STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
702 Woodlark Building
Portland, Oregon

Bulletin No. 14-C
Vol. II, Section 2—Jackson County

Oregon Metal Mines Handbook

By the Staff

Bulletin 14-A—Northeastern Oregon—East Half
14-B —Northeastern Oregon—West Half
14-C—Southwestern Oregon
Vol. I —Coos, Curry, and Douglas Counties
Vol. II, Section 1—Josephine County
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1943

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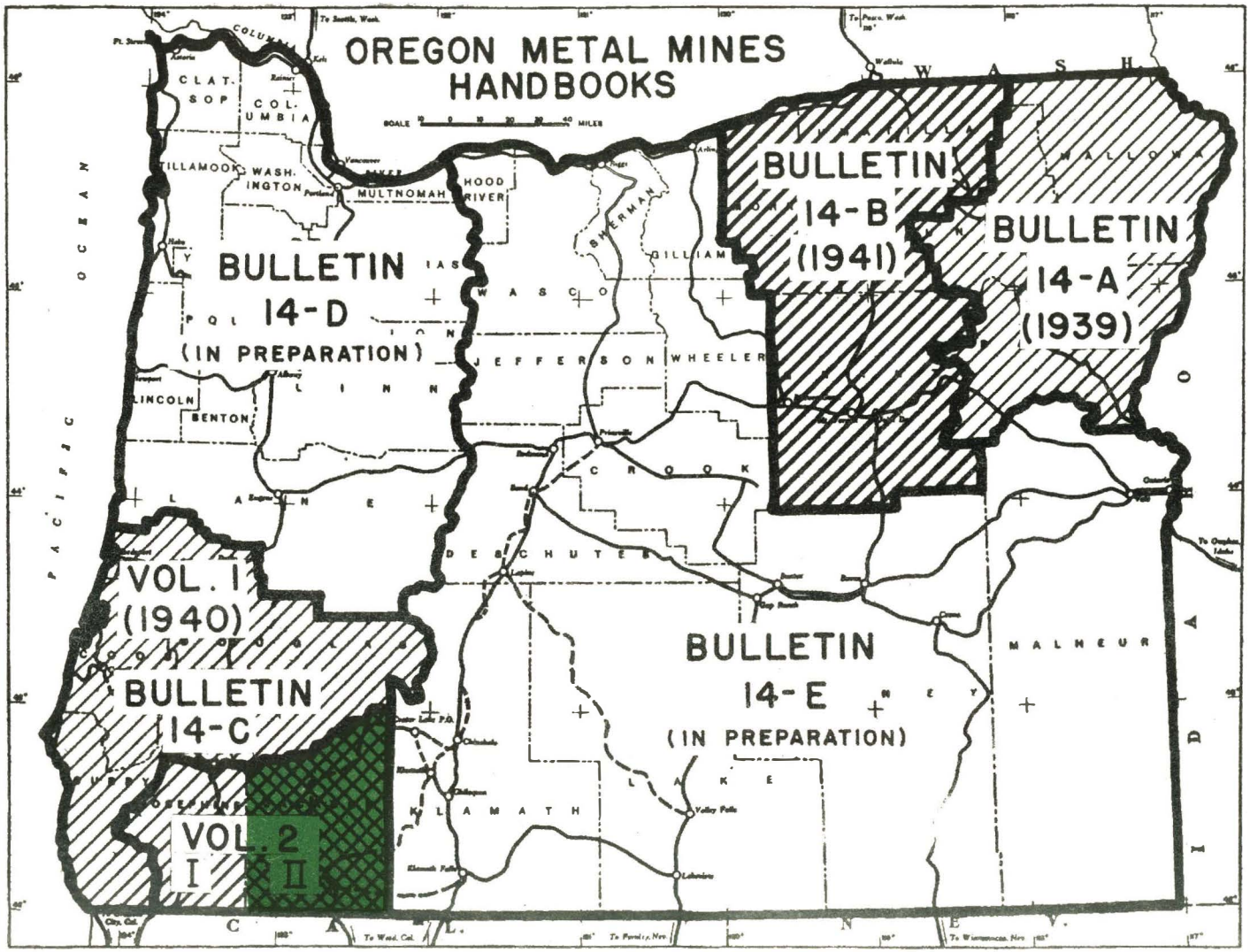

BULLETIN 14-C, Vol. II, Sec. 2, Jackson County, (1943).

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FOREWORD

Bulletin 14-C, Vol. II, Section 2, is the fifth in the series of bulletins comprising the Oregon Metal Mines Handbook, and describes mining properties in Jackson County. This bulletin is the last of three which cover southwestern Oregon. The method of issuing separate bulletins, each to cover a geographical unit of the State, was selected in order to make the information available to the public as promptly as possible.

Jackson County was the cradle of Oregon mining. Gold was discovered on Jackson Creek in 1851 and a gold rush followed, resulting in organization of the first mining district in the territory and the founding of the town of Jacksonville.

Since early days, gold mining has been the mainstay of the County's mineral industry. The gold mine closing order, in October 1942, stopped gold production and the effect will be to decrease materially the value of the County's metallic mineral production for the duration.

For description of many of the older mines worked in early days, recourse was had to published reports. Insofar as practical, these reports were brought up-to-date by field work.

Field investigations are a continuing Department activity and the list of mining properties investigated is constantly being augmented. Failure to find the name of a mine in the bulletin may mean that a report was received too late to be placed in the bulletin. Anyone interested in obtaining information concerning such a property should communicate either with the Department office at Grants Pass or the Portland office.

EARL K. NIXON, Director.

Portland, Oregon
July, 1943

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INTRODUCTION

Deposits of many useful minerals are present in Oregon, but because of its large area of over 95,000 square miles - parts of which are not readily accessible - adequate knowledge of the location and extent of mineral deposits has, in the past, often been incomplete or lacking. Certain areas are very difficult to prospect. Both discovery and development have been handicapped by rugged mountains with dense timber growth in some sections, and great arid stretches of country in others. In spite of these difficulties, Oregon has produced in excess of $250,000,000 worth of mineral products since 1850.

Ores of the precious metals have been mined in the southwestern counties of the State since 1851 and in the various mountainous sections of eastern Oregon since 1861. From year to year many of the streams in these sections have furnished a consistent production of placer gold. Gold and a small amount of platinum metals has been recovered from beach sands along the coast since the early days of Oregon mining. Oregon is second among the States in quicksilver production. Many chromite deposits are known, and production of this strategic mineral is now becoming increasingly important.

Oregon has abundant resources of non-metallics such as building and monumental stone, common and refractory clays, as well as raw materials for making high calcium lime and Portland cement. In normal times the manufacture of clay products and Portland cement are among the important industries of the State. Oregon has inexhaustible supplies of sand and gravel suitable for construction purposes. Tremendous reserves of diatomite and pumice in eastern Oregon await industrial demand. Although coal has been mined for years in the vicinity of Coos Bay, Coos County, great reserves remain, and lignites and sub-bituminous coals are known to exist in various other parts of the State.

GEOGRAPHY

Cutting across Oregon from north to south are two main ranges of mountains, - the Cascades and the Coast Range, - both of which occur also in Washington on the north and California on the south. The Cascade Mountains form the "backbone" of the State, dividing it into two parts commonly referred to as Eastern (including Central) Oregon and Western Oregon. The portion east of the Cascades is about twice as large as that to the west. The Coast Range of mountains parallels the coast line very closely for the northern two-thirds of its length. The southwestern part of the State is occupied by the Siskiyou mountainous area of old mineralized rocks; while the northeastern quarter of the State is largely occupied by the Blue Mountain Ranges, also of old rocks.

The Columbia River runs along Oregon's northern border for 300 miles. Its scenery is world famous; it is a transportation artery of major importance; its economic possibilities from a power standpoint are just beginning to be realized; it is Oregon's greatest resource. Between the Cascades and the Coast Range and extending from the Columbia River southward for nearly 200 miles is the celebrated Willamette Valley. In places the floor of this valley is 25 miles wide and, with the contiguous foothills, comprises over three million acres of productive farm lands. The Willamette River drains northerly emptying into the Columbia northwest of Portland.

South of the Willamette Valley and separated from it by low mountain ranges is the valley of the Umpqua River. Still farther south and separated from the Umpqua Valley by higher mountains is the Rogue River, famous for its fertile valley as well as its fishing and placer mining. Both the Umpqua and the Rogue drain westerly into the Pacific Ocean.

Beyond the mountainous areas, much of northeastern Oregon consists of rolling uplands utilized for wheat growing and the raising of live stock. Thus it will be noted that Oregon possesses a great diversity of land surface, and a corresponding variation in climate.

TRANSPORTATION

Main trunk lines of railroads now reach practically all parts of the State except certain southeastern areas and a coastal strip in southwestern Oregon. The Southern Pacific Railroad, with its many feeders, traverses the western portion of the State from north to south, passing through the most productive portions of western Oregon and California, and connects with both water and rail lines at Portland on the northern border of the State. The Oregon Electric Railway operates a freight service from Portland to Eugene. Coastal points are reached by rail and highways through many passes in the Coast Range, and by means of coastwise boats between San Francisco, Portland, and Seattle. Throughout nearly all of its 300-mile course as the north boundary of the State, the Columbia River, besides transporting large barges and medium-sized freighters as far east as Arlington, is paralleled by two transcontinental railway lines, the Spokane, Portland & Seattle Railway, or "North Bank" (on the Washington side), and the Union Pacific Railroad on the Oregon side of the river. The main Portland-Ogden line of the Union Pacific cuts across and taps the most important mining, farming, and stock-raising sections of eastern and northeastern Oregon, while branch lines from both of these roads reach far south into the interior and central districts of eastern Oregon. In addition, the Great Northern Railroad traverses the center of the State from north to south, part of the way over tracks of other roads, and enters California by way of Klamath Falls.

The Oregon State system of State highways in 1941 consisted of nearly 5000 miles, of which over 4500 miles are surfaced. In addition to the State system a network of county and forest roads extends into mining districts, making most properties readily or reasonably accessible.

GEOLOGIC FEATURES

The Cascade Range is the dominating physiographic feature of the State. The mountain forms constituting the western half of the range are igneous in origin and represent vast ancient outpourings of volcanic material together with subordinate intrusive sheets, dikes, and masses. The high peaks such as Hood, Jefferson, Thielsen, Three Sisters, and McLoughlin which surmount the east edge of the range in a line from north to south are relatively young although possibly extinct volcanoes. Lesser peaks and cinder cones dot the region of the high Cascades and represent outpourings of lava in still more recent times.

The west slopes of the Cascades are composed of a variety of rocks, including lavas, volcanic tuffs and conglomerates, shales, and sandstones. In places these rocks have been intruded by masses of partly or wholly crystalline rocks. Most of the ore deposits are associated with the crystalline rocks or genetically related to them. The east slopes of the Cascades and the adjacent country are covered with more recent lava flows. Only here and there have streams cut sufficiently deep to expose earlier rocks.

The Coast Range of mountains is composed largely of shales and sandstones, with small amounts of conglomerate. These beds are tipped up and folded; in many localities they have been intruded by dikes and sills of basaltic lava, and may be covered or interbedded with these more recent lava flows. Because of dense vegetation the Coast Range has not been thoroughly prospected, but coal, iron ore, stone, and an abundance of useful clays have been found. In addition there are the scattered gold and platinum-bearing sands located along the beaches and on some of the coast streams.

The Klamath Mountains in southwestern Oregon are composed of sedimentary, metamorphic, and igneous rocks principally of Mesozoic or earlier age; they are much older than the Cascade or Coast Ranges. The chief placer and quartz mines of Jackson, Josephine, Curry, Coos, and Douglas Counties, from which has come a large production of precious metals are located in the Klamath Mountains. Many of the mountain ranges of eastern Oregon are made up of ancient sedimentary beds that have been intruded by igneous granitoid rocks, folded

and broken, and tilted at various angles, greatly modifying their original condition and altering them to argillites, slates, and marbles. Other ranges are composed of later lavas. There are evidences here of greater movement and alteration of the rocks than in most other sections of the State. Some entire ranges seem to have been produced by uplift and movement along vast breaks that, in places, extend for many miles. Such faulting has assisted in the upbuilding of the Blue Mountains proper, of the Wallowa Range, Steens Mountain, and others in eastern Oregon.

HISTORICAL GEOLOGY

While this publication is primarily devoted to the metallic minerals of Oregon it might be of interest to include a table showing the major divisions of geologic time together with events in the geologic history of the State.

There is also included a rough guess of the percentage of the total time that elapsed during each major division.

The earth is thought to be anywhere from 500,000,000 to 2,600,000,000 years old. If we take an estimate about midway between these extremes, we find that by applying the above percentages, which refer to the percent of the total lapse of time since the formation of the earth, we are able to give some rough actual ages to the different time divisions. These are very rough guesses. After all, what are a few million years to us now? On this basis the gold veins were formed a hundred million years ago; the old gold channels were laid down 50 million years ago; the basalt flooded Eastern Oregon 30 to 40 million years ago; the glaciers carved out the deep valleys of the Wallowas one-half to one million years ago (or even more recently).

TIME DIVISIONS OF THE GEOLOGIC PAST
(Read from bottom up)

Major Divisions		Minor Divisions	Some Events in Eastern Oregon	Some Events in Western Oregon
		Recent	Lowest gold placers	Lowest gold placers and gravels
			Volcanic ash and tuff	Cascade volcanoes
Quaternary	1%		Glaciers	Conglomerates and gravels around
Man				Portland
		Pleistocene		
			Later gold placers	Quicksilver deposits
		Pliocene	Later rimrock lavas	Cascade lavas & granodiorite with
			Diatomite	some copper, lead and zinc
Tertiary	3%	Miocene	Beginning of building of Cas-	
Mammals			cade volcanoes	
			Columbia river basalt flood	Columbia river basalt flood
		Oligocene	Fossil beds of John Day river	Fossil beds of Willamette Valley
				Limestone as at Markham and Dallas
		Eocene	Old gold channels	Old gold channels of southern Oregon
				and commercial coals as of Coos Bay
	5%	Cretaceous		
			Intrusion of granites and for-	Fossil beds of the Rogue River area
Mesozoic	11%	3-3/4 Jurassic	mation of gold veins, molyb-	Intrusion of granite and formation
Reptiles		1%	denum and tungsten	of gold & other metalliferous veins
			Limestones and argillites	Chromite and serpentines
		2-1/4 Triassic	of Wallowas and elsewhere	
		1%	Greenstones of copper belt	
	3%	Permian		Limestones, argillites & greenstones
	6%	Carboniferous	Elkhorn Ridge argillites	Older schists and slates
Paleozoic	30%			
Amphibians	4%	Devonian		
			Burnt River schist?	
Fishes	3%	Silurian		
				Older schists?
Shellfish	7-1/2%	Ordovician		
	6%	Cambrian		
Pre-Cambrian	55%			
Almost no life				

- Formation of the Earth -

Mineral Production

Statistics of Oregon mineral production dating from the discovery of gold were not recorded for many years. Even now, a segregation of the production of some of the non-metallics is not reported by the United States Bureau of Mines. As compiled from available official sources, Oregon has produced 132 million dollars' worth of metals and 118 millions of non-metals, giving a total mineral production of 250 million dollars. These are minimum figures. How much greater the total production actually has been cannot be stated definitely.

Statistics of production are now compiled by the United States Bureau of Mines, but complete figures from all producers are difficult to get promptly. This is especially true for non-metallics, reports of some of which are never obtained.

To give an idea of recent production the following table is given.

MINERAL PRODUCTION - 1934-1941, inclusive.

Year	Metals	Non-Metals	Total
1934	$1,476,049	$2,735,348	$4,211,397
1935	2,262,904	3,333,580	5,596,484
1936	2,590,261	4,400,000 (est.in part)	6,990,261
1937	2,392,133	5,234,000	7,626,000
1938	3,282,970	Estimated(5,500,000	8,784,000
1939	3,828,243	(5,500,000	9,331,000
1940	5,794,018	5,752,000	11,546,000
1941	5,224,000	Estimated(6,000,000	11,224,000

Metals are gold, quicksilver, silver, copper, lead, zinc, and platinum in order of value.

The most important non-metals are stone, sand and gravel, cement, and clay products in the order of their value. Coal, diatomite, lime, pumice, and mineral waters, etc., are included in the production figures.

The non-metallic properties of Oregon are to be described in a later publication, and are therefore, not described here.

During 1940 and 1941 prospecting for strategic minerals (especially chromite, quicksilver, manganese, and antimony) was active, but except for quicksilver, actual production was small. Production of chromite began in 1942, with prospects for considerable increase. Gold production, considerable reduced in 1942 because of priorities and higher costs, was practically stopped by Governmental order of October, 1942.

THE METALS

Western Oregon

Although gold was reportedly found in Oregon (on the headwaters of the John Day River) as early as 1845, the earliest mining of gold in Oregon was in Jackson and Josephine Counties, in 1851 and 1852. In 1852 the Jacksonville mining district was organized, following the discovery of placer gold on a tributary of Jackson Creek. In the fall of 1852 gold was found on Josephine Creek and in the spring of 1853 there was a rush to Althouse Creek, where the bed of the stream was found to be uniformly rich. From Sailor Diggings, a famous placer region on the upper Illinois, a 15-mile ditch was paid for out of one year's production. In the two or three years following, practically every part of southern Oregon was prospected for gold and many productive districts were organized. After the most accessible gravel deposits were largely exhausted, placer miners turned to benches, wherever such deposits could be worked by water under considerable pressure. Hydraulic mining was done in southern Oregon as early as 1856 and has been carried on almost continuously ever since.

Tracing placer gravels to find the source of the gold led to the discovery of quartz veins. In 1859 quartz was found at Gold Hill so rich that $400,000 is said to have been taken out the next year. A similar rich deposit at Steamboat, found at about the same date, yielded $350,000 in a short time. The quick exhaustion of the many rich strikes gave the region a reputation of being a "pocket" country, and this caused prospectors to search for near-surface pockets rather than to do underground development work. It is a region where many bonanzas have been found, but developments now indicate that it also contains extensive bodies of lower grade ores of gold and copper.

Metallic mineral production has come from three general areas in western Oregon. The first in value of production is roughly classified as southwestern Oregon and includes Douglas, Jackson and Josephine Counties. Value of production has been practically all in gold, but chromite and copper resources are assuming great importance in the war emergency. The second area, embracing parts of the western Cascades, includes, from north to south, the mining districts of North Santiam, Quartzville, Blue River and Bohemia (characterized by gold-bearing base metal sulphides) as well as the Black Butte and Bonanza quicksilver districts. The third includes Coos and Curry Counties along the coast. Past production here has resulted from mining of the so-called "black sands" for gold and platinum. These sands also contain chromite, and are probably far more valuable for this mineral than for precious metal values.

Since earliest times value of metallic production in western Oregon has been nearly all from gold. Because of the stimulus of war needs, production of quicksilver has forged ahead and in 1940 and 1941 surpassed that of gold. Probably chromite also will take a leading part in value of production during the next few years.

Eastern Oregon

From the standpoint of value of metallic production, the most important mining region in eastern Oregon, as well as the entire State, is that of the Blue Mountains, situated in the northeastern part of the State and extending westward from the Idaho line for 130 miles. This region includes several mining districts. Its total gold production to date is at least three-fourths that of the entire State.

The first gold mining in eastern Oregon was at Griffin Gulch, a few miles southeast of Baker, in the fall of 1861. In 1862 the large placer deposits of Auburn Gulch were discovered, and the following year Auburn camp had a population of 5,000. By 1864 nearly all of the

mining districts of eastern Oregon were known. Supplies were brought in from The Dalles, 300 miles away.

In 1863 the Auburn canal was completed; the next year the Rye Valley ditch was constructed; and nine years later Sparta ditch was built. The Eldorado ditch, with its total length of over 100 miles, built by Chinese labor, to supply water to the Malheur diggings, was also completed in this period. But by this time the principal hydraulic placer deposits were largely exhausted and a gradual decline in production began. In recent years the introduction of standard and dragline gold dredges has caused an increase in placer gold production.

The Virtue quartz mine was discovered soon after the discovery of placer gold. Quartz mines were worked at Susanville and at Mormon Basin as early as 1865 and 1868. One of the first mills was built at Susanville in 1869. Connor Creek and Cable Cove mines were worked, but the necessity of shipping ore on pack horses for several hundred miles hindered their development. Real activity in quartz mining followed the construction of a transcontinental railroad in 1885, and the development of the many camps was thereafter placed on a more permanent and productive basis.

Production previous to 1904 was for some years above the million-dollar mark, but, beginning with that year, there was a decreasing annual production to 1911, the low-water mark, when $463,439 was produced. Since 1911 there has been a marked increase; in 1941, the last year for which complete figures are available, the production from Baker and Grant Counties, for all metals, was $2,611,000.

In addition to the productive Blue Mountain region, there are several widely scattered mining districts, namely Pueblo Mountain district in southern Harney County; the Harney or Idle City district in the northern part of the same county; the High Grade district in southern Lake County, south of Lakeview near the California line; the Ochoco Creek area in north-eastern Crook County; the Ashwood district in Jefferson County; and the Spanish Gulch district in south-eastern Wheeler County. The above scattered districts have had only a small production except in the Ashwood district where quicksilver valued at several hundred thousand dollars has been produced by the Horse Heaven mine.

Copper

In Oregon copper production has usually been incidental to gold production. Copper-gold ores are found in the Homestead district on the Snake River, occurring as chalcocite and chalcopyrite along shear zones in greenstones. They are also found along the "copper belt" of the lower Powder River Valley where chalcopyrite, chalcocite, and cuprite are found in bunches and disseminated through shattered and sheared greenstone. Some copper prospects are found in the Wallowa area, where mineralization consists mainly of chalcopyrite with other sulphides in contact deposits between granodiorite and limestons.

Another important district is near Takilma and the old town of Waldo, some 40 miles southwest of Grants Pass. Here copper occurs as chalcopyrite in serpentine. The production from this district to date has amounted to about three million pounds, in spite of the long haul to market.

Other districts where copper ores are found are the Imnaha and Quartzburg in eastern Oregon, the North and South Umpqua in Douglas County, and the Siskiyou Range in Curry and Josephine Counties.

The total production of copper in Oregon to December 31, 1939, as given by the United States Bureau of Mines, is 24,270,000 pounds. The mine production for 1941 is reported as 166,000 pounds.

Lead

At the present time no mines in Oregon are operated primarily for the production of lead. It is a common constituent of the base ores of gold and silver, and occurs in greater or lesser quantities in several districts in both western and eastern Oregon, especially in Grant, Jefferson, and Baker Counties.

The production of lead in 1941 was 118,000 pounds. This production came from four counties of the State with Grant County producing the greatest amount.

Zinc

Because of high transportation and smelting charges value of zinc production in Oregon has been practically nil. Sphalerite is a relatively common mineral in the sulphide deposits of the western Cascades. It occurs in notable concentrations in the North Santiam and Bohemia districts.

Platinum

The streams and beaches of southwestern Oregon and northern California have long been known as a source of platinum metals in the United States. Although the output of platinum from Oregon is small (119 ounces in 1940) the scarcity of the metal in the United States makes the occurrence important.

Basic rocks such as peridotite and serpentine derived from it are generally considered to be the source rocks of platinum; and the abundance of serpentine in southwestern Oregon may account for the occurrence of platinum, although it has not been found in place.

The production comes chiefly from small beach placers which are worked primarily for gold, although a small quantity of platinum metals is recovered from gold dredging and hydraulic operations. Both gold and platinum are associated with the so-called "black sands".

Quicksilver

Since 1882 Oregon has produced about 70,000 flasks of quicksilver, with a total value of about $7,600,000. It was second in production in the United States in 1941, with an output of 9,000 flasks, valued at $1,620,000.

Deposits occur in the western, central and southeastern parts of the State. Many sections have not been adequately prospected, however, and with intelligent development several partially developed properties should be added to the twenty-three now producing. See Department Bulletin No. 4 (172 pages) for details.

Chromium

Chromite is ordinarily found in serpentine rocks, and there are extensive areas of this rock in the southwestern counties, and in Grant and Baker Counties. The localities of greatest importance where chromite was mined during the World War are those near Canyon City, in Grant County, and in the Waldo and Illinois River areas in Josephine County. There are over 100 properties in Oregon with a total past production of 36,590 long tons, and known reserves of upwards of a quarter million long tons. In 1918, 18,000 long tons were shipped, two-thirds from Eastern Oregon and one-third from the western part of the State. See Department Bulletin No. 9 (70 pages) for details.

Nickel

A deposit of garnierite, nickel silicate, occurs on Nickel Mountain about five miles northwest of Riddle, Douglas County. The nickel mineral is supposed to have been derived from the olivine in the surrounding peridotite. According to a report by the U. S. Geological Survey (Pecora & Hobbs, '42) about 162 acres are underlain by a blanket containing over 6,000,000 tons of from 1 to 2 percent grade. About 80,000 tons have been proved to contain 2 to 3 percent nickel.

There are some other unexplored deposits in southwestern Oregon.

Molybdenum

Molybdenite has been found in a few localities in northeastern and southwestern Oregon. Perhaps the most important of these are in the Wallowa area, occurring as contact deposits, previously referred to under copper. The metal occurs associated with pyrite, magnetite, quartz, calcite, garnet, epidote, and scheelite.

Antimony

Antimony sulphide (stibnite) is found in several sections of the State. Promising deposits occur in the Upper Applegate area, Jackson County, near Watkins, and on Forest Creek, in the same area. These ores are said to contain good values in gold and silver. A wide vein is reported to exist in Jackson County, 12 miles west of the Pacific Highway, at the Siskiyou Mountain summit. Stibnite is also found in the Bohemia district, Lane County, and on Big Boulder Creek four miles east of Susanville in Grant County. The Koehler Mine, near Baker, shipped several carloads of stibnite during the First World War. Value of shipments is reported as about $15,000.

Coal

There are several regions in Oregon which contain coal. The most important of these is the Coos Bay field, which surrounds Coos Bay in Coos County. This field has had a continuous production since its discovery, producing more or less actively for the past 73 years. It has a recorded production of about two and one-half million tons, reaching a maximum in 1904, when 111,540 tons were produced.

The coal in this section is of sub-bituminous grade with analysis about as follows:

Moisture	11-20 percent
Volatile matter	30-40 "
Fixed carbon	35-45 "
Ash	8-12 "
Sulphur	1.3-1.6 "
B.t.u.	9,000-10,000

The production in this region has been materially reduced in the past several years because of the competition of other fuels, particularly fuel oil from California. In 1940, 6,730 tons were sold.

Another locality which gives promise is the Eden Ridge field in the southeastern part of Coos County. This field has been sufficiently prospected to demonstrate the existence of two veins of coal, one 7 feet and one 10 feet thick, having perhaps the highest grade yet found in the State. Washing would be necessary to obtain a commercial grade. A railroad is constructed to a point 10 miles from the deposits.

Other coal fields have been prospected in different parts of the State. The chief localities are the Upper Nehalem in Columbia County, the Lower Nehalem in Clatsop and Tillamook Counties, the Yaquina field in Lincoln County, the Eckley and Shasta fields in

Curry County, the Rogue River Valley field in Jackson County, and the John Day field in Wheeler, Gilliam, Morrow, and Grant Counties.

ACKNOWLEDGEMENTS

Field work on this section of the catalogue of mines was done principally by J. E. Morrison and Ray C. Treasher. Assistance was received from a large number of people who offered valuable information concerning various mining properties. Especial mention should be made of the following:

Alden, R. M., Galice
Bristol, F. I., Rogue River
Burner, W. R., Grants Pass
Cameron, Don, U.S.F.S., Grants Pass
Davis, W. G., Box 54, Phoenix
Fixley, W. C., Williams
Foster, George C., Kerby, Independence Placer
Gilliam, F. W., Wolf Creek
Gray, C. E., Wolf Creek
Hammer, R. L., Selma
Harvey, J. R., Grants Pass
Hunter, Glenn, C., Grants Pass
Messenger, Harry, Takilma
Moore, R. H., Central Point
Pool, M. E., Rogue River (Wimer)
Ross, Dr. Rex, Placer
Thrasher, G. W., Holland
Walker, A. A., Gold Hill
Ward, H. W., 628 Dakota, Medford
Whittrock, J. H., Kerby
Williams, Percy, Wolf Creek
Wickham, P. B., Ashland

MINING AREAS IN SOUTHWESTERN OREGON

It has been the custom to refer any mining property to a so-called mining "district" for its legal location. No absolute boundaries have ever been outlined for these districts, with the result that any miner who had a property located somewhere between two more or less adjacent districts could not determine with assurance in which one his property lay.

In order to provide definite limits to the various regions in which mining and prospecting are conducted, while at the same time retaining as far as possible as many of the old terms by which the districts have been known, the term "area" is used in this volume to define and include various known "districts". These "areas" adjoin, and are laid out so that no unclassified land lies between them. The term "district" is thus restricted to certain portions of the area where custom has established usage. Each area is named after the most familiar district included within it.

VOLUME II, SECTION 2

(JACKSON COUNTY MINES CATALOGUE)

INTRODUCTION

Geography:

The principal geographical features of the county are the Rogue River and Bear Creek valleys in the central, northeastern, and southwestern parts of the county and Evans Creek in the northwestern part, with the Siskiyou Mountains on the southwestern border and the High Cascades along the eastern boundary. Bear Creek valley is a productive agricultural section and contains the two largest cities of the County, Medford and Ashland.

Railroad facilities are afforded by Southern Pacific with a main line through Bear Creek Valley. There are several main highways in the county, namely, U.S. 99 (Pacific Highway) extending southeast into California; State Highway 62 (Crater Lake Highway) from Medford northeast to Crater Lake; State Highway 66 from Ashland to Klamath Falls; State Highway 238 which extends west from Medford to Jacksonville and continues to connect with U.S. 99 at Grants Pass. Other parts of the county are accessible by county roads and Forest Service truck trails.

Jackson County with Josephine County on the west makes a geographical unit in southwestern Oregon. They form a roughly rectangular block bounded by Douglas County on the north, Klamath County on the east, the State of California on the south and Curry County on the west. With the exception of a small portion in the southern part, the whole region is drained by the Rogue River and its tributaries.

Areas are given in the following table:

Name	Acres	Sq. Miles
Jackson	1,788,160	2,794
Josephine	1,047,680	1,637
Totals	2,835,840	4,431

History:

Jackson County was the cradle of the Oregon mining industry. The first mining in the State was on a tributary of Jackson Creek in 1852 when the town of Jacksonville was founded. The rich placers of Jackson Creek led to placer mining operations on various other creeks and created the industry which has continued to the present time. Lode mining has not been nearly as productive as placer mining but several lode mines of the County have had a material output. The famous Gold Hill "pocket" was discovered in 1859, and produced about $400,000 during 1860. At about the same time the Steamboat "pocket" was found and is reported to have produced $350,000 in gold in a short time.

Mineral Production:

In the past, value of metallic mineral production of Jackson County has been practically all from gold with a minor amount of silver. In 1941 over 94 percent of the gold was produced from placer mines.

The U.S. Bureau of Mines Minerals Yearbook (Preprint of Chapter "Gold, Silver, Copper, Lead, and Zinc in Oregon, 1941") gives Jackson County production as follows:

Mines Producing		Gold						Silver		Lead		Total Value
		Lode		Placer		Total						
lode	placer	Fine ozs.	Value	Fine ozs.	Value	Fine ozs.	Value	Fine ozs.	Value	Lbs.	Value	
25	33	909	31,815	14,789	517,615	15,698	549,430	2,914	2,072	6,000	342	551,844

The most productive district was the Upper Applegate, followed by the Gold Hill and Jacksonville districts in order of importance. All of the gold mines both lode and placer were closed by Government order in October 1942.

A small amount of quicksilver has been and is being produced from the Meadows district north of Gold Hill. Quicksilver production cannot be released because of OWI restrictions. During 1943 an added quantity will be produced from the Pacific Syndicate mine (Webb-Tainor), the Mountain King, and possibly also from the Rattlesnake prospect in the Upper Applegate district.

Nonmetallic mineral production is important in Jackson County. The only active silica quarry in the State is located near the town of Rogue River. Here quartz is quarried, and crushed and sized in the plant at Rogue River by the Bristol Silica Co. to supply a demand for poultry grit and for metallurgical flux. The Pacific Portland Cement Co. produces Portland cement from its plant at the town of Gold Hill. Limestone for the plant is obtained from quarries in both Jackson and Josephine Counties. In addition to the manufacture of Portland cement, some limestone is quarried for chemical lime, agricultural stone, and for paper mill rock. Together with limestone and silica sand, gravel and crushed rock make up the bulk of the nonmetallic mineral production of the County. In 1940 the value of this production was estimated by a departmental canvass as approximately $553,000 (including most of the limestone production converted to Portland cement). No canvass of 1941 production was made by the Department, but it is believed that this production was at least not less than in 1940. Total mineral production for the County for 1941 was, therefore, approximately as follows:

Gold, silver, and lead	552,000
Nonmetallic minerals	553,000
Total	1,105,000

GEOLOGY

by

Ray C. Treasher

Summary

The areal geology of Jackson County has been mapped in detail by Wells (39,40) in preparing the Medford and Grants Pass quadrangle maps; also by Diller and Kay (24), (Riddle quadrangle); by Wilkenson (41), (Butte Falls quadrangle). Reconnaissance geology was done in the eastern portion of the county by Callaghan and Buddington(38). These data have been correlated, and with certain additions and notes are given below.

Pre-Mesozoic schist which has been subdivided by Wells (39) into old schists and younger metamorphics occurs in the lower southwest portion of Jackson County. The western third of the county is underlain by Triassic (?) "greenstones". These greenstones include the metavolcanic and metasedimentary rocks of Wells (39,40) and the greenstones and May Creek schist of Diller (24). A small patch of Jurassic Galice sediment lies in the extreme northwest corner of the county. The schists, "greenstones", and Galice sediments were intruded first by peridotite, now largely altered to serpentine, and later by siliceous granitoid rocks. Remnants of Cretaceous Chico formation lie on the east central flank of the greenstone mass. A narrow belt of Eocene Umpqua sediments occupies the west central part of the County, underlying the Bear Creek valley.

Volcanic flows, breccias, and sediments of the Western Cascades (Callaghan, 39) cover the central third of the county. These Miocene-Pliocene materials originated in the region now occupied by the Cascade Mountains and they partly covered the older rocks. The Western Cascades volcanics and the Umpqua sediments were intruded by small masses of diorite and basalt. During the Pliocene and into late Pleistocene, lavas of the High Cascades covered the easternmost portion of the county.

Pre-Mesozoic Rocks

Older schists occupy the extreme southern and southwestern portion of Jackson County, lying generally east of the Applegate River, west of the Siskiyou granite and south of the Squaw Creek drainage. The area underlain by these rocks is rugged, with a topographic relief of 6,000 feet, the Applegate River having an elevation of about 1,900 feet and the highest peaks reaching 7,300 feet in elevation. Hill slopes of 30° are common. Vegetation is heavy; timber is conifer and hardwood; brush is manzanita and "goat brush" and is almost impenetrable in places. Although rock outcrops may stand as bold cliffs, many areas are deeply weathered and the soil overburden is thick.

Wells (39) divides the older schists into two groups: (1) old schists, and (2) younger metamorphics.

Old Schists:

These rocks occupy the western two-thirds of the schist area. They are described (Wells,40) as follows:

> "....medium- to dark-green plagioclase-hornblende schists, presumably formed by the metamorphism of andesite or basaltic tuffs. Much of the green schist is rich in epidote. Another rock that is common....is a dark bluish-gray to black graphitic schist probably derived from carbonaceous sediments. There are also a few masses of a silvery-white sericite schist containing cubes of limonite pseudomorphic after pyrite, which may have been derived from rhyolite or dacite. Color

bands are not common....and where seen they are generally less than one-half inch wide and parallel to the schistosity. With few exceptions, the schistosity strikes from north to a few degrees east of north and dips steeply westward, but the structure is too little understood to warrant an estimate of thickness".

Younger Metamorphics:

These rocks are described by Wells (39) as follows:

"Unconformably above the schists there is a series of metasedimentary rocks that consist chiefly of quartzites, quartz schist, and quartz amphibole schist, with lesser amounts of amphibolite and argillite and thin bands of marble. They commonly contain much zoisite and epidote. All these rocks are considerably recrystallized, but they are not as highly foliated as the older schists. They were probably derived for the most part from quartzose sediments with small interbeds of shale and limestone. The amphibolites were probably formed by metamorphosis of basic igneous rocks.

"The exact extent, thickness, and age of these younger metamorphic rocks are not known. They are certainly younger than the schists just described and older than the metavolcanic rocks that lie above them."

It is suggested that these older schists and younger metamorphics may be correlated with the Abrams and Salmon schists of Hershey (01) and perhaps with the Colebrook schist of Diller (03).

Mineral deposits in the schist are not numerous. Copper was mined at the Squaw Creek Mine and cinnabar at the Ruby Mine. Other cinnabar occurrences are reported. In general the schists should be good host rocks for cinnabar.

Mesozoic Rocks

Greenstone (Triassic?):

Greenstone covers much of the western one-third of Jackson County. It has been eroded to form mature mountains with steep slopes. The zone of weathering is deep and a brick-red soil frequently develops. Vegetation is heavy; brush forms almost impenetrable jungles of manzanita, "goat brush",and poison oak; trees include hardwoods such as scrub oak, live oak, and madrona; and conifers such as pine, fir, and hemlock.

Greenstone is a sort of catch-all term to designate a group of rocks that are fine-grained, hard, dense, and silicified in varying degrees. The predominating color is light green but it may be brownish from iron or manganese stain. Occasionally these rocks are banded which suggests the interbedding of sediments and igneous rocks -- probably flows. Quartzite, argillite, and limestone are common in certain areas within the greenstone. Shearing and faulting may produce a material resembling true serpentine which, however, is derived only from the alteration of ultra-basic intrusives such as peridotite. To these slick, serpentine-like rocks resulting from deformation of greenstones a term "slickentite" has been applied.

The greenstone has in places been invaded by mineralizing solutions, and quartz veins are common. The quartz veins may occupy fracture zones and may be mineralized with iron, copper, lead,and zinc sulphides, as well as free gold. Massive sulphides may carry gold, but as a rule the "cube-iron" (pyrite crystals) is poor in precious metals. Ores of chrome and nickel are practically unknown in the greenstone. Most of the famous gold "pockets" were found in the quartz veins of greenstone areas.

Diller (14,24) included many altered rocks in this group. Wells (40) divides the greenstone into two classes;(1) metavolcanics, such as altered lava flows, flow breccia, and pyroclastics, with some intrusive rocks; and (2) metasediments, such as altered tuffaceous sediments, argillite, quartzite, chert, and limestone. Efforts to trace

this series northward from the Grants Pass quadrangle to the Riddle quadrangle have led to the suggestion that Diller's May Creek schist is merely a more highly metamorphosed phase of the metavolcanics and metasediments.

Brief mention should be made here of the younger greenstones that are associated with the Galice and Dothan formations, and, according to Wells (personal communication), should be assigned to that sedimentary group instead of the older greenstones. The younger greenstones are not found in Jackson County although they are found in western and northern Josephine County.

The older greenstones have a general north-northeasterly strike. Diller (14) proposed that the series was part of the east-dipping limb of a major overturned fold. Wells (40), however, indicates that the series represents the close folding of a series of folds. Reexamination of Diller's fossil collections, coupled with the study of recent collections by the U.S.Geological Survey, indicates, according to Wells & Hotz(41), that the concept of a Devonian age for the greenstones must be abandoned and that more properly they are to be classed as Triassic.

The metasedimentary portion of the greenstone has two important industrial minerals, namely, limestone and quartz. The limestone occurs in narrow bands and pod-like masses, and is important for cement manufacture, for burned lime, and metallurgical flux. It has a very low magnesian content; in fact, the southern Oregon limestones are noteworthy for this reason. Quartz occurs in a metasedimentary series east of Footes Creek and elsewhere. It is exceptionally pure. At present it is being marketed for chicken grit and metallurgical flux.

Galice Formation (Jurassic):

The Jurassic sedimentary series is divided into Galice and Dothan formations and intercalated younger (Jurassic) greenstone.The Galice formation is represented only in three small areas in the extreme northwestern part of Jackson County. Generally, the Galice formation erodes into steep-sided mountains covered with heavy vegetation. The zone of weathering is deep and the soil is clayey.

The Galice formation is predominately composed of black slate that breaks into thin plates about 3 inches in diameter. It also contains some light colored conglomerates, grit, and tuffaceous sandstone and shale. Quartz veins, mineralized with various sulphides and some free gold, occupy fractures within the sediments themselves, and more particularly along the contact of the sediments with the altered volcanics and other dissimilar rocks.

The structural trend of the Galice formation is north-northeast, roughly parallel to that of the greenstones. Dips are usually at high angles to the southeast or northwest. Minor strike faulting is common. Major faulting has occurred, particularly along the contacts.

Diller (14) identified the Galice formation as Jurassic on the basis of fossils collected in various localities. The type locality is at the Almeda Mine below Galice in Josephine County. He interpreted the Dothan formation as being younger than the Galice, either being faulted up, or representing the west limb of an east-dipping overturned fold.

More recent study suggests that if the Dothan is a separate formation, it is older than Galice (Taliaferro 41) and the structure is that of a series of north-northeasterly trending close folds. The younger greenstone that is interbedded with, and lies between, the two formations in the northwest portion of the Riddle quadrangle, is not to be associated with the older greenstone of Triassic (?) age. More properly it should be classed as Jurassic greenstone or included in the sedimentary series.

The Jurassic sedimentary situation is further complicated by the recognition of a Dillard formation, which is upper Jurassic and younger than Galice formation. Diller may have confused Dothan and Dillard in a number of instances. More geologic work is necessary in order to determine age relationships.

Peridotite and Serpentine (Late Jurassic):

Peridotite is an ultra-basic igneous rock, and serpentine is its alteration product. These rocks are found within and just north of the area of older schists, and in the extreme northwestern portion of Jackson County. Peridotite and serpentine resist erosion, although they may be covered to some depth by a peculiar mahogany-red soil. Vegetation in these areas is so sparse that one can map true serpentine areas from a hilltop with a fair degree of accuracy.

Peridotites form a group of ultra-basic rocks that range from pyroxenite, through saxonite (or hartzburgite), wehrlite, and lherzolite to dunite. Peridotite is dark-colored on fresh fractures and frequently contains phenocrysts of enstatite or diallage. Olivine is an essential mineral component, and occasionally may be abundant enough to cause the rock to be classified as dunite. The ultra-basic rocks weather to a tan or buff color and are locally called "buckskin rocks". The pyroxene phenocrysts weather more slowly than the olivine groundmass and stand out as knots on the rock surfaces. Many of the ultra-basic rocks are altered or "serpentinized". During this change they took on water and increased in volume. Pressures thus set up caused intense movements and minor faulting within the rock mass thus giving the "slick" surfaces. Serpentine is very dark green to black on fresh fracture and at first glance may resemble black marble. Further alteration produces a rock with a yellowish green color and a waxy luster, very similar to the "slickentite" described in the discussion of the older greenstones.

Chromite is an accessory mineral of economic importance in these ultra-basic rocks; it may be found as disseminated grains throughout some of the rock or it may be concentrated as "high-grade" ore in pods or kidneys. For a more detailed description of this mineral occurrence, see Allen (38). Nickel may occur in very small amounts in these rocks and may be concentrated as the greenish silicate garnierite in or below the overlying red soil.

Structural relationships suggest that the ultra-basic rocks were intruded into the Jurassic sedimentary series and the older greenstones as sills or laccoliths (Wells 40). Faulting is common, as the rocks readily alter to the "slick" serpentine. At the least disturbance of static rock equilibrium, movement results. The contacts of the ultra-basic and associated rocks frequently are faulted and sheared and many mineral discoveries have been made in these zones. Wherever found, these zones should be carefully prospected.

Field relationships suggest that the ultra-basic rocks are late Jurassic in age. They are later than the Jurassic sedimentary series and earlier than the granitoid intrusions.

Granitoid Rocks:

Several large masses of siliceous intrusive rocks are exposed in the western one-third of Jackson County. The rock-types are diorite, quartz diorite, granodiorite, and granite, but for the practical purposes of the miner, any of these terms might apply. As a rule the rock weathers readily and it is not uncommon to find road cuts over 30 feet deep exposing "rotten granite". Hillsides are more smoothly rounded than those which are underlain by other rocks. Vegetation is scrubby. The soil is light colored and is full of granules. Enough clay is present so that the soil tends to pack under pressure and to become almost impervious.

For the most part the granitoid rocks are light-gray, even-grained rocks. One or two areas of granite-gneiss are recorded. In a few places the texture is porphyritic, the phenocrysts (larger crystals) being feldspar crystals. Dark-colored minerals are hornblende and biotite; where both are present biotite usually is smaller in amount. Minor accessories are apatite and magnetite. (Wells 39).

The granitoid rocks are frequently cut by light-colored aplite and pegmatite dikes, especially in the granitic mass south of Ashland. West of R.2 W. some of the granitoid masses are surrounded by a contact aureole of altered rocks. (Wells 40).

The diorite masses themselves have not been productive of mineral deposits. Some of the aplite dikes may carry free gold. However, areas immediately surrounding these dioritic masses have been productive and this fact suggests that they should be carefully prospected for additional discoveries. The granite masses south of Ashland contain the beautiful monumental stone worked at the Ashland Granite Quarry.

> "The intrusive complex is pre-Cretaceous in age and is intrusive into all rocks in the metamorphic complex. It is probably related to the general period of batholithic intrusion that took place during the Jurassic period in the Pacific Coast region. The sequences of intrusion have not been worked out for this area, but in general the intrusion of peridotite bodies was probably the earliest and was followed by that of basic dikes, followed in turn by quartz, granodiorite, granite, and finally, the aplite and pegmatite dikes." (Wells 39).

Chico Formation (Cretaceous):

The Chico formation is found along the east side of the Bear Creek valley and along the western border of the Umpqua formation. An area only a few square miles in extent is found in the northwest corner of the county. The exposures have limited extent and have no particularly diagnostic topographic expression. Maximum thickness is 600 feet. Wells (39) describes it as follows:

> "This formation is fairly uniform in texture and composition and consists of a hard, fine-grained, greenish-gray, arkosic sandstone with local lenses of coarse conglomerate and sandy shales. The sandstone is very well bedded and well-cemented. Individual layers range from a few inches to several feet in thickness. The weathered sandstone and the soil derived from it are characteristically deep brownish-red. This color and the fact that the sandstone breaks up into smooth-surfaced tabular blocks of various sizes help to distinguish the Chico formation from the overlying sandstone of the Jmpqua formation.
>
> "The conglomerate has been observed only in lenses near the base of the Chico formation at a few localities near Jacksonville. It consists of ill-sorted but well-rounded pebbles and a few cobbles which are composed mainly of metamorphic rocks, although they include granitic rocks and white vein quartz as well as argillites and metavolcanics. Placer gold has been mined from some of these conglomerate lenses."

Cenozoic Rocks

Umpqua formation (Eocene):

The Umpqua formation forms the floor of most of Bear Creek valley and extends northward through west central Jackson County. It is easily eroded into wide, flat valleys. The soil is sandy and light buff, differing from the red Chico soil. The rock weathers to rounded irregular surfaces and may form prominent bluffs such as Pompadour Bluff east of Ashland. Total thickness is 8,000 feet. Wells (39) describes it as:

> "The Umpqua formation is predominantly a medium-grained sandstone, though shaly and conglomerate layers are present. The color of the sandstone ranges

from white to light brown. Commonly a very few well-rounded quartzite pebbles an inch or less in diameter are scattered through the sandstone and they can almost always be found in the overlying soil.

"The grains of the sandstone range from fine to coarse, are poorly cemented, and the sandstone can be easily dug with a pick. The sandstones contain much volcanic material; some of it could properly be called tuff. Muscovite is a characteristic constituent and is conspicuously abundant in some outcrops. Near the base of the formation the sandstone is shaly, and zones of interlaminated beds of shale or mudstone and sandstone from a fraction to 6 inches in thickness are found in the upper part of the section. The shale is usually dark gray or black and is carbonaceous. Lenses of thin platy coal several feet thick are also found. Conglomerate lenses are commonly interbedded in the sandstone throughout the entire thickness of the formation. They consist of ill-sorted, well-rounded pebbles to cobbles of granitic, metamorphic, and volcanic rocks."

The formation apparently rests disconformably upon Chico, and presumably is of Eocene age.

The coal beds of the Bear Creek valley, included in what is known as the Rogue River Coal Field, occur in the Umpqua formation.

Western Casoades Volcanics:

The east central third of Jackson County is underlain by 3,000-5,000 feet of volcanic flows and flow breccia, interbedded with fragmental products of explosive volcanic action; and designated by Callaghan and Buddington (38) as the Western Cascades Volcanics. Wells (39) describes them as follows:

"This series comprises a great variety of volcanic rocks, including dense andesite, platy porphyritic andesite, vesicular and scoriaceous rock, glassy rock or vitrophyre, blocky flow-breccias, and direct products of explosive eruptions ranging from bomby agglomerates to fine-grained white tuff. Welded tuffs are also present and not readily distinguished from old lava flows. Outcrops are not sufficiently large nor closely spaced to show to what extent the color, textural, and structural differences observed in scattered outcrops represent horizontal and vertical variations in one rock unit or to what extent they distinguish different rock units; furthermore, different types of rock look much alike after thorough weathering, and they are deeply weathered throughout much of the area. Though natural outcrops give the impression that flows predominate, examination of artificial cuts along Highway No.66 shows that here at least fragmental material is more abundant than flow rock. Hence it has been impossible to differentiate and map individual flows or even groups of flows. The colors of the flows range from black through purplish-and pinkish-grays to white, and all the structures found in flow rocks are present. The most common type is a dark gray, dense rock with small phenocrysts of augite or feldspar, or both. Most of the flows are from 10 to 100 or more feet thick and individual flows are commonly platy. Some very vesicular and amygdaloidal layers contain agates. Some of these agates, which weather out of the enclosing rocks and accumulate in the residual soil, are rudely spherical, hollow in the center, and as much as 8 inches in diameter."

These rocks have been mapped in more detail by Wilkinson (41). The description of them is now in manuscript form and will be published as Bulletin No.22, "Geology of the Butte Falls Quadrangle".

