

REPORT ON
EXAMINATION OF TRENCHES

by
I. G. Sutherland

on the

A1 2 Mineral Claims

situated north of Metsantan Lake
in the Liard Mining Division

57°28'N, 127°24'W
NTS 94E/6W

owned by
KIDD CREEK MINES LTD.

work by
KIDD CREEK MINES LTD.

Part 2
of 3

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,157

June, 1983

Vancouver, B. C.

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INTRODUCTION

Location, Access and Terrain

The A1 property is located east of the Stikine River and directly north of Metsantan Lake, in north-central British Columbia (Figure 1). The nearest supply and transportation centres are Smithers, some 300 km due south, and Watson Lake in the Yukon, some 300 km to the north.

Access to the claims is by a combination of fixed wing aircraft from Smithers or Watson Lake to the Sturdee Valley airstrip 30 km south-east of the property, and local helicopter charter thereafter. Float equipped aircraft can also land at Metsantan Lake. There is no road access although it has been suggested that the Omineca mining road to the south may be extended into the Toodoggone River area in the future.

The claims are located near the eastern margin of the Spatsizi Plateau and cover a subdued ridge of gentle to moderate relief with elevations ranging from 1400 m to 1690 m (Figure 2). The lowermost parts of the property are covered by an intermixed growth of spruce, and scrub willow (below 1500 m). Extensive areas of alpine grassland, occurring above 1600 m, make for easy foot travel. Water supplies may become scarce and all but the lowest elevations during midsummer.

Property History and Definition

The area was originally staked by Sumac Mines Ltd. in 1971 for its porphyry copper potential. The claims were allowed to lapse after several seasons fieldwork. Rising prices for both gold and silver and close proximity to the Chapelle and Lawyers deposits prompted Energex Minerals Ltd. to stake the A1 1-4 claims in 1979. In 1980 these claims were optioned to Texasgulf Canada Ltd. (now Kidd Creek Mines Ltd.). Work described in this report was undertaken by Kidd Creek Mines Ltd., the registered owner of the claims.

