

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE CRINE CLAIMS

ATLIN MINING DIVISION

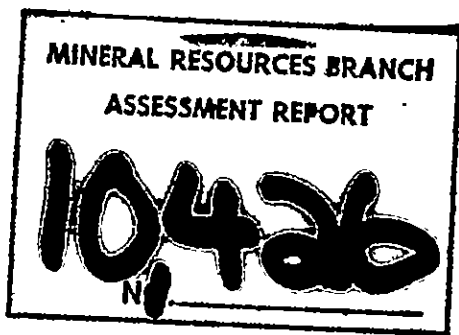
(BRITISH COLUMBIA)

LAT. 59°44', LONG. 134°38'

NTS: 104-M/10E

OWNER OF CLAIMS: DU PONT OF CANADA EXPLORATION LIMITED

OPERATOR: DU PONT OF CANADA EXPLORATION LIMITED



Submitted by: H.J. Copland,
J.T. Neelands
Date : 1982 May

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10,400

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INTRODUCTION

During 1981 May, reconnaissance stream sediment sampling was carried out in the Tagish-Bennett Lake areas of northwestern British Columbia. The sampling was undertaken as part of a large regional programme known as Kultha Project. The areal extent of this project is shown on Dwgs. KU.81-1 and KU.81-1a. A 1:250 000 location map of the CRINE and other company properties in the area is represented in Dwg. No. KU.81-244.

As the result of a gold anomaly located in a creek west of Racine Lake, the drainage area of this creek was staked as the CRINE property.

LOCATION AND ACCESS

The CRINE 1, 2 and 3 claims are located within the Atlin Mining Division, NTS 104-M-10E (Lat. 59°44'N, Long. 134°38'W). The property is located 5 kilometres west of Racine Lake and approximately 50 kilometres southeast of the nearest population centre, Carcross, YT. The claims are accessible by helicopter from Carcross or from a point along the Carcross-Skagway Alaska Highway, 15 kilometres west of the property.

TOPOGRAPHY AND VEGETATION

The claims lie along the southwest side of the Racine Creek valley which drains Shelly Lake into Racine Lake. The valley is a typical glacial carved U-shaped mountain valley. Elevation ranges from a high of 1860 metres in the southwest corner of CRINE 1 to 850 metres in the northeast corner of CRINE 2 near Racine Creek.

A number of small creeks drain the mountain slopes northeastward to Racine Creek. Treeline occurs at approximately 1300 metres. Above this line sub-alpine shrubs and grass predominate. In the valley, stands of black spruce and alder dominate.

PROPERTY DEFINITION

The CRINE property consists of three mineral claims: CRINE 1 is made up of 12 claim units; CRINE 2, 4 units; and CRINE 3, 8 claim units. See Dwg. KU.81-246 for claim locations. The claims are in good standing until 1982 June 23.

<u>Claim</u>	<u>Record No.</u>	<u>Tag No.</u>	<u>Date Recorded</u>
CRINE 1	1451	75798	1981 June 23
CRINE 2	1452	75799	1981 June 23
CRINE 3	1455	75802	1981 June 23

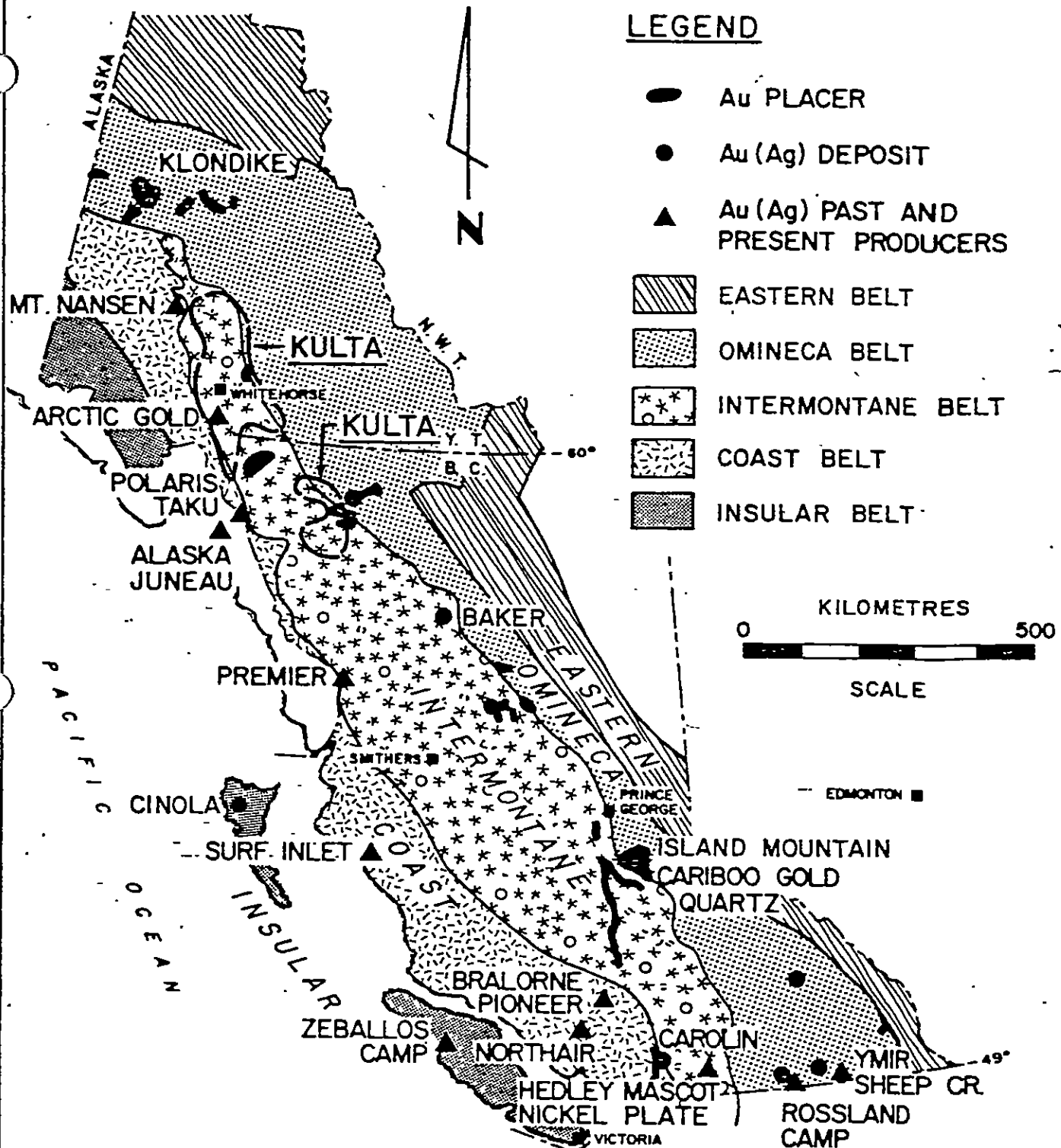
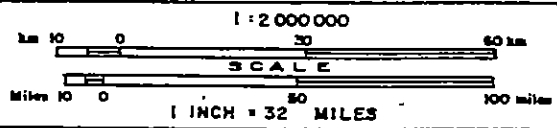


