

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

MINERAL INVESTIGATION OF THE WHEELER PEAK ROADLESS AREA,  
WHITE PINE COUNTY, NEVADA

By  
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This open file report summarizes the results of a Bureau of Mines wilderness study and will be incorporated in a joint report with the Geological Survey. The report is preliminary and has not been edited or reviewed for conformity with the Bureau of Mines editorial standards. Work on this study was conducted by personnel from Intermountain Field Operations Center, Building 20, Denver Federal Center, Denver, CO 80225.

## FOREWORD

The Bureau of Mines and Geological Survey jointly conduct mineral surveys of lands which, in the Forest Service Second Roadless Area Review and Evaluation (RARE II) program, have been designated for further planning. These jointly prepared evaluations are used in the RARE II program, which conforms with the Multiple-Use Sustained-Yield Act of 1960 (74 Stat. 215; 16 U.S.C. 528-531), the Forest and Rangeland Renewable Resources Planning Act of 1974 (88 Stat. 476, as amended; 16 U.S.C. 1601 note), and the National Forest Management Act of 1976 (90 Stat. 2949; 16 U.S.C. 1600 note). Reports on these surveys provide the President, Congress, the Forest Service, and the general public with information essential for determining the suitability of land for inclusion in the National Wilderness Preservation System.

This report is on the Wheeler Peak Roadless Area (4359), White Pine County, Nevada.

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By Steven E. Kluender, Bureau of Mines

INTRODUCTION

During the summers of 1980 and 1981 the Bureau of Mines conducted field investigations as part of a joint effort with the Geological Survey to evaluate the mineral resources of the Wheeler Peak Roadless Area (pl. 1). This report summarizes the Bureau's findings.

Field investigations by the Bureau of Mines included mapping and sampling of mines, prospects, and mineralized areas. A total of 96 samples were taken for assay, and 65 of these showed metal mineralization (tables 2-5, figs. 2-9). All samples were fire-assayed for gold and silver, special analyses for antimony, beryllium, copper, lead, manganese, and tungsten, were run on all samples, and spectrographic analyses were run on at least one sample from each locale. Results of these analyses are available for public inspection at the Bureau of Mines, Intermountain Field Operations Center, Denver Federal Center, Denver, Colo. 80225.

Appreciation is expressed to S. Don Brown, Brian J. Hannigan, Terry J. Kreidler, Steven E. Tuftin, Jeanne E. Zelten, and the support staff of the Bureau of Mines, Mineral Land Assessment Branch, for their contributions to this report.

Location, size, and geographic setting

Wheeler Peak Roadless Area encompasses 61,869 acres of the Humboldt National Forest in east-central Nevada and is entirely in White Pine County (fig. 1). The Wheeler Peak Roadless area is in the southern Snake Range, which extends along the east edge of Nevada in the Basin and Range physiographic province. The elongate north-trending range is bounded on the west by Spring

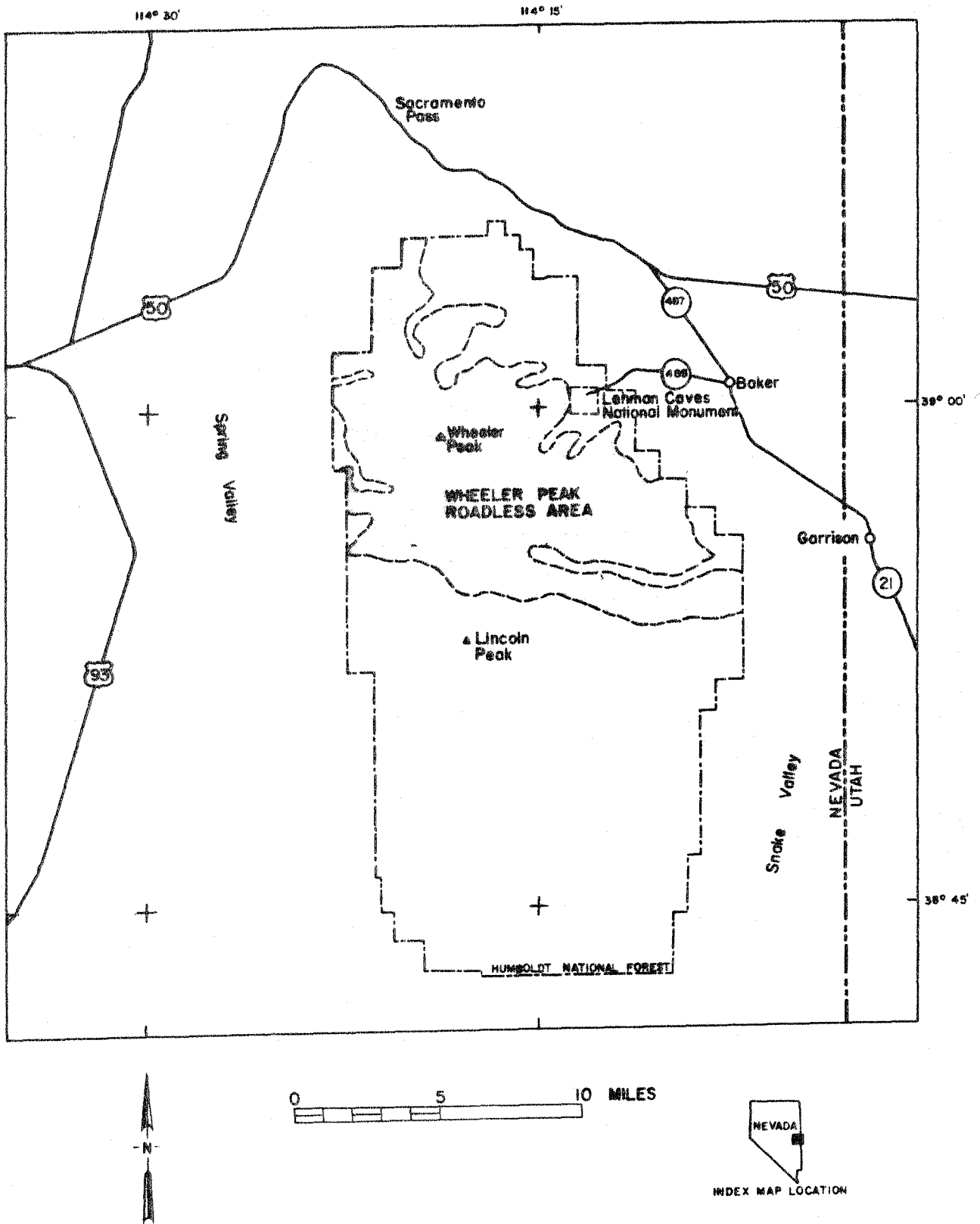


Figure 1.--Index map showing location of the Wheeler Peak Roadless Area, White Pine County, Nevada.

Valley and on the east by Snake Valley. The area is reached by U.S. Highway 93 in Spring Valley and Nevada Highway 487 and Utah Highway 21 in Snake Valley. Nevada Highway 488 extends from Baker, Nev., to Lehman Caves National Monument, which borders the area on the northeast. Baker, Nev., and Garrison, Utah, are the only communities in the immediate area.