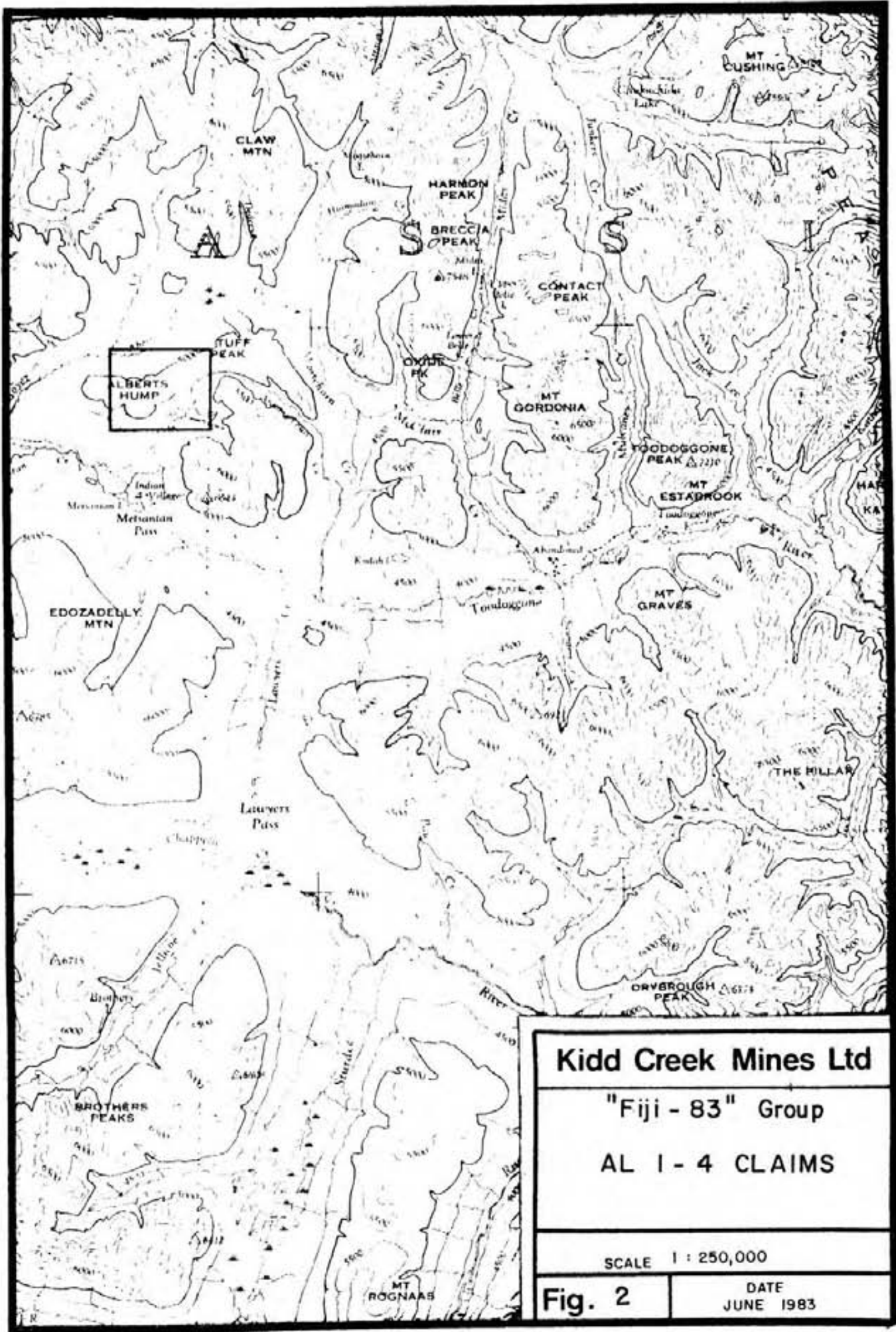
AL CLAIMS

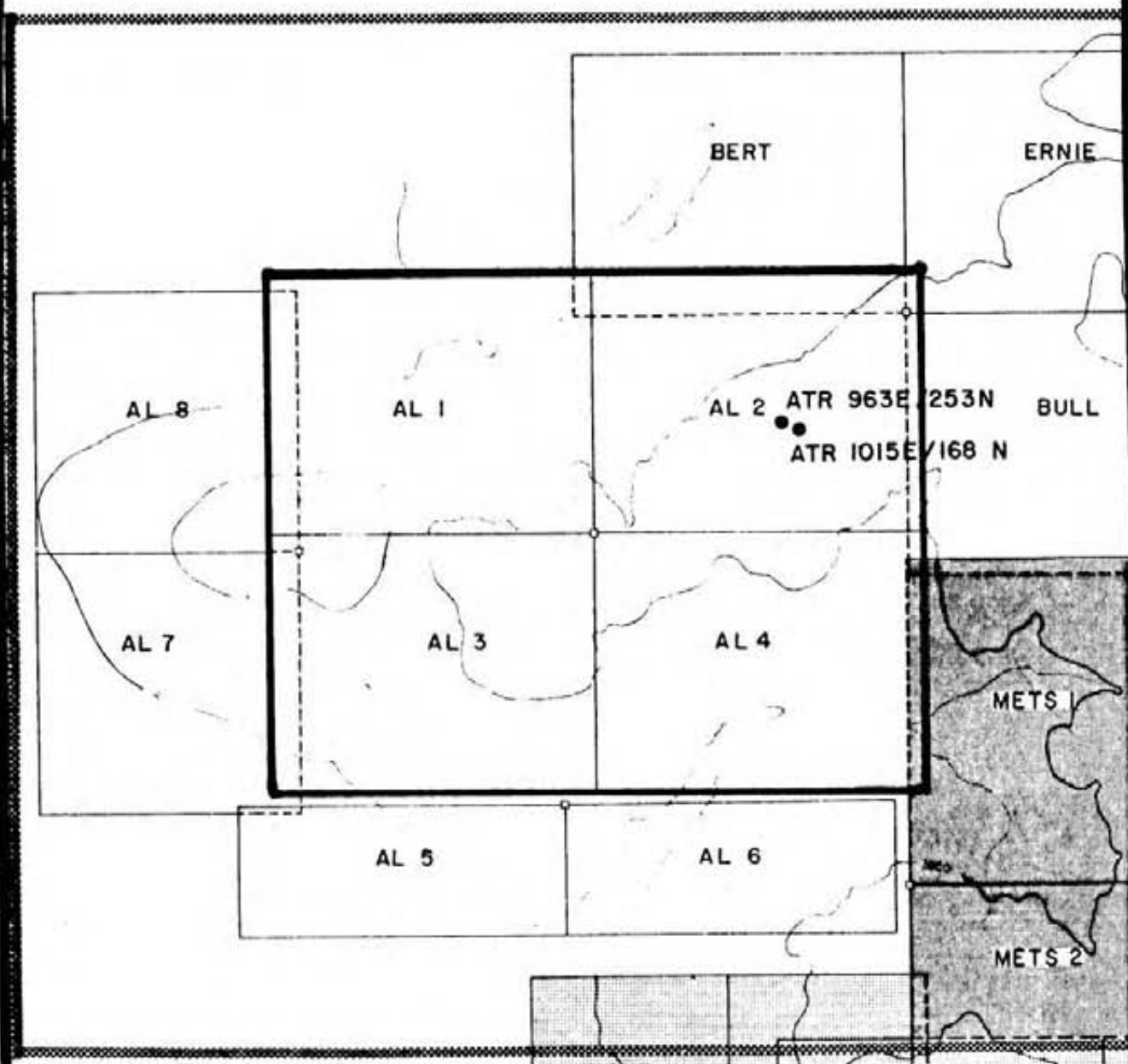
Fig. 1

- 2 -

c. 200 km







Kidd Creek Mines Ltd

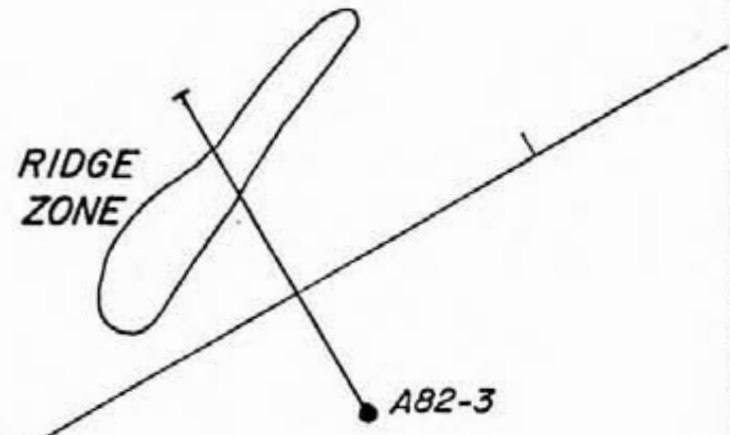
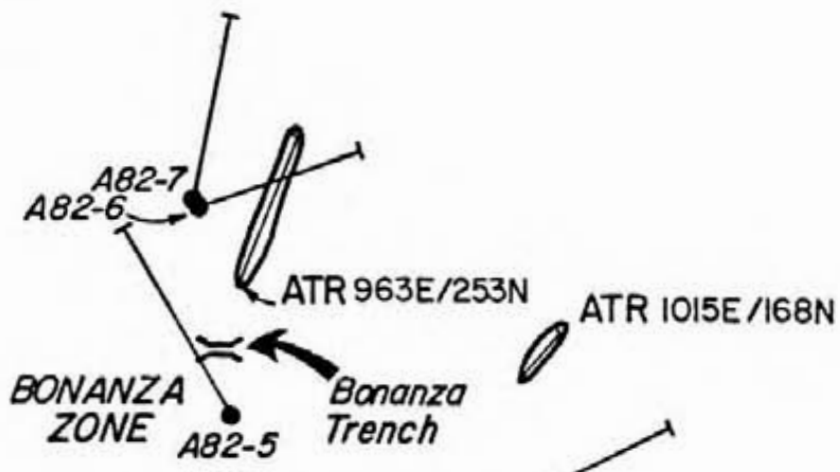
"Fiji - 83" Group

AL 1-4 CLAIMS

SCALE 1 : 50,000

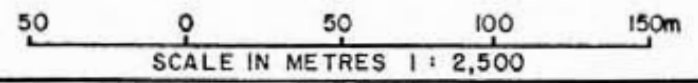
Fig. 3

DATE
JUNE, 1983



Kidd Creek Mines Ltd
AL (Proj. 03)

BONANZA - RIDGE ZONES
1982 DRILLING & TRENCHING



BL

The "Fiji-83" Group consists of 4 MGS claims of 20 units each and 1 fractional claim (81 units). A1 1-4 were recorded in June, 1979; Figure 3 indicates the claim positions and group boundaries.

Summary of Work Completed

Trenching and subsequent sampling on the A12 claim took place between August 21 and August 29, 1982. Physical work was done by M. Cloutier with assistance given by various Kidd Creek Mines employees. J.R. Clark supervised the mapping and sampling of the trenches which accounted for 61 linear metres of work in 2 trenches, all of which are roughly 1 m wide.

A total of 116 rock samples were collected from the 2 trenches over standard panel areas of 0.5 m long by 1.0 m wide. All samples were analysed geochemically for Au, Ag, Cu, Pb and Zn and 36 of these were assayed for the same element suite. Figures 4 through 10 show the sample locations, geology and analytical results.

Work Distribution

All work was done on the A1 2 M.C., part of the "Fiji-83" group.

GEOLOGY

The property is underlain by a thick succession of primarily andesitic crystal and crystal-lapilli tuffs, tuff-breccias, flows and associated hypabyssal phases. These rocks belong to the 'Toodoggone Volcanics' of Jurassic age. A more complete description of the geology can be found in previously submitted assessment reports (Sutherland, 1982; Sutherland and Clark, 1982). The relevant portion of the property showing the approximate trench locations, is illustrated in Figure 4.

TRENCHING OBSERVATIONS

A total of two trenches were completed accounting for about 61 linear m of work (Figure 4). Trenches were dug to bedrock by hand following blasting, occasionally to a depth of 1.5 m. All trenches were located by the presence of silicified float on surface with associated Au geochemical anomalies in the soil.

Trench '1015E/168N' displays a rough symmetry with respect to alteration patterns with a strongly silicified and moderately pyritized core (more heavily pyritized along the southwest margin) flanked by strong, argillic alteration then moderate argillic alteration at each end. Detailed rock descriptions appear in Figure 5a.

