



DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE OLLIE PROPERTY

WHITEHORSE MINING DIVISION

(YUKON TERRITORY)

LAT. 60°18'N, LONG. 135°04'W

NTS: 105-D-6



OWNER OF CLAIMS: DU PONT OF CANADA EXPLORATION LIMITED

OPERATOR: DU PONT OF CANADA EXPLORATION LIMITED

Submitted by: D.M. Strain
J.T. Neelands
Date : 1982 May

091046



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 \$ 2,500.

A. Watson

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

OWNER OF CLAIMS - DU PONT OF CANADA EXPLORATION LIMITED
OPERATOR - DU PONT OF CANADA EXPLORATION LIMITED

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INTRODUCTION

During 1981 May, reconnaissance stream sediment sampling was carried out in the Carcross area of southern Yukon. The sampling was undertaken as part of a large regional programme known as Kulta Project. The areal extent of this project is shown on Dwgs. KU.81-1, 1a and 2.

As the result of a lead-zinc-silver anomaly in a sample from a creek draining into Schnabel Creek, the drainage area of this creek was staked as the OLLIE property.

LOCATION AND ACCESS

The OLLIE claim is located within the Whitehorse Mining Division, NTS 105-D-6 (Lat. 60°18'N, Long. 135°04'W). The property is located on Folle Mountain which is approximately 3 kilometres southeast of Annie Lake. The nearest population centre is Carcross, 24 kilometres to the southeast. Whitehorse lies 48 kilometres to the north. The claim is accessible by helicopter from Carcross. A road branching off of the Whitehorse-Carcross highway (20 kilometres to the northeast of Carcross) passes near the southern edge of the claim.

TOPOGRAPHY AND VEGETATION

The property covers a large portion of Folle Mountain. The broad summit of Folle Mtn. lies at an elevation of approximately 1850 metres. The southeast corner of the OLLIE claims lies at an elevation of 920 metres near the Wheaton River. The claims are drained by streams flowing south into the Wheaton River and streams flowing north into Schabel Creek which empties into Annie Lake. The property is almost entirely above tree line. Grasses and low shrubs are common.

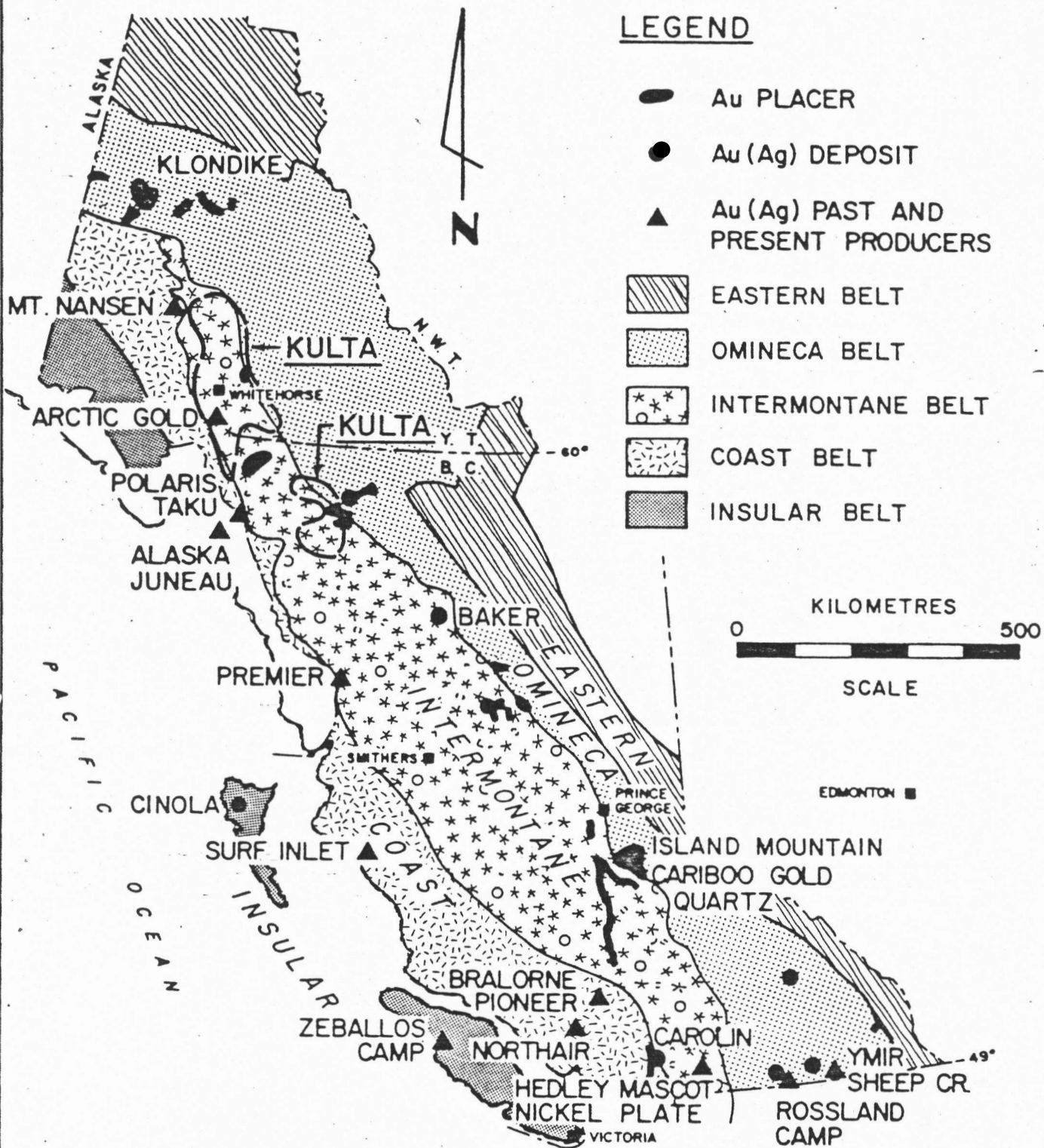
PROPERTY DEFINITION

The OLLIE property consists of 25 claim units as shown on Dwg. No. KU.81-254. The claims are in good standing until 1982 June 8.

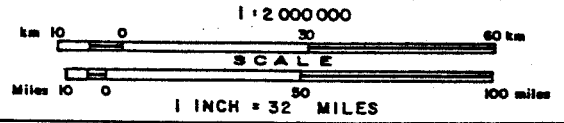
OLLIE: YA61020 to YA61044

PREVIOUS WORK

Although no evidence of previous work exists on the property, the surrounding area has received considerable attention in the past. Occurrences of Pb and Ag with minor Zn, Cu and Au are noted on GSC Map #1093A (Wheeler, 1961). These showings occur on the Donkey and Union Mines claims to the north and west of the property.

