I.M. WATSON & ASSOCIATES LTD.

LOG NO: 1123 RD.
ACTION:
FILE NO: 87-787-16377

GEOCHEMICAL RECONNAISSANCE SURVEY

OF

CHUCK 1 MINERAL CLAIM

CHUCK CREEK, VAVENBY AREA, B.C.

KAMLOOPS MINING DISTRICT

NTS Ref. 82M/12E

Latitude 51°32'40"

Longitude 119°37'

SUB-RECORDER
RECEIVED
NOV 18 1987
M.R. # ..... $.....
VANCOUVER, B.C.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,377

FILMED

I.M. Watson, P.Eng.
Vancouver, British Columbia

November 1987

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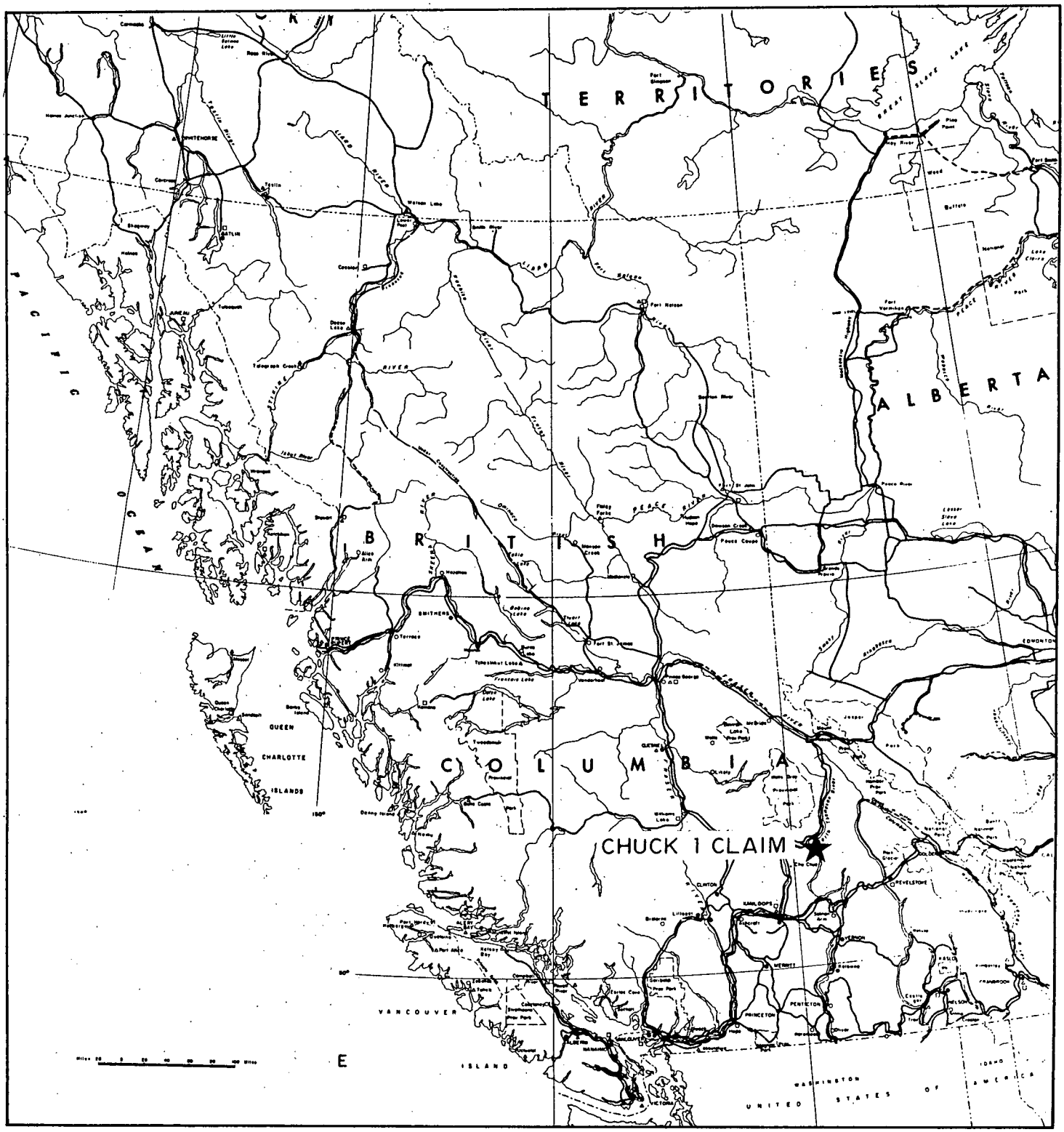