Rocks from trench '963E/253N' exhibit a more varied, complex mixture of alteration styles. Hematite is associated with most alteration phases to a varying degree. Intense silicification is dominant but moderate to strong argillization also occurs and these phases may appear to be intermixed. Minor, late barite veins and/or quartz veins occur primarily in the more intensely silicified zones. Detailed rock descriptions appear in Figure 5b.

GEOCHEMISTRY

A total of 116 rock samples were collected from the trenches and shipped to Min-En Laboratories Ltd. of North Vancouver where they were analysed geochemically for Au, Ag, Cu, Pb and Zn. A summary of analytical techniques is as follows:

<u>Element</u>	<u>Extraction</u>	<u>Analysis</u>
Ag, Pb, Zn, Cu	Nitric, perchloric digestion	Atomic Absorption
Au	Hot Aqua Regia	Atomic Absorption

Additional assays were run on 36 of these samples also for Au, Ag, Cu, Pb and Zn. The results of all geochemical analyses are plotted in Figures 5a and 5b. Assays are listed in Appendix C.

Trench '1015E/168N' results display a dominance of better Au values on the north half of the trench, though Au values are quite respectable throughout. Values for Ag, in contrast, are best near the south end of the sampled area. No particular explanation of these observations is immediately apparent.

Results from trench '963E/253N' are much less consistently encouraging and reflect, in their more erratic distribution, the nature of the alteration itself. Values for Ag are sparse and also irregular. Generally, though, the better Au values are associated with either of or a combination of alteration types A1a and/or A1b (variably hematized, strongly silicified zones). A direct relationship is not easily made though a weak, general trend may exist.

CONCLUSIONS

The significant Au and Ag values encountered in these trenches clearly illustrate a good potential for this particular area. Additional work is planned for 1983.

Ian G. Sutherland

BIBLIOGRAPHY

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- SUTHERLAND, I.G. 1982 (b) Assessment report on diamond drilling on the A1 2 M.C. Report submitted for assessment work credit to the British Columbia Ministry of Energy, Mines and Petroleum Resources, Victoria; November, 1982.
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APPENDIX A

Statements of Qualifications

APPENDIX A

Statements of Qualifications

I.G. Sutherland - Geologist

I.G. Sutherland holds a B.Sc. (Hons) Degree in Geology from the University of Western Ontario, granted in 1976. Since that time he has held several positions in Industry and Government, and has been employed by Kidd Creek Mines Ltd. in Vancouver since March 1981.

J.R. Clark - Geologist

J.R. Clark holds a B.Sc. (Hons) Degree in Geology from McGill University, granted in 1979. He has wide exploration experience and was employed by Kidd Creek Mines Ltd. for the 1981 and 1982 field seasons. He is presently enrolled in a M.Sc. program at McGill, where his research will concern aspects of the geology of properties in this region.

APPENDIX B

Statement of Expenditures

APPENDIX B

Statement of Expenditures

A. PHYSICAL WORKSALARIES AND FRINGE BENEFITS, KIDD CREEK MINES LTD.Trenching

J. Black - Assistant Period: Aug 21-22	2 days @ \$50/day	\$ 100.00	
F. Collier - Assistant Period: Aug 21-28	2 days @ \$75/day	150.00	
M. Cook - Assistant Period: Aug 23-29	4 days @ \$65/day	260.00	
A. Losch - Assistant Period: Aug 21	1 day @ \$65/day	65.00	
P. Mouldey - Assistant Period: Aug 28	1 day @ \$70/day	70.00	
P. Maheux - Assistant Period: Aug 28	1 day @ \$70/day	70.00	
K. Norris - Assistant Period: Aug 24-25	2 days @ \$55/day	110.00	
R. Van den Brink - Assistant Period: Aug 22-25	2 days @ \$70/day	140.00	
		<u>\$965.00</u>	\$965.00

CONTRACT TRENCHING

M. Cloutier - Blaster and Trencher August 21-28	6 days @ \$300/day	\$1,800.00	\$1,800.00
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ROOM AND BOARD

Kidd Creek Mines Ltd. personnel 15 man-days @ \$80/day		\$1,200.00	
M. Cloutier 6 man-days @ \$80/day		480.00	
		<u>\$1,680.00</u>	\$1,680.00

HELICOPTER AND FUEL

ALC Hughes 500D 6.1 hours @ \$400/hr		\$2,400.00	
Fuel 6.1 hours @ \$ 90/hr		549.00	
		<u>\$2,949.00</u>	<u>\$2,949.00</u>
			\$7,394.00

APPENDIX B

Statement of Expenditures - Cont'd

C/Fwd \$ 7,394.00

B. GEOLOGICAL AND GEOCHEMICALSALARIES AND FRINGE BENEFITS - KIDD CREEK MINES LTD.Sampling and Mapping

F. Collier - Assistant Period: Aug 24	1 day @ \$ 75.00	\$ 75.00	
P. Mouldey - Assistant Period: Aug 24-28	2 days @ \$ 70.00	140.00	
J.R. Clark - Geologist Period: Sept. 3	1 day @ \$105.00	105.00	
A. Losch Period: Aug 28 - Sept. 3	2 days @ \$ 65.00	130.00	
		<u>\$450.00</u>	\$ 450.00