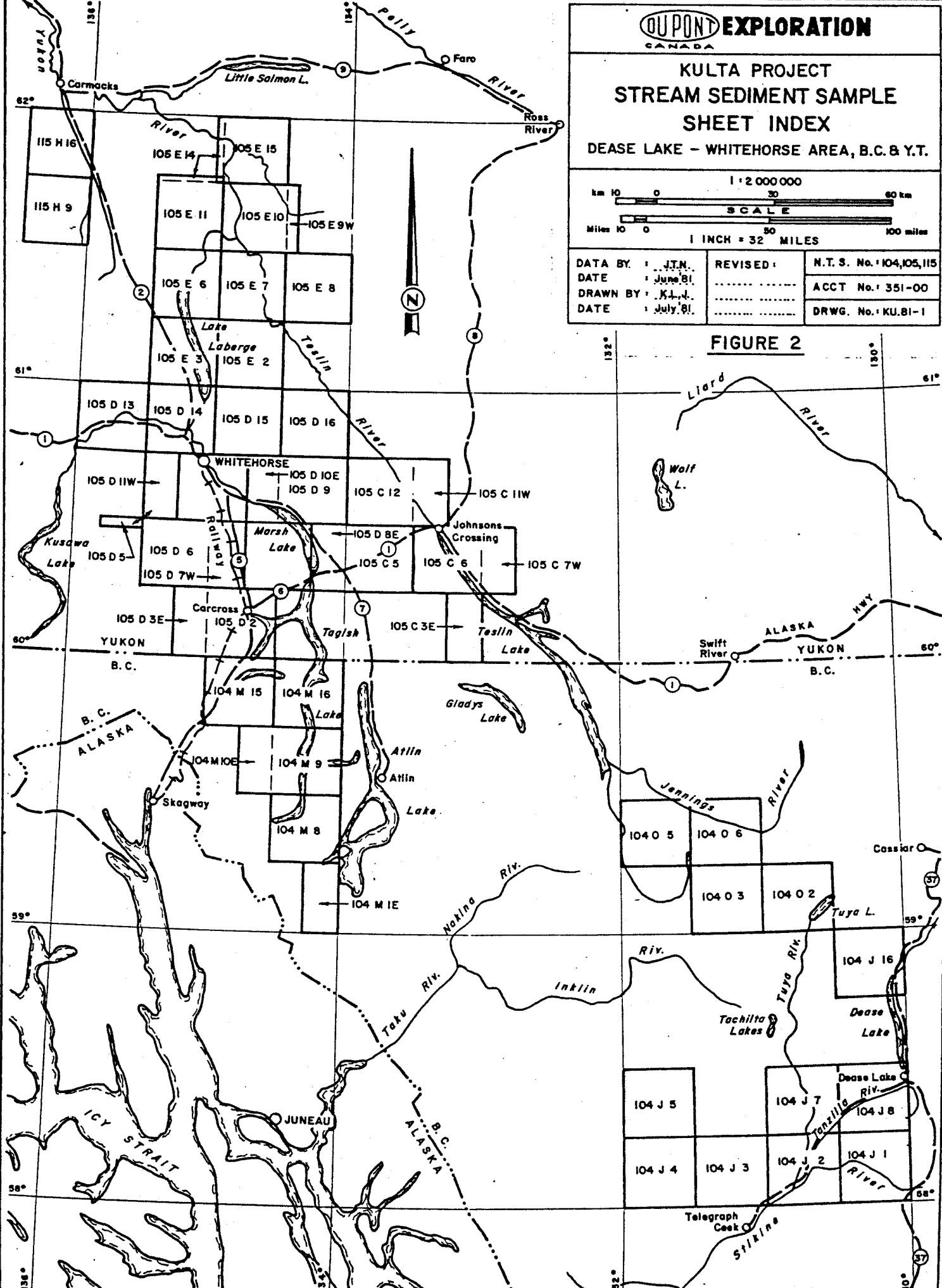


**KULTA PROJECT
STREAM SEDIMENT SAMPLE
SHEET INDEX
DEASE LAKE - WHITEHORSE AREA, B.C. & Y.T.**

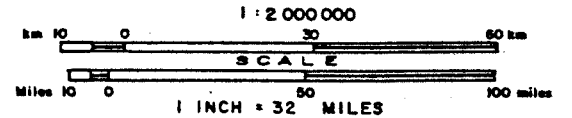


DATA BY: J.T.M.	REVISED:	N.T.S. No. 104,105,115
DATE: June 81		ACCT No. 351-00
DRAWN BY: K.L.J.		DRWG. No. KU.BI-1
DATE: July 81		

