

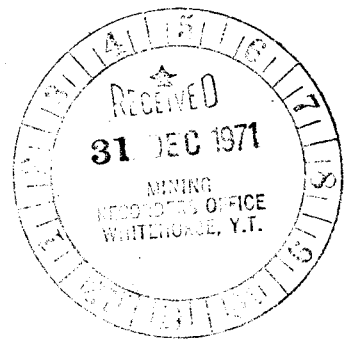
Geological Report

SAM 1-8 M.C.'s

Teraktu Creek and Big Salmon River

Whitehorse M.D., Yukon

105-E-9 (61°39'N, 134°09'W)



by

A. C. Ogilvy, P.Eng.

Work done since Sept. 9, 1971

December 30, 1971



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

2800.00

A. B. Craig

Technical Drawing Engineer

Considered as presentation work under Section 68 (4) Yukon Quartz Mining Act.

[Signature]

Commissioner of Yukon Territory

060898

CANADA)
TO WIT:)

I, A. C. Ogilvy of 77 Teslin Road, Whitehorse, Yukon
do solemnly declare that expenditures in excess of \$800.00 were made
in the course of preparing the enclosed report entitled "Geological
Report SAM 1-8 M.C.'s Teraktu Creek and Big Salmon River Whitehorse
M.D., Yukon 105-E-9 (61°39'N, 134°09'W)" as follows:

September 21, 1971

Helicopter: Trans North Turbo Air	Cheque#201	\$ 511.50
Field work: A. C. Ogilvy: 1 day		150.00

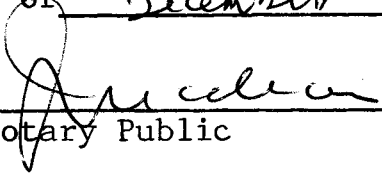
December 4, 1971

Preparing Report: A. C. Ogilvy: 1 day	<u>150.00</u>
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\$ 811.50

And I make this solemn declaration conscientiously believing it
to be true and knowing that it is of the same force and effect as if
made under oath.

Declared before me at Whitehorse)
in the Yukon Territory this)
31 day of December 1971)



Notary Public



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SAM Asbestos Data & Calculations

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- Fig. 2: Topo and Magnetics
- Fig. 3: Asbestos showings