FIG. 1

CHUCK 1 CLAIM

INDEX MAP

INTRODUCTION

Interest in the Chuck Creek area arises from gold contents up to 58,000 ppb detected in panned concentrates from the upper tributaries of Chuck Creek near Vavenby in south-central B.C. The samples were taken by I. M. Watson & Associates Ltd. in 1981, who were then engaged upon a regional reconnaissance sampling programme for tungsten. At that time, no analyses were made for gold, but the subsequent rise in the price of gold prompted a re-evaluation of the 1981 programme results and all available sample pulps were re-analysed for gold.

Follow-up sampling of Chuck Creek in July 1986 confirmed the presence of gold in the sediments of the lower stretches of the eastern tributary of the creek, and following the staking of the 20 unit CHUCK 1 claim, a preliminary soil sampling survey was carried out as part of the programme to detect the source of the gold in the stream sediments.

This report summarises the results of the soil sampling programme carried out by I. M. Watson & Associates Ltd. during the period July 26th to August 2nd, 1986. The work was funded by Granges Exploration Ltd.

LOCATION, ACCESS AND PHYSIOGRAPHY

The 20 unit CHUCK 1 claim straddles the lower reaches of the eastern tributary of Chuck Creek (Fig. 2), on the northern slopes of Vavenby Mountains. The claim is nine kilometres southeast of the village of Vavenby, in the Kamloops Mining Division, south-central B.C. The centre of the property is at 51°32'40"N, 119°37'W. The NTS reference is 82M/12E

Access to the claim is by logging road from Highway 5 at Vavenby. Branches of the road switchback gently up both sides of the eastern tributary of Chuck Creek, providing access to most parts of the property. Numerous skid roads and trails enable all areas to be reached easily. Elevations range from 1,100 m. on Chuck Creek in the northwestern corner of the claim to 1,645 metres at the southern boundary. Slopes are generally uniform and moderate steepening slightly along the lower stretches of the Chuck Creek eastern tributary.

