Assessment Report

on

Ting 1-50, 85-96; Noting 51-76 and; Prospecting 77-84 Claims

Dawson Mining District

Claim Sheet 116B/7

Latitude 64°23'N, Longitude 138°38'W

December 23, 1977

Alan R. Archer, P. Eng. Consulting Engineer

090273

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

$11918.52

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

B. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory

TABLE OF CONTENTS

INTRODUCTION

The Ting property is composed of the Ting, Noting and Prospecting claim groups lying along the southwest edge of the Tombstone stock. Three areas of uranium mineralization called the Ting, Fawn and Prospecting showings were located here in 1976. The 1977 program was managed by Archer, Cathro & Associates Ltd. and consisted of detailed prospecting and grid radiometric surveys of the Ting and Prospecting showings plus hand trenching of the Ting showing (see Figure U-TG1 in pocket). Geochemical analysis for uranium was done at Chemex Labs Ltd., North Vancouver, B.C., by hot acid extraction of a minus 80 mesh fraction followed by fusion in a sodium fluoride-based flux and examination with a G.K. Turner fluorometer.

The crew,consisting of D. Eaton, R. Warner and J. Cockell was mobilized by truck to the Dempster Highway and from there to the property by Bell 206B (Jet Ranger) helicopter from Dawson. Property work was conducted from June 6 to 23 at which time the crew was moved by Jet Ranger to the Prospecting showing until June 29. Snow prevented surface prospecting until June 16 although it did not hamper hand trenching. The claims were still 5 per cent snow covered on June 29.

A day of helicopter supported regional prospecting was conducted June 26 to examine uranium geochemical anomalies shown on GSC Open File 418, which presented the assays for samples collected in 1976 as part of the Uranium Evaluation Program, and to check an occurrence of radioactive float reported north of Urangesellschaft's Teta claims. The Ting 85-90 claims were staked as a separate group in the area of float and the Ting 91-96 added to the main group of claims to fill gaps in the 1976 coverage.

PROPERTY, LOCATION AND ACCESS

The Ting property consists of 96 mineral claims of which 90 form an arcuate block along the south margin of the Tombstone syenite stock and 6 are located as a separate group 900 metres to the northwest. The claims are recorded in the Dawson Mining District as follows:

CLAIM NAME	GRANT NUMBERS	EXPIRY DATE
Ting 1-10	YA 5027-YA 5036	12 Feb. 1979
Ting 11-26	YA 5037-YA 5052	12 Feb. 1978
Ting 27-40	YA 5053-YA 5066	12 Feb. 1979
Ting 41-48	*YA 5163-YA 5156	12 Feb. 1979
Ting 49-50	YA 5140-YA 5141	12 Feb. 1979
Noting 51-55	YA 5174-YA 5178	12 Feb. 1979
Noting 56-59	YA 5182-YA 5185	12 Feb. 1979
Noting 60	YA 5179	12 Feb. 1979
Noting 61-64	YA 5190-YA 5193	12 Feb. 1979
Noting 65-68	YA 5186-YA 5189	12 Feb. 1979
Noting 69-70	YA 5180-YA 5181	12 Feb. 1979
Noting 71-76	YA 9509-YA 9514	12 Feb. 1979
Prospecting 77-84	YA 9525-YA 9532	12 Feb. 1978
Ting 85-94	YA10379-YA10388	4 July 1978
Ting 95F-96F	YA10389-YA10390	4 July 1978

* Note reverse order

The claims are centered at latitude 64°23' north and longitude 138°38' west within NTS sheet 116B7, 51 km (32 miles) northeast of Dawson. The nearest road point is Km 53 (mile 33) on the Dempster Highway 13.5 km (8.5 miles) to the east. Access is by helicopter from a permanent base maintained by Trans North Turbo Air in Dawson.

GEOLOGICAL SETTING

The geological and morphological setting is described in detail in the 1976 report and is briefly summarized below.

The Tombstone intrusion forms the core of the Tombstone Range, which is characterized by numerous blind valleys heading in steep cirque walls separated by knife-edge, almost vertical, ridges reaching elevations of up to 2100 m. Valleys are wide and well mantled with debris from extinct alpine glaciation while their sides are obscured by talus slopes heading on steep walled rock faces. Local relief ranges from 1000 to 1600 m. Mappable outcrop makes up only a small portion of the total. The claims lie above timberline and vegetation consists only of grasses and scattered stunted buckbrush.

