ASSESSMENT REPORTS Whitehorse M.D.

MAP No. 115 B 16 TYPE OF WORK: Geological, Geochemical

REPORT FILED UNDER	Noranda Exploration Company LTD.
DATE PERFORMED	July 1984 DATE FILED: 28 MAY 1985.
LOCATION – LAT.	60° 51'N
LONG.	136° 21' W
CLAIM Nos.	Kul 1-32; YA79000, YA81001 - YA81031
WORK DONE BY	W. Reid
WORK DONE FOR	Noranda Exploration Company LTD.
REMARKS	Work in 1984 consisted of silt sampling, geological mapping and prospecting. A total of 38 silt samples and 37 rock samples were taken and analyzed.

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YOK 85 p.203

A copper anomaly on KUL 3 and a Cu, Zn, Pb, Ag, Au anomaly at the intersection of KUL claims 17,18,19,20 were determined.

No significant mineralization was found on the property. Small quartz veins bearing pyrite, chalcocite, galena and sphalerite were found one km south of the property.

KUL 1-32 CLAIMS

GEOLOGY AND GEOCHEMISTRY

Whitehorse Mining District

N.T.S. 115 B/16

Latitude 60°57'N

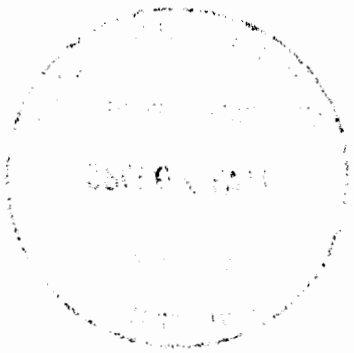
Longitude 136°21'W

by

Wayne Reid

Noranda Exploration Company, Limited
(No Personal Liability)

May, 1985



This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 8,000.00 .

Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

SUMMARY

The KUL 1-32 claims are located on the northern part of the Kluane Ranges, approximately 8 kilometres south of the Alaska Highway and 9 kilometres southeast of Kluane Lake on N.T.S. 115 B/16. In 1983, a regional silt sampling survey located anomalous Cu(Ag) anomalies along a tributary of Silver Creek. The area was subsequently staked and a program of detailed silt sampling, prospecting and geology mapping was carried out in 1984.

The Duke River Fault cuts through the claim group dividing Wrangell Terrane rocks to the north and Alexander Terrane sedimentary rocks to the south. The only significant mineralization found was disseminated and pods of chalcocite and pyrite in narrow discontinuous quartz veins. Selected grab samples assayed as high as 10% Cu and 40 o.p.t Ag, however a representative sample across 35 cm of the best in situ mineralization analyzed only 0.36% Cu and 12 o.p.t. Ag.

A good Cu-Zn-Ag(Pb)-in-silt anomaly was located in the southwest part of the claims. This remains to be followed up.