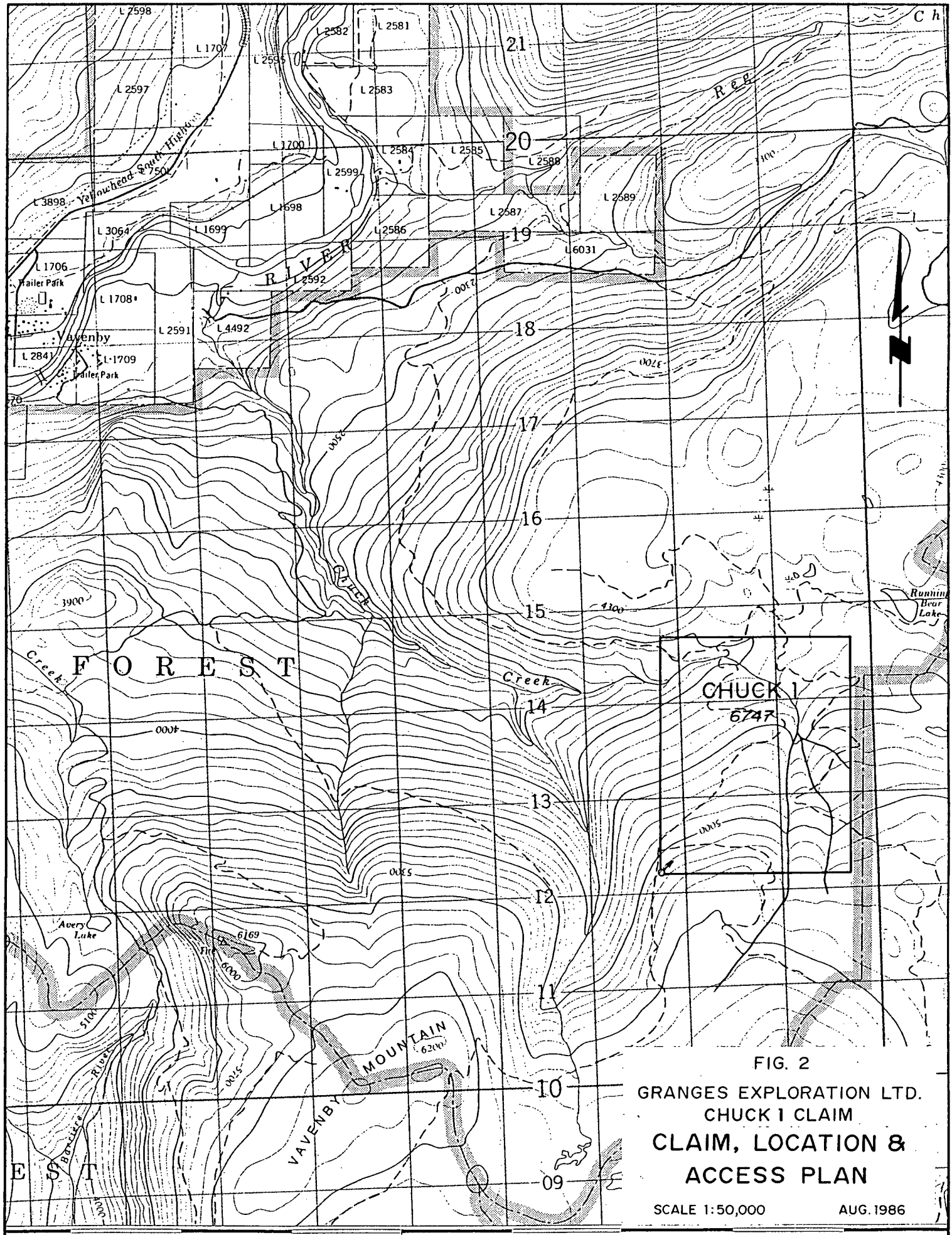


FIG. 2

GRANGES EXPLORATION LTD.

CHUCK 1 CLAIM

CLAIM, LOCATION & ACCESS PLAN

SCALE 1:50,000 AUG. 1986

I.M. WATSON & ASSOCIATES LTD.

Most of the property has been logged within the last 5 - 10 years; vegetation is consequently open and consists mainly of new growth.

CLAIM DATA

The CHUCK 1 20 unit claim was staked on 25 July 1986 by I. M. Watson.

Claim Name	Units	Record No.	Recording Date
CHUCK 1	20	6747	21 August 1986

PREVIOUS WORK

B. C. Mines Department assessment work records contain no information regarding previous work on the CHUCK 1 claim. Kangeld Resources Ltd. own the After You claim on the western tributary of Chuck Creek, three kilometres west of the CHUCK 1 claim. Kangeld staked this area in 1980 following the discovery of anomalous concentrations of gold in heavy mineral samples. Between 1981 and 1984, Kangeld carried out geological mapping, soil sampling, follow-up stream and rock sampling and a VLF-EM survey. In 1984, a strong VLF-EM anomaly was tested by a 175-metre diamond drill hole, which intersected altered volcanics and sediments along a shear zone containing weak gold mineralisation.

The Vavenby-Clearwater area contains numerous and varied mineral occurrences and deposits which have been explored in the past. Some of the more important are the Rexspar uranium-fluorite deposit, 17 kilometres west of the CHUCK 1 claim; the Harper Creek copper deposit; and the similar VM showing south of Avery Creek (Fig. 3).

During 1981, I. M. Watson & Associates Ltd. carried out an extensive heavy mineral (panned concentrate) sampling programme for tungsten throughout the Shuswap terrane. The Chuck Creek drainage was sampled at that time, but none of the samples was analysed for precious metals. In 1986, the renewed interest in gold led to an evaluation of the 1981 results and it was decided to analyse the 1981 sample pulps for

gold, silver, and arsenic. Results showed that the Chuck 1 Creek drainage contained anomalous amounts of gold, with values up to 58,000 ppb Au occurring in samples from the eastern tributary of Chuck Creek. Follow-up stream sampling in mid-July 1986 confirmed the anomalous gold content of this creek's sediments; six samples from the lower 1.5 kms. of the tributary contained gold ranging from 47 - 2,500 ppb. The CHUCK 1 claim was staked on 25 July to protect the anomaly area, and between 26 July and 2 August, a reconnaissance soil sampling programme was carried out as part of an effort to establish the source of the gold.