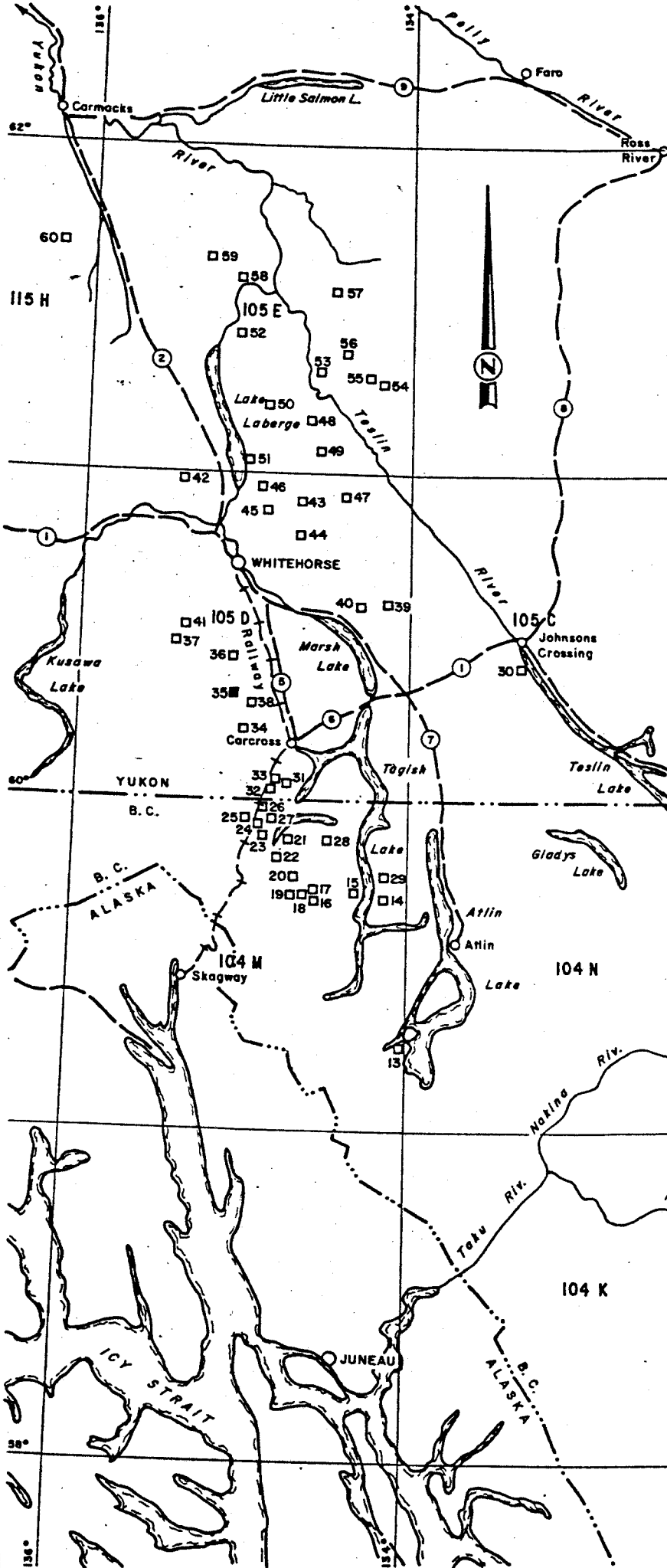
FIGURE 2



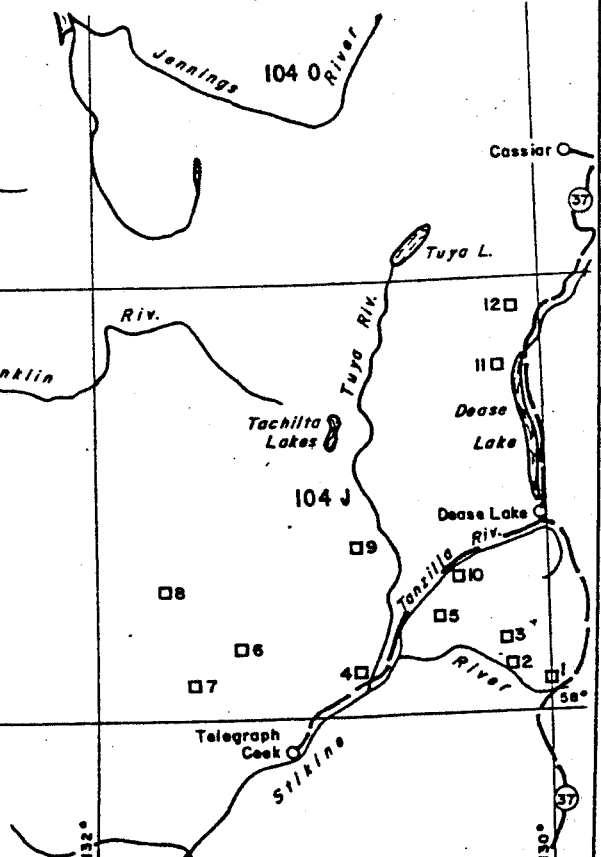
**KULTA PROJECT
CLAIM LOCATION MAP
DEASE LAKE - WHITEHORSE AREA, B.C. & Y.T.**

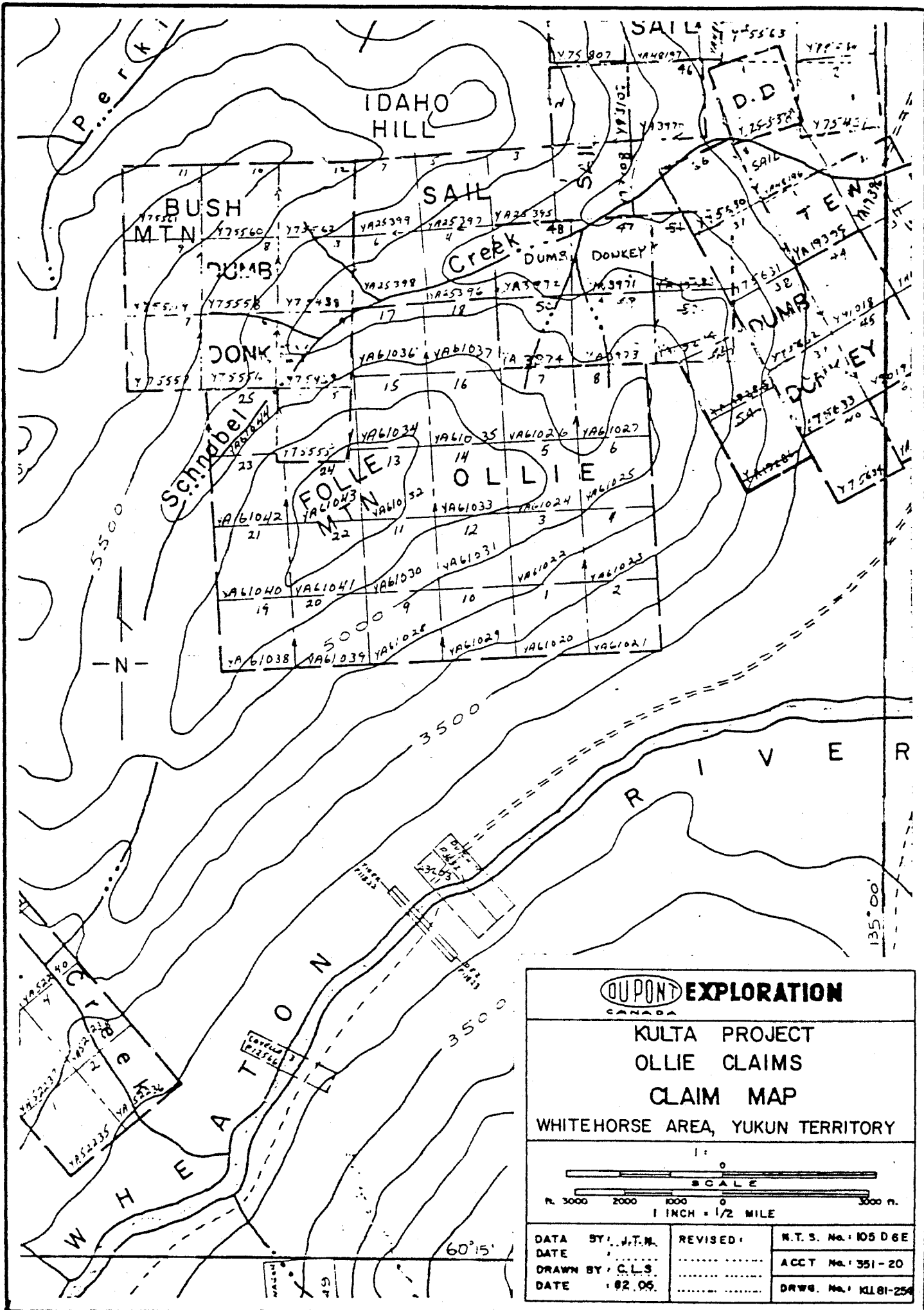


DATA BY :	REVISED : 811023	N.T.S. No. 104,105,115
DATE : .....	.....	ACCT No. 351-00
DRAWN BY : K.L.J.	.....	DRWG. No. KU.81-2
DATE : July '81	.....	.....



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	IGHIE	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	SELLY-SKELIO	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			





DU PONT EXPLORATION
CANADA

**KULTA PROJECT
OLLIE CLAIMS
CLAIM MAP**

WHITEHORSE AREA, YUKON TERRITORY

1:
SCALE
0 1000 2000 3000 n.
1 INCH = 1/2 MILE

DATA BY: J.T.M.	REVISED:	N.T.S. No.: 105 DGE
DATE	.....	ACCT No.: 351-20
DRAWN BY: C.L.S.	.....	DRWG. No.: KL81-254
DATE: 82.05	.....

PERSONNEL

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

1981 August 10: D. M. Strain (Senior Geological Assistant)
C. Colwell (Junior Geological Ass't)

1981 August 21: D. M. Strain, C. Colwell
H. Copland (Senior Geological Assistant)
P. Webb (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.81-2b (Kulta Project Regional Geology).

The rocks generally occur in northwest trending belts as part of a large regional synclinorium (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

TABLE I

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 Fm): 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.

