TERRITORY OF ALASKA

DEPARTMENT OF MINES

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REPORT ON SCHEELITE-BEARING VEINS AT THE WESTON PLACER MINE, EAGLE QUADRANGLE

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by

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The Weston placer mine is in the southeast part of the Eagle Quadrangle at 64° 17' N latitude and 141° 25' W longitude. It is on the south side of the Fortymile River on the downstream side of the Taylor Highway bridge. The property is being mined for placer gold, and scheelite is abundant in the sluice-box concentrate. In 1957 a narrow vein of scheelite-bearing quartz was exposed by the placer mining, and two similar veins were found in outcrops on the north side of the river. Specimens from the veins were brought to the Department of Mines Field Office by Lou Schene, who had been working on the property. The property was examined on July 25, 1957 by Robert H. Saunders, Territorial Mining Engineer.

The property is covered by both placer and lode claims owned by David C. Weston.

The geology of the area has been described in U. S. Geological Survey Bulletin 375, THE FORTYMILE QUADRANGLE, by L. M. Prindle and in U. S. Geological Survey Bulletin 872, THE YUKON-TANANA REGION, ALASKA, by J. B. Mertie, Jr. The country rock is pre-Cambrian Birch Creek schist, and, in the vicinity of the Weston property, there are several small granitic intrusions of Mesozoic age in the schist. There are also beds of crystalline limestone in the Birch Creek schist in this locality; these beds have been described by Mertie:

> "Calcareous schist and limestone appear to constitute a relatively small proportion of the Birch Creek schist and are restricted to the upper parts of the formation. Where observed, such calcareous rocks occur as elongated bodies of small thickness and horizontal extent, which are completely

> recrystallized, usually schistose, and at some localities silicated. The greatest amount of crystalline limestone in the Birch Creek schist is found along the Fortymile River from the mouth of Franklin Gulch downstream to the boundary." (1)

The accompanying map shows a bed of crystalline limestone that outcrops along the river on the Weston property.

In the hand-dug pits shown on the map, two quartz veins are exposed. The larger of these veins is one to two feet thick; two samples taken from this vein were assayed for gold, silver, and tungsten; and nothing was found in either sample. Seven feet from this vein, and parallel to it on the southwest side, there is another vein one inch thick that contains considerable scheelite. This vein was examined with an ultra-violet lamp, and a few specimens from the vein were taken to the Department of Mines Assay Office at College for examination under ultra-violet light. These specimens appeared to contain 5 to 10 per cent tungsten trioxide.

There are two similar scheelite-bearing quartz veins on the north side of the Fortymile River that are not shown on the map. These veins are parallel to the veins on the south side of the river, and they are about one inch thick. One of them appears to contain 5 to 10 per cent tungsten trioxide, and the other is somewhat lower in grade.

None of the scheelite-bearing veins thus far exposed are thick enough to be mined profitably, however, there is a possibility that ore-shoots may have been formed where these veins intersect the crystalline limestone. The geology of this area is similar in

(1) Mertie, J. B. Jr. U. S. Geological Survey Bulletin 872, THE YUKON-TANANA REGION, ALASKA, pg. 50.

some respects to the geology at Gilmore Dome in the Fairbanks District. At Gilmore Dome there are horizons of crystalline limestone in the pre-Cambrian Birch Creek schist, and there are also small scheelite-bearing quartz veins cutting across the schist. The quartz veins have served as "feeders" to form ore-shoots where the veins intersect the limestone. The ore-shoots are irregular in shape; they have been formed by replacement of the limestone by an aggregate of contact-metamprphic minerals including scheelite, quartz, diopside, and hornblende. (2)