ROOM AND BOARD

Kidd Creek Mines Ltd. personnel 6 man-days @ \$80.00		\$ 480.00	\$ 480.00
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HELICOPTER AND FUEL

ALC Hughes 500D	4 hours @ \$400/hr.	\$1,600.00	
Fuel	4 hours @ \$ 90/hr.	360.00	
		<u>\$1,960.00</u>	\$ 1,960.00

ANALYTICAL COSTS

116 rock samples; geochemical analyses @ \$12.20 Au, Ag, Cu, Pb and Zn		\$1,415.20	
36 rock samples; assays @ \$37.50 Au, Ag, Cu, Pb and Zn		1,350.00	
		<u>\$2,765.20</u>	<u>2,765.20</u>
	TOTAL		\$13,049.20

APPENDIX C

Assay Results

PROJECT N 03,04

MIN - EN Laboratories Ltd.

DATE: Sept. 2

ATTENTION

705 WEST 15TH ST. NORTH VAN. B.C. V7M 1T2
PHONE 434-4000

1982.

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppm
5336	42	36	16	12	750
37	33	76	15	10	840
38	47	145	34	16	760
39	40	78	26	15	730
40	17	110	40	08	230
41	60	42	16	16	420
42	54	104	21	13	500
43	23	86	38	10	710
44	22	90	43	11	120
45	13	50	42	09	30
46	32	92	48	10	70
47	23	100	50	08	10
48	16	90	40	06	30
49	37	146	40	06	70
50	73	58	30	05	50
51	95	28	35	08	270
52	32	56	18	04	90
53	17	20	16	04	840
54	30	22	28	06	830
55	37	33	28	19	3200
56	14	11	7	06	1000
57	27	16	18	05	700
58	34	24	17	06	1070
59	37	15	15	07	1200
60	38	18	20	10	1700
61	118	30	36	12	1860
62	32	40	20	13	1000
63	45	88	34	11	900
64	26	114	24	10	240
5365	33	79	30	10	220

[Handwritten Signature]

*Some of these samples should have been requested for assay.

CERTIFIED BY

COMPAN Kidd Creek Mines

GEOCHEMICAL ANALYSIS DATA SHEET

2-654

PROJECT No.: 03,04

MIN-EN Laboratories Ltd.

DATE: Sept.

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

1982.

ATTENTION:

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb
5366		53	80	26			15					75.0
67		79	34	20			22					23.0
68		74	25	28			22					42.0
69		45	28	20			10					163.0
70		39	30	17			06					116.0
5371		54	34	18			12					22.0

PROJECT No: **03**

MIN - EN Laboratories Ltd.

DATE: **Sept. 20**

705 WEST 15th ST., NORTH VANCOUVER, B.C. V7M 1T2
PHONE (604) 980-5814

1982.

ATTENTION:

Sample Number	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Co ppm	Ag ppm	Fe ppm	Hg ppb	As ppm	Mn ppm	Au ppb	70	75	80	
81	86	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160
5372		57	31	24				1.1				7.10				
73		62	39	26				1.0				2.30				
74		58	36	21				1.0				1.45				
75		74	40	22				2.8				9.60				
76		35	36	16				1.2				3.00				
77		81	30	28				1.8				6.70				
78		46	31	23				5.0				5.40				
79		55	32	16				4.1				4.00				
80		64	36	11				1.72				3.00				
81		63	38	19				3.8				6.60				
82		27	22	8				1.6				4.70				
83		31	28	8				1.4				9.00				
84		73	30	11				1.5				10.00				
85		117	36	13				2.2				5.20				
86		43	40	17				2.8				16.00				
87		48	102	14				2.32				10.20				
88		23	28	8				4.4				3.00				
89		15	20	11				5.0				5.30				
90		15	21	8				9.0				5.10				
91		11	17	11				1.04				4.50				
92		12	14	6				3.6				8.45				
93		123	58	22				3.1				8.00				
94		85	84	30				3.0				3.10				
95		39	16	13				2.0				2.10				
96		45	34	20				2.0				17.20				
97		43	24	33				1.6				2.50				
98		23	10	10				.5				1.0				
99		32	20	23				.6				2.0				
5400		25	18	17				.5				9.50				
5426		32	14	25				.9				2.5				

*Some of these samples should have been requested for assay.

CERTIFIED BY

Certificate of Assay

TO Kidd Creek Mines,
701-1281 W. Georgia St.,
Vancouver, B.C.