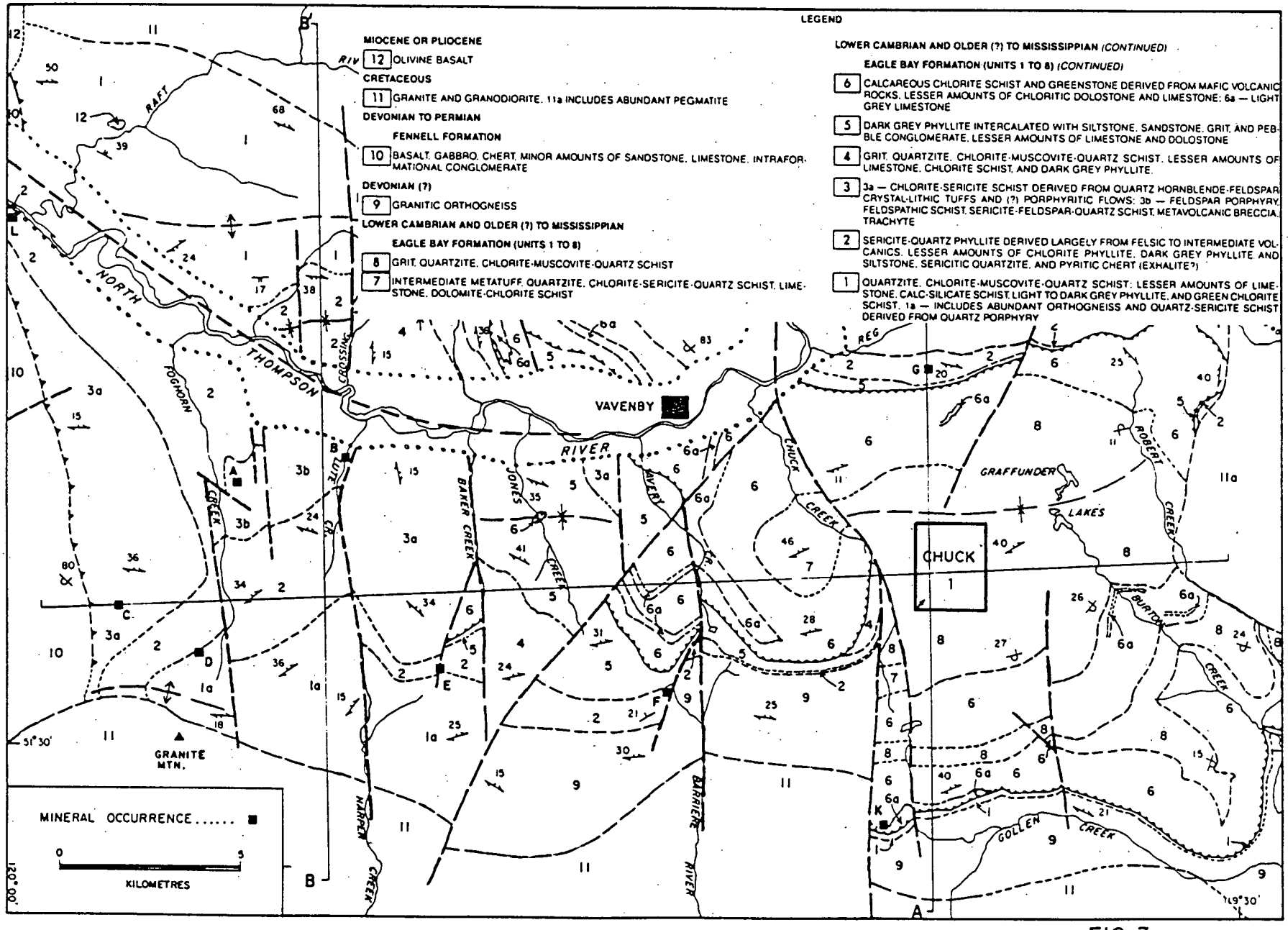
GEOLOGY

In 1985, the B.C. Ministry of Energy, Mines and Petroleum Resources mapped the belt of metavolcanics and metasediments between the Raft and Baldy Batholiths (Schiarizza, 1986). The area mapped lies along the valley of the North Thompson River near Vavenby and includes the ground covered by the CHUCK 1 claim (Fig. 3).