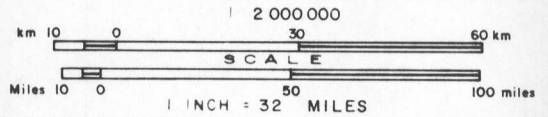
Mississippian - Triassic (MTC)

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

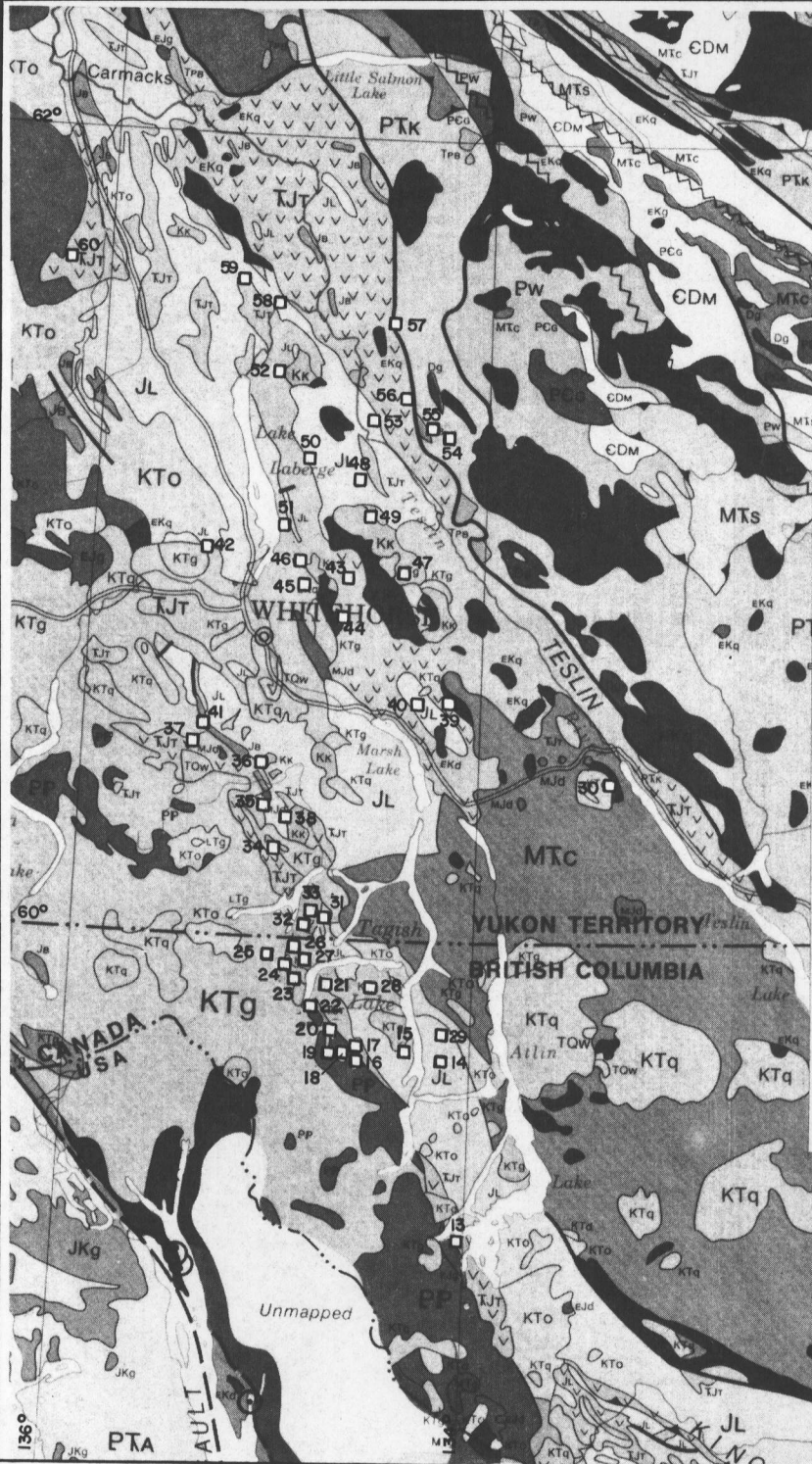
Proterozoic - Palaeozoic

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	N T S 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-	
4	FLOOD	104 J 2W		ODD	105 D 2,3
5	TAIL	104 J 1,2	35	OLLIE	105 D 6E
6	ALOON	104 J 3W	36	EVIEW	105 D 6E
7	HALT	104 J 4E	37	DAYIR	105 D 6W
8	EGLEN	104 J 5E	38	ILLIA	105 D 7W
9	YAT	104 J 7W	39	ICHIE	105 D 9E
10	ANTZ	104 J 8W	40	INTO	105 D 9W
11	LURE	104 J 16E	41	BEXI	105 D 11W
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20	SELY-SKEL	104 M 15E	50	AURIER	105 E 2W
21	TAKE	104 M 15E,W	51	AKEL	105 E 3E
22	TUTS	104 M 15W	52	OVOAS	105 E 6E
23	SHUI	104 M 15W	53	ENOF	105 E 7E
24	GAUG	104 M 15W	54	MAYBE	105 E 8E
25	ANGE-BE	104 M 15W	55	MARBEE	105 E 8E,W
26	PENG	104 M 15W	56	GERM	105 E 8W
27	TSHIK	104 M 15W	57	SBS	105 E 10E
28	ANNIG	104 M 16W	58	HOOT	105 E 11E
29	UNDAS	104 M 16E	59	RANKL	105 E 11W
30	SAYEH	105 C 6W	60	KIRK	115 H 9E
31	ATHES	105 D 2E,W			

LEGEND

UPPER CRETACEOUS - OLIGOCENE

KTq Carmacks, Mt Nansen, Endako: Intermediate to acidic volcanic flows, tuff: non marine.

LOWER AND MIDDLE JURASSIC

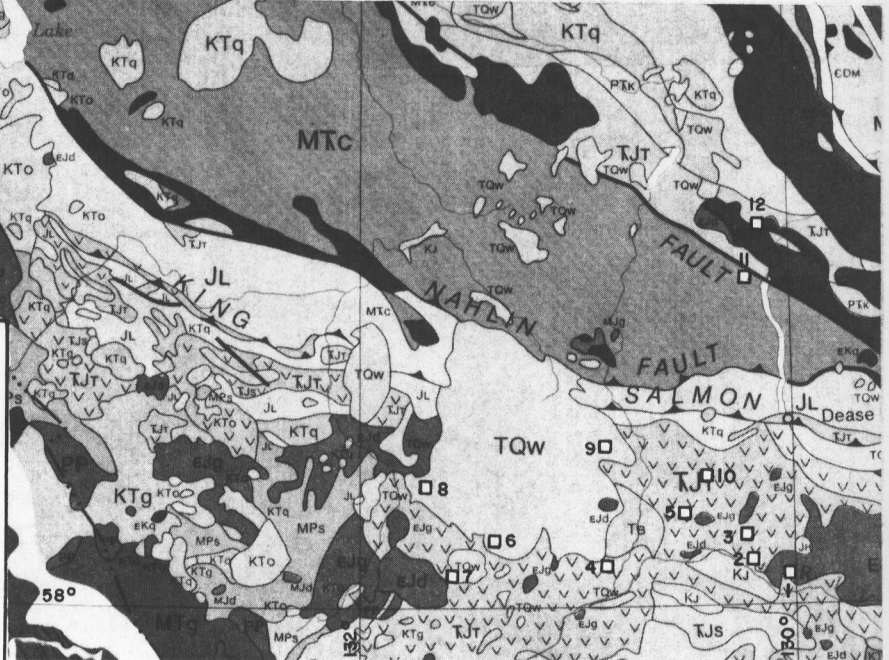
Tjt Nicola and Lewes: Volcanic and sedimentary rocks.

LATE CRETACEOUS AND EARLY TERTIARY

KTq, KTg Granitic rocks

LATE PALEOZOIC - TRIASSIC

Alpine-type ultramafics



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 property is underlain by quartzite, conglomerate, greywacke and hornfels with a fault bounded wedge of basalt and volcaniclastics through the centre of the claims. The sediments in places are cut by porphyritic andesite dykes. The sedimentary rocks belong to the Lower Jurassic Laberge Group. Granitic intrusions to the south and west of the claim group are responsible for the hornfelsic development within the sediments. The age of the volcanic rocks is uncertain. The andesite dykes may be related to the wedge of volcanic rocks.

