

THE GREENHORN MOUNTAIN REGION

North of the Middle fork of the John Day river is one of the three most important exposures of granitic rocks—the Greenhorn Mountain region. Although not a rugged spur of the Blue mountains, this range is rather high and somewhat irregular. Vinegar hill, the highest point of the range, is about 8,200 feet. Under the influence of this intrusion into the older rocks we have upon and around its borders several mining districts. This mountain range extends from near Whitney to a few miles west of Susanville, a total distance of at least 30 miles.

Most of this territory is heavily timbered with only portions of the higher ridges bare. It is well watered by many fair-sized, swiftly-flowing creeks on both sides of the range.

On the northern slope the Eastern Oregon Light & Power company stores water in a reservoir and in Olive lake, to use it at Freemont station to generate electricity not only for the mines of this region, but for various other parts of eastern Oregon.

During the winter there is a heavy fall of snow in the higher parts of the range, and in the spring and fall the roads in certain parts make transportation difficult because of deep mud.

GEOLGY

On its southern slopes the older rocks are largely greenstones, succeeded on the western limits by argillites. These greenstones are old volcanic flows similar to those found elsewhere in eastern Oregon. The argillites are similar to those east of Baker. The farthest western limit of the exposure of granodiorite was not determined, but it extends at least a few miles beyond Susanville.

The region north of this range, and as far east as Olive lake, was not visited. The testimony of prospectors and our observations made near Olive lake and at the head waters of Desolation creek, leads one to believe that over much of this country both granitic and the older rocks prevail, although previously mapped as though covered by recent basalts.

Northward paralleling Clear creek, and extending some distance west of the Red Boy mine, is a branch range of the intrusion. The eastern part of the region along the northern border is largely made up of older sediments, while the southern part is largely composed of ancient flows.

The region coming under the influence of the intrusion and not covered by recent flows of basalt has a total area of some 200 square miles. Since nearly all but its highest ridges are covered with timber nothing but detailed field work could give even approximately the limits of the exposure of the older rocks.

The intrusion into the older sediments, lava flows, and older small intrusions, is in the main a granodiorite similar to that of the Wallowa and Bald mountain ranges. There is more than the usual variation from its ordinary character near the limit or border of the intrusion.

Near the town of Greenhorn part of the intrusion is medium-grained, slightly porphyritic diorite. Near the Ben Harrison mine it has the "tonalitic" phase. It can be properly inferred that elsewhere on its border there will be more or less local variations in the intrusion due to its incorporation of different kinds of older rocks.

Along the Middle fork of the John Day river from Austin to Galena, and beyond there is an increasing amount of recent basalt

GREENHORN ANT. REGION

as one goes toward the latter. Emerging from underneath this basalt, but a short distance up from the stream, there are old volcanic flows that are now greenstones which range from meta-andesites to meta-basalts. Still higher up and ordinarily within 1,000 feet of the highest points of the ridges, is found the irregular line of contact of these older flows with the intruded granodiorite.

Near Galena the old rocks reach down to the river and cross it and continue down the Middle fork to beyond the mouth of Big creek, 6 miles below the town where the recent lavas appear again. The principal rock of the Susanville district is a fissile, steep dipping, dark-gray clay slate. Between the slate near Susanville and the granite of the ridge there is much greenstone in which there are considerable bodies of serpentinized rocks. The exterior of some of the blocks are serpentine while the interior, by comparison, is but little altered.

As previously stated, the whole concave northern border, from Big creek to a point 2 or 3 miles northwest of the Red Boy mine, is believed to have considerable granitic and older rocks at various places before they are entirely submerged beneath the recent basalts lower down on Granite and Desolation creeks.

The exposure of older rocks to the east which have been affected by the intrusion have a large number of mines and prospects in them. They extend from the Red Boy camp through Alamo and continue eastward to the Bonanza mine. Near the Red Boy mine the older rock

is a not very fissile, flat dipping, siliceous to calcareous, dark-colored argillite. The black argillites continue nearly to the mouth of Beaver creek, where they are succeeded by an east and west ridge of siliceous cherty rocks.

In the Alamo district the Alamo, Quebec and many other old claims are in the argillite, but as one proceeds southward the argillite belt swings to the southeast into the region of the old Bonanza mine. Between these argillites and the border of the intrusion to the west of Greenhorn City the rocks are largely of the old greenstone series, in which are considerable lenses of serpentine that were probably originally small intruded sills of a still more basic rock.