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CHAPTER ONE: INTRODUCTION

1-1: LOCATION and ACCESS

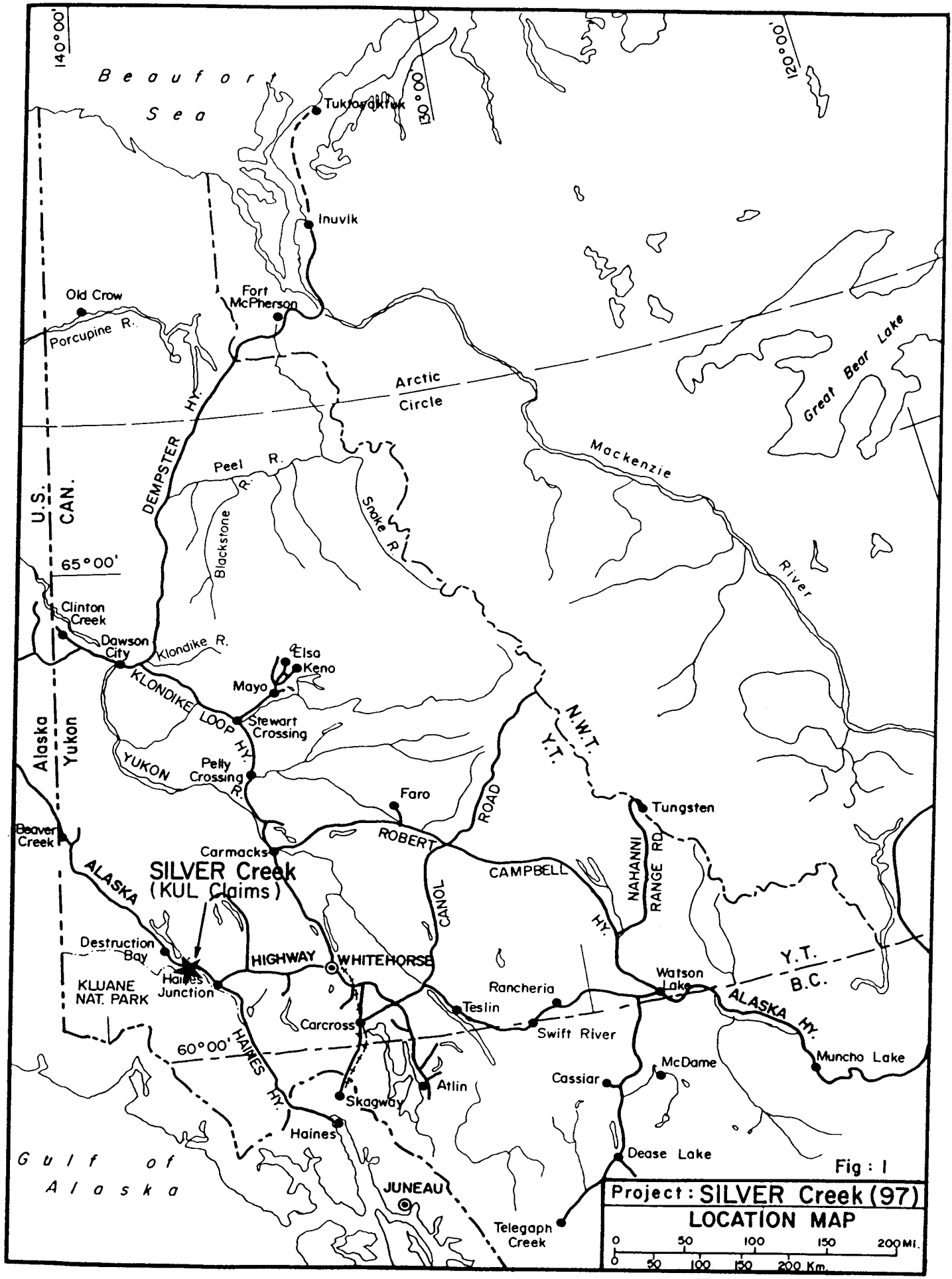
The KUL 1-32 claims are located on the south side of Outpost Mountain at latitude 60°57'N and longitude 138°21'W on N.T.S. 115 B/16 (Figure 1). The northerly flowing Silver Creek is located on the east side of the claims. The south end of Kluane Lake is 9 kilometres to the northwest, and the Alaska Highway is 8 kilometres due north.

The property ranges in elevation from less than 5000 feet to 7000 feet and vegetation, where seen, is limited to low shrubs and grasses.

Access to date has been by helicopter from the Alaska Highway, however if warranted, access up Silver Creek would be no problem.

1-2: CLAIM STATUS

The KUL group (Figure 2) consists of 32 contiguous Yukon Quartz claims (Grant No.'s YA79000 and YA81001 to YA81031). The claims were recorded on Dec. 03, 1983. Upon acceptance of this report, they will be in good standing until June 03, 1987.