Cliffs and steep slopes are common features of the area. Elevations in the Wheeler Peak Roadless Area range from 6,200 to 7,400 ft along the base of the range to 13,063 ft on Wheeler Peak.

#### Mining activity

White Pine County, Nev., has had a long and colorful history of mining. Some exploration and (or) production has occurred nearly every year through 1981 in or near the Wheeler Peak Roadless Area.

Much of the area adjacent to the Wheeler Peak Roadless Area has been leased for oil and gas or is under lease application. A small tract within the roadless area, south of the Hub Mine, was under lease application in 1981. No evidence was found to indicate that exploratory drilling for oil and gas has ever occurred within the roadless area. No minerals, other than oil and gas, had been leased in the roadless area as of mid-year 1982.

#### MINING DISTRICTS AND MINERALIZED AREAS

Mining districts in and near Wheeler Peak Roadless Area--Mount Washington, Osceola, Snake, and Tungsten--were organized between 1863 and 1870.

The Mount Washington district (also known as Lincoln, St. Lawrence, or Mount Wheeler) includes some of the southwest side of the roadless area on the west slope of the Snake Range extending from Williams Canyon south to Lincoln Canyon. The district is noted for lead, silver, and lode tungsten and for minor occurrences of beryllium and copper.

The Osceola district, including the subdistricts Hogum, Summit Diggings, Weaver Creek, and Willard Creek, encompasses the northwest end of the roadless area and is noted for gold, lead, silver, tungsten, and minor occurrences of phosphate (bat guano), copper, siliceous flux, and zinc.

The Snake district, also known as Bonita, includes most of the southeastern part of the roadless area on the east side of the Snake Range and is noted for lead, lode and placer tungsten, and minor occurrences of silver and copper.

The Tungsten district (also known as Hub or Lincoln), mostly in the roadless area at its western boundary, is noted for lode tungsten and minor occurrences of lode gold and silver.

Mineralized areas within Wheeler Peak Roadless Area include the Weaver and Willard Creeks area in the Osceola district, the Hub and Johnson Mines area in the Tungsten district, the Mount Washington area in the Mount Washington district, and the Snake Creek quartz monzonite area and the Snake Creek areas in the Snake district.

#### Weaver Creek and Willard Creek area

No evidence of workings was found within the roadless area in the Weaver Creek and Willard Creek area during field investigations. Many workings are adjacent to the roadless area (pl. 1) and several showed evidence of moderate past production.

Gold has been produced in the Willard Creek drainage, less than 1 mi west of the roadless area, but no mining activity was taking place during field investigations in 1981.

Placer gold was being produced in 1981 on Weaver Creek, less than 1 mi north of the roadless area boundary. A large backhoe and a bulldozer were being used to feed a trommel, and several combinations of screens and riffles were being tested. Although most of the recovered gold was in small particles,



at least one large nugget was recovered. The mine foreman reported that production was great enough to cover expenses.

The alluvial deposits from which gold is recovered in the Weaver Creek and Willard Creek drainages were derived from quartzite bedrock within the roadless area. According to Weeks (1908a, p. 132) placer gold deposits being worked in this area were derived from the erosion of the quartzite strata.

The Weaver Creek and Willard Creek area is part of the Osceola district. Gold occurs in this area in quartz veins in fracture or sheeted zones that cut the Prospect Mountain Quartzite and Pioche Shale. The most characteristic structure is the sheeted type, in which quartz veins range in width from several inches to 15 ft. Wider belts could be considered compound sheeted zones--one or more zones closely spaced--that show slickensides but little displacement (Weeks, 1908a, p. 124-125).

According to Weeks (1908a, p. 126-127) fractures and fissures in ore-bearing rocks in the Osceola district resulted from compressive stresses set up by magmatic intrusion. Quartzite and argillite beds overlying the magma were sheared and fractured along vertical or highly inclined planes. Rocks are cut by two sets of joints and sheeted zones that show small displacement. One set strikes east and dips north or vertically; the other, less prominent, set strikes northeast and dips steeply. Subsequent to fracturing, quartz and metallic minerals were deposited from circulating fluids and filled the fractures and fissures. Locally, small vugs lined with fluorite and some free gold have been found.

Oxidation extends deeper than do any of the existing workings in this area, thus the existence of a zone of secondary enrichment could not be determined. Oxidized mineralized zones are presumed to persist below the

depth of the deepest workings, 300 ft from the surface. Productive zones have been limited in areal extent.

Placer gold deposits are localized in gravels as thick as 200 ft and are above layers of caliche called "false bedrock" in alluvial fans (Smith and others, 1976, p. 62).

Tungsten deposits in this area are in scheelite-bearing quartz veins (1 in. to 20 ft wide), in granitic rocks, and in pipelike replacements in limestone.

To characterize the type of mineralization likely to occur in the Weaver Creek and Willard Creek area, workings adjacent to the roadless area were examined and samples were taken. The mines and prospects in Lucky Boy Canyon, near Pilot Knob Ridge, in Strawberry Creek Canyon, and in Horse Canyon (pl. 1, table 2, figs. 2, and 3) were sampled (samples 1-15) and assays show lead, silver, and tungsten, and minor amounts of copper, molybdenum, and yttrium.

Parts of the mining claims in the Strawberry Creek drainage extend into the roadless area near the head of the Willard Creek drainage. Veins containing copper and lead minerals project from these claims into the roadless area but were not found to crop out in the roadless area.

#### Hub and Johnson Mines area

Five prominent mineralized quartz veins and many small sub-parallel veins in quartz monzonite constitute the Hub Mine deposit in and near the roadless area at the west-central boundary (figs. 4, 5, and 6). The main ore minerals are huebnerite-scheelite and wolframite; traces of fluorite, gold, pyrite, and silver occur locally. The veins strike northeast and dip southeast, except for the main or Hub vein, which dips northwest 60 degrees to vertical.

The Hub vein is 3 in. to 5 ft wide and more than 1/4 mi long. The vein was stoped at intervals for about 1,000 ft along the strike, from a little below the lowest adit on the vein to the surface. Nearly all of the vein is mineralized; the richest parts are in shoots 15 to 25 ft long, interspersed by lower grade shoots of similar length (Smith and others, 1976, p. 79). Contractional stress within the cooling quartz monzonite intrusive resulted in cracks and fissures that were subsequently filled by magmatic fluids carrying silica and rare metals (Weeks, 1908b, p. 266). A general consensus among prospectors and others interested in tungsten deposits is that these ore-bearing veins do not extend to depth.

Assays from chip and dump samples at the Hub Mine and adjacent prospects show tungsten values ranging from 0.01 to 0.6 percent, with minor amounts of copper, lead, and silver (table 3, figs. 4-6).

No recent activity was noted in the vicinity of the Hub Mine during field investigations. Although most of the surface deposits and easily accessible ore shoots appear to have been mined out, no workings have thus far explored the depth of the mineralized veins. Undiscovered ore shoots may be present in the roadless area and mineralization may extend deeper than existing workings. Part of the mineralized zone associated with the Hub Mine deposit is known to extend into the roadless area and constitutes a small tungsten resource.