East of this belt of old sedimentary, volcanic and plutonic rocks, is a continuation of the argillites and greenstones with lake beds and recent lavas on the southeastern extension. These older rocks are apparently too far from the influence of either the Greenhorn or the Bald mountain intrusion to have become well mineralized.

Upon the large exposure of granodiorite are seen the usual granodiorite-porphry and aplitic dikes. Naturally the older surrounding rocks underneath which is the concealed intrusion exhibit many of these off-shoots from the mass. Basalt dikes were not observed, but it is said that they are seen cutting the granodiorite to the north of Susanville. After the aplite dikes, which were the last molten product of the intrusion, came another fracturing of both the intrusion and the older surrounding and covering rocks in which ascending solutions from the interior of the magma filled the veins and altered and replaced the wall rocks. These hot solutions deposited quartz and in many of them both precious and base metals in various mineral forms. Their considerable variety will be noted in the description of some of the mines and prospects.

The ores of this mountain range are gold and silver, with copper and lead ores of minor importance. Some of the gold ores are free milling, but usually they are not. Cutting across the middle portion of the range is a belt in which there is much silver in antimonial sulphides. The mine which has produced the most is the Red Boy. The mine which has the most ore blocked out is the Ben Harrison.

RECEIVED
NOV 3 1938Miscellaneous Information on Properties in the Granite &
Greenhorn Mining DistrictsSTATE DEPT OF GEOLOGY
& MINERAL INDS.Informants: Mr. S.C. Richardson ...*
Mr. M.C. Carson°
Mr. W.W. Gibbs...../
Mr. Fred Smith.....#✓ Ajax: Nothing but assesment work since 1916. #✓ Banner: Owner Mrs. K.W. Earhart. Sunk 190 feet in 1924, but no ore shipped. Drifted 200 feet east and 400 feet west. Vein 4" wide, but showed no values. Some ore near east end of drift. °✓ Bi-Metallic: Shut down from 1914 to 1919, when 700 feet of the old upper tunnel was retimbered. Consists of a crosscut 2152 feet long, with drifts 410 feet south. No ore has been shipped. °

Sold by S.C. Richardson in 1907, but little work was done, and it reverted after a payment of \$7500. Dormant until 1917, when sold to Anthony Moore one half undivided interest. Moore and Andrew Larson, Richardson's pardner, sold to Eccles Company. They did about 2000 feet of tunnel, but did not drift at all. Now owned by M.C. Carson, since 1920. A grey copper ore. *

Shipped one ton of ore to Salt Lake in 1937: \$90.67 per ton.
Au: .01 Ag: 98.1 Cu: .91 S: 5.8 Fe: 4.6 CaO: 4.9
Insoluble: 73.1% ..°Blue Bird: No work done since 1916. Owners Pat Glenn, Henry Cavin, Granite. #✓ Blue Ribbon: Mostly silver, not much gold in ore. /
Now acquired by R.G. Amadon??? #✓ Bright Carbonate: Not worked since 1916. Owners San Nigh and wife, one half interest. *✓ Chloride: (adjoins Bright Carbonate) No work done but location. but relocated 4 or 5 times. *Crown Point: (Cable Cove) \$75,000 spent for equipment and machinery in 1935? Equipment never used. /✓ Black Jack: Raised 50 feet in 1934. No ore taken out. Owner Mrs. Katherine Sheedy, Baker. #Double Eagle: Nothing done for 30 years. *Gold Bug: No work done but assesment. #Herculean: Some developement of low grade sulphide ore done in 1923. Nothing since then. /Hidden Treasure: (IXL) Patented. Not worked for 25 years. *Imperial*Eagle (Cable Cove): Worked from 1921 to 1923 by a Salt Lake outfit. Ore all low grade, with high arsenic content. /