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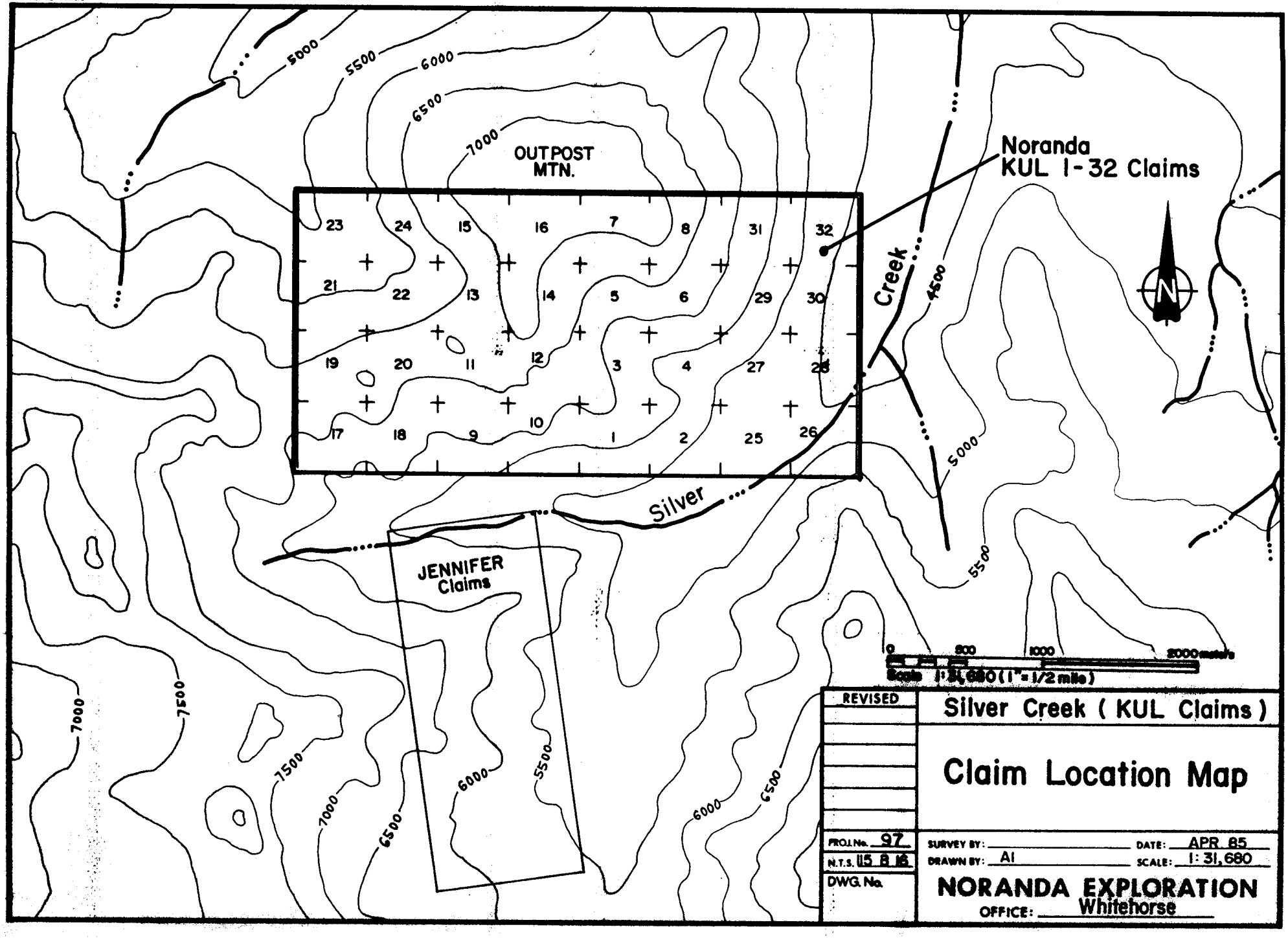


1-3: PREVIOUS WORK

This area was included in a regional stream sediment sampling survey carried out by Noranda in 1983. A moderate, but persistent, Cu(Ag)-in-silt anomaly was located in a western tributary of Silver Creek and the KUL claims were placed over the presumed source area. Cu-Ag mineralization in quartz veins was found one kilometre south of the claims, however this proved to be very limited in size and grade.

No known exploration has been done on this property prior to 1983.

The area was included in a large G.S.C. mapping program, Operation St. Elias, (Campbell, et al, 1974). The base geology map and legend are taken largely from the final compilation of the above program.

1-4: 1984 WORK PROGRAM

The follow-up work on the claims commenced in mid July. A four man crew flew in, using a T.N.T.A. helicopter from Haines Junction, and set up a small camp near Silver Creek.

The work consisted of detailed silt sampling, geology and prospecting. A total of 38 silts and 37 rock samples were taken and analyzed. No field work has been done since the geochemical results were received.

The following is a list of Noranda personnel who worked on the claims:

Wayne Reid
Stuart MacKenzie
Steve Mackay
Robin Mitchell

CHAPTER TWO: GEOLOGY

The KUL claims are located in the Kluane Ranges along the northeast edge of the St. Elias Mountains. The St. Elias Mountains are divisible into five distinct geological terrains separated by major faults (Campbell & Dodds, 1978) and the claims are located on one of these major faults.