Later Intrusives:

"Intrusive diorite and basalt cut all the rocks except the flows in the Rogue River Valley. The diorite occurs as sills, stocks, and dikes, which seem to be most abundant along the east and north side of the Medford Valley, where they usually have topographic expression as knobs. In one locality--east of upper Kenutchen Creek--the sandstone and shale beds of the Umpqua formation have been nearly turned on edge around a large diorite intrusion.

"The basalt dikes, which are younger than the Tertiary volcanics, can best be observed on the north side of the valley of the south fork of the Little Butte Creek, southwest of Heppsie Mountain. Here they cut the tuff layers in the Tertiary volcanics. Most of them are nearly vertical, trend N.35°-55°W., and are one to two feet thick." (Wells 39).

High Cascade Lavas (Pliocene-Pleistocene):

The Cascade Range in Oregon has a width of from 30 to 70 miles. It has been divided longitudinally into two physiographic subprovinces, which have been designated Western Cascades and High Cascades by Callaghan and Buddington (34, 38). These two subprovinces have had distinctly different geologic histories. In southwestern Oregon, the High Cascade lavas cover the summit of the Cascades westward to a generalized line a few miles west of the east boundaries of Jackson and Douglas Counties. Tongues of the lava extend westward down major valleys.

The high Cascade area is characterized by smooth hill outlines. Volcanic cones and remnant volcanic necks dot the area. Valley profile may represent valley-in-valley forms, where more recent lavas filled old valleys and the valleys have been partially re-excavated.

Olivine basalt has the widest distribution. Callaghan and Buddington (38:15-16) report that:

"It makes up the plateaulike surface of the range east of Ashland as well as the great tongues that extend from the High Cascades down the valleys into the Western Cascades. These tongues or Canyon flows are particularly well shown in the valley of Butte Creek, the Rogue River, the North Umpqua River,..... Probably not all are the same age. .....where devoid of glass the olivine basalt is commonly medium or light gray, but glassy specimens are dark gray or black. Some of the basalt is porous and friable; some is nearly equigranular; but some is porphyritic. The rock consists of calcic labradorite or bytownite, augite, olivine, and magnetite, with brown glass in some places. In some specimens the augite is poikilitic and includes the feldspar aggregate. These rocks show almost no sign of alteration."

The post-glacial eruption of Mt. Mazama, the ancestral Crater Lake, covered large areas of the High Cascades with a blanket of pumice.

Few mineral deposits have been found in the High Cascades area. The best grade of pumice has commercial value but under present conditions transportation difficulties prevent use of the High Cascades deposits. A small quantity has been used in the past in Portland cement manufacture.

ASHLAND MINING AREA

General:

The Ashland mining area is in south-central Jackson County west of R.3 E., and south of T. 37 S. The boundary extends from east of the center of R.1 W. to the common corner of secs. 21, 22, 27, 28, T. 39 S., R.1 W.; then diagonally through secs. 27 and 35 and along the south line of sec. 36 on the crest of the divide; then south on a line east of R.1 W. to the Oregon-California state line. The area of about 285 square miles is included in the Rogue River National Forest.

Elevations range from 1500 feet in Bear Creek valley to 7500 feet on some of the peaks of the Siskiyou Mountains, and most of the district would be classed as mountainous. Bear Creek trends southeast-northwest through the district, dividing the Tertiary rocks on the northeast from the older granites and metamorphics on the southwest. Drainage is principally into Bear Creek and thence northward to the Rogue River, although the extreme southern portion drains to the Klamath River. Most of the tributary streams are short, have high gradients, and are dry or nearly dry during the late summer and fall months.

Annual rainfall is about 30 inches, precipitation being mainly in the form of rain, except at higher elevations. Snow in the higher mountains remains until early summer and tends to smooth out the run-off curve. Maximum temperatures range between 75° and 90° with minimum temperatures between 0° and 40°.

The southern portion is well-forested with conifers on the higher mountains and with madrona and other hardwoods in the stream gulches. The northern portion is scantly forested with hardwoods.

The area is served by the Siskiyou branch of the Southern Pacific Railway through Bear Creek valley and over the Siskiyou summit to California. U. S. Highway No.99 generally parallels the railroad. Secondary and Forest Service truck trails serve the rest of the district.

Geology:

The rocks of the Ashland mining area consist of about 10 square miles of greenstone at the middle west boundary; granite in the southwest; small patches of Cretaceous Chico formation between the granite and Umpqua formation; a band of Umpqua formation about 3 miles wide that extends diagonally across the area; and the balance consists of volcanic rock of the Western Cascades series. These rocks are described under general geology.

Mining:

The earliest mining in the Ashland mining area was done about 1858; it was in that year that the mining district called Forty-nine Diggings was organized. Placer mining was the chief activity for some 20 years before interest began shifting to underground mines. The Ashland mine was worked during 1890 and from 1892-1899; its output was about $150,000. The Shorty Hope and Mattern mines were productive during the same period. Since that time mining activity has declined until at present (1942) there are no operating placer or lode mines, although the Ashland mine was active at various times from 1939 to 1942.

Discovery of coal in the Tertiary (Eocene) sediments was followed by some coal mining, and several government reports describe the coal areas. The coal is badly fractured, is quite "bony", and ash content is high. A small amount of coal mining has been done in recent years in prospecting the deposits. An effort was made during the early days of the depression to mine coal with relief labor for relief families. Apparently results were unsuccessful as work was discontinued after a short while.

The placers probably resulted from gold-bearing stringers within the area itself and the best placers were near the more important underground mines. The lode mines usually

have well-defined fissure veins with quartz as the principal gangue mineral and gold the most valuable ore mineral.

The Ashland Granite quarry contains exceptionally high-grade monumental stone but this company has been handicapped by lack of an adequate sales campaign. At present (1942) the property is idle.

There is no hope for revival of placer activity in the area until after the war. Among the quartz mines, the Ashland and the Barron are the best known.

Favorable Prospecting Areas:

The quartz mines seem to be located near the margins of the granitoid intrusive, and suoh areas should be worthy of more study and careful prospecting. Areas of sheared metamorphics into which later quartz has been intruded with evidence of some metallization should also merit more study. The hydrothermal activity, particularly northeast of Bear Creek valley, may have produced conditions favorable for the deposition of such minerals as cinnabar (quicksilver) and stibnite (antimony). Stibnite is reported in older schists in the Siskiyou Mountains just southwest of the southwest corner of the area so it is probable that the hydrothermal activity was not confined to the Tertiary rocks northeast of Bear Creek. A small cinnabar prospect is being developed northwest of Ashland, and cinnabar is reported at the Forty-nine Diggings.

Mining Properties:

Descriptions of mining properties of record are given in the following pages.

ALTON MINE — Ashland area

see Barron Mine

ASHLAND COAL MINE — Ashland area

Location: sec. 7, T. 39 S., R. 2 E.

History: "Coal on the north side of Emigrant Creek has been opened by two incline shafts which are said to reach a depth of about 400 feet. They are now caved and filled with water. Near the surface the shafts dip about 25° in a direction N. 50° E., apparently following the dip of the coal. This outcrop is about 4 miles east of Ashland, and about a quarter mile east of Lfthia Springs, which are on the south side of Emigrant Creek. This coal is said to be owned by the Ashland Coal Mining Company (dissolved Jan. 3, 1912); it is in sec. 7, T. 39 N., R. 2 E. At the bottom of one incline shaft, which was said to be 425 feet deep on an incline of 27°, the following section was reported by E. D. Briggs, of Ashland.

"Section at Slope of Ashland Coal Mining Co.

	Feet	Inches
Coal.	1	
Coaly shale		3-5
Coal.		6
Coaly shale		3-5
Coal.		6
Shale with thin seams of coal . . .	8	6
Hard smooth coal.		10-12
Coaly shale		2-5
Soft coal		10-12
Section exposed	13 feet.	

"The coal at this locality was said to be of a good grade. It was apparently sub-bituminous in character. In a report issued in 1909 J. S. Diller mentions this mine as in active development and states that the slopes opened two coal beds, one 12 feet and the lower 5½ feet thick, separated by 50 feet of slippery shale and shaly sandstone. He says further:

" 'The coal beds are made up of streaks of good coal locally 6 inches thick, and separated by coaly shale. The coal breaks out in blocks and contains a considerable percentage of sulphur. The disturbing feature at this prospect is irregular masses of old lavas, which appear not only in all the entries, but at various levels on the surface and in bluffs nearby along the creek. Where the coal is in contact with the lava the latter appears to be the older. The abundance and irregularity of these lava masses render the extent of the coal beds a matter of doubt.' "

Reference: Parks & Swartley, 16:16 (quoted).
Winchell, (14:108-109).

ASHLAND COAL MINING COMPANY — Ashland area

see Ashland Coal Mine

ASHLAND GRANITE QUARRY — Ashland area

Owner: Reconstruction Finance Corporation

Location: sec. 1, T. 40 S., R. 1 E., on Neil Creek about 8 miles south of Ashland.

Area: 160 acres

History: Walter M. Blair began developing the site in 1916, and in 1929 incorporated the Blair Granite Quarries. On Nov. 6, 1937, the property was taken over by the Ashland Granite Quarries, Inc. This company operated until 1940 when the Reconstruction Finance Corporation took possession. The quarry has been idle since then. It is reported that Blair's sales amounted to between $20,000 and $30,000 a year from 1921-1927. Both monumental and building stone were produced.

Geology: The quarry lies within the so-called Siskiyou granite batholith. Unlike most of the granite in the area the quarry rock has small grain-size and the light and dark minerals are uniformly distributed. The rock is biotite granite; it has a medium granitoid texture (0.25-3.0 mm); the color is gray. The original structure is hypidiomorphic; the secondary structure is negligible. Quartz is 26 percent; feldspar is 68 percent; biotite is 5 percent; and the remaining one percent is made up of the accessory minerals zircon, apatite, muscovite, and a carbonate. The grains are fresh and free of alteration. Crushing strength tests indicate 11,980 to 14,900 lbs. per sq. in. In general the rock compares very favorably with well known granites, such as the famous Barre granite.

The granite is well jointed but the joints are spaced sufficiently to permit the quarrying of large blocks. Veins and veinlets, in the quarry, seem to be confined largely to the joint planes, and do not cut through the rock itself to any marked degree. Pyrite seems to be confined to the joint planes, also. The customary "knots" or "segregations" of dark minerals are absent.

The granite in the quarry represents a rather unusual phase of the Siskiyou granite, by reason of its uniform, fine-grain texture, its uniform "blue" color, and its freedom from "knots" and streaks. Most of the Siskiyou granite of this area is a medium dark colored granite porphyry having feldspar phenocrysts one-half inch in length. Many of

these phenocrysts show Carlsbad twinning visible to the eye. Aplite and pegmatite dikes cut the mass. "Knots" or segregations are common. Weathering is deep. Along the railroad right-of-way toward the California line, a few "dikes" of a granite similar to the Ashland quarry granite were found. This suggests that the rock in the quarry may represent a slightly different phase of intrusion from that of the main mass.

Equipment: A Lane granite saw with 8 blades, powered with a 40 h.p. motor; two pneumatic surfacing machines; three polishing machines; 1 grinding stone and stands; various carving tools and equipment. Quarrying equipment includes a 10-ton derrick and electric hoist; an Ingersoll Rand compressor; 4 plug drilling machines; trucks and miscellaneous tools.

Quarrying: The "upper quarry" was opened by the Ashland Granite Quarries, Inc. for the purpose of removing building stone. The saw was installed nearby. The weathered rock and waste rock was dumped below but no large amount of commercial rock was removed. This upper level has been opened but is undeveloped.

The "lower quarry" was used to produce monumental stone. The face of the quarry is about 50 feet high and the quarry floor is about 50 feet across. Quarrying had been started below the floor level and a sizable dump was made. In this area, there were huge blocks awaiting removal and final dressing. Unfortunately, the waste from the development of the "upper quarry" was largely dumped into the "lower quarry" and considerable work will be required to clean out this working place.

Some monumental stone, in the rough, is piled around the dressing shed awaiting dressing and polishing. It is understood that small orders for monumental stone are being filled from time to time.

Economics: The monumental stone has been examined and pronounced equal in quality to the better grades of the famous Barre granite. The fine grain and uniform distribution of minerals makes it valuable for monumental purposes. In the past the main difficulty has been lack of adequate financing that will permit production of the stone while a sales force is presenting the finished product to the trade. People are familiar with the Barre granite and buy on the reputation of the stone. A "reputation" will have to be built for this stone.

Reference: Parks, 14:16-17.
Petrographic report by C. L. Jessries & R. J. Colony, Columbia University, No. 441.

Informant: R.C.T., April 12, 1942.

ASHLAND MINE (gold) Ashland area

Owner: P. B. Wickham, Ashland, Oregon.

Location: E½ sec. 12, T. 39 S., R. 1 W., three miles northwest of the City of Ashland at an elevation of 3,500 feet.

Area: 276 acres of patented land.

History: Parks & Swartley reported as follows:

"The Ashland mine is opened by means of the West shaft, about 900 feet deep, as measured on the incline of about 38°, reaching a vertical depth of about 800 feet beneath the top of the ridge. It is opened further by an adit, crosscutting westward about 500 feet to the vein and drifting on the vein about 1,500 feet to the shaft at a depth of 250 feet on the incline. The vein is also reached by the York shaft and an upper adit connected therewith. The chief vein has an average strike of N. 19° E. and a dip of about 40° E. There are two important ore shoots in the vein, one being opened by the York shaft and the other by the

West shaft. Both pitch to the south and seem to converge downward. Most of the ore above the adit level has been removed. The vein is regular and persistent, varying in thickness from 2 to 12 feet; the quartz varies in thickness from 0 to 10 feet and occurs in lenses reported to pitch to the south. The vein varies only gently in strike and dip and is not faulted so far as open to inspection. It is in a country rock of coarse tonalite, fine-grained diorite, hornblendite and mica schist cut by a few dikes of aplite. The aplite is much more abundant on the hillsides of the mine than it is in the workings.

"According to information received from H. V. Winchell of Minneapolis, who examined this mine in 1899, there are several quartz veins on the Ashland ground, only two of which have been developed.

"In size the veins vary from a foot to ten or twelve feet in thickness and some of their outcrops can be traced for considerable distances across the Ashland claims. Near the surface and to a depth of one hundred feet or more the veins are oxidized and the sulphides have been removed by leaching. Below this depth, however, the ore is still free-milling, showing that the gold is mechanically associated with the pyrite instead of occurring in such an intimate admixture or combination that the ore is refractory and only to be treated by some chemical process like smelting or cyaniding.

"The vein filling is quartz and pyrite with more or less country rock. The walls are very smooth and well defined and there is always a gouge or selvage that makes easy mining or stoping of the ore.

"The vein on which the greatest amount of development work and mining has been done varies in thickness from two to twelve feet. The ore is of two grades, shipping ore and milling ore. The shipping ore occurs in somewhat irregular shoots and bunches throughout the mine, and runs from $50 to $500 per ton in gold, averaging about $100. The milling ore carries from $3 to $30 per ton in gold and during the year 1898 averaged about $13 per ton. About 55 percent of the gold is recovered from the plates, and about 10 percent is obtained from the concentrates. The last ore milled produced concentrates worth about $75 per ton as compared with an average value of $50 to $60 per ton, indicating increased value with depth.

"Two principal ore shoots are known in the mine, although a large portion of the ore outside of these shoots would pay for treatment, and although more or less scattered bodies of shipping ore are encountered everywhere in the vein, suggestive of similar and more continuous as well as larger bodies in depth.

"The best defined and most regular ore shoot is that formerly worked through the York shaft and now producing ore in the upper and lower adits. This ore is largely oxidized and is worth from $25 to $40 per ton; the shoot pitches toward the south at an angle which decreases considerably about 200 feet above the lower adit.

"Another ore shoot has been worked in the West shaft, and produced shipping and milling ores to the lowest levels reached. This ore was not so much oxidized, but in places it was very rich, some large masses showing free gold and rich sulphides all over the fractured surfaces.

"These two ore shoots seem to converge downwards and there is good reason to believe that they are either upward branches of one large ore body or that they will be found close together forming a large and rich deposit at greater depth.

"According to J. P. Burrall, of New York, the ore north of the shaft was regular in quantity, but of rather low grade; south of the shaft the ore contained more quartz and pyrite and was of higher grade. Large bunches of pyrite were sorted out for shipment to a smelter. Near the shaft the ore was irregular both

in quantity and value, but evidently grew better in both respects as the work progressed to the south. A mill run made in March, 1899, yielded about $40 a ton on the plates and a concentrate carrying about $325 a ton. At that date the development work was reaching an important ore shoot which pitched to the south. The high grade pyrite sulphide ore contained free gold, recoverable by panning, while low grade ore of similar appearance yielded nothing on panning.

"Soon afterward the mine was closed by injunction proceedings brought by owners of adjoining ground, and very little work, aside from the construction of a 10-stamp mill, has been done since.

"In 1898 and 1899 the ore from the Ashland mine was treated in a 5-stamp mill operated by water power. It was located at the city of Ashland, about four miles from the mine. The cost of hauling ore from the mine to the mill was between $0.75 and $1.00 per ton. Since then a 10-stamp mill has been erected at the mouth of tho West shaft at an elevation of 3,350 feet by aneroid. It is equipped with a 6 by 10 Blake crusher, two 5-stamp batteries, Challenge feeders, two 5 by 15 feet amalgamating plates in sections of 7½ feet, and two 6-foot Johnston vanners. The mill has been but slightly used. Both mill and hoist were operated by steam from a horizontal fire-tube boiler, which is still on the ground.

"The prospects for making a valuable and important gold mine at the Ashland are very unusually good and it is to be hoped that difficulties in regard to ownership may be adjusted so that development may proceed.

"This mine has recently been taken over by Mr. A. W. Bartlett, of Ashland, Oregon, and associates. Mr. Bartlett proposes to mine and mill a large tonnage of ore above the 250-foot level in the old stopes and in the wall rocks, where he claims sufficient mineralization has taken place to allow them to be worked with profit. Mr. Bartlett purchased a part of the mill machinery of the Braden mine and installed it at the Ashland during August and September, 1916."

Under the present ownership the mine was opened in 1931 and milling began in 1933. The mine was closed late in 1939, and then reopened in 1941.

General: Water supply is limited but can be increased by pumping from the mine. Timber is sufficient for mining needs. There is insufficient snowfall to hamper operations. A county road leads to the mine property. There is unlimited space for dumps. Power (3 phase, 220 volt) is delivered to the mine.

Production: Production previous to present operations is reported to have been about $1,300,000, partly from shipping ore but mostly from milling ore treated at the old five-stamp mill formerly located at Ashland. A continuous, modest production has been maintained under present operations from 1933-1939, entirely from milling at the new Ashland plant.

Development: In round numbers: Original tunnels 6,000 feet; shafts 1,100 feet; raises 1,500; new development, 2,400 feet; total 11,000 feet. Development explores the vein for a depth of about 1,200 feet on the dip.

Equipment: Ten-stamp mill buildings, bins, etc., all new. Mine equipment includes: Compressors, drills, air lines, pumps, hoists, water lines, storage tank, cars, skips, tracks, drill-sharpener, shop equipment, tools, etc. Mill equipment includes: stamp mill, plates, rock crusher, concentrating table, cyanide tanks, with piping, shafting, pulleys, belting, etc., complete. Power equipment includes: 1-75 H. P. electric motor, 1-20 H. P. electric motor, and 1-3 H. P. electric motor, complete with starters, switches, etc.

Geology: Country rock is reported as tonalite by Winchell (14) and as granodiorite by Wells (39). The vein is a "fissure vein" about 4-12 feet wide. It strikes NE - SW and dips 45° SE.

There are two principal ore shoots proven in the main workings---a north shoot and a south shoot. On the north shoot less is known, but the south shoot occupies a zone ranging between 300 and 400 feet in length with a rake of some 45° northeast. These shoots are separated by about 600 feet along the vein, but recent development has disclosed considerable ore in the zone between and may prove eventually either a center shoot or that the shoots are practically connected on certain planes. The ores are usually massive quartz containing metallic gold and silver as well as some galena and pyrite. The quartz is white to bluish to nearly black in color.

Throughout the history of the mine, milling ores have assayed from $5.00 to $40.00 per ton. Shipping ores have assayed $79.00 to $240.00 per ton. Free gold amounts to 65-95 percent. Gold bullion has assayed 740-780 fine and concentrates from $150.00 to $350.00 per ton. The production from ores treated during 1934, 1935, and 1936 has been in excess of 90 percent from free gold and less than 10 percent from concentrates.

No exact estimate of available tonnage and value of ore has been made. Early mining was confined to a grade of ore exceeding $15.00 per ton in value and this led to removal of the better ores developed above the main working level. Size and values of ore bodies have shown a marked increase with depth; the highest values now being encountered are on the "900" level, north.

Ore Treatment: Stamp milling is followed by amalgamation and concentration. Cyanidation was tried but found unnecessary on ores from the lower levels where values are mostly in coarse free gold.

Recovery on ores now being treated by amalgamation and gravity concentration is approximately 90 percent, largely due to the clean character of the ore and presence of coarse free gold. Tailings are being impounded for future treatment.

Informant: P. B. Wickham, 1939.

Reference: Parks & Swartley, 16:16 (quoted).
Burch, 41:107

BARRON MINE (gold, silver, zinc, lead, copper) Ashland area
see Alton Mine

Owner: Mrs. W. H. Lydiard, 16 Geneva, Medford, Oregon.

Location: sec. 23, T. 39 S., R. 2 E.

History: Callaghan & Buddington reported as follows:

"The Barron Mine is in Jackson County, nearly 8 miles in a direct line east-southeast of Ashland, and the property consists of three 40-acre tracts in sec. 23, T. 39 S., R. 2 E. It is reached by a steep mountain road 3 miles in length from the Green Springs Highway. The mine is in a gulch that slopes toward the valley of Sampson Creek at an altitude of 3,400 feet, or 1,200 feet above Emigrant Creek. The mountain slopes are open rather than thickly forested as in most of the other mineralized areas.

"The country rocks are chiefly coarse andesite breccias, but there are flows and dikes of labradorite andesite, some basalt, and some rhyolite on the slope above the mine. A dike of dacite porphyry trending N. 30° W. is exposed in Sampson Creek over a mile south of the mine; the trend changes locally to N. 5° E. on the ridge north of the creek.

"The breccias do not show bedding, and few data on structure could be obtained. A thin flow exposed in the crosscut strikes N. 52° W. and dips 16° N.E. Observations at other points indicate that the regional strike is

near N. 40° W. and the dip is 10°-20° N. E. Dikes in the mine strike north, N. 40° W., and N. 60° W., and dip both east and west. The belt of altered rock in which the vein lies strikes N. 40° W., and the vein has an average strike of N. 38° W. and dips variably but averages 80° N. E.

"The early history of the property has been lost. It is reported to have been patented on grazing rights in 1883, acquired by the Barron family in 1885, and held by them until recently. The Gold Mound Co. was renovating the plant in 1931. So far as could be learned the production, largely since 1917, has been about $9,000. According to an engineer's report 59 tons was milled at the Ashland mill, yielding $518, and later H. J. Sallee under lease shipped the ore recorded below. The main level is reached by a crosscut 390 ft. long. The drift is 300 ft. from the portal of the crosscut and 150 ft. below the outcrop of the vein. Drifts follow the vein irregularly 175 feet N. 36° W. to a cave-in and 160 feet S. 38° E. A winze 15 feet from the crosscut is reported to be 35 feet deep with a drift 20 feet long at the bottom. A raise 25 feet northwest of the crosscut extends to the surface. Three short drifts extend from the raise, and two stopes lie south of the raise. The largest stope extends down 60 ft. from the surface. The equipment includes a 10-stamp mill engine, crusher, Wilfley table, and two slimers, tract, and cabins in good condition.

Smelter Returns From Barron Mine, 1917-1918.
(From report by J. Carlton McDonald)

Ore (tons)	Gold		Silver	Value per	Value of
	Value	Ounces	(Ounces)	ton	Shipment
52.	$15.01	0.73	20.11	$ 31.12	$1,618.24
15.	66.31	3.20	34.11	100.42	1,506.30
39.	5.31	.25	6.66	11.97	466.83
9.	41.23	1.99	42.80	84.03	756.27
44.	7.79	.36	13.08	20.87	918.28
43.	11.78	.57	13.64	25.42	1,093.06
3.	57.38	2.76	69.11	126.49	379.47
Total Value					$6,738.45

"The vein, as shown on the lower level, consists of a series of branching and intersecting fractures, some of which are filled with gouge, some with fragments of altered rock, and some with altered rock cemented by cherty quartz, which in places contains sulphides. Comb quartz is inconspicuous. The vein is over 10 feet wide at the crosscut but pinches to 1 or 2 feet both to the northwest and to the southeast. This is essentially the lower limit of the ore shoot that has been partly stoped. An open cut reveals 40 feet of altered rock between the main vein and one lying to the west. Sulphides exposed in the drift occur in small stringers and consist chiefly of sphalerite with a little galena, chalcopyrite, pyrite, and arsenopyrite. Winchell mentions in addition stibnite, malachite, wire silver, realgar, and probable pyrargyrite. Altered rock consisting chiefly of clay minerals and a little sericite and carbonate, cherty quartz, calcite, and a little barite occurs with the sulphides. Most of the gold has been obtained from the leached and iron-stained vein matter, and leaching has extended to the main level, though it has not been complete.

"According to an engineer's report, assays in the upper workings range from $6.42 to $13.77 to the ton in gold and silver, with gold valued at $20.67

an ounce, for widths of 3½ to 12 feet. An assay on the south end of the stope just above the main drift shows $1.42 to the ton for 4 feet. An assay of 4 feet of the face of the south drift yielded 90 cents to the ton, but assays just north of the raise yielded $6.56 to $8.40 to the ton for widths of 6 to 8 feet.

"The zone of altered rock that contains the vein averages about 50 feet in width and was traced to the southeast and lost under soil, but a similar zone, 300 feet wide, appears on the ridge over half a mile to the southeast. It was traced to the northwest for more than 1,000 feet beyond the mine. Similar zones of altered rock occur on Sampson Creek, and a short drift was driven on one about 1,000 feet from the Green Springs Highway.

"Apparently some ore that might be extracted at a profit remained in the mine in 1931, and possibly a similar vein or ore shoot might be found in this zone of altered rock or in one of the other altered zones."

There has been no work done at the property since the above report.

Reference: Callaghan & Buddington, 38:134-135 (quoted).
Parks & Swartley, 16:25.

BEESON MINE (coal) Ashland area

see Mundy Mine

Location: Sec. 16, T. 38 S., R. 1 E.

History: "In Sec. 16, T. 38 S., R. 1 E., a coal seam has been opened by Emmett Beeson, of Talent, by means of a slope or incline shaft following the coal nearly on its dip. This coal outcrops in a ravine at the foot of a sandstone cliff at an elevation of about 2,600 feet. Fossil impressions of leaves were collected from shaly sandstone at an elevation of about 3,050 feet near the top of the cliff a little south of east of the coal seam. The sandstone strikes about S. 45° E. and dips about 25° N. E. at the place where the fossils are found. The coal seam has a strike of N. 53° W. and dip of about 16° N. E. The slope opening this coal discloses a fault at 70 feet from the portal, which strikes N. 10° W. and dips about 62° E. The hanging wall of the fault is displaced vertically downward about 6 feet. At about 120 feet from the portal the coal seam is narrowed to about 3 inches by the doming up of the floor; at the breast, about 130 feet from the portal, the coal is again nearly 2 feet thick.

"The section at this outcrop follows:

Section at Beeson's Slope in Sec. 16-38-1 E.

	Feet	Inches
Feldspathic sandstone	10	
Shaly sandstone with fossil leaves		6-8
Feldspathic conglomerate sandstone	400	
Covered	5	
Feldspathic conglomerate sandstone	6	
Fine grained sandstone		2-4
Coal		1
Coal and coaly shale	1	3
Coal		3
Fine grained sandstone	8	
Feldspathic conglomerate sandstone	42	
Coarse quartzose conglomerate	10	
Feldspathic conglomerate sandstone	20	

"According to J. S. Diller, several coal seams have been opened by D. P. Greninger by means of shallow workings about 4 miles north of Ashland. He states that the coal seams increase in thickness and improve in quality to the northeast, although the openings are not sufficiently extensive to determine their value. No lavas nor faults were disclosed by these workings, which furnished a few tons of coal for local use.

"There is a coal prospect on W. C. Butler's ranch in T. 38 N., R. 1 E.; it is opened by an adit, now caved, said to be about 200 feet long. The croppings show thin seams of coal in a shale and shaly sandstone. A few impressions of leaves were observed in the shale, but they were too imperfect to be useful in determining the age of the beds.

"Summarizing these observations, it appears that coal seams are found more or less continuously from northwest to southeast across the Ashland district. There are several seams of coal, of thicknesses varying from an inch to several feet. The coal improves in quality and quantity down the dip, which is toward the northeast. It is not now in use, but by means of further development it may become a source of fuel for local use and perhaps a source of power through its use in making gas."

Reference: Parks & Swartley, 16:27 (quoted).
Parks & Swartley, 16:220 "

BLAIR GRANITE QUARRIES — Ashland area

see Ashland Granite Quarry

BUCK POINT (gold) — Ashland area

Owners: H. Kerby, Frank Kerby, Talent, Oregon; Jessie Williams and Marion Briner, Coquille, Oregon.

Location: 11 miles S. E. of Ashland on a branch of Sampson Creek and 1 mile south of the Barron Mine, in sec. 26, T. 39 S., R. 2 E.

History: Discovered in 1935. Yearly assessment work is the only development work. No production.

General Information: Hilly topography; andesite lava country rock; elevation 3,000 ft.; no timber on property but can be secured close by. Water will have to be developed. A possible source is $\frac{1}{4}$-mile from the property. Maximum snowfall is four feet. A poor road goes within $\frac{1}{4}$ mile of property.

Development: Four shallow open cuts on the vein cover a distance of 500 feet.

Geology: Veins are formed in a fault zone which is about 28 inches wide. Minerals observed are quartz, calcite, pyrite, gypsum, and chalcopyrite. Five samples were taken; the highest assayed $3.50.

Informant: J.E.M., 1937.

BULA MINE (gold) — Ashland area

see Lamb Mine

Owners: H. Kerby, Talent, Oregon; Jessie Williams and Marion Briner, Coquille, Oregon.

Location: Sec. 26, T. 39 S., R. 2 E.

History: "The Bula mine, sometimes called the Lamb mine, because it is now owned by Coachman and Lamb, is situated 4 miles south of Ashland and about half a mile east of Ashland Creek, on a ridge, at an elevation of about 3,700 feet, as measured by aneroid barometer. It consists of five claims on one or more veins, which are opened by a shaft and two adits about a quarter mile apart, as well as some surface trenches or "pot holes". The southeasterly adit at which an ore bin has been erected, consists of a crossout entry about 100 ft. long to the vein and a drift extending S. 30° E. about 200 feet. The country rock is tonalite and the vein is an altered zone in a dike and along the contact between the dike and the country rock. The veins contain some quartz and so much "clay" (probably sericite) that it gives trouble by caking about the die in the milling, which has been done in a Lane Chilian mill. The clay is also the probable cause of the poor extraction reported from this ore. The northerly adit consists of a crosscut entry extending southeast 125 feet to a vertical dike, which was followed S. 35° E. 325 feet. As this disclosed no ore and only a little vein material, the tunnel was turned due east to cut another vertical dike disclosed by surface prospecting about 200 feet eastward. This parallel dike has not yet been reached by the tunnel, which now extends about 120 feet from the first dike.

"About a mile south of Lamb's house on the east fork of Ashland Creek a prospect adit extends S. 60° E. about 45 feet in a slightly porphyritic tonalite, following fissures whioh contain a little vein quartz, some altered feldspathic material and some fault gouge. About a mile above the forks of Ashland Creek on the east branch the coarse tonalite is displaced by an intrusive finer grained aplite with pegmatitic variations. On the south fork of Ashland Creek the tonalite is similarly intruded by aplite and pegmatite. (1914 report)."

Reference: Parks & Swartley, 16:46-47 (quoted).

BURDIC MINE (gold) Ashland area

Location: center sec. 13, T. 39 S., R. 1 W.

History: "The Burdic Mine is near the center of sec. 13, T. 39 S., R. 1 W., on a hill east of Wagner Creek, and about 2½ miles west of Ashland by wagon road. It is owned by Burdic and Grant, of Ashland. The lower adit at an elevation of about 3,140 feet follows small fissures and quartz stringers for about 60 feet southeasterly into the hill. About 100 yards to the southeast the upper adit at an elevation of about 3,270 feet follows a southeasterly course. The adit enters on a slip showing some fault gouge, but very little vein material; the nearly vertical fissure turns to the south before playing out. The adit continues and turns at a point about 100 feet from the portal to follow for about 150 feet a vein in a diorite dike in tonalite. The vein is narrow, but the dike, which is silicified, chloritized, and mineralized, is about 4 to 10 feet thick. The mineralization extends especially into the hanging wall and the foot wall is chloritized. The dike seems to vary from a dark basic diorite to a diorite-aplite or malchite. The water circulation followed a fault gouge about an inch thick. The strike of the vein is N. 80° W. and dip is about 85° S. Assays of the ore are reported to have been higher at the surface than in the adit below."

Reference: Parks & Swartley, 16:47 (quoted).

CLEVELAND CLAIM Ashland area

see Snapshot Claim

CLIMAX GOLD AREA Ashland area

Location: "Large areas of altered tuff and a vein of aragonite occur in the vicinity of Climax, on the headwaters of Antelope Creek, nearly 8 miles in a direct line northeast of Ashland, in Jackson County. Climax is reached by an unimproved road that follows Antelope Creek.

"The aragonite vein is on a steep slope on the east side of the valley at Climax, in a coarse volcanic breccia. The vein is vertical and strikes N. 60°-70° W. It has been traced for several hundred feet and consists of irregular lenses of aragonite, some containing fragments of country rock and irregular masses of chalcedony surrounding vugs or geodes lined with quartz crystals. Fragments of country rock are surrounded by calcite, rarely over 2 millimeters thick, from which the coarse acicular crystals of aragonite radiate. No sulphides were found, and no precious metals are known to occur.

"Volcanic tuff and breccia over 1 mile west of Climax are changed to a soft brown and white aggregate of clay minerals and an isotropic substance, possibly a form of opal. Oxidation of disseminated pyrite has led to the formation of numerous crystals and crusts of gypsum. The altered tuff is leached by a secret process devised by one of the local residents to make a medicine.

"Rhyolite underlying the oil shale in secs. 9 and 16, T. 38 S., R. 2 E., is bleached and contains chalcedony in openings."

Reference: Callaghan & Buddington, 38:133-134 (quoted).

COLUMBINE CLAIM (gold) Ashland area

Location: sec. 14, T. 39 S., R. 1 W.

History: "The Columbine claim, about 3 miles southwest of Ashland, and west of Wagner Creek, in sec. 14, T. 39 S., R. 1 W., is owned by R. W. Dunlap. It is opened at an elevation of about 2,600 feet by an adit crosscut in diorite running S. 84° W. 85 feet to the vein on which a drift extends N. 36° W. about 100 feet. The vein contains 4 to 6 feet of massive white quartz with some pyrite and a little marcasite and chalcopyrite, and some fault gouge; it dips 55° N. E. The vein seems to contain also a little pyrolusite. The marcasite alters rapidly under atmospheric conditions producing sulphuric acid and iron sulphates, especially melanterite."

Reference: Parks & Swartley, 16:65 (quoted)

CRACKERJACK CLAIM (copper) Ashland area

Location: sec. 14, T. 39 S., R. 1 W.

History: "The Crackerjack claim is about 3 miles southwest from Ashland and about 600 feet southeast of the Pilgrim. It is opened by a crosscut at an elevation of about 3,000 feet and by an incline shaft about 75 feet higher up. The vein strikes N. 10° W. and dips 55° S. W. The country rock is a metamorphosed sandy shale, now containing layers of quartz separated by layers of zoisite and some pale green hornblende, with some disseminated calcite and a few isolated crystals of chalcopyrite, films of bornite and rare pyrite."

Reference: Parks & Swartley, 16:82 (quoted).

FORTY-NINE DIGGINGS (placer, mercury) Ashland area

Location: sec. 31, T. 38 S., R. 1 E.

History: "The best known placer mine in the area is called the 'Forty-Nine Diggings'. It is about 2½ miles northwest of Ashland at the north end of the ridge between Wagner and Ashland Creeks. Here the placer operations have extended at least 20 feet into an old conglomerate bedrock and the same distance into an older bedrock consisting of a series of andesitic flows, now much altered.

"Upon weathering the rock becomes lighter colored, and curving lines of iron stain surround and accentuate lenticular or spheroidal forms of more compact material. In places the andesite seems to be amygdaloidal containing cavities filled by later calcite and other material. The flows strike S. 60° W. and dip steeply westward and are overlaid by the nearly horizontal conglomerate, probably of Cretaceous age, which strikes S. 40° E. and dips about 70° N. E. This placer has not been in operation for several years.

"The following description of the Forty-nine diggings was written by Frank M. Anderson:

"'The old placer mines near Phoenix, Oregon, were the property of the late E. K. Anderson, who formerly lived near Talent, Jackson County. They form a group lying about the northern end of a ridge of hills which constitute a spur of the Siskiyou Mountains. Mining has been done along the eastern and northwestern flanks of the ridge, and gold in small quantities found in all the alluvial gravels of the vicinity. From about 1860 until recent years these worked regularly for a few months during the winter and spring. Until 1895 they yielded generally from 60 to 150 ounces of gold annually, which ranged in value from $16 to $18 an ounce.

"'The gold was generally accompanied by considerable "black sand" (magnetic iron and other dark minerals) and some grains and nuggets of cinnabar. For the most part gold was fine, ranging in size from "dust" to "flaxseed" gold, though a few nuggets of gold were found which weighed as much as 3 ounces or even more.

"'Much of the gold was more or less "rusty" and would not amalgamate freely, so that after all the gold obtainable by this means was removed from the black sand it still had a value of $5 to $8 a ton in gold.'"

Winchell (14) reports cinnabar in veins in the bedrock. The vein filling is calcite, with siderite, cinnabar, and a little quartz.

Reference: Parks & Swartley, 16:95 (quoted).
Winchell, 14:124.

GOOD FRIDAY MINE (gold) Ashland area

Owner: Billings Real Estate, Ashland, Oregon.

Location: sec. 36, T. 38 S., R. 1 W.

It has a 60 ft. shaft sunk in broken rock. The solid vein was found at the bottom of the shaft, and was reported as a good showing.

Informant: W. G. Davis, 1940.

GROWLER MINE (gold) Ashland area

Owner: E. S. Keith, Talent, Oregon

Location: 5½ miles south of Talent in the NE¼ sec. 13, T. 39 S., R. 1 W.

Area: One full size, unpatented claim.

History: Located in 1937. It has been worked intermittently since. No record of production, but output thought by the owner to have been about $1200.

General Information: Steep canyon topography: granodiorite country rock; elevation 3,000 feet; plenty of timber; no water after July; 3 feet maximum snowfall. Road to property is very narrow and steep, approximately ½ mile in length.

Development: A meandering tunnel runs S. 12° E. for 147 feet. From the face of the tunnel a drift trends N. 88° E. for 40 feet to the face. At a point 80 feet from the portal there is a small stope. About 125 feet south of the tunnel on the vein is an inclined shaft 40 feet deep.

Geology: A quartz vein, varying in width from 0 to 2 feet, occurs in granodiorite. Pyrite and chalcopyrite are found as vein minerals.

Equipment: Steam engine (4 x 5) 5 h.p.; a home made one-stamp mill with stamp weighing 800 pounds. It has a 2' x 4' plate. There is also a small blacksmith shop together with blacksmith equipment.

Informant: J.E.M., 1937.

HUMDINGER MINE Ashland area

History: "The Humdinger Mine, owned by C. Halstead, of Talent, on the ridge west of Wagner Creek, has been prospected by shallow workings."

Reference: Parks & Swartley, 16:125 (quoted).

Note: For Humdinger mine in Josephine County, see Bulletin 14-C, Vol.II, Section I.

LAMB MINE Ashland area

see Bula Mine

LITTLE PITTSBURG MINE (gold) Ashland area

Location: sec. 13, T. 39 S., R. 1 W.

History: "The Little Pittsburg Mine, reached by wagon road via Ashland Mine, about 2½ miles west of Ashland, is about 700 feet east of the Ruth on a parallel vein, which strikes N.3°E. and dips about 70° E. The country rock is like that at the Ruth, but contains some mica. The vein contains some quartz and calcite. An adit said to be 150 feet long is now caved shut at the portal. The vein is also opened by an incline shaft about 50 feet deep and by a few open cuts. The shaft is at an elevation of about 3,000 feet."

Reference: Parks & Swartley, 16:142 (quoted).

MATTERN MINE (gold) Ashland area

Location: sec. 12, T. 39 S., R. 1 W.

History: "An adit known as the Mattern is near the Ashland Mine on the west side

of the ridge and about 3 miles by wagon road west of Ashland. The adit extends about 370 feet in a direct line about S. 20° W., all the way on a vein which dips about 40° E. Where observed the east or hanging wall is tonalite and west or footwall is a dark-colored diorite.

"At the north end of the ridge between Wagner and Ashland Creeks and only about a mile northwest of Ashland is another adit called the Mattern. This has a total length of about 325 feet and a general southerly course. At about 50 feet from the portal it reaches the ledge, which strikes nearly north and dips about 40° E. The ledge follows an important fault in which the country rock is much shattered and altered and cemented by calcite and quartz. The wall rock of the ledge is a diorite-aplite or malchite. At about 275 feet from the portal an incline winze follows the vein downward; it could not be explored because it was filled with water."

Reference: Parks & Swartley, 16:150 (quoted).

MERCURY MINING CORPORATION — Ashland area

Said to be working Meridian Prospect.

MERIDIAN PROSPECT (quicksilver) — Ashland area

see Phillips Property

Owner: Phillips Estate, Ashland, Oregon.

Location: sec. 36, T. 38 S., R. 1 W.

The ore occurs in boulder-like masses. The property has been opened by a 40 ft. shaft and some ore has been removed.

Informant: W. G. Davis, 1940.

MINERAL WATERS — Ashland area

Mineral water springs are numerous in the Ashland area. Their mineral content is varied. The lithia springs are perhaps the best known of these springs, as the water is piped into Ashland where it is available at a public fountain in the center of town. These lithia springs which are naturally carbonated are owned by the City of Ashland.

Few of these springs in the Ashland area are commercialized although several attempts have been made to market the waters. In case the medicinal properties are questionable some use of the carbonated water might be made for the manufacture of dry ice.

Winchell (14) reports on these springs as follows:

"Mineral springs are numerous in the vicinity of Ashland. Some of them have been productive commercially for many years, and some are improved so as to be used for bathing, for the establishment of health resorts and for medicinal purposes. But they are not used as much as they deserve to be nor as much as they will be in the future. The mineral spring waters are varied in composition and resultant qualities, and their merits are not widely known. Some of them are natural "soda water" charged with their own carbonic acid gas. Others are rich in chlorine and should be used for other purposes. A single instance is known of a water rich in iodine and bromine."....

"All of the springs in the Ashland region contain notable amounts of chlorine, with the exception of one at Soda Springs, the "White Sulphur" spring being especially rich in this element. One of the analyses of the Colestin

water shows a large amount of sulphuric acid radical, but the other mineral waters of this region contain very little. Carbonic acid is most abundant at Soda Springs, the artesian well, and Colestin; it is present in unusually small amount at White Sulphur Springs. Sodium is very abundant in the Lithia Springs and is surprisingly scanty in one analysis of Colestin and one of Soda Springs water. Potassium is important in the Ashland Sulphur Springs and in the White Sulphur Springs and is found in the Colestin water. But according to Professor H. V. Tartar of the Oregon Agricultural College the analyses which show more potassium than sodium are probably incorrect in that respect. This throws doubt on the results for sodium and potassium in analyses 6, 7, 11, and 14. Omitting these analyses the least sodium is found in the Shepard sulphur spring water and the most potassium in the various lithia spring waters. Lithium is most abundant in the Ashland lithia spring water and is surprisingly abundant in the artesian well water. Calcium is most abundant at Colestin, where the mineral water is constantly depositing calcite or calcium carbonate; it is also abundant at Soda Springs and Shepard sulphur springs; very little calcium is present in the waters of Berkeley and White Sulphur Springs. Magnesium is especially important at Soda Springs and Shepard Sulphur Springs, and deficient at Berkeley and White Sulphur Springs and in the artesian well water. Iron oxide and alumina are relatively abundant at Soda Springs and lacking at Colestin, Ashland Sulphur, and White Sulphur, and Old Lithia Springs. Silica is very abundant in all the sulphur waters except the Shepard and is notably low in amount in all the lithia waters including the artesian water."......

"It is noteworthy that the total amount of salts dissolved in the lithia waters is much greater than the salinity of the sulphur or soda spring waters. Indeed the average salinity of the Ashland lithia water is 8982 parts per million and the average of the Ashland sulphur waters is only 830 parts per million and the average of the Soda and Colestin spring waters is 3030 parts per million. That is, the salinity of the Ashland lithia waters is nearly three times that of the Ashland sulphur waters. Furthermore, the average salinity of Ashland lithia waters is about 30 percent greater than the average salinity of the prominent lithia waters from other localities. As shown in the table (page 100) some geyser waters and springs associated with igneous intrusions have a surprisingly high percentage of lithium, but when expressed in parts per million of water they do not rank so high as the Ashland lithia waters. According to the owners the White Rock water contains very little lithium in its natural state; but is put on the market after the addition of lithium chloride; accordingly the Ashland lithia waters seem to be richer in lithium than any other potable mineral waters in their natural state."....

"The sulphur waters of Ashland are charged chiefly with carbonic acid, sodium, calcium, magnesium, and silica, in addition to the characteristic sulphur, which is present, not only in the sulphates, but as hydrogen sulphur or free sulphur or both. These waters also contain a notable quantity of boric acid, probably combined in sodium borate (aside from that present in ionic form). The Yellowstone Park geyser waters contain about twice as much chlorine and half as much carbonic acid with less sulphuric acid, calcium, and magnesium, and more sodium and lithium than the Ashland sulphur waters. But it should be noted that the latter are decidedly variable in composition not only in regard to sodium and potassium (possibly due to analytical errors), but also as to carbonic acid, and especially calcium, magnesium, and silica. The Shepard sulphur springs is very high in magnesium and low in silica; both the Shepard and the Peat Marsh Sulphur Springs contain abundant calcium. The mineral water from Ojo Caliente in New Mexico and that from Vichy in France are low in chlorine and high in sodium; both contain a little strontium. The water from Steamboat Springs, Nevada, is remarkably rich in boric acid; it contains very little carbonic acid and abundant chlorine, sodium, potassium, and silica."....

"In summary, the mineral waters of the Ashland district belong to two chief classes; the Colestin and Soda Springs waters are dominantly carbonate, while the Lithia and Sulphur spring waters are chloro-carbonate. As compared with similar waters found elsewhere many of the Oregon springs show an unusual quantity of potassium; the salinity of the sulphur springs is low, but that of the Lithia springs is high. The sulphur springs are quite rich in silica and the Soda springs in magnesium. Finally, the Ashland lithia waters are remarkably high in their tenor of lithium, and deserve recognition for that fact."

Reference: Winchell, 14:82, 98,99,100,104, 105. (quoted)

MUNDY MINE (coal) Ashland area

see Beeson Mine

Location: sec. 17, T. 38 S., R. 1 E.

"In sec. 17, T. 38 S., R. 1 E., at an elevation of about 2,400 feet, some thin seams of coal have been opened by J. F. Mundy, of Medford. The development work included several drill holes and the results indicate the presence of at least 2 coal seams about 500 feet apart.

"In sec. 16, T. 38 S., R. 1 E., a coal seam has been opened by Emmett Beeson of Talent by means of a slope or incline shaft following the coal nearly on its dip. This coal outcrops in a ravine at the foot of a sandstone cliff at an elevation of about 2,600 feet. Fossil impressions of leaves were collected from shaly sandstone at an elevation of about 3,050 feet near the top of the cliff a little south of east of the coal seam. The sandstone strikes about S. 45° E. and dips about 25° N. E. at the place where the fossils are found. The coal seam has a strike of N. 53° W. and a dip of about 16° N. E. The slope opening this coal discloses a fault at 70 feet from the portal which strikes N. 10° W. and dips about 62° E. The hanging wall of the fault is displaced vertically downward about 6 feet. At about 120 feet from the portal the coal seam is narrowed to about 3 inches by the doming up of the floor; at the breast, about 130 feet from the portal, the coal is again nearly 2 feet thick."

Reference: Parks & Swartley, 16:159 (quoted).

NO NAME (gold) Ashland area

Location: sec. 17, T. 40 S., R. 2 E.

Reference: Wells (39). No. 39 on Medford Map.

NO NAME (gold) Ashland area

Location: sec. 23, T. 39 S., R. 1 W.
This may be the Snapshot claim.

Reference: Wells (39). No. 33 on Medford Map.

NO NAME (placer) Ashland area

Location: sec. 36, T. 38 S., R. 1 W.

Reference: Wells (39). No. 23 on Medford Map.

PETERS MANGANESE Ashland area

"Rhodonite, superficially oxidized to manganese oxides, is exposed in two open cuts.

"Location: NW¼ NE¼ sec. 17, T. 39 S., R. 1 W., near Section Line Gap.

"Owner: W. H. Peters, Glendale, Oregon.

"Geology: This is a quartzose, tabular deposit containing considerable amounts of rhodonite superficially oxidized to manganite and psilomelane, with minor amounts of pyrolusite. Two surface cuts separated by a distance of about 100 feet are the only developments. The north cut is in two benches and here exposes the deposit in three sections. The lower cut shows the footwall section with a thickness of about 5 feet, and the top cut shows a hanging wall section about 10 feet thick. Both of these sections show quartz and rhodonite, with the latter more or less completely oxidized. Many pieces on being broken show unaltered rhodonite at the center with hard black oxides on the outside. Other pieces are wholly oxidized, but often show silica remnants. Between the foot wall and hanging wall sections is a middle quartzose section, about 5 feet thick, having the texture and appearance of a quartzite. This section is very hard and dense, and contains little or no visible manganese minerals. The walls are metamorphosed sediments, with the hanging wall a much altered, soft, iron-stained schist. The strike of the deposit is approximately N. 50° E., and the dip is about 60° N. W. There is a layer of soft, limonitic, quartz material, about 3 feet thick, along the footwall. At the north open cut, the hanging wall section shows the greater quantity of manganese minerals.