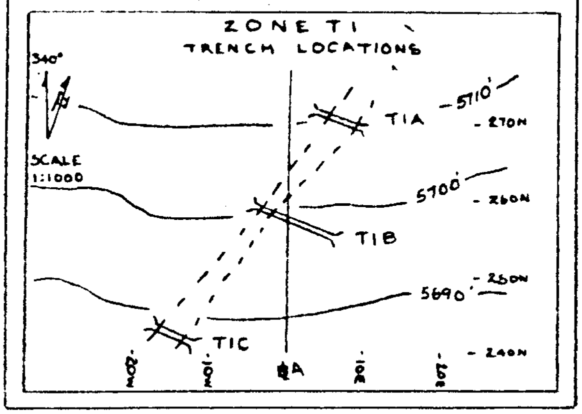
The Tombstone intrusion consists of a sub-circular, 11 km wide, Middle Cretaceous syenite stock cutting Lower Cretaceous quartzite with limy and argillaceous sections. Contact metamorphism has produced a hornfels halo up to 1000 m from the contact and has selectively bleached the quartzites. There was no faulting associated with emplacement of the stock or post-intrusion. A distinctive tinguaite phase (a variation of nepheline syenite related to phonolite) is found along the southwestern margin of the stock. The tinguaite may have been a last phase of intrusive activity, possibly emplaced as a rapidly cooling dike system. It consists of fine grained aphanitic zones alternating with coarse grained phases containing phenocrysts of pseudoleucite (mainly a mixture of potassium feldspar and nepheline pseudomorphic after leucite) up to 4 cm across and less commonly of smaller subhedral orthoclase, which are cut by occasional narrow (up to 30 cm) zones of healed breccia. The flow-banding plus a strong joint system are sub-parallel to the intrusive contact.

Exploration in 1976 showed that the Tombstone stock is radiometrically positive with rock assays commonly ranging from 5 to 20 ppm uranium. Specific small areas or "hot-spots" assaying up to several hundred or more ppm uranium were found easily but were not sufficiently abundant to be of economic interest. Limited assaying suggested uranium to thorium ratios of 3 to 1 or lower. The tinguaite proved similarly radiometrically positive but contained more continuous zones of uranium mineralization with a low thorium content, returning grades up to 1% U_3O_8 from selected specimens. The 1976 staking covered the tinguaite as well as its contact with the sediments.

1977 EXPLORATION PROGRAM

Trenching

Three hand trenches were blasted into bedrock on the T1 zone at the Ting showing. Geology, assay and radiometric data for each trench are illustrated in the figures on the following three pages. The trenches expose a uranium-bearing zone averaging 2.67 m wide along a strike length of 35 m. The zone cuts across a 75 m band of aphanitic tinguaite lying within fine grained syenite and coarse grained pseudoleucite tinguaite. Although the radioactivity forms a linear, steep dipping zone, there is no obvious control other than the fact that it is only developed within the aphanitic tinguaite. The tinguaite is weakly jointed and joints cutting through areas of radioactivity are hematite stained and thinly coated by yellow and green uranium oxide near surface. Traces of galena, pyrite,



TRENCH TIA

LEGEND

— TOP OF TRENCH

--- BOTTOM OF TRENCH

VERTICAL FACE : EAST END 1 METER LOWER THAN WEST END

I VERTICAL SAMPLE

ALL ASSAYS EXPRESSED IN PERCENT U_3O_8

ALL SCINT READINGS TAKEN ALONG BOTTOM OF NORTH TRENCH WALL WITH SCINTREX BGS-1SL (43cc CRYSTAL).

