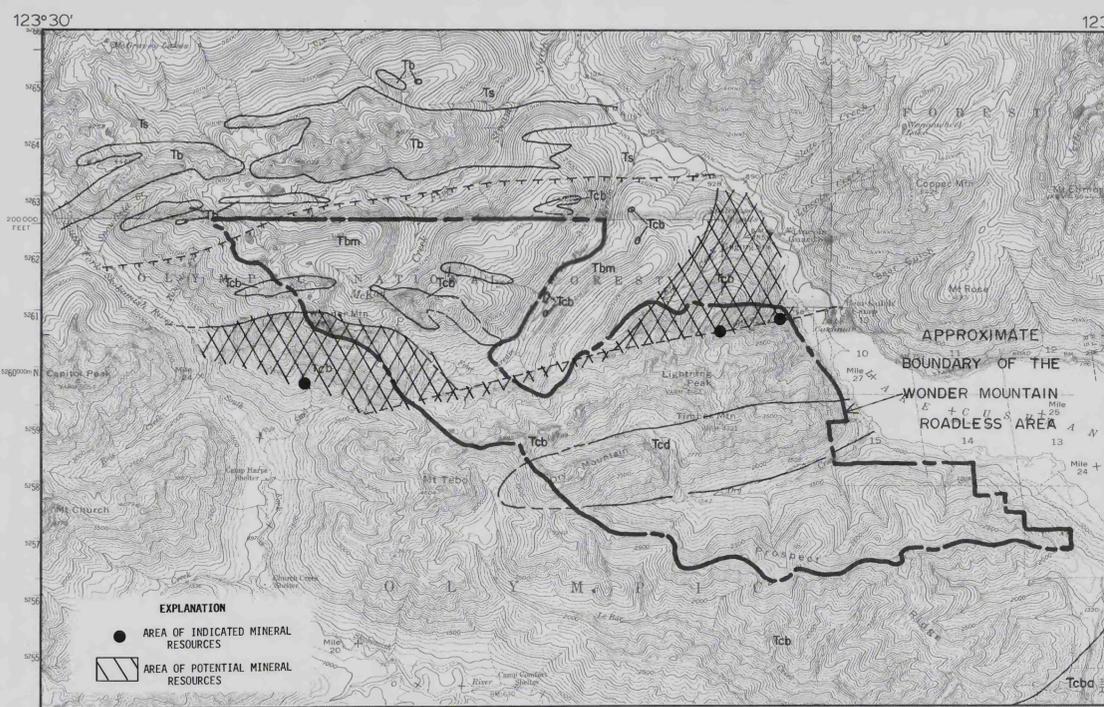
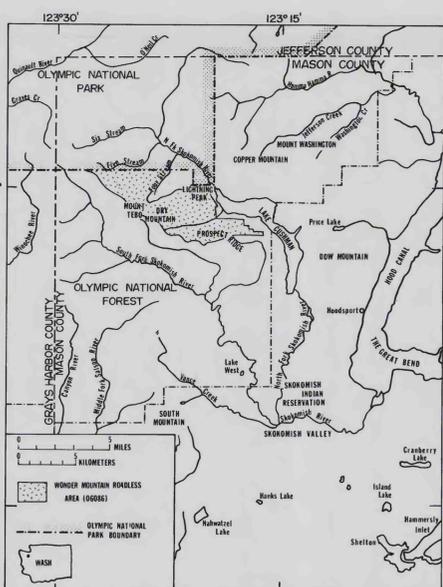


MAP A. LOCALITIES OF MINERALIZED SAMPLES, MINES, AND PROSPECTS



MAP B. INDICATED RESOURCES AND AREA OF LOW MINERAL RESOURCE POTENTIAL FOR MANGANESE



Index map showing location of the Wonder Mountain Roadless Area (06066) on the southeastern flank of the Olympic Mountains, Mason County, Wash.

Table 1.--Analytical results<sup>1</sup> from ores sampled within the Wonder Mountain Roadless Area, Mason County, Wash.

[All results given in parts per million ( $\mu\text{g/g}$ ); N, not detected at a given value; >, concentration greater than value given]

| Element | Copper Creek drainage <sup>2</sup> | Elk Creek drainage <sup>3</sup> | Steel Creek drainage <sup>4</sup> |
|---------|------------------------------------|---------------------------------|-----------------------------------|
| V       | 100-150                            | 1,500                           | 150-200                           |
| Mn      | 5,000                              | >5,000                          | >5,000                            |
| Co      | N5-20                              | 1,000                           | 30-50                             |
| Ni      | 70-200                             | 150                             | 100-300                           |
| Cu      | 30-200                             | 3,000                           | 10-100                            |
| Mo      | N5                                 | 20                              | N5-15                             |
| Pb      | N10-30                             | N10                             | N10                               |
| Sr      | 100-5,000                          | N100                            | N100-300                          |
| Ba      | 200->5,000                         | 150                             | 100-200                           |

<sup>1</sup>Data from Church and others, 1982, table 4.  
<sup>2</sup>Samples WM1401RA, WM1402RA, and WM1403RA (see fig. 2).  
<sup>3</sup>Sample RWT32981 (see fig. 2).  
<sup>4</sup>Samples RWT32281 and RWT32381 (see fig. 2).