"The south open cut is about 30 feet long and exposes similar material to that described for the hanging wall section of the north open cut. A few tons of black oxides were piled on the dump. Outcrops of the schist on the hill to the south showed only a small amount of manganese staining.

"The primary manganese mineral is rhodonite, the manganese silicate and judging by the present exposures of the deposit, the oxidation has been quite superficial. The quantity of desirable manganese ore here is small.

"Informant: Libbey, 12/22/37."

Reference: Libbey and Others, 42:23-24 (quoted).

PHILLIPS PROPERTY Ashland area

see Meridian Prospect

PILGRIM CLAIM (gold) Ashland area

Location: sec. 14, T. 39 S., R. 1 W.

"The Pilgrim Claim, about 3 miles southwest from Ashland, is on the ridge west of Wagner Creek, at an elevation of about 3,000 feet, in sec. 14, T. 39 S., R. 1 W. It is now owned by C. Halstead, of Talent. It is opened by an adit drift extending N. 10° E. about 170 feet on a vein containing about 3 feet of quartz in a quartz schist. The vein dips 62° W. At 50 feet from the portal a raise extends upward about 30 feet on the vein to the surface. The country rock has well defined bands, marking sedimentary layers, now much contorted, but in general crossing the adit at a large angle and dipping steeply. A small sample examined microscopically proves to be a fine, even grained quartzite with seams of siderite and dissemenated muscovite."

Reference: Parks & Swartley, 16:179 (quoted).

QUEEN MARY (gold quartz) Ashland area

Owner: Frank S. James, 9 Granite St., Ashland, Oregon.

Location: ½ mile north of Wagner Gap and 8 miles south of Talent in NE¼ sec. 27, T. 39 S., R. 1 W.

Area: One full size unpatented quartz claim.

History: In the spring of 1937 the U. S. F. S. was grading a road through this locality and Mr. James discovered some white quartz which the grader had struck. He followed the quartz lead off the right-of-way and sank a 10' x 6' x 5' open cut on it. Nothing has been done with it since. He states he never had any assays. He panned some but found no colors.

Geology: The vein which strikes S. 75° W. and dips to the east was not in place in the open cut. Country rock appears to be schist. Informant took one sample which ran a blank.

Informant: J.E.M., 1938.

REEDER MINE (gold) Ashland area

Location: sec. 20, T. 39 S., R. 1 E.

"The Reeder mine, about 4 miles south of Ashland, is on the ridge about half a mile northwest of tho forks of Ashland creek. It is opened by a lower adit at an elevation (determined by aneroid barometer) of 2,900, a second at 3,040, and a third at 3,320 feet above sea level. The lower adit is a drift 350 feet long on the vein which here strikes N. 45° W. to N. 51° W. and dips about 80° N. E. This vein consists of numerous small fissures and shear zones, somewhat discontinuous, filled with quartz and green siliceous and chloritic material. The country rock of all the openings is tonalite. The second adit is a drift about 180 feet long on the same vein. One wall seems to be a large aplite dike with pegmatitic phases having a very irregular contact with the tonalite. The vein in this working is more clearly defined and averages about 4 feet in thickness. The third adit is about 300 yards northwest of the others on the northeasterly instead of the southeasterly slope of the hill. It consists of a crosscut entry running S. 50° W. for 70 feet to the vein, on which drifts run in both directions, one being S. 48° E. for 40 feet, and one N. 50° W. for 150 feet; the latter is terminated by a raise inclined at an angle of 37° reaching the surface. In this adit fault gouge is conspicuous with a small amount of white vein quartz. Narrow veins of sheared feldspar are characteristic of that portion of the ore which is said to be especially rich. The vein is about 4 feet thick in this adit."

Reference: Parks & Swartley, 16:192 (quoted).

RUTH MINE (gold) Ashland area

Location: sec. 13, T. 39 S., R. 1 W.

"The Ruth Mine, reached by wagon road, about 2½ miles west of Ashland, is about 500 feet east of Wagner Creek, in sec. 13, T. 39 S., R. 1 W., at an elevation of 2,750 feet, as measured by aneroid barometer. The Ruth adit extends from the portal S. 2° E. 90 feet, then S. 5° E. 40 feet, and finally S. 2° E. 20 feet to the breast. At the portal the adit is in the footwall; at 60 to 80 feet from the portal it is in the vein; beyond that it follows a branch or stringer of the vein into the hanging wall. The vein strikes nearly

due south and dips about 80° E. It consists of quartz and calcite with some gold and pyrolusite in hornblende rock. Tonalite is abundant in the hills nearby, but was not seen in the adit. The Ruth Mine belongs to J. A. Kane, of Talent."

Reference: Parks & Swartley, 16:197 (quoted).

SHORTY HOPE MINE (gold) Ashland area

Owner: P. B. Wickham, Ashland, Oregon.

Location: sec. 12, T. 39 S., R. 1 W., on Wagner Creek, west of the Ashland Mine.

Area: 107 acres patented land.

General: "Local name, Shorty Hope.

"Office: Ashland, Oregon. H. S. Sanford, Pres., Ashland, Oregon; M. J. Goldner, Treas., Long Island, N. Y.; T. W. Sanford, Asst. Sec., Ashland, Oregon. Capital stock, $1,000,000; par value $1.00; $784,498 subscribed, issued and paid up. (1914 report).

"The Shorty Hope mine is in sec. 12, T. 39 S., R. 1 W., about 4 miles up Wagner Creek from Talent and about a mile west of the Ashland mine. The long lower adit of the mine is at an elevation, determined by aneroid barometer, of 2,450 ft.; it is 1,480 ft. long and is said to reach a maximum depth of 160 ft.; it follows a vein containing shoots of quartz some of which contains some pyrite and a very little chalcopyrite and galena. The vein varies from 3 to 10 feet in thickness; it strikes about N. 55° W. and dips nearly vertically. At 800 feet from the portal a vertical shaft leads to an upper tunnel level communicating with the surface through a crosscut adit 80 feet long. On the upper level drifts are opened on the vein in both directions and some stoping has been done. The country rocks are tonalite, diorite, plagiaplite, and biotite hornblende contact rock. Some ore has been obtained from these workings, but the chief efforts of the owners were directed not to removing but to opening up the ore. The mine is equipped with a mill well located on a hillside of enough slope to permit ore to pass through without being elevated. The ore passes over grizzly bars 1½ inches apart to a 5 by 8-inch Dodge crusher placed over a bin from which it is fed by Challenge feeders to 10 stamps of about 1,000 pounds weight each. The discharge is through a slotted metal screen of about 20 mesh to silvered amalgamating plates, one being 4 by 11 feet, and the other 4 feet wide and in three steps of 4, 4 and 3 feet respectively. From the plates the ore goes to two Frue vanners, 6 feet wide, which yield a high grade concentrate containing some galena. The mill was operated by water power, but has been used very little.

"Other adits nearby give additional data concerning the veins in this region. One opening at an elevation of 2,750 ft. extends N. 30° W. about 90 feet following a zone of crushed rock about 3 feet thick with some vein quartz. The wall rock is a spotted diorite grading into a dark biotite hornblende rock. A second adit extends S. 24° E. about 120 feet at an elevation of about 2,800 feet on the Hope claim; it is supposed to be on the southeast extension of the Shorty Hope vein. The vein here is small; the wall rock is diorite, with a little pegmatite near the portal."

The mine is at an elevation of approximately 3,500 feet. Snowfall is slightly greater than at the Ashland Mine. Sufficient water is available for all needs, and timber for mining is abundant.

Value of production is reported as approximately $30,000, principally from milling ore. Some high-grade ore has been shipped.

Development: There were approximately 1600 linear feet of old workings which explored the vein for about 1,000 feet along the strike. A cross-cut tunnel was driven to the vein from the surface in Bear Gulch. Stopes said to be several hundred feet in length and extending to the surface are now caved. The present main working level has an entry on the opposite side of the ridge about 800 feet distant from the workings described above, and 100 feet lower in elevation. The last underground work explores the vein for a distance of 1446 feet extending southwestward from the entry. At the southwesterly end of these workings the vertical distance to the apex of the vein is some 200 feet. Underground workings are stated to total approximately 3,500 feet.

Between the old workings and those last opened a shoot of ore has been partially developed with indicated tonnage of about 2,500. This shoot is stated to average $15.20 per ton. The average assay of mill heads is $18.35 per ton. A winze started from the floor of the main level in this shoot exposed 4 feet of ore between walls. The values found in the winze are stated to be higher than average. Present developments above the main working level are insufficient to allow exact estimations of tonnage and grade, but it is reported that the amount indicated approximates 50,000 tons. This would not include ore below the main working level.

No work has been done on the property in recent years. A proposed tunnel would unite the Shorty Hope and the Ashland Mine workings so that ore from both properties could be treated at the Ashland mill.

Geology: According to Wells (39) the country rock is included in a metavolcanic area. In Parks and Swartley (16) country rock is called tonalite. As the mine is located near a contact probably both rock types are found. The vein which is from 4 to 16 feet wide strikes northwesterly and dips southwesterly. Judging from surface indications the ore shoot may be traced for some 2,000 feet. The average value would be low but shoots of higher grade occur which are more than 100 feet in length proved by underground workings. Ore consists of white to dark grey quartz containing gold and a little silver; sulphides in the ore are pyrite and some galena.

Equipment: A building containing a five-stamp mill driven by a 20-h.p. electric motor, Blake type rock crusher driven by a 10-h.p. electric motor, amalgamation plates, concentrating table, line shafting, and belts. Mine equipment consists of compressor, air receiver, approximately 2000 feet of 2" pipe, approximately 3000 feet of 20-lb. rail from mill into main haulage level.

As indicated by mill equipment, treatment consists of stamp milling, amalgamation and gravity concentration. For most economical operation cyanidation should be practiced.

Informant: P. B. Wickham, 1939.

Reference: Parks and Swartley, 16:201-202 (quoted).
Wells (39).

SHORTY HOPE MINING & MILLING COMPANY — Ashland area

see Shorty Hope Mine

SKYLINE MINE (gold) — Ashland area

Location: Sec. 30, T. 39 S., R. 1 E.

Reference: Wells (39). No. 32 on Medford map.

SNAPSHOT CLAIM (gold) Ashland area

see Cleveland Claim; No Name.

Location: N½ sec. 23, T. 39 S., R. 1 W.

"The Snapshot Claim formerly called the Cleveland, is located on Wagner Creek, near the north side of sec. 23, T. 39 S., R. 1 W. at an elevation of about 3,000 feet, and about 1 mile southwest from the Ashland Mine. It is now owned by R. W. Dunlap, of Ashland. It is opened by an adit about 50 feet long running N. 31° W. in tonalite on a quartz vein varying in thickness from 1 to 4 feet. A branch vein or stringer joins the main vein at 20 feet from the portal. The latter strikes N. 20° W. and dips about 56° N.-N.E., while the former has a strike of N. 20° W. and a dip of 66° E.-N.E., and carries quartz and pyrrhotite. The tonalite adjoining the vein is much mineralized in some places. Another adit on the same claim was not visited."

Reference: Parks and Swartley, 16:208 (quoted).

STAR GOLD MINING COMPANY (gold) Ashland area

"Office: Oswego, Oregon. J. W. Bickner, Pres.; H. B. Bickner, Sec.-Treas., both of Oswego. Capital stock, $500,000; par value $1.00; all subscribed and paid up; $340,150 issued. (1916 report).

"This company owns 14 claims about 5 miles west of Ashland, in the Wagner Creek district. The company has done only a limited amount of development work to date. They expect to proceed with this work the next year on an extensive scale, so as to bring the property to a paying basis."

Reference: Parks & Swartley, 16:211 (quoted).

TALENT COAL COMPANY Ashland area

see Beeson Coal Mine

GOLD HILL MINING AREA

General:

The Gold Hill mining area is in northwestern Jackson County in T. 37 S., R. 3 and 4 W. It lies east of the Josephine County line, south of the Douglas County line, west of the Willamette meridian (R. 1 E.), and north of T. 37 S., R. 1 and 2 W., all within the drainage of the Rogue River. It covers approximately 600 square miles, and includes the old mining districts of Gold Hill, Foots Creek, Upper Grave Creek, Evans Creek, and Sardine Creek.

The area is semi-mountainous and comprises several wide valleys, such as the Rogue River valley which cuts across the southern part of the area in a general westerly direction. Principal tributary valleys are Kane Creek, Galls Creek, and Foots Creek on the south side of the Rogue, and Trail, Sams, Sardine, Wards, and Evans Creeks on the north side. Grave Creek cuts across the extreme northeastern part; its tributaries are short and have steep gradients. Elevations range from 1,000 feet to 4,000 feet. The mountain slopes are quite steep and have a heavy cover of brush.

The Siskiyou branch of the Southern Pacific Railway parallels the Rogue River valley as does U. S. Highway No. 99. Numerous secondary roads and Forest Service truck trails extend back into the mountains.

Geology:

Rocks of the Gold Hill area are principally greenstones into which peridotites (now altered to serpentine) and siliceous granitoid rocks were intruded. Small areas of Galice and Chico formations are found in the extreme northwest section. Sediments of the Umpqua formation underlie the central portion of the area, and volcanics of the Western Cascade series blanket the eastern third of the area. These rocks are described under general geology of the county.

Mining:

Placer mining has always accounted for most of the gold produced in the area. Some of the placer mines date back to the 1850's during the earliest days of the southern Oregon gold rush. Accurate statistics on the total production from the area are not available, as in the early days the gold went out by way of California and southern Oregon's gold was included in California's production. Early operations consisted of hand work "sniping" and hydraulicking.

Dredging has always been an important activity in the Gold Hill area. Winchell (14:163) reports that in 1908 an electric dredge was constructed on Kane Creek placer in the S.E. $\frac{1}{4}$ sec. 36, T. 36 S., R. 3 W. Power was obtained from the Gold Ray Dam and the dredge had a capacity of 500 cubic yards per 10-hour shift. So far as can be learned, the dredge operated only during 1908. On the right fork of Foots Creek, the Champlin Dredging Company built a bucket-line dredge in 1903. In 1905 electric power was installed. In 1911 the dredge was accidentally sunk. Winchell (14:166) also reports that a dredge was installed near Tolo in 1898 but it operated a short time only.

In recent years dredging has been especially important until stopped in October, 1942, by the gold mine closing order. The Murphy Murray all-electric $200,000-connected bucket type dredge worked on the left fork of Foots Creek and on Pleasant Creek near the old Williams placer. In 1941 this equipment was moved to Burnt River in eastern Oregon. The Rogue River Gold Company formerly operated a dredge on the left fork of Foots Creek below the Murphy-Murray ground. The Gold Hill Placers worked dragline equipment on Sardine Creek. Several "dry-land dredges" were operated at various times. The Southern Oregon Mining Company worked on the old Lance placer in 1940. The Mansfield Mine had a washing plant on the south side of Blackwell Hill. A small plant worked on Upper Grave Creek at Greens placer. The Seaman Bar on the Rogue River and the Bull Frog placer were operated for a short time.

Formerly gold lode mining was relatively important. This type of mining ranged from "pocket-mining" to fair-sized underground mines like the Sylvanite, north of Gold Hill. Pocket-hunters have been active in this district since the earliest gold discovery; and men like the Rhotan Brothers of Jacksonville have taken out relatively large amounts of gold from small pockets. The activity of these men, their success, and the shallowness of their workings, has led certain people to dub the area a "pocket country", meaning that there are few possibilities of larger scale operations.

This reputation is disproved by ore bodies like those of the Sylvanite mine which produced on a scale sufficient to show that this is not exclusively a pocket country. There were eleven active gold mines and prospects working in 1941-1942. Most of them are in the prospect stage but their development is encouraging.

Quicksilver operations in the northeastern part of the mining area have been active in the past, and the present price of $192 per 76-pound flask of quicksilver is a strong incentive to exploration and production.

Some manganese deposits were prospected during the first World War but none shipped commercial ore.

The Holcomb Mineral Springs is the only producer of mineral water.

Limestone is quarried for cement manufacture and for lime products. The plant of the Pacific Portland Cement Company is located at Gold Hill although their stone is quarried at Marble Mountain in the Lower Applegate area, Josephine County. The limestone quarries that have been operated in the Gold Hill area in the past were small, and no sizable amounts of limestone are produced from them at present. There are however several good possibilities that are being investigated.

The unusual deposit of high-grade silica rock of the Bristol Silica Company is being worked to produce ground silica for chicken grit and for metallurgical flux.

Tremolite asbestos in quantities that might justify development has been found and efforts to work the deposits have been made.

Favorable Prospecting Areas:

Careful prospecting would be carried on near the margins of the granitoid batholith for indications of metallization, as such areas are frequently productive. These margins may be determined from the geologic maps or by field investigation. Zones in the metamorphic rocks that have suffered considerable fracturing and have been invaded by quartz stringers that are metallized might be productive. Areas north and south of Gold Hill have shown good indications in the past, particularly that area which includes the Bill Nye, the Braden, and the Millionaire mines.

The area of hydrothermally altered volcanics and pyroclastics in the northeast section might be favorable for cinnabar occurrences. All such areas of altered rocks should be carefully inspected.

Mining Properties:

Descriptions of mining properties of record are given in the following pages.

ALICE GROUP (gold) Gold Hill area

see Revenue Pocket; Rhotan Pocket

Location: NW¼ sec. 11, T. 37 S., R. 3 W.

"The Alice group, 4 miles south of Gold Hill on Kane Creek, owned by J. H. Beeman of Gold Hill, is in NE¼ sec. 11, T. 37 S., R. 3 W., not far

from limestone quarries, at an elevation of 2300 to 2400 feet by barometer. Lessees are now (1913) taking out a footwall streak of high grade oxidized ore near the surface next to old workings. The main vein consisting of solid quartz is not being mined, as it is too low grade for lessees; it strikes N. 12° E. and dips about 60° E. An old adit about a quarter mile to the northeast discloses about 250 feet of workings on a vertical quartz vein averaging 2 to 3 feet in thickness, containing some pyrite, abundant pyrolusite, and some gypsum. A lower adit opens a 3-foot quartz vein which strikes north and dips 48° E.; it is on or near the irregular contact between dark argillite and an andesitic intrusive. As shown in the drawing, the crosscuts from the main drift are wholly or partly in quartz which is supposed to be part of a large vein which is represented in the main crosscut entry by quartz seams in wall rock."

Reference: Parks & Swartley, 16:8 (quoted).

ARGONAUT GOLD MINING COMPANY — Gold Hill area

see Argonaut Mine

An Oregon Corporation; Mrs. B. E. Dean, Rogue River, Oregon, vice-president and manager; capitalization $300,000 common, $200,000 preferred.

ARGONAUT MINE (gold) — Gold Hill area

Owner: Argonaut Gold Mining Company, Mrs. B. E. Dean, Rogue River, Oregon, vice-president and manager.

Location: secs. 1 and 2, T. 35 S., R. 4 W.; secs. 35 and 36, T. 34 S., R. 4 W., on Sykes Creek a tributary to Evans Creek.

Area: 674.55 acres of patented land under purchase contract.

Geology: The eastern side of property is in slates and schists with small areas of greenstones; the western part is in quartz diorite. The slates and schists dip steeply eastward.

The veins are in slate and schist and roughly parallel the contact with the quartz diorite. The lodes are made up of slate and schist with narrow lenses and veinlets of quartz across considerable widths. Gold bearing iron sulphides are found in both rock and quartz. Exploration has been done by drifting, shallow shafts, and surface work. The company plans to develop a sufficient tonnage of medium-grade ore to justify the erection of a small mill.

General: The Mining Journal (Arizona), Nov. 30, 1940, reported that the Elra Exploration & Mining Company acquired an interest in the property and planned to install a 75-ton cyanide mill. In April, 1942, no report of any activity on the property was made.

Water and timber are plentiful. The principal workings are at an elevation of 1,300 feet and the highest workings are at 2,800 feet.

Informants: J.E.M., R.C.T., 1942.

ASH PROSPECT (quicksilver) — Gold Hill area

Location: secs. 35, 36, T. 33 S., R. 1 W., and sec. 1, T. 34 S., R. 1 W.

"E. E. Ash has some claims in secs. 35 and 36, T. 33 S., R. 1 W., and sec. 1, T. 34 S., R. 1 W. These claims are on the south side of the Rogue River, across the river from the highway, but a small bridge was being built in 1930. The

workings include an open cut and three short adits, each about 50 feet long, at vertical intervals of about 200 feet, on the northwest side of a gulch. The open cut is about 100 feet above the Rogue River, and the top or No. 4 adit is about 700 feet above the river. About 50 feet above the top adit there is a shaft 36 feet deep with a short drift about 12 feet long at the bottom.

"The rocks in all these workings are altered volcanic flows, in which the original feldspar phenocrysts have changed to white spots of clay in a gray-lavender groundmass. Very irregular iron ribs as much as 1½ inches wide cut the rock. Limonite-stained chalcedony similar to that of the iron ribs occurs also as spherical masses 2 to 3 inches in diameter with a hollow center filled with powdery limonite. A fault that strikes S. 74° E. and dips 85° - 90° S.W. has been explored by adit 4 and by the shaft and the 12-foot drift. Some smeared cinnabar was seen on the slickensided fault plane."

Reference: Wells & Waters 34:48 (quoted).
Wilkinson, 40:4.

BAERLOCKER PLACER — Gold Hill area

see Ward Creek Placers

BAILEY PROPERTY (gold, manganese) — Gold Hill area

Owner: Arnold Bailey, Gold Hill, Oregon.

Location: sec. 1 or 12, T. 37 S., R. 3 W.

"A four-foot fracture zone contains manganite and psilomelane with traces of rhodonite. There is one trench 6 - 8 feet wide which follows the mineral zone on the hillside and exposes it at 3 levels within a horizontal distance of 45 feet and a vertical distance of 30 feet. Association of the ore with rhodonite would make it difficult to get a manganese concentrate low in silica.

"Owner: A. L. Bailey, Rt. no. 7, Box 124, Central Point, Oregon.

"Location: SE¼ sec. 1, T. 37 S., R. 3 W., Jackson County.

"History: "'This occurrence of manganese ore is on the east side of the narrow canyon almost at the source of Lane Creek, or the west fork of Willow Creek, in the SE¼ sec. 1, T. 37 S., R. 3 W., Jackson County. The Bailey house is further upstream and on the opposite side of the creek, in the SW¼ sec. 12. Postoffice address is Box 124, Rt. 7, Central Point, Oregon. The Baileys are operating a small amalgamation mill in the creek, working gold ore from a nearby locality. A small but rich pocket of gold ore closely adjacent to the manganese deposit has been worked out.

"'The exposure of manganese ore lies on a steep hillside, only 250 feet from the road and 120 feet above it. From this point, it is 12 miles down a dirt road to the Jacksonville-Gold Hill turnpike and thence 4 miles by level, gravelled road to the Southern Pacific railroad at Central Point.

"'The rocks of the neighborhood are old metamorphics. At the place in question, a nearly vertical fracture zone, striking due N-S, has been mineralized with manganese oxides to a width of about 4 feet. Manganite and psilomelane predominate, but traces of rhodonite suggest that at greater depth, below atmospheric weathering, the ore is likely to become more siliceous. As observed at the outcrop, a given lump of ore appears to have a fairly uniform composition, indicating that

little or no improvement in its manganese content could be obtained by crushing and concentrating.

"'Development to date is a trench, 6-8 feet wide, following the mineral zone uphill and exposing it at 3 levels within a horizontal distance of 45 feet, and vertical distance of 30 feet. The hill rises rapidly--130 feet in 350 feet--along the projected strike of the zone to the south, and further exploration both above and below the present workings would be a simple matter; this should be undertaken by the owner before he can expect to attract more active interest in his property.'"

Reference: Libbey and others, 42:22-23 (quoted).
Hodge, 37:8

BAXTER LIMESTONE — Gold Hill area

Owner: John A. Baxter, Gold Hill, Oregon.

Operator: Oregon Limestone Co., 411 Postal Bldg., Portland, Oregon. Chas. Wagner, president; Edwin Amme, secretary; Fred Rosenberg, engineer; T. E. McCroskey, manager.

Location: SE¼ sec. 2 and SW¼ sec. 1, T. 37 S., R. 3 W., southeast of Gold Hill.

Area: 160 acres, of which 140 acres is in sec. 2, and 20 acres is in sec. 1.

History: Limestone was found at this locality by Mr. Baxter many years ago. He opened two lenses. The lower one had a quarry face 30 ft. wide and 20 ft. high. The upper quarry is 260 ft. higher in altitude. The face of the upper quarry was 30 ft. wide and 15 ft. high with a 25-ft. adit driven as assessment work. The limestone is reported to analyze 97 percent $CaCO_3$. In late 1942, the Oregon Limestone Co. moved its operations from the Beeman quarry to the Baxter property and began development work. Two carloads of "paper rock" were shipped before winter.

Development: Both of the old quarries were opened further. The lower quarry was cleaned out and some rock piled in a small bunker made of poles. The upper quarry was opened by a bulldozer and two carloads of "paper rock" were removed. It is reported that trenching has exposed the limestone for a maximum length of 500 feet and a maximum width of 140 feet. Drilling with 16 ft. steel proved limestone for that depth. Approximately a mile of road with 5 percent grade has been built to the upper quarry. A 100-ton ore bin has been built.

Geology: The country rock is metasediment of Triassic age as shown on the Grants Pass geologic map (Wells 40, and Wells & Hotz 41). Included in the metarocks are small limestone lenses that generally trend N. 20° E. and dip at high angles.

The limestone lens at the upper quarry is best exposed. The stone has a generally bluish color, and consists of alternating bands of dark and light limestone. The stone is crystalline and should be classified as marble. The contorted bands show the result of considerable stress. Within the limestone lens are stringers and elongated knots of siliceous material that are severely sheared. The lens trends N. 30° E. and dips 80° to the northwest.

The quarry is at the southwest end of the lens. An inclusion of schistose metasediment about 15 feet wide splits the east part of the body, and the inclusion extends at least 60 feet up the hill to the northeast. Trenching exposes rock over a length of 200 feet and the operator reports further work proved 500 feet of length and a maximum width of 140 feet. The lens was 100 feet wide, where observed.

The limestone weathers into blocks with fairly sharp edges; weathered surfaces are rough.

Informant: R.C.T., February 24, 1943.

BEAVER PORTLAND CEMENT COMPANY Gold Hill area

see Pacific Portland Cement Company

BEE HIVE MINING COMPANY Gold Hill area

see Bill Nye Mine

BEEMAN LIMESTONE Gold Hill area

Owner: Mrs. Hattie Beeman, Portland, Oregon.

Operator: Oregon Limestone Co., 411 Postal Bldg., Portland, Oregon. Chas. Wagner, president; Edwin Amme, secretary; Fred Rosenberg, engineer; T. E. McCroskey, manager.

Location: NE¼ NE¼ sec. 11, T. 37 S., R. 3 W., southeast of Gold Hill. (Total distance from Gold Hill is 6.4 miles.) From railroad ramp in Gold Hill east on Hwy. 99, 0.4 miles; turn southeast on Old Stage Road to Kanes Creek road, 3.5 miles; turn south on Kanes Creek road, 2.0 miles; turn east on private road to quarry, 0.5 miles.

Area: 40 acres of deeded land. Quarry is in extreme northeastern part of the tract.

History: Several gold "pockets" have been removed from the contact of the argillite and limestone. The famous Rhotan Pocket was about a mile to the south. The mine on the property was known as the "Alice Group."

> "The Alice group, 4 miles south of Gold Hill on Kane Creek, owned by J. H. Beeman of Gold Hill, is in NE¼ sec. 11, T. 37 S., R. 3 W., not far from limestone quarries, at an elevation of 2300 to 2400 feet by barometer. Lessees are now (1913) taking out a footwall streak of high grade oxidized ore near the surface next to old workings. The main vein consisting of solid quartz is not being mined, as it is too low grade for lessees; it strikes N. 12° E. and dips about 60° E. An old adit about a quarter mile to the northeast discloses about 250 feet of workings on a vertical quartz vein averaging 2 to 3 feet in thickness, containing some pyrite, abundant pyrolusite, and some gypsum. A lower adit opens a 3-foot quartz vein which strikes north and dips 48° E.; it is on or near an irregular contact between dark argillite and an andesitic intrusive. As shown in the drawing, the crosscuts from the main drift are wholly or partly in quartz which is supposed to be part of a large vein which is represented in the main crosscut entry by quartz seams in wall rock."

Development: Half a mile of road has been bulldozed to the quarry site, with about a 400-foot rise in elevation. A quarry face about 70 feet long has been carried back into the hill. The limestone outcrop has been traced up the hill. Work on this quarry has been temporarily abandoned in favor of the Baxter quarries (which see).

Geology: The country rock is metasediment as indicated by Wells, 40. Small lenses of limestone are included in the old sediments. The particular lens being opened is not on the geologic map, although it lines up with the group as shown.

The limestone has alternate light and dark gray bands about one-eighth-inch wide along which the stone tends to cleave. Grain texture is medium coarse to medium fine. Inclusions of metasediment are common. The banding trends N. 10° W., with high angle dips to the northeast or southwest. Bands in the limestone on the Baxter property to the north in sec. 2 trend N. 30° E.

The lens being opened on the Beeman property has inclusions of metasediment that cut down the available limestone materially. There is a fairly persistent though narrow outcrop of limestone trending N. 10° W. up the hill, parallel to the banding. Other limestone

outcrops east of this suggest that metasediment inclusions are common. The better grade limestone is reported to analyze 96+ percent $CaCO_3$. Exploration indicated that the lens had a silica content that was too high for the production of "paper rock", so work was stopped.

Informant: R.C.T., August 28, 1941 and February 24, 1943.

Reference: Parks & Swartley, 16:8 (quoted)
Wells, 40.

BERTHA CLAIM (gold) Gold Hill area

Location: SE¼ sec. 12, T. 37 S., R. 4 W.

"The Bertha Claim (locally known as the "Bertha" pocket), 8 miles southwest of Gold Hill, is in the SE¼ sec. 12, T. 37 S., R. 4 W., on the left fork of Foots Creek, at an elevation of 1600 feet by barometer. The country rocks here are impure banded and locally schistose quartzites, some limestone, and apparently small intrusions of an andesitic type. The workings are small and now caved."

Reference: Parks & Swartley, 16:32 (quoted).

BIG BUCK CLAIM (gold) Gold Hill area

Location: Center sec. 1, T. 37 S., R. 4 W.

"The Big Buck or Hicks claim is 7 miles southwest of Gold Hill, near the center of sec. 1, T. 37 S., R. 4 W., on the left fork of Foots Creek. The workings are on a vertical fissure zone in massive bluish quartzite containing some vein quartz and sulphide of iron."

Reference: Parks and Swartley, 16:36 (quoted).

BIG CHIEF PROPERTY (gold?) Gold Hill area
see Tyee Property

Owner: George E. Kerns, East D. St., Grants Pass, Oregon.

Location: 2½ miles west of Rogue River, via the road on the north side of the river. Two claims, Tyee 1 and 2 comprising 40 acres in the SE¼ sec. 19, T. 36 S., R. 4 W.

History: Purchased by Mr. Kerns from George H. Young in September, 1933. Other than this, Mr. Kerns knows nothing of the past history. No production record.

General Information: No equipment; hillside topography; dacite porphyry country rock; elevation 1,200 feet; no timber or water on property; Rogue River one-half mile distant and about 200 feet below; maximum snowfall 6 inches; electric power line about three-quarters of a mile away.

Development: Three tunnels - one N. 26° E. 200 feet and one N. 30° E. 46 feet, with a drift at the face trending N. 54° W. for 36 feet. The third tunnel trends N. 15° E. for 26 feet. The tunnels are in porphyry; they follow quartz stringers.

Geology: Dacite porphyry which has quartz stringers. Strike of porphyry N. 26° E., dips 63° to the west. Porphyry shows considerable manganese and iron stain. Quartz from 12 inches to 10 feet wide.

Informant: J.E.M., 1938.

BILL NYE MINE (gold) Gold Hill area

Owner: Mr. Blanchin, Paris, France, (deceased); Mr. R. H. Moore, Central Point, Oregon, administrator since 1929.

Location: sec. 4, T. 37 S., R. 3 W., 3 miles south of Gold Hill on Galls Creek. Workings cover area adjacent to county road to a point half way up the mountainside.

Area: Consists of four claims; Bill Nye, Bliss, Bliss Extension, and Montana. According to Mr. Moore 29 acres of deeded land, and 3 claims are held by assessment.

History: The Bee Hive Company which formerly owned the property sold out to people in Torrington, Connecticut, who in turn about 1914 sold to Blanchin for $60,000. Blanchin was a French officer in the first World War. He began development after the war but was killed in an explosion at the mine in 1929. Since then, Mr. Moore has had charge of the property; little mining work has been done. All the old machinery was sold.

According to Mr. Moore who formerly owned a store at Gold Hill, between 1907 and 1909, he weighed two shipments of gold taken from this property. One was valued at $5,000 and the other at $7,000. The gold was reported to be all in metallic form and occurred in quartz from 1½ to 2 feet wide between porphyry walls.

The property was described by Parks & Swartley, 16:26, under the name of Bee Hive Mining Company as follows:

"Local name, Bill Nye Mine.

"Office: Gold Hill, Oregon. George P. Blanchin, 37 Rue Godot de Mauroy, Paris, France, Pres.; Frank C. Bellamy, Gold Hill, Oregon, Sec.; Rene Bordier, Seine, France, Treas. Capital stock, $500,000, par value $1.00; $250,000 subscribed and paid up, none issued. (1916 report)

"This company owns 4 claims, the Bill Nye, Bliss, Bliss Extension, and Montana, in sec. 4, T. 37 S., R. 3 W., 3 miles south of Gold Hill on Galls Creek, about a mile nearly due south of the Braden Mine. It is opened by several adits and a vertical shaft. A considerably anamorphosed impure quartzite is a common country rock; it contains abundant fine grained quartz in patches and layers, and abundant green hornblende and brown biotite with some untwinned interstitial and enclosing plagioclase and a little magnetite; the texture is globulitic to irregular. The vein on which the shaft is located strikes N. 52° E. and is nearly vertical; it contains about 2 feet of quartz. The main adit is about 400 feet long; it is on small veins and stringers near the portal, but crosscuts to the northwest open a somewhat larger vein of quartz which strikes S. 60° E. and dips 80° N.E. The country rock is pyritized and somewhat silicified. In the Bliss adit a vein striking N. 75° E. is cut off about 80 feet from the portal by a fault which strikes N. 30° E. and dips about 40° S.E. Another fault in the same working on a level 80 feet higher produces a horizontal offset of six feet to the north, the fault striking N. 14° W. and dipping 55° E., as shown in the illustration.

"There is a 5-stamp mill on the property, but the mine has been idle since August, 1914."

General: In 1940 a lessee, Emery Abel, Gold Hill, did a small amount of work and was reported to have removed one pocket of high-grade ore. Thirty samples taken in the lower tunnel are reported to have returned from $1.50 to $5.00 to the ton.

The property is idle (1940).

Informant: Emery Abel
R. H. Moore

Reference: Parks & Swartley, 16:26-27 (quoted).

Report by: R.C.T., February 21, 1940.

BIRDSEYE CLAIM (gold) Gold Hill area

Reported by "List of Mines in Oregon, 1939" as containing a small vein, east of Rogue River, and not active.

Informant: A.A. Walker, March 5, 1940.

BISHOP AND STURTEVANT DREDGE Gold Hill area

Operated just prior to the Murphy-Murray dredge on Foots Creek.

BLACK GOLD CHANNEL MINE (placer) Gold Hill area

"The Black Gold Channel Mine (8 miles southwest of Gold Hill) is on the left fork of Foots Creek in sec. 12, T. 37 S., R. 4 W. It is leased at the present time. In the bank is exposed about 15 feet of unstratified gravels, coarsest below, and containing boulders up to 18 inches in diameter. There is very little fine material; the boulders, which are almost all of greenstone, are subangular to fairly well rounded. The large boulders are handled by a derrick. Two giants are used under a head of several hundred feet. The gravels are forced upward for 15 feet over an elevator, but the sluice takes the material 2½ feet above bed rock. The mine pit of the present workings has an area of 1½ acres. A large area down the stream has already been worked over. The bed rock is slate cut by dikes of greenstone. The strike of the slates is N. 10° E.; distinct joints run about N. 70° W. Numerous small veins are present, and have a general northeast-southwest direction."

F. A. Bates, of Gold Hill, Oregon, and L. M. Curl, of Albany, Oregon, and associates are reported in the press of Oct. 15, 1938, to have sold the property to James B. Murray of Rogue River, Oregon, and associates. The mine is located on Foots Creek six miles from Gold Hill. The new owners plan to install new equipment and conduct extensive operations. Test shafts are now being sunk. The property contains 950 acres. Portions of the placer were dredged by the Murphy-Murray company.

Reference: Diller & Kay, 09:65 (quoted).

BLANCHE OR MAY BELLE CLAIM (gold) Gold Hill area

Location: sec. 24, T. 36 S., R. 3 W.

"The Blanche or May Belle Claim, 2 miles east of Gold Hill, adjoins the Schaffer. It is owned by Guy D. Kinney. An adit follows a quartz vein in tonalite N. 65° W. 250 feet, then N. 75° W. about 100 feet. The vein is narrow; it dips 85° S. and contains quartz with some pyrite and chalcopyrite."

This property, and the Schaffer Claim are reported to be part of the Millionaire group.

Reference: Parks & Swartley, 16:34 (quoted).

BLISS MINE (gold) Gold Hill area

see Bill Nye Mine

BLOSSOM MINE (gold, copper, lead) Gold Hill area

Owner: Mr. L. R. Van De Bogart, Gold Hill, Oregon.

Location: 7½ miles by road northwest of Gold Hill on west Fork of Sardine Creek in sec. 19, T. 35 S., R. 3 W.

Area: 12 full size quartz claims held by location.

History: The property was idle for years until it was acquired by the present owner in 1928. He cleaned out the old workings. On the wider vein which strikes N. 37° W. in the lower adit a shoot of ore was encountered and was stoped. Finally the lower workings were connected with the upper workings. About $2,000 in gold was produced. The property has been idle for the last two years. All the workings on the vein are caved.

> "The Blossom Mine, 5 miles north of Gold Hill, is in the northern part of secs. 19, 20, T. 35 S., R. 3 W., near the head of the left fork of Sardine Creek, at an elevation of about 2400 feet above sea level. An adit on the No Name Claim extends northwestward about 200 feet in an andesitic country rock. The vein strikes N. 37° W. and dips 55° N.E.; it contains some sulphide and very little quartz, being mostly crushed country rock. Near the face of the adit there are two parallel veins. An upper adit (about 85 feet long) opens by means of a raise on the vein. On the Blossom Claim the lower adit extends about 135 feet N. 40° W. as a crossout, thence drifts on the vein about 110 feet. The deposit strikes N. 75° W. and dips about 80° S.; it consists of a vein about 15 to 20 feet thick, in which one-quarter to one-tenth of the filling is quartz and ore. The country rock is an andesite "greenstone." The vein minerals include pyrite, chalcopyrite, gold, galena, pyrrhotite (and sphalerite?), with quartz, calcite and sericite. An upper adit about 85 feet long discloses the same deposit with the same position and size. On this level the ore is thoroughly oxidized."

General: Elevation 2400 feet; maximum snowfall 3 feet; mountainous topography; plenty of timber and water; no equipment except mine car and several hundred feet of rail; power line five miles from property; there are several old buildings in very poor condition.

Informant: J.E.M., August 30, 1938.

Reference: Parks & Swartley, 16:34 (quoted).

BOLING AND KOSTER MINE (placer) Gold Hill area

see Glen Ditch placer

> "Ed Boling and W. S. Gilmore of Murphy in the Applegate district moved last week to the Mrs. Bessie Anderson ranch owned by Mr. Boling's mother located on the right fork of Foots Creek above the Lance property and plan to operate the placer mine which for the past several years has been worked by George Koster and Mr. Boling."

Later, this property was worked by the Southern Oregon Mining Company's dragline, in 1940.

Informant: R.C.T., February 21, 1940.

Reference: Press report, 39 (quoted).

BONANZA PROSPECT (gold) Gold Hill area

Owner: Walter Jones, Gold Hill, Oregon.

Location: sec. 22, T. 36 S., R. 4 W.

BONITA MINE (quicksilver) Gold Hill area

Location: sec. 13, T. 33 S., R. 3 W.

"This prospect lies between the Red Cloud and War Eagle localities in sec. 13, T. 33 S., R. 3 W. H. S. Musson of Beagle, Oregon, is the majority owner and Allan Mayhew holds a substantial minority interest in the property which comprises six lode claims.

"Most of the development work has been done on one claim. The ore occurrence has been traced along the surface by pits for some 2,000 feet in a N.-S. direction. At each end of this area, drift tunnels have been run in the ore, No. 1 Tunnel runs north into the hill for 230 feet and No. 2 Tunnel runs south for 110 feet. No. 1 Tunnel will develop 150 feet of backs while No. 2 is lower and will develop 450 to 500 feet of backs.

"100 feet above No. 2 Tunnel a crosscut tunnel has been run west for 180 feet and gives 150 to 200 feet of backs.

"The vein on which this work was done strikes 10° west of north. It has two distinct walls and is about four feet in average width.

"A 3-pipe retort has been erected but is not yet in operation so there has been no production to date. There is one dump containing some 250 to 300 tons of ore that runs 13 to 14 lbs. per ton by assay and a retort test. Another dump of about 500 tons is said to run $\frac{1}{4}$ percent.

"The camp has cabins and a bunkhouse. A 25-ton bin has been built and a 20 by 80 foot mill building contains a 10-ton mill and a 3/4 Gibson concentrating table set up to be run by a Fordson tractor.

"The road to the mine is along the highway for eight miles from Trail to the new CCC road then along it for $9\frac{1}{2}$ miles and then $1\frac{1}{2}$ miles further by mine road, or about 19 miles from Trail."

Reference: Schuette, 38:125 (quoted).

BOWDEN CLAIM (gold) Gold Hill area

Owners: B. A. Boyce and W. A. Mansfield, Central Point, Route 1, Oregon.

Location: sec. 19, T. 36 S., R. 2 W.

"The Bowden Claim, 4 miles east of Gold Hill, is on the southeast slope of Blackwell hill, near the top of the grade on the road in sec. 30, T. 36 S., R. 2 W. It has a quartz vein in tonalite, shown by an adit now open about 150 feet, and said to have extended 500 feet, and also by a shaft, where the vein strikes N. 75° E. and dips about 85° N. The shaft is said to be 185 feet deep and to have yielded free gold at 100 feet. The vein was apparently 2 to 3 feet thick where stoped.

"Press reports of November, 1916, state that H. H. Leonard, of Gold Hill, is now the sole lease holder and expected to proceed with the unwatering of the shaft and sampling of the workings."

In 1941, a report made to the State Assay Laboratory indicates that the 185-foot shaft actually is 198 feet deep. There are two levels off the drift. One to the west is 110 feet long and one to the east is 100 feet long.

Reference: Parks & Swartley, 16:40 (quoted).

BRADEN EXTENSION (gold) Gold Hill area

Owner: Jennings and Taylor (reported to have been sold to California people).

Location: SE¼ sec. 27, T. 36 S., R. 3 W.

Some activity but little or no production.

Informant: A. A. Walker, March 5, 1940.

BRADEN MINE (gold) Gold Hill area

Owners: Gold Ray Realty Company, Charles Ray, Medford, Oregon.

Location: SE¼ sec. 27, T. 36 S., R. 3 W.

"The Braden Mine is in the SE¼ sec. 27, T. 36 S., R. 3 W., at an elevation of 1350 feet, about 2 miles south of Gold Hill. It is at present (1913) one of the important mines of Jackson County. It has a 10-stamp mill equipped with a crusher, two 10-foot plates, 4 Johnson vanners, and electric motors, one of 85-horsepower being used to operate an air compressor. According to E. W. Liljegran, of Medford, the mine was located about 30 years ago by B. A. Knott, of Gold Hill, who began development, treating the ores in an arrastre. After several transfers the mine passed to Dr. James Braden, after whom it has since been called. It was sold to C. R. Ray, of Medford, in 1900; seven years later it was leased to the Opp Mining Company; it is now operated by Dr. Ray. In 1907 the mine produced more than $30,000.

"There are several quartz veins opened by 6 adits and an incline shaft. The important veins strike about N. 30° E. and dip about 25° S.E. There are four main levels opened by adits at different elevations on the sidehill and connected with one another by raises and winzes. The workings have a total length of more than 3000 feet, but the greatest depth reached is less than 250 feet. The lowest adit (No. 6) has a length of more than 1200 feet, and has yielded considerable high grade ore.

"The country rocks of the Braden Mine are Paleozoic sediments and interbedded andesites. A rock from the dump of adit No. 2 is plainly banded, some bands being chiefly green hornblende with some quartz, chlorite, zoisite and pyrite, and other bands being chiefly calcite, or rarely quartz; it is a calcareous hornblende schist. Another sample from the same adit is an amphibolite, containing abundant green hornblende, some pale yellow epidote, some zoisite, some interstitial plagioclase, some garnet, and a little magnetite. But the hanging wall of the vein under the incline shaft is apparently a spessartite, containing abundant hornblende grading from brown to green, abundant plagioclase, some zoisite, calcite, sericite, magnetite and siderite.

"The ore is highly quartzose, containing a little calcite and some pyrite, as well as a little arsenopyrite, chalcopyrite, and galena. About 65 percent of the gold and silver is recovered on the plates and about 25 percent is saved in concentrates, which are sent to a smelter at Selby or Tacoma. Concentration is about in the ratio 12 to 1; the assay value of the ore is $8 to $10 a ton and of the concentrates about $25 a ton.

"According to G. F. Kay:

"'Most of the production of the mine has come from two shoots nearly 600 feet apart, on the lowest drift of the mine. One of the shoots extended along the vein in this drift for about 55 feet, but in a winze its width increased to about 80 feet, below which it narrowed abruptly. The direction of the shoot was the same

as that of the dip of the vein. The other shoot had a length along the strike of the vein of 75 feet; in a winze from it the length increased to 125 feet; at the bottom of the winze, which was run 200 feet below the drift, the ore was low grade. The direction of this shoot was about S. 50° E. Usually the best ore was found along the footwall of this shoot, although in places the gold and silver were uniformly distributed across the vein, which here had an average width of about 18 inches. The zone of oxidation does not extend farther than about 100 feet below the surface, and in parts of the vein sulphide ores are found at depths considerably less. Along the fault planes the ores show enrichment.'

"Since the date of Professor Kay's examination of the Braden Mine another shoot of ore has been opened on another vein by means of an incline shaft. The vein strikes about N. 55 E. and has an average dip of about 25° S.E., with a thickness of 2 to 5 feet of quartz. In the lowest drift at 190 feet depth on the incline a second vein seems to swing into the main later vein from a direction about N. 10° E. and a dip of about 35° E.; it has been followed back under the incline shaft and shows about 2 feet of quartz. The structure is shown in the illustration. To the southwest the vein seems to be cut off by a fault which strikes N. 27° W. and dips about 60° N.E. The drawing shows only a small part of the older workings, which were caved so as to be mostly inaccessible when the mine was visited.

"The mill was dismantled in 1916 and a good part of the equipment sold to S.W. Bartlett, of Ashland, to be used in equipping the mill at the Ashland Mine."

Reference: Parks & Swartley 16:41 (quoted)

BRISTOL LIMESTONE — Gold Hill area

Owner: F. I. Bristol, Rogue River, W. B. Sullivan, and Kenneth E. Hamblen, Portland, Oregon.

Location: NW¼ sec. 6, T. 37 S., R. 3 W.; and SW¼ sec. 31, T. 36 S., R. 3 W., north of the Left Fork of Foots Creek, at elevations ranging from 1,800 feet to 2,200 feet. The property is 5 miles by road from the railroad siding at the town of Rogue River. The route is via Pacific Hwy. (U.S. 99) to Foots Creek, up Foots Creek to the forks, up the Left Fork to road to Cervany's ranch. The remainder of the road is not good, but passable. Grades are not over 7 percent.

Area: Nine placer claims, named Limestone No. 1 to Limestone No. 9.

History: Property was located in 1937 by the owners. The deposit was discovered by studying maps of limestone outcrops and then following their trend.

Development: The hillsides which are covered by heavy brush have been made accessible by trails around and across the deposit. Several pits and outs have been made in the limestone to expose the rock and permit sampling. Work has been started at the south (lower) end of the lens in order to open a quarry floor. Some exploratory work has been done on a second lens a few hundred feet to the southeast.

Topography: Semi-mountainous with very steep hillsides. The deposit is bounded by a hillside on the southwest end which would facilitate quarry operations. Vegetation cover is principally brush of the manzanita-buckthorn-madrona type, with widely spaced 12-inch to 18-inch fir trees.

Geology: Country rock is Mesozoic (Triassic?) metasediments and metavolcanics. These rocks were classed as greenstone by Diller (14) and assigned to the Devonian. Reinvestigation of paleontological evidence indicates a Triassic (?) age (Wells & Hotz, 41). This series includes lenticular limestone that, in this region, trends about N. 19° to 22°E. Dip is

almost vertical. There is some evidence of an east-west fault that displaces the limestone about 500 feet to the west halfway up the hillside. The lens is reported to be from 200 feet to 600 feet wide, and over 1000 feet long. Quality is reported to be 97+ percent $CaCO_3$. Very little iron is present.

The stone is dark colored, locally called blue limestone. It is twisted and contorted and somewhat foliated by shearing stresses. White calcite is found, generally parallel to the shear lines, and there are occasional knots or "augen" of white calcite. Some siliceous material is included in the limestone, a feature that is characteristic of southern Oregon limestones. Inclusions of siliceous material are to be expected in quarrying.

A second lens occurs a few hundred feet southeast of the main body. Quality is similar to that of the main body but this lens is of smaller size. Several cuts expose good quality limestone. The rock in this second lens breaks into larger blocks than that in the first lens. Probably shearing was not as intense. Field study shows that the lenses are somewhat larger than illustrated in Wells, 40, and have slightly different shapes.

