

## RYE PATCH MINING DISTRICT

The Rye Patch district is on the west side of the Humboldt Range about 20 miles northeast of Lovelock. Silver was discovered in the area in 1862 and the mines of the district have produced silver, gold, copper, lead, antimony, and tungsten. Tungsten was first discovered and mined in 1917-18 from a small deposit in Wright Canyon. The largest tungsten deposit, the Oreana Mine, was discovered in 1934. Total production for the district was about 19,100 units  $WO_3$ .

Rocks exposed in the district are sedimentary and volcanic rocks of Triassic age intruded by a granodiorite pluton of Cretaceous age. The principal silver and tungsten deposits occur in limestones of the Prida Formation. The deposit at the Oreana Mine is unusual in that scheelite occurs in pegmatite bodies with fluorite and beryl.

OREANA MINE

Other names ----- Marker George, Jack of Clubs, Little Tungsten,  
Gordon Mine  
Location ----- S3,T29N,R33E  
U.T.M. 4,472,900N, 393,300E  
Lat. 40°24'N, Long. 118°15'W  
Base map ----- Oreana 15' quadrangle (1956)  
Tungsten Production --- 18,900 units WO<sub>3</sub> (1935-43)

The Oreana Mine is on the west flank of the Humboldt Range, about 20 miles northeast of Lovelock, at an altitude of 5,000 feet. Discovered in 1934 the deposit was mined continuously from 1935 to 1943 by the Rare Metals Corporation, yielding almost 19,000 units of WO<sub>3</sub>. The mine was developed by about a mile of underground workings, from 8 adits connected by raises and winzes. The deepest workings were 235 feet beneath the surface.

In the mine area limestone beds of the Prida Formation, of Triassic age, strike NW and dip 25°-35° SW. These beds are intruded by several sill-like masses of metadiorite. Scheelite occurs in narrow pegmatite dikes, and in irregular pegmatite pods, in the metadiorite. Two major, steeply-dipping or vertical pegmatite dikes and many minor ones cut through the metadiorite and associated aplite dikes, but they die out in the limestone that lies above and below the metadiorite. Scheelite in these dikes occurs only near the lower contact between limestone and metadiorite, and extends upward about 50 feet from this contact. It also occurs in several lenticular pegmatite pods along this lower contact.

The pegmatite dikes range in thickness from a few inches to 5 feet and consist dominantly of quartz, fluorite, oligoclase, albite, beryl, scheelite, and phlogopite. These minerals are distributed erratically through the pegmatites, portions of which were nearly solid scheelite, fluorite, or quartz. In the eastern one of the two major dikes, at the original discovery where the ore cropped out, a body 100 feet long yielded high-grade scheelite

ore that was hand-sorted and shipped without further concentration.

Beryl was a common constituent of ore mined from the vertical dikes, but was less abundant in the lenses of pegmatite along the contact. The beryl crystals, pale green in color, were generally small but ranged from microscopic size to crystals almost one inch thick and four inches long. The quantity of beryl present was not sufficient to constitute beryllium ore, and the mill tailings from the tungsten ore, treated at the Toulon Mill, contained only about 0.1 percent of  $\text{BeO}$ .

Most of the ore mined was from the west dike, that was mined for a strike length of 1,120 feet, although 4 dikes were followed. Only the 2 major dikes, plus numerous lenses along the contact, contained substantial ore bodies.

At the north end of the mine area, on the Marker George patented claim, scheelite occurs sporadically as rich streaks in 5 pegmatite dikes that range in thickness from 0.5 to 10 inches and average about 4 inches. For the most part, the dikes consist of quartz and feldspar, or of quartz alone, but locally they contain scheelite, blue beryl, or black tourmaline. Although the entire width of a dike may be scheelite, the streaks do not extend more than a few feet in any direction. The wall rocks are interbedded limestone and hornfels that strike NW and dip  $20^{\circ}$ - $45^{\circ}$  NE. The dikes also strike NW, but dip  $60^{\circ}$ - $80^{\circ}$  NE, and cut across the beds. The best scheelite mineralization appears to be where the dikes cross the contact between hornfels and limestone. Only about 150 units of  $\text{WO}_3$  were produced from these small dikes, that were explored by numerous trenches and about 1,200 feet of adits and raises.

PANTHER CANYON PROSPECT

Other names ----- Echo  
Location ----- S23,T30N,R33E  
U.T.M. 4,478,000N, 395,000E  
Lat. 40°27'N, Long. 118°14'W  
Base map ----- Unionville 15' quadrangle (1954)  
Tungsten Production --- None recorded

The Panther Canyon Prospect is on the west side of the Humboldt Range, in Panther Canyon, at an altitude of 5,200 feet. It is on the north side, and near the mouth, of the canyon. In 1942 the property was explored by Fred Johnson, but no production was reported. Mine workings consist of 4 adits and an inclined shaft 75 feet deep.

Scheelite occurs in several thin, north-dipping quartz veins that are parallel to bedding in limestone. The largest vein is 1 foot wide and is exposed for 400 feet on the surface. It contains small amounts of scheelite, and a little colorless beryl, irregularly distributed throughout the vein. The average tungsten content is about 0.5 percent  $WO_3$ . A second vein, 300 feet south and 100 feet lower on the hillside, is 6 inches wide and contains about 0.5 percent  $WO_3$ .

A crosscut adit, 350 feet long, was driven from a point lower on the hill to explore the veins at depth. Several quartz veinlets, from 1 to 6 inches wide, containing scheelite were cut by this adit, which passes beneath the south vein prospected on the surface. The projected position of the larger (north) vein is about 350 feet beyond the face of the adit and was not explored at depth.

RYE PATCH PROSPECT

Other names ----- Agnes, Shortino  
Location ----- S26,T30N,R33E  
U.T.M. 4,477,000N, 395,000E  
Lat. 40°27'N, Long. 118°14'W  
Base map ----- Unionville 15' quadrangle (1954)  
Tungsten Production --- 4 units WO<sub>3</sub> (1954)

The Rye Patch tungsten prospect is on the west side of the Humboldt Range, between Rye Patch and Panther Canyons, at an altitude of 5,100 feet. First mined for silver, in 1917-18, tungsten was discovered in 1943 or 1944. In 1954 Charles Shortino and Charles S. Moore mined and shipped 9 tons of ore that contained 0.4 percent WO<sub>3</sub>.

Small amounts of scheelite occur in tactite that borders a small body of quartz monzonite intrusive into limestone.

Scheelite is also known to occur in quartz veins in limestone at the old Rye Patch Silver Mine, about a mile to the south, in Rye Patch Canyon. No tungsten ore has been mined or produced from this property.

WRIGHT CANYON MINE

Location ----- S7,T29N,R34E  
U.T.M. 4,472,000N, 397,800E  
Lat. 40°23'30"N, Long. 118°12'30"W  
Base map ----- Unionville 15' quadrangle (1954)  
Tungsten Production --- 220 units WO<sub>3</sub> (1917-1918)

The Wright Canyon Mine is on the west side of the Humboldt Range, in Wright Canyon, at an altitude of about 6,500 feet. This was the first tungsten deposit discovered in the district but except for a small production in 1917-18 it has not been mined since. A shallow open pit about 10 feet deep, excavated by Thomas D. Arnold and F. L. Frazier, was the only mine working. Small amounts of scheelite occur in metamorphosed siliceous limestone over a wide area on the east side of a small granodiorite intrusion. A thin veinlet of chloropal, about one inch wide, was also reported to occur in the tungsten deposit.