PROJECT No. _____

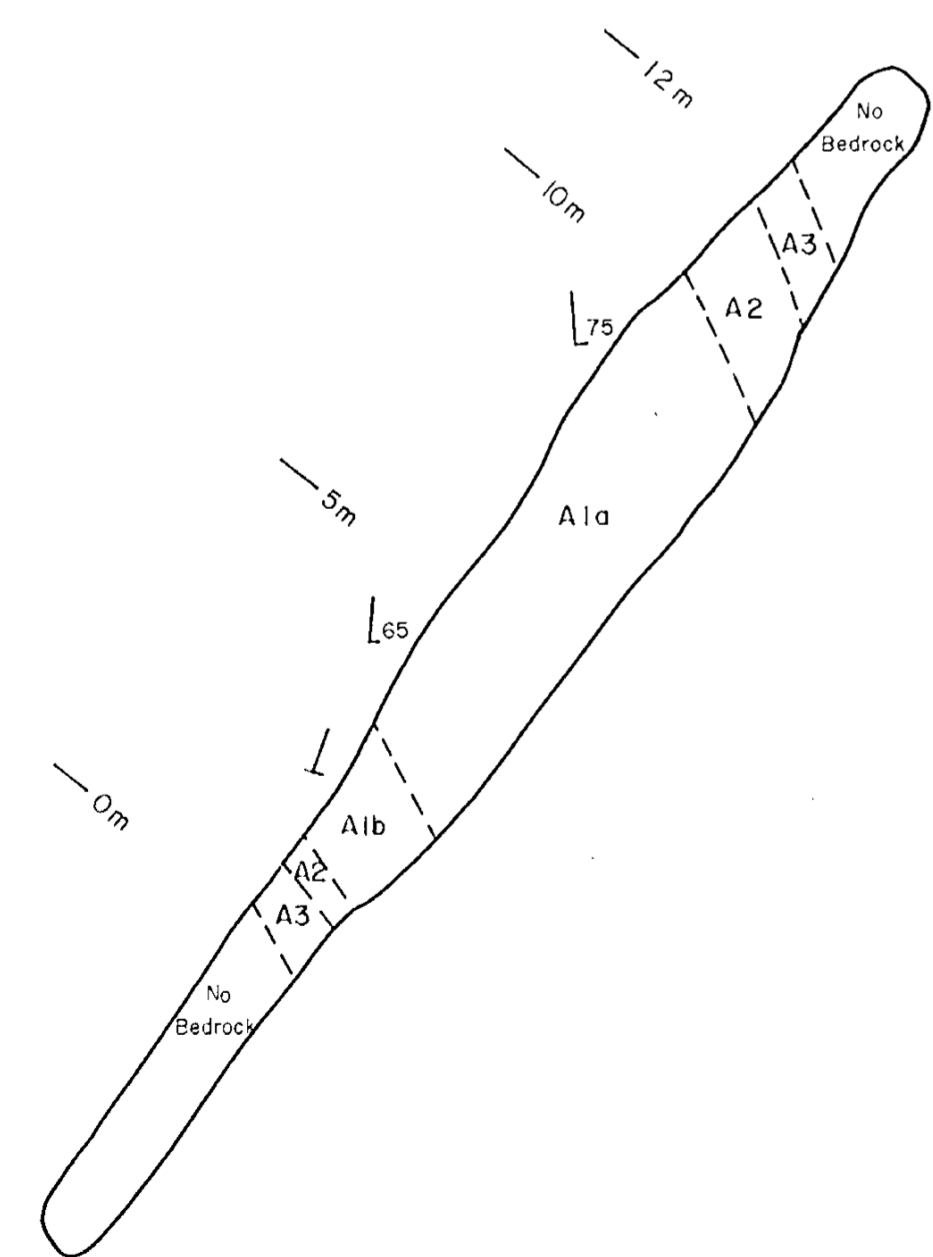
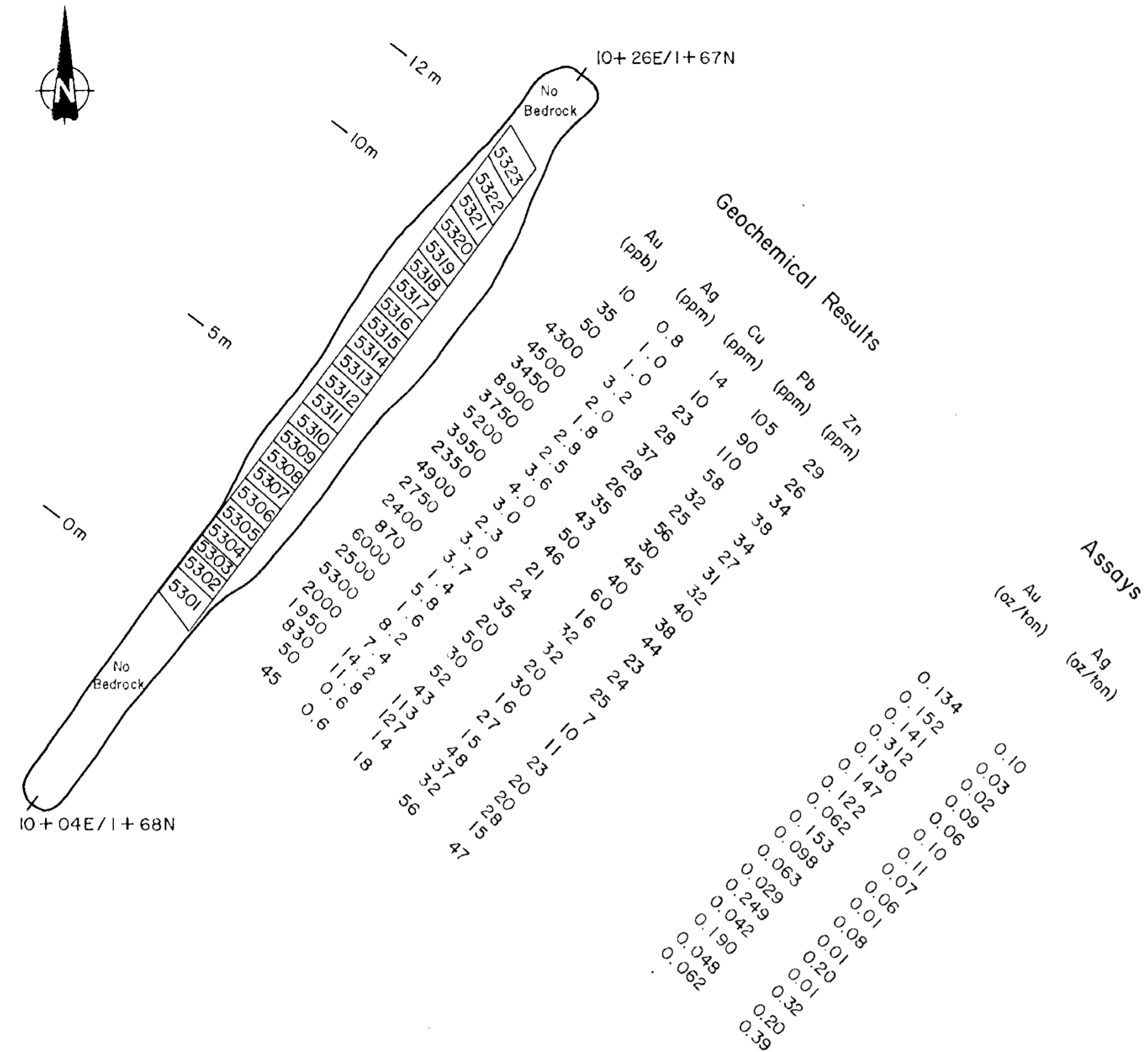
DATE Sept. 28/82.