Economics: It is planned to start quarrying limestone at the southwest corner of the deposit, and establish a quarry face along the eastern side which will permit at least 300 to 600 feet of face. There is a reasonable amount of dump space in the creek canyon. The bunker is to be constructed below the quarry face and farther to the southwest. There is undoubtedly a large quantity of limestone available; whether it is of the order of a million tons or more was not determined in the short time spent on the property. The quantity, however, is believed to be sufficient to justify opening a quarry for agricultural and paper-mill limestone. Quantity and quality seem to be satisfactory; quarrying conditions would be favorable for low costs, and road construction should be low in cost.

General: Water is scarce; power is on Left Fork road, a distance of not more than one mile from quarry site; there is plenty of timber, mostly fir; climate is similar to that at Grants Pass; no data on water rights.

References: Diller, 14; Wells & Hotz, 41; Wells, 40.

Informant: R.C.T., January 23, 1940; February 22, 1943.

BRISTOL SILICA COMPANY (silica) — Gold Hill area

Owner: F. I. Bristol, Grants Pass, Oregon.

Location: $SE\frac{1}{4}$ sec. 30, T. 36 S., R. 3 W., about 5 miles from the town of Rogue River. Material is trucked $1\frac{1}{2}$ miles over a good dirt road to U. S. Highway 99 and thence $3\frac{1}{2}$ miles to the town of Rogue River.

Area: The total area is 80 acres; two claims of 20 acres each were located in the $NE\frac{1}{4}$ $SE\frac{1}{4}$ sec. 30, the $SE\frac{1}{4}$ $SE\frac{1}{4}$ sec. 30 is patented and held by lease.

History: This deposit was discovered in the late 1930's. It was put into production and markets were developed by Mr. Bristol all within five years.

Topography: The deposit lies across the top of the west spur of a ridge between the left fork of Foots Creek and Galls Creek. The highest elevation is about 2700 feet and the lowest about 1800 feet in a distance of less than a quarter of a mile. The angle of slope is uniformly 23° towards the south. The general contour of the deposit is such that cheap quarrying can be conducted progressively from the site which is now open.

Development: Very little development work has been done on the property - only that incidental to quarrying an amount sufficient to supply silica required by the sales department of the company. The deposit has not been sampled in detail nor has its extent been proved by drilling.

The surface of the exposed quartz is approximately 370,000 square feet, which, based on weight of 165 pounds per cubic foot, would be approximately 30,000 tons per vertical foot of depth. A reasonable estimate of the depth of the deposit is 100 feet, thus indicating a reserve of 3,000,000 tons.

Analyses: The following analyses have been made.

	Analysis No. 1	Analysis No. 2	Analysis No. 3
Silica	98.52%	98.24%	98.71%
Ferric Oxide	.54 = .37 Fe	.54 = .37 Fe	.48
Alumina	.10	.12	.27
Calcium Oxide	None	None	
Magnesia	Trace	Trace	
Phosphoric Anhydride	.018 = .003 P	.018 = .003 P	0.089
Loss on ignition	.80	.96	.41

Analyses Nos. 1 and 2 are by E. W. Lazell, Ph.D., Portland, Oregon, and No. 3 is by Lerch Brothers Incorporated, Hibbing, Minnesota.

Geology: The deposit is an elongated body of creamy white quartz whose exposed surface is roughly one thousand feet in length in a north-south direction, and whose width averages about 350 feet. It is flanked on its western margin by a body of limestone of undetermined extent, and its eastern boundary is a fine-grained dark-colored basic igneous rock which may be classified broadly as greenstone. The quartz is microcrystalline, and its origin probably is pegmatitic. It has been subjected to later pressure and movement which has changed its physical characteristics by partial metamorphism. Evidence of shearing action can be noted on many of the cleavage and fracture planes. A thin section of the material showed clearly the sharp margins of the crystals under the microscope with no evidence of secondary silica as a cementing medium. There were no other minerals present in the thin section. Feldspars are wholly absent, and no pyrite was observed. The only foreign mineral is limonite which is present in very small amounts as "stain" along the surface of the shrinkage and fracture planes. This has been introduced by surface waters from an outside source. The cleavage planes strike uniformly N. 55° W., and dip 82° E.

General: Climate is mild; winters are never severe; operations can be carried on throughout the full year.

The silica is crushed at the company's plant at the town of Rogue River. The plant is adjacent to the main line of the Southern Pacific Railroad. At present the use of the material is largely confined to chicken grit, but there is a growing demand for the material as metallurgical flux. The quartz is crushed according to specifications received from the purchaser.

Informants: Kenneth Hamblen, Press Reports, Ray C. Treasher.

Reference: Report on file by Kenneth Hamblen, mining engineer.

BRISTOL SILICA COMPANY (silica plant) — Gold Hill area

Owner: F. I. Bristol, Rogue River, Oregon.

Location: Rogue River, Oregon, on railroad siding across from the depot.

Buildings: Nine bunkers, total capacity 300 tons, enclosed. Warehouse 30 feet by 40 feet. Truck ramp. Office building.

Equipment: 9 x 18 Fort Wayne jaw crusher; 12 x 24 United Iron Works rolls; 4 ft. x 6 ft. mill used as tumbler; two 3-deck 2½ft. x 5 ft. vibrating screens; conveyor belt, 35 ft. x 16 inches; bucket elevator, 55 feet, 8 x 5; scales, chutes, etc.

Products: Poultry grit and minus 3/8 inch industrial silica. Nine sizes carried in stock.

Raw Material: Trucked five miles from deposit in Miller Gulch (see Bristol Silica report).

Informant: F. I. Bristol, April 15, 1940.

Report by: R.C.T.

BUCKSKIN MINE (gold lode, placer) Gold Hill area

Owners: Tom Hagen and C. D. Standiford, Central Point, Oregon.

Location: sec. 7, T. 36 S., R. 2 W.

General: Reported to be the old May Belle Mine. There is a tunnel 90 feet in length. Surface cuts over a distance of 150 feet show white, glassy quartz. A small "pocket" was mined. These owners have a placer claim in the $W\frac{1}{2}$ $SE\frac{1}{4}$ $SW\frac{1}{4}$ sec. 7, T. 36 S., R. 2 W. Gold here is reported to be coarse and may have come from the Curry "pocket". No water is available.

Informant: J.E.M., 1938.

BULL FROG PLACER Gold Hill area

Owners: E. A. Lewis, Medford; James Lothus, Rogue River, Oregon.

Location: sec. 22, T. 36 S., R. 4 W., about a half-mile east of the town of Rogue River, between the railroad and the river.

General: Recent Rogue River gravel deposits on the first terrace above the river were worked with a steam shovel and trommel screen in 1939. Water was pumped from the river. The gold was very fine and there was considerable black sand. The operation was discontinued in 1939. Since then several people have looked over the ground and some drilling was done. Inactive in April, 1942.

Informants: J.E.M., February 10, 1939; R.C.T., April 3, 1942.

BULL OF THE WOODS (gold) Gold Hill area

Owners: Mrs. Vella Hays, Gold Hill, Oregon, and Mrs. Rena Davis, Fort Klamath, Oregon. Leased to J. A. Clement, Gold Hill.

Location: On the east bank of the Rogue River about 2 miles northeast of Gold Hill, in the $NE\frac{1}{4}$ sec. 15, T. 36 S., R. 3 W.

Area: 31 acres patented land.

History: Little is known about the history of this property before 1934. In that year Mr. J. A. Clement leased and operated it for two years, producing $5,000. Mr. George Tulare operated it in 1936 and 1937, obtaining no production. In the fall of 1938 Mr. Clement again secured a lease and started sinking a new shaft 50 feet SE. of the old one.

Development: 100-foot vertical shaft with 35-, 50-, and 95-foot levels. The 35- and 50-foot levels connect with old workings; the 95-foot level runs N. 55° W., 25 feet to face. About 60 feet southwest of the vertical shaft is a tunnel which trends N. 5° E. for 105 feet and having 8 drifts. Aggregate length of drifts and tunnel is 266 feet.

Geology: The country rock is dark and basic, resembling diorite. The vein, which strikes N. 55° W. and dips 75° to 80° S.E., appears to be a resilicified shear zone from 2 to 6 feet wide. Vein material, which breaks freely from the walls, is composed of both quartz and country rock. The hanging wall carries some gouge. Values extend into the walls. A sample cut along 25 feet of hanging wall on the 95-foot level returned $1.05 to the ton. Samples taken on the footwall ran from a trace to $2.45 to the ton. The lateral extent of the vein has not been determined. Openings on the 95-foot level have not encountered the ore shoot found in the upper levels. The ore minerals are pyrite and metallic gold, and the ore is estimated to be 50 percent free-milling. It is reported that ore from the upper level plated $10 in gold per ton.

Equipment: A 7 by 8 Chicago Pneumatic compressor is driven by a 4-cylinder (Liberty truck) engine. A small Gardner-Denver steam hoist is run by air. Equipment also includes a cage, car, air hammer and miscellaneous small tools. It is reported that a two-stamp mill has been installed.

General: Elevation is 1,200 feet; rolling topography; good road to property; water supply is about 130 gallons per hour from the mine; very little, if any, mining timber on the property.

Informant: J.E.M., 1939.

BUNCE PROSPECT (gold) Gold Hill area

Owner: Fred Bunce, Rogue River, Oregon.

Location: sec. 9, T. 33 S., R. 4 W.

No other information.

CAPITOL HILL MINE (manganese) Gold Hill area

see Lee Manganese

CARBONATE MINE (gold) Gold Hill area

Owners: Charles Warren and O. U. Niles, Grants Pass, Oregon.

Location: In Murphy Gulch 12 miles by road northeast of Rogue River, in sec. 17, T. 35 S., R. 3 W. The last section of 1½ miles is narrow and in poor condition.

Area: Three full claims, Carbonate, Carbonate 1 and 2, held by location.

History: Discovered in 1930 and operated intermittently since. No record of production is available.

Development: Underground development work has all been done on the Carbonate claim. An adit was opened S. 26° E. for 70 feet and then turned on a fault and was driven S. 55° W. for 23 feet. It was then extended 55 feet in the direction S. 17° E. Another adit now caved at the portal, was started approximately 60 feet in altitude below the first adit and was driven about 80 feet. It is estimated that this second adit would need to be driven 40 to 50 feet farther in order to reach the ore found in the upper adit. At the time of examination only location work had been done on the Carbonate No. 1 and Carbonate No. 2 claims.

Geology: The ore deposit is a quartz vein in altered diorite. The vein has been faulted in at least two places as shown in the main adit. Near the portal, the vein is displaced about 6 feet horizontally to the southwest; and at a distance of approximately 70 feet from the portal the vein is displaced again in the same direction for a distance

horizontally of about 23 feet. At a distance of about 50 feet from the portal, vein intersections formed an ore shoot which was stoped 12 feet in length and 30 feet above the level. An underhand stope of about the same dimensions was carried down below the level. Beyond the second fault and between it and the face, a stope 15 feet long was carried up for about 40 feet. At the face of the tunnel another stope has dimensions of 15 feet in length and about 15 feet high above the level. The vein varies in width from a knife edge to 4 feet, averaging about 12 inches. The strike is S. 20° E., dip is 80° N. The ore breaks cleanly from the walls and can be sorted easily. Ore is said to have assayed approximately $20 to the ton. Approximately $8 per ton was recovered by amalgamation. At the time of the examination, tailings were being cyanided. It was estimated that the combined recovery would be 75 percent.

Equipment: Mill equipment includes a 3-stamp mill, equipped with 800-pound stamps and amalgamation plate 2½ feet by 5 feet; a 4 hp. Fairbanks-Morse gasoline engine; 5 small homemade cyanide tanks; a small compressor which develops about 3 c.f.m.

General: Elevation 2,100 feet; maximum snowfall 5½ feet; mining timber available on the property; water supply is small but could be made sufficient for small operations.

Informant: J.E.M., 1938.

CARTINELL MINE (copper) Gold Hill area

Location: Center sec. 9, T. 36 S., R. 4 W.

"The Cartinell Mine is near the center of sec. 9, T. 36 S., R. 4 W., less than 2 miles northwest of Woodville, (town of Rogue River) at an elevation of 1250 feet by barometer. An adit extends due northwest about 150 feet and thence N. 55° W. about 50 feet in a fissured zone containing short offsetting lenses of quartz with bunches of chalcopyrite. The vein dips to the northeast at an angle of 50° to 60°; in the weathered zone it contains malachite and azurite. The country rock is andesite, in which the curved cleavages of phenocrysts of pale green hornblende show evidence that the rock has been under considerable differential pressures."

Reference: Parks & Swartley, 16:51 (quoted).

CASCADE VIEW MINE (gold) Gold Hill area

Owner: Ben Baker, Charles R. Baker, Edwin Lister, Grants Pass, Oregon.

Location: sec. 35, T. 35 S., R. 3 W., about 1,700 feet elevation. Sam's Valley P.O. is 3 miles from property 2½ miles of which is gravelled county road and one-half mile is trail.

Area: 160 acres patented ground.

History: The original location was made in 1902. Production in 1936 was reported to be valued at $215 from 7 tons of ore. The property was idle in 1940.

Development: A tunnel 50 feet long; an underhand stope 10 ft. by 20 ft.

Geology: Slate and metavolcanics comprise the country rocks. The vein is 36 inches wide, containing a 6-inch high-grade streak, and strikes N. 38° W.; it dips northeast at a high angle. Some of the gold is free; some is in the sulphides.

Informant: Ben Baker.

Report by: R.C.T., February 1, 1940.

CATTON'S CLAIMS Gold Hill area

see Coster and Catton's claims.

CHISHOLM CLAIMS (quicksilver) Gold Hill area

Schuette reported as follows:

"These lie in sec. 17 & 20, T. 34 S., R. 2 W., and are owned by the Chisholm Estate. The late Dr. W. P. Chisholm acquired this property about 1900 and added to it from time to time until he held over 20 claims on both sides of a steep ridge. These claims have been prospected by many pits, cuts, and short tunnels all of the latter in the Umpqua formation though the May Creek Schist is only a short distance west.

"The country is well timbered and the surface is covered with the usual heavy soil. The Little Jean Claim had a small stope of high-grade ore but most of the other exposures show only low-grade material. Total production to date is probably 30-35 flasks. At present this property as well as the Dave Force Mine is under lease to Geo. Schumacher."

Parks & Swartley state that:

"This group, owned by Dr. W. P. Chisholm, of Rogue River, is located in secs. 17 & 20, T. 34 S., R. 2 W. Considerable development work has been done on this property and some high grade cinnabar ore has been uncovered. Some retorting was done during the year on ores taken out during the development and several flasks of quicksilver have been sold."

Reference: Schuette, 38:123 (quoted).
Parks & Swartley, 16:54 (quoted).
Pardee, 21:223
Wells & Waters, 34:55
Wilkinson, 40:7

CHISHOLM COPPER Gold Hill area

Location: SE¼ sec. 19, T. 34., R. 2 W.

"Copper ore has been developed by adits run by Dr. Chisholm of Gold Hill in SE¼, sec. 19, T. 34 S., R. 2 W. A crosscut entry extends S. 45° E. about 30 feet and thence S. 63° E. about 170 feet through quartzitic rock. It does not disclose ore. At 150 feet from the portal a fault strikes N. 31° W. and dips 55° N. E.; it has a maximum thickness of about 18 inches and contains fragments of quartzite. Near the fault the country rock changes from a micaceous to an ordinary quartzite. There are two other older adits which show more ore. The lower and southern entry is in micaceous quartzite banded and locally contorted. About halfway to the breast a 6 to 8 inch pegmatite vein crosses the adit, which is at an elevation of 1760 feet by barometer. The upper adit, is about 100 feet higher; it discloses ore which consists of chalcopyrite and arsenopyrite. Surface waters have formed some gypsum and melanterite by oxidation of the sulphides. The ore at this mine is very interesting; it occurs in part as a primary constituent of a basic igneous rock, and in part as a vein filling. The rock is a norite containing abundant hypersthene partly poikilitically enclosed by plagioclase, both minerals intergrown with pyrrhotite and chalcopyrite as well as a little brown biotite, hornblende, and magnetite. Some secondary chlorite and calcite are also present. As a vein filling the sulphides occur intergrown with quartz, which may fill fissures or serve as a

cement of broken material (fault breccia) consisting of pegmatitic andesine with some quartz. The vein filling has been sheared since formation as shown in the illustrations (Plate V A and V B), one of which shows a crystal of hornblende first bent so that the cleavages are sharply curved, then opened along the curved cleavages and the spaces filled by quartz crystallized in somewhat elongated forms to fill the spaces open. The other shows vein quartz so sheared that it is broken into thin nearly parallel slices of considerable length.

"It seems clear that the copper at this place was derived from the norite magma."

Reference: Winchell, 14:162-163 (quoted).

CHROME KING PROSPECT (chromite) Gold Hill area

Owner: Sunset Mining Company; Bryan Conley, Salem; William Davis, Rogue River; and others. Leased to F. I. Bristol (1941).

Location: NE¼ NW¼ sec 3, T. 34 S., R. 4 W., on an unnamed creek, locally known as Boulder Creek (flows into Pleasant Creek). Elevation is approximately 2,500 feet.

History: It is reported that this prospect was worked during the first World War and that Vonne Brothers took out two carloads (100 tons) of high-grade chromite. Since that time the Sunset Mining Co. has located the ground. The workings caved about 1939.

Development: The workings are being reopened. There is an open cut or trench about 50 feet long.

Geology: A serpentine belt about ¼ mile wide trends northwest through an area of greenstone (Diller and Kay, 24). The prospect is situated near the northeast edge of the serpentine belt. The only chromite observed at the time of the visit was one two-foot mass of low-grade chromite and considerable disseminated chromite in serpentine. Chrome float is reported to occur over the hillside.

The locality has been prospected extensively by means of small pits and cuts. A very few of these excavations showed pieces of low-grade chrome in the old dumps.

Informant: R.C.T., April 28, 1941.

Report by: R.C.T., May 2, 1941.

C. M. COMPANY (quicksilver) Gold Hill area

see Lucky Strike Quicksilver Mine.

President and General Manager, H. B. Hendricksen; Sec.-Treas. & Attorney, W. L. Grill, 610 Coleman Building, Seattle, Washington. The company secured control of the old Webb-Tainor, or Lucky Strike mine in 1940. Some development work was done. Title was transferred to the Pacific Syndicate early in 1942.

Informant: R.C.T., April 3, 1942.

CONGOR LODE (gold) Gold Hill area

Location: sec. 18, T. 36 S., R. 2 W.

Located on Medford Geologic Map. No further information.

COOK MINE (placer) Gold Hill area

Location: S½ sec. 13, T. 37 S., R. 4 W.

"The Cook Mine near Draper about 10 miles southwest of Gold Hill is in the S½ sec. 13, T. 37 S., R. 4 W. The pay gravel is, in places, plainly stratified, and consists mainly of fine gravel and clay. The stream bed has been mined for one-fourth of a mile. The bedrock is made up of greenstone and slates cut by numerous greenstone dikes. It has been greatly sheared and faulted. One fault runs N. 75° W. and dips 31° N.; another runs N. 53° E. and has been traced nearly one-fourth of a mile."

Reference: Parks and Swartley, 16:71 (quoted).

COPPER KING MINE Gold Hill area

see Mountain View Mine

CORPORAL G MINE (gold) Gold Hill area

Owner: John Tulare, Gold Hill, Oregon.

Location: S½ sec. 19, T. 35 S., R. 3 W.

"The Corporal G. Mine, 5 miles north of Gold Hill, is in the southern part of sec. 19, T. 35 S., R. 3 W., at an elevation of about 2600 feet above sea level. It is said to have been discovered in 1904 by J. R. McKay, who took out some ore and sold it to Mrs. N. M. Smith, of Gold Hill. It was operated under lease by J. E. Kirk in 1907. It is opened by three adits on the main vein, one above another, on the hillside, and one adit to one side. The adits are about 100 feet long and the vein has been stoped out above the upper adits; the lowest adit was not open to inspection. The vein has a width of 3 to 12 inches and strikes S. 85° W., with a dip of 60° N. The country rock is a micaceous slaty quartzite cut by andesite and spessartite. The ore contains quartz, calcite, pyrite, pyrrhotite and a little chalcopyrite, bornite, sphalerite, galena, and rare free gold. The adit to one side of the main vein opens a parallel stringer on the Volunteer claim; it pinched out at 135 feet."

The property is being worked in a small way each year.

Reference: Parks and Swartley, 16:81 (quoted).

COSTER AND CATTON'S CLAIM (gold) Gold Hill area

Location: SW¼ sec. 21, T. 37 S., R. 4 W.

"Coster and Catton's Claim, 12 miles southwest of Gold Hill, is in the SW¼ sec. 21. T. 37 S., R. 4 W., on the right fork of Foots Creek, at an elevation of 2550 feet by barometer. A 1 to 2-foot quartz vein here strikes N. 85° E. and dips 70° N. in greenstone. One stamp has been erected in the gulch to be operated by an overshot water wheel, but water is insufficient in summer time. The vein is opened by shallow workings for about 25 feet. About a mile to the northeast near the N¼ corner sec. 22 an intrusion of aplite is visible for 200 feet along the ditch line running around the point."

Reference: Parks and Swartley, 16:81 (quoted).

C. R. C. COMPANY, INC. (placer, gold) Gold Hill area

C. R. C. Company, Inc., 710 Pittock Block, Portland, Oregon; A. M. Cannon, President; Abe Rosenberg, Vice-president; Ralph Coan, Sec.-Treas.; A. W. Hoover, 744 N. 6th St., Grants Pass, Oregon, in charge.

Location: On the Middle Fork of Foots Creek 8 miles S. E. of Rogue River in sec. 13, T. 37 S., R. 4 W. Elevation 1550 feet.

Area: 80 acres, patented, of which 15 acres is mining ground.

History: The gravels on the Middle Fork of Foots Creek have been worked by hand for years. The present company acquired the property in the summer of 1938 and built the dredge in September of that year. Due to the shortage of water, they were not able to start operations until 1939.

Geology: It is reported that 23 test holes on the property showed an average depth of 16 feet and an average value of 50 cents per yard. Total yardage was estimated to be approximately 400,000. About 30 percent of the boulders were stated to be over 6 inches in size; the gravels contained very little clay and overburden. Bedrock consists of a blue dioritic rock and in some places slate. It is rough and not easy to clean.

Equipment: A 3/4-yard dragline, P.&H. shovel puts the gravel in a big hopper which has a grizzly in the bottom. 2½-inch material and larger goes to a 60-foot conveyor belt which stacks it. The minus 2½-inch material goes to a sluice box, 2 feet wide by 70 feet long. 36 feet of Hungarian riffles are placed at the head of the sluice box. Water is furnished by a 5-inch Gardner-Denver pump powered by a 30-hp. gasoline engine. The gold is coarse and is said to run over 900 fine. Some black sands are produced and are stated to run about $5.90 to the ton. Five men are employed; three to operate the plant and two to clean bedrock.

Twelve hundred gallons of water per minute was used in the plant.

This property was dredged by the Murphy-Murray Dredging Company.

Informant: J.E.M., 1939.

CRESCENT-PACIFIC DREDGE Gold Hill area

see Greenleaf Ranch Placer. (p 74)

CURRY POCKET Gold Hill area

see Buckskin Mine.

DAVE FORCE MINE (quicksilver) Gold Hill area

Location: NE¼ sec. 20, T. 34 S., R. 2 W.

"This lies south of the War Eagle in the northeast corner of sec. 20, T. 34 S., R. 2 W., and was at one time covered by some of the claims of the War Eagle group as shown in Fig. 14.

"The mine is well described and a plan of the workings is given in U.S.G.S. Bulletin 850 Plate 21. No additional work has been done since then. Plate 21 of Bulletin 850 shows the Umpqua-Quartz diorite contact of the left crosscut of Adit No. 1 as being 25 feet in from the fault. It should be 25 feet in from the end of the crosscut. It also shows the end of No. 2 Adit as being in quartz diorite. This is not so as the end is Umpqua formation but some 25 feet back from the end a small peak of the quartz diorite comes up into it and here under a flat gouge

there are colors of cinnabar in it, though Bulletin 850 states on page 53 that the Umpqua formation and granodiorite show no signs of mineralization whatever. The mine as developed does not expose any ore whatever in the workings and the total production is a few flasks at most. The croppings on the surface are in a greatly decomposed and altered rock, and to judge by pannings, may constitute low-grade ore."

References: Schuette, 38:123 (quoted)
Wells and Waters, 34:51
Wilkinson, 40:7

DAVIS LEDGE (gold) Gold Hill area

Owner: Mrs. W. H. Lydiard, 16 Geneva St., Medford, Oregon.

Location: sec. 13, T. 37 S., R. 3 W., on Kane Creek, 2 miles south of Revenue Pocket.

General: A tunnel 250 feet long was driven on a ledge reported to be 3 to 6 feet wide. Ore was milled here about 30 years ago.

Informant: J.E.M., 1938.

DISCON MINING COMPANY Gold Hill area

see Sylvanite Mine.

DIXIE PLACER Gold Hill area

Owner: Dan Truedell, Palace Hotel, Grants Pass, Oregon.

Development: Operated with 1 to 4 men; 2 giants.

Informant: M. E. Pool, March 18, 1940.

DIXIE QUEEN MINE (gold) Gold Hill area

Location: NW¼ sec. 18, T. 37 S., R. 3 W.

"The Dixie Queen Mine, 8 miles southwest of Gold Hill, is on the left fork of Foots Creek in the NW¼ sec. 18, T. 37 S., R. 3 W., at an elevation of 1850 feet by barometer. It is opened by 3 adits having a total length of about 450 feet. The lowest extends west about 100 feet and northwest about the same distance, with minor openings. The next tunnel above extends northeast, but is caved at 65 feet from the portal. It is a drift on a vertical quartz vein in a lead 6 to 30 inches wide in a country rock, which is a calcareous argillite. In the upper tunnel a crushed zone dips about 75° N.E.; it has a thickness of nearly a foot."

Reference: Parks and Swartley, 16:86 (quoted).

DORIS LEDGE (gold) Gold Hill area

Owner: Mrs. W. H. Lydiard, 16 Geneva St., Medford, Oregon.

Location: sec. 13, T. 37 S., R. 3 W.

No further data.

DUNCAN AND WILLIAMS WASHING PLANT Gold Hill area

Owners: Harry Duncan, Rogue River, Oregon, owner of the land; Tom Williams, owner of equipment.

Location: Ward Creek, 3 miles from Rogue River, sec. 12, T. 36 S., R. 4 W.

Area: Approximately 7,000 lineal feet of creek channel.

Geology: Rocks of the localized area are metasediments and metavolcanics. Overburden is about 5 feet in thickness and consists of soil and angular cobbles. Larger boulders, up to 2 feet in thickness occur below. The entire section is heterogeneous mixture of coarse and fine material with soil. The stream channel is narrow; water is scarce.

Equipment: 1-yard, Diesel Marion shovel. Washing plant is a dryland rig with hopper about 5 feet square; grizzly bars are horizontal; trommel has about 6 feet of "washing chambers", then 6 feet of rotating tube with screens. Undersize is picked up by rotating scoops in end of trommel and raised to steel boxes, 1 foot wide and 20 feet long on about a 10° slope. Stacker is about 30 feet long. Plant on solid rubber-tired frame.

Report by: R.C.T., March 4, 1941.

DUNCAN PLACER Gold Hill area

see Ward Creek Placers

DUNROMIN MINE (gold) Gold Hill area

Owners: Edward Law, Rt. 1, Central Point, Oregon; C. C. Lemmon, 227 N. Oakdale Avenue, Medford, Oregon.

Location: SW¼ corner sec. 36, T. 36 S., R. 2 W.

Acreage: 34 acres of patented homestead land. Five miles from Gold Hill on the Stagecoach Road to Jacksonville.

History: The mine was reported to have produced $4,000 in 1897; in 1935 - $900; and in 1937 - $200.

Development: One 25-foot shaft caved; new 30-foot shaft with 16-foot drift; 8-foot winze; and small stope.

Geology: In the locality where the vein has been opened, the wall rock is quartz diorite. The vein, which in places is frozen to the walls, is a quartz-filled fissure; at some points gouge separates the vein from the wall rock. The strike of the vein is N. 85° W.; dip is vertical. At a point about 25 feet east of the shaft, the vein is cut by a fault which strikes S. 39° W. and which has a vertical dip. The ore was formed at the intersection of the vein and fault. Besides quartz, vein minerals are gold, pyrite, and a small amount of galena. A sample of ore which contained considerable pyrite returned $1.05 in gold and a trace of silver to the ton. Maximum width of the vein exposed in 16 inches. About three tons of ore were mined at the intersection mentioned above.

Equipment: Gibson Prospecting Mill, amalgamation plates and corduroy. 1½ hp. Fairbanks-Morse Engine, centrifugal pump, 1½ hp. electric motor.

General: The quartz is hard, free milling. About ½-ton per day capacity. The ore at the junction of the vein and fault ran very high. The total production of this mine was obtained from the ore formed at this intersection.

Rolling topography; elevation 1,500 feet; mild climate; no water except the 7,500 gallons per 25 hours that mine makes; no timber on property; power line on property.

Informant: J.E.M., 1938.

EAGLE MINE (gold) Gold Hill area

Location: sec. 25, T. 36 S., R. 3 W.,

"The Eagle Mine is 6 miles northeast of Gold Hill, adjoins the Millionaire on the west. It is opened by 4 shafts and at least 2 adits, but the workings are not extensive. An adit reveals stringers of quartz in black argillite and andesitic material. The mine is said to have produced some very high grade ore. It is now under lease, but not in operation."

Reference: Parks and Swartley, 16:88 (quoted).

ELRA EXPLORATION AND MINING COMPANY Gold Hill area

R. R. Stevenson, 105 Montgomery Street, San Francisco, is manager of the company, which is reported to have acquired an interest in the Argonaut Mine.

Informant: Mining Journal, November, 30, 1940.

ENTERPRISE MINE (gold) Gold Hill area

Owner: Charles Ray, Gold Hill Realty Company, Medford, Oregon.

Location: W½ sec. 16, T. 36 S., R. 4 W.

Reference: List of Mines in Oregon, 1939.

FAIRVIEW CLAIM (gold) Gold Hill area

Location: NW¼ sec. 5, T. 37 S., R. 3 W.

"The Fairview Claim, 5 miles southwest of Gold Hill, owned by Dr. C. R. Ray, of Medford, is in the NW¼ sec. 5, T. 37 S., R. 3 W., near the top of the ridge between Galls and Foots Creeks at an elevation of 2950 feet by barometer. High grade ore is reported near the surface where a narrow vein of quartz with a little calcite, pyrite, and galena strikes N. 50° W. and dips 77° N.E. into the hillside. Very little development work has been accomplished here."

Reference: Parks and Swartley, 16:92 (quoted).

FIRST HOPE (gold) Gold Hill area

Owners: W. A. Moore, Carl Cassidy, W. W. Balderee, and W. Berry, Grants Pass; mgr. W. A. Moore, Route 1, Grants Pass.

Location: In SW¼ sec. 7, T. 37 S., R. 4 W., on east fork of Savage Creek Road which extends to a point within one mile of the property. One claim 20.65 acres.

History: Discovered in 1934 and worked intermittently since. A $1,700 pocket was taken out in 1934, and a $500 pocket was taken out in 1935. About $100 has been produced since 1935.

Development: Three tunnels have been driven and a number of open cuts have been dug. One of the tunnels was driven S. 20° E. for 165 feet in order to get to a point 80 feet vertically below the place from which the $1,700 pocket was removed. Either the vein was not reached or it was not recognized in this tunnel. Another tunnel was driven due south for 65 feet. It contains cross-cuts at the face running 8 feet west and 20 feet east. In the cross-cut extending east at a point 10 feet from the tunnel, a winze 10 feet deep was sunk. This tunnel was designed to reach a point 300 feet immediately below the place from

which the $1,700 pocket was removed. The third tunnel was driven S. 40° W. along a fracture plane near the top of the ridge for a distance of 42 feet.

Geology: The country rock is andesite porphyry. Quartz stringers in the porphyry trending northeasterly sometimes contain very high-grade gold ore. In places the rock faces are covered by superficial manganese oxides.

General: Two brake drums have been bolted together to form a small ball mill operated by hand. The topography is mountainous; elevation of the property is approximately 3,000 feet; mine timber is plentiful; water for a camp or for milling would need to be developed; a small amount of water runs in the east fork of Savage Creek; maximum snowfall is 5 feet.

Informant: J.E.M., 1938.

FIVE STAR PLACER — Gold Hill area

see Lone Star Placer

FLYING SQUIRREL (gold) — Gold Hill area

Owner: Earl N. Grizzell, Grants Pass, Oregon.

Location: sec. 7, T. 33 S., R. 4 W.

General: One adit is 150 feet long. Ore was mined and run through a ball mill for a year, but the property was idle in 1940. The ore is reported to assay $20 per ton.

Informant: Dan Woolfolk, March 19, 1940.

GALLS CREEK PLACER — Gold Hill area

Owner: Vergil Leslie, Medford, Oregon.

Location: sec. 4, T. 37 S., R. 3 W.

A small amount of sniping has been carried on in recent years. This property is reported to have been acquired by Oregon Placer, Inc.

Informant: J.E.M., 1939; R.C.T., 1941.

GARFIELD IRON AND LIME COMPANY — Gold Hill area

see Tolman Iron Deposit

GLEN DITCH PLACER — Gold Hill area

History: "The Glen Ditch mine, 15 miles southwest of Gold Hill, is near the head of the right fork of Foots Creek. It is owned by Boling Brothers. The stream bed has been followed for some distance, but much good ground remains to be worked. The gravels are about 15 feet thick."

This property may be the same as the Boling and Koster placer previously reported in this area.

Reference: Parks and Swartley, 16:100 (quoted)

Informant: R.C.T., April 6, 1942.

GLIDE FOUNDATION — Gold Hill area

see Lance Placers; Southern Oregon Mining Company.

GOLD BANK MINE — Gold Hill area

see Gold Hill & Bohemia Mining Company.

GOLD CHLORIDE PROSPECT (gold) — Gold Hill area

Owners: Jackson County. Under option to Sam L. Sandry and J. M. Whipple, Rogue River, Oregon.

Location: NE¼ sec. 25, T. 35 S., R. 4 W., on Ward Creek at extreme southern part of Riddle quadrangle. Elevation is approximately 3,000 feet. The property is 9 miles up Ward Creek from Rogue River by very poor, dry weather road. A trail on a grade of 370 feet in one-half mile leads to No. 2 Tunnel.

Area: 80 acres.

History: Two tunnels were driven many years ago but no information is available on the kind of ore, value, etc.

Development: The tunnels, No. 1 and No. 2 (mentioned under "History") are 97 feet and 188 feet long respectively. The present operators have reopened the tunnels and retimbered the portals. The surface above No. 1 tunnel has been explored by pits and trenches for a distance of approximately 1,000 feet along the vein outcrop.

Geology: The rock of the area is classed as May Creek schist by Diller and Kay, 24 but Wells & Hotz of the U.S.G.S. have mapped similar rock ¼-mile south as part of the Applegate (Paleozoic) metasedimentary series. The rock is somewhat banded and fine-grained, and quite quartzitic in part. Strike is N. 25° E., and the dip is 60° S.E. Dip and strike are very persistent over the entire area.

The mineralized zone strikes east, and dips 65° N. It is consistently 4 feet wide between walls. Usually there is a narrow gouge seam along each wall. Quartz varies from 6 inches to 4 feet in width. The mineralized zone including the quartz is sparsely sprinkled with sulphides. A few sulphide grains are to be seen in the wall rock. An oxidized zone about 15 feet deep contains free gold.

Report by: R.C.T., February 28, 1941.

GOLDEN CROSS MINE (gold) — Gold Hill area

see Golden Wedge Mine; Trustbuster Mine

Owner: Charles Kell, Gold Hill, Oregon.

Location: sec. 35, T. 35 S., R. 3 W. The property is 4½ miles from Gold Hill by all-year road.

Area: Twelve claims held by location, recorded in 1934 under the names of Golden Cross (7 claims), Golden Wedge (2 claims), and Trustbuster (3 claims).

History: Trustbuster claims were staked by Ed Cooper about 1910. The Golden Cross No. 1, 2, and Gold Star No. 1, 2, 3, 4, were located by Jackson and Hayes about 1920, and considerable development work was done. Jackson and Hayes transferred the claims to Kell.

Development: One hundred feet of tunnel on Golden Wedge and about 20 feet of shaft together with a raise to the surface.

Geology: Country rocks comprise metasediments and diorite. One quartz vein, 18 to 20 feet wide, contains values mainly in sulphides and averages about $6.00 per ton. Another vein 1 foot wide contains free gold.

Informant: Charles Kell, March 5, 1940.

Report by: R.C.T., March 5, 1940.

GOLDEN STANDARD MINE — Gold Hill area

see Kubli Mine

GOLDEN STANDARD MINING COMPANY (gold) — Gold Hill area

see Kubli Mine

"This company has 81.688 acres of patented land in the Galls creek mining district of Jackson county. The property is known as the Kubli mine and is located in the N.W.¼ Sec. 5, T. 37 S., R. 3 W., at an elevation of 2700 feet by barometer. A narrow vein, said to have been very rich, is opened for about 200 feet; it is 1 to 18 inches wide, but only 1 to 6 inches in quartz; the vein strikes about east and dips 60° N. The Kubli mill is to the east near the bottom of the hill; it has 2 stamps with triple discharge, a divided plate 4 by 10 feet, and a concentrating table. In the gully nearby there is a small outcrop of tonalite and a border of contact hornblende rock. The composition of this contact phase is given below.

"Composition of Contact Rock, Near Kubli Mill, Galls Creek
(S. W. French, analyst)

SiO_2	47.42
TiO_2	1.01
Al_2O_3	20.56
Fe_2O_3	1.19
FeO	5.10
MgO	7.08
CaO	14.04
Na_2O	1.80
K_2O	.66
H_2O+	1.36
H_2O-	.08
	100.30

Approximate mineral composition

Hornblende	57.5
Plagioclase (Ab_1An_4)	42.4
	99.9

"The mine is not in operation at the present time."

Reference: Parks and Swartley, 16:107 (quoted)

GOLDEN WEDGE MINE — Gold Hill area

see Golden Cross Mine

GOLD HILL & BOHEMIA MINING COMPANY (placers) — Gold Hill area

see Red Oak mine

"Local name, Red Oak Mine, Gold Bank.

"Office: 819 Chamber of Commerce Bldg., Portland, Oregon. J. M. Leiter, Pres.; Samuel Weldon, Sec.; I. G. Davidson, Treas., all of Portland, Oregon.

Capital stock, $100,000; par value 10 cents; all subscribed, issued and paid up. (1916 report).

"This company has 80 acres of patented placer ground 3 miles north of Golden on Sardine Creek. There is no activity at the property."

Reference: Parks and Swartley, 16:108 (quoted).

GOLD HILL PLACERS (dry land dredge) Gold Hill area

Leasers: Gold Hill Placers; M. L. Howell and Raymond Calhoun.

Location: sec. 5, 7, 17, T. 36 S., R. 3 W., along 1 3/4 miles of Sardine Creek channel from the highway bridge upstream.

Area: The Company leased 1 3/4 miles on Sardine Creek, starting at the railroad bridge over Sardine Creek and running northerly. Maximum width of gravel near the railroad is 500 feet and at the upper end is 150 feet. Quantity of gravel was estimated to be 750,000 cubic yards.

History: Dredging began on April 20, 1939 and discontinued Sept. 3, 1940. The upper portion of the creek channel was narrow and only the immediate stream channel was dredged. The equipment was moved to Council, Idaho.

Equipment: Loraine gas shovel with a 1¼-yard bucket. Washing plant was a dry land Bodinson electric washer; trommel was 54 inches by 21 feet with 12 feet of 3/8-inch perforations; 50-foot swing belt stacker. At first, water was pumped from the Rogue River but later, the normal stream discharge was used. Plant worked 12 hours a day.

General: The gold was 860 fine. Gravel averaged 6 feet deep and there were few large boulders.

Informant: J.E.M., 1939; R.C.T., 1940.

GOLD HILL PLACERS Gold Hill area

These placers were described by Parks and Swartley as covering a group on Kane Creek southeast of Gold Hill, and are not the same as the Gold Hill dredge placers.

"The placer deposits 5 miles southeast of Gold Hill are all closely associated with existing streams, being either in the present stream beds or on terraces not many feet above them. Mining is carried on chiefly during the wet season of winter or early spring. A few of the placers have been equipped with dredges, but hydraulic mining is the prevalent method.

"On Kane Creek placers have never been extensive, but an electric dredge was under construction in 1908 for use in the SE¼ sec. 36, T. 36 S., R. 3 W. The capacity was 500 cubic yards in a 10-hour day. The power was obtained from the dam on Rogue River at Ray Gold; the material of the deposit is fine grained clay and gravel with few boulders; the bedrock is an altered slate. Since 1908 very little has been done on this project."

Reference: Parks and Swartley, 16:108 (quoted)

GOLD HILL "POCKET" (gold) Gold Hill area

Location: SW¼ NE¼ sec. 14, T. 36 S., R. 3 W.

"The Gold Hill "Pocket", 2 miles northeast of Gold Hill, is near the top of the hill of that name in the SW¼ NE¼ sec. 14, T 36 S., R. 3 W., at an elevation

of about 2000 feet. According to E. W. Liljegran, of Medford:

"'It was discovered in 1857 on top of the mountain about 2 miles east from the town of Gold Hill. The outcropping rock was so full of gold that it could scarcely be broken by sledging. The crystallized quartz associated with the gold was not honeycombed as it generally is where sulphides have leached out of the rock, leaving sprays of gold in the cavity. The gold in this pocket went down only 15 feet and occurred in a fissure vein, strike about S. 20° E.; dip about 80° E.; with a gash vein cutting the fissure nearly due east and west and dipping vertically. The fissure vein averages fully 5 feet between walls with 1 to 2 feet of gouge on the footwall, which contains some calcite and quartz mixed with a little sulphide of iron, in spots containing free gold. A mass of micaless granite, about 5 feet wide by possibly 200 feet long, outcrops in the footwall side of the fissure. The country rock is pyroxenite. It is said that this pocket produced at least $700,000.'"

Reference: Parks & Swartley, 16:109 (quoted)

GOLD NOTE (gold, copper) Gold Hill area, Greenback area

Owners: Edwin O. Crouch, Rogue River, Oregon.

Location: sec. 30, T. 33 S., R. 3 W., in Gold Hill area, Jackson County and sec. 25, T. 33 S., R. 4 W., in Greenback area, Josephine County. Reached either via Rogue River, Oregon, Evans Creek to Grave Creek and King Mt. road, or via Grave Creek to Greenback mine road and east on King Mt. road.

Area: Three mining claims in R. 4 W.; also mineral rights to 20 acres of deeded land in R. 3 W.

History: Parks & Swartley reported as follows:

"This mine is located on the Baker creek branch of Grave creek, 17 miles from the railway station at Leland and 9 miles east of Placer. It is owned by E. B. Crouch, of Grants Pass, and associates.

"Some 300 feet of development work has been done, exposing oxidized and sulphide ores, which it is claimed run between 4 and 5 percent copper, with some gold values. It is proposed to treat some of these ores by leaching processes."

Although operated principally for gold, some copper was mined during World War I and a small matte smelter was operated for a time. Since then all work has been governed by gold values until 1942.

Development: There are 9 tunnels and one raise. In addition there are numerous cuts and trenches. The property is well opened and accessible.

Geology: The country rock is slate, probably Jurassic Galice formation and some Cretaceous Chico formation. The sediments abut greenstone, locally called "porphyry", which appears to be a meta-igneous rock, probably diorite. The sediments strike generally east with a southward dip of 35° to 40°. The strike varies to N. 60° E. The sediments are softened and bleached to clayey materials near the surface, and sometimes are heavily iron-stained. At depth, the slates are black and sheared. Faulting is common. The faults are usually bedding-plane faults. A well-pronounced fault parallels the contact of the slates and greenstone.

The slate has been silicified to some extent. The "gold veins", as exposed are not true veins composed of material differing from the country rock. They represent "zones" in the slate that are identified by their gold content and seemingly there is no visual method of determining the "vein". About 10 feet below the surface of the bleached slate

is a zone characterized by a heavy iron oxide cement. Below this zone, the values occur in sulphides as a rule.

Little evidence concerning the attitude of the contact was found. Reportedly the contact is vertical, but at several places, it appeared to dip 45° S.

The surface rock, including the iron-cemented zone has been worked for its gold content, and cyanided. The "veins", as previously stated, are merely zones of gold-bearing slate. Relationships suggest that gold-bearing solutions came up along the contact and deposited the gold in such slate layers as were more easily penetrated. One such zone trends N. 65° E., dips 40° S.E., and is underlain by the iron oxide stratum. Surface material is notably low in copper.

Lower adits cut a sulphide zone that is heavily metallized, and contains considerable copper. The zone has a minimum width of 2 feet and a maximum observed width of 4 feet with the footwall not exposed. It trends east and dips 35° to the south. The vein is offset some 50 feet by a strong vertical (?) fault that trends N. 60° W. These relationships are well shown in the two lowest adits. Characteristically the copper vein has 4 to 12 inches of quartz on the hanging wall. The hanging wall is well defined and the ore is not frozen to it; the footwall is less well defined although there is some evidence of faulting parallel to it. The gangue appears to be greenstone.

Pyrite, pyrrhotite (?), and chalcopyrite are the most conspicuous sulphides. Quite noticeable in hand specimens are siliceous spots which appear to be surrounded by an aureole of chalcopyrite.

Equipment: Mining is done by hand. Gold ore is wheeled to a chute that discharges either into an ore car, or into a fine-ore bin. The coarse ore is trammed to a small bunker that delivers the rock to a 20-ton pebble mill (manufactured in Medford, Oregon). Hard stream pebbles are used for balls. The crushed ore is wheeled to a bin where the ore is stockpiled and the slimes are washed out and wasted. At intervals, the ore is wheeled to a 16-foot steel tank, 4 feet high where it is leached with cyanide. The solution goes to a locally made precipitator; barren solution is run to a 16-foot storage tank. The fine ore, previously mentioned is charged direct to a similar leaching tank with the solution following the same circuit as before.

The property has a large water storage tank that delivers water under a 300-foot head to operate a small Pelton wheel.

General: Water supply seems ample. Surface workings require little timber and even the underground workings in slate stand up well. There is ample timber for mine use on the property. Maximum snowfall recorded is 8 feet. Usual snowfall is 2 feet and it remains on the ground for only short periods of time. The road out via Pleasant and Evans Creeks is virtually an all-year road. A small amount of work would keep the road open all the time.

Reference: Parks & Swartley, 16:109 (quoted)

Informant: R.C.T., July 2, 1942.

GOLD RAY GRANITE COMPANY (granite, brick) Gold Hill area

Location: sec. 18, T. 36 S., R. 2 W.

"The Gold Ray Granite Company's quarry is situated about two miles west of Tolo on the line of the Southern Pacific railway. The rock consists chiefly of plagioclase with some brown biotite, green hornblende, and quartz and a little titanite, magnetite, and chlorite. Much of the feldspar is zonal and was partly altered to sericite and other material at one stage in its growth, the outer zone being fresh and unaltered. Petrographically the rock is a tonalite or quartz

diorite. The condition of the quarry is shown in the photograph (Plate IV A). The rock is very coarse grained and hornblende is prominent. Dark spots are quite rare, but a large one of sharp angular outline is shown in a photograph of a large block now at the quarry (Plate IV B). It is clearly a fragment of a foreign rock and not a segregation. This "granite" is remarkably well located for cheap transportation, but it is said to be somewhat unsatisfactory, probably because the joints, though for the most part widely enough spaced, are irregular in spacing and angular position. The quarry was idle for some years; according to Professor Ira A. Williams, of the Bureau of Mines and Geology, it was leased by the county and in operation in 1914, producing crushed rock for use as road material."....

"The alluvial clay deposits along Rogue river have been used to make brick at Tolo where a brick plant was built by Gold Ray Granite Company having a capacity of 30,000 brick a day. The clay is obtained about one mile east of the plant to which it is transported by an electric trolley line. The equipment is quite complete and in good condition and includes not only the brick kilns and an up-to-date drying system, but also repressing machines and kilns for burning drainage tile. The brick produced here sell for $10.00 or $12.00 a thousand; the repressed brick bring twice as much. The plant was idle during 1912 and 1913, but the company is selling its reserve stock and will operate again when the demand requires it."

Reference: Winchell, 14:156; 159-160 (quoted).

GOLD RIDGE MINE (gold) Gold Hill area

"The Gold Ridge Mine, 4 miles south of Gold Hill, is in the NE¼ sec. 3, T. 37 S., R. 3 W., on the west slope of Kane Creek valley, at an elevation of 2100 feet by barometer. Some oxidized ore has been taken from a 1 to 2-foot fissure, which varies in strike from about north to east in an arc concave to the southeast and dipping steeply northwest. The country rock is schistose and weathered. Nearer the mill an open cut has been made on a 12-inch quartz vein, which strikes N. 63° W. and dips 73° S.W.; the hanging wall is an andesitic rock; the footwall is siliceous and contains a little biotite. The mine is equipped with a 2-stamp mill, having a plate 2½ by 8 feet, run by a 7-horsepower gas engine."

Reference: Parks & Swartley, 16:109 (quoted).

GOLD STANDARD Gold Hill area

see Kubli Mine

GORDON GOLD RECOVERY PLANT Gold Hill area

Owner: L. R. Gordon, Box 424, Gold Hill, Oregon.

Location: Gold Hill, Oregon.

History: Originally opened during spring of 1940 as Oregon Ore Reductions, Inc., to extract flour gold from black sands. Dr. T. P. Morgan of Detroit, Michigan was president and John E. Winters was superintendent. It is reported that conditions caused the company to discontinue operations. Some of the equipment was taken over by Gordon. Operation of this plant was discontinued about March 24, 1941, and the equipment has been moved out.

Equipment: Grinding equipment consists of three mullers; one 6-foot muller with 1800 lbs. of grinding weight; one 24-inch testing muller; and one small muller for testing. Miscellaneous laboratory equipment.

Metallurgy: The object was to recover flour gold from black sands by fine grinding with mercury by means of a muller. The amalgam is then retorted. Sulphide concentrates may be treated by the same process but recovery is not assured by the operator.

Report by: R.C.T., March 3, 1941.

GRANT POWELL PROSPECT (gold) Gold Hill area

Owner: Grant Powell, Murphy, Oregon.

Location: SW¼ sec. 32, T. 35 S., R. 3 W.

Informant: Grant Powell, 1939.