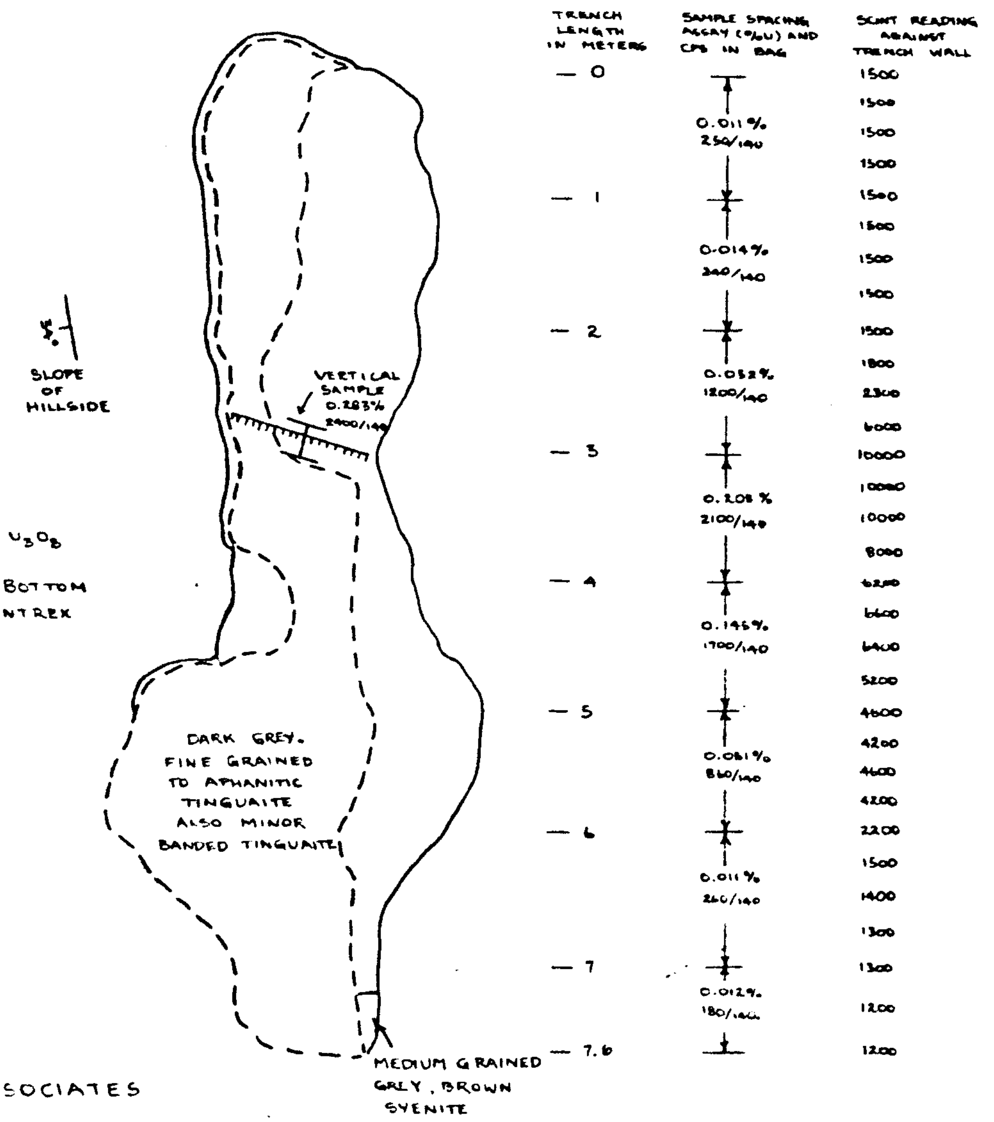


FIG. U-TG2

ARCHER, CATHRO AND ASSOCIATES

GEOLOGY, RADIOMETRICS AND ASSAYS

TRENCH TIA - TING ZONE

TING 1-50, 91-94, 95F, 96F

NOTING 51-76

PROSPECTING 77-84

UKON JOINT VENTURE

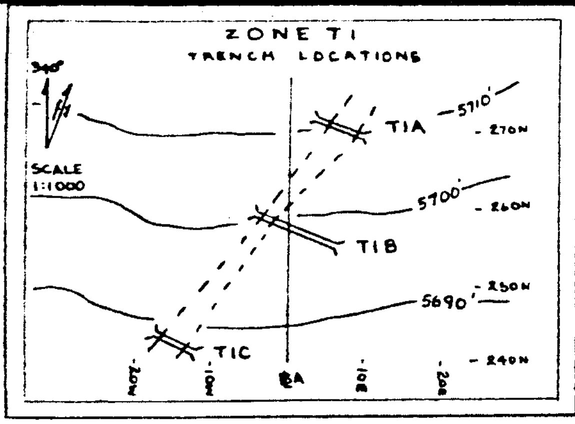
SCALE 1:60

0 0.5 1 2 3

METERS

G.R.C.