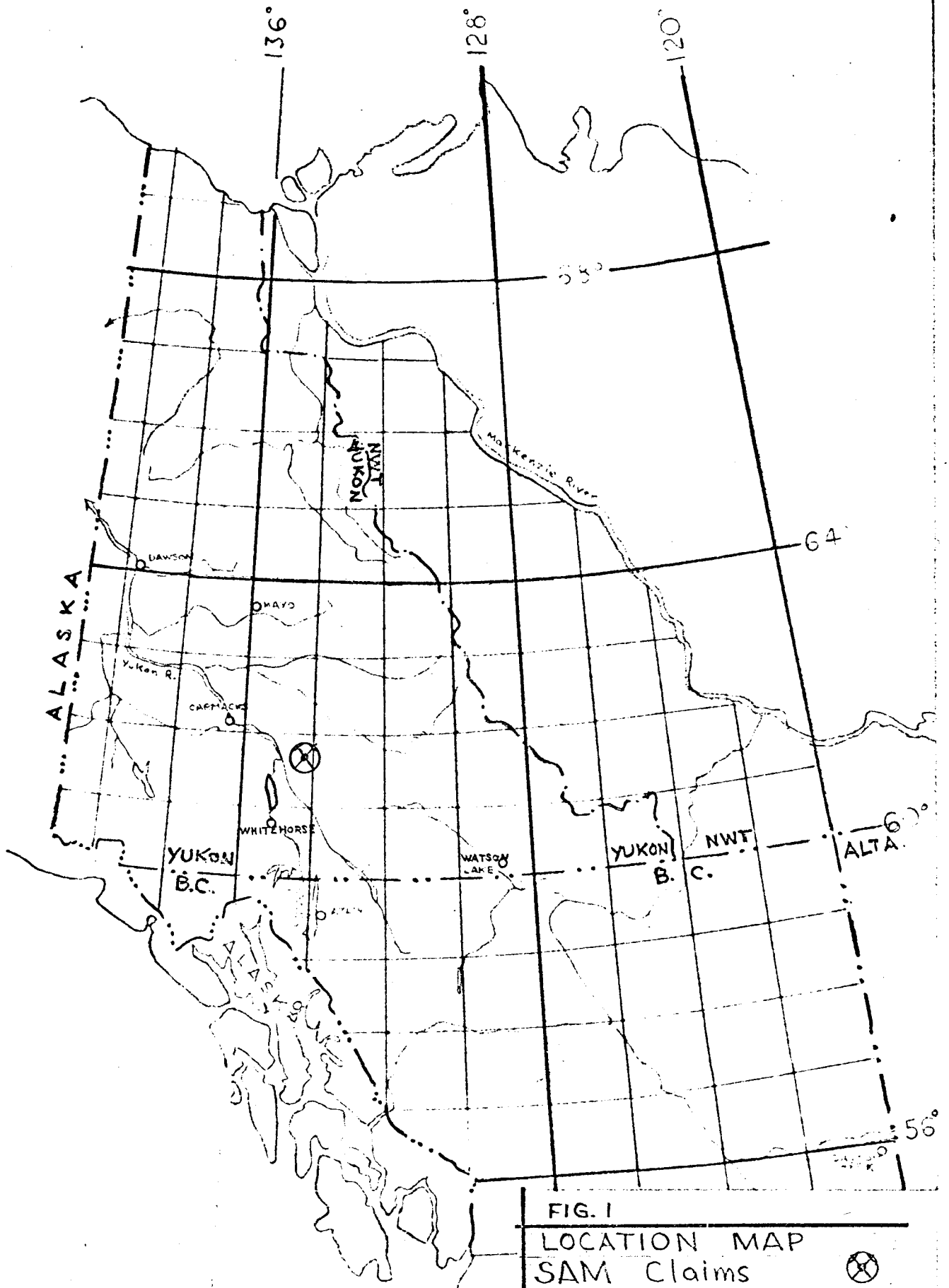



FIG. 1
 LOCATION MAP
 SAM Claims 
 SCALE 1" = 125 MI. / *C. Cooper*

SAM 1-8 Asbestos Prospect (NTS 105-E-9)

Summary

Eight claims were staked for the Joint Venture on an unmapped 7000 x 2000 ft (plus) serpentinite sill (?), the southern half of which contains 6 showings of good quality, not magnetic, simple-vein cross-fibre chrysotile asbestos up to half-inch fibre length (47.6% plus $\frac{1}{4}$ inch). Grade of outcrop varies from 0 to 2% and averages less than 1%. Conditions favorable for an economic deposit of asbestos are present, and scanty outcrop leaves room for an economic deposit.

General

The deposit is located at 61°39'N, 134°09'W on the west slope of a 5400 ft ridge lying east of the saddle in a well defined north-south valley of tributaries of Teraktu Creek and Big Salmon River. The elevation of the saddle is shown on NTS map 105-E-9 as being above 4500 ft, but it is more likely approximately 4200 ft.

The prospect is accessible by helicopter. It lies 12 mi WSW of Northern Lake (3 mi long), 21 mi NNE of Livingston Creek airstrip and 72 mi NNE of Whitehorse. A bulldozer could be walked in 28 miles from Livingston Creek, which is presently accessible by winter cat-roads. Adequate timber to cross Big Salmon River is available.

Physiographically, the deposit lies within the Big Salmon Range of Pelly Mountains, in the Northern Plateau and Mountain Area of the Cordilleran Region. Wisconsin ice surpassed the elevation of nearby 7000 ft peaks, and produced hanging valleys above the main north-south valley. Forest cover is light below tree-line at about 4500 ft.