The Duke River Fault is believed to be an intercontinental strike slip fault, probably of Tertiary age, and extends in an ESE direction through the property. North of the fault, rocks of the Wrangell Terrane are exposed and to the south, Alexander Terrane stratigraphy predominate. Most strata trend roughly parallel to this major fault structure.

Noranda mapping was confined to the claims with limited traverses to the south and east. The geology legend and base map are taken from the compilation geology map of the St. Elias Mtn. by Campbell et al. Figure 3 shows the results of Noranda's mapping incorporated into the G.S.C.'s work.

The Alexander Terrane rocks consist of Paleozoic(?) carbonates, evaporites and argillites. These units are interbedded to some degree and are relatively unaltered. From south to north, they consist of:

1) uPp - black graphitic argillite with minor siltstone and sandstone.

2) uPc - thinly to moderately bedded limestone, buff to brown weathering.

3) uPe - gypsum-anhydrite - white, fine to medium grained sucrose gypsum.

4) uPpc - mainly a fine grained siltstone to argillite, often interbedded with the limestone unit.

Further southwest in the map area, a light brown to green phyllite to phyllitic schist (OSwp) is exposed and is probably the oldest rock in the area (based on metamorphic grade only). This unit has up to 3% disseminated euhedral pyrite and numerous thin quartz veins.

Small fine grained intermediate to basic sills and dykes intrude all rock types.

North of the Duke River Fault rock units representing the Wrangell Terrane are probably all Triassic in age except for a Cretaceous(?) diorite to granodiorite intrusive occupying most of the northern part of the claims. The intrusion is medium grained and composed mainly of feldspar and hornblende with minor quartz crystals.

The Triassic stratigraphy generally consists of Chitizone Formation limestone (uT_RC) and McCarthy Formation argillite and argillaceous limestone (uT_RM). A fault bounded wedge of basic volcanic agglomerate, possibly Nicolai formation (uT_RN), is located in the eastern part of the claims immediately north of the Duke River Fault.

Structures other than the main fault zone are limited to small steeply dipping faults and moderately folded beds in the Alexander Terrane.

Immediately south of the Cretaceous intrusive (Kdi) and the Duke River Fault, minor skarn mineralization is seen in the limestone and there is an increase in the amount of basic dykes and sills toward the "fault contact".

It is unsure whether this increase is related to the larger batholith to the north.

TABLE I

TABLE OF FORMATIONS

(from legend for O.F. 829, 830, 831, 926, 927;
G.S.C., Campbell et al., 1979)

WRANGELLIA TERRAIN

Cretaceous

[Kdi] Hornblende diroite to quartz diorite, fine to medium grained.

Upper Triassic

[uTrN] Nikolai Greenstone: vesicular to amygdaloidal basic volcanic agglomerate.

[uTrC] Chitistone Limestone: massive light grey limestone and limestone breccia.

[uTrM] McCarthy Formation: argillaceous limestone and dark grey argillite.

ALEXANDER TERRAIN

Triassic?

[pTrb] Fine grained mafic sills and dykes.

Paleozoic?

[uPpc] Dark grey to brown argillite, calcareous argillite and thin bedded limestone.

[uPe] White gypsum and anhydrite, fine to medium grained sucrose textured.

[uPc] Buff to grey limestone, thinly bedded w/interbedded argillite, minor limestone breccia.

[uPp] Black argillite, minor limestone.

[OSwp] Green-brown phyllite, minor greywacke and argillite interbeds, often containing disseminated euhedral pyrite, quartz veining common.

CHAPTER THREE: SILT GEOCHEMISTRY

A total of 38 silts were taken, mainly in the southern half of the property. The samples were taken on all small creeks and drainages to try to get detailed coverage and pinpoint the source of the Cu(Ag) silt anomaly located in 1983. Results and locations are shown on Figure 4. All silts were analyzed by Noranda's Vancouver Lab for Cu, Pb, Zn, Ag, and Au.

Two anomalous areas have been defined from these latest silt results:

1) A low priority area, with silts analyzing between 120 ppm and 320 ppm Cu, is located on KUL 3 and possibly 12 claim. These silt anomalies are single element anomalies and malachite staining associated with basic intrusive and the Duke River Fault is the most likely source of the anomalies.

2) An area located in the extreme southwest part of the claims has produced anomalous silts up to 150 ppm Cu, 1900 ppm ZN, 40 ppm Pb, 1.4 ppm ag and 70 ppb Au. The source has been isolated to an area near the intersection of KUL claims 17, 18, 19 and 20. Further work is warranted on this anomaly.