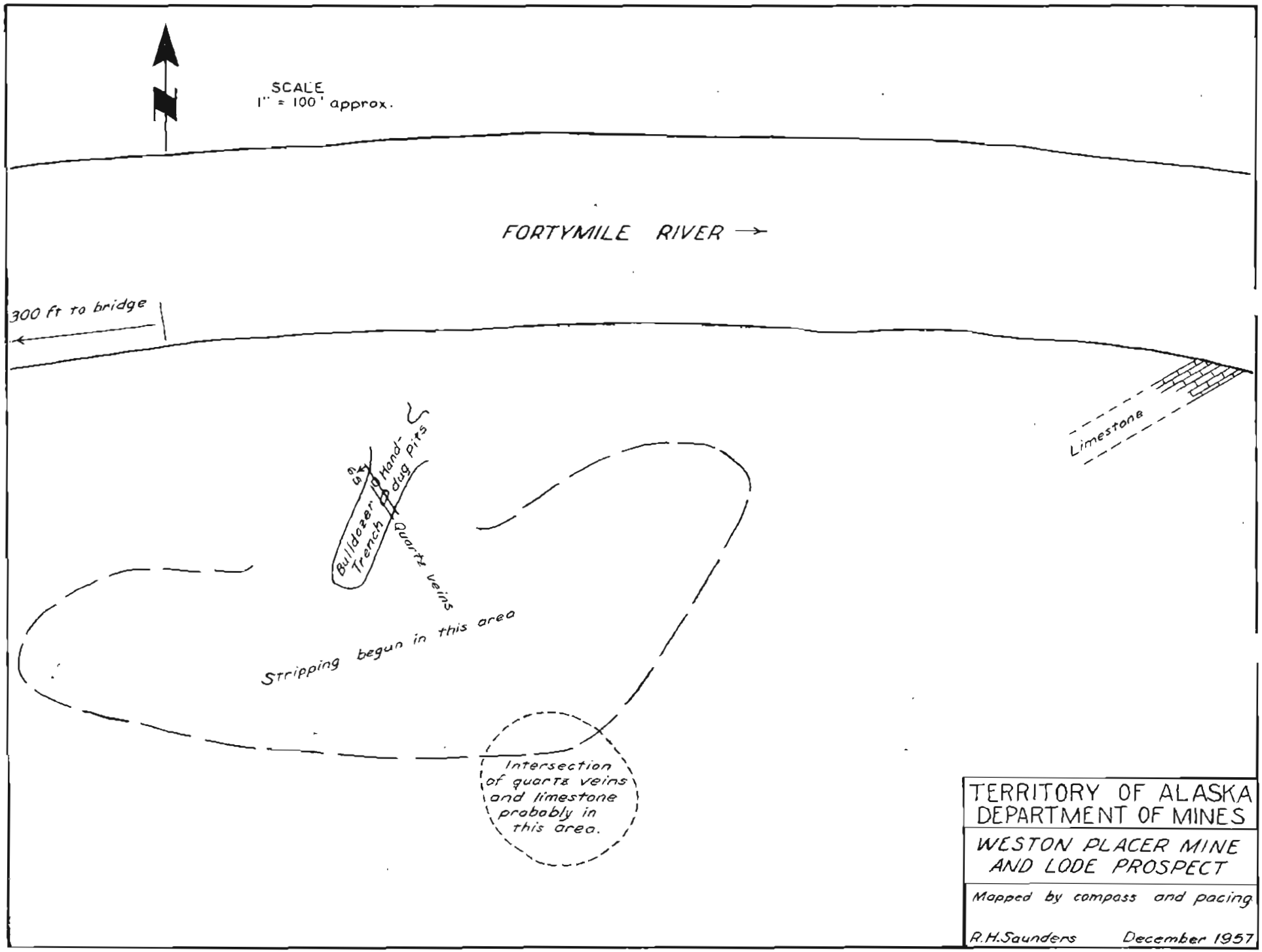
Part of the limestone on the Weston property will be exposed if the placer mining is continued downstream from the present cut. Wherever the limestone is found to be intersected by scheelite-bearing quartz veins it should be examined carefully. It may be worthwhile to make a special effort to uncover the limestone in the area where it probably is intersected by the two veins on the south side of the river. The veins on the north side of the river lie in such a position that they probably intersect the limestone underneath the river.