According to Schiarizza, the Chuck Creek area is underlain by clastic metasediments (unit 8) of the Eagle Bay Formation. The government mapping indicates that the quartzites and chlorite-muscovite schists of this unit lie along the core of an east-west syncline, and are east of a major north-south fault which follows the course of the western tributary of Chuck Creek. However, Schiarizza has observed overturned beds within the unit 8 quartzites and concludes that the unit may therefore be the oldest in the Eagle Bay Formation, i.e. early Cambrian or older.

There are few outcrops within the CHUCK 1 claim; rocks observed consist of interbedded sericite schist and limestone/dolomite in road cuts on the north boundary of the claim, and schistose quartz-veined wackes on the banks of Chuck Creek in the central part of the property. South of the claim, on the upper slopes of Vavenby Mountain, quartzites and minor limestone are exposed in road cuts and along drainages, and black pyritic shales underlie the ridge immediately to the south and east of the property.

No outcrop was observed in the immediate area of the stream sediment anomalies.



Generalized geological map of the Vavenby area.

FIG. 3

GRANGES EXPLORATION LTD.

I.M. WATSON & ASSOCIATES LTD.

GEOCHEMISTRY

1986 Follow-up

Follow up soil sampling was carried out over the CHUCK 1 claim during the period July 26 to August 2, 1986.

Stream sediment sampling (panned concentrates) had revealed anomalous gold contents, ranging from 115 to 1,350 ppb Au, along the lower 1.5 kms. of the east tributary of Chuck Creek (cross hatched zone, fig. 4). The soil sampling was a preliminary attempt to determine the source of the gold anomalies. A total of 103 soil samples was collected using conveniently located access roads and trails on both sides of the creek. Samples were collected at approximately 100 metre intervals, from the 'B' horizon, by digging holes at least 30 cms. deep using a tree planter's spade. In addition to the road/trail traverses, a small north-south/east-west 17 sample grid was established on the east side of Chuck Creek immediately east of the anomaly cut-off in the stream.

Sample Analysis

Analyses were done by Acme Analytical Laboratories in Vancouver. A -80 mesh fraction of soil was analysed by the inductively coupled argon plasma method (ICP) and a separate analysis for gold was carried out by atomic absorption (A.A.).

The elements reported by the ICP analysis method were silver and arsenic.

The sample is prepared by dissolving 0.5 grams in hot aqua-regia (3:1:3 nitric acid to hydrochloric acid to water) at 90°C for 1 hour. This is diluted to 10 ml water and converted to an aerosol.

A brief description of the ICP analysis is as follows: high frequency currents in a few turns of induction coil (powered by a high frequency generator) surround a plasma cell and generate a magnetic field. The cell consists of argon plasma enclosed between two concentric quartz tubes surrounding a glass sample injector. The plasma gas is seeded with electrons - resulting temperatures range from 7,000 to 10,000°K.

The sample, in aerosol form, is injected into the centre of the cell and rises into the doughnut-shaped plasma ring. The high temperatures vaporise the sample and dissociate molecular species. Spectral intensities of the excited samples are recorded and compared with standards by a computer-controlled spectrometer.

Certificates of Analyses are reproduced in Appendix 1, and analyses are plotted on the accompanying plan (fig. 4).

DISCUSSION OF RESULTS

A few weak gold anomalies (17 to 55 ppb Au) have been detected in the soils along the access road east of Chuck Creek, in the north eastern part of the property. The sample containing 55 ppb Au is also enriched in arsenic (1,030 ppm), and there is an apparent weak correlation of arsenic and gold in the other anomalous samples. A panned concentrate taken from soils at the #3038 (55 ppb Au) sample site, contained 78,600 ppb Au and 48 ppm As. There is no outcrop in this immediate area and the slopes above Chuck Creek suggest a heavy cover of variable glacial/fluviatile material, including clays, sands, and cobbles.

SUMMARY

The preliminary follow-up soil sampling programme has given no indication of the source of the gold anomalies in Chuck Creek. Further soil sampling is required to test the area of weak gold anomalies, and the high (78,600 ppb Au) panned concentrate sample in the north eastern corner of the CHUCK 1 claim.

I.M. WATSON & ASSOCIATES LTD.