CHAPTER FOUR: MINERALIZATION

A total of 37 rock samples were sent for analysis. These samples, both bedrock and float, were taken in conjunction with the geology and geochemical survey. See Table II for a list of samples and results. The sample locations are plotted on figure 3.

The only significant mineralization found consisted of disseminated and stringer pyrite and calchocite with lesser galena and sphalerite in narrow discontinuous quartz veins. The initial showing located in 1983 is located 1 kilometre south of the KUL claims. This showing consists of one main quartz vein up to 35 cm wide with other subsidiary barren quartz veins subparallel to it. A 35 cm chip sample across the best mineralization analyzed 3580 ppm Cu, and 380 ppm Ag. Selected grab samples assayed as high as 10% Cu and 40 o.p.t. Ag.

A smaller showing with similar mineralization was found just west of the claims. Both showings are in the phyllite unit (OSwp).

The only other mineralization found in the area consisted of:

1) malachite staining associated with basic intrusive contacts or narrow rusty shear zones, and

2) disseminated euhedral pyrite in the sericitized phyllite.

Minor small pods of skarn mineralization (epidote-garnet) was seen in the limestones, however these were barren.

TABLE II: ROCK ANALYSIS RESULTS
N.T.S. 115 B/16W 397 SILVER CREEK

SAMPLE NO.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb	DESCRIPTION
21506	144	4	620	0.4	10	Outcrop: 3% diss. py lt. green limestone (silicified)
21507	44	4	60	0.2	10	Outcrop: 50 cm wide gossan (shear) in siliceous lmst.
21508	5200			1.2	20	Float: lmst. with po and cpy stringers
21509				0.2	30	Float: diss. py in sericitized host rock 80% qtz veins
21517				0.4	10	Outcrop: diss. py in rusty weathering siliceous argillite
21520	146	4	198	2.6	50	Outcrop: rusty gossan zone, mineral crustification
21521	88	4	408	0.4	20	Outcrop (2 m chip): rusty thin beddded argillite
21522	64	4	106	1.4	10	Outcrop: gossan zone, green argillite
21524	1260	4800	600	17.0	10	Float: malachite-cc-gn in qtz vein in gry limestone
21525				1.0	10	Float: diss. c.g. py in buff siltstone
21526	3580	26	780	380.0	20	Outcrop (35 cm chip): chalcocite-malachite-calcite-qtz vein
21527	38	14	70	3.2	10	Foot wall to 21526 above. 50 cm chip gry siltstone
21528	14	14	54	1.0	20	Hanging wall to 21526
21530	)40000	472	9200	)500.0	440	Chalcocite + quartz float near showing
21531				18.0	20	Chalcedony vein float
21556	220	12	102	4.6	10	Outcrop: .5 metre shear at contact of limst and basic aggl.
21558	438	2	5600	4.0	10	Outcrop: qtz-limonite in gossan zone
21563	408	2	54	1.0	10	Float: small py-po pods in limestone
21564				3.8	10	Float: 10% v.f.g. diss. py in black siltstone
21566	56			2.0	10	Outcrop: marble containing minor garnet(?); diopside
21571				0.6	10	Diss. euhedral py in basic rock
21572	200			1.2	10	Green staining on limestone
21573				0.2	10	Qtz vein material with some enclosed country rock
21575	142	4	178	0.4	10	Mafic dyke
44429	16			0.6	10	5% diss. py and green stain in altered phyllite
44430	346			0.4	150	Minor cpy + bn in calcite stockwork
44434				0.4	10	Outcrop: 5% diss. py in diorite
44436	5200	4	30	2.6	30	Outcrop: py, po, Bn in vein at diorite - limst contact
44437				0.6	10	Float: 2% diss. py in siliceous diorite
44450	70			0.4	10	Outcrop: Fe stained black hornfelsed chty argillite
44452	5200			4.4	160	Outcrop: malachite stain at diorite-limst contact
44453				18.0	10	Calcite vein with 10% euhedral py
44455	172			0.4	10	Outcrop: 8% py in green mica stained phyllite
44456	5200			450.0	220	Outcrop: cc + mal. in qtz stockwork in black arg.
44457				4.0	10	5% diss. py in 25 cm wide qtz vein
44458	5400	30	184	2.2	60	Malachite stain on foliated black shale
44459	1140			2.4	20	Outcrop: 5% py (cpy) in quartz clacite stringers

CHAPTER FIVE: CONCLUSIONS and RECOMMENDATIONS

5-1: CONCLUSIONS

The only mineralization of any significance found in the Silver Creek area was base metal-Ag rich quartz veins mainly confined to a pyritic phyllite unit. Where seen, these are small and irregular however selected grab samples assayed as high as 10% Cu and 40 o.p.t. Ag.