Workings at the Johnson Mine and prospects lie entirely within the roadless area in its south-central part. These workings are in the same quartz monzonite intrusive body as is the Hub Mine; the mode of mineral occurrence appears to be the same. Mineralization occurs in prominent, mineralized quartz veins, traceable for hundreds of feet, that strike northwest and dip southwest from 60 degrees to near vertical. In places, the veins are brecciated and iron and copper stains and huebnerite are apparent. Except for one partially collapsed adit, all workings were inaccessible.

Assays from samples taken at the Johnson Mine and adjacent prospects show tungsten values ranging from 0.01 to 0.04 percent, an antimony value of 0.08 percent, lead values ranging from 0.01 to 0.23 percent, and a silver value of 12.8 oz/ton (table 3).

An inferred resource of several metals, similar to those at the Hub Mine or the Johnson Mine, exists in the quartz monzonite intrusive body surrounding these mines in the roadless area.

#### Mount Washington area

Southwest of Mount Washington, near the southwest boundary of the roadless area, ore bodies in narrow veins of quartz and calcite occur along north- and east-striking faults; ore bodies also occur as replacement deposits along the bedding near where the faults cut the Wheeler and Pole Canyon Limestones. Lead-silver ore occurs in the upper beds of the Pole Canyon Limestone at the St. Lawrence Mine, about 1 mi south of the roadless area. A tungsten-beryllium replacement deposit in the Mount Wheeler Mine in Pole Canyon, about 1 1/2 mi south of the roadless area, occurs in the lower 15 ft of the Wheeler Limestone. Ore shoots of scheelite-phenakite-bertrandite with fluorite, sericite, and siderite extend eastward along the bedding toward the Snake Range for an unknown distance. One shoot was explored eastward in the mine for 1,500 ft from the portal. BeO content averaged 1.0 percent and the WO<sub>3</sub> content ranged from a trace to 25 percent and averaged less than 0.5 percent (Stager, 1960).

Assays of a stockpile grab sample from Mount Wheeler Mine and from chip and dump samples at adjacent adits and a prospect (table 4 and figs. 7 and 8) show beryllium values ranging from 0.2 to 0.24 percent, tungsten values ranging from 0.01 to 0.03 percent, silver values ranging from 0.2 to 0.4, and minor copper, lithium, and yttrium.

Assays from samples taken at adits, dozer cuts, and pits at the St. Lawrence Mine and in adjacent workings on the same vein system (fig. 9) show lead values ranging from 0.01 to 24.8 percent, silver values ranging from 0.2 to 2.9 oz/ton, and minor amounts of antimony, copper, gold, tungsten, and zinc (table 4).

Assays from samples (44-48, 53 and 54) taken at a group of prospects on Mount Washington within the roadless area show lead values ranging from 0.01 to 2.93 percent, tungsten values ranging from 0.02 to 0.2, and minor amounts of copper, silver, and zinc (table 4).

Assays from samples taken at prospects on the Chapman-Taylor (Big Wash) Claims, on the south boundary of the roadless area, show minor amounts of lead and silver.

The mineralization on the Chapman-Taylor (Big Wash) Claims and the Mount Washington prospects is believed to be an eastward extension of mineralization found at the Mount Wheeler and the St. Lawrence Mines (Stager, 1960). The mineralization occurs in limestones that have been productive in other mines in and near Wheeler Peak Roadless Area.

#### Snake Creek quartz monzonite area

A 5-sq-mi area of quartz monzonite, containing approximately 0.04 to 0.12 percent allanite and monazite, occurs at the headwaters of the Snake Creek drainage near the Johnson Mine. Rare-earth elements and thorium are found in these minerals in unusually high amounts. The  $\text{ThO}_2$  content of the quartz monzonite ranges from 4 to 168 ppm and the rare-earth content ranges from 80 to 900 ppm (Garside, 1973, p. 108). Although neither mining claims nor evidence of attempts to mine these minerals could be found during field investigations, thorium and rare-earth resource may exist within the quartz monzonite in the Snake Creek drainage.

## Snake Creek area

Tungsten was produced from placers and lodes in an embayment into the roadless area along Snake Creek. Scheelite-bearing quartz veins in the Pioche Shale were worked at the Bonita (Tilford) Mine, and production was reported in 1913, 1915, and 1916. The floor of Snake Creek Canyon below the Bonita Mine was explored for placer scheelite in the early 1940's; samples from pits in the alluvium averaged 2.8 lb WO<sub>3</sub> per ton (Smith and others, 1976, p. 77). Production figures are unavailable.

The Bonita Mine was inaccessible and the veins were not exposed. One sample (49) from a group of nearby prospects contained 0.01 percent tungsten (table 4).

The probable source of scheelite-bearing veins found in sedimentary rocks both at Mount Washington and Snake Creek, as well as the scheelite-bearing veins in the quartz monzonite at the Hub and Johnson Mines, is the quartz monzonite intrusive in the headwaters of Snake Creek.

## SUMMARY

Interest continues in lode and placer mining as well as in oil and gas leasing, in and near the Wheeler Peak Roadless Area. All mining districts in and near the roadless area (except the Tungsten district) show signs of recent exploration and (or) production.

A moderate amount of placer gold has been produced from workings in secs. 10 and 11, T. 14 N., R. 68 E., from alluvium originating within the roadless area in the Willard and Weaver Creek drainages. A moderate amount of tungsten and minor amounts of antimony, copper, lead, and silver have been produced from the Hub mine area, in and near the roadless area and the Johnson Mine, wholly within the roadless area. A moderate amount of beryllium, lead, silver, and tungsten has been produced from the Mount Washington area

just west of the roadless area. A small amount of tungsten has been produced from mines in an embayment into the roadless area in the Snake Creek drainage.

There is evidence of a gold occurrence in the roadless area in the Willard Creek and Weaver Creek drainages. Copper and lead mineralization may extend into the roadless area in the Strawberry Creek drainage. The tungsten resource at the Hub Mine extends into the roadless area. Tungsten mineralization is known to occur within the roadless area at the Johnson Mine, but there is insufficient evidence to identify a resource there. An eastward extension of mineralization into the roadless area, similar to that at the Mount Wheeler and St. Lawrence Mines, has been postulated by Stager (1960) and partially verified by sample results. A quartz monzonite body within the roadless area was found to contain high amounts of thorium and rare-earth elements.