GRAY EAGLE MINE Gold Hill area

see Lone Eagle Mine

GREENLEAF RANCH PLACER Gold Hill area

Owner: W. L. Greenleaf, Gold Hill, Oregon.

Operator: Crescent-Pacific Dredging Company, 503 Market St., San Francisco.

Location: On the old Stage Road between Gold Hill and Medford in lot 14, sec. 35, T. 37 S., R. 3 W., at the junction of a tributary from the south, with Kane Creek.

Area: Ranch area unknown; it is estimated that perhaps 25 acres will be dredged on this property.

History: Parks and Swartley (16:108) describe the general area under Gold Hill Placers. The Greenleaf property has been examined by several placer companies. The Crescent-Pacific Company made an arrangement to work the property in March, 1942.

Equipment: The Judson-Pacific floating washing plant, equipped with Ainley bowls, was moved from the Applegate River to the Greenleaf property.

Geology: The area is one of metavolcanics and metasediments; it is famous for its pockets. The famous Revenue Pocket, worked by the Rhotan Brothers is about 2 miles to the south. It is presumed that the placers of the locality were derived from the breakdown of similar pockets.

Informant: R.C.T., April 7, 1942.

GREEN'S PLACER Gold Hill area

Owner: Pike property, leased by F. S. Green, Rogue River, Oregon.

Location: About 3 miles upstream from the upper Grave Creek bridge in sec. 20, T. 33 S., R. 4 W.

Area: Forty acres unpatented.

History: A washing plant was set up in the fall of 1939. The operation was not successful. This property is reported to have been formerly known as Hogan Placer.

Equipment: Elevated sluice box, 30 inches by 40 feet, together with a highline, 1-yard bucket; 2000 feet of 3/4-inch and 1-inch cable; forty-foot gin pole; Buick automobile engine on hoist and a Dodge engine on the pump; a 55-Cletract caterpillar with bulldozer. Highline discharges into a hopper; sluice has Hungarian riffles. Water from Grave Creek is available about 9 months of the year.

Geology: Bedrock is hard and rough slate and diorite. Boulders are plentiful, many of them too large for the bucket; very little clay; gold is clean, and is both coarse and fine. Concentration seems to be on bedrock.

Informant: Mike Bright, Traveler's Rest Auto Camp, Grants Pass, Oregon, March 22, 1940.

Report by: R.C.T., 1940.

HAMPSON'S CLAIMS Gold Hill area

see McLemore & Hampson's Claims

HANCOCK CLAIMS (gold quartz) Gold Hill area

see North Star group

Owner: Davis James Hancock, 501 D Street, Grants Pass, Oregon.

Location: On Little Birdseye Creek in sec. 9, T. 37 S., R. 4 W. Five miles south of Rogue River.

Area: Four full claims - 80 acres.

Geology: The valley of Birdseye Creek is made up of alluvial material. Gabbro outcrops on the ridge north of the creek. Fracturing in the gabbro is common but no system of fracturing could be determined. No veins were seen. In cut No. 4 a fracture was filled with about 6 inches of feldspar and quartz.

General: Steep mountain topography; elevation 2500 feet; mining timber available. Little Birdseye Creek is said to run all year, and should furnish sufficient water for a small mill. Maximum snowfall three feet; power lines three miles from property.

Informant: J.E.M., April 4, 1938.

HARTH AND RYAN MINE (gold) Gold Hill area

Location: sec. 33, T. 36 S., R. 4 W.

"The Harth and Ryan Mine is in sec. 33, about 3 miles south of Woodville, (Rogue River) at elevations of 2350 to 2600 feet by barometer. It is opened by 4 adits, having a total length of 500 feet, at different elevations on a steep mountain side. The lowest adit discloses 2 crushed zones which strike west and dip toward each other at angles of about 70°; they contain very little quartz. The next adit is the main entry; it extends south and then southeast for 300 feet; about 100 feet from the portal a vein strikes N. 20° E. and dips 45° S.E. At the end of a branch to the southwest a raise discloses a vein striking N. 10° W. and dipping 80° N.; probably the same vein is found at the face of the uppermost adit where it contains 6 to 12 inches of quartz. The country rock at this mine is a "greenstone", containing patches and irregular bands of varying composition, some being chiefly fine granular quartz, others plagioclase, and others hornblende with a few pseudocrysts of the latter mineral."

Reference: Parks & Swartley, 16:117 (quoted)

HAZEL GROUP (gold) Gold Hill area

Owner: Mr. and Mrs. Archie Bell, Gold Hill, Oregon.

Location: South center sec. 27 and north center sec. 34, T. 36 S., R. 4 W., on ridge between Birdseye Creek and next creek west.

Area: 47.8 acres of patented land; three claims and two fractions held by location.

History: First opened in 1916 by Dick Swacker who operated it until 1924, producing, according to report, $2,000 from one of the contact zones. Mrs. Bell acquired the property in 1924; not over $1,000 has been produced since 1924. Total production is thus about $3,000.

Development: One cross-cut 186 feet long that intersects the andesite-porphyry contact at 70 feet; a 65-foot drift to the andesite-porphyry contact; a 134-foot drift to the limestone-porphyry contact.

Equipment: One air compressor about 11 x 13 in size; one jack hammer; drill steel. Fir and pine timber is plentiful. Enough water for a small mill has been developed. A power line is one-half mile away.

Geology: An andesite dike is reported to cut porphyry. Both walls of the andesite dike contain quartz that is metallized. The quartz averages 3 inches in thickness, and ranges from 0 to 18 inches. The gold is free. There is a limestone and porphyry contact that is reported to intersect the andesite dike. This contact has produced the best values. The limestone is somewhat sheared and metallization extends through this shear zone and some of the gold is "frozen" to the "marble". The limestone lens in over 50 feet thick and is reported to be high in $CaCO_3$. Samples have been submitted to the local cement company.

Metallurgy: The ore is free-milling. A small mill has been erected to handle the decomposed rock in the limestone-porphyry zone. Ore is dumped into a 4 ft. by 4 ft. by 20 ft. chute which serves as an ore bin. The ore goes to a Chilean mill that has 36 inch wheels weighing about 1200 lbs. each. After grinding and amalgamation in the Chilean mill, the reject goes over a 4 by 8 ft. amalgamation plate; the material from the plate is sent to the dump.

Informant: Archie Bell, December 12, 1940.

Report by: R.C.T., December 13, 1940.

HICK'S CLAIM Gold Hill area

see Big Buck Claim

HIDDEN TREASURE (gold) Gold Hill area

old name - Homestake

Owners: R. L., and G. C. Irwin, Rogue River, Oregon.

Location: "The Homestake Mine is in the NW¼ sec. 16, T. 36 S., R. 4 W., about 1 mile northwest of Woodville, at an elevation of 1600 feet by barometer, and is owned by Dr. C. R. Ray, of Medford."

Development: Recent work by Irwin Brothers includes a 31-ft. shaft which is being deepened at the present time, and a 50-ft. adit. The old Homestake workings are not safe for entry.

Geology: Country rock belongs to the metavolcanic series. The quartz is bluish and contains pyrite, chalcopyrite and a small amount of galena; presence of sphalerite and tellurides is reported. In places sheared country rock adjacent to the quartz vein shows abundant chalcopyrite.

General: "The main entry extends northeast about 300 feet and thence northwest about 200 feet, crossing numerous small quartz veins and stringers. The country rocks are impure quartzites and argillites. The upper adit strikes a well defined quartz vein about 12-18 inches thick, which strikes N. 35° W. and dips 35° N.E. Caved ground prevented learning how far the vein was followed. The mine is equipped with a 5-stamp mill having a concentrator and slime table. The ore contains pyrite, and a little galena and sphalerite; telluride of gold is reported in it, but it was not observed."

Informant: G. C. Irwin and R.C.T., March 18, 1942.

Reference: Parks & Swartley, 16:124 (quoted).

HIGHLAND CLAIM (gold) Gold Hill area

"The Highland Claim, 12 miles southwest of Gold Hill, is in the SW¼ sec. 22, T. 37 S., R. 4 W., on the right fork of Foots Creek, at an elevation of 2600 feet by barometer. It was worked about 20 years ago by Fuller and Bayington; it is now owned by Cook and Swacker. The present workings are confined to the oxidized zone; the old workings were more extensive. The ledge is said to strike NE and dip about 35° SE.; the country rock is a micaceous sandstone."

Reference: Parks & Swartley, 16:121 (quoted).

HOGAN PLACER Gold Hill area

see Green's Placer

Owner: M. N. Hogan, 214 E. Main Street, Medford, Oregon.

Location: sec. 20 or 28, T. 33 S., R. 4 W.

In May, 1938, M. N. Hogan, of Medford, Oregon, applied for 68 second feet of water from Baker Creek and other creeks in T. 33 S., R. 4 W., for mining purposes. This area is in northwestern part of Jackson County on upper Grave Creek.

Informant: J.E.M., 1938.

HOLCOMB MINERAL SPRING Gold Hill area

Owner: Thomas R. Rice, Star Route, Gold Hill, Oregon.

Location: NW¼ SE¼ sec. 23, T. 35 S., R. 3 W., elevation 1800 feet.

Area: Forty acres of deeded land, originally a homestead.

History: Discovery date is unknown, but it is said that the Indians visited and used the spring before white men came to the locality. George W. Holcomb originally homesteaded the property. It was sold to N. W. Slusser, but it reverted to Holcomb in 1933. In 1936 Rice purchased it from Holcomb.

Development: A shelter has been built over the spring. There are six small cabins and a two-tub bath house. The water is heated by a small wood-fired furnace. No water is sold. No wells have been drilled to develop the spring further.

Geology: The country-rock is exceedingly fine-grained metasediment. Umpqua sandstone outcrops a short distance east of the spring. The metasediment is cut by a small fracture zone that trends N. 18° E., and dips 65° S.E., and is water bearing. The rock in the shear zone shows evidence of hydrothermal alteration; it is cut by numerous small stringers of calcareous material; and it is heavily metallized with sulphides. Many of the calcareous

stringers contain fine-grained pyrite. A small amount of gas is given off, and it has a strong hydrogen sulphide odor. Colloidal stringers of a white material, reported to be magnesia, build up on the walls of the spring. Another spring, on the same trend and about a mile south, is reported but it does not have as heavy a mineral content.

Economics: The flow of water is fairly constant at 2 gallons per minute. In 1938, it was reported that about 4000 baths at 50 cents per bath were sold. Analysis of the water as published by the Holcomb Mineral Springs is:

	Grains per gallon
Magnesia	28
Lithia	6
Sodium Chloride	6
Sodium Bicarbonate	4
Silica	4
Mercury	about 0.06 percent.

Informant: Thomas R. Rice and R.C.T., November 4, 1940.

Report by: R.C.T., November 5, 1940.

HOMESTAKE MINE — Gold Hill area

see Hidden Treasure

HOWELL & CALHOUN — Gold Hill area

see Gold Hill Placers (dredge)

HUGHES GROUP (limestone) — Gold Hill area

see Lively Limestone

Owner: J. W. Lively, Grants Pass, Oregon.

Location: sec. 2, T. 37 S., R. 3 W., on Kane Creek.

"This property, formerly owned by the Lively Lime Company, of Gold Hill, is now owned by a Mr. Hughes, of the Oregon Portland Cement Company. It is situated in sec. 11, T. 37 S., R. 3 W., on the east side of the south or principal fork of Kane Creek, 5 miles southeast of Gold Hill. The limestone is quite pure, especially on the southeast side of the quarry, but grades into a less pure variety on the northwest side. The quarry floor is connected to bunkers 350 feet away by well-graded track passing through a 200-foot tunnel. Overburden is less than 3 feet thick and forest cover is light.

"It is said that much of the limestone was shipped to Salem and Lebanon where it was used for paper manufacture at a price of $1.50 per ton, f.o.b. Gold Hill, Oregon. Reserves appear to be large. Equipment includes track, two large bunkers adjacent to the county road, a 15 h.p. 220-volt electric motor, and a 6 by 6 inch compressor for drilling. Detachable drill bits were used in the quarry.

"A quarter of a mile down the road the company has installed a vertical, wood-fired kiln having a capacity of 12 to 15 tons per 24 hours. The operators also supplied agricultural limestone. The whole plant has been shut down for several months.

"Analysis of a large chip sample (U.S.E.D. No. 89) gave:

SiO_2	6.27	CaO	52.00
Al_2O_3	0.59	MgO	0.23
Fe_2O_3, FeO	0.36	Ignition loss	40.67
		Total	100.12"

$CaCO_3$ - 92.67%

Reference: Hodge, 38:311 (quoted).

HERSHBERGER PLACER — Gold Hill area

see Sprague Placer

HUSTIN PLACER — Gold Hill area

see Sprague Placer

IMPERIAL GOLD MINES, INC. — Gold Hill area

see Sylvanite Mine

INTERPRISE MINE — Gold Hill area

see Enterprise Mine

IRON MOUNTAIN PLACER — Gold Hill area

"On Sams creek some placer mining has been attempted from time to time, in general with only moderate success. In 1901 the Iron Mountain placer was productive, in 1904 a 7-mile ditch was constructed to furnish it water. In 1913 it was reported that a farm in the lower part of the valley had been purchased by parties who planned to install a dredge."

Reference: Winchell, 14:163 (quoted)

IRWIN MOLYBDENUM PROSPECT — Gold Hill area

Owners: Mrs. R. J. Shaull, G. T. & G. C. Irwin, Rogue River, Oregon.

Area: 88 acres of deeded land.

Location: NE¼ sec. 16, T. 36 S., R. 4 W., 0.7 miles up the West Side Evans Creek road and ¼ mile west of the road.

History: The area was prospected for gold in the early days, and the gulch to the west was placered. Molybdenite ore was recognized by G. C. Irwin, who began active prospecting in 1937. The old Homestake property (now Hidden Treasure) adjoins the Irwin prospect on the west.

Topography: The property lies on a small ridge that extends southeast from Fieldner Mt. The ridge is about 200 feet above the valley floor, slopes are moderate and covered with heavy brush. There is little timber and no water available. The climate will permit all-year work.

Development: An old tunnel, reported to be 100 feet long, is caved. An old shaft is also caved. Since 1937, a 50-foot cut has been excavated and numerous trenches were dug over the 600 feet of vein length.

Only development work has been done. A quartz vein that averages 4 feet in width and is 600 feet long has been indicated. In one place, about 25 feet of depth is shown. No effort has been made to treat any ore.

Geology: According to Wells, 40, the country rock generally is classed as metavolcanic, exposure of which is shown in the main cut. Above this out and westward to the gulch, the badly weathered rock seems to be dioritic. West of the gulch, the rock is metavolcanic, which suggests that the "diorite" may be in the form of a northwest-trending dike about 600 feet wide.

The quartz vein has a generalized strike of N. 45° W., and dips 30° to 60° N.E. Instead of being one large quartz vein, the "vein" may represent a series of anastomosing veins, as in some of the cuts smaller quartz veins with varying strikes and dips are visible. On the hanging wall side a 12-inch layer of finely fractured quartz that contains lenses of clayey iron oxide occurs. The owners call this the "galena vein". Above the quartz is soil. Deeply weathered "diorite" forms the footwall.

The quartz is glassy and very brittle. The near-surface exposures are somewhat iron-stained. Molybdenite is found in plates that range from 1/8 to 1½ inches across, and with apparently random orientation. Pyrite, usually in cubes, and marcasite (?) are common sulphides. Chalcopyrite is not as common, and frequently it is altered to covellite (?) and and chalcocite (?). Copper stain is abundant. Azurite stain is quite beautiful; it occupies minute fractures in the quartz and gives pieces a bluish cast. A greenish yellow stain, or "bloom", which may be molybdite (molybdenum oxide), is fairly common. Gold is not common although tellurides are reported.[1/]

The principal cut shows 12 inches of the "galena vein" and 4 feet of quartz with abundant sulphides. Above this out, other trenches and pits expose similar quartz containing molybdenite.

> Lowell reports: "Molybdenite....was present as flakes disseminated in quartz. Rarely it was associated with patches of other sulfides, chiefly chalcopyrite and tetradymite. Molybdenite flakes are automorphic against quartz and contain small veinlets of quartz, or chalcopyrite, or tetradymite parallel to cleavage lines."

Informant: R.C.T., March 18, 1942.

1/ Lowell, Wayne R., personal communication, March, 1942.

Reference: Lowell, 42:28-29 (quoted)

JOHNSON PLACER — Gold Hill area

Owner: A. N. and George H. Johnson, Route 1, Rogue River, Oregon.

Location: Sixteen miles from Rogue River on Pleasant Creek in sec. 15, T. 34 S., R. 4 W.

Area: 150 acres, patented.

Geology: The gravel section is 13 feet thick with little or no overburden. The material contains some large boulders which are moved by hand, but very little clay. Gold is coarse. A highline ditch is available, but is considered too expensive to repair. About 40 acres of minable ground remains (1938).

General: Present owners have produced about $4,500. Water right dates from 1862. Water used amounts to 25 cubic feet per second through 1½ miles of ditch giving a head of 25 feet. One giant is being used together with 480 feet of 8, 10, and 11-inch pipe.

Informant: J.E.M., 1938.

JUDSON CLAIM (gold) Gold Hill area

Owners: Carl J. and Catherine Palmer, Medford, Oregon.

Location: 5 miles east of the town of Rogue River in SE¼ NE¼ sec. 25, T. 36 S., R. 4 W. The road extends to within a half mile of the property.

Area: One unpatented lode claim.

History: Located April 15, 1937. There has been no production.

Development: A vertical shaft has been sunk 35 feet. From the bottom of this shaft, two drifts were run. One was driven due north for 30 feet and the other due south for 15 feet.

Geology: A vein consisting mostly of cemented wall-rock and varying in width from a fraction of an inch to 3 feet occurs on a contact between greenstone and limestone. Development work has been done generally in the footwall of the vein. In the south drift, one sample was taken and returned 0.44 oz. of gold and 0.2 oz. of silver. The strike of the vein is N. 8° W. and the dip is 65° E.

General: Altitude of the property is 1450 feet; topography is mountainous; maximum snowfall is 18 inches.

Informant: J.E.M., 1938.

JUMP-OFF-JOE-PLACER Gold Hill area, Grants Pass area

Bulletin 14-C, Metal Mines Handbook, Vol. II, Sec. 1.

KUBLI MINE (gold) Gold Hill area

see Gold Standard, Golden Standard Mining Company.

Location: NW¼ sec. 5, T. 37 S., R. 3 W.

"Owned by the Golden Standard Mining Company, an Oregon Corporation. K. K. Kubli, Pres., S.W. 4th Ave., Portland, Oregon; D. B. Howell, Sec.-Treas., 314 S.W. 4th Ave., Portland, Oregon; capitalization $100,000; 4 patented claims on Galls Creek; development work only. (1937)

"The property is known as the Kubli Mine and is located in the NW¼ sec. 5, T. 37 S., R. 3 W., at an elevation of 2700 feet by barometer. A narrow vein, said to have been very rich, is opened for about 200 feet; it is 1 to 18 inches wide, but only 1 to 6 inches in quartz; the vein strikes about east and dips 60° N. The Kubli mill is to the east near the bottom of the hill; it has 2 stamps with triple discharge, a divided plate 4 by 10 feet, and a concentrating table. In the gully nearby there is a small outcrop of tonalite and a border of contact hornblende rock.

"The composition of this contact phase is given below.

"Composition of Contact Rock, Near Kubli Mill, Galls Creek
(S. W. French, analyst)

		Approximate mineral composition	
SiO_2	47.42		
TiO_2	1.01		
Al_2O_3	20.56		
Fe_2O_3	1.19	Hornblende	57.5
FeO	5.10	Plagioclase (Ab_1An_4)	42.4
MgO	7.08		
CaO, 14.04; Na_2O, 1.80; K_2O, .66; H_2O^+, 1.36; H_2O^-, .08; Total = 100.30			99.9"

In 1931 the workings consisted of a drift 200 feet long on the Cutter vein; a 150-foot drift, a 160-foot drift along the Kubli vein, a 115-foot raise from the No. 3 to the intermediate level, and a 12-foot winze.

V. E. Hughes and J. B. Fanchini operated a cyanide plant on the tailings during 1939, and January, February, 1940. About March 15 they moved their cyanide plant to the Bunker Hill (Robertson) Mine, in Galice district. (Courier press notice, March 15, 1940).

Reference: Parks & Swartley, 16:107 (quoted)

Informants: Earl Young, 1940.
Grants Pass Courier, March 15, 1940.

LANCE (placer) Gold Hill area

Owner: Lance Brothers.

Operator: Southern Oregon Mining Company. Dr. O'Rear, Pres., John W. Cotton, Sec.-Treas., San Francisco; J. D. Bowdish, Medford, Oregon, Superintendent.

Location: Elevation about 1800 feet, upper Right Fork Foots Creek probably SE$\frac{1}{4}$ sec. 22, T. 37 S., R. 4 W. The property is 5 miles by gravel road to U. S. 99 at the mouth of Foots Creek and 6 miles of paved road on U. S. 99 to Gold Hill. Road is passable all the year.

History: Parks & Swartley reported as follows:

> "The Lance mine, 15 miles southwest of Gold Hill, is on the right fork of Foots Creek, in the SE$\frac{1}{4}$ sec. 22, T. 37 S., R. 4 W. It is owned by the Lance Brothers, but is leased at present. The bank has in places a thickness of 20 feet; much of the material is fine. The bedrock consists of lenses of limestone in slates, which are cut by dikes of greenstone. The bed of the stream has been mined for about one-third of a mile, and there is still considerable good ground to be mined." (1916)

There is an enormous pile of washed cobbles and boulders, on which are built several small cabins, at what must have been the limit of former operations. A large, 4-foot trommel, about 10 feet long, mounted on caterpillar treads is a relic of former operations.

The channel was dredged to the "dam" and the equipment than moved to the Hamilton-Taylor ranch (Upper Applegate area) October 1, 1940. The channel was narrow and it was impractical to mine farther upstream. The dredge operators began setting up in December, 1939. Operations consisted of clearing, constructing a storage dam for water supply, and installing pipe to the washing plant, and mining a portion of the "rim" and a small portion of the channel.

Topography: Narrow mountain gulch; the dredgeable channel is about 150 yards wide.

Geology: Bedrock is porphyry and medium hard. There are many large boulders, some large enough to stop the bulldozer. There is considerable clay. Boulders and cobbles are subangular and the channel-fill looks like slide or mud-flow debris. The gold is about 50 percent coarse and occasional $6 nuggets are found. Fine gold is that gold which is smaller than a "ringer" (a "ringer" is about a 3 cent piece). The gold is usually rough and frequently sticks to quartz and is undoubtedly "pocket" gold. Recovery is estimated to be 95 percent of the washing plant heads.

Equipment: 1-R.D. 8 bulldozer, 1-yard Marion Diesel shovel, Bodinson dry bank plant on skids, 47 KVA generator.

General: Water rights are leased with the land. Water is sufficient at present but supply is uncertain.

Informants: J. D. Bowdish and R.C.T.

Report by: R.C.T., October 3, 1940.

Reference: Parks & Swartley, 16:139 (quoted).

LAST CHANCE GROUP (placer gold) Gold Hill area

see Mosser Placer

Owner: S. Arthur Eastburn, Rogue River, Oregon.

Location: On Upper Grave Creek, in secs. 11 and 15, T. 33 S., R. 4 W.

Area: 260 acres held by placer location.

Equipment: Consists of a No. 1 and No. 2 Giant with 1500 feet of 8 to 10-inch pipe. Eighty to 110 yards mined per 12-hour shift.

General: Two men are employed and recovery of 23 cents per yard is reported; October to June operation; there are two water rights, totaling 10 cubic feet per second, from Boulder and Grave Creeks.

Informant: J.E.M., 1939.

LAST CHANCE MINE (gold) Gold Hill area

"The Last Chance Mine, 3 miles south of Gold Hill, on Galls Creek, is in the NE¼ sec. 33, T. 36 S., R. 3 W. Over the divide from the Braden on the slope of Galls Creek, at an elevation of 1800 feet by barometer. It is opened by an adit extending about 250 feet nearly due east, which discloses an irregular quartz vein 6 to 30 inches thick. Near the breast the vein strikes N. 74° W. and dips about 15° N.E. The country rock is a fine grained andesite containing some secondary chlorite and calcite. A 2-stamp mill has just been installed, which is equipped with the Perkeypile device to revolve the stamps; it has a 4 by 8 foot plate and electric power."

Reference: Parks & Swartley, 16:139 (quoted).

LAST CHANCE PROPERTY (gold) Gold Hill area

Owners: Arthur Waggner and associates, Grants Pass, Oregon.

Location: On Last Chance Creek on Green Mountain, 18 miles north of Weimer, in sec. 17, T. 33 S., R. 4 W.

Area: Four unpatented lode claims known as Last Chance and Last Chance No. 1, No. 2, and No. 3.

Development: One open cut 38 feet long with a 9-foot face was excavated on the Last Chance. One tunnel 150 feet long was driven on the Last Chance No. 1. Two cuts, each about 30 feet long were made on Last Chance No. 2 and No. 3.

Geology: The veins occur along contacts between limestone, porphyry, and serpentine.

Informant: J.E.M., 1938.

LEACH & BURKE PLACER — Gold Hill area

see Magerle Placer

LEE MANGANESE — Gold Hill area

see Neathamer Manganese; Capitol Hill mine.

Hodge (38:7) reports as follows:

"The property in the NW¼ of sec. 6, T. 35 S., R. 3 W., under lease to Horace F. Lee, consists of 160 acres, on which there are several manganese outcrops. The manganese is a replacement in quartzite and was derived from rhodonite. It is very siliceous and of doubtful value as a manganese ore. The outcrops range from 2060 to 2520 feet in elevation, and were opened up in search of gold. The rock on the dumps looks like fine manganese ore, but when fragments are broken, the manganese is revealed as only a superficial coating on quartzite. The dip of the quartzite is about 25° N. 60° East.

"The best showing is on the ridge where the manganese is lower in silica. The manganese would have to be hauled 11.5 miles to Rogue River, then loaded into freight cars and shipped 306 miles to Portland by the Southern Pacific lines.

"The four-pound sample across the best manganese, from one to two feet wide, on analysis yielded:

	%
SiO_2	33.83
Fe_2O_3	9.79
P_2O_5	----
MnO	34.29
Undetermined	22.09
	100.00
Moisture	1.66 "

Pardee (21:223) reported on a property that is identified as the same one described here. He called it the Capitol Hill property and reports as follows:

"The Capitol Hill prospect is on the homestead of J. W. Neathamer, along Evans Creek, about 12 miles by road northeast of Rogue River station on the Southern Pacific Railroad. The deposits are tabular or thin lenslike bodies 5 feet in maximum thickness. One is exposed for a length of 20 feet and a depth of 10 feet, and another for a length of 100 feet. They occur along the bedding of steeply tilted pre-Tertiary slaty rocks and consist chiefly of quartz and rhodonite. Near the surface more or less of the rhodonite is changed to oxides, and the superficial parts of the deposit contain a small amount of ore."

The State Department report is as follows:

"Owner: The SE¼ of sec. 6 is owned by Jesse Neathamer; the E½ of the SW¼ is government property.

"Location: West center sec. 6, T. 35 S., R. 3 W., on hill north of the Evans Creek road.

"History: It is reported that the Oregon Manganese Co. which worked on Coyote Creek mined ore at this deposit and stock-piled it along the road. No ore was shipped, however.

"Geology: The deposit is in the May Creek schist (Devonian?) (Diller, 24) which is considered as part of the Applegate series by Welle and Hotz (Wells, 40).

These schists contain lenses and bands of manganiferous material, usually rhodonite. The rhodonite has weathered at the surface to manganese oxides which frequently assay rather high in manganese, but also contain rather high combined silica.

"This deposit is of the weathered rhodonite type. When chunks of black oxide are broken, the pink rhodonite usually shows within the specimen.

"The principal deposit is near the top of the "mountain" at an elevation of 2700-3000 feet, and about 1500 above the highway. There is no road and no trail to the deposit. Surface excavations constitute the only development work.

"Conclusions: The mountain side has showings of manganese oxide associated with rhodonite. Some "ore" has been mined and piled at the roadside. No conclusions as to the width of the ore body, or its size could be obtained from the meager workings. The presence of rhodonite practically excludes it from economic consideration at this time.

"Informant: Treasher, 4/8/41."

References: Hodge, 38:7 (quoted)
Pardee 21:223 (quoted)
Libbey & Others 42:21 (quoted)
Wells, 40
Diller, 24

LENHERT PLACER — Gold Hill area

Location: sec. 7 or 8, T. 35 S., R. 3 W. No further data.

Informant: M. E. Pool, March 18, 1940.

LIBERTY ASBESTOS — Gold Hill area

see Living Water Property

Owner: Mrs. Flora Winsenberg, Azalea, Oregon.

Location: sec. 36, T. 32 S., R. 4 W. From Azalea the property is reached by way of a County Road up Cow Creek 18 miles in length; thence over a Forest Service road 7 miles long; thence 2½ miles by trail. The junction of the Azalea County road up Cow Creek is 37 miles north of Grants Pass. Elevation of the property is 4500 feet.

Area: 640 acres of patented land.

History: Amphibole asbestos was discovered on this property several years ago. Some development work was done and several efforts were made to market the asbestos. During the present war emergency a scarcity of white, iron-free, fibrous tremolite asbestos developed and certain samples of the material on this property were found to be of satisfactory grade. To insure a suitable shipping product, it is necessary to select the mined asbestos with great care. Some shipments have been made.

Development: At least five pits have been dug and one tunnel 100 feet long has been driven. All of these openings exposed asbestos, but not all of the asbestos is of a satisfactory grade.

Geology: According to Diller and Kay (24), the rock exposed on Cedar Springs Mountain is all serpentine. Detailed field work, however, shows that some localized areas exposed rocks which would be classed as metavolcanics. These rocks contain considerable pyrite, and have been subjected to intense fracturing which shows a generally northeasterly trend.

Slip fiber asbestos has developed along some of these fracture planes. A considerable part of the asbestos is brittle, but in places where the fracture zone widens, a "kidney" of flexible fiber may be found. Prospecting for suitable shipping grade consists of following along fracture planes until one of these "kidneys" is found. Possibilities of developing considerable commercial fiber are good.

General: A cabin has been built on the property and a flowing spring is available for camp water supply.

Report by: R.C.T., October 10, 1941.

LIKEN'S PROSPECT (gold) Gold Hill area

"Liken's Prospect is near the SW¼ sec. 26, T. 36 S., R. 4 W., about 2 miles south of Woodville, at an elevation of 1850 feet by barometer. A crosscut entry extends southeast about 100 feet and thence a drift follows the vein about 40 feet. In the breast the vein is vertical and contains only 2 to 6 inches of quartz. The dump shows fragments of white vein quartz frozen to the country rock and containing a little pyrite and a metallic mineral which may be a telluride. The country rock is a "greenstone" similar to that at the Harth and Ryan Mine."

Reference: Parks & Swartley, 16:141 (quoted).

LILLIE GROUP (gold) Gold Hill area

Owner: A. C. Bell, Gold Hill, Oregon.

Location: sec. 33, T. 36 S., R. 4 W.

Informant: List of Mines in Oregon, 1939.

LITTLE JOHNNY (gold) Gold Hill area

Owner: Richard Keif, Gold Hill, R.D. no. 1, Oregon.

Location: sec. 28, T. 36 S., R. 3 W., just above county road on Galls Creek.

Area: 40 acres, deeded land, purchased from Jackson County.

Development: 800 feet of workings included in two tunnels and 4 winzes. The winzes were full of water when inspection was made, and some of the tunnels were unsafe.

Geology: The country rocks are granite and meta-igneous rock. The meta-igneous rock, as well as quartz stringers and some of the granitoid rock is impregnated with pyrite, and a little chalcopyrite. Mr. Keif states that tellurides are present.

Equipment: 20-hp. gasoline compressor, 2 jack hammers, 300 feet of light rails, ½-ton car, 2-inch hand pump.

General: The owner believes the ore deposits on this property are extensions of those of the adjoining Braden Mine. Considerable more work is necessary in order to prove a relation between the deposits of the two properties.

Informant: Richard Keif.

Report by: R. C. T., February 20, 1940.

LIVELY LIME COMPANY Gold Hill area

see Hughes Group

LIVING WATER PROPERTY Gold Hill area

see Liberty Asbestos

LONE EAGLE MINE (gold) Gold Hill area

see Gray Eagle

Operator: Leased to John T. Breeding, Rogue River, Oregon.

Location: SE¼ sec. 29, T. 35 S., R. 3 W., on the east side of Left Fork of Sardine Creek.

General: "The Gray Eagle Mine is in the SE¼ sec. 29, T. 35 S., R. 3 W., on the east side of Sardine Creek, at an elevation of about 1850 feet above sea level, 6 miles northwest of Gold Hill.

"The vein is opened by three adits on the hillside; the main adit is nearly 400 feet long, over 300 feet being on the vein, which is chiefly quartz and 9 to 12 feet thick. It strikes about N. 70° E. and dips 70° N.W. Beneath a fault, which strikes N. 60° W. and dips 34° N.E., but produces little offset, the vein is locally 35 feet in width, it is said to carry $22 a ton in gold at this place, where a winze has been sunk 85 feet deep, and a raise extends to the surface. The workings are shown in the figure. The vein is associated with an andesite dike in recrystallized quartzite. The Gray Eagle Mine is now owned by Mr. Van Houten, of Gold Hill. It is equipped with an aerial tramway from the main adit to a 10-stamp mill on Sardine Creek, which has a 30-horsepower and 10-horsepower gasoline engine, two amalgamating plates, each 4½ by 10 feet, a rock crusher, and two concentrating tables. The mine has been idle since 1911."

John Breeding has been working the property successfully in a small way during recent years.

Informant: R.C.T., March, 1942.

Reference: Parks & Swartley, 16:111 (quoted).

LONE STAR (placer) Gold Hill area

Owner: H. B. Scutt, R.F.D. Box 102, Rogue River, Oregon.

Location: 17 miles north of Rogue River on Pleasant Creek in sec. 10, T. 34 S., R. 4 W.

Area: 180 acres, 80 acres of which is patented ground.

History: The present owner knows very little concerning the record of past production.

General: This is a hillside operation; contains no boulders but considerable red material; granite bedrock. Operations in 1938 indicated a recovery of about 25¢ per yard. Altitude is approximately 1600 feet. Snowfall is about 3½ feet maximum. Equipment consists of a No. 1 giant and 1000 feet of 11-inch pipe. Owner has a water right consisting of 28 second feet from Pleasant Creek and nearby gulches. A ditch 4½ miles long allows 150 feet of head. The average working season is from November until May 15.

Informant: J.E.M., 1938.

LONG BRANCH (quicksilver) Gold Hill area

see Sagar and Hull.

Location: sec. 24, T. 34 S., R. 2 W.

Geology: Schuette reports as follows:

"Another property in Sec. 24, T. 34 S., R. 2 W., is that of Sagar and Hull. This is on the opposite side of Evans Creek from the War Eagle. Years ago a 60-foot tunnel was run and a 40-foot shaft was sunk. The water issuing from the tunnel is strongly acid like that of the War Eagle mine and the ore on the dump is similar to its heavy iron sulfide-cinnabar ore."

Reference: Schuette, 38:127 (quoted)

LOST CABIN MINE (gold) Gold Hill area

Owner: A. A. Thomas

Location: sec. 18 (?), T. 36 S., R. 3 W.

Mining and Contracting Review, November 30, 1937, reported: "A. A. Thomas has acquired the Lost Cabin Mine and has started development."

No further data.

LUCKY BART GROUP Gold Hill area

Owner: Mrs. Hattie H. Beeman, 4115 S.E. Francis Street, Portland, Oregon. Leased to J. T. Breeding, Box 242, Rogue River, Oregon.

Location: In sections 29 and 30, T. 35 S., R. 3 W., on Sardine Creek, 5 miles from U.S. 99, and 7 miles northwest of the town of Gold Hill.

Area: Exact information concerning area is not available, but total area is estimated to be approximately 230 acres. The property includes ten unpatented mining claims and certain patented ground in sec. 29, described as lots 1, 2, and 5.

History: The property has been worked intermittently since 1916 by Mr. Beeman and by lessees. No record of production is available. Since 1936, the ground has been leased to Mr. Breeding, who has driven a cross-cut tunnel 80 feet long in order to intersect the vein. Near the point of intersection of the tunnel with the vein, a section of the vein 60 feet long by 30 feet high has been stoped.

Geology: Parks & Swartley (16) described the property as follows:

"The Lucky Bart Group, 7 miles northwest of Gold Hill, includes 11 claims in sec. 29, 30, T. 35 S., R. 3 W., at elevations ranging from 2200 to 2900 feet above sea level. The chief claim was discovered about 1890 by Joseph Cox; it is now owned with the others by J. H. Beeman, of Gold Hill. According to the owner, ore has been mined from 5 veins on the group, all of them striking nearly east and west. At one of the adits about a quarter mile west of Sardine Creek a vein of quartz 6 to 24 inches thick strikes east and dips about 80° N., thus being roughly parallel with the side hill here as a "blanket vein." The country rock here is argillite and quartzite. The ore is said to be of high grade in the oxidized part of the vein. According to Kay:

"'The veins on the Lucky Bart Group have an average width of less than 2 feet; the country rock is metamorphosed sediment, mainly slates and micaceous quartzites. The general strike of these rocks in this vicinity is somewhat east of north; the dip is to the southeast and is usually at fairly high angles. The total amount of ore that has been milled exceeds 14,000 tons, which gave values ranging from $4.80 to $100 a ton of free milling ore. The ore from the Lucky Bart Claim carried an average of 3 percent of sulphides, which ran from 4 to 8

ounces of gold to the ton and a like amount of silver. Nine tons of ore from the deepest workings of this claim were shipped to the Tacoma smelter and gave returns of $130 to the ton. Practically all the ores from the group have been treated at a mill on Sardine Creek. At the Yours Truly Claim, where work is now being done by J. E. Kirk, the workings consist of an entrance tunnel of 75 feet to the vein, 100 feet of drifting on the vein, and a shaft of 30 feet. The country rock is a mica slate. The vein has an average width of about 1 foot and runs S. 85° W. At the end of the drift there are two veinlets of 8 inches and 4 inches in width and also a small seam. Within the workings there is evidence of considerable faulting; the directions of the fault planes observed were somewhat east of north. Mr. Kirk states that the veins carry more gold adjacent to the fault planes than elsewhere. The ores of the Yours Truly are highly oxidized and carry an average value of more than $30 to the ton.'

"A small outcrop of "granite" was observed just north of the point where the Lucky Bart Vein seems to cross Sardine Creek in sec. 29.

"The mine is equipped with a 5-stamp mill on Sardine Creek, at an elevation of about 1900 feet above sea level. It has a boiler burning wood, a 2½ H.P. engine, a plate 4 by 11 feet, and a Johnson canvas covered table for concentration."

General: Maximum snowfall is about 3 feet, timber is available and there is sufficient water from Sardine Creek for a small mill, which consists of five 1000-pound stamps, and one amalgamation plate 3 feet by 4 feet. A four cylinder Chevrolet engine supplies power. Gold runs approximately 722 fine. The proportion of gold value lost in the tailing is not known.

Informant: J.E.M., 1938.

Reference: Parks & Swartley, 16:144 (quoted).

LUCKY STRIKE MINE (quicksilver) Gold Hill area

see Pacific Syndicate.

LUCKY TOVELL (copper) Gold Hill area

"This mine is located in sec. 28, T. 33 S., R. 4 W., about 16 miles from Leland up Grave Creek. This property has only a small amount of development work, which shows small masses of copper sulphide in serpentine somewhat similar in general nature and association with the country rock at the Queen of Bronze in the Waldo District. A small shipment of copper ore was made from this mine in 1915."

Reference: Parks & Swartley, 16:145 (quoted).

MAGERLE PLACER Gold Hill area

Owner: Carlos Magerle, Rogue River, Oregon.

Location: In sec. 36, T. 35 S., R. 4 W., on Ward Creek approximately 7 miles from the town of Rogue River.

History: The pit was started by Magerle a number of years ago. Magerle's holdings now include the Leach & Burke placer, a short distance upstream from the present Magerle pit.

Development: An area of about 2 acres has been piped at the mouth of a small canyon tributary to Ward Creek. A small amount of hydraulic work was done on the Leach & Burke placer.

Geology: The bedrock seems to be part of the Applegate (Paleozoic) metasediments according to Wells & Hotz (41). The placer deposit bank shows about ten feet of subangular boulders not over 1 foot in diameter, covered by about 10 feet of reddish soil overburden. Information concerning the concentration of gold is not available.

Equipment & General: Water is taken from Ward Creek, which is dammed at the upper end of Magerle's land. About a half mile of ditch gives about 50 feet of head. Water is not plentiful and mining season is short; the Ward Creek drainage is small and does not include much "snow country." One giant has been used.

Informant: S. L. Sandry, February 27, 1941.

Report by: R.C.T., February 28, 1941, property visited.

MAMMOTH LODE (copper) Gold Hill area
(has also been called Mommouth Lode)

Owners: Fred Walther and Daniel G. Poppa, Trail, Oregon; Dr. Alfred B. Peacock, Marshfield, Oregon.

Location: In NW¼ sec. 28, NE¼ sec. 29, T. 32 S., R. 2 W. (Trail-Tiller road to Divide Guard Station; turn west on road to Railroad Gap 4 miles, then left hand fork 3 miles to road marked "Mommouth Lode," then 1½ miles to the mine portal.)

Area: Six claims.

Development: One shaft in ore 28 feet deep. One adit, approximately 160 feet long. It penetrates the hill for about 100 feet at an angle to the strike of the lode. The left drift then parallels the strike and at 20 feet there is a raise, 18 feet long, in ore. The drift continues in the footwall. On the right a crosscut extends 25 feet to the vein. Several prospect pits and cuts have been excavated which indicate a lineal extent of 400 feet on the deposit.

Geology: Country rock is May Creek schist (Wilkinson: 41), as defined by Diller and Wilkinson but may belong to the Triassic (?) metavolcanic series as defined by Wells. Diorite is exposed to the west. The rock is mainly hornblende schist; secondary mica and chlorite are abundant in spots. The flow lines and major jointing trend approximately N. 30° E., and dip 45° to 55° southeast. Some faulting is evident; the observed displacement ranges from a few inches to several feet. Sulphides are common in the schist.

At least two quartz veins are exposed by the pits and the adit. They parallel the cleavage of the schist and average a foot in width. The quartz veins are broken by joints at right angles to the strike of the veins. Supplementary small quartz veins are broken by joints, and quartz stringers occupy joint planes. At one place, small red garnets are abundant. Sulphides are present but not abundant and some gold is reported. Whether the quartz veins and stringers are of pre-fault age, injected during the epoch of faulting, or are post-fault in age could not be determined from the limited exposures.

The ore is a chlorite-mica schist in which sulphides, principally chalcopyrite, have been deposited. Metallization is not distributed uniformly. Masses of solid chalcopyrite, up to 2 inches in diameter, are found in knots or bunches throughout the ore zone. Disseminated sulphides are common in the country rock adjacent to the ore body. Assays received by the owners indicate an average 4.5 percent copper within the deposit together with some gold and silver. The ore minerals seem to have come in parallel to the strike of the foliation of the schist, and particularly in the zone of chlorite-mica schist.

Lowell (42) reports ".....chalcopyrite is the only copper mineral present. ..... the mineralization took place in the mesothermal zone."

The deposit seems to have a fairly well-defined footwall. The hanging wall is not exposed underground. The total width of ore is not exposed, but in the adit the deposit has been crosscut for a distance of nine feet. Relationships at the surface suggest a width of from eight to ten feet.

Equipment: A 4 x 6 Dodge crusher that crushes to 1-inch size; a ball mill, made of truck rims, 2½ ft. by 2 ft., carrying a 200-pound load of balls, with a homemade plunger feeder; the mill crushes to minus 20 mesh; a three quarter size concentrating table with an Esterley head motion; a Fahrenwald pneumatic flotation cell, not used. The mill is powered with a Chrysler automobile engine. Hand tools are used underground.

General: Water is scarce, but is available 1000 feet below in the gulch. The adit is reasonably dry but shaft above makes considerable water. The property contains merchantable fir timber. Snowfall reaches a maximum of four feet. The road from Divide is being improved and gravelled by a logging company. Treatment by concentration appears to be essential for commercial operation. The property warrants further development.

Informant: R.C.T., June 27, 1941, revised September 23, 1942.

Report by: R.C.T.

Reference: Lowell 42:22-24

MANSFIELD MINE (placer) (washing plant) Gold Hill area

Owner: William Mansfield; property is being purchased by H. R. Warner and C. G. Hoover, Central Point, Oregon.

Location: Center of sec. 30, T. 36 S., R. 2 W., just south of U.S. 99, about 3/4 mile west of the railroad overcrossing.

Area: Seventy-two and one-half acres, patented land.

History: This is a famous "pocket" country, and the surrounding hillsides are pock-marked with trenches and shafts where pocket-hunters have worked. It is reported that as high as $5,000 has been taken from some of the shafts. The Millionaire mine is just over the hill to the southwest. The property has never been placered.

Development: A washing plant was erected, and a small amount of shovel work was done on the creek bed.

Geology: The gold is rough and probably is pocket gold. It varies in size from extremely fine to quite coarse, and is scattered throughout the soil cover. No particular concentration occurs on bedrock. Depth to bedrock is from 3 feet to 6 feet; no boulders are present except in an old channel. There is a fairly high proportion of clay and mud.

This is not the usual type of southern Oregon placer ground. The soil material is reported to contain "colors" from the grass roots down to bedrock. The soil contains some rocks and boulders that are not water-worn. Most of the larger rocks are quartzose and may have come from the dumps of the early pocket-hunters. The gas shovel struck one place where a piece of quartz containing an abundance of free gold was picked up. The operators believe that the decomposed metavoloanics bedrock contains some free gold. The area is classed as metavoloanics of Mesozoic (?) age with granodiorite outcropping one-half mile to the northwest. Locally, bedrock is called slate, greenstone, and porphyry. No true porphyry, or greenstone, was seen, but the resilicified metavolcanic rock has rude slaty fracture; some portions are more massive. Seams of a highly silicified rock, or perhaps dark-colored, smoky quartz, trend southeast through the area and these and other rocks are cut by white quartz stringers at every conceivable angle. The white quartz is vuggy and small quartz crystals are common. It is this quartz that is reported to carry the gold.

The workings of the early pocket hunters suggest that the "ore-shoots" rake to the northwest. Quartz seams from 3 to 5 inches wide are exposed, with as many as five in a shaft.

The mechanical washing plant operation was abandoned in early summer of 1940. It is reported that the property was tested by Portland interests but no further information was obtained.

Equipment: Two-yard hopper, discharging to a trommel 5 ft. by 15 ft., having 1-inch and one-half inch holes with an area 3 inches by 1 inch between holes. Power is provided by Buick automobile engine. The sluice box is 2 ft. by 100 ft., with Hungarian riffles, mesh screen, wooden riffles, etc., burlap is laid under all riffles. Included are a Lorrain 35 gas shovel with a ½-yard bucket; two dump trucks; six-inch pump with Buick engine.

Informant: H. B. Warner, March 23, 1940, R.C.T., March 23, 1940.

Report by: R.C.T.

MAPLE GULCH PROPERTY (gold) Gold Hill area

Owners: C. M. Warren and F. T. Heath, Grants Pass, Oregon.

Location: sec. 27, T. 34 S., R. 3 W.

Area: Six claims, located January, 1936.

Development: Ten shallow open cuts.

Geology: A quartz vein containing a small amount of feldspar and hornblende occurs in granite. Timber is abundant but no water is available.

Informant: J.E.M., November 20, 1937.

MAYBELLE CLAIM Gold Hill area

see Blanche Claim

MAY BELLE MINE Gold Hill area

see Buckskin, First Hope Mines

MC LEMORE AND HAMPSON'S CLAIMS (gold) Gold Hill area

"McLemore and Hampson's Claims, 7 miles southwest of Gold Hill, are in the SE¼ sec. 7, T. 37 S., R. 3 W., on the left fork of Foots Creek; they report a vein of quartz 6 to 16 inches wide carrying free gold, pyrite, pyrolusite and galena."

Reference: Parks & Swartley, 16:152 (quoted)

MC MAHON'S CLAIM (gold) Gold Hill area

"McMahon's Claim, about 6 miles southwest of Gold Hill, is in the NW¼ SW¼ sec. 6, T. 37 S., R. 3 W., on the left fork of Foots Creek, at an elevation of 1850 feet by barometer. Here a quartz vein about 18 inches wide strikes N. 55° W. and dips about 40° N.E., the dip increasing somewhat with depth. It is opened by

an incline shaft about 75 feet deep, and a drift running S. 55° E. about 50 feet ending in a winze 30 feet deep."

Reference: Parks & Swartley, 16:152 (quoted)

MCTIMMONS PLACER Gold Hill area

Location: sec. 19, T. 33 S., R. 4 W.

"James Petticore, Grave Creek, has applied for two second feet of water from Mud Springs, tributary to Grave Creek and two second feet from Cold Springs, tributary to Quinnes Creek, in Josephine County, for mining purposes."
(Mining & Contracting Review, December 21, 1937)

MCTIMMONS PROSPECT (gold) Gold Hill area

Owner: Mr. McTimmons.

Location: sec. 19, T. 33 S., R. 4 W.

General: It is reported that this prospect has been worked by McTimmons and associates during summer months. A shaft 45 feet deep has been sunk. Ore is said to average 1.5 ozs. gold to the ton. Equipment consists of a 16-ton ball mill, a concentrating table, and a small compressor.

Informant: Don Woolfolk, March 19, 1940.

MEDFORD REDUCING & REFINING COMPANY Gold Hill area
see War Eagle Mine

MILLIONAIRE MINE (gold) Gold Hill area

Owner: Rogue River Development Co., John W. Morris, Route 2, LaGrange, Illinois.

Location: W½ sec. 31, and SW¼ SW¼, NW¼ SW¼, SW¼ NW¼ sec. 30, T. 36 S., R. 2 W., and E½ sec. 36, T. 36 S., R. 3 W.

Area: 720 acres of patented homestead and mining claims.