The silt survey has defined a source area of moderately anomalous Cu, Pb, Zn, and Ag. The source of this anomaly located in the southwest corner of the claims is unknown. Other mineralization associated with basic intrusives appear very spotty and limited in size and grade.

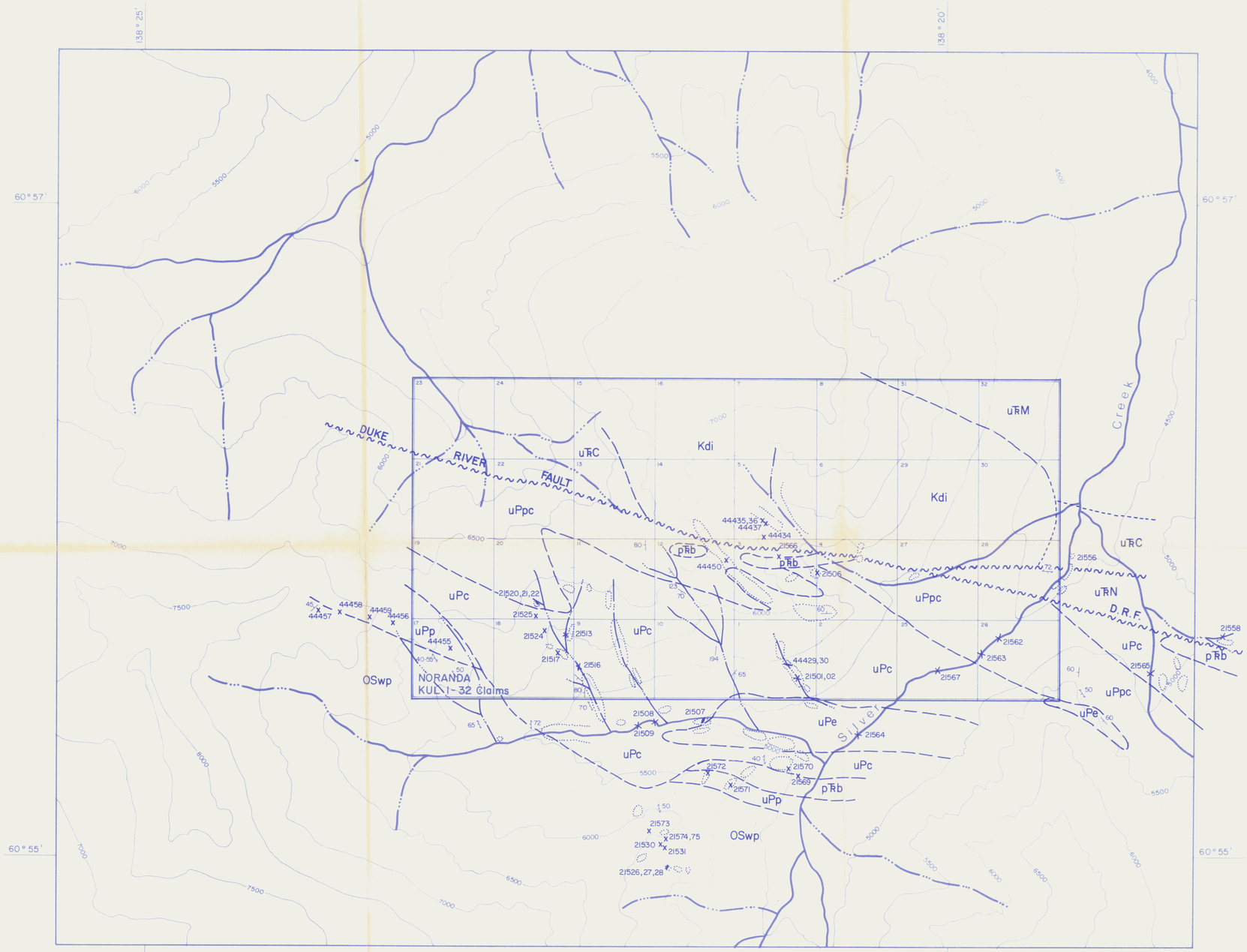
5-2: RECOMMENDATIONS

One or two days should be spent prospecting in the presumed source area of the main silt geochemical anomaly. Also silt sampling in the northwest corner, north of the silt anomaly, should be completed.