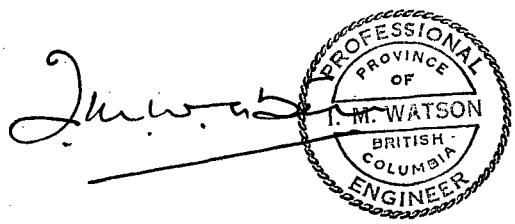
I.M. Watson

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
I. M. WATSON

STATEMENT OF COSTS
July 26, 27; August 2, 1986

Salaries		
I.M. Watson (Consulting Geologist/Supervisor)		
3 days @ $400.00/day	$ 1,200.00	
S. Angus (Prospector/Sampler)		
3 days @ $125.00/day	375.00	
D. Whalen (Prospector/Sampler)		
3 days @ $175.00/day	525.00	$ 2,100.00
Accommodation/Board*		205.00
Vehicle Rental*		
Toyota Landcruiser 4 x 4		
3 days @ $30.00/day	90.00	
Trailer		
3 days @ $12.00/day	36.00	
Trail Bikes		
3 x 1 day @ $12.50/day each	37.50	163.50
Fuel*		25.25
Geochemical Analyses - Acme Laboratories*		
120 samples @ $11.75/sample (Au, Ag, As + prep. + freight)		1,410.00
	TOTAL	$ 3,903.75

*Pro-rated costs.



CERTIFICATE OF QUALIFICATIONS

I, **Ivor Moir Watson,** of 584 East Braemar Road, North Vancouver, British Columbia, hereby certify that:

1. I am a consulting geologist with offices at 816 - 675 West Hastings Street, Vancouver, B.C.

2. I am a graduate of the University of Saint Andrews, Scotland (B.Sc. Geology 1955).

3. I have practised my profession continuously since graduation.

4. I am a member in good standing of the Association of Professional Engineers of B.C., and a Fellow of the Geological Association of Canada.

5. Work on the CHUCK 1 Claim was carried out during the periods July 26 to August 2, 1986 by the following personnel:
   I.M. Watson - Geologist/Supervisor
   S. Angus - Prospector/Sampler
   D. Whalen - Prospector/Sampler

November 15, 1987
Vancouver, B.C.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA I. M. WATSON

I.M. Watson, B.Sc., P.Eng.

REFERENCES

Freeze J.C., Troup A.G., 1984 Diamond Drilling Report on the After You Property (Kangeld Resources Ltd.).

Schiarizza, P., 1986 in Geological Fieldwork, 1985, Paper 1986-1, B.C Ministry of Energy, Mines and Petroleum Resources.

Appendix

Geochemical Analytical Reports

ACME ANALYTICAL LABORATORIES LTD.
852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: JULY 29 1986

DATE REPORT MAILED: Aug 7/86

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-ROCK P2-PAN CONC P3-6 SOILS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: D. Toye ..DEAN TOYE. CERTIFIED B.C. ASSAYER.

I.M. WATSON PROJECT - SW-1986 FILE # 86-1727

SAMPLE#	Ag PPM	As PPM	Au* PPB
6W-6010	.1	13	1
6W-6011	.1	7	1
6W-6012	.1	8	1
6W-6013	.1	6	1
6W-6014	.2	2	1
6W-6015	.3	9	1
6W-6016	.1	9	2
6W-6017	.1	7	1
6W-6018	.1	7	1
6W-6019	.1	6	1
6W-6020	.1	9	1
6W-6021	.1	16	1
6W-6022	.1	21	1
6W-6023	.1	7	1
6W-6024	.1	8	1
6W-6025	.1	8	1
6W-6026	.1	10	2
6W-6027	.1	11	1
6W-6028	.4	27	1
6W-6029	.1	9	1
6W-6030	.1	13	1
6W-6031	.1	12	2
6W-6032	.1	8	1
6W-6033	.1	4	1
6W-6034	.3	13	5
6W-6035	.3	9	1
6W-6036	.1	10	1
STD C/AU 0.5	6.8	40	495