History: Parks & Swartley (16:153) are quoted as follows:

"The Millionaire Mine, 4 miles east of Gold Hill, is in SW¼ sec. 30, T. 36 S., R. 2 W., on nearly level ground, at an elevation of 1730 feet, as measured by aneroid barometer. It is opened by 2 vertical shafts, the deeper one said to be 400 feet deep, with levels opened a short distance each way at each 100 feet. The vein strikes E. and dips about 60° N.; there are 3 veins reported to be nearly parallel, all 4 containing quartz with pyrite and rare galena and chalcopyrite. Two more veins are said to strike north and dip east; these contain calcite, quartz, pyrite and a mineral resembling sylvanite. The country rock consists of dark argillite with bands of andesitic material. The other shaft (called the Johnson) is probably on the same vein; it is 120 feet deep and has a crosscut to the vein at a depth of 30 feet. Here the vein contains 2 to 3 feet of quartz with some fault gouge and a little manganese. It strikes S. 72° E. and dips 85° N., but it is stepped north going down so as to give a smaller apparent dip (about 60°). About 600 feet along the strike of the formation (N. 20° E.) there is a small outcrop of limestone and an old kiln. A fragment of limestone was found on the Johnson shaft dump. The Siskiyou tonalite outcrops about a mile to the northward, and may extend under this region.

"The Millionaire mine is owned by the McKeen National Bank, of Terre Haute, Ind. It is equipped with a mill which has never been operated, although substantially complete and in good condition. The mill has 2 Nissen 1500-pound stamps with circular discharge and 2 10-foot amalgamating plates; it has a rock crusher and a Standard concentrating table. The mine has been idle for several years."

Since the above report, the mine was purchased by a Mr. McKeen, about 1920. Work was started east of the Millionaire shafts. A shaft was sunk and a crosscut driven to connect with the old workings. McKeen died and the property was sold to a Mr. Haberly. Work was discontinued in tho early 1920's. About 1938 the mine was pumped out and a careful examination was made. Mr. Morris acquired the property shortly thereafter. The property is inactive (1941).

Development: 4000 feet of drifts and crosscuts; 3 shafts, respectively 400 feet deep, 262 feet deep, and one incline 200 feet deep, all of which intersect the 200-foot level. All workings are under water.

Geology: According to Wells:39 and Wells:40 the principal country rock is metavolcanic with some metasediment on the west. Rock on the mine dumps indicates metavolcanic material that is badly sheared, and cut by quartz veins. The metavolcanics and quartz are, in places, impregnated with some sulphides. Three small limestone lenses are noted. One is in the SE¼ SW¼ sec. 31 and appears to be about 600 feet long (width undetermined). Another, about 150 feet long, is just north of the newer mill, trends N. 30° E. and appears to be narrow. It is reported that the same lens was cut by underground workings 150 feet below. The third limestone outcrop is in the SW¼ SW¼ sec. 36 where it is exposed on a hillside about 250 feet above the valley. It appears to trend N. 30° E., and to be 100 feet wide. No length is indicated as it is concealed by dense brush. Reports indicate a high $CaCO_3$ content. Insufficient work has been done on the limestone to permit any estimate of tonnage.

Equipment: An 18" by 16" compound compressor; an electric hoist; water reservoir 70 ft. by 70 ft. by 10 ft. Power is brought to the property over a 1-mile power line. There are 7 buildings, most of them 2 to 4 room cabins.

Reference: Parks & Swartley, 16:153 (quoted)

Informant: J. W. Morris; A. A. Lewis; R.C.T.

Report by: R.C.T., November 28, 1940 and November 18, 1941.

MINERAL MINES, INC. Gold Hill area

see War Eagle Mine

MOSSER PLACER Gold Hill area

see Last Chance Group

MOUNTAIN KING MINE (quicksilver) Gold Hill area

Owner: Western Mineral Products Co., J. W. Deemy, president, Box 228, Vancouver, Washington.

Location: In sec. 36, T. 34 S., R. 3 W., on Ramsey Creek, a tributary of Evans Creek. The property may be reached via Crater Lake Hwy. from Gold Hill (State 234), thence 7 miles up Sam's Creek, of which 2 miles is private road which is impassable in wet weather.

Area: 920 acres.

History: "The Mountain King mine is owned by J. R. Hayes, of Detroit and is in sec. 36, T. 34 S., R. 3 W., 18 miles northeast of Woodville on the Southern Pacific Railway or 12 miles northeast of Gold Hill. The property consists of 800 acres of patented land."

The present operators began opening the old mine in 1940. A 25-ton Herreshoff furnace was installed in 1942 and a few flasks of quicksilver were retorted. Work was temporarily discontinued in December, 1942 as transportation difficulties became too great.

Development: Old workings consist of 5 levels. These were cleaned out and additional work was done on No. 1 and No. 2 levels. No. 1 level contains 263 feet of lineal work with raises started to the surface. No. 2 level contains over 700 lineal feet. Nos. 3, 4, and 5 total 270 lineal feet, making a total of over 1200 feet of underground work. Ore shows in all tunnels.

A road two miles long was built to the property from the Sams Valley side.

Geology: "It occurs along a granite-sandstone contact where the granite is in part represented by pegmatite. Native mercury is seen in calcite at an elevation of 2500 feet as measured by aneroid barometer in an open cut near the main adit (No. 1). In the latter there is no well-defined vein but some mineralization along an irregular contact. The ore contains cinnabar, native mercury, pyrite, and a heavy black mineral resembling metacinnabarite. The same contact (with some cinnabar) is visible also at an open cut up the hill N. 70° E. and 140 feet higher than adit 1. In another entry about 100 feet lower than the main adit native mercury is abundant in a much decomposed granite in the floor where the adit forks about 20 feet from the portal. The granite also contains a little cinnabar. The adit extends S. 11° E., 170 feet, the last 90 feet in solid micaceous quartzite; a branch tunnel extends irregularly south about 30° E. 75 feet. Except in the solid quartzite much faulting is in evidence in all directions.

"Considerable development has been done on the property during the past summer, all work tending to show a larger ore body."

Country rocks are classified by Diller (24) as old metarhyolite, greenstone, and granite. Wells (40) has classified the old "greenstones" of the Grants Pass quadrangle as metasediments and metavolcanics and has suggested their age as Triassic (?) (Wells & Hotz 41). Gradation of these rocks into the May Creek schist of Diller (24) is suggested by P. E. Hotz (personal communication).

The principal country rock at the mine is metasediment that has been altered to a rock that contains considerable hornblende, pyroxene, some mica, and a little quartz. This rock is cut by stringers and masses of granitoid rock and the field relationships strongly suggest granitization. The granite contact must be nearby as granite is exposed in recent road cuts, but this contact must be very irregular. For practical purposes, it would be safe to say that the mine is located in the contact aureole.

The pegmatite and sandstone mentioned by Parks & Swartley (16:157) were not identified. The sandstone might be decomposed hornblende-pyroxene metasediment, and there are occasional stringers of coarse-grained rock composed of quartz, feldspar, and calcite.

There are two sets of major fractures, one trending generally southeast, and one at right angles trending southwest. Granitization has developed in many of these fractures. The shear zone on the newer work of No. 2 level contains a calcite seam, from 1 to 2 feet wide, that is metallized with pyrite and some cinnabar.

No. 1 level was driven 100 feet, at which point drifts were started on a shear zone. About 75 feet of this shear zone contains some cinnabar and cinnabar crystals show on most of the cleavage surfaces. It is reported that this material will assay 10 lbs. of quicksilver to the ton. On the surface above No. 1 level, there is some evidence of the outcrop

of this shear zone, or one similar to it. Recently, raises, designed to block out part of the ore body, have been started toward the surface.

No. 2 level was driven to intersect the vein exposed in No. 1 but there is no definite evidence that the vein reaches No. 2. The main adit parallels a calcite vein that strikes N. 50° W. and dips 50° N.E. The vein is vuggy, and cinnabar and tiny pyrite cubes have been deposited on crystal surfaces. Cinnabar also shows in gouge-like material along the hanging wall. Some native quicksilver was found here. Veins in this adit are at right angles to the vein in No. 1 level. Another opening on No. 2 level follows a southwest-trending shear zone. At one point, cinnabar was cut in a granitic (?) matrix. The ore seemed to be very spotty.

No. 3 level exposes a high-grade stringer trending N. 10° E., 65 feet from the portal. The stringer varies in width from 4 to 12 inches. It has not been explored. No. 4 level has three openings that show cinnabar in loose material about the portal. On No. 5 level a shear zone trends S. 42° E., along the last 30 feet of the adit. This shear zone, about 2 feet wide, has abundant pyrite cubes and is reported to contain cinnabar.

It is reported that some open cuts show high-grade cinnabar, but none of these was inspected. A small high-grade stringer is reported to occur at the Ramsey Creek level.

It appears that the granitoid intrusion caused alteration along the contact, to form a contact aureole, and caused certain fracturing. Ore solutions ascended along the contact and cinnabar was deposited in tiny openings in the altered rock and along some fracture planes. Cinnabar on calcite surfaces suggests that ore deposition was a late phase of the activity.

Equipment: Blacksmith shop; small compressor; jack hammers; small tools; and a 25-ton Herreshoff furnace.

Reference: Parks & Swartley, 16:157 (quoted)

Informant: R.C.T., September 3, 1942; January 4, 1943.

MOUNTAIN VIEW MINE (gold) Gold Hill area
formerly called Copper King Mine

Owner: Dan Woolfolk, Grants Pass, Oregon. Leased to O. H. Hagberg.

Location: Two unpatented claims in SE¼ SE¼ sec. 17, T. 34 S., R. 4 W., on Ditch Creek, 12 miles north of town of Rogue River.

History: Property was located in 1913 by Harry Webber who drove a 900-foot adit to a "copper ledge." The mine was originally staked for copper. Ore was reported to assay 15 percent copper but there was no production. Woolfolk subsequently located the ground. In 1940, the property employed three men.

Parks & Swartley (16) reported on the United Copper Company, who operated the Copper King Mine, as follows:

> "The property of this company, the Copper King Mine, is located at the head of the Slate Creek branch of Grave Creek about 18 miles east of Leland.
>
> "The ore deposit is a well defined fissure vein in andesite. The development in September, 1916, had exposed by surface cuts a well defined quartz vein with chalcopyrite which is said by the manager to run between 4 and 5 percent copper and two dollars in gold. This company is erecting a mill on the property with which they will concentrate these sulphides to smaller bulk and haul to the railroad at Leland."

Development: Old workings consist of an adit 900 feet long with a winze 125 feet deep at the face. Woolfolk has driven 68 feet of adit to intersect ths "copper ledge."

Geology: Country rock is diorite and serpentine. The quartz vein is in an intensely sheared zone. Gold is all free and occurs in manganese-stained quartz. No sulphides were seen in the quartz. It is reported by the owner that the "copper ledge" in the long adit averages 12 feet in width and contains $4 in gold to the ton and 15 percent copper.

Equipment: Compressor with a "whirlwind" type gas engine rated at 15 hp., runs at 90 lbs pressure. A 2/3-ton ore car; 2000 feet of 30-lb. rail; a 6 hp. gas winch with a 24-inch drum and 170 feet of 7/8-inch steel cable. Mill equipment consists of a 16-ton ball mill that grinds to minus 30 mesh; a 36-inch by 48-inch concentrating table. Mill feed is 2½-inch (no primary crusher). There are two cabins; one has four rooms, and the other has three. Other buildings include a mill and blacksmith shop.

General: Elevation at the mine is 4600 feet. Distance to Grave Creek is 3 miles over a road passable only part of the year. For 3 months of the year no water is available. This in combination with 3 months of winter limits operation to 6 months of the year.

A good mountain road leading over the divide between Grave Creek and Rogue River connects Grave Creek and Rogue River.

Informant: Dan Woolfolk, March 19, 1940.

Reference: Parks & Swartley, 16:226 (quoted)

Report by: R.C.T.

MURPHY-MURRAY DREDGING COMPANY — Gold Hill area

Owner: Murphy-Murray Dredging Company; George E. Murphy, president; James Bruce Murray, vice-president; Harry B. Murphy, secretary-treasurer; Harold C. Young dredgemaster.

Location: Property dredged in secs. 6, 7, 19, T. 37 S., R. 3 W., and secs. 1, 12, 13, T. 37 S., R. 4 W., on Left Fork Foots Creek, and sec. 33, T. 34 S., R. 4 W. on Ditch Creek, a tributary to Pleasant Creek.

History: Dredge construction was started December 17, 1939, by Washington Iron Works, and dredging began on the "Middle Fork" of Foots Creek in January 1941. The dredge worked upstream about 1½ miles to a point where further dredging was no longer feasible. In March 1941, the dredge was dismantled and moved to Ditch Creek, a tributary of Evans Creek. Digging began June 18, 1941. This operation was discontinued late in 1941 and the dredge was moved to eastern Oregon.

Dredging on Foots Creek started at a point where the Rogue River Gold Mining Company left off in earlier years, and continued upstream. The channel was steep and considerable difficulty was experienced in getting the boat over the numerous "reefs." Additional ground at the old Black Gold Channel mine, and on the "Left Fork" of the Left Fork, was not dredged.

Geology: Bedrock on Foots Creek is a medium-hard slate, most of which was handled readily by the bucket-line. There were a few boulders up to 500 lbs. which were handled by the bucket-line and dumped over a rock chute on the boat. The ground averaged 18 feet deep, with values scattered throughout this depth. The gold was coarse.

Equipment: Steel pontoon, all-electric, 5½-foot chassis, connected-bucket-line dredge, with 3½-foot buckets; ladder digs to 20 foot depth; stacker is 70 feet long; spud is of a new "round" type; trommel is 6 feet by 32½ feet. The boat will handle up to 4000 yards daily. It contains a steam heating plant for thawing and for heating the dredge; fuel oil is stored in center pontoon.

Other equipment includes one D-7 caterpillar with bulldozer; a 1½-yard Northwest dragline; a well equipped machine shop and tool house. Investment is about $200,000.

Informant: R.C.T., February 20, 1940; April 1, 1941; June 18, 1941.

NEATHAMER MANGANESE — Gold Hill area

see Lee Manganese

NEATHAMER PLACER — Gold Hill area

Owners: John and Mark Neathamer, and James Bristow, Rogue River, Oregon.

Location: sec. 28, T. 34 S., R. 4 W., on upper Grave Creek.

Area: About 60 acres, unpatented.

Development: The property is worked by four men, operating two giants. It has been operated every winter and is one of the most active properties on upper Grave Creek. Mining and Contracting Review (Salt Lake) January 25, 1938 is quoted as follows: "James Bristow, John Neathamer and Mark Neathamer, all of Rogue River, have applied for five second feet of water from Slate Creek, tributary to Rogue River, in Jackson County, for mining purposes."

Informant: Dan Woolfolk, Grants Pass, March 19, 1940.

Report by: R.C.T.

NELLIE WRIGHT (gold) — Gold Hill area

"The Nellie Wright Mine is on the south slope of Blackwell hill about 2 miles east of Gold Hill in the SW¼ sec. 24, T. 36 S., R. 3 W. A Beers mill to be operated by electric power is under construction; it is provided with plates and a Johnson concentrator. The vein is opened by 2 shafts 50 and 60 feet deep connected by a drift 130 feet long which extends 30 feet beyond one shaft. The ore is chiefly quartz with some pyrite, chalcopyrite, and a dark sulphide resembling galena. The vein strikes about N. 75° W. and dips about 87° N.; it varies in thickness from 1 to 4 feet. The country rock is the Siskiyou tonalite which is here cut by a dyke of andesite, while the vein cuts both the tonalite and the dike.

"The property has been operated by Messrs. Haaf and Ray of Gold Hill during the past year and has been sold recently to R. M. Wilson who will proceed with further development."

Reference: Parks & Swartley, 16:160 (quoted).

NO NAME MANGANESE — Gold Hill area

"Manganiferous material in quartzite and chert is associated with rhodonite. Several test pits have been opened on the hillsides along the strike of the "manganese ledge." All that were seen show manganese oxide associated with rhodonite.

"Location: Sec. 25, T. 35 S., R. 4 W., and sec. 30, T. 35 S., R. 3 W. on Wards Creek, east of the Gold Chloride prospect.

"History: Manganiferous material has been prospected in this area for a number of years. Little work has been done other than a few test pits.

"Geology: The 'ore' material lies within the May Creek Schist (Diller, 24) or the Applegate series of Wells and Hotz as described in the Lee Prospect report.

Material seen is of the weathered rhodonite type. Chunks of black oxide show pink to whitish rhodonite when the chunks are broken down.

There are several test pits over a distance of about a mile. Those examined show rhodonite. There is no road or trail to the deposits.

"Conclusions: The presence of rhodonite excludes it from economic consideration at this time.

"Informant: Treasher, 4/8/41."

References: Libbey, et al, 42:22 (quoted)
Diller, 24.
Wells, 40.

NO NAME PROSPECT (gold) Gold Hill area

Owner: Charley Hopper

Operator: A. A. Hoyt

Location: SW¼ NW¼ sec. 23, T. 34 S., R. 4 W.

Informant: H. B. Scutt, March 18, 1940.

NORTH STAR GROUP (gold) Gold Hill area

see Hancock Claims

Owner: Davis James Hancock, 501 D Street, Grants Pass, Oregon.

Location: On Little Birdseye Creek in sec. 9, T. 37 S., R. 4 W., 5 miles south of the town of Rogue River.

Area: 40 acres.

Geology: Alluvial material comprises much of the area along Birdseye Creek. Fractured and mineralized gabbro crops out on the hill to the north of the creek. No veins were seen and no fracture pattern was discernible. In one open cut a fracture filling about 6 inches wide is made up of quartz and feldspar.

General: Elevation of property is about 2500 feet; topography is mountainous; sufficient mining timber is available; maximum snowfall is about 3 feet; probably sufficient water for a small mill is available in Birdseye Creek; a power line runs to within 3 miles of the property.

Informant: J.E.M., April 4, 1938.

OLD FORT LANE (gold) Gold Hill area

Location: sec. 24, T. 36 S., R. 2 W.

Reference: Wells, 39

OLD PLACER Gold Hill area

see Ward Creek Placers

OREGON LIMESTONE COMPANY — Gold Hill area

see Baxter Limestone; Beeman Limestone

OREGON ORE REDUCTIONS, INC. — Gold Hill area

see Gordon Gold Recovery Plant

OREGON PITTSBURG COMPANY — Gold Hill area

see Sylvanite Mine

OREGON PLACER MINES, INC. (dredge) — Gold Hill area

Owners: Pearl V. Williams, San Francisco; Sophia Wilson, Portland, Oregon; Mrs. Carrie O. Puhl and Mrs. Lillie MacKay and associates; Mrs. Gertrude Rosecrans and associates; W. E. Chaffee; A. S. Thornton; D. J. Estremado, Gold Hill, Oregon.

Operators: Oregon Placer Mines, Inc., lessee; C. C. Zimmerman, president; Kenneth O. Dills, vice-president; W. E. Zimmerman, secretary; Box 568, Gold Hill, Oregon.

Location: On Galls Creek, from 1000 feet above mouth to 4 miles upstream. This would include parts of secs. 21, 28, & 33, T. 36 S., R. 3 W., and sec. 4, T. 37 S., R. 3 W.

Area: Four miles long by 200 feet wide (average).

History: There has been no placering along Galls Creek other than small scale hydraulicking. The hillsides on both sides of the creek are famous for their "pockets." Charles L. Austin installed a small dry-land washing plant in October 1940.

Geology: Thickness of overburden is from a few inches to four feet, decreasing upstream. Gravel depth ranges from 9 feet to 15 feet. Only a small amount of clay is present and there are few boulders over 18 inches; the average size is 5 inches. Bedrock is easily dug to a depth of one foot. Numerous reefs cross the channel and have affected gold concentration. Gold is coarse, light-colored and has a fineness of 850. The gravel contains about 1½ lbs of black sand per cubic yard. The channel is about 40 yards wide.

Equipment: Northwest gas dragline with a 1¼-cubic yard Paige bucket and a 50-foot boom. The dry-land washing plant is on skids, and consists of a hopper; grizzly, 8 feet long with bars spaced on 10-inch centers; trommel, 50 inches in diameter by 20 feet long, (7¼ feet of 3/8-inch holes and 3 feet of ½-inch holes); stacker, 25 feet long with an 18-inch conveyor belt. Fines are pumped by Krogh 8-inch tailings pump through a six-inch pipe to sluice boxes. Sluice boxes include five boxes, each 2 feet by 20 feet, equipped with Hungarian riffles, and 8 feet of wire screen. The dry-land plant originally was mounted on a Morland 5-ton truck with sluice boxes attached.

General: Water is not plentiful. For a portion of the year the Company expects to pump from the Rogue River, a distance of 2000 feet.

Informant: W. E. Zimmerman and R.C.T.

Report by: R.C.T., March 4, 1941.

OREGON PULP & PAPER COMPANY (limestone) — Gold Hill area

see Hughes Group

OWL HOLLOW MINE (gold) Gold Hill area

"The Owl Hollow mine near the source of Little Savage creek in section 32, T. 36 S., R. 4 W., was not visited; it has been idle for several years."

Reference: Winchell, 14:178.

PACIFIC COAST MINING COMPANY Gold Hill area

see Trust Buster Mine

PACIFIC PORTLAND CEMENT COMPANY Gold Hill area

Cement kilns and office are at Gold Hill. Quarries are at Marble Mountain, Josephine County. (See Bulletin 14-C, Vol. II, Section 1.)

PACIFIC SYNDICATE MINE (quicksilver) Gold Hill area

see Webb-Tainor; Lucky Strike; C-M Company

Owners: M. B. Webb and O. F. Tainor - option to C-M Company, with an option to Pacific Syndicate; George E. Connolly, 3100 19th Street, San Francisco, California.

Location: NW¼ sec. 34, T. 34 S., R. 2 W., on east fork of Evans Creek.

Area: About 80 acres, consisting of 4 unpatented claims.

History: Webb and Tainor acquired the property by quit-claim deed from Walter Frank who probably was the original locator. Some production by Frank is reported but there was no evidence of any plant on the property prior to the work of Webb and Tainor. The C-M Company operated until late in fall 1941 when the property was taken over by the Pacific Syndicate. This company was in production in 1942 but shut down late that year.

Development: An adit, 140 feet long, caved at the portal; an adit including a crosscut, 100 feet long, and a drift 150 feet long, from which a winze, 150 feet deep, was sunk, and a stope was raised 50 feet to the surface. Three levels, 50, 100, and 150, repectively, contain something over 300 feet of lateral work.

Geology: A north-trending fault in Umpqua sandstone is mineralized and possibly two ore shoots have been tapped.

Informant: Robert Donald, February 25, 1942.
Oregon Journal, September 28, 1940.

Report by: R.C.T., February 25, 1942.

PERKEYPILE MINE (gold) Gold Hill area

"The Perkeypile Mine 6 miles southwest of Gold Hill is in the SW¼ sec. 5, T. 37 S., R. 3 W., near the top of the ridge between Galls and Foots Creeks. A crosscut strikes the vein at 90 feet and a drift follows it about 300 feet. The vein strikes S. 60° E. and dips 72° S.W."

Reference: Parks & Swartley, 16:179 (quoted).

PLEASANT CREEK MINING CORPORATION (placer) Gold Hill area

Owners: Pleasant Creek Mining Corporation, President, Mr. E. B. Hanley; Vice-president, Manager and Treasurer, Joe Most; Superintendent, William Cox.

Location: secs. 21, 22, 27, 28, T.34 S., R.4 W.

Development: Approximately 30 acres mined.

History: During part of 1940 and 1941, the dredge did not operate because of litigation. Work was resumed in 1941 and in March 1942 the dredge was digging ground at the upper end of the property. Work was discontinued in the summer of 1942 because of priority difficulties.

Geology: Bedrock is decomposed granite and is easily excavated. It is quite uneven; some boulders up to 16 inches in diameter are present. There is some clay but not enough to hamper operations. The gold varies from fine to coarse and occurs mostly on bedrock. It is estimated that mining width of property is 600 feet.

Equipment: Three cubic foot bucket-line dredge, flume type, equipped to dig 20 feet under water; flume is 42 inches by 90 feet, with railroad-iron riffles. Buckets discharge into a hopper and thence directly into the flume. A 110 h.p. diesel engine is the power supply and drives a 15 KVA generator for lighting, etc. A 7 h.p. gas engine is used for clean-up and emergency. Other equipment includes a 75 Caterpillar with bulldozer blade, and a one-ton truck.

General: Water rights withhold permission to take water out of the creek during the irrigation season. This will hamper operations after 1940 when the dredge works ground outside of the stream channel. Settling ponds will be required to settle mining mud.

Informant: William Cox, March 18, 1940.
Ray C. Treasher, February 18, 1940; March 20, 1942.

Report by: R.C.T.

POOLE PROSPECT (quicksilver) Gold Hill area

Owner: A. G. Rogers, Jennings Lodge, Oregon.

Geology: "The prospect of J. L. Poole is in the SE¼ sec. 25, and NE¼ sec. 36, T. 33 S., R. 1 W., a few hundred feet north of the Crater Lake Highway, which follows the north bank of the Rogue River. The workings, comprising a pit and 6 open cuts, extend up the hillside for a distance of about 700 feet from the terrace level, at an altitude of about 1,500 feet. They lie along a line that bears a few degrees east of north.

"The open cuts have been made along the trend of the vein, which strikes N. 2° E. and dips 64° SW The vein has a maximum width of about 1 foot. It is a siliceous mass composed of small angular silicified fragments of gray rock cemented by gray-white chalcedony. The rock fragments are composed of a microcrystalline quartz mosaic fringed by coarser-grained quartz and embedded in cryptocrystalline quartz. They are cut by cracks filled with a coarser-grained quartz and locally a little calcite. Small vugs, some of which are filled with a white claylike powder, occur in the vein. The vein is irregularly stained with limonite. The country rock contiguous to the vein has been altered to a white friable mass cut by a network of narrow limonite ribs. The alteration fades out in a short distance, the white friable rock grading into a gray-purple rock, somewhat iron-stained, which in turn grades into the fresh basalt. No cinnabar was seen by the writers, but J. T. Pardee, who visited the prospect in the summer of 1929, reports a stringer of massive cinnabar a quarter of an inch in view at that time."

References: Wells & Waters, 34:48 (quoted).
Wilkinson, 40:3

Informant: R.C.T., 1942.

PORCUPINE MINE (placer) Gold Hill area

Owner: H. B. Scott, R.F.D., Box 102, Rogue River, Oregon.

Location: On Pleasant Creek, 15 miles north of the town of Rogue River, in sec. 22, T. 34 S., R. 4 W. The elevation is approximately 1400 feet.

Area: 69 acres, patented.

History: The property has been worked periodically for 75 years. No record of production is available. From 1938 to 1942, the ground was in litigation. Some of the area of this property has been dredged by the Pleasant Creek Mining Company.

General: The workable deposit, which is about 9 feet thick, contains less than 5 percent of boulders over 12 inches in diameter. There is no clay. Bedrock is a decomposed granitic rock. There is little or no overburden.

The property carries water rights of 6 c.f.s. from Fry Gulch and 10 c.f.s. from Pleasant Creek. Two ditches totaling 3000 feet in length, together with a large storage reservoir, have been dug. Equipment consists of one No. 1 and one No. 2 giant, together with 400 feet of 11-inch pipe. Three test pits indicate an average value of 59¢ per cubic yard. Maximum snowfall is about 3 feet.

Informants: J.E.M., 1938
R.C.T., 1942.

RATTLESNAKE MINE (gold) Gold Hill area

Location: SW¼ sec. 5, T. 37 S., R. 3 W., on Miners Creek, a tributary of the middle fork of Foots Creek.

Development: One adit approximately 280 feet long with a 97-foot raise, and a 40-foot winze; the general trend of adit is northerly 80° W.

Geology: The country rock is composed of metavolcanic material which has been sheared and silicified. Small dioritic masses are exposed in a long adit. The outcrop of a strong shear zone, trending N. 70° W. and dipping steeply southwesterly, occurs approximately 70 feet from the portal. Values are in disseminated sulfides in the zone which contains considerable gouge and breccia.

References: Wells, 40
Wells and Hotz, 41.

RED OAK MINE (gold) Gold Hill area

Owners: L. Whittsett and Eddie Tulare, Gold Hill, Oregon.

Location: sec. 34, T. 36 S., R. 3 W., northeast of Bill Nye Mine.

Informant: A. A. Walker, March 5, 1940.

RED OAK MINE (placer) Gold Hill area

see Gold Hill and Bohemia Mining Co.

"Office: 819 Chamber of Commerce Building, Portland, Oregon. J. M. Leiter, Pres.; Samuel Weldon, Sec.; I. G. Davidson, Treas., all of Portland, Oregon. Capital stock, $100,000; par value 10 cents; all subscribed, issued and paid up. (1916 report)

"This company has 80 acres of patented placer ground 3 miles north of Golden on Sardine Creek. There is no activity at the property."

Reference: Parks & Swartley, 16:108 (quoted).

REDFERN MINE (gold) Gold Hill area

Owner: John R. Moody, Rogue River, Oregon.

Location: One mile west of the town of Rogue River on the north river road in sec. 17, T. 36 S., R. 4 W. Elevation is 1100-1300 feet.

Area: Two unpatented mining claims (40 acres).

History: The ground was located by Mr. Moody in 1932. No work other than annual assessment work has been done since that time. No production has been recorded.

General: Ore values are contained in irregular quartz stringers with poorly-defined walls. The general strike is N. 18° - 25° E.; the dip is westerly. Country rock is strongly altered greenstone. Development work consists of five shallow open cuts and two shafts. One shaft is 50 feet deep; the other is 8 feet deep. Both were full of water at the time of inspection. The topography is steep and rough.

Informant: J.E.M., 1938.

REED MINE (gold) Gold Hill area

Owner: H. E. Reed, Rogue River, Oregon.

Location: SE¼ NE¼ and NE¼ SE¼ sec. 1, T. 35 S., R. 3 W.

Area: 80 acres.

General: The property was taken over by Reed in 1922. Since then, production has been about $1000. Equipment consists of a 3½-foot Huntington mill driven by an automobile engine, and an amalgamation plate 3 feet by 8 feet.

Timber is plentiful; water is scarce; and topography is mountainous.

Informant: J.E.M., 1937.

REVENUE POCKET (gold) Gold Hill area

see Alice Group; Rhotan Pocket.

Owner: Gold Ray Realty Company, Medford, Oregon.

Location: NE¼ and E½ SE¼ sec. 11, T. 37 S., R. 3 W.

General: Parks & Swartley reported as follows:

"The Revenue 'pooket', 5 miles south of Gold Hill on Kane Creek, is near the center of sec. 11, T. 37 S., R. 3 W., nearly at the top of the ridge at an elevation of 2570 feet as measured by barometer. It is about 100 feet east of an outcrop of limestone interbedded with argillite which strikes N. 10° E. and dips 70° E. This 'pocket' was worked out years ago; it is said to have produced $100,000. At present the vein is being explored by Butler and Higinbotham; the vein is opened for about 35 feet and shows about 2 feet of quartz."

This is one of the more famous "pockets" taken out by the Rhotan brothers. Almost legendary stories have developed about the richness of this pocket. Subsequent attempts

to locate more ore have been relatively unsucessful.

Reference: Parks & Swartley, 16:193 (quoted).

Informant: R.C.T., 1942.

RHOTAN POCKET Gold Hill area

see Revenue Pocket

ROGUE RIVER DEVELOPMENT COMPANY Gold Hill area

see Millionaire Mine

ROGUE RIVER GOLD MINING COMPANY (dredge) Gold Hill area

Owner: Rogue River Gold Mining Company, D. H. Ferry, manager.

Location: secs. 1, 2, 11, 12, T. 37 S., R. 4 W., on Right and Left forks of Foots Creek.

History: The area above the junction of the two forks of Foots Creek was dredged prior to the fall of 1935. The Right fork was dredged to the Lance placer; the Left fork was dredged to the first road crossing. The dredge was then moved to Graves Creek, Greenback area, Josephine County. Later the Murphy-Murray dredge dug ground upstream from the point where the Rogue River Gold Mining Co. stopped operations.

Informant: R.C.T., 1940.

ROSE PLACER MINE Gold Hill area

Owner: John Rose, Route 1, Box 50, Gold Hill, Oregon.

Location: W½ sec. 13, T. 36 S., R. 4 W., on the Middle fork of Foots Creek, about 10 miles from Gold Hill. Elevation, 1500 feet.

Area: 80 acres of which 20 acres is placer ground.

General: The placer contains very little clay. There are numerous boulders, and bed rock is rough. The water right dates back to 1866 and consists of 5 c.f.s. from the Middle fork of Foots Creek. It is reported that values average 50¢ a yard in both coarse and fine gold.

Informant: J.E.M., May 2, 1938.

ROXANA GROUP (quicksilver) Gold Hill area

Owners: B. O. and Vena Force, E. W. Hewitt, and H. H. Sharp estate. Leased to A. E. and A. J. Bettles. This lease has been assigned to D. M. Broy, W. C. Werle, Letus Strickler, and A. C. Graham. This assignment with option to purchase lease has been transferred to F. H. Welling, A. Alvernez, and H. L. Beard, who had no formal partnership agreement at the time of this report (1942).

Location: Portions of the E½ sec. 5, T. 34 S., R. 2 W., on the ridge between Morrison and Evans Creeks, and north of the War Eagle property.

The property may be reached from Medford, Grants Pass, or Gold Hill. At the present time, Camp White activities have closed the road to Medford and Gold Hill by way of Sams Valley. It is necessary to travel by way of the town of Rogue River, up Evans Creek into Sams Valley, and to continue up Evans Creek to an old logging road(about 2 miles beyond

the Morrison Creek crossing) that takes off up the hill to the left. Distance from the town of Rogue River to the logging road is 25.1 miles; it is two miles by logging road up the hill. Gold Hill is the nearest railroad point available in peace-time.

Area: Three unpatented full-sized mining claims and two fractional mining claims.

History: Schuette (38:121) reported as follows:

"North of the War Eagle mine in Sec. 5, T. 34 S., R. 2 W., is the Roxana group of claims owned by E. W. Hewitt, B. O. Force and H. H. Sharp of Beagle, Oregon. Fig. 17 is a sketch map of the location as furnished by Mr. Sharp. The claims are located on a well-timbered ridge between Morrison Creek and Evans Creek.

"These prospects were discovered and located between 1919 and 1937. To date there has been no production as no retort has yet been installed on the property. All claims are held by location. The ore occurs in fractures in the May Creek schist and locally the wall rocks were altered by the mineralizing solutions. The ore-bearing fractures have a northwesterly strike.

"La Vena claim has a good spring of water on it. On this claim ore is exposed by cuts for about 60 feet at the extreme north end.

"Roxana claim has ore exposed by several cuts at the south end for a distance of 150 feet and this continues into the adjoining Hanna property. At the north end of Roxana several cuts expose ore for a distance of 200 feet approximately in line with the exposure at the southern end of the claim.

"Roxana No. 2 claim has ore exposed by cuts at the south center of the claim for about 60 feet and also at the southwest corner which continues into Roxana No. 4.

"Roxana No. 3 claim. On the south end of the claim, ore is exposed by several cuts over a distance of some 200 feet. At the north end a 100-foot tunnel crosscuts the ridge. Fifty feet from the west portal, ore was found and drifted on towards the south for 50 feet. This ore continues into Roxana No. 4. A stringer of ore was cut at the east portal of the tunnel.

"Roxana No. 4. This has ore exposed by cuts over a distance of 800 feet and this runs across the sideline into Roxana No. 2. Some 60 feet below this ore, at the north end, another and parallel ore occurrence is exposed by open cuts.

"Roxana No. 5. This fractional claim has ore exposed but it is not certain whether this is ore in place or a slide from the claim above.

"The cinnabar is the heavy crystalline variety and some beautiful specimens of 'solid cinnabar' have been obtained."

Later the property was leased as indicated under ownership. The Bettles did a small amount of work on the property and used the retort to recover some quicksilver. Recorded production is 7 flasks, produced in the early part of 1942. Some of the quicksilver is reported to have been sold directly to users. The present operators are developing the property to determine whether or not they wish to exercise their option to purchase the lease.

Development: The development is much as reported by Schuette (38:121). This work may be summarized by grouping the workings. At the northwest portion of the group (southeast center of Roxana No. 4) is one group of trenches and two pits. About 570 feet to the southeast at the south center line stake of Roxana No. 4 and the north center line stake of Roxana No. 3, there are two small cuts and a short 40-foot adit. At the southeast end of the workings (but north of the La Vena claim) is the 120-foot adit. Scattered about the claims are numerous other showings at outcrops and in small cuts and trenches.

Equipment: Only hand tools have been used. The retort is a two-tube Rossi type, the tubes measuring 18 inches in diameter and 10 feet long. Each tube is reported to have a rated capacity of 750 lbs. of ore.

Geology: The country rock is May Creek schist, as defined by Diller and Kay, 24, and as mapped by Wilkinson, 41. Some of the schist has a gneissic appearance, produced by bands of mafics alternating with bands of lighter-colored minerals, and knots of each "wound up" in the other. Locally hydrothermal (?) solutions have intensely altered the schist. Outcrops are badly weathered and though it is difficult to get any positive picture of the structure, the schist bands appear to strike about N. 34° - 45° W., and dip 55° - 70° NE.

At the "north workings," the larger pit shows intensely altered schist. Some portions have been kaolinized; other portions, silicified. "Iron ribs" of short extent occur in the clayey material. The type of alteration, the iron ribs, and the silicified portions might be compared with those of the Black Butte quicksilver mine, near Cottage Grove. Along the top of the ridge at these "north workings" the schist has been crushed, and alteration has been intense. Feldspar minerals have been kaolinized. Farther south on the ridge the schist is fractured and silicified with chalcedonic boxwork and, in places, the schist minerals have been removed. In the tunnel at the south workings (the 120-ft. adit) the schist has been kaolinized and softened, and some has been silicified. At a point 114 ft. from the portal a small sulphide stringer is reported to assay 80 cents in gold.

Beautiful crystalline cinnabar both coarse and fine is found with the chalcedonic or silicified portions of the May Creek schist. In the larger pit at the "north workings" some cinnabar was seen in the kaolinized schist when the samples were cut. In general however, the cinnabar seems to be more prevalent in the chalcedonic portions than in the kaolinized portions, but careful sampling and assaying will be necessary to verify this statement.

It appears that the May Creek schist has been fractured by northwest-trending shear zones and that hydrothermal solutions produced kaolinization and softening of some portions whereas the solutions silicified and hardened other parts. The cinnabar-bearing solutions may have accompanied one of these epochs of alteration and if the idea that there is more cinnabar in the chalcedony is correct, it is probable that the cinnabar mineralization accompanied an epoch of silicification.

Mining: Prospecting by means of pits and trenches is the only activity at present (1942).

References: Schuette 38:121 (Claim map on p. 118) (quoted)
Wilkinson 40:8

Informants: R.C.T. and F. G. Wells, November 13, 1942.

RYAN MINE — Gold Hill area

see Harth and Ryan Mine

SAGAR AND HULL — Gold Hill area

see Long Branch

SCHAFFER CLAIM (gold) — Gold Hill area

Location: sec. 24, T. 36 S., R. 3 W.

General: "The Schaffer Claim is northwest of the Nellie Wright, 2 miles east of Gold Hill. An adit 150 feet long discloses a vertical quartz vein 4 feet wide near the portal, but lost at the breast; the vein strikes N. 65° W. in tonalite."

Reference: Parks & Swartley, 16:199 (quoted)

SCHMIDT MINE — Gold Hill area

Owner: Gold Ray Realty Company, Medford, Oregon.

Location: NE¼ NW¼ sec. 5, T. 37 S., R. 3 W.

Reference: Wells, 40.

SCOTT'S PLACER — Gold Hill area

Location: sec. 15, T. 34 S., R. 4 W.

General: The property, equipped with one giant, is operated each season.

Informant: Dan Woolfolk, March 19, 1940.

SEAMAN BAR (placer) — Gold Hill area

Owner: Sam T. Howerton; leased to Fred Johnson, Grants Pass, Oregon.

Location: All of lot 4, and that part of lot 3 south of railroad track, all in sec. 20, T. 36 S., R. 4 W.

Area: Approximately 115 acres.

History: This is the old "Seaman Bar" which has been "sniped" for many years. Test pits were sunk by Johnson who planned to begin operations with a shovel and washing plant. The property was worked intermittently and in 1941 the equipment was removed.

Geology: Minable gravel is Rogue River fill. Some boulders are as much as four feet in diameter but the average is 18 inches. Gold is mainly fine and well-rounded, and scattered throughout the gravel; there is no clay. Depth to a cemented gravel bedrock averages 30 feet.

Equipment: Thew shovel, 1-yard size with 3/4-yd. bucket, caterpillar treads; washing plant on wheels; 38 by 24-inch trommel containing 3/8 to 1/2-inch holes with 1/2-inch bridge for 16 feet; stacker-belt 24 feet by 30 inches, and another that measures 50 feet by 30 inches for later use; Anley bowls (36-inch). Water was pumped from Rogue River, using a Fordson Diesel engine for power, to drive a Robinson high-head fire pump.

Informant: Fred Johnson, April 17, 1940.

Report by: R.C.T., April 17, 1940.

SEVENTY-THREE CINNABAR GROUP (quicksilver) — Gold Hill area

"R. H. Spencer, together with his associates, of Portland, Oregon, are now developing a group of claims adjoining the Mountain King, in sec. 1, T. 35 S., R. 3 W., known as the No. 73 Cinnabar Group, which is reported to be a very promising property."

Reference: Parks & Swartley, 16:200 (quoted).

SMUGGLER MINE (gold) — Gold Hill area

Owners: Ed Wyatt and George L. Hoff, Gold Hill, Oregon.

Location: sec. 2, T. 36 S., R. 3 W., adjacent to the Sylvanite mine on the north.

A small amount of development work has been done.

Informant: A. A. Walker, March 5, 1940.

SOUTHERN OREGON MINING COMPANY Gold Hill area

see Lance Placer

SPARKS MINE (gold, feldspar) Gold Hill area

Owner: H. W. Sparks, Rogue River, Oregon.

Location: NE¼ and SE¼ sec. 2, T. 35 S., R. 4 W., 120 acres of patented land. Property lies 1.1 miles up Evans Creek from Wimer on a hillside north of the road. Elevation, 1700 feet.

History: Worked intermittently since 1930 as a gold property. Presence of tin in the gabbro was reported, but could not be confirmed. Two samples of the gabbro (State Laboratory numbers, B.G. 1035 and B.G.1036) showed no tin. At present the property is idle.

Development: There are several trenches, principally on a pegmatite dike. One adit, now caved, trends N. 25° W. for 90 feet with a drift striking N. 30° E., for 36 feet. The adit is reported to be along the contact of the gabbro and pegmatite.

Geology: The country rock is classified by Diller and Kay, [24], as granite, but this particular hill is composed of coarse- to medium-grained gabbro. Fresh fracture surfaces have a greenish cast. The gabbro has been intruded by a pegmatite dike or dikes Portions of the pegmatite resemble graphic granite. Principal minerals are quartz and feldspar, with tourmaline as the principal accessory mineral. A very small amount of biotite was seen at the south end of the dike.

The feldspar in the dike is white to glassy, weathering to a light buff. Most of it appears to be microcline but polysynthetic twinning suggests that some albite is present.

The dike apparently follows the crest of a small ridge. It trends N. 60° W. and dips about 70° SE., as shown by a trench near the caved adit. Elsewhere, the dike is poorly exposed by trenching and is largely covered by mantle rock. The apparent width of the dike is in excess of 15 feet.

Pegmatite float covers the southwest hillslope and in a few places pegmatite is exposed by pits. The exposures in the pits seem to represent small isolated pegmatitic bodies.

General: No equipment. Mountainous topography. Plenty of timber - pine, fir, and cedar. Domestic supply of water, only, is available.

Informants: J.E.M., 1937; R.C.T., March 23, 1943.

SPRAGUE PLACER Gold Hill area

see Hershberger Placer and Hustin Placer

Owner: Tom Williams, Central Point.

Location: sec. 6, T. 37 S., R. 2 W.

Area: 150 acres of patented ground.

Informant: J.E.M., 1938.

SUNSET MINE (gold) Gold Hill area

Owners: Sunset Mining & Refining Company, W.R.Davis, B.H.Conley, R.B.Thompson, Eugene Chadwick, Charles Gardner, and Mrs. Mabel Chadwick.

Location: SE¼ sec. 3, T. 34 S., R. 4 W., on Pleasant Creek. Elevation, 2050 feet.

Area: Four unpatented mining claims, also 40 acres of patented land in SW¼ SE¼ sec. 3.

Equipment: Hand tools for prospecting; a compressor made from a Ford engine; crushing rolls.

General: There are 5 test pits in serpentine.

Informant: J.E.M., 1939.

SUNSET MINING & REFINING COMPANY — Gold Hill area

see Sunset Mine

SWACKER FLAT MINE (placer) — Gold Hill area

General: "At the Swacker Flat placer mine, 8 miles southwest of Gold Hill on the left fork of Foots creek in N.E.¼ Sec. 12, T. 37 S., R. 4 W., there is a fault which is later than the formation of the placer gravel. The fault strikes N 40° W. and dips about 65° N.E. The vertical displacement is at least 10 feet. The region is being carefully tested for placer gold in the gravels."

Reference: Parks & Swartley, 16:219 (quoted).

SYKES CREEK MINING COMPANY (placer) — Gold Hill area

General: "Office: Seattle, Washington. I. J. Merrill, Pres., 1019 Post St., Seattle. The secretary and treasurer of this company traded their interests and no new ones had been elected at the time this report was made. Capital stock, $30,000; par value $1.00; $18,325 subscribed, issued and paid up. (1915 report)

"This company owns 80 acres of placer ground 10 miles up Evans creek from Rogue River in Sec. 1, T. 35 S., R. 4 W. There is no activity at the property."

Reference: Parks & Swartley, 16:219 (quoted).

SYLVANITE MINE (gold, tungsten) — Gold Hill area

Lessee: Property was leased July 1939 by Imperial Gold Mines, Inc., an Oregon corporation; W. D. McDonald, president; F. F. Stimson, vice-president; Donald McDonald, secretary-treasurer; J. K. Jackson, general manager; J. E. Morrison, chief engineer; J. H. Coons, superintendent.

Location: sec. 2, T. 36 S., R. 3 W., 132 acres of patented ground; four full mining claims and two fractional claims secured by lease and bond.

History: Most of the history centers around ore on the footwall of a fracture that cuts the Cox-Lyman vein. The Imperial Gold Mines has photostatic records of some $700,000 of mint receipts and the ore shoot is reported to have paid $1000 per foot for a distance of 900 feet. Operation was discontinued in 1940.

Parks & Swartley, 16, report:

"The Sylvanite mine is in Sec. 2, T. 36 S., R. 3 W., about 3 miles northeast of Gold Hill. It is owned by E. T. Simons. The vein strikes N. 22° E., and dips about 65° E. and the country rocks have the same attitude; they are argillite partly altered to chlorite and serpentine. The vein contains quartz carrying some pyrite. The workings, now badly caved, are reported to consist of a drift

1200 feet long at an elevation of 1360 feet by barometer and a crosscut to the vein at an elevation of 1650 feet, with a shaft to the lower level. According to W. A. Marvin, who was in charge of the mine at one time, the ore contained no telluride, but a little galena and much pyrite in quartz; the fault gouge contained about $3 worth of gold and silver per ton; high grade gold occurred in 'boulders' not in place at depths from 80 to 160 feet; sulphide ore began to appear at about 160 feet depth and was 5 feet wide at 225 feet depth; the hanging wall was a slate and the footwall a limestone.

"Considerable interest has been attached to this property since the discovery in March, 1916, of tungsten along with the gold ores in the form of scheelite. The mineral occurs in small stringers with quartz. Samples have been taken from these quartz ledges which run as high as 40 percent tungstic acid, but it is claimed by the management that the vein as a whole runs less than 2 percent. The veins carrying the best grade of tungsten have been developed to a small extent and the tungsten resources of the mine have not yet been determined.

"The property is under lease and bond to Stone and Avena, of Denver, Colorado, who are doing some further development work."

The record since 1916 is not complete, but it is known that in 1928, the Oregon-Pittsburg Company worked the mine. In 1930, the Discon Mining Company, directed by A. D. Coulter, developed the high-grade ore shoot along the Cox Lyman vein. Western United Gold Properties had the mine for a time, and from 1935 to 1937, the Sylvanite Mining Company worked it during the summer months. Imperial Gold Mines, Inc., was incorporated in July, 1939, and began the task of cleaning out the old workings, constructing a mill, and starting development preparatory to mining.

In the late spring of 1940, the No. 2 tunnel was open to the Sylvanite vein although the vein itself was relatively inaccessible. The No. 3 tunnel was open to the intersection of the Cox-Lyman vein and the Sylvanite vein but here again, little could be determined of the Sylvanite vein. The slope had been pumped out and some prospecting for extensions of the rich ore shoot was in progress.

Development: No. 3 tunnel, called the Oxley tunnel, is 250 feet long; No. 2 tunnel contains 600 feet of lateral work both drifts and crosscuts; No. 1 tunnel contains a crosscut 460 feet long, together with drifts totalling 650 lineal feet. In addition, a 45-degree incline shaft has been sunk 602 feet. A number of shallow shafts and tunnels, most of which are caved, have been opened from time to time by pocket hunters.

Geology: Country rocks are both meta-igneous and meta-sedimentary. An outcrop of granitoid rock occurs about a mile to the southeast of the mine. The structural trend of the mineralized zone is generally east of north.

Meta-igneous rocks which occur east of the Sylvanite vein or shear zone have been intensely sheared, faulted, and intruded by basic igneous dikes. Hydrous silicates resembling serpentine have developed in some shear zones. Meta-sedimentary rocks occur in the footwall of the Sylvanite shear zone and are presumed to extend westward.

Some shear zones have been mineralized with quartz, calcite, sulphide, and small amounts of gold. The shear zones are known locally as veins.

The ore deposits are related to complex shearing and faulting. The most persistent shearing, as represented by the Sylvanite vein, trends slightly east of north and dips southeasterly at about 45 degrees. Another zone of shearing trends at right angles to the Sylvanite shear zone and stands nearly vertical. The so-called Cox-Lyman shear zone is an example of this type. Evidence available shows no sequence of faulting between the two systems. Each has cut and displaced the other.

The Sylvanite vein is a wide zone occurring between meta-igneous and meta-sedimentary rock. Openings in sheared material are caved badly and close timbering is required. Therefore, sides and backs of these openings may not be easily examined at present. Estimates of the size of ore shoots are given as from 5 to 12 feet; they contain quartz and calcite carrying galena, chalcopyrite, and pyrite. Assays of the shoots are reported to average between $5 and $15.