Respectfully submitted,

Wayne Reid

Wayne Reid
Project Geologist



Legend

WRANGELLIA TERRAIN

Cretaceous

- Kdi — Hornblende diorite to quartz diorite, fine to medium grained.

Upper Triassic

- uRN — Nikolai Greenstone: vesicular to amygdaloidal basic agglomerate.
- uRC — Chitistone Limestone.
- uRM — McCarthy Formation: argillaceous limestone.

ALEXANDER TERRAIN

Triassic ?

- pRb — Fine grained mafic sills and dykes.

Paleozoic ?

- uPpc — Dark grey to brown argillite, calcareous argillite and thin bedded limestone.
- uPe — White gypsum and anhydrite.
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- uPp — Black argillite, minor limestone.
- OSwp — Green-brown phyllite, minor greywacke & argillite interbeds, often containing disseminated euhedral pyrite, quartz veining common.

091636

REVISED:

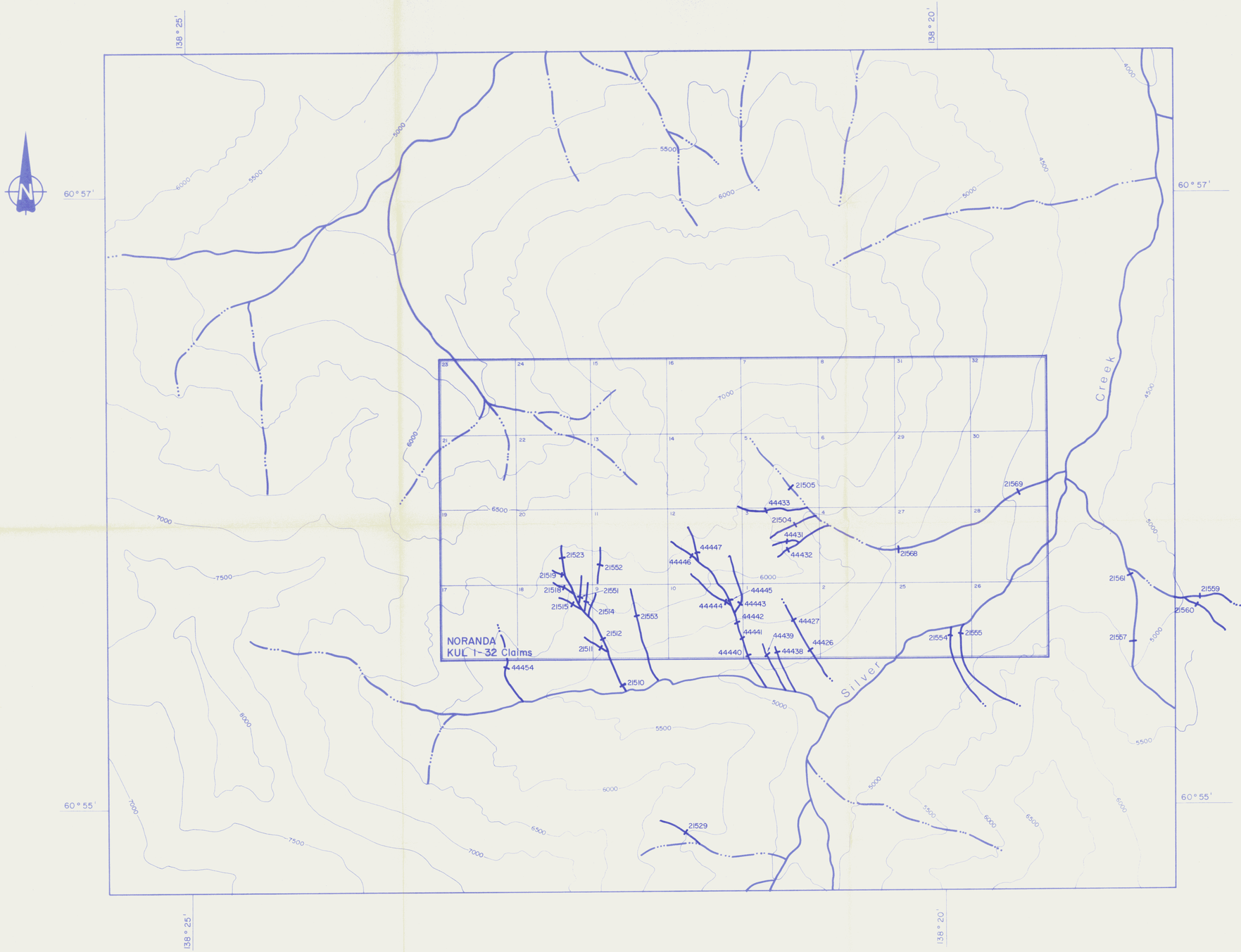
SILVER CREEK (KUL Claims)