SAMPLE#	Ag PPM	As PPM	Au* PPB
6W-6037	.1	6	1
6W-6038	.3	6	1
6W-6039	.1	16	1
6W-6040	.2	11	1
6W-6041	.1	14	1
6W-6042	.1	11	1
6W-6043	.3	9	1
6W-6044	.1	8	2
6W-6045	.1	8	1
6W-6046	.4	13	1
6W-6047	.3	21	4
6W-6048	.1	8	1
6W-6049	.8	11	1
6A-3013	.1	15	1
6A-3014	.1	7	1
6A-3015	.1	5	2
6A-3016	.1	18	7
6A-3017	.1	7	1
6A-3018	.1	12	1
6A-3019	.1	15	1
6A-3020	.1	12	5
6A-3021	.1	10	1
6A-3022	.1	14	1
6A-3023	.3	10	1
STD C/AU-0.5	6.9	42	480
6A-3024	.2	10	3
6A-3025	.1	11	1
6A-3026	.1	14	2
6A-3027	.2	16	1
6A-3028	.1	11	1
6A-3029	.1	12	2
6A-3030	.2	12	3
6A-3031	.2	11	1
6A-3032	.2	9	1
6A-3033	.1	18	1
6A-3034	.1	9	1
6A-3035	.1	11	1
6A-3036	.1	14	2
6A-3037	.2	18	1
6A-3038	.2	1030	55
6A-3039	.1	15	17
6A-3040	.2	19	1
6A-3041	.1	15	45
6A-3042	.2	24	6
6A-3043	.2	23	1

SAMPLE#	Ag PPM	As PPM	Au* PPB
6A-3044	.5	17	2
6A-3045	.2	10	1
6A-3046	.1	14	4
6A-3047	.1	10	3
6A-3048	.4	8	1
6A-3049	.2	12	8
6A-3050	.2	12	1
6A-3051	.1	9	3
6A-3052	.1	21	2
6A-3053	.1	14	1
6A-3054	.1	20	1
6A-3055	.3	16	1
6A-3056	.1	5	1
6A-3057	.1	7	2
6A-3058	.1	11	1
6A-3059	.1	11	1
STD C/AU-0.5	6.8	40	485
6A-3060	.1	21	13
6A-3061	.1	6	2
6A-3062	.3	8	1
6A-3063	.1	8	1
6A-3064	.1	4	1
6A-3065	.1	9	1
6A-3066	.1	8	2
STD C/AU-0.5	7.2	40	480

ACME ANALYTICAL LABORATORIES LTD.
852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: JULY 31 1986

DATE REPORT MAILED: Aug. 5/86...

GEOCHEMICAL/ASSAY CERTIFICATE

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.

- SAMPLE TYPE: SOILS PULVERIZED AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.
P3 - Pan Conc. P4 - Rocks

ASSAYER: . D. Toye. DEAN TOYE. CERTIFIED B.C. ASSAYER.

I.M. WATSON & ASSOCIATES PROJECT-SW 1986 FILE# 86-1771 PAGE 1

SAMPLE#	Ag PPM	As PPM	Au* PPB
6A 3067	.4	10	2
6A 3068	.2	12	1
6A 3069	.2	10	1
6A 3070	.1	14	1
6A 3071	.1	12	2
6A 3072	.2	2	1
6A 3073	.2	12	2
6A 3074.	.2	5	3

ACME ANALYTICAL LABORATORIES LTD.
852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6
PHONE 253-3158 DATA LINE 251-1011