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

a. Quartzite-Hornfels - Map Unit 5d,f

These units are generally hard and siliceous. They vary in colour from grey to dark brown and black, with minor gossanous patches. The quartzite is medium to coarse-grained with sub-conchoidal fracture.

b. Greywacke - Map Unit 5a

This unit is light grey to brown, weathering to a light-brown with some gossanous areas. The rock contains clastic plagioclase crystals which could be of volcanic origin. Minor blebs of pyrite and small quartz veins are locally present in the greywacke.

c. Conglomerate - Map Unit 5e

The conglomerate contains well-rounded elongate clasts of quartz up to 1.5 cm in size, in a quartz-rich matrix. The rock appears brecciated in places.

d. Porphyritic Andesite - Map Unit 4b

The andesite occurs in the form of small dykes throughout the sedimentary rocks. The rock is pale green and very fine-grained near the contacts. Subhedral to anhedral plagioclase phenocrysts average 3 to 5 mm in size and comprise 20% of the rock.

e. Volcanic Conglomerate - Map Unit 4d

This unit consists of subrounded clasts of hornblende prophyritic volcanic rocks 10 to 40 centimetres in size. The unit is locally brecciated.

Structure

The volcanic rocks are bounded by two northerly trending faults. Bedding in the Laberge Group sediments also trends north with moderate to steep dips to the east.

Mineralization

No significant mineralization was observed on the property. Minor quartz veins, which appear barren, cut the greywackes in certain locations. Minor disseminated pyrite is present in the sedimentary rocks, notably the greywacke.

GEOCHEMISTRY

Procedure

A total of 169 soil, 4 rock and 9 stream sediment samples were collected during 1981. Soil sampling was carried out at 100 metre intervals. The 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.

Stream sediment samples were collected at 200 metre intervals with the use of an aluminum scoop. They were sieved to -14 to -10 mesh in the field and placed in a plastic bag with a sample tag. The sample site was marked with flagging tape bearing the sample number.

Rock samples were collected at random throughout the claim group and placed in plastic bags along with a sample tag. The sample site was also marked with a length of flagging tape.

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 and Sb. In addition, the stream sediment sample was sieved to -20 mesh and a heavy mineral separation and analysis performed.

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 - Kulta Regional Stream Sediment Sampling Programme in the Dease Lake and Tagish Lake Areas". Table II reproduced from that report reveals median background values obtained for the elements studied. Table III shows the results of a report titled "Kulta Follow-Up" (Neelands 1982). The two studies show a good correlation between the stream sediment (heavy mineral) samples. The anomalous values given in Table III will be applied to the results of this property.

The results of geochemical sampling on OLLIE are tabled on Dwg. No. KU.81-189. These results have also been tabulated as to frequency distribution of elements in soils (Table IV).

The original stream sediment sample (61980) ran 5.3 ppm Ag in the coarse heavy mineral fraction. A sample to confirm this value could not be obtained at the time of the follow-up work. Soil sampling revealed several areas where Pb-Zn-Ag values were anomalous. In the northern-most projection of the property, near Schnabel Creek, silver in the soils reached 3.0 ppm (Sample P58). In the same area, several other samples reported anomalous Pb-Zn-Ag, and in some cases Cu.

In the southeastern region of the property numerous values as high as 1500 ppm Pb, 326 ppm Zn and 3.8 ppm Ag (sample no. OL75) are reported. On one of the tributaries of the anomalous creek soils on both sides of the creek ran to 4.7 ppm Ag and 2500 ppm Zn (sample no. C348).

Rock geochemistry failed to turn up any outstanding values. A summary of the rock types and any anomalous values is given in Table V. Complete geochemical analysis is tabled on Dwg. No. KU.81-188.

CONCLUSIONS AND RECOMMENDATIONS

Follow-up work on the property has located several areas of high lead, zinc and silver values in soils. The source of these high values has yet to be found in outcrop. The presence of numerous argentiferous quartz veins surrounding the property, combined with the soil anomalies is justification for more work to be done on the property. It is recommended that further soil sampling and geological mapping be continued.

TABLE IIKulita Regional Stream Sediment Sampling ProgrammeBackground and Anomalous Values

<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 IIIKulta Follow-UpBackground 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
HM%						

Table IR
Soil OLLIE
Frequency Distribution of Elements

Class Interval ppm/ppb	Mo F	Cu		Pb F	Zn F	Ag			Hg F	As F	Mn F	Au			Sb F	H.M.
		F	FHM			CHM	F	FHM				CHM	F	FHM			CHM
0.1																
0.2																
0.3							1									
0.4							4									
0.5							8									
0.6							6									
0.7							6									
0.8							12									
0.9							27									
1.0	72						26									
1.1							21				19					
1.2							17									
1.3							9									
1.4							18									
1.5							9									
1.6-1.7							3									
1.8-1.9							2									
1.9-2.0	31						3									
2.1-2.3							2				6					
2.4-2.6							1									
2.7-2.9							1									
3.0-3.9	6						2									
4.0-4.9	3						1									
5.0-5.9																
6.0-10	5								10			148				5
11-15	17								9			11				3
16-20	15					2			9			11				38
21-25	19					6			21			20				25
26-30	23					13	1		10			19				28
31-35	15					12			17			10				17
36-40	14					17	2		11			12				17
41-45	15					21	1		22			7				13
46-50	10					20	4		9			8				6
51-60	17					17			16			3				5
61-70	11					20	5		15			15				10
71-80	5					18	10		14			3				3
81-90	8					11	20		11			3				1
91-100	2					11	22		3			2				1
101-120	6					4	13									1
121-140	1					6	40		3			8				1
141-160	5					1	26		3			7				
161-180	1					1	19		1							
181-200	1					1	5					3				
201-250	1					1	1		1							
251-300						1	9									
301-350						1	3					2				
351-400												2				
401-450												2				
451-500												2				
501-600												5				
601-700												2				
701-800												4				
801-900												5				
901-1000												3				
1001-2000												14				
2001-3000												8				
3001-4000												5				
4001-5000												17				
>5000												8				
												33				
												2				

TABLE V

Description of Rock Samples

<u>Sample #</u>	<u>Rock Type</u>	<u>Anomalous Values</u>
8391D	Quartz veins in grey wacke	Ag: 1.1 ppm
8392D	Quartz pebble conglomerate	None
8393D	Quartz veins in conglomerate	None
8394D	Calcite vein in quartzite	Ag: 1.8 ppm, Sb: 200 ppm

COST STATEMENTWages

	<u>Cost</u>
2 Sr. Geol. Assistant, 3 manday(s) (1981 Aug. 10,11)	\$ 205.41
3 Jr. Geol. Assistants, 3 manday(s) (1981 Aug.10,11)	<u>152.46</u>

\$ 357.87

Room & Board

<u>Location</u>	<u>Daily Rate</u>	<u>Date</u>	<u>No. of Days</u>	
Carcross	\$25.00	1981 Aug. 10,11	6	\$ 150.00

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. 10,11	No. of hrs: 2.4
	<u>1,038.00</u>
	\$1,109.70

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	GHM	Mo	Cu	Pb	Zn	Ni	Ag	Hg	As			Mn	Au	Sb
Soil	16	X		X	X	X	X	X	X	X	X	X	X	X	X	23.65	\$ 378.40
	97	X		X	X	X	X	X	X		X	X	X	X	19.15	1,857.55	
	96	X									X				4.50	432.00	
Rock	4	X		X	X	X	X	X	X	X	X		X	X	22.75	91.00	
Preparation - Rock				4 @ \$2.25 sample												9.00	
- Soil/Silt				113 @ \$0.85/sample												96.05	

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)

\$2,864.00

Report PreparationCost

Drafting: 1 day @ \$100/day	\$ 100.00
Typing: 1 day @ \$95.00	95.00
Map preparation 8 maps (9 sq ft) at 16¢/square foot	<u>11.52</u>
	\$ 206.52
<u>GRAND TOTAL:</u>	<u>\$4,688.09</u>

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", B.C. Assessment Report, 1982.
- Neelands, J. T.; "Kulta Follow-Up (104-J, 104-M)" Geological and Geochemical Report, B.C. Assessment Report, 1982.
- Wheeler, J. O.; "Whitehorse Map-Area, Yukon Territory (105-O)", G.S.C. Memoir 312, 1961.