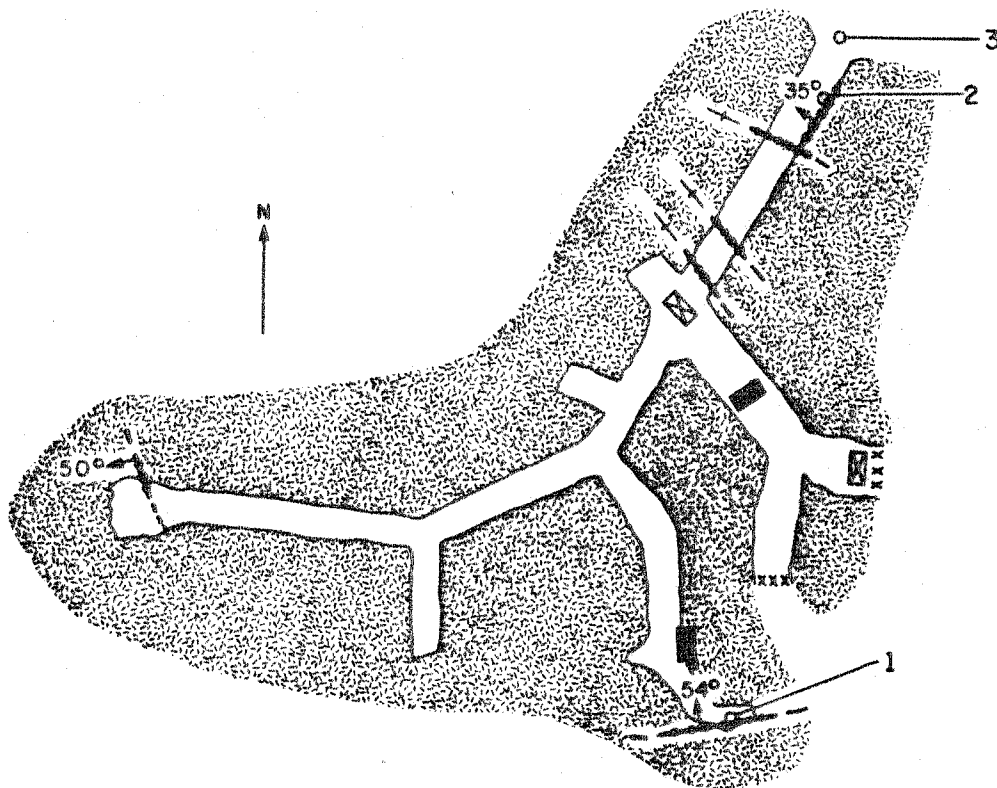
#### REFERENCES

- Garside, L. J., 1973, Radioactive mineral occurrences in Nevada: Nevada Bureau of Mines Bulletin 81, 121 p.
- Smith, R. M., Hose, R. K., and Blake, M. D., Jr., 1976, Geology and mineral resources of White Pine County, Nevada: Nevada Bureau of Mines and Geology Bulletin 85, 105 p.
- Stager, H. K., 1960, A new beryllium deposit at the Mount Wheeler Mine, White Pine County, Nevada, in Geological Survey research 1960: U.S. Geological Survey Professional Paper 400-B, p. B70-B71.
- Weeks, F. B., 1908a, Geology and mineral resources of the Osceola mining district, White Pine County, Nevada, in Contributions to Economic Geology: U.S. Geological Survey Bulletin 340-A, p. 117-133.
- \_\_\_\_\_ 1908b, Tungsten deposits in Snake Range, White Pine County, eastern Nevada, in Contributions to Economic Geology: U.S. Geological Survey Bulletin 340-D, p. 263-270.





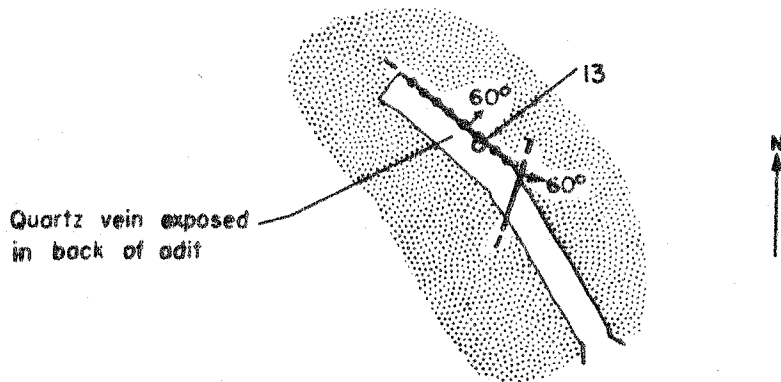
No.	Sample Description	Analytical data
		Pb percent
1	3 in. chip	0.05
2	4 in. chip	.04*
3	Dump grab	.03*



0 20 40 60 FT  
 SE  $\frac{1}{4}$  Sec. 9, T. 14 N., R. 68 E.

Figure 2.--Adit at Lucky Boy Mine and sample localities 1-3; table shows sample data. On the table \* indicates spectrographic analyses.

No.	Sample Description	Analytical data
		W percent
13	4 in. chip	0.01



0 20 40 60 FT

NW  $\frac{1}{4}$  Sec. 32, T. 14 N., R. 68 E.

Figure 3.--Small adit in Horse Canyon and sample locality 13; table shows sample data.

<u>Sample</u>		<u>Analytical data</u>
<u>No.</u>	<u>Description</u>	<u>Ag</u>
		<u>oz/ton</u>
24	3 in. chip	0.2

