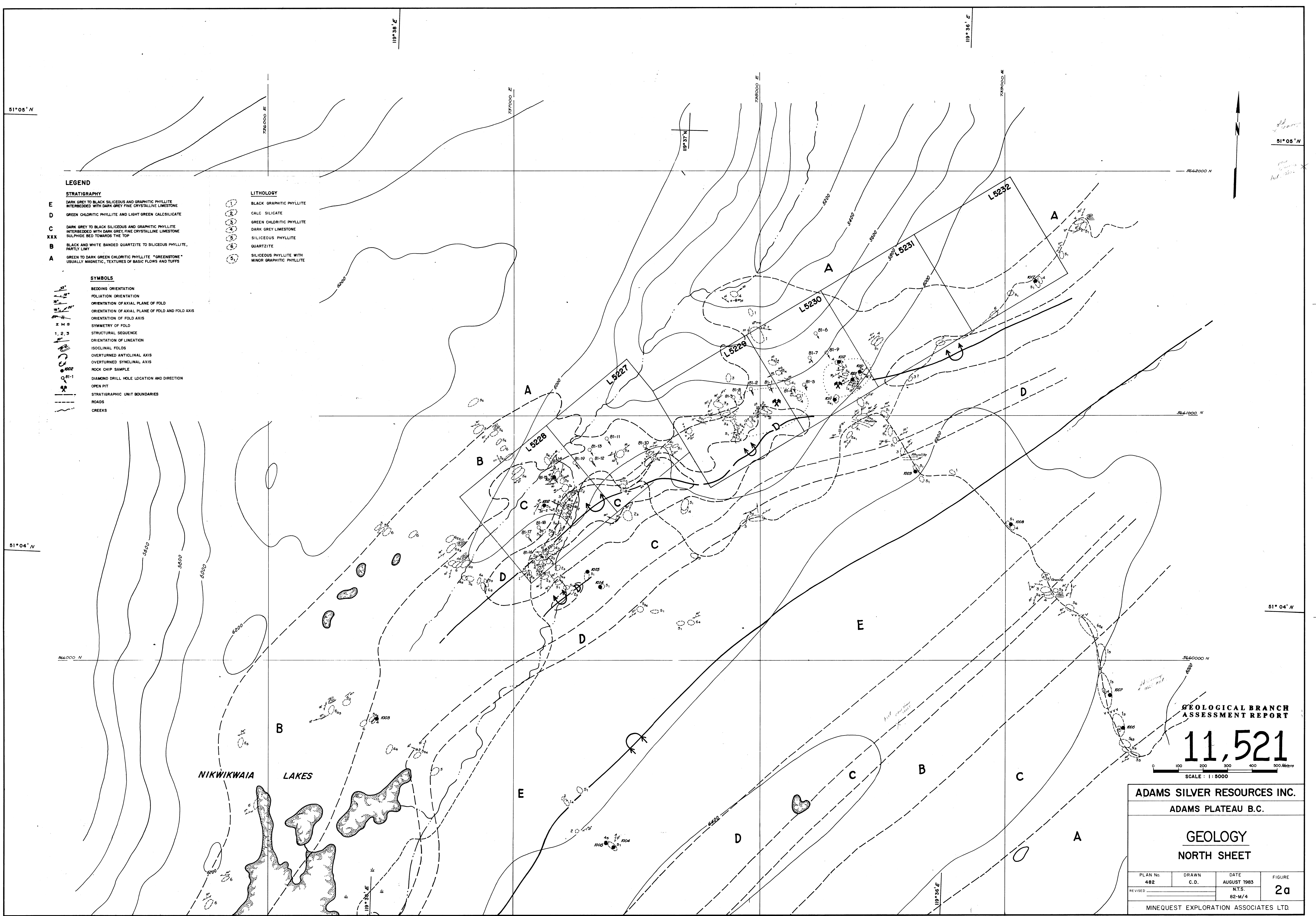
- 33° BEDDING ORIENTATION
- 25° FOLIATION ORIENTATION
- 20° ORIENTATION OF AXIAL PLANE OF FOLD
- 15° ORIENTATION OF AXIAL PLANE OF FOLD AND FOLD AXIS
- 10° ORIENTATION OF FOLD AXIS
- Z M S SYMMETRY OF FOLD
- 1, 2, 3 STRUCTURAL SEQUENCE
- 10° ORIENTATION OF LINEATION
- ISOCLINAL FOLDS
- OVERTURNED ANTICLINAL AXIS
- OVERTURNED SYNCLINAL AXIS
- ROCK CHIP SAMPLE
- DIAMOND DRILL HOLE LOCATION AND DIRECTION
- OPEN PIT
- STRATIGRAPHIC UNIT BOUNDARIES
- ROADS
- CREEKS

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,521

SCALE: 1:5000

ADAMS SILVER RESOURCES INC.			
ADAMS PLATEAU B.C.			
GEOLOGY			
SOUTH SHEET			
PLAN No. 483	DRAWN C.D.	DATE AUGUST 1993	FIGURE 2b
REVISED		N.T.S. 82-M/4	
MINEQUEST EXPLORATION ASSOCIATES LTD.			



- LEGEND**
- STRATIGRAPHY**
- E DARK GREY TO BLACK SILICEOUS AND GRAPHITIC PHYLLITE INTERBEDDED WITH DARK GREY FINE CRYSTALLINE LIMESTONE
 - D GREEN CHLORITIC PHYLLITE AND LIGHT GREEN CALCISILICATE
 - C DARK GREY TO BLACK SILICEOUS AND GRAPHITIC PHYLLITE INTERBEDDED WITH DARK GREY FINE CRYSTALLINE LIMESTONE SULPHIDE BED TOWARDS THE TOP
 - XXX BLACK AND WHITE BANDED QUARTZITE TO SILICEOUS PHYLLITE, PARTLY LIMY
 - B GREEN TO DARK GREEN CHLORITIC PHYLLITE "GREENSTONE" USUALLY MAGNETIC, TEXTURES OF BASIC FLOWS AND TUFFS
 - A

- LITHOLOGY**
- 1 BLACK GRAPHITIC PHYLLITE
 - 2 CALC. SILICATE
 - 3 GREEN CHLORITIC PHYLLITE
 - 4 DARK GREY LIMESTONE
 - 5 SILICEOUS PHYLLITE
 - 6 QUARTZITE
 - 7 SILICEOUS PHYLLITE WITH MINOR GRAPHITIC PHYLLITE

- SYMBOLS**
- BEDDING ORIENTATION
 - FOLIATION ORIENTATION
 - ORIENTATION OF AXIAL PLANE OF FOLD
 - ORIENTATION OF AXIAL PLANE OF FOLD AND FOLD AXIS
 - ORIENTATION OF FOLD AXIS
 - SYMMETRY OF FOLD
 - STRUCTURAL SEQUENCE
 - ORIENTATION OF LINEATION
 - ISOCLINAL FOLDS
 - OVERTURNED ANTICLINAL AXIS
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 - ROADS
 - CREEKS

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SCALE: 1:5000

ADAMS SILVER RESOURCES INC.
ADAMS PLATEAU B.C.

GEOLOGY NORTH SHEET

PLAN No. 482	DRAWN C.D.	DATE AUGUST 1983	FIGURE 2a
REVISED		N.T.S. 82-M/4	

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