DATE RECEIVED: AUG 9 1986

DATE REPORT MAILED: Aug. 15/86

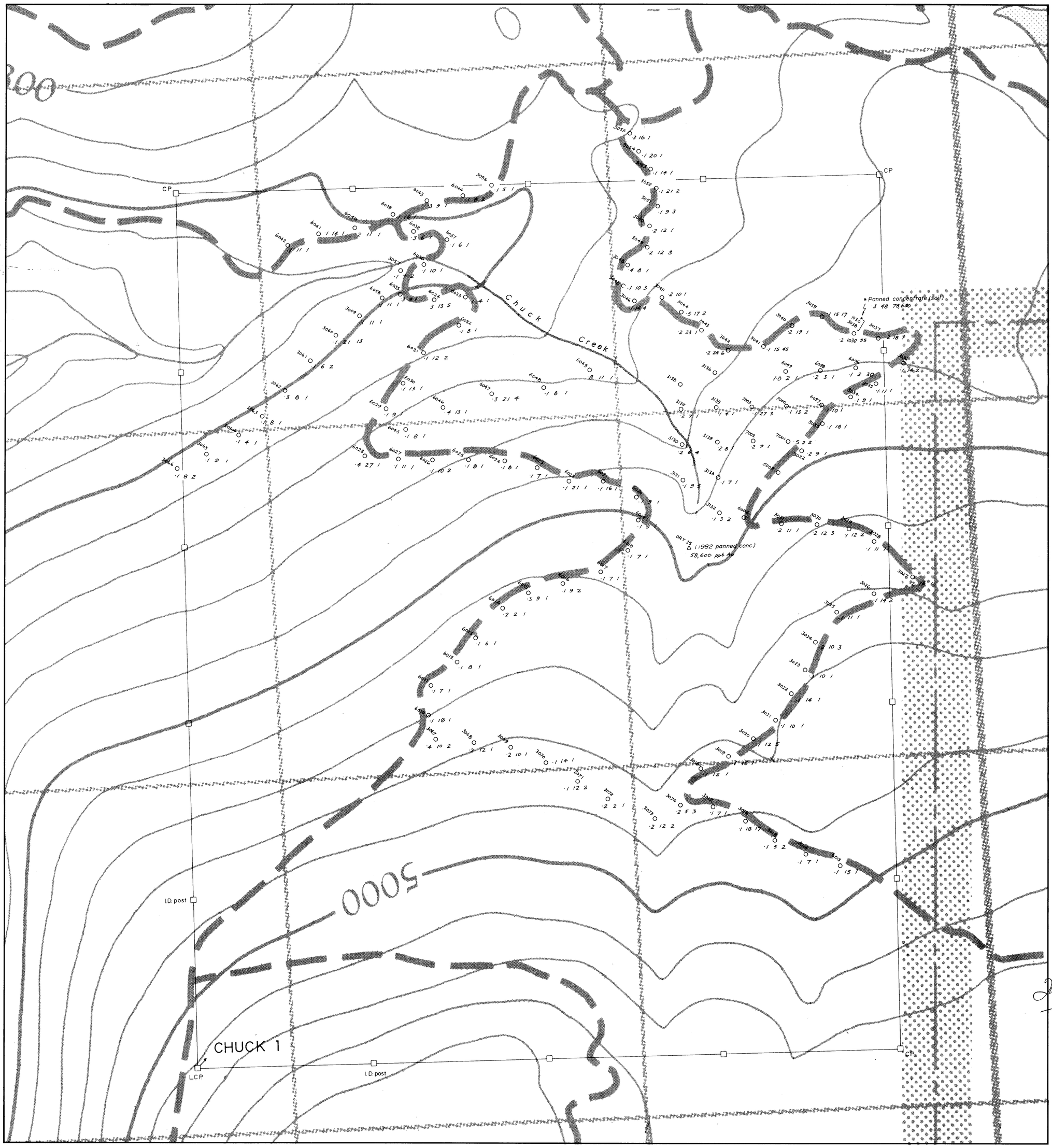
GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1 SOILS & PULVERIZED P2 PAN CONC. P3 ROCKS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: D. Toye .DEAN TOYE. CERTIFIED B.C. ASSAYER.

I.M. WATSON PROJECT-SW/6W 1986 FILE # 86-1942

SAMPLE#	Ag PPM	As PPM	Au* PPB
6A-3128	.3	8	3
6A-3129	.2	7	1
6A-3130	.2	6	4
6A-3131	.1	9	5
6A-3132	.1	3	2
6A-3133	.1	7	1
6A-3134	.2	8	1
6A-3135	.1	4	1
6A-3136	.2	8	1
6W-6096	.1	2	30
6W-6097	.1	10	1
6W-6098	.2	3	1
6W-6099	1.0	2	1
6W-7000	.1	13	2
6W-7001	.5	2	2
6W-7002	.2	9	1
6W-7003	.1	27	3
6A-103C A	.3	48	78600



AST.

Scale
100 0 100 200 300 400
metres

3222
-1 14 1
ppm Ag ppb Au
ppm As

Soil sample site and number, geochemical values

ORT-35

Panned concentrate (stream sediment)

1986 stream sediment anomaly

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,377

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
I. M. WATSON

GRANGES EXPLORATION LTD.

CHUCK 1 CLAIM, CHUCK CK., NR. VAVENBY, B.C.
KAMLOOPS M.D.

RECONNAISSANCE GEOCHEMICAL SOIL SAMPLING

SCALE	DATE	BY	NTS	FIG. Nº
1:5000	Aug. 1987	dlp / IMW	82M/12E	4