Outcrop is 5-10%, the remainder covered by talus and/or moss and overburden, probably light.

Claims

Eight claims, SAM 1-8, were staked Aug. 27, 1971 and recorded in Whitehorse Sept. 9, 1971. Grant Nos. are Y62024--031 incl. The claims are shown on Staking Sheet 105-E-9. Since recording, work sufficient to hold the claims to Sept. 9, 1973 has been done.

Geology

Pelly Mountains are underlain by Yukon Group metamorphics intruded by an intermittent northern extension of the Cassiar batholith. The mountains are bounded by Tintina fault in the northeast and Teslin break to the southwest. Apparently associated with these and other deep faults are belts of ultramafic intrusive bodies.

The ultramafic body containing the SAM asbestos deposit was missed in the geological mapping. Bostock et al (GSC Map 372 A "Labarge" 105E, 1936) include the area in "Unit 1" (Quartzite, schists, limestone, gneiss, greenstone of Yukon Group, Precambrian or later.) A large granitic batholith lies 5 mi to the northeast. The linear valley west of the deposit is probably fault-controlled.

The area contains numerous aeromagnetic anomalies, many of which are unmapped ultramafic bodies. The SAM deposit is associated with a 1000-gamma "high" within a 20-mile long anomaly. A 1600 gamma high, 4 mi south of the deposit, appears to be due to non-fibrous, weakly serpentized peridotite.

Asbestos showings

Observation of limited outcrops and talus available suggests the upper half of the ridge is underlain by serpentinite for a distance of 6-7000 ft. Serpentinization is virtually complete, but "bastites" (remnants of partially altered orthopyroxene) suggest the rock was originally a peridotite. Metamorphosed sedimentary (and volcanic?) rocks of Yukon group outcrop half way down the west side of the ridge. These dip under the ultramafic body at 25°

east. The east side of the ridge slopes at a roughly similar angle (approximately 20°) and its overburden contains weathered pebbles of serpentine. If, as is possible, these are in situ, the ultramafic body is probably a sill with a thickness of the order of 1000 ft and (assuming a strike length of 6000 ft) could contain approximately one billion tons of rock above the 4000 ft level, none of which at this time can be presumed to make ore.

Rock exposure is not good. Limited prospecting of serpentine outcrop at and beyond the north end of the staked ground, found no significant amount of asbestos.

In the south half of the ultramafic, six asbestos showings were noted. Positions were estimated from a picketed base-line established northward on the claim location line along the crest of the ridge:

	<u>Lat.</u>	<u>Dep.</u>
North zone		
No. 11 shwg.	3200'N	500'W
South zone		
No. 1 shwg.	1800'N	600'W
2	1370'N	450'W
3	1150'N	350'W
4	1050'N	250'W
5	950'N	225'W

The north zone consists of a number of small outcrops within a 25 ft radius. The south zone consists of an intermittent belt of outcrops each a few feet to a few tens of feet in size. While some of the outcrops appear to be barren, others contain good quality cross-fibre chrysotile asbestos mainly in simple veins.

"Wall readings" were taken at each asbestos showing. These are records of the fibre-length (measured in 16ths of an inch) in each vein crossing a measured straight line, and are analogous to visual assays of channel samples. Observations and calculations are shown on the following page and discussed below:

1. Quality

The asbestos is chrysotile. It forms as simple veins of cross-fibre. It is tough and resistant to torque. The fibres separate from one another relatively easily, and the veins break from wall rock easily. All these factors are favorable milling characteristics. (Since the rock breaks at the vein contact, one would not expect to find veins in talus fragments). Magnetite grains were not observed adhering to the ends of fibrils. (Magnetite-free asbestos commands a higher price. On the other hand,

lack of demonstrated correlation between fibre and magnetite would reduce the effectiveness of magnetometer surveys as direct ore-finders.)