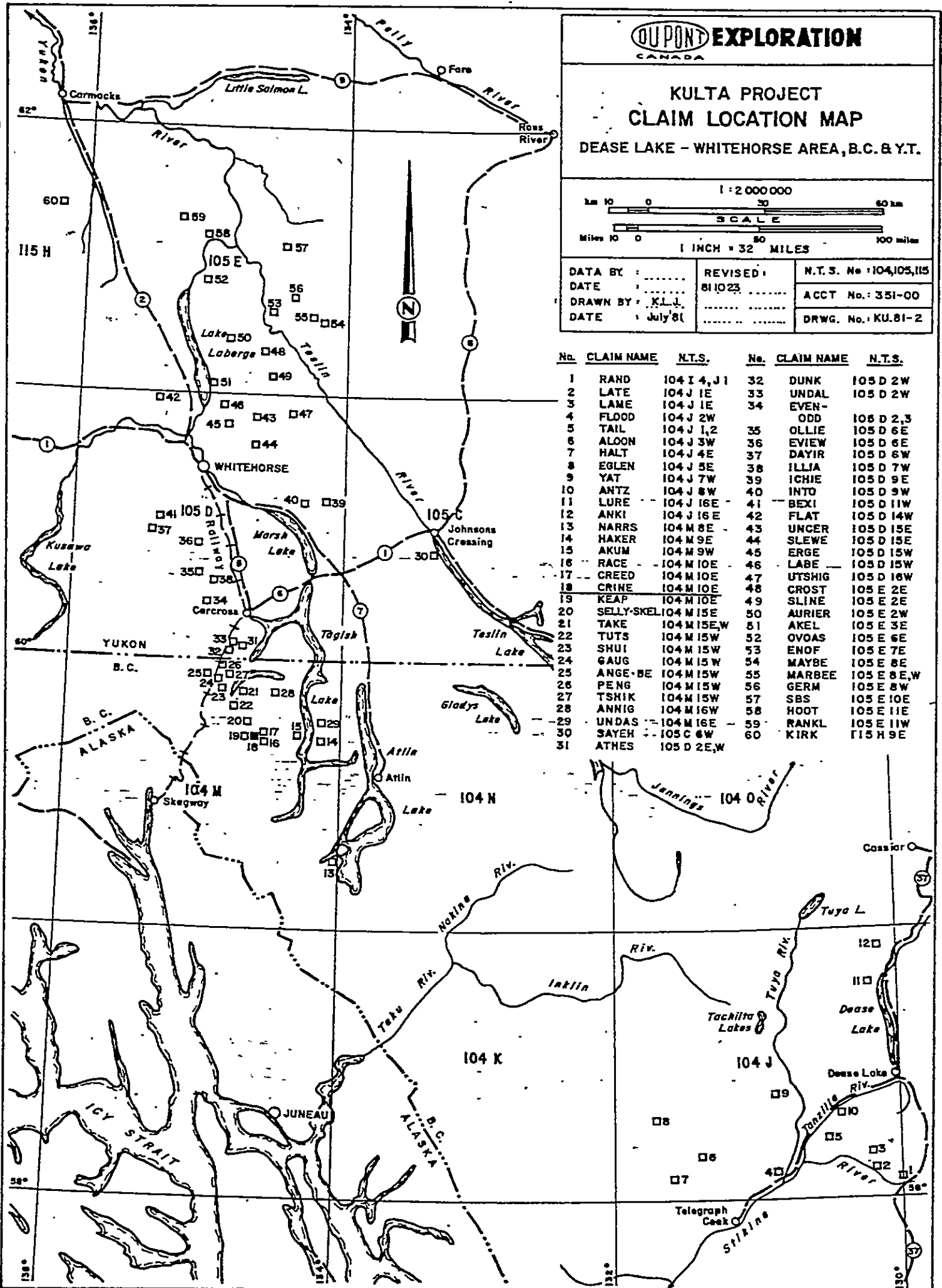
FIGURE 1
KULTA PROJECT AREAS
PRINCIPAL LODGE & PLACER GOLD DEPOSITS
CANADIAN CORDILLERA

**KULTA PROJECT
CLAIM LOCATION MAP
DEASE LAKE - WHITEHORSE AREA, B.C. & Y.T.**

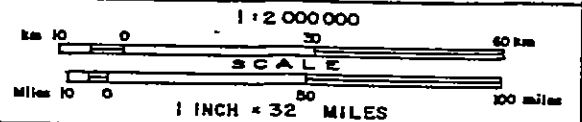


DATA BY :	REVISED :	N.T.S. No. 104,105,115
DATE :	8/10/23	ACCT No. : 351-00
DRAWN BY : K.L.J. ....	.....	DRWG. No. : KU.81-2
DATE : July 8/	.....	.....

No.	CLAIM NAME	N.T.S.	No.	CLAIM NAME	N.T.S.
1	RAND	104 I 4, J 1	32	DUNK	105 D 2W
2	LATE	104 J 1E	33	UNDAL	105 D 2W
3	LAME	104 J 1E	34	EVEN-	105 D 2,3
4	FLOOD	104 J 2W	35	ODD	105 D 6E
5	TAIL	104 J 1,2	36	OLLIE	105 D 6E
6	ALOON	104 J 3W	37	EVIEW	105 D 6W
7	HALT	104 J 4E	38	DAYIR	105 D 7W
8	EGLEN	104 J 5E	39	ILLJA	105 D 9E
9	YAT	104 J 7W	40	INTO	105 D 9W
10	ANTZ	104 J 8W	41	BEXI	105 D 11W
11	LURE	104 J 16E	42	FLAT	105 D 14W
12	ANKI	104 J 16E	43	UNCER	105 D 15E
13	NARRS	104 M 8E	44	SLEWE	105 D 15E
14	HAKER	104 M 9E	45	ERGE	105 D 15W
15	AKUM	104 M 9W	46	LABE	105 D 15W
16	RACE	104 M 10E	47	UTSHIG	105 D 16W
17	CREED	104 M 10E	48	CROST	105 E 2E
18	CRINE	104 M 10E	49	SLINE	105 E 2E
19	KEAP	104 M 10E	50	AURIER	105 E 2W
20	SELY-SKEL	104 M 15E	51	AKEL	105 E 3E
21	TAKE	104 M 15E,W	52	OVOAS	105 E 6E
22	TUTS	104 M 15W	53	ENOF	105 E 7E
23	SHUI	104 M 15W	54	MAYBE	105 E 8E
24	GAUG	104 M 15W	55	MARBEE	105 E 8E,W
25	ANGE-BE	104 M 15W	56	GERM	105 E 8W
26	PENG	104 M 15W	57	SBS	105 E 10E
27	TSHIK	104 M 15W	58	HOOT	105 E 11E
28	ANNIG	104 M 16W	59	RANKL	105 E 11W
29	UNDAS	104 M 16E	60	KIRK	115 H 9E
30	SAYEH	105 C 6W			
31	ATHES	105 D 2E,W			