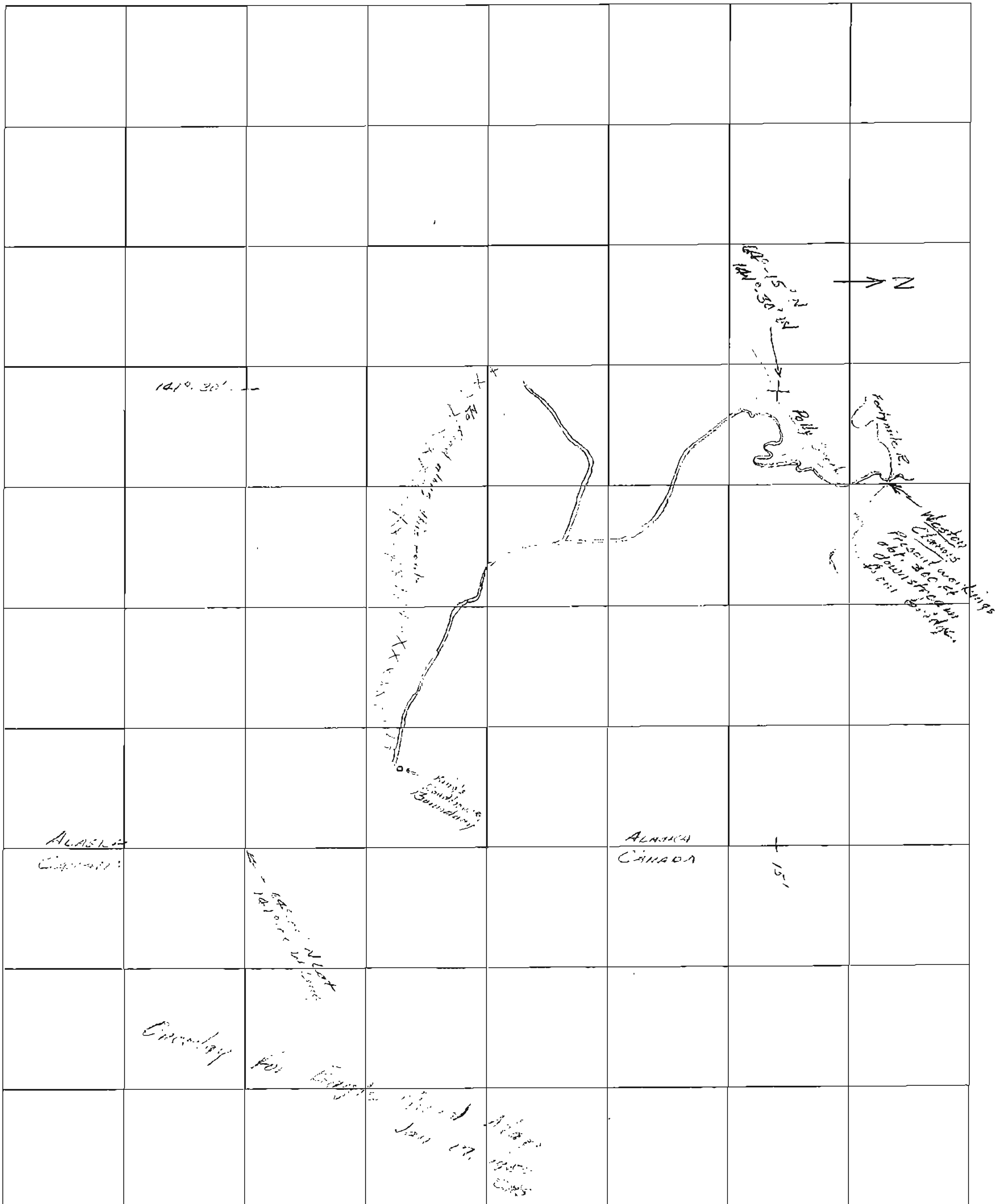
The present market price of tungsten is too low to permit the profitable mining of any ore-shoot that reasonably could be expected to be found. During the five-year period ending July 1, 1956, the General Services Administration purchased domestic tungsten concentrates at $63 per short ton unit of contained tungsten trioxide ($3.15 per pound). During the year ending July 1, 1957, this program was continued with the price pegged at $55 per unit.

(2) Byers, F. M. Jr. U. S. Geological Survey Bulletin 1024-I, TUNGSTEN DEPOSITS IN THE FAIRBANKS DISTRICT, ALASKA, Pg. 196-200.

During the last session of Congress, although legislation was passed to continue this program, no money was appropriated for purchasing tungsten. (3) Some market quotations list the present price at $55 per unit, but no concentrates are being purchased at that price. Foreign tungsten concentrates are being sold in the United States at $12 to $15 per unit, and most, if not all, of the domestic tungsten mines have shut down. If any scheelite deposits are discovered on this property, they undoubtedly will have to be held in reserve until the market price rises. In the past, tungsten prices have been high during wars and low between wars.

(3) CAPITOL CONCENTRATES; MINING WORLD, Vol. 19, No. 9. August, 1957. pg. 11.


SCALE
1" = 100' approx.
FORTYMILE RIVER →
300 ft to bridge
Limestone
Bulldozer Trench
Hand-dug pits
Quartz veins
Stripping begun in this area
Intersection of quartz veins and limestone probably in this area.
TERRITORY OF ALASKA
DEPARTMENT OF MINES
WESTON PLACER MINE
AND LODE PROSPECT
Mapped by compass and pacing
R.H. Saunders December 1957



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