2. Fibre Length

The average fibre had a length slightly in excess of 3/16ths. inch. More significantly, weighted by weight of fibre, the average length is in excess of 1/4 inch (4.1/16ths inch).

Almost half (47.6%) is plus 1/4 inch, which is encouragingly high. Deposits having 20 to 25% plus 1/4 inch are generally of interest.

3. Grade

Since the wall readings were only taken where significant mineralization was noted, they are not intended to accurately represent the average grade of the deposit as a whole. Veins totalling 130/16ths inch crossed 37 ft of tape, giving an unadjusted grade of 1.7%, or, assuming the veins cross the tape at random angles (avg. 45°), an adjusted grade of 2.4%. It can be assumed that fibre-bearing veins were missed in the typically weathered outcrops, and that the actual grade of the wall readings should be higher. This, however, is only an indication of the highest grade mineralization that was encountered. The average grade of outcrops would be less than 1%.

Acc. Phys. Pen.

'SAM' ASBESTOS

DATA & CALCULATIONS

(1) WALL Rdgs. (WR's).

Showing No.	W.R. No.	Fibre Length (16th's inch)								TAPE LENGTH T (ft.)
		1	2	3	4	5	6	7	8	
11	1			2		1	1			3
	2	3								1
	3	1	2	5	1		1			7
	4		1			1			1	3
	5		1	1						1
	6	1					1			3
1	1		1	1						2
	2				1	1				3
	3	1					1			1
	4	2	1	1				1		5
2	-	1		1						3
	3	1		1						2
4	2			1						1
	5			1		1				1
Total Freq		10	6	14	2	5	3	1	1	Total 37 ft.
Total Fibre Length (16th's)		10	12	42	8	25	18	7	8	Total 130 x 1/16 inch.

(2) Calculations

Freq f.	Fibre L (16th's)	fL	%	% x L
10	1	10	7.7	7.7
6	2	12	9.2	18.4
14	3	42	32.4	97.2
2	4	8	6.1	24.4
5	5	25	19.3	96.5
3	6	18	13.8	82.8
1	7	7	5.4	37.9
1	8	8	6.1	48.9
$\Sigma f = 42$		$\Sigma fL = 130$	100	413.6

1. GRADE:

(a) $\frac{130}{16} \div 37(12) = 1.7\%$

(b) assuming random orientation:

