

2490

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

USGS-PRR NO. M-1610
DATE: June 14, 1955
STATE: Idaho
COUNTY: Boundary
DISTRICT: Porthill

TRACE ELEMENTS PRELIMINARY RECONNAISSANCE REPORT

EXAMINED BY: P. L. Weis, U.S.G.S., with Clarence Sheldon, Carol and Walter Grear, Verne Stapp, Karl Fair, Owners.

DATE EXAMINED: June 9 and 10, 1955

1. NAME OF PROPERTY: Golden Sceptre; Wawa claims, 1 through 8; TMJ claims 1, 2, 3. sec. 25 T. 65 N. R. 1 W. Idaho.
2. DIRECTIONS TO PROPERTY: Property is one-half mi. south of Canadian border, 2-1/2 mi. E. of Porthill,
3. OWNER OR LESSEE: Northwest Prospecting and Development Company,
ADDRESS: Spokane, Washington.
4. PUBLISHED REFERENCES: Kilsgaard, T. H., (195__?) , Geologic map of Boundary County, Idaho: Idaho Bur. Mines and Geology.
5. MINE WORKINGS: Approx. 4,000 ft of underground workings on 3 levels. Discovery pits on each claim. (See attached sheets.)
6. TYPE OF EXAMINATION: Reconnaissance for radioactivity.
7. RADIOACTIVE DEPOSIT: Age unknown. Quartz veins in diorite of Purcell sills; brecciated and replaced beds of quartzite.
WALL ROCKS:

ORE MINERALS, PRIMARY: Thorite (?).
ORE MINERALS, SECONDARY: None recognized.
GANGUE MINERALS: Quartz, calcite.

ORE-GANGUE RELATIONSHIP: See attached sheets.
ATTITUDE: See attached sheets.

LENGTH (OR SIZE) OF OTHER: Precision Radiation Instruments Co. Model III "Scintillator"

WIDTH: - SHAPE: - THICKNESS: -
(See attached sheets.)

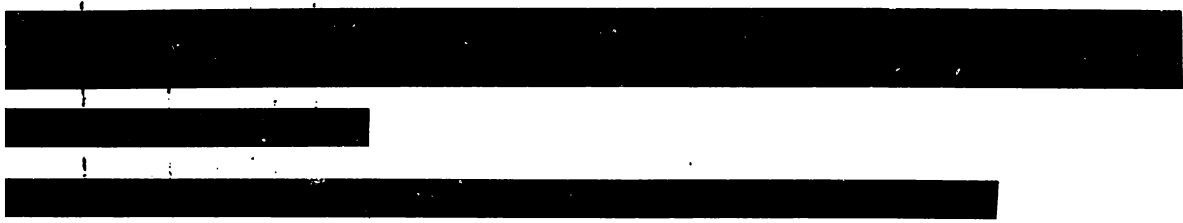
COUNTER TYPE: Model III "Scintillator"
BACKGROUND READINGS: AVERAGE READING FOR DEPOSIT:

SAMPLE INFORMATION: See attached sheets.

SAMPLE NO.	LOF NO.	TYPE AND MATERIAL SAMPLED	Wt	CHEM. ASSAY (PERCENT)	LOCATION
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10. UNPUBLISHED REFERENCES: None.



14. PROOF OF OWNERSHIP RECEIVED: No.

15. SUPPLEMENTAL REPORT TO FOLLOW: ?

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Underground workings consist of tunnels on three levels. The lowest tunnel, about 30 feet long, is in a barren quartz vein cutting diorite (?) of the Purcell sills. The second is about 100 feet above the first and consists of 1,500 feet (determined by pacing) of tunnel and cross-cut. The working crosses or follows several large quartz veins, 3 to 12 feet thick. The first vein encountered is sheared, brownish quartz containing locally abundant thorite(?). The vein is exposed for an estimated 100 feet. Maximum radioactivity is 10 mr/hr, measured on PRI Model III "Scintillator."