QUALIFICATIONS

I, David M. Strain, do hereby certify that:

1. I am a geologist residing at #7 - 2341 West Broadway, Vancouver, British Columbia, and employed on a part time basis by Du Pont of Canada Exploration Limited.
2. I am a graduate of Cambrian College of Applied Arts and Technology (Sudbury, Ontario) with a Diploma in Geological Engineering Technology.
3. I am presently enrolled in the Geological Sciences programme at the University of British Columbia endeavoring to obtain a B.Sc. degree in geology.
4. I have practised my profession in geology for the past four years in Ontario and British Columbia.
5. On 1982 August 10 and 11, I executed geological and geochemical surveys on the OLLIE claim on behalf of Du Pont of Canada Exploration Limited.



David M. Strain
1982 May

QUALIFICATIONS

I, John Thomas 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 am a member of the Geological Association of Canada and of the Association of Exploration Geochemists.
4. I have been practising my profession for the past ten years and have been active in the mining industry for the past sixteen years.
5. Between 1981 May and 1981 October, I supervised and participated in the field programme described in this report 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 10 ppm F.

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.

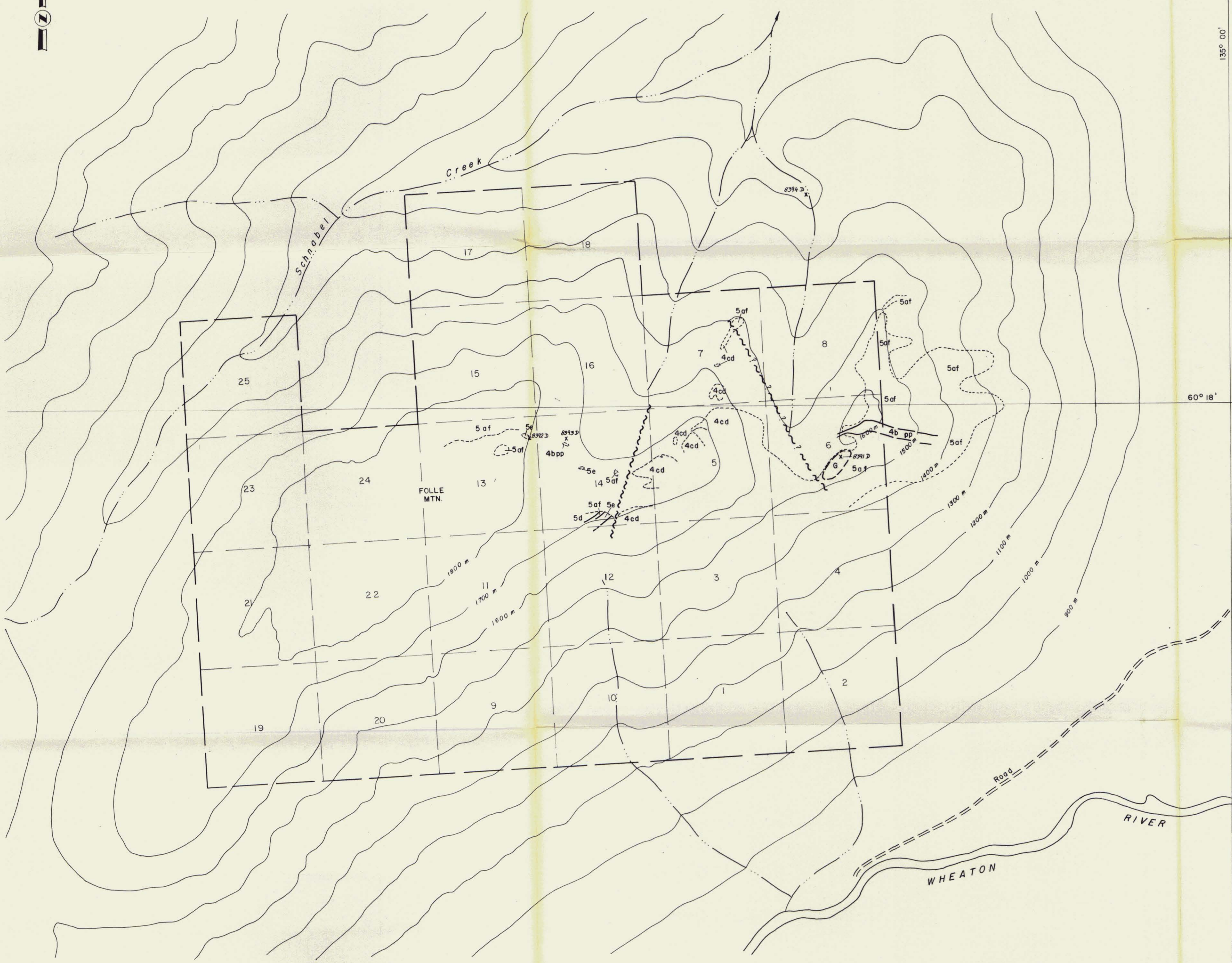
A suitable sample weight 5.0 or 10.0 grams are pre-treated with HNO_3 and HClO_4 mixture.

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.



135° 00'

60° 18'

LEGEND

TERTIARY

- MIOCENE**
CARMACKS GROUP
 12 Grey weathering massive hornblende andesite porphyry
- Eocene**
MT. NANSEN GROUP
 11 a) Andesite b) Basalt
 10 a) Quartz monzonite 10b) Granodiorite

CRETACEOUS

- COAST INTRUSIONS**
 9 a) Quartz monzonite 9b) Granodiorite
 9c) Felsic dyke 9d) Mafic dyke
- HUTSHI GROUP**
 8 a) Rhyolite 8b) Dacite 8c) Andesite
 8d) Basalt 8e) Tuff 8f) Volcanic conglomerate
- 7 a) Peridotite 7b) Serpentinite

UPPER JURASSIC and/or LOWER CRETACEOUS

- TANTALUS FORMATION**
 6 a) Shale 6b) Schist 6c) Quartz sericite schist

UPPER TRIASSIC and LOWER JURASSIC

- LABERGE GROUP**
 5 a) Siltstone 5b) Limestone 5c) Shale
 5d) Quartzite 5e) Conglomerate 5f) Hornfels
- 4 a) Dacite 4b) Andesite 4c) Basalt
 4d) Volcaniclastics (conglomerate, breccia) 4e) Tuff

- LEWES RIVER GROUP**
 3 a) Limestone 3b) Argillite 3c) Siltstone
 3d) Arkose 3e) Greywacke 3f) Quartzite
- 2 a) Rhyolite 2b) Dacite 2c) Andesite
 2d) Basalt 2e) Volcanic breccia, conglomerate
- CARBONIFEROUS and/or PERMIAN**
ANVIL ALLOCHTHONOUS ASSEMBLAGE
 1 a) Gneiss 1b) Schist 1c) Quartzite
 1d) Phyllite 1e) Breccia

SYMBOLS

- OUTCROP
 --- CONTACT
 x 8392 D ROCK SAMPLE LOCATION and NUMBER
 --- CLAIM LINE

-80 Mesh F

ROCK GEOCHEMICAL RESULTS

Sample	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm	Hg ppb	As ppm	Au ppb	Sb ppm
8391 D	2	33	26	106	44	1.1	5	14	20	45
8392 D	1	33	5	70	110	1.0	10	<1	5	35
8393 D	1	5	2	5	2	0.2	25	31	15	10
8394 D	3	9	46	54	18	1.8	15	1	5	200

J.H.K.