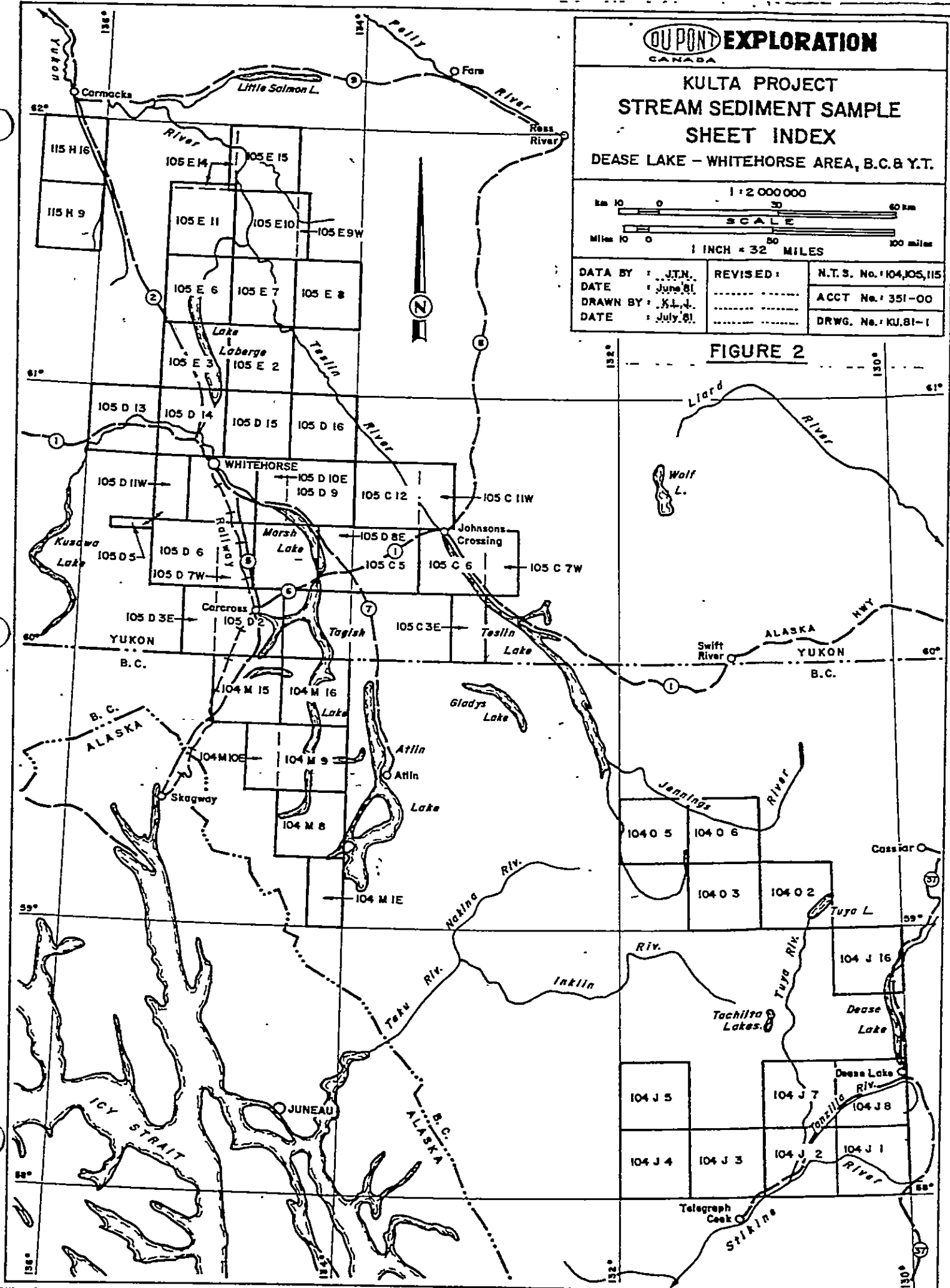


**KULTA PROJECT
STREAM SEDIMENT SAMPLE
SHEET INDEX**
DEASE LAKE - WHITEHORSE AREA, B.C. & Y.T.



DATA BY : J.T.N.	REVISED :	N.T.S. No. 104,105,115
DATE : June 81	.....	ACCT No. 351-00
DRAWN BY : K.L.J.	.....	DRWG. No. KJ.81-1
DATE : July 81	.....

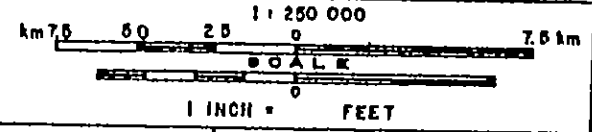
FIGURE 2



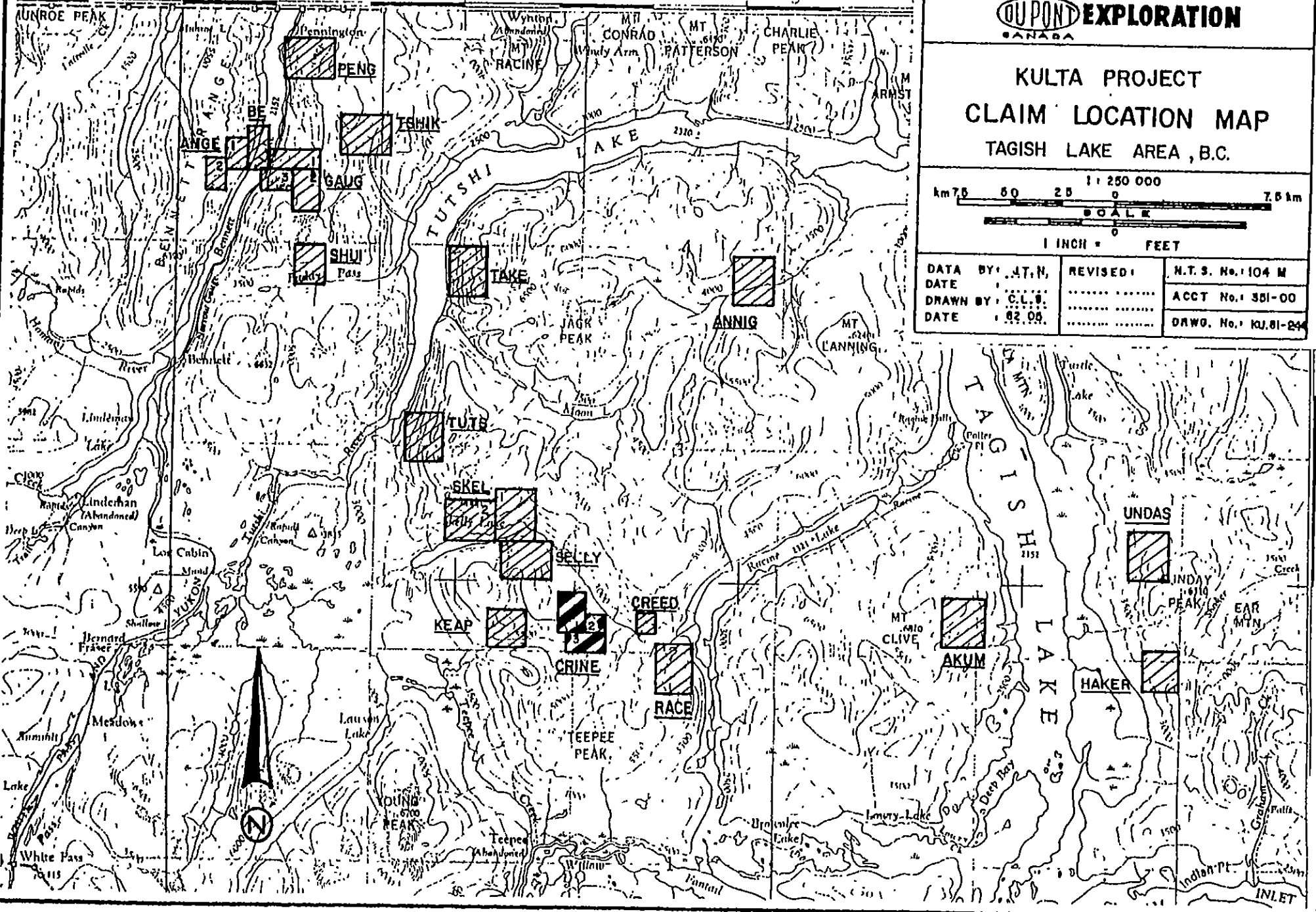
60°00' 135°00' To Whitehorse 59m 51 45 52 30' 53