Dec 23/77



TRENCH TIB

FIG. U-T63

ARCHER, CATHRO AND ASSOCIATES

GEOLOGY, RADIOMETRICS AND ASSAYS
TRENCH TIB - TING ZONE

TING 1-50, 91-94, 95F, 96F
NOTING 51-76
PROSPECTING 77-84

UKON JOINT VENTURE

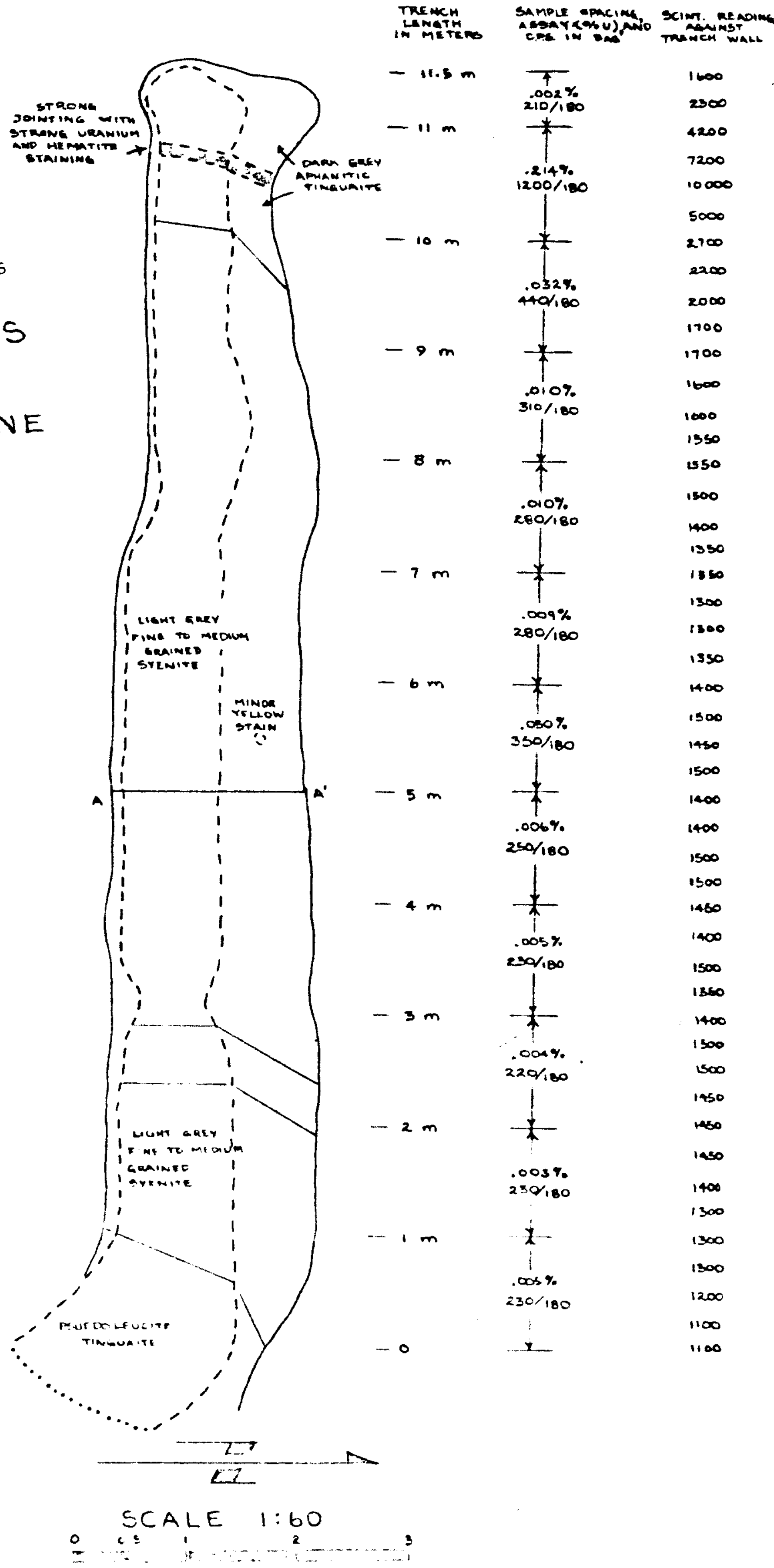
—— TOP OF TRENCH
- - - BOTTOM OF TRENCH
—— GEOLOGICAL CONTACTS

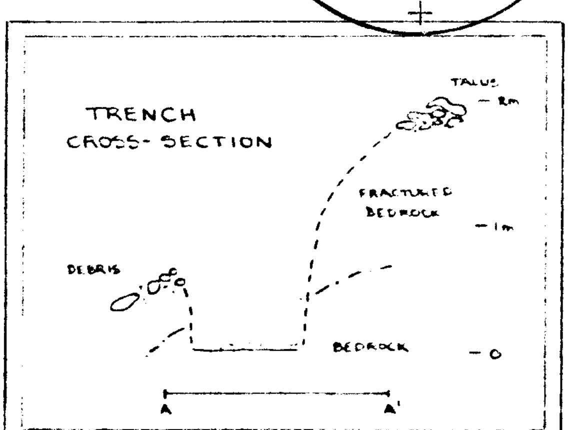
ALL ASSAYS EXPRESSED IN PERCENT U_3O_8.

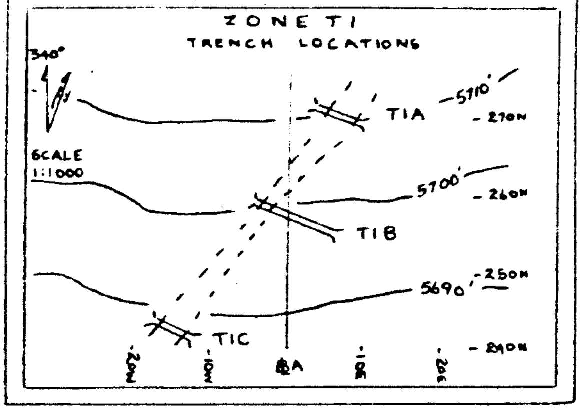
ALL SCINT READINGS TAKEN ALONG BOTTOM OF NORTH TRENCH WALL WITH SCINTREX BGS-1SL (43cc CRYSTAL).