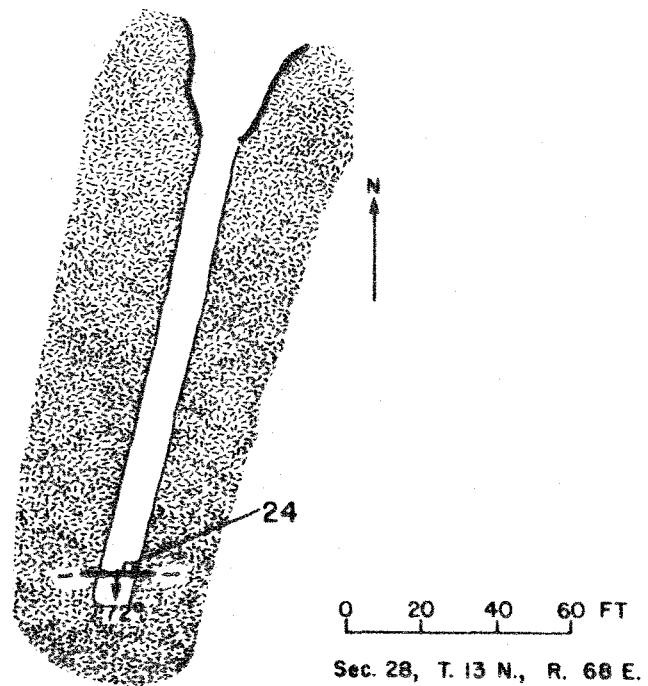
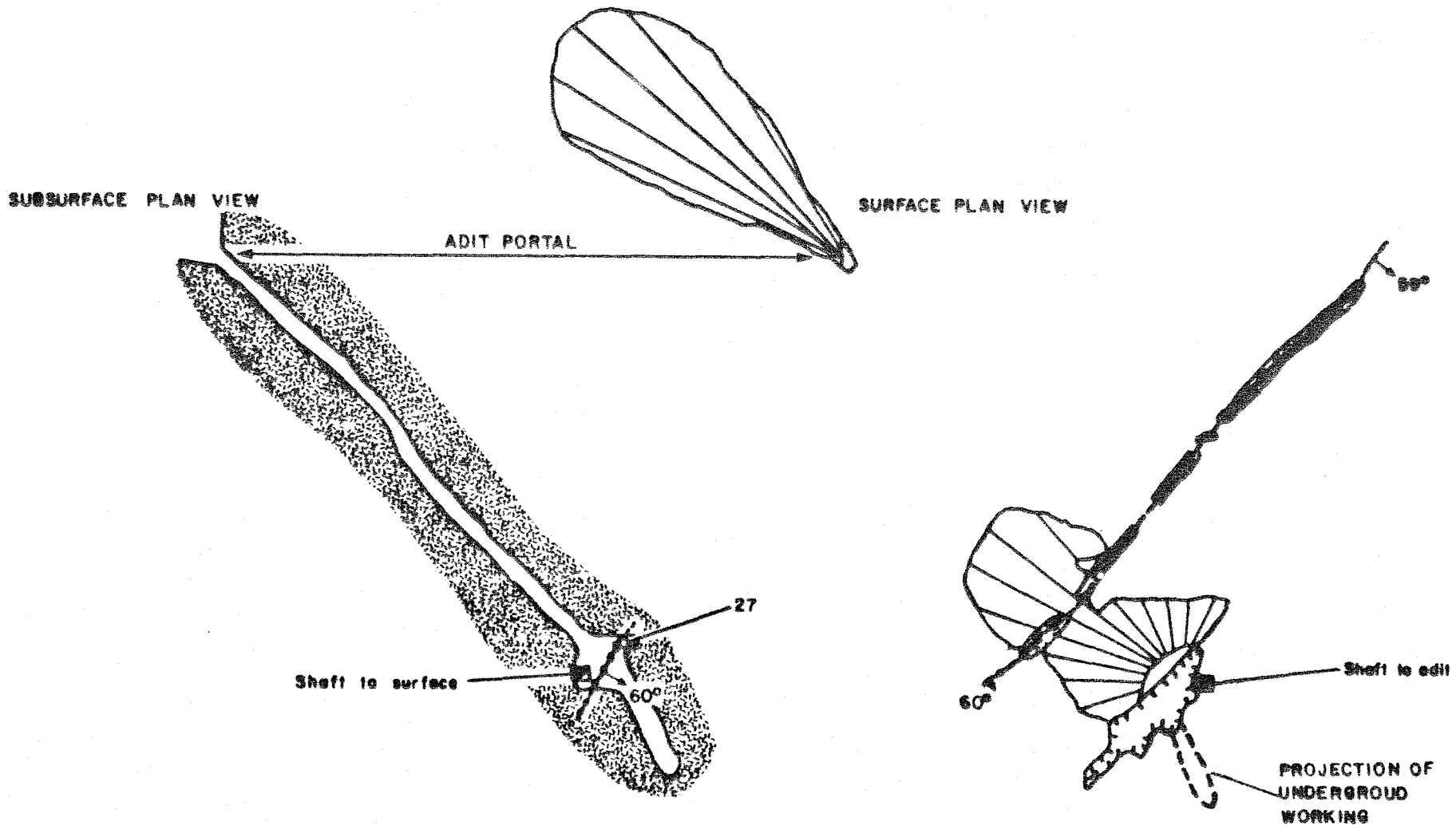


Figure 4.--Small adit in Hub Mine Basin and sample locality 24; table shows sample data.



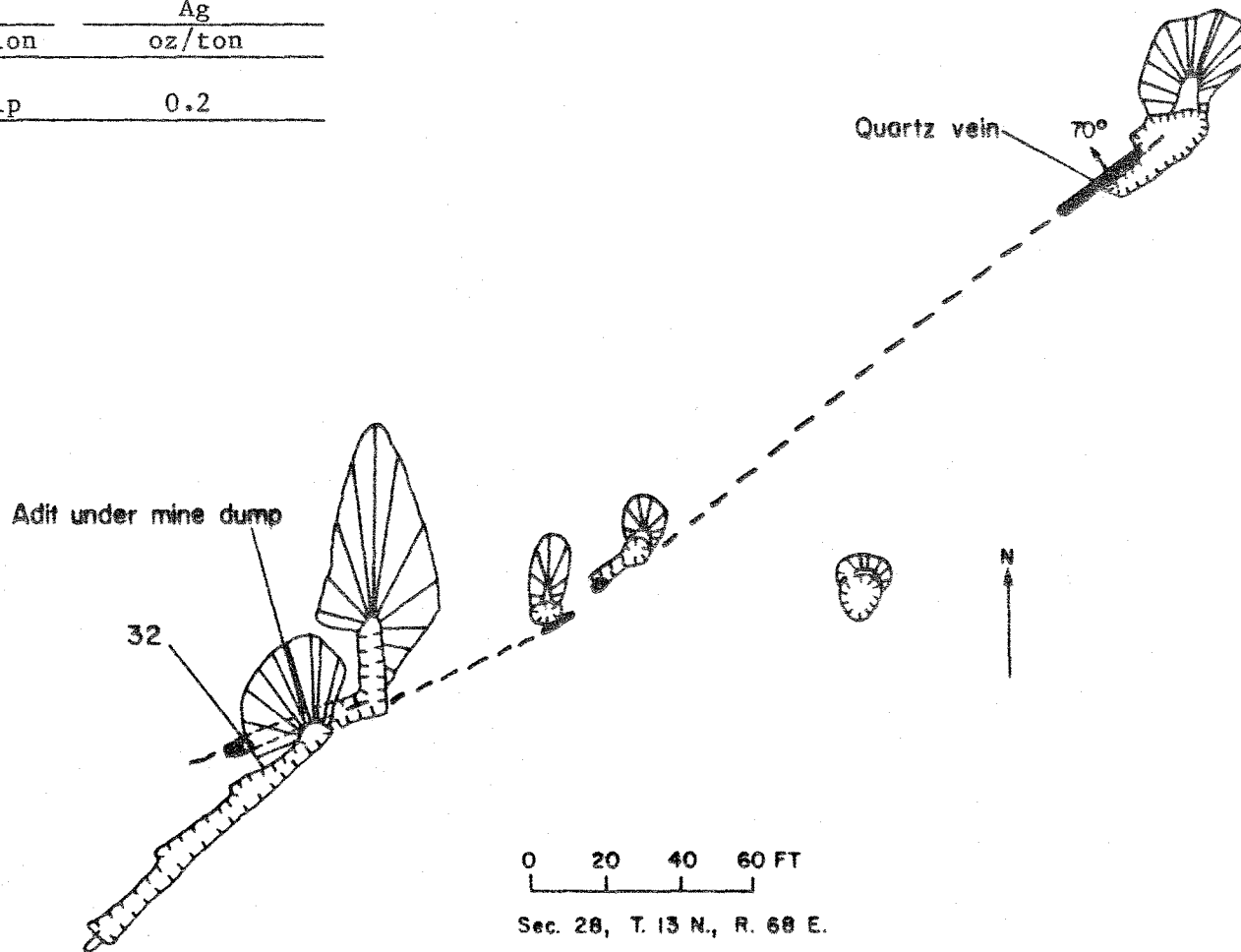
0 20 40 60 FEET

Sec. 28, T. 13 N., R. 68 E.