$1.7 \times \sqrt{2} = 2.4\%$

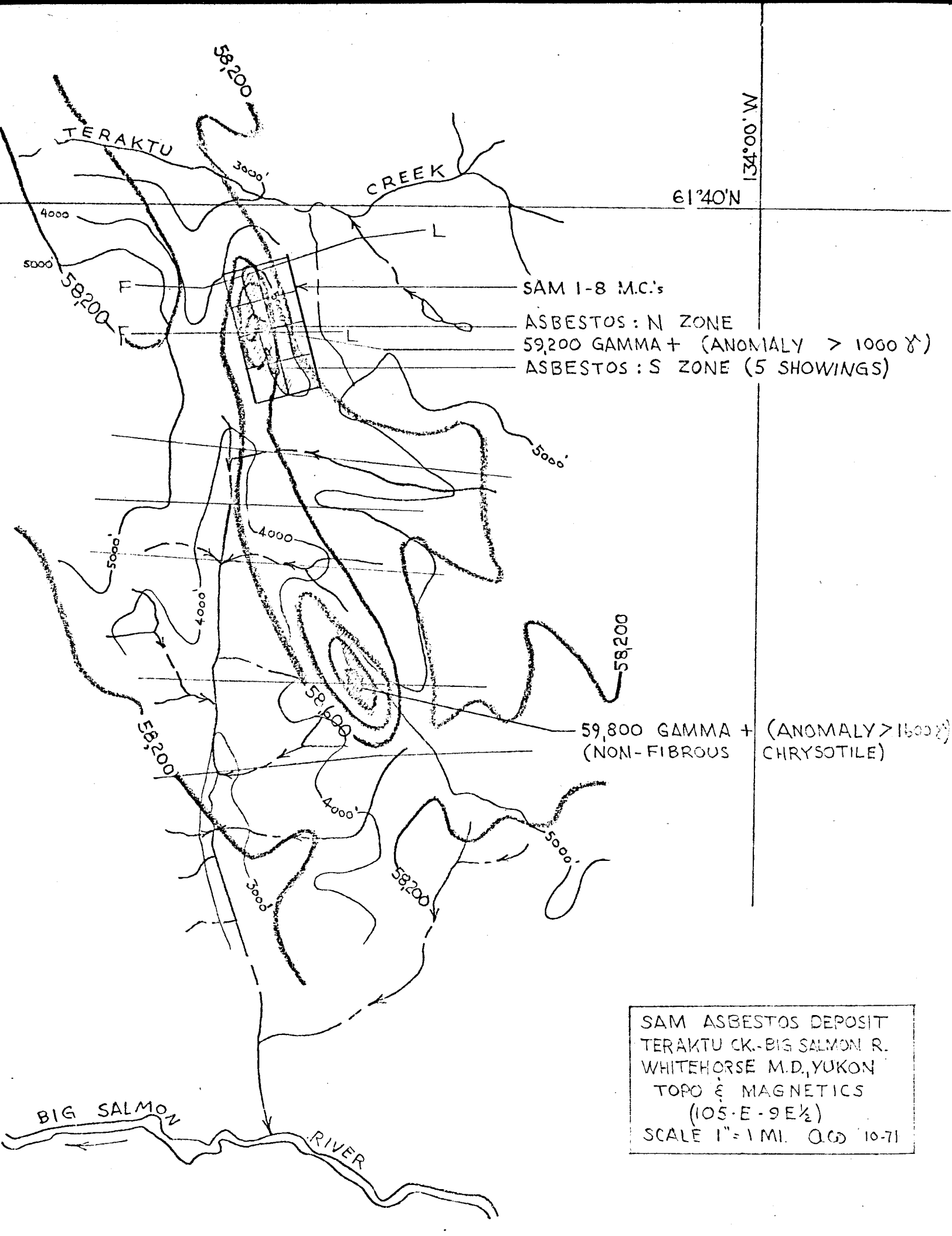
2. Avg. Length

(a) Avg fibre: $\frac{130}{42} = 3.1 \times \frac{1}{16}$ inch.

(b) Weighted by weight (%)

Avg length = $\frac{\Sigma \% \times L}{\Sigma \%} = \frac{413.6}{100} = 4.1 \times \frac{1}{16}$ inch

3. 47.6% is + 1/4"