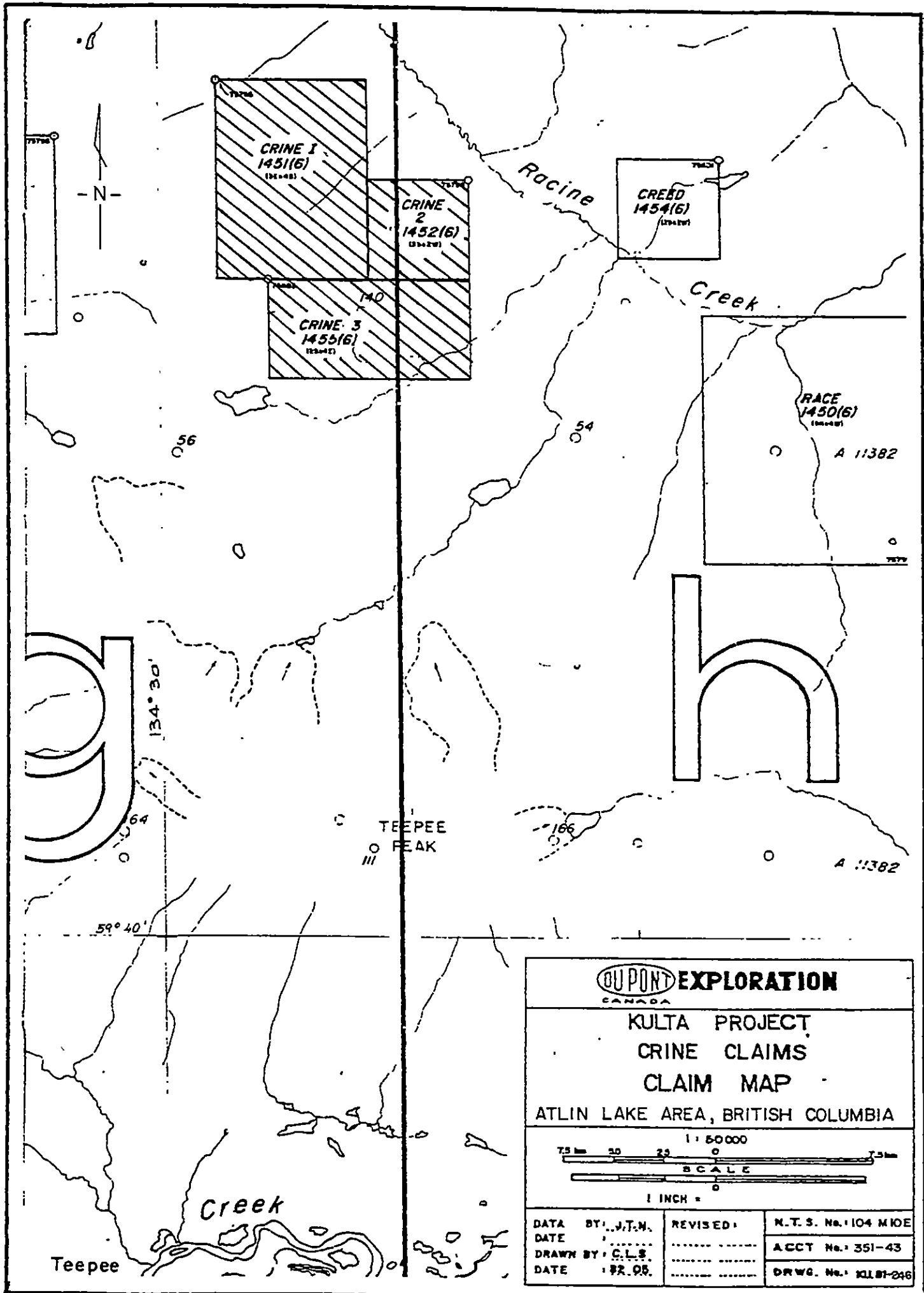


**KULTA PROJECT
CLAIM LOCATION MAP
TAGISH LAKE AREA, B.C.**



DATA BY: J.T.N.	REVISED:	N.T.S. No. 104 M
DATE	.....	ACCT No. 351-00
DRAWN BY: C.L.S.	.....	DRWO. No. KJ.81-24
DATE: 62.08.	.....





KULTA PROJECT CRINE CLAIMS CLAIM MAP		
ATLIN LAKE AREA, BRITISH COLUMBIA		
1 : 50 000 SCALE 1 INCH =		
DATA BY: J.T.M. DATE: DRAWN BY: C.L.S. DATE: 192.95.	REVISED:	N.T.S. No. 1104 M10E ACCT No. 351-43 DRWG. No. 10181-246

PREVIOUS WORK

No previous work is recorded concerning the property. The property was staked in 1981 June on the basis of an auriferous stream sediment anomaly. Follow-up work in August and September consisted of collecting the following samples: 104 soil, 11 rock, and 8 stream sediment. The property was observed to be underlain by Pre-Permian schists and gneisses cut by younger felsic intrusives. No significant mineralization was observed during the follow-up work.

PERSONNEL

Property work was performed by the following people on the dates indicated:

1981 August 3: H. Copland (Senior Geological Assistant)
L. Cunningham (Junior Geological Assistant)

1981 August 5: H. Copland
L. Cunningham
P. Webb (Junior Geological Assistant)

1981 August 6: H. Copland
L. Cunningham

1981 Sept. 14: J.T. Neelands (Geologist)
J. Dupas (Junior Geological Assistant)
L. Harland (Junior Geological Assistant)

GEOLOGYRegional Geology

The property lies within the Intermontane Belt of the western Cordillera. The belt consisting mainly of sedimentary and volcanic rocks stretches from the Yukon to southern British Columbia. The belt averages 150 kilometres in width and trends northwest-southeast. Bordering the belt to the west are the granitic rocks of the Coast Mountain Intrusions, which stretch along the entire B.C. coast into Alaska.

Physiographically, the region is part of the Yukon Plateau. This area is characterized by glaciated mountain peaks generally under 2000 metres in elevation and long narrow lake-filled valleys. To the west, the rugged extensively glaciated peaks of the Coast Mountains dominate.

The Tagish-Bennett Lake areas are dominated by rocks of the Intermontane Belt with small plutons (2-8 km in size) of Late

Cretaceous Coast Intrusions scattered throughout. The main front of the Coast Mountains occurs seven kilometres west of the area. The rocks of the Intermontane Belt comprise Palaeozoic metamorphic rocks (schists and gneiss), Pennsylvanian (?) and Permian volcanic and meta-volcanic rocks (Taku Group), Lower and Middle Jurassic sediments (Laberge Group), and Upper Cretaceous volcanic rocks (Hutshi Group). See Table of Formations (Table 1) and Dwg. No. KU.81-26 (Kultha Project Regional Geology).

The rocks generally occur in northwest trending belts as part of a large regional synclinerium (Wheeler 1961, p. 103). All Pre-Cretaceous rocks show this trend. Locally tight folding has been observed, possibly due to intrusive placement.

Economic mineralization has been exploited in the area from various sources. The Engineer Mine (Au,Ag) is hosted by quartz-calcite veins occurring in shales and greywackes of the Laberge Group. Venus Mine (Au,Ag) is hosted by a quartz vein cutting through Hutshi Group andesites. Numerous other showings similar to the Venus Mine occur in the Tagish Lake region.

Local Geology

The CRINE claims are underlain by Pre-Permian metamorphic rocks, primarily phyllite schist and gneiss. Lenses of medium-grained quartzites and quartz porphyry intermediate volcanics occur within the schists and gneisses. In addition, small lenses and veins of milky white quartz are frequently encountered in the metamorphic rocks. In the western area of the property, felsic intrusive dykes ranging from aplite to quartz monzonite in composition cut the schists.

The following is a brief description of the units observed thus far on the property:

a. Schist and Gneiss - Units 1a & b

This unit is light grey to brown weathering to a dark brown. A marked phyllite sheen is observed on fracture surfaces of the schists. Minor disseminated pyrite (<1%) is found in some areas. This accounts for the rusty gossanous appearance in some outcrops. Most of the rocks are well foliated and contain lenses of quartz a few centimetres wide.

TABLE 1

Table of Formations

Miocene to Pleistocene (TQW)

Wrangell-Garibaldi: Basic to intermediate volcanics.

Upper Cretaceous-Oligocene (KTo)

Ootsa Lake - Kamloops (Hutshi Group): Intermediate to acidic volcanic flows, tuff; non-marine.

Late Cretaceous and Early Tertiary

Nisling Range Alaskite, Nanika (KTq): Granite, quartz monzonite lesser granodiorite.

Babine (KTg): Granodiorite, quartz diorite, quartz monzonite, lesser quartz monzonite, diorite, monzonite.

Lower and Middle Jurassic (JL)

Laberge-Quesnel (Stuhini Fmn): Greywacke, argillite, conglomerate; marine.

Late Triassic - Early Jurassic

Hogem Granodiorite (EJg): Quartz diorite, granodiorite, lesser diorite, quartz monzonite.

Iron Mask (Ejd): Diorite, monzonite, syenite, quartz, diorite, minor pyroxenite, granodiorite.

Upper Triassic - Lower Jurassic (TJT)

Takla-Nicola: Augite porphyry, basaltic volcanics; siltstone, shale, limestone, conglomerate.

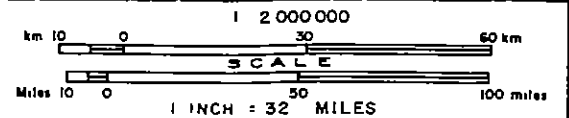
Mississippian - Triassic (MTC)

Cache Creek - Anvil Range: Chert, argillite, carbonate, basalt, associated diabase, gabbro, alpine ultramafic; marine.

Proterozoic - Palaeozoic

Central Gneiss - Skagit: Granitoid Gneiss, migmatite schist, amphibolite, plutonic rocks.