The Cox-Lyman vein, which trends slightly south of east, is a shear zone in meta-igneous rock. Its average width is about 6 feet. A discontinuous seam of quartz about 2 feet wide has been formed in this zone. This seam is nearly barren of values, although in a few places, assays up to $2 to the ton have been obtained. Openings on the intersection of the Sylvanite and Cox-Lyman shear zone is now caved and relationships are obscured.

A fracture zone that is roughly parallel to the Sylvanite vein cuts the Cox-Lyman vein and displaces the east or hanging-wall portion about 15 feet to the north. An ore shoot was found on this hanging wall of the Sylvanite and its intersection with the Cox-Lyman. It is reported that $1000 per lineal foot of winze was produced from this shoot which dipped 45° southeast. The end of this shoot was about 600 feet below the surface but discontinuous pockets were found in the hanging wall for an additional 200 feet of depth. The slope winze in the ore shoot was sunk to a depth of 900 feet below the surface.

Equipment: In 1940, a mill having a capacity of about 140 tons per day was built. Kraut flotation cells were installed.

Reference: Parks & Swartley, 16:219-220 (quoted)

Informant: J. K. Jackson, May 28, 1940.

Report by: R.C.T., May 30, 1940.

SYLVANITE MINING COMPANY — Gold Hill area

see Sylvanite Mine

TELKAMP PLACERS — Gold Hill area

Owner: H. C. Telkamp, Route 1, Rogue River, Oregon.

Location: SE¼ sec. 21, T. 34 S., R. 4 W., on Pleasant Creek, 13 miles north of the town of Rogue River.

Area: 160 acres, patented.

General: The owner reports that there is approximately 40 acres of placer ground in the 160 acres. From past operations he estimates that the ground will average 25¢ per yard. The gravel is 2 - 5 feet thick and there is very little overburden. The bedrock is smooth granite. There is much clay but few boulders. Gold is fine though there are some small nuggets worth as much as $15.00. The mining season is from December to April. Water rights (first) include 3 c.f.s. out of Collins Gulch and 1 c.f.s. out of Brush Creek. Water is delivered by a ditch 1½ miles long and through 700 feet of 11-inch pipe to a No. 1 giant under a 50-foot head.

Report by: J.E.M., 1938.

TIN PAN MINE (gold) Gold Hill area

Owner: G. H. Nichols, Grants Pass, Oregon.

General: "The Tin Pan Mine, 5 miles southwest of Gold Hill, is in the SW¼ sec. 31, T. 36 S., R. 3 W., on the ridge between Galls and Foots creeks. It was located many years ago; in 1908 it was owned by the Pacific American Gold Mining Company and prospected by more than 1200 feet of drifts, shafts, and other workings on the vein without finding any large body of good ore. At that time the mine was equipped with a 10-stam. mill (since removed) having a Blake crusher and two concentrating tables. The country rock on top of the ridge west of the mine is an andesite prophyry containing abundant much altered phenocrysts of plagioclase, and bunches of green hornblende or brown biotite as well as some magnetite, epidote, and siderite in a fine-granular groundmass. In 1913 the workings were badly caved and inspection was impossible. It was relocated in June 1913, by M. L. Hall. According to G. F. Kay:

"'The country rock in which the ores occur are slates, limestones, and greenstones, the greenstones apparently being intrusive in the sedimentary rocks although some of them may be volcanic. The sedimentary rocks strike about N. 13° E. The strike of the vein is between northeast and east and the dip is nearly vertical. The vein varies in width from less than 18 inches to more than 6 feet of solid quartz between definite walls, which are in general but slightly altered. In places there is a gouge from 1 to 3 inches in width. This material is clay-like, but it contains carbonates and sulphides. Most of the gold content of the vein is in the sulphides, which run about $60 to the ton. The sulphides are pyrite and galena which together constitute less than 2 percent of the ores. Some faulting has occurred. The zone of oxidation reaches a depth of more than 100 feet.'"

Reference: Parks & Swartley, 16:222 (quoted).

TOLMAN IRON PROPERTY (iron) Gold Hill area
see Garfield Iron and Lime Company

Owner: C. A. C. Tolman, Gold Hill, Oregon.

Lessee: Magnetite Reserve, a partnership consisting of Paul D. Donaldson, John P. Hatch, and Edgar C. Snyder, all of Seattle, Washington.

Location: SW¼ sec. 3, T. 36 S., R. 3 W., on a ridge northwest of State Highway No. 234, and 2.1 miles north of the town of Gold Hill. The property is on the northwest side of the Rogue River.

Area: 3 patented claims.

History: Hodge (38) stated that there had been no recent exploration, probably none since 1903, and that the mineralized zone was not completely exposed. In 1942, Magnetite Reserve leased the property. A road was built to the deposit and bulldozer cuts were made to expose the ore body. A few tons of ore were shipped to the pilot plant at Cascade Locks for a trial run to make sponge-iron. During the winter of 1942-43, the road was washed out. Early in 1943, plans were being made to reopen the property.

Development: Numerous bulldozer cuts have been made across the mineralized zone. A caved adit is reported to be 103 feet long with 72 feet of back. On the Hawks Nest claim, owned by Mr. Tolman and located west of the property under discussion, there are 3 adits, portals of which are caved. Information concerning the lengths of these adits is not available.

Geology: Hodge (38) reported as follows:

"The ore exposures are covered by three mining claims end to end....with a combined length of about 4,300 feet. The iron-bearing zone forms the backbone of a steep and narrow ridge bearing N-S. According to a report by H. V. Winchell and Fred T. Greene, in 1903, the zone was then traceable southwards (with an 800-foot gap covered by alluvium) to a distance of 1,400 feet beyond the south end of the claims and into the homestead; this southerly extension of the zone is not now visible.....

"The mineralized zone occupies a well defined and nearly vertical contact between limestone on the west and a basic igneous intrusion on the east. Near the contact, the limestone is strongly silicified, while the igneous rock has a dense, felsitic texture, grading into a coarser crystalline texture farther away. The iron mineral is chiefly magnetite, mixed with some hematite. It occurs in lenses and stringers separated by bands of ferruginous rock; some of the lenses are fairly solid magnetite to a width of about one foot, but most of them are narrower. Magnetite occurs also in smaller particles disseminated through the mineralized zone. The necessity for magnetic concentration is plainly indicated, but the separation could begin at coarse sizes.

"Even in 1903 the full width of the ore zone had not been exposed in any one place. Winchell and Green give it a range of from 20 to 60 feet, using an average of 30 feet for their tonnage estimate, which amounted to 760,000 tons to a depth of 50 feet and an assumed length of 4,600 feet. The average assay of their 7 samples was: Iron, 51.63 per cent, (Max. range, 42.60 per cent - 61.39 per cent); silica, 8.67; sulphur, 0.208 percent; phosphorus, 0.060 per cent; titanium, none. A 5½-pound sample from a pit at 2,000 feet elevation on the ridge crest analyzed for the Mineral Survey contained 3.19 per cent silica, 96.82 per cent iron oxide and alumina, 0.10 per cent sulphur and 0.004 per cent phosphorus.

"In the present state of development, the most southerly exposure of ore in place is in a group of pits 700 feet north of the south end of the claim adjoining the homestead, and 240 feet in elevation above it. From here northward, ore is exposed in pits and short trenches, at intervals of 300 to 500 feet in distance and 100 to 180 feet in elevation. In the intervals between exposures, the presence of some material rich in iron is indicated by a strip of deep-red soil, differing distinctly from that on either side. The most northerly exposure is 2,100 feet from the most southerly, and 620 feet higher....

"To supplement the inadequate evidence now disclosed by pits and trenching, a dip-needle survey has been conducted along a series of lines approximately at right angles to the mineral zone and of lengths believed great enough to include at least its most intensely mineralized portions. The position of these traverse lines is shown on the map; dip readings were taken at 25-foot intervals along each line....Inspection of the magnetic profiles leads to the following observations.

"1. The most intense concentration of magnetite occurs within a distance of about 600 feet along the crest of the ridge between elevations 2,000 and 2,150.

"2. This magnetite does not occur in a massive continuous zone parallel with the general trend of the contact between formations, but in separated lenses apparently striking to the northeast or towards the intrusive body.

"3. Individual lenses probably do not exceed three or four hundred feet in length. Their maximum width, as indicated by high magnetic intensity, is about 50 feet.

"4. Only one point of abnormal magnetic intensity was observed on the alluvial flats south of the mineral ridge; this was on homestead land 300 feet WSW. from the southeast corner of the lowest mining claim; no corresponding intensity was found 100 feet to the north.

"5. No evidence was observed to indicate a continuation of a magnetite body south of the "dry creek" mentioned by Winchell and Greene, even allowing for its having been faulted, as they suggested."

According to Wells (40) the deposit is at the contact of metavolcanic and metasedimentary rock with an associated small limestone lens and serpentine intrusive. As surface outcrops of rocks are badly weathered, field identification is difficult.

The country rock is sheared and the development of much secondary mica (sericite?) gives the rock a schistose character. A dense, fine-grained, silicified rock occurs locally. Specimens of a granular rock composed of interlacing crystals of hornblende and a striated white pyroxene (?) are found.

The original ore mineral was magnetite. It is partly altered at the surface to hematite and limonite. Some of the magnetite is in solid "veins"; some is disseminated.

The ore zone, as exposed, is some 50 feet wide. The stringers of ore have no definite walls and are separated from one another by bands of an intensely sheared and altered rock - now almost a mica schist. Narrow bands of limestone occur in the mineralized zone but no "body" of limestone as mentioned by Hodge (37) is exposed in the bulldozer cuts. The magnetite stringers appear to be discontinuous.

The mineralized zone trends N. 20° E. and is nearly vertical. The owner reported that magnetite was cut by the adit, which indicates a depth of at least 72 feet. The ore is reported to be more massive at that depth.

Presence of a serpentine band along the contact of the metavolcanics and metasediments, and the serpentinous appearance of the disseminated ore suggest that the magnetite may be genetically related to the serpentine intrusion.

References: Hodge, 38:60-66 (quoted in part)
Wells, 40.

Report by: R.C.T., March 25, 1943.

TRUST BUSTER MINE (gold) Gold Hill area

see Golden Cross Mine

"The Trust Buster Mine 5 miles northeast of Gold Hill is a few hundred feet south of the N.W. corner of sec. 36, T. 35 S., R. 3 W. at an elevation of 1700 feet by barometer. It is equipped with a Beers mill having a crusher, a plate, a concentrating table, and a 15 H.P. gas engine. An adit shows several quartz veins in tonalite; the junction of two veins gives a small shoot of ore which has been mined out to the surface, and about 20 feet below the adit level. The workings are too shallow to show sulphide ore. The main vein strikes N. 50° W. and dips 46° S.W. The mine was leased by the Pacific Coast Mining Company about 4 years ago."

Reference: Parks & Swartley, 16:224 (quoted)

TYEE PROPERTY Gold Hill area

see Big Chief Property

UNITED COPPER COMPANY (copper) Gold Hill area

see Mountain View Mine; Copper King Mine

"Office: 95 Union St., Seattle, Washington. S. S. Fluhart, 2600 First St., Seattle, Pres.; B. E. Fluhart, Leland, Oregon, Sec. and Attorney-in-Fact; Dr. R. N. Leezer, 95 Union St., Seattle, Treas. Capital stock, $1,000,000.

"The property of this company, the Copper King mine, is located at the head of the Slate creek branch of Grave creek about 18 miles east of Leland.

"The ore deposit is a well defined fissure vein in andesite. The development in September, 1916, had exposed by surface cuts a well defined quartz vein with chalcopyrite which is said by the manager to run between 4 and 5 percent copper and two dollars in gold. This company is erecting a mill on the property with which they will concentrate these sulphides to smaller bulk and haul to the railroad at Leland."

Reference: Parks & Swartley, 16:226 (quoted)

UTAH QUICKSILVER COMPANY (quicksilver) Gold Hill area

"Incorporated about August 1, 1916. Incorporators, Alex Nibley, Edwin Jones, and W. Y. Cannon of Salt Lake City, with a capital stock of $50,000.

"The property contains 35 claims near the Chisholm group.

"The ore deposit consists of cinnabar in shear zone in andesite, the cinnabar being found over a wide territory in this section but usually quite low grade. The chief showing is on the Rainier Claim where cinnabar deposits along with pyrite outcrops in an andesite fault breccia. The vein strikes N. 70° W. and contains black quartz 12 to 15 inches wide with a well defined wall.

"The development work at this point consists of an open cut 12 to 15 feet deep exposing a vein some 20 feet in length. The vein is opened up in 2 or 3 other points thus tracing it for 3 or 4 hundred feet. The property is at present under option to Boston people."

Note: Judging from the general locality given and the mention of a Rainier Claim, this company may have worked what is now known as the War Eagle Mine. (See also Chisholm Claims.)

Reference: Parks & Swartley, 16:227 (quoted).

VROMAN PLACER (gold) Gold Hill area

"On Sardine Creek placer mining has generally been conducted on a small scale, but it has been fairly continuous for many years. In 1901 the Vroman placer was productive; in 1908 mining was still in progress."

Reference: Winchell, 14:163 (quoted)

WARD CREEK MANGANESE Gold Hill area

Owner: W. W. Canon, Grants Pass, Oregon.

Location: Below the road at the southeast corner of sec. 36, T. 35 S., R. 4 W. Elevation approximately 2000 feet.

Geology: A mineralized zone consisting of a discontinuous quartz dike and associated manganese minerals cuts the May Creek formation. The trend of the zone is N. 25° E.;

may be traced for at least half a mile. Manganese minerals show along a distance of a few hundred feet and are contained in thin sheets conforming to bedding of the finely laminated and highly metamorphosed sandstones and shales. The thickest manganiferous band observed was approximately 10 inches thick. All the bands are highly siliceous and contain rhodonite, in addition to small amounts of manganese oxides. Development consists of a few shallow open cuts.

Report by: J.E.A., October 6, 1937.

WARD CREEK PLACER MINES Gold Hill area

include Baerlocker placer, formerly Duncan placer, and Old placer.

General: A number of small placer deposits are located along Ward Creek, a tributary of Evans Creek. Most of the deposits are in T. 36 S., R. 4 W. None was active in February, 1941.

ED BAERLOCKER PLACER: This deposit is located downstream from the Magerle placer in sec. 1, T. 36 S., R. 4 W. Snipers have worked here and at various other points along the creek. The water supply is small. The Ward Creek drainage area is small and contains no snow storage. The gold found in the placer gravels here originated from local gold seams. No gold has been recovered above Ward Creek opposite the Gold Chloride Mine in the NE¼ sec. 25, T. 35 S., R. 4 W. The road leading to the placers is impassable in wet weather.

DUNCAN PLACER: These gravels lie in the lower portion of Ward Creek.

OLD PLACER: This deposit is located about 2 miles below the Magerle property in a tributary canyon. It is reported that these gravels were placered many years ago. Available water supply is very small.

Report by: R.C.T., February 28, 1941.

WAR EAGLE MINE (quicksilver) Gold Hill area

Owner: Mineral Mines, Inc., 1310 N. 45th, Seattle, Washington, a Washington corporation; Clay Nixon, Pres., Dexter Horton Building, Seattle; Mrs. L. M. Parson, Sec.-treas.

Location: The property is located mainly in sec. 17, in W½ sec. 16, W½ SW¼ sec. 9, S½ secs. 7 & 8, NE¼ NE¼ sec. 20, and NW¼ NW¼ sec. 21, all in T. 34 S., R. 2 W. in the so-called Meadows district. The mine may be reached from the town of Gold Hill as follows: Crater Lake highway (State 234) 12 miles to Evans Creek road, thence 6.7 miles to road forks, thence on right fork 1.85 miles to private road on the left, thence .45 miles to the mine office. The total distance from Gold Hill is 21 miles.

Area: 750 acres (in excess of 36 mining claims, mostly patented).

History: "The War Eagle mine was discovered in 1916 by Carl Burtelson. It was developed by the Rainier Mining Co. until 1919 when it was taken over by the newly incorporated War Eagle Mining Co. During 1917 a Johnson McKay retort was in operation and 565 flasks of quicksilver were produced to August 11, 1920, according to a report of that date by Clifford Dennis.

...."At the time of Dennis' report, the stope under the discovery shaft had been mined. The upper and lower tunnels had been run. From the upper tunnel, drifts had been run 120 feet to the east and 100 feet west. Since then the east drift has been extended some 40 feet....

"A 25-ton Scott furnace plant was built on the property in 1920. It was a well-built plant and operated normally although the operators seemed greatly troubled by the fact that arsenic trioxide condensed with the quicksilver in the

condensers. As explained in the chapter on metallurgy this is unavoidable when the ore contains arsenical minerals and the War Eagle ore was known to have a large arsenic content.

"The new plant was operated only a short time in 1921 as this was a disastrous year for quicksilver mining in the United States in which practically all our quicksilver mines were forced to shut down due to low prices and inability to sell their product.

"By 1926 the affairs of the War Eagle Mining Co. had become so involved that the property was sold under foreclosure to satisfy debts and claims held against it.

"It was bought by Bertelson, Harder, Kidd and Hilsinger. They turned the property over to the Medford Reducing and Refining Co. for stock and bonds of this company. This Medford Reducing and Refining Co. was capitalized at $1,500,000 and an issue of $160,000 first mortgage bonds were put out. This company appears to have been largely a promotion scheme and the property passed into the hands of the receiver in the spring of 1928. The mine then became the property of the bondholders.

"Total production to the end of 1937 is some 640 flasks. As most of this product was made in years of high prices the total value of the mine's output is about $69,000. Total tonnage treated was about 3,300 tons so that the average grade of the ore was 15 lbs. per ton. It is rumored that the production was larger but there are no figures available to prove it.

"The workings total some 2,400 feet. Then about one flask of quicksilver has been produced for every four feet of workings thus far run."

In 1941 and 1942, Mineral Mines Inc., prospected the coal vein, and installed a flotation plant to handle this ore. It was found that the cinnabar is closely related to the fault zone, and does not occur uniformly throughout the coal seam.

Development: No additional work has been done, except in the coal, since Schuette's report. The coal adit is 960 feet long and the face is about vertically under the mill (Company Report). The adit slopes toward the face at an angle of 5 degrees. A small amount of ore has been mined from this adit and hauled to the mill for treatment.

Geology: The geology of the cinnabar occurrences is described by Schuette (38:115) as follows:

"This War Eagle mine on the War Eagle and Rainier claims is in the May Creek Schist, which strikes north east. The mine fault, in which the ore occurs, cuts through the schist with a strike of N 70° W as shown on the plan of the mine. In the upper workings the dip of the fault is steeply NE but it reverses at the lower level and is SW in the winze below it. The ore occurs in shoots between the walls of the fault. These walls are from 3 feet to 12 or more feet apart and are marked by distinct slickensides in hard tough fault gouge. The cinnabar has been smeared out on the slickensides by post-mineral movement.

"The schist forming the wall rocks is a dense impervious rock and the rising mineral-bearing solutions which formed the orebodies were confined by it and by the fault gouge to the space between the walls of the fault zone. In this fault zone the schist was brecciated and a preliminary silicification deposited chalcedony in the voids of the breccia. Further movement of the fault brecciated this chalcedony and then mercury and iron sulfides were deposited from solution in the interstitial space of the breccia. The mercury sulfides deposited as the red cinnabar and the iron sulfides were deposited as pyrite and marcasite. The marcasite contains arsenic although no arsenical mineral has been identified. To

judge by the striated surface of the slickensides the fault movement had both a vertical and horizontal component. Such a movement usually forms bodies of breccia, shaped like inclined flattened cylinders, which act as the receptacle rock for the ore.

"In the War Eagle mine at least two such orebodies were formed and have been partially stoped. The mineralizing solutions rose in the fault zone because the impervious nature of the wall rocks and gouges prevented their dissemination. They then carried their load of mineral matter into the interstitial space of the breccia and here their upward course was slowed down or they were trapped by overhead gouges and cooled sufficiently to precipitate the sulfides thus forming the orebodies. The workings shown in dotted outline under the discovery shaft are largely inaccessible being partly caved and partly filled. Cinnabar could be seen on the wall slips and in seams in the back.

"West of No. 3 Raise a narrow stope has been carried up on stulls. The east wall of this stope in the raise showed fair ore and ore can be seen in the back of the lower level.

"East from these workings on the upper level the end of the level is in heavy sulfides showing no cinnabar. These are similar to the heavy sulfides occurring west of the ore in the lower level stope above the winze. The orebody on the lower level, at the winze, has been partially stoped above and below the level.

"The east end of the lower level is in heavy sulfides again and is beginning to show faint streaks of cinnabar. The mining has been done in a rather slipshod manner duo apparently to inexperience.

"The oreshoots appear to rake or pitch down to the east at a rather flat angle. The cinnabar seems to be on the top and east side of the oreshoots while the heavy barren sulfides are on the bottom and west sides. This suggests that the cinnabar may have been deposited ahead of the other sulfides.

"In 1936, Geo. Schumacher while prospecting down Rattlesnake Creek near the common corner of Sections 8, 9, 17, and 16, found cinnabar in a "coal" seam in the flat-bedded shales and sandstones of the Umpqua formation....

"This coal area is south of the camp and below it in elevation. Here, Rattlesnake Creek runs southeasterly towards Evans Creek. The southwest side of the creek makes a steep 6-foot bank at the site of the new discovery. Here, a "coal seam" was exposed in the bed of the creek and on examination it was found to contain cinnabar.

"A short inclined shaft was put down and a drift and some crosscuts were run from it....The "coal seam" (actually a lignite) that outcropped was about 18 inches thick. Below this was a stratum of clay shale about 18 inches thick; below this was a coal seam some 24 inches thick and below this was clay shale for at least 12 inches.

"The coal seams carry cinnabar while the intervening clay shale bands seem to be barren when panned. The coal seams vary in cinnabar content from place to place but as exposed they were nowhere barren and in places panned over 1 per cent in quicksilver.

"In 1937 a new tunnel was started into the S.W. side of the creek some 200 feet below the discovery tunnel. This runs S.W. and then turns to the right paralleling the creek. This work exposes coal seams up to four feet thick in places that also carry cinnabar. The N.E. side of the creek has not yet been prospected for this coal seam."

The coal vein is in Eocene (Umpqua) siltstone and sandstone. The sandstone approaches graywacke in composition. The coal is lignitic, as is most of the coal of the Rogue River coal field. It is 1½ to 3 feet thick with numerous bone partings. At least two coal seams occur; the upper one is thinner than the lower and they are separated by sandstone from 6 inches to 2 feet in thickness. Apparently a third seam occurs near the present face of the coal adit.

The coal vein dips 5 - 10 degrees, S. 45 - 70 degrees W. The strike is N. 20 - 45 degrees W. A prominent normal fault, trending N. 45 - 50 degrees W., strikes along the southwest side of the coal adit, and is probably a bedding-plane fault. Part of the fault has a dip of 45 degrees, but flattens to 25 degrees and less as it passes into the coal area.

Cinnabar was deposited in fractures in the coal, and appears to be richer in the upper seam. Deposition was not uniform and, as a result, accurate sampling is difficult. Cinnabar is found also in the siltstone between coal seams near the face of the adit. Heaviest concentration of ore seems to be near the fault plane, where it flattens. Insufficient prospecting has been done to the northeast to prove the quantity of ore in that direction. From field examination it seems that the quantity decreases to the northeast. No ore has been found southwest of the fault.

Metallurgy: "Reduction Plant: The Scott furnace plant erected in 1920 has been partly torn down as can be seen in Photo 22. Part of the firebrick and tile of the furnace has been used to build retorts at various sites on the property. The furnace could be restored but a new condenser would have to be built....

"The War Eagle mine is perhaps the only quicksilver mine in the United States that has an appreciable arsenic content in the ore. La Soterrana mine in Spain has a similar ore.

"The arsenic vaporises on heating, as does the mercury, and it condenses as a gray powder in the form of arsenic trioxide. When retorting or furnacing these ores the arsenic trioxide powder and the finely divided mercury condense together and the mercury must be separated from the arsenic before bottling. In Spain the mixture was retorted with litharge yielding mercury and lead arsenate. Such a process would probably not pay here in the United States and it is better to waste the arsenic. Tests made on the War Eagle arsenical soot showed that the mercury could easily be separated from the arsenic trioxide by agitating the mixture in about 5 parts of water for half an hour, in which time the mercury droplets coalesce and the quicksilver can be drawn off ready to be bottled.

"Since the arsenic is in the marcasite only, selective flotation would serve to remove the arsenic from the ore before it is roasted. Such a process has been developed for La Soterrana mine in Spain by Prof. Maurice Rey of the University of Liege in Belgium.

"Some tests were made on War Eagle ore by the Rare and Precious Metals Experiment Station of the U. S. Bureau of Mines at Reno, Nevada, under the direction of Edmund S. Leaver. This investigation showed that the oxidized ore does not concentrate well by either gravity concentration or flotation. Leaching with alkaline sulfides was not thought feasible because of the acid salts in the ore.

"The sulfide ore was amenable to selective flotation, using lime and alkaline cyanide to depress the pyrite. Recovery and ratio of concentration, it was found, would probably depend largely on the fineness of grinding."

Equipment: The present Company has been working only on the ore in coal and selection of a flow sheet has been based on the separation of cinnabar from this material. Ore is stored in a 60-ton ore bin and goes over a 1½-inch grizzly. Oversize is shale as the coal

breaks very fine. The flow sheet is essentially as follows: undersize from the grizzly goes to a 3-ft. by 8-ft. rod mill which discharges to a 4-ft. by 18-ft. classifier. Discharge from the classifier goes to six flotation cells, concentrates from which go to a thickener and a filter. The concentrates are to be retorted. Oversize from the classifier goes to a 50-ton ball mill and back into the circuit.

A small retort, built by Mr. Parson, is to be used to retort the concentrate. It has a rotating cylinder, about 16 inches by 5 feet, that is hand-charged. The retort is oil-fired. It is claimed that 300 lbs. of dry concentrates can be handled in an hour.

Reference: Schuette, 38:113-120 (quoted).

Report by: H.C.T., October 27, 1942.

WARNER PROSPECT (gold) Gold Hill area

Owner: H. B. Warner, Azalea, Oregon.

Location: At the head of Last Chance Creek in sec. 4, T. 33 S., R. 4 W., about 9 miles from Azalea. Elevation is approximately 4000 feet.

Area: 138 acres, patented.

General: A vein, up to 1 foot in width, is on a contact between porphyry and serpentine. Development is reported to consist of a shaft 30 feet deep from which a drift 40 feet long has been driven. Equipment includes a Gibson prospecting mill and a 1½-hp. Stover gas engine.

Report by: J.E.M., 1938.

WEBB - TAINOR Gold Hill area

see Pacific Syndicate Mine

WESTERN MINERAL PRODUCTS COMPANY Gold Hill area

see Mountain King Mine

WESTERN UNITED GOLD PROPERTIES Gold Hill area

see Sylvanite Mine

WHITE HORSE MINING COMPANY (lode and placer gold) Gold Hill area

Location: SW¼ sec. 3, T. 36 S., R. 3 W., southwest of the Tolman Iron property. It lies at the head of an unnamed gulch that intersects State Hwy. 234, 2.1 miles from the Gold Hill post office.

History: "Office: 1124 Board of Trade Bldg., Portland, Oregon. I. G. Davidson, Pres.; J. F. Boocotin, Sec.; J. M. Leiter, Treas., all of Portland. Capital stock, $100,000; par value, $5.00; all subscribed, issued and paid up. (1916 report)

"This company owns placer ground 3 miles northeast of Gold Hill in Sec. 3, T. 36 S., R. 3 W. There is no activity at the property."

Since the above report, underground work has been done and quartz ore treated in a small mill.

Geology: The country rock is sheared and altered material containing considerable sericite. Some limestone is piled on one of the dumps and probably the immediate locality is made up of metasediment, although the general area is indicated as metavolcanic rock by Wells (40). However, no limestone outcrops were observed in the immediate vicinity. Mining was done along a shear zone, the trend of which is N. 20° E. A quartz vein 4 inches wide shows in the face of the cut over the caved upper adit. Some small quartz veins, apparently deposited along joint planes, intersect the main vein. The quartz is glassy and hard. Several rotted sacks of ore contain both quartz and sheared wall rock, indicating that values were found in the wall rock close to the vein as well as in the vein itself.

General: Workings are caved and inaccessible. The upper part of the workings includes a shaft or unrecorded depth together with an adit driven at the level of the collar. The lower workings include an adit of unrecorded length, portal of which is near the cabin. The camp contains excellent buildings. Road to the property is poor. This mine is No. 35 in the list given in Wells (40). The property is inactive (1943).

Reference: Parks & Swartley, 16:236 (quoted).

Report by: R.C.T., March 25, 1943.

WHITNEY MINE (gold) — Gold Hill area

General: Parks & Swartley reported as follows:

"The Whitney mine 2 miles east of Gold Hill is in the N.E.$\frac{1}{4}$ S.W.$\frac{1}{4}$ sec. 13, T. 36 S., R. 3 W., in a coarse subsiliceous rock not far west of the tonalite border. The main entry at an elevation of 1375 feet, is a crosscut for 130 feet; at 10 feet from the portal a vein said to have produced high grade ore strikes N. 50° W. and dips 60° S.W. At 70 feet from the portal a drift follows vein No. 1 for 290 feet; this vein contains 2 to 5 feet of soft material with stringers of quartz; it strikes N. 67° W. and dips 55° to 75° S.W. At the breast of the crosscut a raise follows vein No. 2 which has a 3-foot vein-filling like the preceding and is about parallel with it. In these workings small stringers of aplite are common generally standing about vertical and trending north. In another adit only 20 feet vertically higher, the No. 2 vein is found to be in a granitic dike while the No. 1 vein is on the granite contact about 30 feet distant. At this level the latter is a shear zone carrying a little quartz. Several smaller veins have been explored for short distances. One of them contains some chalcopyrite in places. At the intersections of these veins with the larger ones good ore has been found. A subsiliceous rock containing considerable magnetite is associated with these veins and not found elsewhere on the hill. It appears to be a contact phase rather than a separate intrusion. In thin section it is found to consist of coarse augite and magnetite with a little olivine and brown hornblende."

Reference: Parks & Swartley, 16:236 (quoted)

WILLIAMS PLACER — Gold Hill area

Owners: C. M., J. R., W. G., and F. T. Williams.

Location: Near the mouth of Ditch Creek in sec. 32, T. 34 S., R. 4 W., about 12 miles north of the town of Rogue River. Elevation of the property is approximately 1500 feet.

Area: 200 acres, patented.

History: The father of the present owners of the property homesteaded the ground many years ago and did not allow mining on the property while he was alive. Since his death in 1932, the property has been operated each season.

Geology: Bedrock is granite which is easily cleaned. The gravel contains no large rocks and only a small amount of clay. An average section is made up of 12 feet of gravel with 5 feet of overburden. Fifteen acres, reported to average about 25¢ a yard, has been mined. Gold is reported to be relatively coarse.

General: Water right consists of 20 c.f.s. from Ditch Creek. Water is delivered by means of a ditch about a mile long and through 3000 feet of pipe from 11 to 32 inches in diameter. Two giants (No. 1 and No. 2) deliver water under a head of 165 feet. Maximum snowfall is 2 feet.

Report by: J.E.M., 1938.

JACKSONVILLE MINING AREA

General:

The Jacksonville area is roughly triangular in shape. It is bounded on the north by the north line of T. 37 S., which in part is the approximate divide between Bear Creek and the Rogue River; on the east partly by the Willamette Meridian and partly by a north-south line through the center of Tps. 38 and 39 S., R. 1 W.; on the south and west by an irregular line which is approximately the divide between the Applegate River and Bear Creek drainages. This area comprises about 135 square miles.

The area is drained by Bear Creek and its tributaries. The drainage pattern is well-developed; ridges are fairly continuous. The northeastern part of Bear Creek Valley is wide and flat. In the southwestern part of the area, slopes rise from the level of the valley floor to elevations up to 4,400 feet on a spur of Grizzly Mtn. Relief is of the order of 3,000 feet.

The climate was described under Ashland area. Annual rainfall is about 30 inches compared to 40 inches in Josephine County, a short distance to the west. During winter months precipitation is in the form of snow above 3,000 feet.

Bear Creek Valley contains rich farming land, principally famous for its pear orchards. The hills and mountainous slopes of the southwestern part of the area are sparsely timbered.

The Siskiyou Branch of the Southern Pacific Railroad cuts across the northeastern portion of the area. Primary highways are U.S. 99 and State 238. Secondary roads and Forest Service truck trails connect the back country with the main highways. Medford is the only large city in the area.

Geology:

The generalized areal distribution of rocks is as follows: the western and southern portions of the area contain Triassic (?) greenstones; a granitoid intrusive occupies a small area in the northwestern part; most of the central and eastern parts are underlain by continental Umpqua formation of Eocene age which contains some coal beds; also on the east there are small areas of post-Eocene intrusives; Cretaceous Chico sediments underlie tho east side of Bear Creek Valley; and Western Cascades volcanics occur in the extreme northeastern part.

Shearing, which probably accompanied the granitoid intrusion, formed fissures in which mineralizing solutions ascended. Quartz veins were thus formed, and in places gold and silver together with copper, lead, and zinc minerals were deposited in the veins.

Mining

Gold was discovered on Jackson Creek near the present site of Jacksonville in the fall of 1851, and a mining district was organized in 1852 following the first rush of miners from California. Jacksonville was the seat of a county government which extended nominally from the Pacific Ocean to the Rocky Mountains and actually exercised legal authority from the ocean to the interior of Oregon. Both forks of Jackson Creek contained rich gravels and the district was very productive for several years. The Winston-Houston placer on Lane Creek, a tributary of Willow Creek was also worked in 1853.

Two quartz mills were erected during the 60's. The Hopkins Mill which was built on the left fork of Jackson Creek was not successful, and in 1869 it was converted into a sawmill. The Occidental Mill on the right fork of Jackson Creek cost $10,000; it was equipped with 10 stamps, 2 rotary pans, and a 40-hp. engine. The stamps had a crushing capacity of 20 tons a day.

Pocket-hunters were particularly successful in the Jacksonville area and there are many stories of fabulous strikes. During this early period production records were incomplete and unreliable. The gold recovered was shipped out through California, and California was credited with the production.

Early-day mining methods were not as efficient as present-day methods, and the stream gulches have since been reworked many times. They still provide a livelihood for a number of "snipers." Property owners in Jacksonville mined their own back yards and many vacant lots; residents still work the gravels by bedrock drifting. The old buildings, the backyard shafts, the old workings of early-day mines, and relics of pioneer days which are on display in a museum, all are of great historic interest.

Coal beds in the Umpqua formation have been explored fairly extensively. Production has been used to a limited extent for household heating. The coal generally contains very high ash. The coal area has been designated as the Rogue River Coal Field (Diller,09).

Favorable Prospecting Areas:

Most of the lode mines have been found along the western boundary of the area. Judging from the geologic evidence available, the most favorable area for prospecting is along this boundary.

Mining Properties:

Descriptions of mining properties of record are given in the following pages.

BLACK BEAR COAL MINE Jacksonville area

see Crater Coal Co., Sunnyside Coal Co., and United Coal Co.

Owners: Mary Woodward and Dr. S. C. Peters, Medford, Oregon.

Location: W½ sec. 36, T. 37 S., R. 1 W., 5½ miles southeast of Medford. Elevation is 2000 feet.

History and Geology: Parks & Swartley (16) reported on the Sunnyside Coal Company, as it was called in 1916, as follows:

> "The Sunnyside Coal Mine is in Sec. 36, T. 37 S., R. 1 W., about 5 miles east-southeast of Medford. Two entries have been made; the entry to the northwest is an incline equipped with a boiler and steam hoist. It was not inspected, being full of water. The other is horizontal and accessible; it is at an elevation of 1970 feet, as measured by aneroid barometer, and extends S. 34° E. about 650 feet. In places the roof has caved, but the entry is nowhere caved shut. Nearly the entire length of this adit the coal bed extends from the floor to the roof without showing its entire thickness, which was found to be about 12 feet at one point where caving permitted measurement. At the face of the adit the coal seam is 8 feet 3 inches thick, and in a branch passage to the south it is 15 feet thick. The quantity of coal in the seam varies remarkably so that a section at one point may show much more coal than at another. The maximum amount of coal in the seam is about 75 percent and the minimum in the main entry is about 30 to 40 percent. The coal bed has a strike of N. 72° W. and a dip of 13° N.E. The coal is brittle and slacks to small fragments upon exposure to the weather.
>
> "About 130 feet from the face of the adit, branch tunnels leave the main entry on both sides. Those extending to the northeast follow down the dip of the coal and are therefore full of water and inaccessible. On the other side one branch extends S. 84° W. about 500 feet; from this laterals extend northward to a parallel tunnel and other workings, whose extent was not determined.

Following the main branch to the west, the coal seams in the coal-bearing bed become thinner and the shale bands thicker until at the face the bed contains only a little pure coal.

"There are several faults disclosed in these workings, but they are not important, as the displacement is only 1 to 4 feet.

"J. S. Diller, of the U.S. Geological Survey, described explorations for coal, probably at this mine, in 1909, as follows:

"'The coal 6 miles east of Medford lies along the steeper slope, which rises from the edge of the valley, 600 feet above the town, to the bold front of the Cascade Range. Some years ago the Southern Pacific Company prospected a coal bed at this point, and the size of the dump indicates that the trial drifts must have been about 100 feet in length. Since then R. P. Little has discovered a number of other coal beds a short distance farther up on the same hillside and opened two of them by slopes, tunnels, and drifts, aggregating nearly 900 feet in length. Drainage is effected by a lateral tunnel into an adjacent ravine. Considerable coal has been hauled to Medford and sold at $8 per ton.

"'The principal bed prospected is about 12 feet thick, and the striking feature at the entrance of the gentle slope is the large number of clay and sand partings with very little coal between them. The partings weathering whitish are strongly contrasted with the darker bands. As the slope is descended along the bed there appears a decided increase in the quantity and improvement in the quality of the coal toward the northeast. The bands of black lustrous coal, generally not over 6 to 8 inches thick, locally swell to more than a foot and furnish the source of supply for the local demand. The intermediate shaly coal and coaly shale is abundant and requires much picking to obtain satisfactory results. Several faults striking N. 40° E. and dipping 26° to 42° S.E. have been encountered in the tunnels. The direction of movement and the amount of displacement could not be definitely determined. No lavas were seen in the mine, but they appear higher up, covering the whole succession of coal beds. The decided improvement in the coal down the dip suggested that as the most favorable direction in which to prospect.

"'Since the examination on which the foregoing statement is based was made, the Pacific Coal Company has purchased this mine and has developed the openings to the northeast along the dip of the coal bed for more than 1000 feet. The prediction that the coal would be found of better quality and in larger quantity has been confirmed. A few small faults have been encountered, but these are all of the normal type and easily overcome. The mine is now (1907) producing coal and supplies the local market. The development of this mine has greatly stimulated prospecting in other parts of the field.

"'J. A. Holmes of the Geological Survey collected a sample of coal at this locality last summer (1907) and has kindly furnished the following results of an analysis in the laboratory of the Survey fuel-testing plant.

"'Analysis of Coal Obtained Near Medford, Oregon
(F. M. Stanton, chemist in charge)

	As received	Air dried
Laboratory No.	5346	5346
Loss of moisture on air drying. .		2.00
Moisture.	11.30	9.49
Volatile matter	23.39	23.87

	As received	Air dried
Fixed carbon	31.89	32.54
Ash	33.42	34.10
Sulphur	1.16	1.18
Calories	4,183	4,268
British thermal units	7,529	7,683

"'The sample taken is a complete section of the coal bed exposed and represents what has to be removed in working the coal. It contains not only the good coal but all the shaly partings. The high percentage of ash indicates that the bed contains much that would have to be thrown away in mining. The ash is about four times as great as that of the bed mined at Libby in the Coos Bay region.'"

Yancey and Geer (40) reported as follows:

"The Black Bear mine, owned by the Crater Coal Co., is in the Rogue River Valley field, Jackson County, 5½ miles southeast of Medford in the W½ sec. 36, T. 37 S., R. 1 W., at an elevation of 2050 feet.

"The mine develops an unnamed bed, which strikes N. 50° W., and dips 15° N.E. The upper portion of the bed was measured and sampled at the face of a room advanced 50 feet up the dip from a point in the drift 800 feet southeast of the portal by E. K. Nixon, J. E. Morrison, H. F. Yancey, and M. R. Geer, May 11, 1939, as described below.

"Section of upper bench of unnamed bed in Black Bear mine.

Laboratory No.		B-40115
Roof, sandstone underlain by 16 inches of bone and coal:	Ft.	in.
Coal		6
Shale, brown, firm	a	1-½
Bone	a	1
Coal		4
Bone	a	2-½
Coal		1-½
Bone	a	2-½
Coal		6-½
Bone	a	4
Shale, brown	a	2
Coal, bone streaks		2-½
Bone	a	½
Coal	a	½
Bone	a	3/4
Coal, bright		4-¼
Bone and shale	a	5-½
Coal		3-¼
Bone	a	½
Coal		5
Bone, soft	a	1-3/4
Bone, hard	a	2-½
Shale, gray	a	½
Coal		5-¼
Bone	a	3-½
Shale, light gray	a	½

Section of upper bench of unnamed bed in Black Bear mine (continued)

	Ft.	in.
Shale, dark gray.		a 1-½
Coal, bony.		3-½
Shale and bone.		a 2
Clay, light (center parting).		a 3
Floor, main, sandstone, overlain by 6-foot lower bench of bone, shale, and coal		
Thickness of bench.	6	6-¼
Thickness in sample	3	5-3/4

a Not included in sample."

According to Yancey and Geer, proximate analysis of the sample (B-40115) "as received" was as follows:

	Percent
Moisture.	9.1
Volatile matter	30.0
Fixed carbon.	31.8
Ash	29.1
B.t.u.	8560

"The lower portion of the bed is 6 feet thick and is similar in character to the upper bench but contains a smaller proportion of coal.

"A drift driven about 900 feet in a southeasterly direction in the lower part of the bed and one small room in the upper portion of the bed were the extent of the mine workings at the time of sampling. Operation of the mine had been suspended.

"A small tipple on the property is provided with 3/4-inch bar and 3/16-inch square-hole stationary screens to separate the coal into lump, nut, and slack sizes."

This mine is reported to have been worked by the Pacific Coal Company and later by Southern Pacific Company for locomotive fuel. Three coal beds are reported. The lower one was mined by Southern Pacific Company; the slope is now full of water. The upper bed was mined by a Mr. R. P. Little. The middle bed is the one now (September 5, 1942) being worked.

A sample was cut at the face of the 952-foot tunnel on the middle bed, in September, 1942. The section is as follows:

Coal and bone	3.8 feet
Shale (excluded).	0.7 "
Coal and bone	0.8 "
Shale (excluded).	0.3 "
Coal and bone	1.7 "

Proximate analysis of this sample checked closely the results obtained by Yancey and Geer.

References: Parks & Swartley, 16:216 (quoted)
Yancey & Geer, 40:15-16 (quoted)

Informant: R.C.T., September 5, 1942.

BRINER LIMESTONE QUARRY — Jacksonville area

"This deposit is located in the NW¼ Sec. 28, and the NE¼ Sec. 29, T. 38 S., R. 1 W., 3.8 miles by road southwest of Phoenix, and the Southern Pacific main line. Mr. William Briner of Coquille, Oregon, has the property under lease.

"At 2350 feet elevation an old quarry which has been opened reveals limestone dipping N. 20° and striking NE-SW. The bed is approximately 20 feet thick, and is exposed for a length of 50 feet. Discontinuous exposures can be traced northeastward to 2800 feet elevation. Although the limestone probably occurs as a series of lenses rather than a continuous bed, a probable extension of the bed is noted on plate 63. The direction of dip of the limestone favors quarrying."....

"An analysis of limestone from this deposit follows:

SiO_2	0.61	MgO	0.34
Al_2O_3	0.21	Ignition loss. . . .	42.05
Fe_2O_3	0.23		
CaO	55.44	Total	98.88

"Assuming that the limestone bed is continuous for 300 feet into the hill, is 20 feet thick, and has an average height of 50 feet above the present quarry floor, it is estimated that 28,000 tons of stone are available. The quarry has not been worked for 40 years, and at that time the stone was burned in a kiln adjacent to tho quarry. Mr. Briner has offered to deliver the stone f.o.b. cars at Phoenix for $2.50 per ton."

Reference: Hodge, 38:300-302 (quoted)

CASCADE COAL MINE — Jacksonville area

"The largest supply of fuel provided by nature in the Jacksonville district is to be found in the deposits of coal interbedded with Tertiary sediments, probably of Eocene age. There are several seams of coal in the district and some of them have been opened by incline adits or slopes of notable length. Thus, the Cascade coal mine, about 5 miles northeast of Medford, is opened by a double track entry running in N. 87° E., said to be 900 feet long, with a slope at right angles to the adit inclined at an angle of 15 to 18°, and said to be 250 feet on the incline. The workings were nearly full of water when visited in June, 1913. The coal occurs in seams up to 6 inches thick, and is somewhat lenticular or irregular; it is reported to be better with depth. The mine is in Sec. 3, T. 37 S., R. 1 W., at an elevation of 1470 feet, as measured by aneroid barometer. Nearby a small incline has been run N. 40° E., showing a coal-bearing seam about 2 feet thick, which strikes N. 50° W. and dips about 10° N.E. A section near the portal of the west tunnel is given.

"Section at Cascade Coal Mine

	Feet	Inches
Sandstone	2+	
Coal.		6
Coaly shale	4	6
Coal.		2
Coaly shale		2
Coal.		2
Coaly shale		4
Coal.		3

"By sorting, some coal has been obtained from the Cascade Mine for local uses. Fossils, said to indicate Eocene age, were obtained from the dump."

Reference: Parks & Swartley, 16:52 (quoted)

CRATER COAL COMPANY — Jacksonville area

see Black Bear Coal Mine

ENSELE QUARRY (limestone) — Jacksonville area

"About a mile up the creek to the south is a lime quarry and kiln belonging to Peter Ensele in the N.W.¼, sec. 6, T. 38 S., R. 2 W. The limestone appears to be a lens-shaped mass whose greatest dimensions correspond with the dip and strike of the argillite of the region. However, the deposit was so small that after an attempt to find it at greater depth by a crosscut adit had failed, the work stopped."

Reference: Winchell, 14:142 (quoted)

GOLD STANDARD MINE — Jacksonville area

see Gold Standard Mining Co.; Williamson Mine

GOLD STANDARD MINING COMPANY (gold) — Jacksonville area

see Williamson Mine

"This company owns the Gold Standard mining claim and the Grass Valley mining claim, consisting of about 30 acres, in Sec. 25, T. 37 S., R. 3 W., 2½ miles west of Jacksonville. This property joins the Opp mine on the northwest and is supposed to be on an extension of the Opp vein."

Reference: Parks & Swartley, 16:110 (quoted)

GRACE DIGGINGS (placer) — Jacksonville area

Owners: Woods Estate of Redding, California and William Waybright of Jacksonville, Oregon.

Lessee: A. C. Donat.

Location: 80 acres in NE¼ sec. 2, 20 acres in NW¼ sec. 1, T. 38 S., R. 3 W., on State highway 238, 1½ miles northwest of Jacksonville.

Area: 100 acres - 80 acres, patented, and 20 acres, unpatented.

History: The 20-acre property in sec. 1 has been placered by hand methods but the 80 acres in sec. 2 has not been worked (work was started in 1940).

Geology: The true bedrock is limestone. There is a false bedrock of schist and shale overlain by large boulders. Conditions below the false bedrock have not been investigated.

General: Equipment includes 2 Sterling pumps (2-inch and 4-inch). Water is available from December to early May of normal years. Full water rights, held by the property owners, were transferred under the lease.

Informant: A. C. Donat, Box 180, Jacksonville, Oregon.

Report by: R.C.T., March 19, 1940.

HANSEN COAL MINE Jacksonville area

Location: sec. 3, T. 37 S., R. 1 W. (Wells, 39).

Geology: "The Hansen Coal Mine is less than 1 mile north of the Cascade and at an elevation of 1650 feet, as measured by aneroid barometer. The entry is irregular and shows only a little coal; 130 paces from the portal a 2-inch seam of coal strikes N. 30° W. and dips 20° N.E. At 140 paces from the portal a raise to the surface exposed the following section:

"Section at Hansen Coal Mine

	Feet	Inches
Surface		
Shale	30	
Clay		1- 3
Coaly shale		1
Coal, with thin shaly partings		12
Carbonaceous shale		2
Coal		½
Carbonaceous shale		2½
Coal		1
Coaly shale		3
Coal		½
Carbonaceous shale with thin seams of coal		18
Covered.		

"The coal here strikes N. 40° W., and dips 10° N.E."

Reference: Parks & Swartley, 16:116-117 (quoted)

JACKSON MINING COMPANY (dry-land dredge) Jacksonville area

Owner: George Wendt, Jacksonville, Oregon.

Operators: E. B. Skeels, Auburn, California, W. A. Kettlewell and Wm. S. Mead.

Location: NE¼ sec. 32, T. 37 S., R. 2 W., just east of Jacksonville.

Area: 30 acres under lease.

History: Operations began in April 1941. The property was worked continuously until about February 1942 when work ceased as the digging equipment was reported to have been requisitioned for construction of Camp White near Medford.

Equipment: Lima dragline with 1½-cu. yd. bucket and 75-ft. boom. The washing plant was mounted on tracks similar to the one diagrammed in U.S. Bureau of Mines Information Circular 7013, p. 24. Four Ainlay bowls were used as gold savers.

General: The leased ground is on the west side of the wide Bear Creek Valley, and is in the farming area east of Jacksonville. A small stream flows through the property, and the water table is reported to be quite high.

Depth of ground above bedrock is from 25 to 40 feet, with soil overburden ranging from 1 foot to 20 feet. Very few boulders are reported. The ground was worked in a series of cuts; the tailings from one cut were stacked in the previous out and the soil was replaced and leveled on top of the tailings.

Report by: R.C.T., April 1, 1941.