File No. _____

SAMPLE No.	Cu %	Pb %	Zn %	Ag	Au
				oz/ton	oz/ton
5304	.008	.01	.01	.39	.062
05	.003	.01	.01	.20	.048
06	.006	.01	.01	.32	.190
07	.002	.01	.01	.01	.042
5308	.006	.01	.01	.20	.249
5309	.002	.01	.01	.01	.029
10	.003	.01	.01	.08	.063
11	.003	.01	.01	.10	.098
12	.003	.01	.01	.06	.153
13	.004	.01	.01	.07	.062
14	.005	.01	.01	.11	.122
15	.004	.01	.01	.10	.147
16	.003	.01	.01	.06	.130
17	.003	.01	.01	.09	.312
18	.003	.01	.01	.02	.141
19	.003	.01	.01	.03	.152
5320	.003	.01	.01	.10	.134
5327	.002	.01	.01	.01	.037
28	.002	.01	.01	.10	.268
5329	.003	.01	.01	.05	.142
5355	.003	.01	.01	.01	.099
56	.002	.01	.01	.01	.038
57	.002	.01	.01	.01	.017
58	.003	.01	.01	.01	.029
59	.003	.01	.01	.01	.036
60	.003	.01	.01	.01	.034
61	.011	.01	.01	.02	.045
62	.003	.01	.01	.02	.022
5363	.004	.01	.01	.01	.018
5432	.005	.01	.01	.04	.021
33	.003	.01	.01	.12	.302
34	.004	.01	.01	.17	.416
35	.004	.01	.01	.10	.124
36	.005	.01	.01	.10	.108
5437	.003	.01	.01	.08	.212
5435	.005	.01	.01	.09	.138
36	.005	.01	.01	.05	.089
5437	.003	.01	.01	.07	.157
5438	.004	.01	.01	.01	.010

maifs

part 2 of 3



Panel samples, area as indicated, weight 10 - 15 kg each.