**KULTA PROJECT
REGIONAL GEOLOGY
DEASE LAKE - WHITEHORSE AREA, B.C. & Y.T.**



DATA BY	J.T.N.	REVISED	NTS No 104,105,115
DATE			ACCT No 351-00
DRAWN BY	K.L.J.		DRWG No KU.81-2B
DATE	MAY '82		



No.	CLAIM NAME	N.T.S.	No.	CLAIM NAME	N.T.S.
1	RAND	104 I 4, J 1	32	DUNK	105 D 2W
2	LATE	104 J 1E	33	UNDAL	105 D 2W
3	LAME	104 J 1E	34	EVEN- ODD	105 D 2,3
4	FLOOD	104 J 2W	35	OLLIE	105 D 6E
5	TAIL	104 J 1,2	36	EVIEW	105 D 6E
6	ALOON	104 J 3W	37	DAYIR	105 D 6W
7	HALT	104 J 4E	38	ILLIA	105 D 7W
8	EGLEN	104 J 5E	39	ICHIE	105 D 9E
9	YAT	104 J 7W	40	INTO	105 D 9W
10	ANTZ	104 J 8W	41	BEXI	105 D 11W
11	LURE	104 J 16E	42	FLAT	105 D 14W
12	ANKI	104 J 16E	43	UNCER	105 D 15E
13	NARRS	104 M 8E	44	SLEWE	105 D 15E
14	HAKER	104 M 9E	45	ERGE	105 D 15W
15	AKUM	104 M 9W	46	LABE	105 D 15W
16	RACE	104 M 10E	47	UTSHIG	105 D 16W
17	CREED	104 M 10E	48	CROST	105 E 2E
18	CRINE	104 M 10E	49	SLINE	105 E 2E
19	KEAP	104 M 10E	50	AURIER	105 E 2W
20	SELY-SKEL	104 M 15E	51	AKEL	105 E 3E
21	TAKE	104 M 15E,W	52	OVOAS	105 E 6E
22	TUTS	104 M 15W	53	ENOF	105 E 7E
23	SHUI	104 M 15W	54	MAYBE	105 E 8E
24	GAUG	104 M 15W	55	MARBEE	105 E 8E,W
25	ANGE-BE	104 M 15W	56	GERM	105 E 8W
26	PENG	104 M 15W	57	SBS	105 E 10E
27	TSHIK	104 M 15W	58	HOOT	105 E 11E
28	ANNIG	104 M 16W	59	RANKL	105 E 11W
29	UNDAS	104 M 16E	60	KIRK	115 H 9E
30	SAYEH	105 C 6W			
31	ATHES	105 D 2E,W			

LEGEND

UPPER CRETACEOUS - OLIGOCENE

KT0 Carracks, Mt Nansen, Endako: Intermediate to acidic volcanic flows, tuff. non marine

LOWER AND MIDDLE JURASSIC

Tjt Nicola and Lewes: Volcanic and sedimentary rocks

LATE CRETACEOUS AND EARLY TERTIARY

KTq, KTg Granitic rocks

LATE PALEOZOIC - TRIASSIC

Alpine-type ultramafics



b. Quartzite - Unit 1f

Two outcrops of this rock unit occur as lenses within the schists. The unit is light brown weathering to a dark brown to grey. Compositionally, the rock consists of equigranular, sub-angular grains of quartz with minor argillaceous material. Traces of bedding averaging 1 cm in width is evident in some outcrops. Orientation of this bedding averages 130°/60 SW. The contact with the metamorphic rocks is sharp.

c. Quartz Porphyritic Dacite - Unit 4c

This unit has a light green groundmass weathering to a green-brown. Milky white quartz and dark green altered phenocrysts comprise 30% of the rock. Phenocrysts of quartz are angular and up to 5 mm in size. Euhedral phenocrysts of biotite altered to chlorite average 1-2 mm in size. The unit crops out in lenses averaging 20 m in size and has sharp contacts with the metamorphic rocks.

d. Felsic Dykes - Unit 7c

These dykes are primarily a white to medium grey colour, weathering to a darker grey with minor iron staining. Composition and texture vary from an aplite to a fine-grained quartz monzonite. Phenocrysts of plagioclase and biotite less than 2 mm in size make up 30% of the rock. The dykes range in size from a few centimetres to swarms of 3 metre thicknesses. Alteration to gneiss of the surrounding country rock has occurred up to 30 cm from the dyke margins.

Structure

Bedding measurements in the quartzites reveal a general north-west trending strike of the rocks. Foliation in the metamorphic rocks follows regional trends. Small scale tight folding is evident in some of the gneisses. No large scale folding or evidence of faulting was observed in the follow-up work.

Mineralization

No significant mineralization was observed on the property. An assay of a rock from the centre of CRINE 1 contained 0.01% Zn, 0.01% Pb, 0.10 oz/ton Ag and 0.004 oz/ton Au. Trace pyrite was observed in the dykes but no other minerals were associated with these rocks.

GEOCHEMISTRY

Procedure

A total of 104 soil, 11 rock and 9 stream sediment samples were collected during 1981. Stream sediment samples were taken along the same creek as the original anomalous sample. Sample spacing was 200 metres on the creek and samples were taken both upstream and downstream from the original. Samples were sieved to -20 mesh in the field except for the original which was sieved to -10 mesh. Sample sites were marked with flagging tape bearing the sample number

Soil sampling was carried out on 100 metre intervals along five traverses along the higher elevations of the property. The soil samples were collected from below the organic layer with a mattock and placed in a kraft paper envelope. A sample number was marked on the bag and on flagging tape which was secured at the sample site. Rock samples were taken at random locations throughout the claim group.

All samples were shipped to Min-En Laboratories Ltd., North Vancouver for preparation and analysis. All samples were analyzed for Mo, Cu, Pb, Zn, Ag, Hg, As, Mn, Au, Sb. In addition, all of the follow-up stream sediment samples, the rock samples and 72 of the soil samples were analyzed for Ni. All samples were sieved to -80 mesh, two soil samples were sieved to -40 mesh. The stream sediment samples were sieved to -20 mesh and a heavy mineral separation and analysis was performed for Cu, Ag and Au. Refer to Appendix A for detail analytical procedures.

Results

A statistical analysis of the results obtained from regional stream sediment samples was performed to determine background and anomalous values for the various elements. Details of this analysis appears in a report by Neelands (1982) titled "Geochemical Report - Kultha Regional Stream Sediment Sampling Programme in the Dease Lake and Tagish Lake Areas". Table 2 reproduced from that report reveals medium background values obtained for the elements studied. Table 3 shows the results of a report titled "Kultha Follow-Up" (Neelands 1982). The two studies show a good correlation and the anomalous values given in Table 3 will be applied to the results of this property.

The results of geochemical sampling on CRINE are tabled on Dwg. No. KU.81-155. These results have also been tabulated as to frequency distribution of elements (see Tables 4 & 5) after being broken down into soils, silts and heavy minerals.

TABLE 2Background and Threshold

<u>Element</u>	<u>No. of Samples</u>	<u>Mean ppm</u>	<u>Median Background ppm</u>	<u>Standard Deviation</u>	<u>95% Threshold ppm</u>
Mo	625	1.8	1.0	1.39	4.0
Cu(C1)CHm	598	44.5	38.0	27.39	150.0
Cu(C2)F	621	35.9	32.0	21.15	80.0
Pb	622	16.3	15.0	7.08	30.0
Zn	598	67.0	65.0	23.77	150.0
Ag(S1)CHm	623	1.04	1.0	0.50	2.5
Ag(S2)F	628	0.71	1.0	0.32	1.6
Mn	602	589.6	570.0	232.6	1200.0
Au(G1)CHm	588	8.21	5.0	5.22	25.0
Au(G2)F	579	6.2	5.0	4.66	15.0
%HM			6.0%		

TABLE 3

Background and Anomalous Values

Element	Medium					
	Heavy Mineral (227 samples)		SiH (43 Samples)		Soil (461 samples)	
	Median	Anomalous	Median	Anomalous	Median	Anomalous
MoF	1.0	3.0	1.0	2.0	4.0	15.0
CuF	30.0	90.0	70.0	160.0	40.0	250.0
CuFHM						
CuHM	50.0	180.0				
PbF	20.0	60.0	20.0	30.0	20.0	50.0
ZnF	60.0	160.0	80.0	100.0	90.0	200.0
AgF	0.8	1.5	0.9	1.2	0.8	1.7
AgFHM						
AgCHM	0.8	2.6				
HgF	25.0	50.0	40.0	80.0	35.0	160.0
AsF	10.0	50.0	15.0	45.0	15.0	120.0
MnF	500.0	1000.0	800.0	2000.0	700.0	2000.0
AuF	5.0	30.0	5.0	15.0	5.0	20.0
AuFHM						
AuCHM	5.0	50.0				
SbF	15.0	40.0	25.0	40.0	20.0	40.0
HMZ						

The original anomalous sample (7680D) ran 190 ppb Au in the fine heavy mineral fraction. Subsequent sampling above and below this confirmed this value. Two samples upstream (9197A and 9198A) yielded 160 and 130 ppb Au respectively in the fine heavy mineral fraction. Sample 9900A, 500 metres downstream of the original produced a 2100 ppb value. These values are represented in Table 5 by two separate populations, one around the median 5.0 ppb and the higher anomalous values around 160 ppb. Several gold anomalies in the soils are revealed in Table 4. These tend to occur in the southwest corner of CRINE 1. Associated with these high Au values were also anomalous As, Pb and Zn values.

Another trend of anomalous values occurs in the northwest corner of CRINE 1, where Pb, Zn, Ag and Cu show high values. The source of these anomalies was not revealed by rock geochemistry. Samples of quartz veins running through the metamorphic rocks revealed background values for all elements. One highly altered and silicified sample (8433D) found in a creek bed of CRINE 3 ran 1025 ppm Cu and 60 ppb Au. The source of this sample is unknown at the present time.