DU PONT EXPLORATION
 CANADA

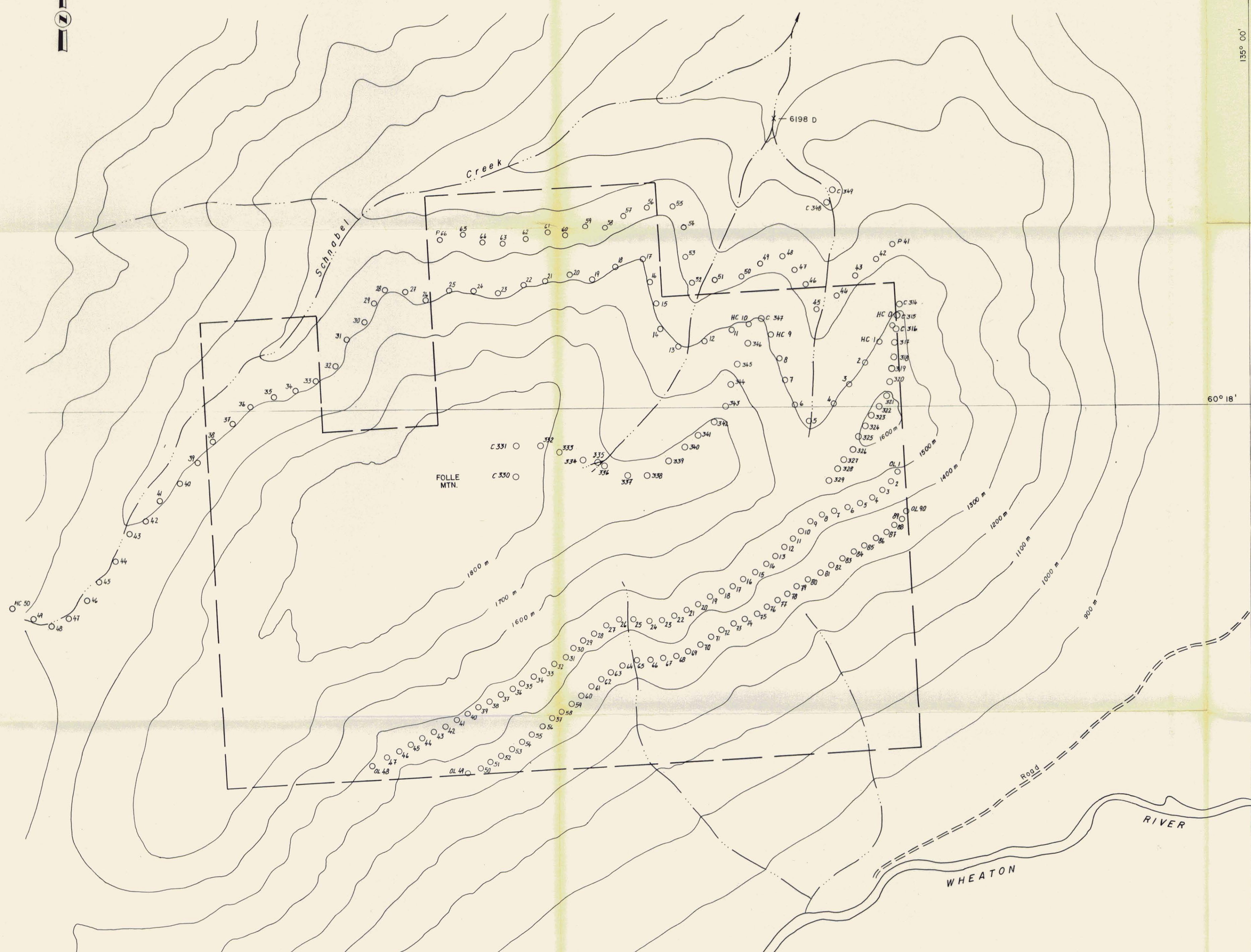
**KULTA PROJECT
 OLLIE CLAIMS
 GEOLOGY 091046**

WHITEHORSE AREA, YUKON TERRITORY

SCALE
 1" = 10 000'
 1" = 633 FEET

MAPPED BY: J.T.N., D.M.S.	REVISED:	N.T.S. No.: 105 D 6 E
DATE: 81 08 11		ACCT No.: 551-20
DRAWN BY: C.H.K.		DRWG. No.: KU 81-188
DATE: 82 04 30		