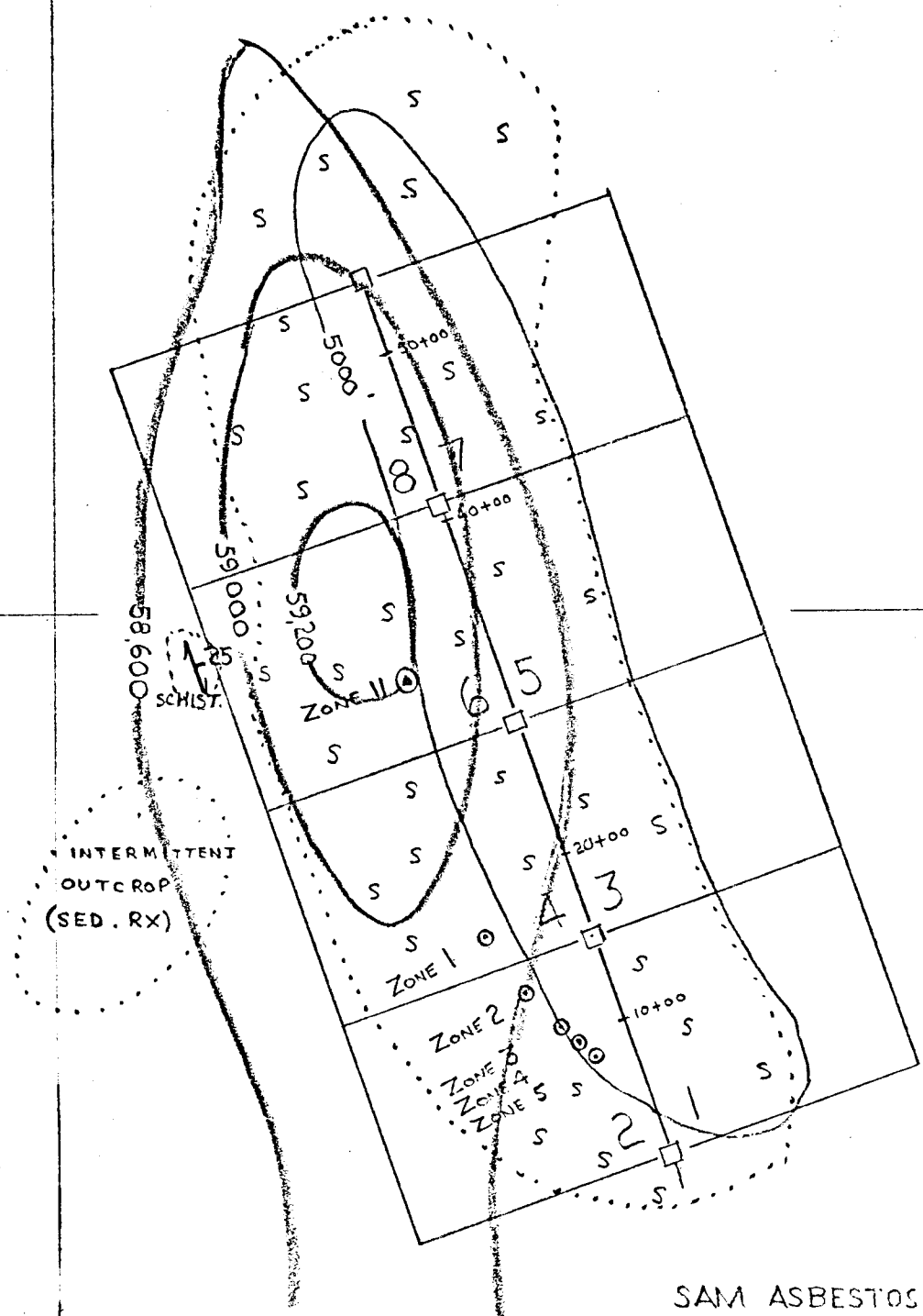
SAM 1-8 M.C.'s
 ASBESTOS : N ZONE
 59,200 GAMMA+ (ANOMALY > 1000 γ)
 ASBESTOS : S ZONE (5 SHOWINGS)

59,800 GAMMA+ (ANOMALY > 1600 γ)
 (NON-FIBROUS CHRYSOTILE)

SAM ASBESTOS DEPOSIT
 TERAKTU CK.-BIG SALMON R.
 WHITEHORSE M.D., YUKON
 TOPO & MAGNETICS
 (105-E-9E½)
 SCALE 1"=1 MI. QGD 10-71

134°09'W

61°39'N



LEGEND

- S SERPENTINE
- S. SERPENTINE
- ⊙ ASBESTOS
- INTERMITTENT OUTCROP, FLOAT AND TALUS

SAM ASBESTOS DEPOSIT
TERAKTU CK.-BIG SALMON R.
WHITEHORSE M.D., YUKON

1" = 1000'

ACC

OCT '71