Dec 23/77

Association of Professional Engineers of the Yukon Territory
A. R. ARCHER
GEOLOGICAL
ENGINEER







TRENCH TIC

FIG. U-TG4

ARCHER, CATHRO AND ASSOCIATES

GEOLOGY, RADIOMETRICS AND ASSAYS

TRENCH TIC - TING ZONE

TING 1-50, 91-94, 95F, 96F

NOTING 51-76

PROSPECTING 77-84

UKON JOINT VENTURE

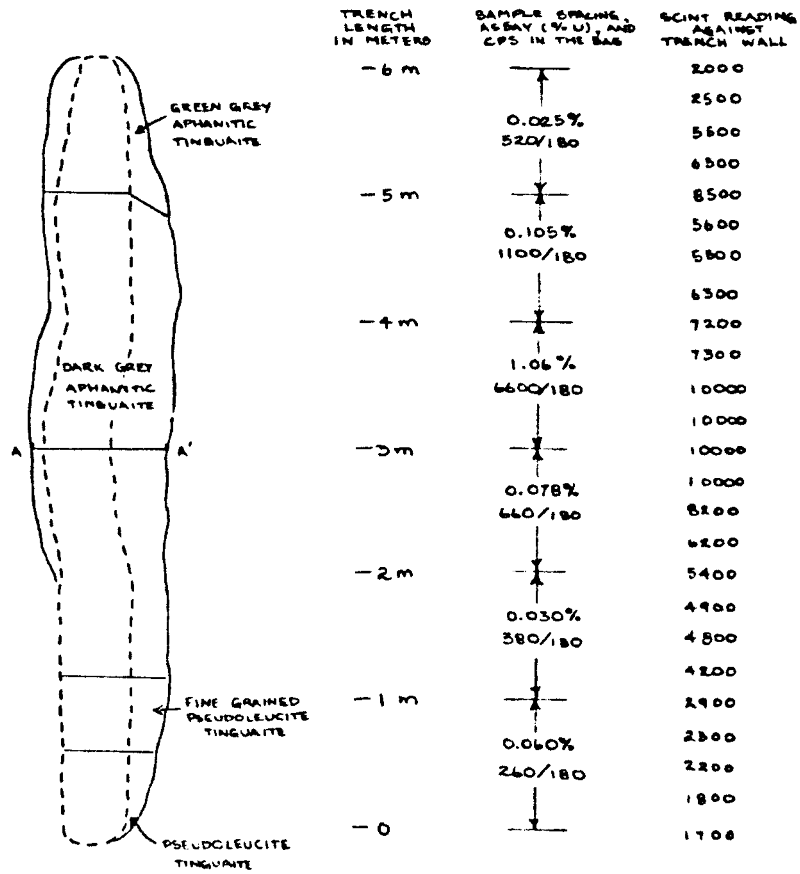
—— TOP OF TRENCH

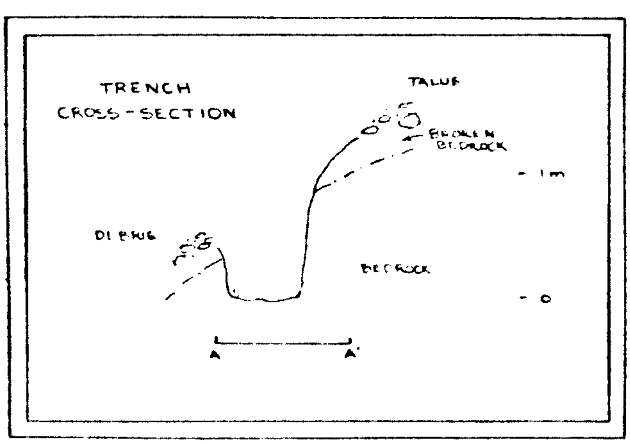
- - - BOTTOM OF TRENCH

—— GEOLOGICAL CONTACTS

ALL ASSAYS EXPRESSED IN PERCENT U_3O_8

ALL SCINT READINGS TAKEN ALONG BOTTOM OF NORTH TRENCH WALL WITH SCINTREX BGS-1SL (43cc CRYSTAL).





Dec 23/77

Association of Professional Engineers of the Yukon

A. R. ARCHER

GEOLOGICAL

ENGINEER

molybdenite and purple fluorite are found in areas of strongest radioactivity. Although no specific radioactive mineral is seen, the source is assumed to be fine grained disseminated pitchblende or uraninite.

The T1 zone is completely covered by shallow blocky talus. Each trench was cut through the frozen talus and then from 1/2 m to 1 m into bedrock on the uphill side. The bedrock side of each trench was chip sampled at 1 m intervals and assayed for uranium at Chemex Labs Ltd. Samples assaying more than 0.05% U_3O_8 were also assayed for ThO_2. Assay results of the three trenches are summarized in Table 1 on the following page.

The indicated reserves of the T1 zone using a 0.05% U_3O_8 cut-off is 27,000 tonnes grading 2.32 kg/tonne U_3O_8 (0.232 per cent) assuming the zone has a strike length of 75 m, extends to a depth of 50 m and has a width equal to the arithmetic average of the three trenches. Total contained uranium in this reserve is 62,640 kg or 137,800 pounds.