CONCLUSIONS AND RECOMMENDATIONS

Follow-up work on the original anomalous stream sediment sample has confirmed the anomaly and has revealed possible source areas for the Au values. The source rock of the high Au, Ag, Pb and Zn values has yet to be defined.

It is recommended that further detailed soil sampling and rock geochemistry be carried out in the areas above the anomalous creek.

Hugh J. Copland
Geologist
1982 May 14

TABLE 6

Description of Rock Samples

<u>Sample No.</u>	<u>Rock Type</u>	<u>Anomalous Values</u>
7609C	Schist	Mo (10 ppm)
8428D	Quartz vein in schist	None
8429D	Quartz porphyry dacite	None
8430D	Quartz vein in schist	None
8431D	Quartz Lense in schist	None
8432D	Quartz lense in dacite	None
8433D	Altered siliceous volcanic	Cu (1025 ppm), Au (60 ppb)
8434D	Silicified felsic intrusive	None
8435D	Quartz monzonite	Zn (238 ppm)
8436D	Gossanous quartz talus	Ag (2.6 ppm)

REFERENCES

- Christie, R. L.; "Geology: Bennett (104M)", G.S.C. Preliminary Series Map No. 19-1957, 1957.
- Neelands, J. T.; "Geochemical Report - Kulta Regional Stream Sediment Sampling Programme in the Dease Lake and Tagish Lake Areas", Assessment Report, 1982.
- Neelands, J. T.; "Kulta Follow-Up (104-J, 104-M)" Geological and Geochemical Report, 1982.
- Wheeler, J. O.; "Whitehorse Map-Area, Yukon Territory (105-O)", G.S.C. Memoir 312, 1961.

COST STATEMENTWages

	<u>Cost</u>
1 Sr. Geol. Assistants, 3 manday(s) (1981 Aug. 3,5,6)	\$ 177.87
3 Jr. Geol. Assistants, 4 manday(s) (1981 Aug.3,5,6, Sept. 26)	<u>\$ 268.73</u>
	\$ 446.60

Room & Board

<u>Location</u>	<u>Daily Rate</u>	<u>Date</u>	<u>No. of Days</u>	
Carcross	\$20.00	1981 Aug.3,5,6	3	\$ 60.00
Whitehorse	50.00	1981 Sept. 26	0.5	<u>25.00</u>
				\$ 85.00

Transportation

a. Truck Rental (Avis-Whitehorse, YT): 2 day(s) @ \$35.85/day	\$ 71.70
b. Helicopter in support of field work @ \$432.50/hr including fuel (Flying by Viking Helicopter Ltd. of Prince George)	
Dates (1981): Aug.3,5,6, Sept.26	No. of hrs: 4.75
	<u>\$2,054.38</u>
	\$2,126.08

Analytical Services

<u>Type of Sample</u>	<u>No. of</u>	<u>Fraction Analyzed</u>	<u>Elements Analyzed</u>											<u>Unit Price</u>		
			F	FHM	CHM	Mo	Cu	Pb	Zn	Ni	Ag	Hg	As			Mn	Au	Sb
Heavy Mineral	8	X		X	X	X	X		X	X	X	X		X	\$17.75	\$ 142.00
	8		X						X					X	7.90	63.20
	8			X					X					X	7.90	63.20
Soil	33			X	X	X	X		X	X	X	X	X	X	22.75	750.75
	72			X	X	X	X	X	X	X	X	X	X	X	23.65	1,702.80
Rock	9			X	X	X	X	X	X	X	X		X	X	22.75	204.75
Preparation - Rock									9 @ \$2.25							\$ 20.25
- Heavy Mineral									8 @ \$20/sample							160.00
- Soil/Silt									105 @ \$0.85/sample							89.25

Mo(\$0.90), Cu(\$0.90), Pb(\$0.90), Zn(\$0.90), Ni(0.90), Ag(\$0.90/
\$2.00), Hg(\$4.50), As(\$3.00), Mn(\$0.90), Au(\$5.00), Sb(\$3.75)

\$3,196.20

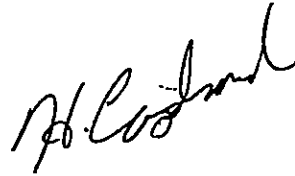
Report PreparationCost

Drafting: 1 day @ \$100/day	\$ 100.00
Typing: 0.5 day @ \$95.00	9.50
Map preparation 8 maps at 16¢/square foot	<u>11.52</u>
	\$ 121.02
<u>GRAND TOTAL:</u>	<u>\$5,974.90</u>

QUALIFICATIONS

I, Hugh J. Copland Jr., do hereby certify that:

1. I am a geologist residing at 5250 Ash Street, Vancouver, British Columbia and employed by Du Pont of Canada Exploration Limited.
2. I am a recent graduate of the University of British Columbia with a B.Sc. (Honours) degree in Geology and McMaster University with a B.Eng. (Mechanical).
3. I have practised my profession in geology for the past two summers in British Columbia and the Yukon.
4. In July and August 1981, I participated in the field programme described in this report on behalf of Du Pont of Canada Exploration Limited.

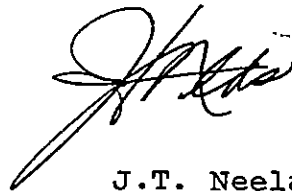


H. J. Copland
1982 May

QUALIFICATIONS

I, J.T. Neelands, do hereby certify that:

1. I am a geologist residing at 118-B W. 14th Ave, Vancouver, British Columbia and employed by Du Pont of Canada Exploration Limited.
2. I am a graduate of Carleton University (1971) in Ottawa, Canada, and hold a B.Sc., degree in Geology.
3. I have been practising my profession for the past ten years and have been active in the mining industry for the past sixteen years.
4. I am a member of the Geological Association of Canada and of the Association of Exploration Geochemists.
5. Between 1981 August 3 and 1981 September 14, I supervised/directed a field programme on the CRINE Claims on behalf of Du Pont of Canada Exploration Limited.



J.T. Neelands
1982 May

APPENDIX I

Laboratory Procedure

*MIN-EN Laboratories Ltd.**Specialists in Mineral Environments*

Corner 15th Street and Bewicke

705 WEST 15th STREET

NORTH VANCOUVER, B.C.

CANADA

ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORKPROCEDURES FOR Mo, Cu, Cd, Pb, Mn, Ni, Ag, Zn, As, F

Samples are processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized by ceramic plated pulverizer.

1.0 gram of the samples are digested for 6 hours with HNO_3 and HClO_4 mixture.

After cooling samples are diluted to standard volume. The solutions are analyzed by Atomic Absorption Spectrophotometers.

Copper, Lead, Zinc, Silver, Cadmium, Cobalt, Nickel and Manganese are analysed using the CH_2H_2 -Air flame combination but the Molybdenum determination is carried out by C_2H_2 - N_2O gas mixture directly or indirectly (depending on the sensitivity and detection limit required) on these sample solutions.

For Arsenic analysis a suitable aliquote is taken from the above 1 gram sample solution and the test is carried out by Gutzeit method using $\text{Ag CS}_2\text{N}(\text{C}_2\text{H}_5)_2$ as a reagent. The detection limit obtained is 1.2 ppm.

Fluorine analysis is carried out on a 200 milligram sample. After fusion and suitable dilutions the fluoride ion concentration in rocks or soil samples are measured quantitatively by using fluorine specific ion electrode. Detection limit of this test is

APPENDIX I*MIN-EN Laboratories Ltd.**Specialists in Mineral Environments*Corner 15th Street and Bewicke
705 WEST 15th STREET
NORTH VANCOUVER, B.C.
CANADAANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORKPROCEDURE FOR GOLD GEOCHEMICAL ANALYSIS.

Geochemical samples for Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

A suitable sample weight 5.0 or 10.0 grams are pre-treated with HNO_3 and HClO_4 mixture.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

At this stage of the procedure copper, silver and zinc can be analysed from suitable aliquote by Atomic Absorption Spectrophotometric procedure.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 5. ppb.