- ✓ Intermountain: Relocated last year by Gardner Brothers, Baker, who shipped 75 tons to the smelter at Tacoma during the summer of 1938. *
- ✓ La Belleview: Not in operation since 1929, when it was developed by Campbell, but no ore was shipped. #
- ✓ Monumental: A small amount of work done spasmodically, but now dead. #
- Oregon Chief: (Cable Cove): Leased a year or so ago. All ore shots short, very spotted, although some good. /
- ✓ Pride of Oregon: Owner Fred Smith, Granite. Small Ball mill, adjoins Red Boy on West. 1200 feet of development in 4 places. 200 foot of tunnel. Drifted in on ore, along ledges which cross the creek. Consists of 5 claims, located in 1917. Partner Pat Glenn (also interested in Morris and King Tut mines). #
- ✓ Psyche (also Windsor): Relocated by the McTavish's of Seattle, and W.C. Fellowes, who have done some work on it in the last 4 years. * Leased by the Riggs Brothers, who made 2 ore shipments, and also milled some at the Rabbit mill. Has produced only about \$2500, all from near the surface, of free-milling gold ore. •
- ✓ Royal White: Owner Alice Weigan, Baker. Leased by Earl Reeves and W.W.Gardner, who milled some up to 1936.*
- Spero: No work done for 25 years. *
- ✓ Tempest: No work done for 25 years. Relocated in 1938 by Otto Simons. *
- ✓ Vinginia: No work done since 1916. Relocated by E.E. Petty, and now a part of the Owl property. *
- ✓ West Side: Patented claims owned by Biard, Yamhill. Only a little production in the last few years. *

John Elot Allen
11/2/38

Greenhorn
Baker

Baker Record Courier May 16 1940

Small Dry Land Placer Operating

A new kink in placer mining was being put into operation today on Three-Cent creek near Whitney by Consuelo Oregon Mining company when it began shoveling dry gravel into a small screening plant.

According to Max Hofmann, who is superintendent for the company, which has the large doodle-bug dredge on Cracker creek above Sumpter, water is very limited on Three-Cent creek, preventing a floating plant. In order to make the screening operation portable it is separate from the sluices.

In operation, four men are employed. A 1¼-yard Northwest shovel digs the dry gravel and keeps the trommel busy turning through 100 yards per hour. Tailings are stacked and fines and the water are pumped to the sluices away from the actual digging. Water is settled and is re-used from a clear pond. The equipment is all deisel-electric.

It has taken about 30 days to set up the plant which will operate as long as water holds. It takes but a few days to move the equipment and it is contemplated to run it on ground held by the company near Granite later in the summer and it may be returned to Whitney during a winter season.

*Greenhorn
Baker*

Baker Record Courier
June 13 1940

Company Continues Signup of Placers

Mining News; Mill Being Installed Here

Potential placer mining and dredging ground at Whitney continued to be placed in the position for thorough testing and possible future mining this week.

Ralph Davis of Montana, thought to represent sent Morrison-Knudsen company this week took an option on the 480 acres of ground on Camp creek near Whitney belonging to Charles Mulkey and Thos. Hurlburt, the latter of Portland. The same company is already testing the Penroad and Slater ground nearby and is said to be negotiating for ground already tested and proven of sufficient value to warrant dredging.

Greenhorn (gen)
Baker

Baker Record Courier July 11 1940

HAS CINNABAR SHOWING

Baker—I. Helmer, resident of the Greenhorn section, was in the county seat on business today. Mr. Helmer has worked his gold property in that mining section for a number of years but at present reports he is developing a property west of town which has a good showing of cinnabar.

Idaho.

Baker Record Courier Oct. 24 1940

O. H. Griggs of Los Angeles, president of the Idaho Copper Co., which is located fifteen miles below Homestead, passed through town Sunday, enroute to the mines. It is reported that these mines will commence work there within a very short time.

A group of men from Boise are

Wheeler Dist Baker

Mining & Contract. Review Oct. 12 1937

Baker County

F. F. Ford, Oroville, California, has subleased some Pinus and Camp creek placer ground near Whitney to the Olson interests of Oroville. Testing will be done this fall. The ground belongs to W. C. Calder of Baker.

Parties who have made trips to the Greenhorn district recently report considerable signs of activity in that section. Investigations are being made looking to the opening up of some of the quartz property that have been idle over a long period.

Greenhorn Placer Mines Are Active

With the snow fast leaving the higher mountains the placer mining season is becoming active in the Greenhorn section. There are a number of the mines working, taking advantage of the spring floods of water to wash the gold from pay gravel.

On the head of California gulch Frank Roberts is working his property with a good head of water.

Adjoining the Roberts property, Rex Ironwine is working his claim.

At the old Baker placers on Vinegar creek John Kreiger, has a crew of five men employed. Mr. Kreiger has been working the mine the past four seasons.

Another placer mine on Vinegar creek is being worked by J. Cantwell.