PROSPECTING, GRID RADIOMETRICS

Prospecting located four additional radioactive zones (T2 to T5) near the Ting 1 zone; two radioactive zones (H1 and H2) on the Hot claims of Mountain Minerals Ltd., which were subsequently optioned by Union Carbide; two radioactive zones (P1 and P2) on the Prospecting claims; and an area of radioactive float north of the Urangesellschaft Teta claims. All but the P1 zone occur either in aphanitic tinguaite or along the contact of the stock. Grid radiometric surveys, using a Scintrex BGS-1SL broadband scintillometer (43 cc crystal), were conducted over

TABLE 1

TING ZONE TRENCHING ASSAY DATA

TRENCH NO.	SAMPLE NO.	INTERVAL IN M	ASSAY % U_3O_8	ASSAY % ThO_2	AVERAGE OF INTERVALS EXCEEDING 0.05% U_3O_8
T1A	11058	0-1	0.012	.010	
	11057	1-2	0.011	.010	
	11056	2-3	0.051	.005	
	11055	3-4	0.145	.005	4 metres wide grading
	11054	4-5	0.208	.005	0.114% U_3O_8 and 0.005% ThO_2
	11053	5-6	0.052	.005	
	11052	6-7	0.014	.010	
	11051	7-8	0.011	.005	
T1B	11060	0-1	0.005	NA	
	11061	1-2	0.003	NA	
	11062	2-3	0.004	NA	
	11063	3-4	0.005	NA	
	11064	4-5	0.006	NA	
	11065	5-6	0.030	NA	1 metre wide grading
	11066	6-7	0.009	NA	0.214% U_3O_8 and 0.01% ThO_2
	11067	7-8	0.010	NA	
	11068	8-9	0.010	NA	
	11069	9-10	0.032	.010	
	11070	10-11	0.214	.010	
	11071	11-11.3	0.002	.010	
T1C	11072	0-1	0.006	.010	
	11073	1-2	0.030	.010	
	11074	2-3	0.078	.010	3 metres wide grading
	11075	3-4	1.06	.010	0.396% U_3O_8 and .008% ThO_2
	11076	4-5	0.105	.005	
	11077	5-6	0.025	.005	

Average all trenches 2.67 metres wide grading 0.232% U_3O_8 and .007% ThO_2

* Sample intervals measured from east to west
* NA - not assayed

zone T2 and two overburden covered areas along the contact of the stock as illustrated on Figure U-TG1 in the pocket. No significant mineralized areas were located by the radiometric surveys although they proved useful in determining the approximate location of zone T2 and the quartzite contact. A short description of individual zones follows.

Zone T2 occurs on a steep, talus covered slope and is defined by scattered radioactive float over a length of 60 m. Three hand trenches were dug to bedrock but the talus was too thick to allow determination of widths or proper sampling. Chip samples assayed 0.031% U_3O_8 across 25 cm in one of the pits and 0.086% U_3O_8 across 75 cm from a second pit. A grab sample of broken bedrock from the third pit assayed 0.344% U_3O_8. The radioactivity occurs in an aphanitic phase of the tinguaite and, like the T1 zone, no specific radioactive mineral can be identified megascopically. Minor green and yellow secondary uranium oxides are found on joint surfaces in strongly radioactive float.

Zones T3 to T5 are small areas of scattered radioactive float associated with the same band of aphanitic tinguaite that hosts the T1 and T2 zones. Grab samples of better grade float range from 0.02 to 0.09% U_3O_8.

Zone H1 is exposed on a steep, almost talus free, slope about 100 m below the ridge top and about 800 m northeast of zone T1. It consists of 4 or 5 sub-parallel radioactive zones over an area of at least 50 m by 50 m in a 100 m wide zone of aphanitic tinguaite. Individual radioactive zones generally follow, but are not obviously controlled by, a strong set of joints striking 40° and dipping 73° east. This is also (coincidentally ?) the approximate attitude of the nearby intrusive-quartzite contact. The best zone is about 40 m long and ranges from

1 m to 3 m wide. A chip sample across 3 m of the most strongly radioactive portion assayed 0.279% U_3O_8. The outcrop is strongly leached and the level of radioactivity (greater than 10,000 cps with the Scrintrex BGS-1SL) suggests a sample from unleached rock would assay over 1% U_3O_8. This zone is very similar in appearance to the T1 zone.

Zone H2 is an area of radioactivity developed along the intrusive contact in a location where the tinguaite band hosting the H1 zone comes in direct contact with the quartzite. The contact is continuously radioactive along 100 m of slope length on a 30° slope. A light talus cover obscures most of the contact but a few exposures suggest it is sharp. A 1/2 m deep hand trench dug at the most radioactive section exposed a 5 cm wide zone of mylonite with yellow uranium stains and sooty pitchblende at the contact, from which a chip sample assayed 1.1% U_3O_8. Small pieces of good grade float were found 150 m east, one of which assayed 1.27% U_3O_8 while another (not assayed) contained about 15% sooty pitchblende. The mineralized host rock appears to be light coloured, altered syenite, although most of the talus consists of quartzite. No attempt was made to locate the source.