Sample No.	Description	Analytical data	
		Pb percent	W
27	3 ft chip	0.01	0.01

Figure 5.--Workings in Hub Mine Basin and sample locality 27; table shows sample data.

No.	Sample Description	Analytical data	
		Ag	oz/ton
32	4 in. chip	0.2	



17

Figure 6.--Workings in Williams Canyon and sample locality 32; table shows sample data.

No.	Sample Description	Analytical data				
		Ag oz/ton	Be	W	Li	Y
50	4 in. chip	---	---	0.01	---	0.01*
51	do.	0.2	0.24	.03	0.02*	---

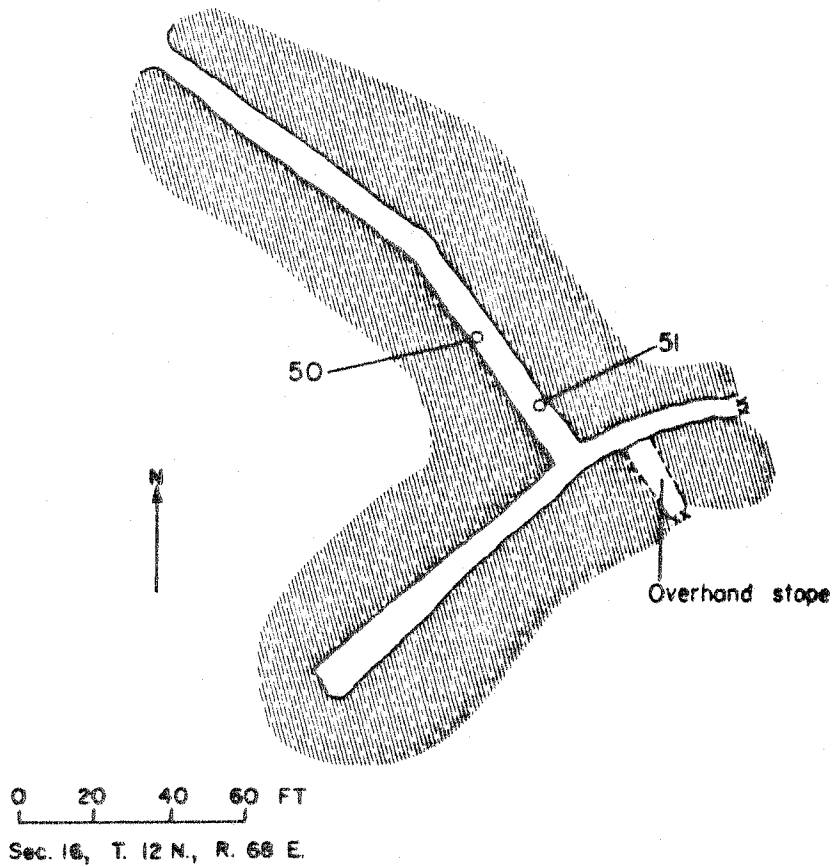


Figure 7.--Exploration adit near Mount Wheeler Mine and sample localities 50-51; table shows sample data. On the table \* indicates spectrographic analyses, --- indicates not detected or not run.

Sample		Analytical data				
		Au	Be	W	Li	Y
No.	Description	oz/ton	percent			
52	4 in. chip	Tr	0.2	---	0.2*	0.1*

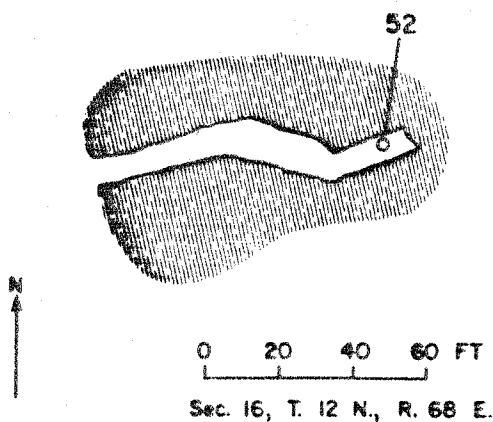


Figure 8.--Adit near Mount Wheeler Mine and sample locality 52; table shows sample data. On the table \* indicates spectrographic analyses, --- indicates not detected or not run.



Sample No.	Description	Analytical data				
		Ag oz/ton	Be	Pb	Sb	Zn
59	6 in. chip	2.9	0.01*	24.8	0.2*	2.0*

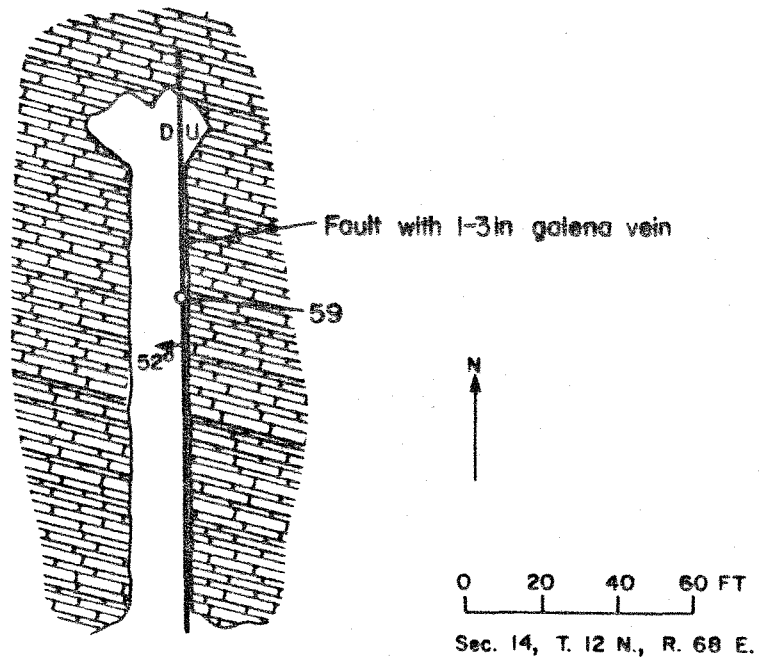


Figure 9.--Map showing adit at St. Lawrence Mine and sample locality 59; table shows sample data. On the table \* indicates spectrographic analyses.