LEGEND

JURASSIC OR LATER
POST LOWER JURASSIC

- 7
COAST INTRUSIONS
7a) Granite 7b) Granodiorite 7c) Quartz diorite
7d) Diorite 7e) Felsic dyke 7f) Mafic dyke

JURASSIC
LOWER JURASSIC AND LATER

- 6
LABERGE GROUP
6a) Conglomerate 6b) Greywacke 6c) Argillite
6d) Siltstone 6e) Hornfels

PENNSYLVANIAN TO TRIASSIC

- 5
5a) Felsic dyke 5b) Mafic dyke

- 4
4a) Rhyolite 4b) Rhyodacite 4c) Dacite
4d) Andesite 4e) Basalt

- 3
3a) Volcanic breccia 3b) Volcanic conglomerate
3c) Tuff

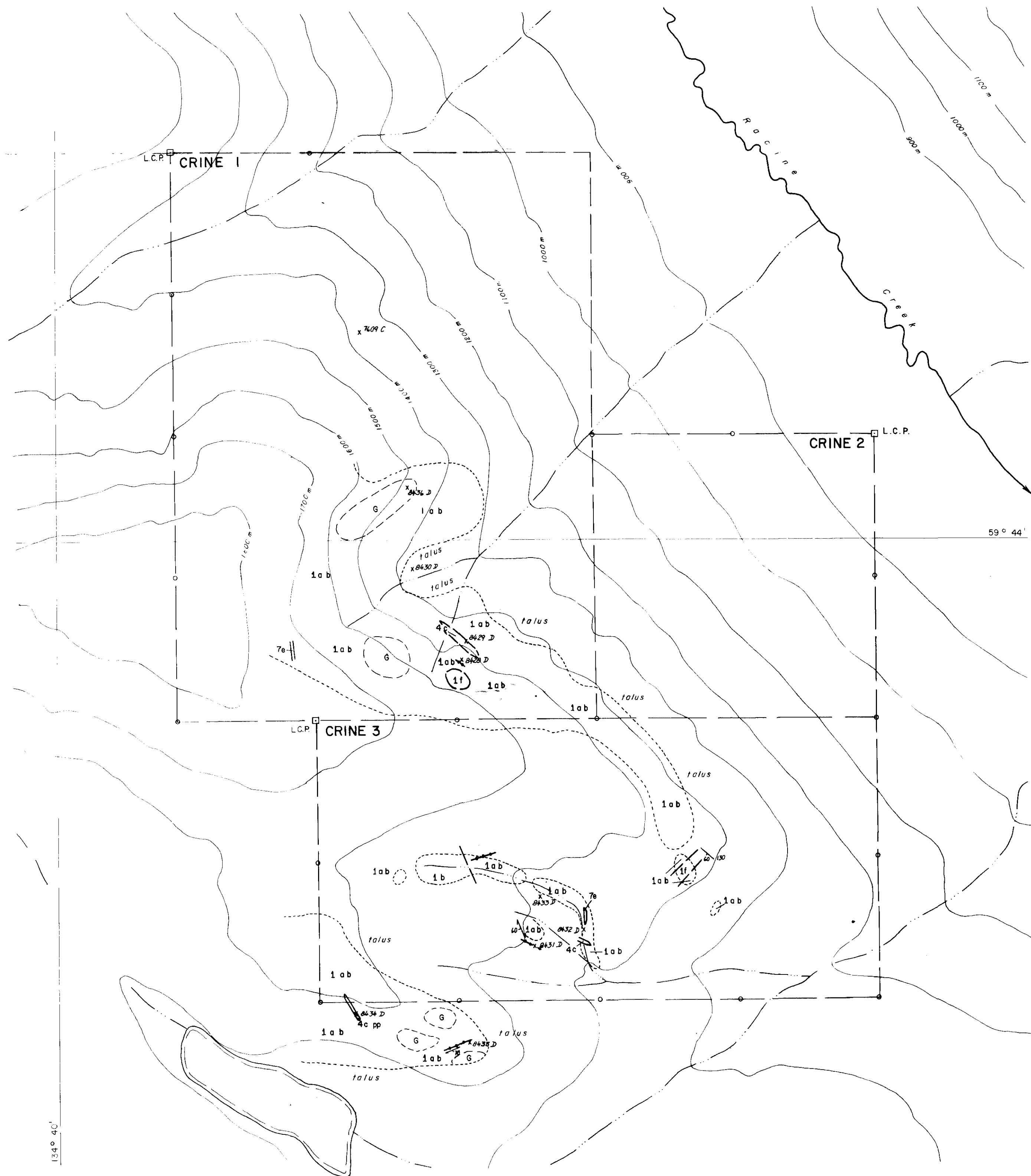
- 2
2a) Siltstone 2b) Limestone

PRE-PERMIAN

- 1
1a) Schist 1b) Gneiss 1c) Phyllite 1d) Limestone
1e) Quartzite 1f) Arenite 1g) Slate

SYMBOLS

- OUTCROP
— CONTACT
x 8432 D ROCK SAMPLE LOCATION AND NUMBER
△ MINERAL OCCURRENCE
L.C.P. CLAIM LINE AND LEGAL CORNER POST
○ IDENTITY POST
G GOSSAN
— QUARTZ VEIN
40°/30° STRIKE AND DIP - BEDDING, FOLIATION
pp PORPHYRITIC

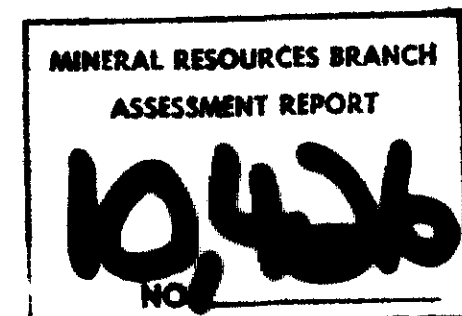


ROCK GEOCHEMICAL RESULTS

Sample	Mo ppm -80 F	Cu ppm -80 F	Pb ppm -80 F	Zn ppm -80 F	Ni ppm -80 F	Ag ppm -80 F	Hg ppm -80 F	As ppm -80 F	Au ppb -80 F	Sb ppm -80 F
7609 C	10	53	20					5	340	35
8428 D	2	5	8	22	8	0.3	5	6	10	24
8429 D	2	10	9	69	12	0.9	5	<1	5	40
8430 D	1	9	2	6	2	0.1	20	29	5	12
8431 D	1	6	5	8	2	0.2	10	16	5	16
8432 D	1	5	27	69	10	1.1	25	17	5	42
8433 D	2	1025	25	73	42	1.6	20	24	60	190
8434 D	4	15	8	33	8	0.6	5	21	5	22
8435 D	4	14	19	238	10	1.1	10	25	5	32
8436 D	1	21	29	34	4	2.6	5	61	10	15

ROCK ASSAY

Sample	Pb %	Zn %	Ag oz/T	Au oz/T
7609 C	.01	.01	.10	.004



**MINERAL RESOURCES BRANCH
ASSESSMENT REPORT**
10426

EXPLORATION
CANADA

**KULTA PROJECT
CRINE CLAIMS
GEOLOGY**

ATLIN LAKE AREA, BRITISH COLUMBIA

m 300 200 100 0 1 10 000 300 600 m
SCALE
1 INCH = 633 FEET

MAPPED BY: J.T.N. H.J.C. REVISION: N.T.S. No. 104 M 10E
DATE: 81 08 06 ACCT No. 391-43
DRAWN BY: C.R.K. DATE: 82 01 11 DRWG No. KU. 81-154

1981 SAMPLE RESULTS

Sample	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Hg ppb	As ppm	Mn ppm	Au ppb	Sb ppm
JD211	3	53	18	56	0.9	45	75	380	5	20
JD213	6	250	55	69	2.4	50	117	500	5	22
JD214	23	920	390	361	15.7	70	119	1100	20	44
JD215	8	280	117	114	3.4	100	63	1160	10	42
JD216	6	125	57	72	2.2	70	87	240	10	14
JD217	7	88	38	105	1.7	40	430	585	15	46
JD218	2	53	81	81	1.8	35	350	520	15	28
JD219	9	160	430	371	4.3	80	800	1930	10	95
JD220	6	126	230	520	2.8	55	1140	2080	55	45
JD221	5	216	360	283	4.4	65	650	1120	30	38
JD222	1	56	42	89	1.2	60	290	660	5	10
JD223	2	37	44	80	1.1	55	270	880	15	5
JD224	4	74	129	267	2.8	75	1010	1140	35	22
JD225	3	58	32	139	0.8	25	390	820	10	25
JD226	1	37	56	128	0.8	10	250	2450	5	12
JD227	2	22	30	54	0.9	30	121	630	5	10
JD228	1	82	145	201	3.4	30	490	480	10	10
LO 18	7	40	28	88	0.9	35	104	910	5	20
LO 19	6	43	96	132	1.5	30	177	1260	5	30
LO 21	9	90	39	123	1.4	55	118	1120	5	10
LO 22	15	138	62	204	1.5	15	152	1370	10	80
LO 23	16	148	100	192	1.6	30	148	1720	10	40
LO 24	7	96	91	107	1.7	10	181	1520	5	35
LO 25	8	108	41	137	2.9	50	450	2000	5	65
LO 26	6	70	48	164	1.6	20	94	1300	5	60
LO 27	6	77	49	120	1.1	35	270	1450	5	40
LO 28	8	78	226	380	3.0	15	224	1440	5	45
LO 29	6	43	83	128	1.3	25	185	810	5	42
LO 31	9	100	250	600	3.8	50	2000	2990	45	80
LO 32	4	50	210	261	2.1	10	670	950	5	30