Zone P1 is an area of float located in 1976 and called the Prospecting showing (see 1976 UJV Report, pp. 38-40). It consists of a small train of strongly radioactive boulders from which specimens assayed as high as 1.2% U_3O_8. The 1977 work indicates that the sources are "hot-spots" up to 1 m by 1 m in size occurring sporadically within two parallel, weakly foliated pseudoleucite tinguaite dikes that cut fine grained syenite. The dikes are 3 to 4 m wide and about 4 m apart. They strike 65° and dip steeply. A chip sample across 1 m of the best exposed hot-spot assayed 0.066% U_3O_8.

Zone P2 is a new area of mineralization found in 1977. It consists of discontinuous, patchy zones of radioactivity developed in weak shears up to 25 cm wide along the pseudoleucite tinguaite-syenite contact some 1000 m northeast along strike from zone H2. The radioactivity can be traced about 50 m to the point where the contact runs up an inaccessible cirque wall. Specimens of mineralization assayed between 0.049% and 0.637% U_3O_8.

Other Zones. Prospecting the projected portion of the syenite-quartzite contact in the glacial-boulder-covered valley south of zone H2 located a small area of above-background radioactivity that increased to 1200/340 cps in a 1 m deep pit. Although only glacial till is exposed in the pit, the increase in count suggests an underlying mineralized zone. It is interesting to note that this location is also on strike of the band of aphanitic tinguaite which hosts the T1 zone.

CONCLUSIONS AND RECOMMENDATIONS

Although the entire Tombstone stock contains anomalous quantities of uranium, only the tinguaite phase, particularly those portions that are aphanitic, exhibits continuous zones of mineralization. These zones may be fairly abundant, since prospecting in 1977 outlined three (the T1, T2 and H1) with more or less equivalent tonnage and grade while exploring only 20 per cent of the area underlain by tinguaite. Surface trenching at the T1 zone suggests a possible reserve of 27,000 tonnes, grading 2.32 kg/t U_3O_8 (0.232 percent), to a depth of some 50 m. Assuming further surface exploration is equally successful, some 15 zones of similar tonnage and grade might be expected. Work in 1978 should consist of (a) detailed prospecting of the remainder of the claims to verify the overall abundance of mineralized zones; and, (b) close spaced diamond drilling of the best zone to determine more accurate tonnage and grade potential of individual zones. This program is estimated to cost $150,000 assuming 2,000 feet of drilling are required.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES LTD.,

A.R. Archer, B.A.Sc., P. Eng.

ARA:jm

CHEMICAL ANALYSES URANGESELLSCHAFT CANADA LTD.

copy
BETA
K14, 1.7

EXTRACTION U-HNO_3, Th

METHOD fluorimetric XRF

FRACTION USED -100 rocks.