LEGEND

- HOST ROCK GREYISH-BROWN, PLAGIOCLASE-HORNBLENDE PHYRIC, INTERMEDIATE VOLCANIC (PROBABLE FRAGMENTAL); NONE EXPOSED IN TRENCH.
- A1 Intensely silicified intermediate volcanics; locally pyritized; rare late quartz veining; some late quartz druse in leached plagioclase (pyrophyllite/sericite) relics.
A1a - buff to brownish; 1-3 finely disseminated pyrite (especially after mafics).
A1b - dark grey to brownish; 5-30% pyrite with disseminated, patchy distribution.
 - A2 Strongly altered intermediate volcanics; pinkish to light reddish-brown; plagioclase altered to pyrophyllite/sericite; mafics bleached to quartz-sericite-specularite; groundmass altered to hematite-quartz-pyrophyllite/sericite ± montmorillonite.
 - A3 Moderately to strongly altered intermediate volcanics; dark bluish to purplish grey; plagioclase altered to pyrophyllite/sericite; mafics hematitized; weak argillic alteration of groundmass to montmorillonite-hematite-pyrophyllite/sericite.
 - LL75 Fracture orientation and dip; often slickensided with transverse-lateral movement

NOTE: Dominant alteration trends 345° to 355° with steep to moderate, easterly dips.
Dominant fracturing trends 005° to 020° with subvertical to easterly dips.

GEOLOGICAL BRANCH ASSESSMENT REPORT

11,157

Kidd Creek Mines Ltd.

AL PROPERTY
Bonanza-Ridge Trenches
ATR 1015E/168N

GEOLOGY, SAMPLE LOCATIONS & GEOCHEMISTRY

WORK BY J.C.	DRAWN BY E.R.	DATE: NOVEMBER 4, 1982
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SCALE IN METRES 1 : 100, 1cm = 1m

Figure: 5a

11,157

part 2
of 3

LEGEND

HOST ROCK INFERRED TO BE AN ANDESITE TO DAPFIC VOLCANIC (POSSIBLY TUFFACEOUS); PLAGIOCLASE - HORNBLENDE - SPECULARITE ± QUARTZ PHYRIC WITH FINE-GRAINED, FELDSPAR-RICH GROUNDMASS; 20-30% SUB-EHEDRAL PLAGIOCLASE (1-5mm); 5-15% FIBRILLAR HORNBLENDE (0.5-5mm); 4-8% IRREGULAR GRAINS OF SPECULARITE; 1-2% ANHEDRAL QUARTZ (1-5mm); POSSIBLE FRAGMENTAL TEXTURE. NO UNALTERED HOST ROCK IS EXPOSED IN TRENCH.

Greyish to brownish, strongly silicified intermediate volcanic; plagioclase variably silicified and preserved or altered to pyrophyllite-sericite clays ± quartz and partially preserved or leached; leached feldspar veins from vugs with light clear quartz druse ± later plates of barite (vugs generally 5%); mafics usually preserved as thin 'ghosts', completely silicified; groundmass is completely silicified and may contain late, drusy quartz veinlets (including traces of amethyst) which form local stockworks; sporadic evidence of tectonic brecciation. A1a - with minor hematite (± Mn oxides) (3-8%) along fractures and slight disseminations emanating from these fractures. A1b - with strong hematitic alteration (locally up to 50%) mainly as fracture-controlled emanations; probable Mn oxides/hydroxides are intermixed; 5-10% average hematite; may contain significant (±3%) quartz-barite and barite veinlets.

Whitish to pinkish to light brownish, strongly silicified and argillized intermediate volcanic; plagioclase usually completely replaced by clays/pyrophyllite; sericite; mafics are not discernible; groundmass is argillized and silicified with a few possible tuffaceous textures; often contains mixed clays and odd fragments of siliceous to lightly argillaceous material; may contain traces of hematite in the groundmass or be locally intermixed with 'A3'; rare late quartz veinlets; unit is transitional to A1 and A2.

Brownish to purplish to bluish, weakly to moderately argillized intermediate volcanic; variable clay-hematite-pyrophyllite/sericite alteration of plagioclase and groundmass; mafics not discernible. A3a - brownish to purplish alteration; plagioclase strongly altered to clays - pyrophyllite/sericite mixture; mafics not recognizable; groundmass heavily altered to pyrophyllite/sericite-montmorillonite-hematite ± quartz. A3b - purplish to bluish alteration (probable overall greater abundance of hematite than A3a); plagioclase completely replaced by pyrophyllite/sericite ± clays; mafics not discernible; groundmass heavily altered to pyrophyllite/sericite-montmorillonite-hematite ± quartz.

Fracture orientation, vertical and dipping; often slickensided with lateral movement.

Vein orientation, vertical and dipping

NOTE: Dominant alteration trends 340° (±); possible subvertical to steep westerly dip. Dominant structural trend is 010° to 030° with generally steep dips; almost always slickensided with transverse (only) sense of movement; post-dates alteration. Late quartz veining has no apparent control. Hematitic fracture controlled alteration may be in part contemporaneous with 010° to 030° event, and post-date main stage of alteration.

Kidd Creek Mines Ltd.

AL PROPERTY
Bonanza-Ridge Trenches
ATR 963E/253N
GEOLOGY, SAMPLE LOCATIONS
& GEOCHEMISTRY

WORK BY: J.C. DRAWN BY: E.R. DATE: NOVEMBER 8, 1982

SCALE IN METRES 1 : 100, 1cm = 1m

Figure: 5b