The upper working, about 75 feet below the middle working, contains 2,400 feet of accessible drift and crosscuts (measured by pacing) and an unknown amount near the portal which is now inaccessible due to caving. Because the portal is caved, the upper working is accessible only through a 75-foot raise from the middle working. The upper level, like the middle level, cuts or follows several quartz and calcite veins. A radioactive white to reddish-brown quartz vein, ranging from 3 to 11 feet thick, strikes about N. 10 W., dips approximately 90°. Maximum radioactivity was 10 mr/hr, measured on PRI Model III "Scintillator" in the upper part of the raise between levels and in a small stope near the raise.

Certain white quartz-calcite veins in the upper working contain pyrite and erythrite, with little or no associated radioactivity.

Wall rock in all underground workings is dense, fresh, unaltered diorite (?) of Purcell sills.

Nickelson and Kilsgaard, of the U. S. Geological Survey, report (personal communication) that the apparent sill thickness is exaggerated, as a result of a series of near-vertical, north-south trending faults with east sides upthrown.

Surface exposures include outcrops, discovery pits, and talus on the hill east of the underground workings. The contact between igneous rock of the Purcell sills and the overlying quartzite is not exposed but is estimated to be about 400 feet vertically above the upper tunnel portal.

The overlying quartzite is reported by Kilsgaard to be a part of the Belt series. On the property it is a fine-grained dense glassy light- to medium-gray rock showing good bedding. Beds are nearly flat lying near the sill contact, but about 1,500 feet above, they strike N. 30° W. and dip 40° NE.

Near the common corner of Wawa claims 1, 3, and 5, and TMJ claim 1, a discovery pit on Wawa claim 1 shows dark-gray quartzite containing an estimated 20 percent pyrite, which occurs as cubes about 1 mm across, uniformly disseminated through the rock. No radioactive minerals were recognized in hand specimens, but the maximum radioactivity measured here was 6 mr/hr. Twenty-five feet to the north, a white sugary quartzite gave a reading of 1 mr/hr. Exposures were not large enough to show whether the mineralization and radioactivity follow a definite horizon or crosscut the bedding.

Approximately 1,500 feet above the underground workings, and about one-half mile east of them, a discovery pit on TMJ claim No. 1 shows brecciated quartzite cemented by quartz, calcite, and chlorite. No radioactive minerals could be recognized, but maximum radioactivity was 10 mr/hr. Exposures were too limited to permit conclusions as to whether brecciation was confined to one horizon in the quartzite or was related to a crosscutting shear. Bedding here strikes N. 30° W., dips 40° NE.

A discovery pit on Wawa claim No. 8 showed light gray fine-grained quartzite with a maximum radioactivity of 0.6 mr/hr. No radioactive minerals were recognized.

Discovery pits on Wawa claims 1 and 5, about 2,000 feet southeast of the upper portal, expose sheared brownish vein quartz, in a zone 3 to 7 feet thick. The vein here strikes N. 5° E., dips 80° W. It shows a maximum radioactivity of 10 mr/hr. The most radioactive part of the vein contains a reddish material tentatively identified as thorite. Wall rock is fresh unaltered diorite (?) of the Purcell sills. It is not possible to determine whether this vein is the same one as appears in the middle and upper underground workings, and this cannot be established without both underground and surface mapping. The prospect pits are about 500 feet higher than the underground workings, and are estimated to be 1,000 feet horizontally from the underground exposures. They do not appear to line up along their projected strikes. It is possible that the vein has been offset by a cross fault.

Average grade of the radioactive vein is not known. Grab samples showing more than 15 percent eTh can be found in places, but it appears that an average of 1 percent thorium would be possible in at least some of the vein. The relationships, if any, between the radioactive vein in the diorite, the apparent replacement of quartzite by radioactive material, and the breccia zone in quartzite are not known, but should be studied.

The property appears to offer unusual promise of commercial quantities of thorium-bearing ore at a grade that either may be minable as such or may lend itself to effective beneficiation.