PROJECT MANAGER J. Brophy

PROJECT NUMBER K-14, 1.7

REPORT No. 1671-7

SAMPLE SOURCE

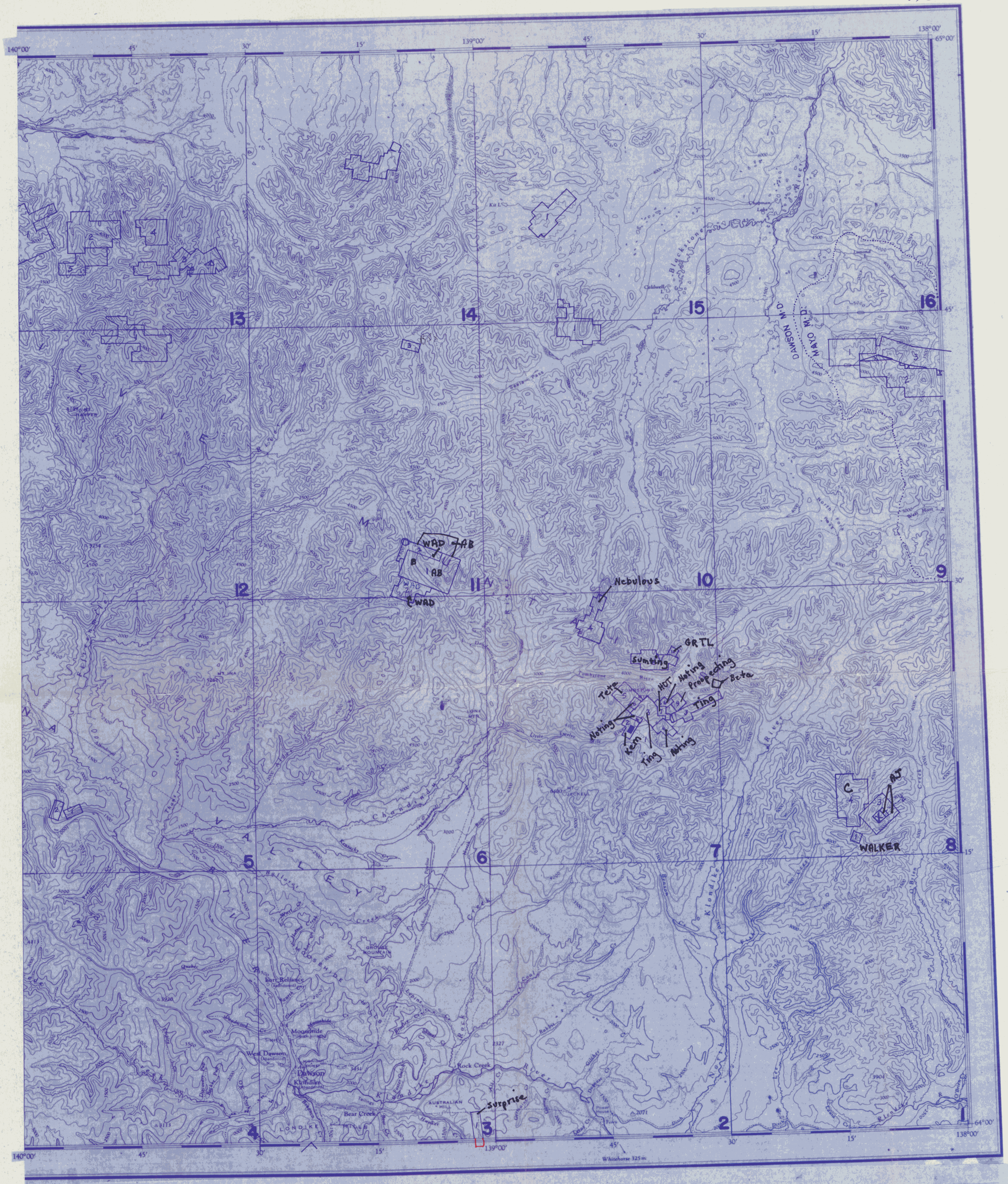
DATA September 29 1977

YEAR	SAMPLER	SAMPLE NUMBER	PROJECT NUMBER	HG /PPB/	CU /PPM/	ZN /PPM/	NI /PPM/	PB /PPM/	MO /PPM/	U [1] /PPM/	CO /PPM/	RN /CPM X100/	RA [2] /CPM X100/	TH /PPM/	LOI /PC X100/	OVERIDE	SIDE
77	JB	1								149.0				984			
77	JB	2								55.0							
77	JB	3								154.0							
77	JB	4								43.0				854			
77	JB	5								95.0							
77	JB	6								122.0							
77	JB	7								193.0				11180			

1. U: WATER REPORTED IN PPB IN ALL OTHER SAMPLES REPORTED IN PPM; 2. RADON FROM RADIUM

090273

116 B



090273

REVISED TO: 1 MAR·77
1 APR. 77

DEPARTMENT OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT
WHITEHORSE, YUKON TERRITORY

THIS MAP IS ISSUED AS A GUIDE FOR WHICH THE DEPARTMENT WILL ACCEPT NO RESPONSIBILITY FOR ERRORS OR OMISSIONS.

CLAIM OWNERSHIP REFERENCE MAP

116
DAWSON

090273
LEGEND
18A APHANITIC TINGUAITE
18A PSEUDOLEUCITE TINGUAITE
18 SYENITE-QUARTZ MONZONITE
13 KENO HILL QUARTZITES
16 DIABASE AND GABBRO
T4 Zone of anomalous radioactivity (TING Zone 4)
Geological contact – observed, approximate
·12 % Rock assay in % U_3O_8 or ppm U if less than 0.05%
(500) Total count at waist height using a Scintrex BGS-ISL scintillometer (43 cc crystal)
(500) 0·5 Soil sample assay in ppm U
Trench
Talus
DETAIL ZONE T2
Total count at waist height using a Scintrex BGS-ISL (43 cc) scintillometer
Rock assay in % U_3O_8
Hand trench
Approximate location of zone
Slope of hill
Scale 1:500
UJV
TING 85-90
URANGESELLSCHAFT
TETA 1-24
Tombstone Mtn
UNION CARBIDE OPTION
HOT 1-6
SUMTING
Mt. Monolith
FAWN
HOT
TING
PROSPECTING
UJV
TING 1-50, 91-94, 95F, 96F
NOTING 51-76
PROSPECTING 77-84
MAP AREA
Little Twelve Mile River
Wolf Cr
KLONDIKE EX. L.
KEM CLS.
LOCATION MAP
Scale 1:63,360
P1
P2
H1
H2
T1
T2
T3
T4
T5
Whistler Lake
Prospecting Lake
CAMP
Ting Lake
Cold Lake
BASELINE
BASELINE 'A'
18 SYENITE
to Little Twelve Mile River
Wolf Creek
FIG. U-TGI
ARCHER, CATHRO & ASSOCIATES LTD
GEOLOGY, MINERAL OCCURRENCES, RADIOMETRICS
TING, NOTING, PROSPECTING CLAIMS
UKON JOINT VENTURE
Scale – 1:5000
0 50 100 200 300 400 500 METRES
090273
Association of Professional Engineers of the Yukon Territory
A. R. ARCHER
GEOLOGICAL ENGINEER
Dec 23/77
To accompany a report by A.R. Archer dated Dec. 1977