EXPLANATION OF SYMBOLS FOR FIGURES 2-9


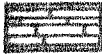












-  GRANITIC ROCKS
-  LIMESTONE
-  QUARTZ MONZONITE
-  QUARTZITE
-  SHALE AND SILTSTONE
-  SAMPLE LOCALITY AND NUMBER
-  FAULT--Showing dip; D, downthrown side; U, upthrown side
-  MINERALIZED VEIN--Showing dip
-  RAISE
-  SHAFT
-  FLOODED WINZE
-  PIT OR OPEN CUT
-  DUMP
-  INACCESSIBLE WORKINGS

Table 1.--Summary of information concerning mineral deposits  
in and near Wheeler Peak Roadless Area, Nevada

Deposit and location	Commodities	Geology	Development	Production <sup>1</sup>	Estimated resources <sup>1</sup>
MOUNT WASHINGTON DISTRICT					
Mt. Wheeler; sec. 16, T. 12 N., R. 68 E.	Tungsten, lead, zinc, beryllium, silver	Quartz veins along north- and east- striking faults in Wheeler Limestone, replacement deposits 10-15 ft wide extend eastward, strike SE, dip 5°-30° south.	Extensive under- ground workings, adits, dozer cut, pits.	1,000 tons of 1 percent WO <sub>3</sub> (1952-62) (Smith and others, 1976, p. 77).	Medium, W; Small, Ag, Be, Pb.
St. Lawrence; sec. 14, T. 12 N., R. 68 E.	Tungsten, lead, zinc, gold, silver, copper	Replacement deposits in upper beds Pole Canyon Limestone, strike SE, dip 5°-30° south.	Extensive under- ground workings, pits, dozer cuts, tramway from cliff.	75 tons, containing 915 oz silver, 16 lb copper, 56,836 lb lead (1911-49) (Smith and others, 1976, p. 58).	Medium, Ag, Pb; Small, Ag, Cu, W.
OSCEOLA DISTRICT					
Weaver Creek; sec. 15, T. 14 N., R. 68 E.	Placer gold	Alluvium as thick as 200 ft derived from quartzite and lime- stone.	Pits, trenches	Not known, probably medium.	Medium, Au.
Lucky Boy Claims; secs. 9 and 10, T. 14 N., R. 68 E.	Lead, silver	Quartz veins 1-3 ft wide strike north, dip west at 35°-85°, in Pre- Cambrian quartzite.	Small adits, prospect pits, arrastra.	Not known, probably small.	Small, Pb.
Strawberry Creek; sec. 32, T. 14 N., R. 68 E.	Silver	Quartz veins 1-3 ft wide strike north, dip west at 35°-85°, in Pre- Cambrian quartzite.	Prospect pits.	Not known, probably small.	Small, Ag.

Table 1.--Summary of information concerning mineral deposits  
in and near Wheeler Peak Roadless Area, Nevada--Continued

Deposit and location	Commodities	Geology	Development	Production <sup>1</sup>	Estimated resources <sup>1</sup>
SNAKE DISTRICT					
Bonita; sec. 13, T. 12 N., R. 69 E.	Tungsten	Quartz veins strike north in Pioche Shale.	Small adits, pits 2-ton mill.	Ore shipped (1913-16) (Smith and others, 1976, p. 77).	Small, W.
Johnson Mine; sec. 1, T. 13 N., R. 68 E.	Tungsten, lead, silver.	Narrow quartz veins strike northeast, dip >55°, SW in Jurassic quartz monzonite; veins 6 in. to 3 ft wide.	Small adits, pits 20-stamp mill, gravity concentrator, tramway from cliff.	Not known, probably small	Small, Ag, Cu, Pb, Sb, W.
TUNGSTEN DISTRICT					
23 Hub Mine; sec. 28, T. 13 N., R. 68 E.	Tungsten, fluorite, gold, silver.	Narrow, irregular veins of quartz intruded into Jurassic quartz monzonite, dip 55°-75° NW, strike northeast, 3 in. to 5 ft wide veins, ore in shoots 15-25 ft long.	Adits 125 and 225 ft long many pits, stopes, 50-ton conc. mill, 6,000 ft ditch.	10,088 tons containing 14,000 units of W (Smith, and others, 1976, p. 79).	Medium, W; Small, Ag, Au F.

<sup>1</sup> For the purposes of this report the following definitions are used:

Small production or resources

Ag--less than 1,000 oz

Au--less than 100 oz

Cu, Pb, Be, F, Sb, W--less than 100,000 lbs

Medium production or resources

Ag--1,000 to 10,000 oz

Au--100 to 1,000 oz

Pb, W--100,000 to 1 million lbs

Table 2.--Data for samples from Osceola district, not shown on figures 2-9

[---, not detected or not run; Au and Ag are fire assays; others are special analyses, except where (\*) denotes spectrographic analyses]

No.	Sample Description	Analytical data					
		Ag oz/ton	Cu	Mo	Pb percent	W	Y
4	Dump grab, 5-ft grid	---	---	---	0.02	---	---
5	Random grab, 100x20x20 ft pit	---	0.01*	---	---	---	0.01*
6	Random grab, dozer cut	---	---	---	---	0.01	---
7	Dump grab, 5-ft grid	---	.01*	---	---	---	---
8	Random grab, prospect pit	---	.01*	---	.01*	---	---
9	Dump grab, 5-ft grid	---	---	---	.02*	---	---
10	do.	1.1	.04*	0.02*	1.95	---	---
11	do.	.7	---	---	1.02	---	---
12	do.	---	---	---	---	.01*	---
14	Random grab, 5x5x10 ft pit	---	---	---	---	.24	---
15	6 in. chip	---	.01*	---	.06	---	---

Table 3.--Data for samples from Hub and Johnson mine area,  
not shown on figures 2-9

[Tr, trace; ---, not detected or not run; Au and Ag are fire assays; others are special analyses, except where (\*) denotes spectrographic analyses]

No.	Sample Description	Analytical data					
		Au oz/ton	Ag oz/ton	Cu percent	Pb percent	Sb percent	W percent
HUB MINE AREA							
16	Dump grab, 5-ft grid	---	---	---	0.03*	---	---
17	do.	---	0.7	---	.07	---	0.6
18	3 in. chip	---	.5	---	.03*	---	---
19	do.	---	.3	---	.01	---	---
20	Dump grab, 5-ft grid	---	.2	0.01	.04	---	.46
21	do.	---	.2	---	---	---	---
22	do.	---	.6	---	.11	---	---
23	4 in. chip	Tr	---	---	.03*	---	---
25	Dump grab, 5-ft grid	---	---	.01	.01	---	.08
26	do.	---	.4	---	.06	---	---
28	do.	---	.4	.01	.03*	---	---
29	do.	Tr	---	---	.02	---	.43
30	do.	---	---	---	.01	---	.15
31	6 in. chip	---	---	---	.2*	---	---
JOHNSON MINE AREA							
38	20 in. chip	---	---	---	.06	---	.01
39	Dump grab, 5-ft grid	---	---	---	.01	---	.04
40	Stockpile	---	---	---	---	---	.01
41	Dump grab, 5-ft grid	---	---	---	.01	---	.02
42	Stockpile	---	12.8	.1	.23	0.08	---
43	Random grab, 10x6x2 ft pit	---	---	---	.01	---	---

Table 4.--Data for samples from the Mount Washington, Snake Creek,  
and Big Wash areas

[Tr, trace; ---, not detected or not run; Au and Ag are fire assays; others are special analyses, except where (\*) denotes spectrographic analyses]