Table 2.--Mines and prospects in and near the Wonder Mountain Roadless Area, Mason County, Wash.

| Map No. | Name                            | Summary  | Production and workings  | Sample data  | Resource estimate  |
|---------|---------------------------------|--|--|--|--|
| 1       | Steel Creek prospect.           | Three deposits of hausmannite-stained bementite occurring with jasper along a contact between red limestone and basalt. Deposit A is exposed for 25 ft and has average thickness of 4 ft. About 200 ft to the east, deposit B is exposed for 85 ft and has average thickness of 7 ft. Deposit C consists of small lenses occurring in an area 100 ft by 200 ft about 1,000 ft north of deposit B. These deposits have general northeast strike and dip from 50° to 85° SE. (Magill, 1960, p. 64-66). | Several pits   | Thirteen channel samples taken during U.S. Bureau of Mines' 1940 exploration program indicate that deposits A, B, and C averaged 13.2, 32.4, and 32.4 percent manganese, respectively (Magill, 1960, p. 65, figs. 44 and 45). In 1981, U.S. Bureau of Mines collected a chip sample from deposit B; it assayed 38.0 percent manganese.   | Wiebelt (written commun., 1942) estimated 948 tons of resources averaging 27.0 percent manganese. There is potential for discovery of additional resources.    |
| 2       | Apex prospect.                  | Bementite and other manganese silicates and oxides occur as a lens containing jasper, silicified limestone, and minor amounts of malachite at contact between basalt and limestone. Manganiferous lens is about 200 ft long, maximum thickness is 28 ft at the surface, and minimum depth is 100 ft; it strikes approximately N. 75° E. and has near-vertical dip. Faulting occurs at the west end of manganiferous zone, offsetting it a few feet (Magill, 1960, p. 60-62).                         | Several pits   | During U.S. Bureau of Mines' 1940 exploration program, 62 channel samples were taken, and seven diamond-drill holes aggregating 773 ft were drilled. Channel-sample assays ranged from 1.0 to 40.6 percent manganese. Selected drill-hole intervals assayed from .05 to 46.8 percent manganese (Wiebelt, written commun., 1942). In 1981, U.S. Bureau of Mines took one chip sample from manganiferous zone; it assayed 15.0 percent manganese and 0.031 oz gold per ton.            | Wiebelt (written commun., 1942) estimated 10,662 tons of resources averaging 27.1 percent manganese. There is potential for discovery of additional resources. |
| 3       | Brown Mule (Triple Trip) Mine.  | Tabular body of hausmannite-stained bementite occurs with jasper along a contact between red limestone and basalt. Deposit is exposed for 70 ft in a trench, but underground exposure by two adits indicates a discontinuous body. Manganiferous zone averages 1.5 ft thick, 30 ft deep, strikes northeast, and dips from 60° to 70° SE.   | According to Pardee (1921, p. 237), manganese ore (possibly a 30-ton carload) was shipped in 1916. Workings include one trench 120 ft long, two adits totaling 213 ft, and several pits. | One composite sample of three small pods from lower adit, assaying 31.0 percent manganese, and two samples across a manganiferous zone in the trench, assaying 29.5 and 20.8 percent manganese, were taken during U.S. Bureau of Mines' 1940 exploration program (Magill, 1960, p. 63, fig. 43). In 1981 U.S. Bureau of Mines resampled manganiferous pods in lower adit and sampled a manganiferous zone in upper adit. Manganese contents are 25.0 and 31.0 percent, respectively. | Wiebelt (written commun., 1942) estimated 1,994 tons of resources averaging 24.8 percent manganese. There is potential for discovery of additional resources.  |
| 4       | Black Queen prospect.           | Deposit of bementite, associated with jasper and bounded by basalt and red calcareous argillite was examined by Green (1945, p. 41). No samples were taken. The deposit strikes N. 50° E., dips 75° NW., and has a thickness of 2-3 ft and a strike length of approximately 20 ft.   | Several open cuts and a shallow shaft (Green, 1945, p. 41).  | None   | Prospect not found in 1981 because of dense vegetation. Exposures not sufficient to determine mineral potential.   |
| 5       | Discovery prospect.             | Limonite- and manganese-stained shear zone bounded by red limestone and basalt strikes northeast, dips 70° NW., and has an average thickness of 4 ft.  | Two adits, 20 ft and 38 ft long.   | Four samples were taken from 38-foot adit; one sample from the shear zone assayed 0.07 percent copper and 5 percent manganese.   | Exposures not sufficient to determine mineral potential.   |
| 6       | Hi Hope Nos. 1 and 2 prospects. | Deposit of bementite along a basalt-argillite contact (Green, 1945, p. 41). Location is outside the roadless area.   | One caved adit reported to be 50 ft long (Green, 1945, p. 41).   | None   | Exposures not sufficient to determine mineral potential.   |

MINERAL RESOURCE POTENTIAL MAP OF THE WONDER MOUNTAIN ROADLESS AREA, MASON COUNTY, WASHINGTON

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1983