Sample	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Hg ppb	As ppm	Mn ppm	Au ppb	Sb ppm
LO 20	12*	94*	30*	150*	2.0*	45*	374*	2660*	10*	40*
LO 30	10*	48*	148*	252*	1.4*	60*	580*	1280*	5*	20*

* -40 Mesh

Sample	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm	Hg ppb	As ppm	Mn ppm	Au ppb	Sb ppm
Soil	F	F	F	F	F	F	F	F	F	F	F
0 28	1	14	18	33	12	0.5	50	43	190	10	12
0 29	1	12	14	45	12	0.5	55	28	320	5	8
0 30	1	12	17	28	6	1.1	75	36	150	5	5
0 31	1	20	19	57	15	0.6	60	45	325	5	10
0 32	2	52	31	-2	20	0.9	5	74	605	15	28
0 33	1	20	19	57	16	0.9	15	32	400	5	45
0 34	1	28	25	76	24	1.0	30	36	720	15	45
0 35	2	41	39	112	21	1.7	30	82	2400	5	42
0 36	2	14	18	44	13	0.5	50	26	225	5	18
0 37	1	46	33	84	22	0.8	60	44	670	10	25
0 38	1	26	30	76	18	1.6	80	44	1280	5	35
0 39	1	92	45	154	39	2.4	45	204	2000	50	100
0 40	1	38	17	70	26	0.9	20	43	560	10	18
0 41	1	124	52	166	46	2.1	70	209	1500	15	70
0 42	4	90	97	262	36	2.2	70	191	3050	5	105
0 43	1	74	108	199	31	2.8	90	177	1240	30	80
0 44	6	49	44	117	34	1.6	40	89	1650	5	45
0 45	2	46	65	130	25	1.6	5	155	840	5	60
0 46	1	54	115	254	41	2.5	25	315	1190	25	70
0 47	1	14	18	49	14	0.8	60	47	225	5	28
0 48	1	16	18	43	15	0.5	35	34	240	5	22
0 49	1	16	18	58	18	0.9	45	41	290	10	18
0 50	2	22	24	51	14	0.6	80	45	320	5	30
0 51	1	37	24	88	27	0.7	5	62	620	10	15
0 52	2	26	28	79	24	1.0	5	57	440	5	24
0 53	1	19	22	62	18	0.6	75	33	640	5	25
0 54	1	39	31	124	32	1.1	45	47	710	10	26
0 55	1	40	25	69	22	0.9	35	32	1190	5	12
0 56	1	30	26	134	40	0.7	45	64	620	5	26
0 57	1	29	25	110	29	0.6	35	34	960	5	50
0 58	1	17	29	63	19	0.8	80	26	550	15	4
0 59	1	18	22	96	22	1.0	5	32	360	5	14
0 60	1	20	24	99	23	0.6	5	40	580	10	20
0 61	1	24	32	115	28	1.3	65	45	680	5	36
0 63	2	24	27	66	20	1.0	105	44	840	10	10
0 64	3	24	26	56	18	1.2	50	36	720	5	12
0 65	2	32	35	132	37	0.8	20	51	900	5	24
0 66	4	38	66	119	28	1.1	45	74	700	15	32
0 67	2	27	33	67	20	0.7	30	85	1100	5	18
0 68	2	24	58	144	32	1.7	15	111	720	5	50
0 69	2	16	28	66	23	1.2	115	36	520	10	22
0 70	1	31	46	122	25	0.9	60	89	675	5	40
0 71	1	32	38	91	27	1.1	110	66	585	10	15
0 72	1	26	51	124	26	1.0	35	64	620	5	22
0 73	2	38	100	161	28	0.9	5	113	760	5	42
0 74	1	47	178	330	33	2.3	25	320	910	10	45
0 75	4	65	785	555	50	9.6	40	405	1340	10	65
0 76	1	24	39	82	22	1.1	50	58	540	5	14
0 77	1	7	29	26	10	0.9	50	32	130	5	4
0 78	1	88	34	114	33	1.0	5	70	760	10	25
0 79	4	65	60	142	36	1.4	25	160	1100	5	30
0 80	2	16	71	104	20	0.9	60	80	585	15	32
0 81	1	37	36	135	46	1.3	65	79	1420	5	26
0 82	1	52	32	82	25	1.0	55	85	560	5	25
0 83	2	36	53	168	50	1.1	40	75	2280	10	35
0 84	1	18	27	67	25	1.1	35	66	800	5	30
0 85	2	30	43	153	38	1.0	70	153	2000	5	60
0 86	4	39	31	160	48	1.1	30	72	1480	60	45
0 87	1	41	46	167	45	1.1	70	106	1190	5	35
0 88	2	45	36	136	34	1.1	75	76	1250	5	55
0 89	2	92	250	580	70	3.5	50	1050	1420	210	50
0 90	4	65	720	337	37	12.3	50	980	820	150	70
0 91	2	65	134	220	39	2.7	30	226	900	20	45
0 92	2	46	62	121	40	0.9	35	255	800	20	35
0 93	1	49	41	131	52	1.3	35	90	800	5	27
0 94	4	56	30	121	51	0.9	40	155	620	10	52
0 95	2	34	17	60	34	0.7	55	55	620	5	24
0 96	4	171	180	128	45	2.9	20	490	495	440	85
0 97	1	70	44	172	58	2.1	45	355	810	130	15
0 98	2	50	76	230	38	1.6	30	189	800	15	28
0 99	2	80	41	139	56	1.6	35	700	780	75	60
0 100	1	43	40	146	43	1.2	75	158	1090	25	65

1981 SAMPLE RESULTS

Sample	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm	Hg ppb	As ppm	Mn ppm	Au ppb	Sb ppm	HM wt. of CHM gm	HM % of CHM	Orig. wt. of CHM gm
-10 Sieve	F	F	F	F	F	F	F	F	F	F	F			
7680 D	1	30	70	26	51	0.7	19.0		340	130	190	95	6.66	26.5
-20 Sieve														
9193 A	2	20	59	54	28	60	21	4.1	2.0	10	40	380	15	35
9194 A	1	22	69	69	22	55	18	2.1	2.1	10	56	410	10	25
9195 A	1	20	66	109	20	47	14	2.8	2.0	5	12	375	20	18
9196 A	1	26	88	79	21	49	13	2.4	2.7	30	47	360	5	20
9197 A	1	30	75	72	32	49	14	2.5	2.1	10	72	320	160	5
9198 A	1	20	75	69	32	47	14	2.2	2.1	10	68	325	130	15
9199 A	1	24	81	67	37	53	15	2.2	2.0	15	41	340	30	20
9900 A	1	26	53	61	36	52	14	2.6	1.9	10	54	320	2100	25

LEGEND

- 999 A SIEVED HEAVY MINERAL SAMPLE LOCATION and NUMBER
- 0 77 SILT or SOIL SAMPLE LOCATION and NUMBER
- X 7680 D ORIGINAL SIEVED HEAVY MINERAL SAMPLE LOCATION and NUMBER

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
19426
NO.

QUONAM EXPLORATION
CANADA

**KULTA PROJECT
CRINE CLAIMS
GEOCHEMISTRY**
Au, Ag, As, Cu, Hg, Mn, Mo, Ni, Pb, Sb, Zn, %HM
ATLIN LAKE AREA, BRITISH COLUMBIA

MAPPED BY: J.T.N.H.C. DATE: 01/08/06
DRAWN BY: C.M.K. DATE: 02/01/11

N.T.S. No. 104 M 10E
ACCT. No. 351-43
DRWG. No. KU 81-155