Sample	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm	Hg ppm	As ppm	Mn ppm	Au ppm	Sb ppm
Soil C 314	4	29	39	103	28	1.2	35	13	655	5	12
C 315	2	46	80	171	28	1.0	60	39	1520	5	10
C 316	2	28	43	114	26	1.0	50	24	620	5	6
C 317	1	32	51	115	22	0.9	30	39	560	5	8
C 318	1	19	36	77	12	0.8	25	<1	330	10	4
C 319	2	18	38	81	13	0.8	45	6	540	5	15
C 320	1	19	43	135	15	0.8	40	43	450	5	10
C 321	2	21	30	87	18	0.7	20	9	360	5	18
C 322	1	28	40	94	18	1.0	25	11	520	5	6
C 323	2	38	72	149	28	1.3	45	26	830	5	15
C 324	2	29	33	110	17	0.8	55	<1	560	10	10
C 325	4	21	28	72	18	0.9	10	1	680	5	10
C 326	1	32	39	101	31	1.1	25	35	840	5	20
C 327	1	181	22	88	16	1.0	45	11	600	5	8
C 328	2	37	24	74	13	1.1	30	59	480	10	6
C 329	1	20	18	72	16	0.8	35	13	440	5	20
C 330	2	36	34	56	20	0.4	40	<1	565	5	12
C 331	1	21	14	42	14	0.2	65	<1	325	5	5
C 332	1	32	29	64	30	0.3	15	6	820	5	10
C 333	1	20	12	33	16	0.3	20	14	440	5	10
C 334	1	17	21	60	18	0.4	45	21	800	5	10
Silt C 335	1	42	33	87		0.8	50	20	1140	5	16
Soil C 336	3	44	30	90	36	0.7	50	53	1080	5	14
C 337	1	10	14	48	22	0.3	35	2	400	10	13
C 338	1	39	20	69	54	0.4	35	62	545	5	22
C 339	2	67	22	67	58	0.4	40	55	820	5	24
C 340	1	27	26	56	34	0.3	30	12	480	10	18
C 341	1	118	35	25	79	0.7	25	102	1300	10	26
C 342	2	111	41	79	32	0.8	35	103	1080	5	10
C 343	2	60	31	84	14	0.6	55	39	1420	10	45
C 344	1	6	29	58	11	0.3	30	31	380	15	12
C 345	2	7	13	36	6	0.5	45	<1	720	5	4
C 346	1	14	23	47	16	0.6	40	14	300	5	8
C 347	1	10	13	45	10	0.4	10	22	280	10	26
C 348	1	152	1160	2500	39	4.7	50	376	1300	5	82
C 349	1	205	865	2150	42	2.7	45	411	1400	5	78
HC 0	4	86	53	213	36	0.8	70	46	1080	5	52
HC 1	2	20	44	118	16	0.5	60	36	470	10	10
HC 2	1	15	35	86	14	0.5	55	78	560	5	20
HC 3	1	16	30	74	14	0.5	80	17	295	5	15
HC 4	3	22	40	142	23	0.6	75	131	740	5	30
HC 5	1	31	44	141	24	0.5	25	103	800	5	24
HC 6	1	16	32	79	20	0.4	60	48	540	5	8
HC 7	1	25	38	125	24	0.5	25	52	700	10	18
HC 8	1	15	23	74	17	0.4	55	131	580	5	4
HC 9	1	11	27	50	12	0.4	70	24	360	15	6
HC 10	1	26	35	148	24	0.7	50	132	880	5	10
HC 11	1	88	52	93	34	1.1	60	411	1260	20	38
HC 12	1	60	40	88	37	0.9	25	202	780	5	20
HC 13	1	43	27	81	53	1.0	35	71	540	5	14
HC 14	1	92	36	67	49	0.7	5	71	580	5	8
HC 15	2	55	43	98	50	0.7	35	76	850	5	15
HC 16	1	77	33	130	62	0.9	70	32	800	5	18
HC 17	2	21	31	98	48	0.7	5	28	780	10	12
HC 18	1	105	49	131	112	1.4	30	165	1440	5	34
HC 19	1	148	109	240	320	2.6	30	447	2620	25	36
HC 20	2	36	36	106	63	1.0	25	146	990	10	24
HC 21	2	34	50	115	56	1.1	80	52	1620	5	38
HC 22	2	69	111	135	98	0.9	65	101	1400	5	40
HC 23	2	40	73	142	36	1.4	35	170	1430	5	30
HC 24	1	71	74	230	177	1.3	15	216	405	5	28
HC 25	1	80	96	140	84	1.4	30	101	810	5	40
HC 26	2	163	123	136	40	1.8	20	45	340	5	34
HC 27	1	46	65	110	24	1.3	20	42	300	5	38
HC 28	1	85	73	114	24	1.3	65	14	1340	<5	28
HC 29	2	112	96	122	35	1.4	60	16	1400	5	20
HC 30	3	81	30	73	9	1.5	15	21	1220	5	10
HC 31	1	69	50	105	20	1.5	5	59	520	10	50
HC 32	2	67	70	116	28	1.3	35	22	640	10	55
HC 33	1	47	38	65	16	1.1	75	12	315	5	45
HC 34	1	50	60	106	27	1.3	10	55	810	5	32
HC 35	1	59	68	122	26	1.8	60	47	860	5	45
HC 36	1	46	88	120	22	1.3	75	133	570	5	43
HC 37	1	107	50	83	22	1.1	80	34	740	5	28
HC 38	2	48	37	91	23	1.0	40	14	630	5	15
HC 39	3	75	90	163	25	1.9	65	36	385	15	35
HC 40	2	35	55	112	20	1.2	20	2	940	5	22
HC 41	1	46	95	138	33	1.7	50	36	1260	5	24
HC 42	2	29	53	99	16	0.9	80	18	860	5	16
HC 43	2	40	83	168	28	1.2	30	26	590	5	18
HC 44	1	24	60	143	23	1.0	40	28	960	10	18
HC 45	1	21	70	144	21	1.0	35	22	900	5	12
HC 46	1	15	40	102	15	0.9	30	10	860	10	20
HC 47	2	16	55	101	12	0.8	15	<1	1320	5	16
HC 48	1	24	60	254	16	0.9	25	<1	2680	5	30
HC 49	1	16	35	106	16	0.9	40	23	1030	5	15
P 41	1	18	81	127	15	0.9	85	56	1340	10	18
P 42	1	30	80	230	30	1.1	75	51	1190	5	31
P 43	1	16	44	82	12	1.0	75	<1	600	5	20
P 44	1	58	74	227	49	2.2	60	54	990	<5	65
P 45	1	33	66	184	33	1.1	10	59	800	5	38
P 46	1	18	46	135	12	0.9	40	113	780	5	16
P 47	1	48	70	178	44	1.9	35	106	960	5	22
P 48	2	47	280	373	32	2.9	80	329	1210	5	38
P 49	1	38	65	141	31	1.3	30	49	920	5	55
P 50	1	54	65	123	40	1.3	55	47	1300	10	50
P 51	1	63	87	156	55	1.4	50	59	1400	5	35
P 52	1	39	30	115	32	0.9	45	9	1420	5	30
P 53	1	41	60	144	37	0.9	20	68	850	5	55
P 54	2	37	57	118	54	1.0	45	36	1030	80	45
P 55	1	39	39	87	41	0.9	50	<1	700	10	22
P 56	1	29	35	102	30	1.3	nes	2	720	10	30
P 57	1	50	82	96	66	1.2	40	59	1700	5	60
P 58	2	68	174	224	78	3.0	80	200	1510	5	65
P 59	1	45	81	140	64	1.2	50	202	840	5	55
P 60	2	28	63	93	40	0.9	35	700	1150	5	40
P 61	1	38	80	101	62	1.3	25	353	1100	5	50
P 62	3	81	63	107	146	1.2	50	247	1020	10	35
P 63	2	63	103	156	76	0.9	55	140	910	5	40
P 64	1	54	84	106	42	1.3	50	33	1100	5	32
P 65	1	43	91	101	44	1.0	45	134	1390	5	50
P 66	1	59	78	103	34	0.8	35	57	770	10	32



Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Hg ppb	As ppm	Au ppb	Sb ppm	
Soil OL 1	41*	52*	105*	1.1*	nes	20*	10*	14*	
OL 2	35	42	94	1.3	140	16	5	15	
OL 3	40	51	107	1.1	20	26	5	35	
OL 4	42	41	144	1.2	110	32	5	22	
OL 5	32	73	134	1.3	50	88	5	34	
OL 6	32	45	139	1.9	20	330	5	24	
OL 7	21	34	81	1.1	110	38	5	18	
OL 8	22	38	76	0.9	10	37	5	20	
OL 9	20	35	58	0.8	20	28	5	14	
OL 10	23	41	110	1.0	30	25	5	16	
OL 11	28	57	105	1.1	30	25	5	12	
OL 12	33	104	95	1.0	20	17	5	10	
OL 13	41	55	115	1.1	50	16	5	32	
OL 14	52	67	158	1.4	20	86	30	30	
OL 15	46	53	140	1.1	5	32	<5	38	
OL 16	20	26	80	0.7	5	48	5	8	
OL 17	71	48	89	1.5	20	32	<5	40	
OL 18	24	54	33	74	1.4	60	41	5	36
OL 19	75	47	98	1.6	50	52	5	32	
OL 20	55	28	66	1.3	70	15	5	16	
OL 21	106	28	80	1.3	40	20	50	50	
OL 22	51	38	79	1.4	20	33	5	32	
OL 23	21	29	83	0.8	40	20	5	18	