No.	Sample Description	Analytical data							
		Au oz/ton	Ag oz/ton	Be	Cu	Pb	Sb	W	Zn
POLE CANYON AND MOUNT WASHINGTON									
44	Dump grab, 5-ft grid	Tr	---	---	---	---	---	---	---
45	20 in. chip	---	---	---	---	0.47	---	0.06	---
46	Dump grab, 5-ft grid	---	---	---	0.02	2.93	---	.04	3.0
47	Random grab, 6x6x4 ft pit	Tr	0.4	---	---	---	---	.02	---
48	Dump grab, 5-ft grid	---	---	---	---	.01	---	.2	---
53	Stockpile	---	---	0.2	.01*	---	---	.03	---
54	Dump grab, 5-ft grid	---	.3	---	---	---	---	---	---
ST. LAWRENCE MINE									
55	Dump grab, 5-ft grid	---	---	---	.03*	1.15	---	---	---
56	do.	---	---	---	.03*	.82	---	.02	3.0*
57	6 in. chip	---	.3	---	.04*	1.15	0.02	.03	5.0*
58	4 in. chip	---	---	---	---	.01	---	---	---
60	Dump grab, 5-ft grid	---	---	---	---	.03	---	---	---
61	4 in. chip	---	1.6	---	---	4.2	---	---	---
62	Dump grab, 5-ft grid	0.02	.2	---	---	.88	---	---	---
CHAPMAN-TAYLOR (BIG WASH) CLAIMS									
63	2 in. chip	---	.4	---	---	.02	---	---	---
64	Random grab, dozer cut	---	---	---	---	.01	---	---	---
65	Dump grab, 5-ft grid	---	---	---	---	.01	---	---	---
SNAKE CREEK, BONITA MINE AREA									
49	Random grab, dozer cut	---	---	---	---	---	---	.01	---

Table 5.--Data for samples from Poljack Mine, not shown on figures 2-9

[---, not detected or not run; Au and Ag are fire assays; others are special analyses, except where (\*) denotes spectrographic analyses]

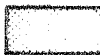
No.	Sample Description	Analytical data							
		Ag oz/ton	Cu	Mo	Pb	Sb	Sr	W	Zn
33	4 in. chip	---	---	---	---	---	---	0.01	---
34	7 in. chip	---	---	---	---	---	---	.02	---
35	Random grab, fault gouge	0.7	0.03*	---	0.05	0.01	0.1	.02	---
36	4 in. chip	2.6	.03*	0.01*	.39	.02	---	.03	0.2
37	4 ft chip	---	---	---	---	---	.1	.06	---



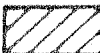
EXPLANATION OF SYMBOLS FOR MINE AND PROSPECT MAP



APPROXIMATE BOUNDARY OF THE WHEELER PEAK ROADLESS STUDY AREA



APPROXIMATE BOUNDARY OF MINING DISTRICT



UNPATENTED MINING CLAIMS



PATENTED MINING CLAIMS



OIL AND GAS LEASE APPLICATIONS



OIL AND GAS LEASES

SURFACE OPENINGS--Showing locality and sample number; symbols may represent more than one working

5 X

Prospect pit

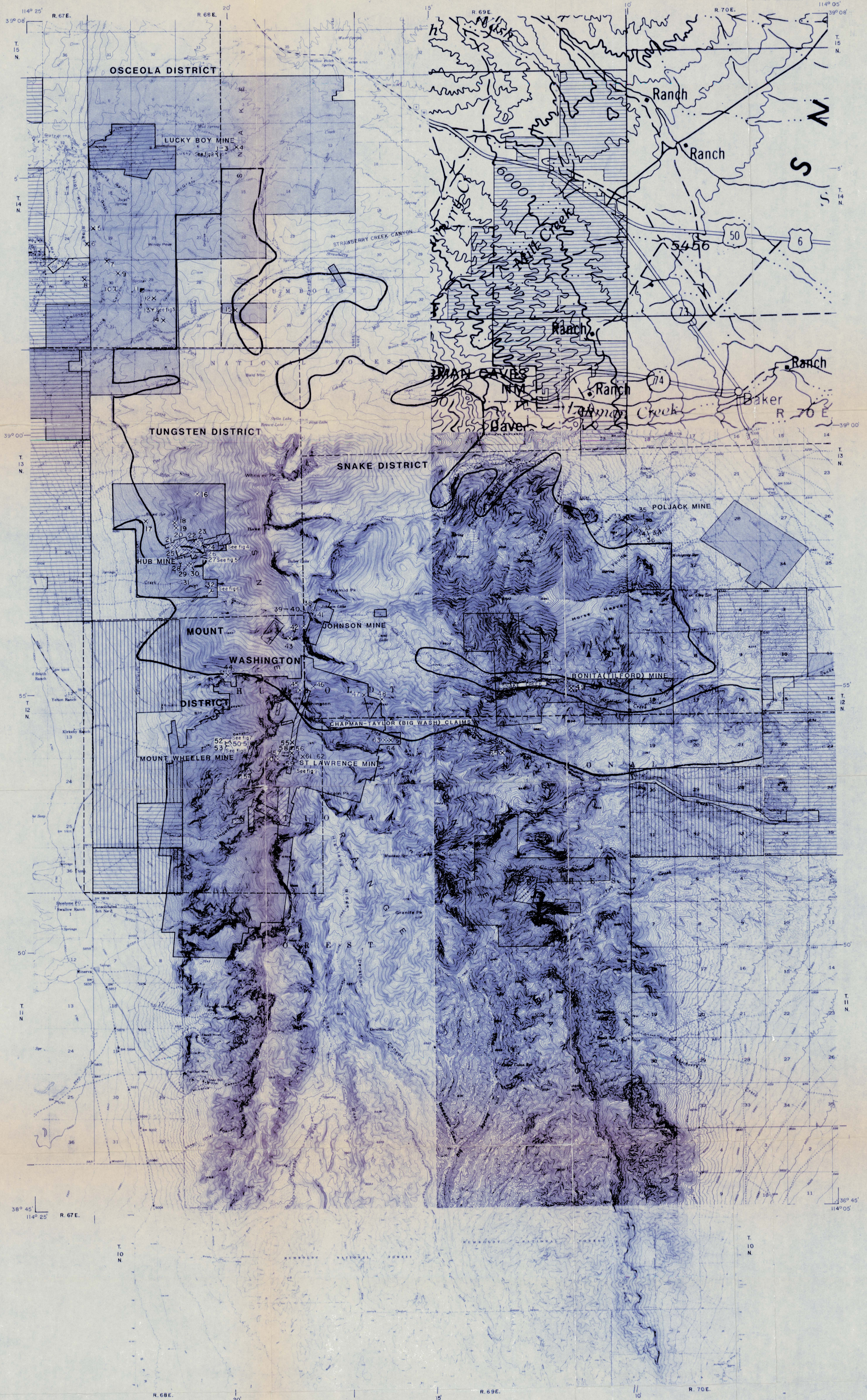
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Adit

5 ■

Shaft





Base from U.S. Geological Survey 1:62,500  
Garrison, 1949; Sacramento Pass, 1959;  
Wheeler Peak, 1948; 1:250,000 AMS, Ely, 1971.

Field work (1980 and 1981), assisted by  
Terry J. Kreidler, Steven E. Tuffin and  
Jeanne E. Zilfen.

### MINE AND PROSPECT MAP OF THE WHEELER PEAK ROADLESS AREA, WHITE PINE COUNTY, NEVADA

BY  
STEVEN E. KLUENDER, U.S. BUREAU OF MINES

1983