Geology

PROJ. No. 97
NTS 115 B 16 W
DWG. No.

SURVEY BY: WR
DRAWN BY: A.
DATE: MAY 85
SCALE: 1:10,000 (approx.)

NORANDA EXPLORATION
Whitehorse
OFFICE



ASSAY RESULTS

Sample no.	Cu(ppm)	Zn(ppm)	Pb(ppm)	Ag(ppm)	Au(ppb)
21504	120	32	2	0.2	10
05	70	170	2	0.6	10(5.0)
10	92	390	2	0.8	10
11	100	210	6	0.2	10
12	88	430	2	1.0	10(5.0)
14	76	190	4	0.4	10
15	80	800	40	1.6	10
18	110	480	2	0.8	10
19	150	880	2	1.4	70
23	130	1900	2	0.8	10
29	82	210	2	0.4	10
51	64	120	2	0.2	50
52	46	110	2	0.2	10
53	46	68	2	0.2	10
54	64	78	2	0.4	10
55	48	64	2	0.2	10
57	52	150	2	0.2	10
59	54	82	2	0.2	10
60	50	88	4	0.2	10
61	50	130	2	0.2	10
68	66	130	2	0.2	10
21569	52	88	2	0.2	10
44426	60	60	2	0.2	10
27	62	58	2	0.2	10
31	84	160	2	0.4	10
32	340	110	2	0.4	10
33	120	80	2	0.2	10
38	44	68	2	0.2	10
39	40	46	2	0.2	10
40	52	58	2	0.2	10
41	54	60	2	0.2	10
42	56	66	2	0.2	10
43	78	74	2	0.2	10
44	64	72	2	0.2	10
45	58	66	2	0.2	10
46	74	94	2	0.2	10
47	120	120	2	0.2	10
44454	88	290	2	0.2	70

091636

REVISED	SILVER CREEK (KUL Claims)
	Silt Geochem
PROJ. No. 97	SURVEY BY
N.T.S. 115 B 16 W	DRAWN BY AI
DWG. No	DATE MAY 85
	SCALE 1:10,000 (approx.)
	NORANDA EXPLORATION
	OFFICE Whitehorse

LIST OF REFERENCES

Campbell, R.B., Dodds, C.J., et al. OPEN FILE 829, 830, 831, 926, 927 Geological Survey of Canada.

Campbell, R.B., and Dodds, C.J. 1978 Operation St. Elias, Yukon Territory; in Current Research, Part A, Geological Survey of Canada Paper 78-1A, p. 35-41.

STATEMENT OF QUALIFICATIONS

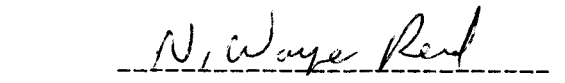
I, Wayne Reid, of the City of Whitehorse, in the Yukon Territory, do hereby certify that:

1. I have been employed as a Geologist by Noranda Exploration Company, Limited (No Personal Liability) since 1976.

2. I am a graduate of Memorial University of Newfoundland with a Bachelor of Science Degree in Geology.

3. I am a member of the Canadian Institute of Mining and Metallurgy and the Prospectors and Developers Association.

4. I supervised and performed part of the work described in this report.



N. Wayne Reid
Project Geologist
Noranda Exploration Company, Limited
(No Personal Liability)

STATEMENT OF COSTS

KUL 1-32 Claims

Helicopter (including fuel)	$2355.00	
		$2355.00
Labour 30 manday @ $125	$3750.00	
Groceries	561.39	
Supplies	142.72	
		4454.11
Assay Costs		
Silts	$ 215.15	
Rocks	351.60	
		566.75
Vehicles and gas	$ 358.00	
		358.00
Report writing, drafting, etc.	$ 800.00	
		800.00
	TOTAL	$8533.86