JACKSONVILLE BRICK & TILE COMPANY (clay) Jacksonville area

"A clay deposit about a mile west of Jacksonville has been used for making brick with good results. The deposit and equipment are owned by the Jacksonville Brick & Tile Co., Mr. A. Scholl, of Jacksonville, president. The plant has a capacity of 35,000 brick per day or their equivalent in drain tile. It is equipped with a set of geared rolls, pug mill and auger machine, a series of dry-sheds and a down-draft kiln for burning drain and sewer tile. The bricks are burned in open cased kilns. The clay is red and contains small particles of quartz which render the brick somewhat rough. The accessible supply of clay seems to be limited and the owners now grind weathered schistose argillite, which occurs in the hill directly beneath the clay, as a partial substitute. The argillite strikes N. 20° E. and dips nearly vertically; it is probably of Paleozoic age."

Reference: Winchell, 14:141-142 (quoted)

JACKSONVILLE MINING & MILLING COMPANY (placer) Jacksonville area

"Office: Jacksonville, Oregon. Mary E. Day, Pres.; Kate Hoffman, Sec.-Treas., both of Jacksonville, Oregon. Capital stock, $10,000; par value $1.00; all subscribed, issued and paid up. (1916 report)

"This company owns 40 acres of placer ground in the SW¼ sec. 25, T. 37 S., R. 3 W., 4 miles west of Jacksonville."

Reference: Parks & Swartley, 16:133 (quoted)

JACKSONVILLE PLACER Jacksonville area

Owners: Fred Christine, Bill Dobbins, Watt Smith, Jacksonville, Oregon.

Operators: Fred Christine and Bill Dobbins.

Location: NW¼ sec. 32, T. 37 S., R. 2 W., inside the city limits of Jacksonville, along Jackson Creek downstream from the highway bridge.

History: "The chief placer deposit is along Jackson Creek, where one of the early discoveries of gold in Oregon was made in the fall of 1851, and the Jacksonville district, including both forks of the creek and its tributaries, was organized the following year. Both forks were worked as placer from the town up stream for a mile or more; some gravel was worked within the town limits. The bedrock of the placer on the south fork is a rock consisting of very fine quartz, pale brown mica and a black dust resembling magnetite."

This ground was extensively placered in the early days. In recent years the ground has been dredged. One operator had a dry-land plant in 1938. H. D. Hendricksen and A. P. Rose had a Bodinson washer and a P & H 3/4-yard shovel on the placer in the summer of 1939. The present operators began work about December 1, 1941.

Equipment: Dragline, with a 1-yard shovel, is Diesel powered. The floating washing plant has wooden pontoons; the trommel is 3 by 8 ft.; the stacker is 35 feet long. Capacity is about 500 yards in 12 hours. Gasoline power is used on the boat.

General: The ground has been worked many times. Digging is not difficult. Depth to bedrock varies from 2 to 8 feet. About 10 percent of the boulders are reported to exceed 12 inches in diameter; most of the boulders average about 6 inches.

Reference: Parks & Swartley, 16:133 (quoted)

Report by: R.C.T., April 7, 1942.

NORLING MINE (gold) Jacksonville area

Owner: Nate W. Smith, Rt. 2, Box 272, Medford, Oregon.

Location: SW¼ SW¼ sec. 26, T. 37 S., R. 3 W.

General: "The Norling mine is about 4 miles west of Jacksonville and ½ mile southwest of the Yellow King and is owned by Medford Mining & Milling Company.

"During June and July, 1913, Mr. Butterly was driving a crosscut adit for the company, his compensation being the right to stope a given area. During development in 1905-1907 the Norling is reported to have produced 120 tons of ore worth $6400. The main adit is at an elevation of 3130 feet as measured by aneroid barometer. For 240 feet it follows a vein which dips 75° S. with minor irregularities. The gold is said to be chiefly in the quartz; the pyrite is even more abundant in the rock adjoining the vein than in the vein itself. Considerable ore has been stoped out above this adit. The vein is 8 to 18 inches wide containing much quartz. The country rock is like that at the Yellow King. A new crosscut adit has been driven S. 13° E. about 215 feet at an elevation of about 3115 feet; it is expected that this entry will strike the vein when driven about 100 feet farther. It intersects one vein at 125 feet from the portal, which strikes N. 65° W. and dips about 65° N. A stringer at 150 feet from the portal strikes N. 83° W. and dips about 65° N., and another at 200 feet from the portal strikes N. 87° W. and dips 70° north. It is reported that further development work was done in 1916, drifting on the main vein."

Equipment: 8½-ton mill.

Informant: Nate Smith.

Reference: Parks & Swartley, 16:162-163 (quoted)

OPP MINE (gold) Jacksonville area

Owner: J. W. Opp, Jacksonville, Oregon.

General: "The Opp Mine was discovered many years ago, but its chief development has taken place within the past 10 years. According to Mr. Beekman, the banker at Jacksonville, the mine produced about $100,000 while controlled by him. Since then it has been operated by a company, by Mr. J. W. Opp, and by lessees. The mine is located in sec. 36, T. 37 S., R. 3 W., about 1½ miles west of Jacksonville at elevations ranging from about 1850 to 2850 feet above sea level. The land held by the mining company includes nine 40-acre plots and 1 mining claim, making a total of 373 acres. It is opened by 18 adits disclosing three main veins. The longest crosscut entry is about 850 feet; another is 550 feet long. The total underground workings amount to about 7000 feet, the distribution of which is shown in the figures. The surface equipment consists of about 3600 feet of tram line, a 6-drill Leyner compressor, a 20-stamp mill with concentrator, a 125-ton cyanide plant, and other buildings. The mill has a crusher, a Dorr classifier, 1 Wilfley and 6 Johnson concentrators, 20 stamps and 4 plates.

"The adit 10 or Roger vein is apparently the same as the adit 7 vein, although it is not easily seen in adit 8 whioh it should cross at a point about 60 feet from the portal. At the breast of adit 7 a slip or fault strikes north and dips 50° E.; its effect on the vein is not clear because of lack of development work. The Roger vein strikes N. 60° W. and dips 50 - 63° S.W. It has a thickness of 3 to 12 feet of which 2 to 4 feet usually contain most of the gold. The hanging wall is defined, but the vein grades into the footwall, which is replaced or impregnated with ore. The footwall in adit 10 is a dark shaly rock which strikes

N. 5° W. and dips about 84° E. Near the portal of adit 7 the footwall shale strikes N. 15° E. and dips about 70° W. This shaly rock is interbedded with quartzite samples of which from the hanging wall of adit 10 consist of fine granular quartz in places, in bands of varying size with more or less yellowish brown iron stain and rare crystals of pyrite; less commonly the stain is chloritic. In some places the ore is brecciated, and the original quartz is coarse and contains very little pyrite, which is found especially in the cementing material of calcite and quartz and also in fragments of carbonaceous shale. This is evidence that the ore was formed not at the time when the veins were first produced, but at a later time when they were fractured and new solutions brought in cementing materials. According to Mr. Opp the pay shoots are usually where the veins are thickest; in other mines when the ore is deposited simultaneously with the gangue this rule is usually reversed, and the condition at this mine is another indication that the gold was introduced after the deposition of the primary quartz of the veins.

"The adit 8 vein is the southwest vein in adits 5 and 9 and is also seen in incline shaft 2 and probably in the old surface stopes. On adit 5 level this vein has a thickness of about 4 feet; it strikes about N. 50° W. and dips about 60° S.W. The country rock is a siliceous argillite containing some chlorite and pyrite.

"The adit 1 vein is probably the same as the vein near the breast of adit 2; it may be continuous with the adit 8 vein, but there are no workings to prove the connection. In adit 1 the vein strikes N. 57° W. and dips about 75 - 80° S.W. It has a thickness of 14 feet, 8 or 10 feet of which on the footwall have been stoped out to the surface. The country rock of the vein is an andesite rich in ferromagnesian minerals. A sample from near the portal contains abundant green hornblende, some plagioclase, some biotite, titanite, and a little quartz. This andesite is so intimately associated (as an intrusive sill?) with the old Paleozoic sediments that upon weathering it develops a schistosity nearly parallel with the bedding of the latter; near the portal of adit 1 this schistosity strikes N. 10° W. and dips 70° E.

"The adit 2 vein (near the portal) has not been traced elsewhere; it strikes N. 65° W. where cut by the adit about 50 feet from the portal. It is possible, but not probable, that this is the same as the Roger vein.

"The adit 11 vein is probably the downward continuation of the adit 8 vein, or possibly of the Roger vein. If the former interpretation is correct the Roger vein is probably represented by the small vein about 85 feet east of the main vein. The small vein strikes N. 53° W. and dips about 54° S.W.; it contains about one foot of quartz and 2 or 3 feet of sheared country rock. About 10 feet farther in a shear zone strikes N. 72° W. and dips 54° S. This is visible again where it crosses the drift not far from the crosscut; here it has the same strike and dip and a thickness of about 10 inches, but produces no apparent offset in the main vein. The latter is opened by a drift said to be 500 feet long disclosing a vein varying in thickness from 5 feet to a maximum said to be 25 feet. It strikes about N. 45° W. and dips about 75° S.W. Too much water prevented its inspection.

"The adit 18 vein is shown by continuous stoping above that level to extend upward to adits 16, 15, 14, and 13. It varies in strike from N. 70° W. to S. 75° W., averaging nearly west, and dips about 68° S. The vein is continuous on the strike except where cut by a fault, shown clearly in the east drift from adit 13, which strikes N. 20° W. and dips 65° E. On level 18 a fault block seems to separate the two parts of the vein and the west side of the block is marked

by a fault which strikes about N. 38° E. and dips 42° S.E. The vein is largely quartz and averages about 5 feet thick. The value is said to increase where the thickness increases, being about $5.00 a ton in the ore shoots. One ore shoot is about 300 feet long on this level; another is about 150 feet long. The longer one did not reach the surface by 40 or 50 feet in its middle half. After amalgamation ore from this vein concentrates about 40 to 1 and the heavy sulphides are worth about $60.00 a ton. A rock sample from the crosscut entry (adit 18) contains abundant pale hornblende, some zoisite, calcite, and quartz with a dark staining material; it is a much altered rock, probably originally a quartzose shale.

"Mr. Opp has continued development in a small way during 1916, most of which has been on a new surface showing a few hundred feet south of the mill which he calls the porphyry vein.

"The mine as a whole is in good shape and has a large amount of excellent equipment. A considerable additional expenditure is warranted in the further development of ore bodies already exposed in the mine and in arranging the mill to treat the same according to the best milling practice."

The Pacific States Mines worked the property from 1931 to 1935, and later in 1939 or 1940 the mine was again active. It is reported that the mill had a rated capacity of 100 tons, using Kraut flotation cells. Gold recovery was not satisfactory. In 1941 Mike Bright, Grants Pass, Oregon, treated the tailings by cyanidation.

Reference: Parks & Swartley, 16:168-170 (quoted)

Informant: R.C.T., April 1, 1941.

OREGON GRANITE COMPANY (building stone) Jacksonville area

Location: sec. 17 (?), T. 37 S., R. 2 W., two miles north of Jacksonville.

General: "The chief building stone is 'granite' which outcrops in cliffs about two miles north of Jacksonville at an elevation of about 2000 feet, as measured by aneroid barometer. The 'granite' here is weathered to a depth of only 10-20 feet, and the underlying rock is solid with joints well spaced. In a gulch near the quarry of the Oregon Granite Company weathering extends to somewhat greater depth. The rock is quite coarse in grain and of a mottled bluish gray color. Bunches of much darker color are present, but they are not abundant; they seem to be due to incomplete assimilation of fragments of foreign rocks caught in the granitic magma before its crystallization. Microscopically this rock consists chiefly of coarse plagioclase feldspar with some quartz, brown biotite, green hornblende, and a little titanite and magnetite. The hornblende is partly altered to chlorite, and most of the plagioclase is zonal, showing partial alteration to sericite at one stage of growth and external borders wholly unaltered. Petrographically the rock is a typical tonalite, or quartz diorite. The joints along which the rock breaks in quarrying are well shown in the photograph of the quarry (Plate III)."

Reference: Winchell, 14:140 (quoted)

ORTH PLACER Jacksonville area

Owner: Gold Ray Realty Company, Medford, Oregon.

Location: SE¼ sec. 32, T. 37 S., R. 2 W., just south of Jacksonville.

The placer has been worked intermittently in a small way by various lessees.

PACIFIC STATES MINES — Jacksonville area

see Opp Mine

ROXY ANN COAL COMPANY — Jacksonville area

Operator: John Watson.

General: Oregon corporation: Frances Leland, Pres.; A. E. Reames, Sec., 412 Liberty Building, Medford, Oregon. Capitalization, $5000; property, 120 acres of patented coal land, SE¼ of SW¼ and SW¼ and NE¼ of SE¼ of sec. 15, T. 37 S., R. 1 W. No activity.

A mining engineer's report says:

".....John Watson,.....opened some 800 feet of tunnel and exposed one bed or 15 feet thickness of coal. There is a good quality of coal here, showing good heat value. Close banding indicates good pressure and the coal comparatively free from impurities. No marketing was done, due to an injunction served in 1918, since which time no operations have been carried on. As this property would have to be reached over a mile of unsurfaced road and heavy grade, it is not given consideration for present purposes."

The report is not dated.

Informant: Hugh C. Ingle, mining engineer.

SUNNYSIDE COAL COMPANY — Jacksonville area

see Black Bear Coal Mine

TOWN MINE (gold) — Jacksonville area

Location: sec. 25, T. 37 S., R. 3 W.

General: "The Town Mine near Jacksonville, is on a ridge about 800 feet west of the reservoir on Jackson Creek at an elevation of 2200 feet as determined by aneroid barometer. It is owned by J. G. Rinehart. A bunch of rich gold ore known as the Johnson pocket and reported to have yielded $30,000, was taken from a shallow cut in a quartz vein in micaceous shales near the top of the ridge. The old partly filled opening marking the site of the pocket is curved like a circumflex as shown in the drawing. At the point C the shaly layers are curved, probably as a result of faulting in a direction DE, which seems to have offset the vein about 16 feet. A crosscut adit was driven from a point about 300 feet down the hillside to the southeast to cut the veins under the pocket. It was run N. 35° 265 feet, then north 70 feet and easterly about 150 feet as shown in the drawing. At 200 foet from the portal a mass of quartz was cut in the northeast wall, but as it did not continue across the adit it was not recognized as the vein, and the adit was continued. More recent work at this point discloses a narrow band of quartz in an apparent fault leading southerly to more quartz which is probably the faulted continuation of the main vein, the offset being similar to that observed on the surface. The vein strikes north of west and has a nearly vertical dip. The extension of the adit opened a second nearly parallel vein which pinched out to the east, the tunnel then following a dike along the south side of which the vein was formed. The country rock is a shaly argillite which strikes N. 10° E. and dips 80° E. A dike present in the adit consists largely of hornblende and is a mafic diorite or a spessartite.

"About 600 feet to the north on the northeast slope of the ridge at about the same elevation another adit runs 15° W. nearly 200 feet. At 185 feet from

the portal it cuts a 2-foot vein of quartz which strikes S. 85° W. and dips steeply to the north. A drift of 20 feet to the west on the vein shows no important change in character. This is apparently below a shallow pit on the surface, about 120 feet higher, made in taking out the 'Bowden' pocket which is reported to have yielded $60,000.

"Beside the reservoir on Jackson Creek another vein called the Reservoir ledge has been worked. The vein in this ledge is 1 to 3 feet wide and strikes N. 85° W. with a dip of about 85° N. It is opened only on the surface.

"There has been no activity at this mine for several years."

Reference: Parks & Swartley, 16:222-223 (quoted)

UNITED COAL COMPANY — Jacksonville area

see Black Bear Coal Mine

WILLIAMSON MINE (gold) — Jacksonville area

Owner: L. A. Williamson, Medford, Oregon.

Location: SW¼ SW¼ sec. 25, T. 37 S., R. 3 W., in the general vicinity of the Opp and Norling mines.

Development: A drift 40 feet long, and a shaft 15 feet deep. Assays which range up to $8 a ton in gold have been obtained.

Informant: J.E.M., 1938.

WINCHESTER-HOUSTEN PLACER — Jacksonville area

Owner: Herbert Spriggs, Route 1, Box 122, Central Point, Oregon.

Location: sec. 6, T. 37 S., R. 2 W., on Lane Creek tributary to Willow Creek.

Area: 127 acres of patented land, which contains about 30 acres of placer ground.

History: First work was done on this placer in 1853. It was hydraulicked by means of a ditch from Willow Creek. The water right dates back to early times. The last hydraulic work was done about 1929 by Spriggs. The Williams equipment (see Williams placer, Upper Applegate area) including a shovel and washing plant operated on the lower end of the property in 1938-1939.

Geology: Bedrock is a somewhat weathered porphyry most of which is soft enough to dig. Maximum size of boulders is ½ yard; they average about 8 inches in diameter. There is no clay. Gold is about 860 fine; both pocket and placer types are found. Size is medium fine, although some $8 - $10 nuggets have been recovered. One, valued at $36, was found about a year ago. The mining channel is from 200 to 250 yards wide, 3/8 of a mile in length, with an average depth of 8 to 10 feet. The Williams operation recovered about 20 cents a yard, but entire area is reported to average 25 cents a yard. Water for a floating washing plant is available for 7 months a year.

Equipment: No equipment on the property in 1940; "sniping" is the only activity. The water right includes a high-line ditch 1½ miles long.

Informants: Bill Berry and Herbert Spriggs, April 17, 1940.

Report by: R.C.T., April 17, 1940.

YELLOW KING MINE — Jacksonville area

"The Yellow King Mine, 4 miles northwest of Jacksonville, on Jackson Creek is owned by the Medford Mining & Milling Company; in sec. 26, T. 37 S., R. 3 W., at an elevation of 2800 feet, as measured by aneroid barometer. A crosscut adit extends N. 17° E. about 240 feet; at the face drifts run about 20 feet in a 3-foot vein with quartz seams and some sulphides. The country rock is a dark massive andesitic rock; all the vein matter is hard and impervious. At 197 feet from the portal the adit cuts a vein marked by much fault gouge and very wet; the walls are well defined, but there is little quartz and less pyrite in this vein, which strikes S. 83° E. and dips 77° S. At a shaft on the hillside to the south at an elevation of about 2900 feet free gold is visible in iron-stained quartz."

Reference: Parks & Swartley, 16:240 (quoted)

LAKE CREEK MINING AREA

General:

The Lake Creek mining area, comprising 216 square miles, includes all of Tps. 35, 36, 37 S., Rs. 1 and 2 E., mostly lying within the drainage of Butte Creek. It is directly north of the Ashland area and east of the southeast part of the Gold Hill area.

The area is mountainous, with elevations ranging from 1500 feet on the northwest to 4950 feet on some of the ridges. Slopes are steep, and ridges are continuous. Drainage is northwest by means of Little Butte Creek, Butte Creek and Antelope Creek. The mountains are sparsely timbered. The area lies outside the Rogue River National Forest.

The climate is somewhat drier than that of the Ashland and Jacksonville areas. Weather bureau records give incomplete data on the rainfall of the area.

Transportation facilities are fair. A branch of the Southern Pacific Railway extends to Eagle Point from Medford. Roads follow the main stream courses but roads or truck trails into the mountain areas themselves are practically nonexistent.

Geology:

The entire Lake Creek mining area is underlain by Tertiary volcanics of the Western Cascades, except for a very small tongue of the Umpqua formation at the southwest.

Mining:

Mining in the Lake Creek area has been confined to manganese and clay. The reported occurrence of beryllium minerals has not been confirmed by the U.S. Geological Survey parties or by the State Department. Clay has been mined near Brownsboro from altered volcanics for use as refractory material.

Manganese was mined in the area during the first World War. The Tyrrell mine in sec. 10, T. 37 S., R. 2 E. was the principal producer. Production ceased with the armistice.

Wells (39) discusses manganese in the area as follows:

> "Deposits of manganese oxide filling open spaces are found in the Tertiary volcanic rocks of the eastern part of the Medford Quadrangle. All found thus far lie within the Lake Creek district, an indefinitely bounded area that includes the drainage basin of Little Butte Creek east of Eagle Point and the contiguous area just north of the Medford Quadrangle. Outcrops of manganiferous material are scattered throughout the district and the rocks that contain them are commonly colored dark red by iron oxide. The larger deposits are confined to one member, composed in part of flow breccia, and in part of tuff and breccia of explosive origin, and to fault breccia close to this member. Although the manganese was deposited mainly in cracks and irregularly shaped cavities, it has clearly replaced some of the enclosed rocks to a minor degree. In the upper part of the breccia member most of the oxide masses are soft and sooty and in the lower part they are rather hard and compact. Most of the harder material probably consists of manganite with minor quantities of pyrolusite and other oxides. A small part consists of psilomelane. Soft but coherent wad of low specific gravity occurs in places throughout the breccia and powderly or sooty varieties of wad are found generally in cavities in the upper part. A soft, brown, unidentified oxide composed of bronzy-lustered scales is widely distributed in small amounts. Locally kaolin, calcite, gypsum, barite, zeolites, and a trace of gold, are associated with the manganese minerals. In most places the material exposed at the surface is estimated to contain from .5 to 3 percent of manganese, but at the Tyrrell Mine (No. 6) and at Newstrom Prospect (No. 5) irregular masses of

several tons are known to contain from 10 to 20 percent. Owing to the comparative softness of the tuff it is very easily separated from the harder manganese oxides by gravity separation, but the soft manganese minerals of low specific gravity may be difficult to recover.

"The main factor in the localization of ore is the presence of permeable rocks with openings of any kind. Obviously the breccia member is the most favorable place for prospecting and the most favorable places within this member are along faults. This structural control is best illustrated by the Tyrrell mine.

"Although these conditions have accounted for the largest deposits, prospects are present in vesicular flows (for example, the Vestal and Black prospects north of the quadrangle), but they are also in the same general part of the volcanic series as the breccia member.

"A complete explanation of origin would be premature at present, but certain inferences are appropriate. The character of the altered rocks implies that solutions permeating the volcanic series leached manganese and silica and transferred them to openings mainly in the breccia member. Whether the leaching took place at some distance from or within the breccia member is not clear. The prevalence of iron oxide that has discolored the breccia and other rocks in and around the deposits implies that the solution that brought the manganese oxidized but did not remove much of the iron. The more soluble manganese could have been removed from this rock but the amount of manganese is too great to be accounted for by such local leaching.

"Although the manganese deposits have doubtless been modified by circulating groundwater derived from the present surface, the facts enumerated above seemingly imply that the major concentration of manganese took place prior to the formation of this surface. This inference is supported by the facts that the manganiferous layer is overlain in places by unaltered flows and that erosion has been too rapid to permit much concentration of manganese just below the present surface.

"The Newstrom (No. 5) and Tyrrell Mine (No. 6) are the two most promising prospects in the area. Other prospects are the Brown (No. 4), Just (No. 7), Fox (No. 8), and Coon Creek (No. 9) prospects."

Favorable Prospecting Areas:

Following Wells' conclusions on the occurrence and origin of the manganese ore, favorable prospecting areas would be those in which there has been considerable brecciation. The nature of deposition makes prediction of available ore difficult. Systematic exploration is necessary in order to determine quantity as well as quality of ore.

The Brownsboro refractory clay locality was originally opened as a cinnabar prospect. This suggests that some of the zones of altered rock may contain cinnabar minerals. Many of these altered rocks have proved to be usable as refractory-clay materials (see Wilson and Treasher, 38).

Mining Properties:

Descriptions of mining properties of record are given in the following pages.

BROWN PROSPECT — Lake Creek area

see Brownsboro Clay

BROWNSBORO CLAY — Lake Creek area

Owner: Klamath Falls Brick & Tile Co.

Location: NE¼ sec. 11, T. 36 S., R. 1 E., about 6 miles east of Eagle Point, in the vicinity of Brownsboro.

History: The property was originally opened as a quicksilver prospect. Some of the material was mined by the Klamath Falls Brick & Tile Co. for the manufacture of refractory brick.

Development: A short tunnel containing two crosscuts was driven into the altered rock, and a shaft was sunk 20 feet below the tunnel level. This work was done while prospecting for cinnabar.

Geology: According to Wells,39, the country rock is buff-colored, fine-grained tuff with fragments of flow rock. Some of this rock has been altered by hydrothermal solutions and some cinnabar was deposited. The light-colored altered rock has fair refractory qualities; the iron-stained rock is below refractory grade.

References: Wells, 39
Wilson & Treasher, 38:81

Report by: R.C.T., January 6, 1942.

BUSH RANCH (manganese) — Lake Creek area

"This property adjoins the Tyrrell mine property on the north and northwest.

"Owner: B. M. Bush, Lake Creek, Oregon.

"Location: sec. 9, T. 37 S., R. 2 E. (Medford geologic map)

"The ranch includes the W½ of the NW¼ sec. 10; the S½ of the NE¼ and the S. 31 rods of the NE¼ of the NE¼ of sec. 9.

"Authority: Wells (39) and Libbey, F. W."

Reference: Libbey & Others, 42:16 (quoted)

CALL OF THE WILD (copper, manganese) — Lake Creek area
formerly Grand Cove Prospect

Owner: R. E. Edmondson (address unknown)

General: "The Grand Cove prospect, in Jackson County, reveals native copper as nodules in volcanic breccia between vesicular flows of dark labradorite andesite or basalt without any vein or any indications of sulphides. It thus differs markedly from the mineral deposits previously described. The seven claims of the property comprise parts of secs. 29, 32, 33, and 35, T. 35 S., R. 2 E., 5 miles north of Lake Creek, on an open gently sloping upland bench. The distance by road from Medford, by way of Brownsboro and Salt Creek, is 26 miles. The 1½ miles nearest the prospect could not be traveled by car in 1931.

"The workings consist of an open cut 60 feet long with a maximum depth of 10 feet and a shaft reported to be 30 feet deep on a gently sloping open bench at an altitude of nearly 2,900 feet. The deposit was discovered in 1917 by L. A. Obenchain, the owner, while searching for manganese. A carload of ore is said to have been shipped to the Tacoma Smelter, but no data on the shipment are available.

"The copper is confined to volcanic breccia associated with vesicular black labradorite andesite or basalt that is nearly horizontal but dips slightly to the west at the prospect. The flow rock contains red spots that are iddingsite pseudomorphs after olivine and calcite amygdules that are stained greenish near the rock. The breccia is largely altered to clay minerals and contains little greenish spots and veinlets consisting mainly of chrysocolla with a little malachite and very little azurite. Limonite and some manganese oxide occur in irregular black spots and fracture fillings through the altered rock. The copper occurs in dendritic form in nodules, some of which are 6 inches long. The copper is partly changed to cuprite (pl. 7,B), which is in turn surrounded by opal and chalcedony, with small amounts of chrysocolla and malachite. Openings are partly filled with the chocolate-colored clay mineral beidellite.

"Prospecting has not been sufficient to reveal the full extent of the deposit. The copper ore appears to be very erratic in its distribution."

The ground formerly included in the Grand Cove prospect was re-located by R. E. Edmondson and a partner, and re-named the Call of the Wild. No work has been done on the property and conditions are as indicated by Callaghan and Buddington, 38.

Reference: Callaghan and Buddington, 38:132 (quoted)

Informant: O. H. Metzger, May 21, 1943.

COON CREEK CLAIMS (manganese) Lake Creek area

see Gemmell claims

"Soft manganese oxides are found in cavities in red tuff, over a considerable area. One test pit shows good concentration of manganese oxides. Survey of the area suggests that the oxides were not deposited in any one zone or layer and that deposition was spotty. Further prospecting might show manganese oxides over a considerable area, but at present insufficient work has been done to indicate ore possibilities.

"As nearly as can be determined this deposit is the Gemmell deposit of Pardee (21:222), which is quoted below:

"'A considerable area of red tuff south of the Sierra Metals Co.'s ground is covered by the Gemmell claims. According to Mr. Parks, the outcrops show about the same amount of manganese as elsewhere.'"

"The following is from the report by the State Department:

"Owners: Timber Products Co., Medford, Oregon.

"Location: SE¼ SE¼ sec. 20, T. 37 S., R. 2 E., at the head of Coon Creek, a tributary of Lost Cr., which is a tributary of South Fork Little Butte Creek; and about 2½ miles SW. of the Tyrrell Manganese Deposit. Marked as No. 9 on the Medford Geologic Map.

"History: Prospecting in the Coon Creek area has been fairly active recently, stimulated by the demand for strategic minerals. The Timber Products Co. has financed most of the work.

"Development: Development consists of one test pit, about 5 feet square and 10 feet deep. A few scattered 'shots' have been fired in tuff masses nearby.

"Geology: The general geology of the area is discussed by Wells (39). The principal country rock is a lava series composed of 'dominantly dark-gray andesite flows with local layers of tuff and breccia.' Interbedded in these flows is a 'buff fine-grained tuff with fragments of flow rock.'

"Conditions of manganeso deposition are discussed by Wells in the text on the back of the geologic map. Briefly, manganese-bearing solutions percolated through the tuff; where conditions were favorable, manganese oxides were deposited.

"The tuff at Coon Creek has a distinct reddish color. In part it is quite porous; some of it is dense. Some fragmental material that looks like volcanic bomb fragments was found.

"Manganese material in the test pit, carefully sampled by Mr. Herman of Timber Products Co. and assayed by A. A. Lewis of the State Assay Laboratory, averaged 4.9 percent Mn. The tuff is dark red, containing small to large masses of black oxide. The top of the ridge is well sprinkled with tuff outcrops, some of which form sheer cliffs up to 30 feet high. Only in occasional spots were any manganese oxide showings found in these cliffs.

"Some oxide stain was found in joint cracks and lining cavities in the tuff. If the material in the pit averages 4.9 percent Mn, the average for the entire deposit will be considerably lower.

"Report by: Treasher 9/4/40"

Reference: Libbey & Others, 42:19-20 (quoted)

DALY PITS — Lake Creek area

see Homestake Claim

FARRAR PITS — Lake Creek area

see Star F. Ranch

FOX PROSPECT (manganese) — Lake Creek area

"Soft manganese oxides, exposed in shallow cuts and trenches, occur in pores and cavities of tuff. No ore is developed. It is assumed that the Fox prospect is the same as the Sierra Metals Company described by Pardee (21:222).

"Location: sec. 17, T. 37 S., R. 2 E., on ridge between Lake Creek and Lost Creek.

"Authority: Wells (39)
Pardee (21:222) describes the claims as follows:

"'Several claims belonging to the Sierra Metals Co., are on the wide flat ridge between Lake Creek and Lost Creek, about 3 miles southwest of the Tyrrell mine. They include an area of red tuff that crops out at altitudes ranging from 2500 to 2700 feet. A few shallow pits show a little soft manganese oxides here and there in the pores or cavities of the tuff. In places the red tuff is overlain by remnants of a bed of gray tuff, and in places large boulders of a brown jaspery quartz containing seams of manganite are scattered over the surface. No ore is developed.'"

Reference: Libbey & Others, 42:19 (quoted)

GEMMELL CLAIMS — Lake Creek area

see Coon Creek Claims

GRAND COVE PROSPECT Lake Creek area

see Call of the Wild

HOMESTAKE CLAIM (manganese) Lake Creek area

see Daly pits

"Red tuff with soft manganese oxides in small cracks and cavities is exposed in two places. No ore is developed.

"Location: sec. 5, T. 36 S., R. 2 E.

"Authority: Pardee (21:221) reports as follows:

"'The Homestake claim of I. C. Daly is about a mile west of the Nichols prospect, on a gentle south slope at an altitude of about 2200 feet. It is underlain by a red tuff much like that at the Tyrrell mine, and in two places pits show soft manganese oxides in small cracks and cavities. No ore is developed.'"

"Hodge (37:15) reports on the Daly pits, in sec. 5, T. 36 S., R. 2 E., north of Salt Creek, and states that the pits 'were not in actual manganese ore, but were for the sole purpose of establishing claims in case some ore was found in the vicinity.' As nearly as can be determined the Homestake Claim of Pardee is the same as the Daly pits of Hodge."

Reference: Libbey & Others, 42:14 (quoted)

NEWSTROM RANCH (manganese) Lake Creek area

"This property and the Tyrrell mine are classed by Wells (39) as the most promising manganese-bearing localities of the Lake Creek area. A red tuff strip 1000 feet wide, a mile long and 200 feet thick rests on lava and underlies lava. The lower part of the tuff is crowded with small cavities and vesicles in whioh manganite and other oxides are found.

"Generally manganite unmixed with other material forms compact bodies from the size of a grain of wheat to that of a walnut. The manganite assays 58 percent manganese, 5 percent silica, 2 percent iron, and but little phosphorus. Pardee was unable to find appreciable material rich enough to be classified as ore. However, the character of the material indicates that further prospecting might be warranted.

"Location: sec. 34, T. 36 S., R. 2 E., on the divide between the forks of Little Butte Creek.

"Authority: Hodge (37) reports that a 48-foot tunnel, now caved, was reported by Mr. A. Pech, and that it contains material similar to that of the Tyrrell property.

"Pardee (21:220-221) reports as follows:

"'Manganese-bearing material is found about 2 miles north of the Tyrrell mine, on the Newstrom ranch. Here the red tuff underlies a strip 1,000 feet wide and a mile long that curves around the west and north slopes of the broad uneven ridge that separates the north and south forks of Little Butte Creek. The tuff is at least 200 feet thick, rests upon an uneven surface of dense platy basaltic lava, and at the top apparently grades into a dark-gray lava, the layers of which dip at a moderate angle to the northeast. The middle and lower parts of the tuff are fine textured and crowded with small cavities or vesicles. The top layer is rather dense and somewhat like a tuff-breccia. In a few places, the most noteworthy

of which are on the north slope, the tuff crops out prominently, but generally it is concealed by a deep surface mantle. In all the exposures seen it is more or less decomposed, the freshest tuff observed being an opaque claylike material in which small feldspar laths are embedded.

"'Manganiferous material is shown in several open cuts and natural exposures distributed through an area of 40 acres or more and at different levels from top to bottom of the tuff layer. The largest working, a cut 30 feet long and 12 feet deep, at an altitude of 2,500 feet, exposes the lower part of the tuff bed. Here the material in general is very poor in manganese, but small portions of it contain as much as 10 or 15 percent. Similar materials are shown here and there in other outs, and the richer portions are generally found at a depth of a few feet. The ore consists of manganite and one or more unidentified soft brown to black oxides derived from it by alteration in place. Most of it is in pores or vesicles, the soft oxides as a rule in that part of the tuff just below the surface and practically all the manganite in the next deeper part. Generally manganite unmixed with other material forms compact bodies from the size of a wheat grain to that of a walnut. A sample of these bodies is reported to contain approximately 58 percent of manganese, 5 percent of silica, 2 percent of iron, and but very little phosphorus. Many of the vesicles are empty, and others contain calcite, gypsum, or zeolites. No considerable amount of material rich enough to be classified as ore is developed.'"

Reference: Libbey & Others, 42:15 (quoted)

NICHOLS PROSPECT (manganese) Lake Creek area

"Wad bodies ranging in size from grains to pockets a foot in diameter are found in cracks and vesicles of basalt and tuff. The zone is 2 - 10 feet thick, and it is exposed by test pits for a distance of 1,000 feet. Insufficient manganese is shown to justify development.

"Location: SE¼ NW¼ sec. 4, T. 36 S., R. 2 E., in a fork of Salt Creek.

"Authority: Pardee (21:221) reported as follows:

"'The manganese prospect of Gus Nichols is about 5 miles north of Lake Creek post office, at an altitude of 2500 feet on the slope north of Salt Creek. Beginning at the foot of the slope, basalt, red and gray tuff, andesitic lava that shows hornblende crystals, gray tuff, and dark-gray basalt crop out one above another. These rocks are nearly horizontal and at least 500 feet thick in the aggregate. The topmost basalt layer evidently flowed as a molten lava over the tuff next below, for it is glassy, vesicular, and shattered at the bottom.

"'The manganese is found in a layer from 2 to 10 feet thick made up chiefly of the lower part of the basalt described, with a little of the underlying tuff. As shown by a few shallow pits made at intervals for a distance of 1000 feet, some of the cracks and vesicles are filled with a soft black noncrystalline manganese oxide regarded as wad. These bodies of wad range in size from specks and grains to pockets a foot in diameter, but so far as the development work shows no considerable part of the layer contains enough of them to make it workable.'

"Hodge (37:15) reports as follows:

"'.....Nichols prospect in the SE¼ sec. 4, T. 36 S., R. 2 E. in a fork of Salt Creek. This is said to be owned by F. S. Miller, Klamath Falls, Oregon. Only two shallow pits were found on the property at an elevation of about 2400 feet

at the upper edge of a grassy exposure of agglomerate. The rock is a somewhat altered and decomposed tuff breccia containing manganese coatings on joint cracks. The pits lie about 25 feet below the base of a flow of platy pyroxene andesite. Manganese is no more abundant in the prospects than is to be expected in any such exposure.'"

Reference: Libbey & Others, 42:13-14 (quoted)

SIERRA METALS COMPANY — Lake Creek area

see Fox Prospect

STAR F RANCH (manganese) — Lake Creek area

see Farrar Pits

"Tuff bodies contain soft manganese oxides and irregular streaks and nodules. Indications of manganese cover an area of about 40 acres, but the material is evidently very low in manganese. No ore is developed.

"Location: sec. 11, T. 36 S., R. 2 E.

"Authority: Pardee (21:221) reports as follows:

"'On the Star F Ranch of C. L. Farrar, 5 miles north of the Tyrrell mine and 3 miles northeast of Lake Creek, red tuff forms a rounded hill 100 feet high and 30 or 40 acres in area. The surrounding land is rather flat and underlain by platy basalt, upon which the tuff rests. Near the top of the hill a shallow pit exposes small irregular streaks and nodules of manganese oxides, associated with a fibrous satiny-lustered white zeolite. The material exposed is evidently very low in manganese. Other masses of similar tuff are reported at short distances to the north and east.'

"Hodge (37:15) includes the 'Farrar pit' in the same discussion as the 'Daly pit' in sec. 5, and states that the pits 'were not in actual manganese ore, but were for the sole purpose of establishing claims in case some ore was found in the vicinity.'"

Reference: Libbey & Others, 42:14 (quoted)

TYRRELL MINE (manganese) — Lake Creek area

"(formerly known as Manganese Metals Co.)

"Owner: B. M. Bush, Lake Creek, Oregon, and others.

"Location: W½ NW¼ sec. 10, T. 37 S., R. 2 E., extending into W½ SW¼ sec. 10 and SW¼ SW¼ sec. 3.

"Area: 80 acres.

"History: Pardee (21:218-220) says that the Manganese Metals Co. developed the deposit in 1917, and built a 20 ton concentrating mill. Prior to July 15, 1918, some 200 tons of concentrate were produced. Late in the summer of 1918 Victor Rakowsky, of Joplin, Mo., prospected by drilling a part of the land controlled by the Manganese Metals Co. No work has been done on the property since that time.

"Development: The main working is an open cut 100 feet long and from 20 - 30 feet deep. At intervals for 1000 ft. or more northward smaller cuts were made

at the same level along a tram grade. There is a total of 150 feet of tunnelling; the main tunnel was forked in three directions. The workings have partially caved.

"Equipment: There is no equipment on the property.

"Geology: Pardee (21:219) states that 'The rocks are nearly horizontal basaltic flows and tuffs. A dense dark gray basalt of a platy habit occupies the lower part of the slope east of Lost Creek. With the aid of a hand lens small laths of feldspar and grains of olivine are visible in it. Next above this is a layer at least 100 feet thick of soft porous brick-red tuff, and above the tuff, forming the top of the spur is a basalt generally similar to that on the lower part of the slope. At the south side of the mine the rocks mentioned are cut by a steeply pitching diabase dike 10 feet wide that strikes east.

"'The ore is found in the upper part of the red tuff as irregular veinlets and nodules. The main cut exposes a layer of tuff 16 feet thick, the lower 10 feet of which is rather thickly crowded with these bodies. The other workings, including the drill holes, show that the ore-bearing layer is practically continuous northward for 1000 feet and that, at least on the nose of the spur, it extends a considerable distance under the basalt. A minimum thickness of 6 feet is shown in places north of the main cut, and one of the drill holes is said to have passed through 30 feet of manganiferous material. South of the main cut the ore-bearing layer is cut by a diabase dike, beyond which for a short distance, a little ore-bearing material is exposed here and there, but its extent in that direction is not determined.

"'The ore consists of manganese oxides, chiefly manganite, with a moderate amount of psilomelane and a little soft black and bronze oxides. These minerals have filled cracks and cavities, replacing the tuff very little if at all.' (see Wells' discussion) 'The manganite is of fibrous to prismatic crystal habit, the aggregates commonly showing plumose forms. Sections of the ore bodies generally show an outer thin shell of psilomelane, succeeded by one or more concentric layers of manganite. In some nodules an unfilled space remains in the center. The soft oxides are practically confined to the upper or weathered parts of the manganiferous layer. Commonly they preserve the outward crystal forms of manganite. Locally a little gypsum occurs with the manganese minerals, and barite is reported in some of the ore. In the manganiferous layer, especially in the upper part, the tuff is more or less altered to a soft clayey material consisting largely of kaolin and iron oxides. A waxy pale greenish-yellow variety of kaolin is commonly associated with the softer manganese oxides.

"'....Most of the higher-grade material so far developed is within 150 feet north of the diabase dike, though that rock evidently was not the source of the manganese. Probably, however, it shattered somewhat the adjoining mass of tuff, which was thus made more favorable for mineral deposition.'

"Wells (39), in a general discussion of the manganese-bearing area says,-- 'solutions permeating the volcanic series leached manganese and silica and transferred them to openings mainly in the breccia member.'

"Tenor of ore: Pardee's (21:219) examination showed that:

"'The crude ore treated at the mill is reported to have averaged about 20 percent of manganese. This material was selected from the lower 10 feet of the manganiferous layer, in which most of the harder oxides are found. A sample.... representing the lower 12 feet of the layer....contained 14.86 percent manganese. Other samples mostly representing the upper part of the layer....is reported.... being 2.13 percent. Samples of two car lots of concentrate reported by the Manganese Metals Co. carried 47.5 and 48.5 percent of manganese; other samples of

concentrate contained from 46.5 to 52.8 percent of manganese, 11.1 to 14.5 percent of silica, 1.4 - 0.9 percent of iron, 0.09 to 0.207 percent of phosphorus, and 0.08 to 0.16 oz. of gold to the ton."

"Samples cut by the Hodge survey (37:15) showed:

"No. 87, a 5-lb. grab sample of concentrates:

Manganese	55.00 %
SiO_2	9.36
Fe_2O_3 & FeO	2.40
P_2O_5	0.045

"No. 88, 23 lbs. across 8 ft. of small ore body in shorter adit assayed for manganese only:

Manganese	12.74

"Samples taken by Libbey (Grants Pass State Assay Laboratory) with checks by B. F. Webber (W. A. Markert, Iron River, Michigan):

	Libbey	Webber	
	Mn	Mn	Fe
No. 1	2.47%	2.55%	7.6%
2	0.47	0.55	5.1
3	2.41	2.44	7.8
4	8.20	7.83	6.8

"No.1 - S. Wall, short tunnel from cut about 200 feet south of N. end of old train road bed.

"No.2 - About 8 feet of red tuff with sparsely disseminated manganese oxides above short tunnel of No. 1 sample.

"No.3 - Red Tuff 4 feet thick, middle of cut at N. end of old train road bed.

"No.4 - Cut 100 feet E. of N. end of old train road bed, 4 feet of tuff just above floor of cut.

"Summary: This property has had more work done on it than any other manganese deposit in southwestern Oregon. Ore was mined and concentrated here during the first World War. There are 150 feet of underground workings, (now largely caved), a large open cut, and, reportedly, 15 churn holes were drilled. The mill, built in 1917 and now demolished, had a capacity of about 20 tons in 24 hours.

"Mined ore is reported to have assayed 14-20 percent manganese for the higher grade and ranged down to 2 percent. Manganese concentrate assayed from 46.5 to 52.8 percent manganese.

"The tenor of the rock is low, and probably will not average over 10 percent manganese in hand picked ore as at present exposed. In most of the rock it will average between 1 - 3 percent. In the case of such an irregularly disseminated ore it is impossible to predict economic possibilities in advance of systematic exploration.

"The ore consists of manganese oxides filling cracks and cavities, and in part replacing the tuff. The ore zone is poorly defined; the tenor varies markedly in different sections; drilling appears to be the most feasible method of exploration.

"Some geologists believe that manganese minerals were concentrated near, and originated from, a nearby diabase dike. Others are inclined to agree with Wells (39). Occurrences of manganese at other localities in the Lake Creek area tend to support the opinion of Wells.

"If the deductions of Wells (39) are correct, a drilling program might outline commercial ore. But by the same token it is difficult if not impossible to predict ore possibilities from exploration work done to date. A favorable factor is that the manganese minerals present make a metallurgical grade concentrate."

Reference: Libbey & Others, 42:16-18 (quoted)

VESTAL GROUP (manganese) Lake Creek area

"These claims were developed during the first World War. No ore has been shipped and no work has been done since 1918. Manganese oxides occur in tuff; the ore zone is 1½ - 2 feet thick and may cover several acres. Grade ranges from 10-25 percent manganese. Test pits and trenches constitute most of the work.

"Location: Vestal claims, SW¼ sec. 7 (?) T. 35 S., R. 1 E;
Banner claims, sec. 7 (?) T. 35 S., R. 1 E.;
Blackrock claims, sec. 8 (?) T. 35 S., R. 1 E.;
Butte claims, sec. 9 (?) T. 35 S., R. 1 E.

"The locality is along the divide between the forks of Reese Creek.

"Authority: Pardee (21:15; 221-222) is quoted as follows:

"'Several claims belonging to J. S. Vestal and others are in the basin of Reese Creek, about 6 miles north of Eagle Point and 20 miles northwest of the Tyrrell mine. A broad, flat spur at an altitude of 1,800 feet between two headwater branches of Reese Creek is underlain by purplish-gray to pink andesitic tuffs and flows that dip about 6° E. On the Governor claim small pits show soft vesicular pink tuff containing irregular streaks of manganese oxides, the largest of which are an inch wide. Some of the vesicles are lined with free crystals of manganese oxides; others contain zeolites. The ore is chiefly a mixture of pyrolusite and manganite, with some psilomelane and a soft pulverent oxide, that were apparently derived from the other two by alteration in place. The body exposed in the cuts is estimated to carry about 10 percent of manganese.

"'Farther east, on the Blackrock claim, a cut exposes a layer of pink tuff 18 inches thick that rests on gray and green tuff and is covered by a few inches of soil. The pink tuff is crowded with vesicles about the size of an ordinary white bean, most of which are filled with compact, finely crystalline manganite. Vesicles in the upper 6 inches of the tuff contain soft oxides that appear to have been derived from the manganite by alteration in place. Plumose streaks of manganese oxides descend from the vesicles in the upper part of the tuff to those in the lower. A layer of the tuff 1 foot thick probably contains 25 percent or more of manganese. No manganese is visible in the underlying tuff, the green color of which is caused by chlorite.

"'A bed of similar manganese amygdaloid is exposed in a pit on the Butte claim, east of the Blackrock. Probably the manganiferous layer underlies a total area of several acres and contains a moderately large amount of material carrying 10 percent or more of manganese.

"'On the Banner claim, along Reese Creek south of the deposits described, a rather hard red tuff is exposed beneath a dense platy basaltic lava. Locally this tuff shows a few streaks and nodules of manganese oxides similar to those in the red tuffs at the other places described.'"

Reference: Libbey & Others, 42:12 (quoted)

UPPER APPLEGATE MINING AREA

General:

The Upper Applegate area is in the southwestern part of Jackson County. It is drained mainly by the Upper Applegate River system, but includes a small part of the Klamath drainage (Cow Creek) in T. 41 S., R. 1 W. The area comprises about 410 square miles.

The area is mountainous with an average relief of 3000 feet. Valley elevations vary from 1500 to 2000 feet; the high peaks rise to approximately 7400 feet. Hill slopes are steep and the streams flow through canyons having steep gradients. The Applegate River is the master stream. Principal tributaries are the Little Applegate River, Squaw, Carberry, Beaver, Forest, Thompson, and Humbug Creeks.

Snow covers elevations above 3500 feet from December to May.

The mountains are well forested with conifers on the more exposed slopes, with madronna and other hardwoods in the gulches. Brush composed mainly of manzanita and poison oak sometimes forms thickets that are almost impenetrable. Prospecting is difficult because of the heavy soil and brush cover.

Geology:

Rocks of the area are pre-Cretaceous in age. The highly metamorphosed Older Schists occur in the southern part. The rest of the area contains greenstone of Triassic (?) age. These two formations were intruded first by ultra-basic rocks and later by siliceous granitoid rocks.

Mining:

The Upper Applegate mining district, centered at the mouth of Forest Creek, was organized in 1853. This was followed by organization of the Sterling mining district in 1854. The Bunsom mining district was organized by the miners on lower Little Applegate River. Before 1865, rich gold ore had been discovered at Steamboat.

After the high-grade placer ground was exhausted, Chinese reworked much of the gravel during the next ten years. In 1882 Beck and Epperson used hydraulic methods near Steamboat and recovered coarse gold. The same year, Berryman and Hansen operated a drift mine in gravels near Applegate. J. T. Layton operated a placer on Ferris Gulch as early as 1884; in 1886 his 23-mile ditch supplied water to his giants under a head of 300 feet. The Sterling placer mine constructed a ditch of the same length with a head of 250 feet, and had a year-round operation using 2 giants. During the next five years the Layton and Sterling placers were the most important mines of the area. In 1891 the Sturgis placer on Forest Creek became the leading producer, but in 1895 the Layton again led. In 1901 the Pearse placer on a branch of Forest Creek near Jacksonville was a leading producer. In 1903 the Sterling mine was again the most productive, but both the Sturgis and Pearse mines were important producers.

During the past few years dragline excavators have been used in the area by the principal operators. On Forest Creek, the B-H Company operated a dragline. On the Applegate River the Crescent-Pacific Company and the Stearns Company employed similar plants. The gold mine closing order stopped all such operations for the duration of the war.

The Sterling mine has been the most successful hydraulic mine in the area. The ability of engineers to devise improved gold-saving devices is well illustrated at this mine which has been reworked many times.

Lode mining, except for the rich Steamboat pocket, has not been productive in this area. In 1940 only two mines were active.

Stibnite, antimony sulphide, occurs in the area, and during the first World War there was some production from the Lowry Antimony property. The Blue Jay property on Kenny Creek shipped ore in 1942. Other occurrences are known on Grouse and Squaw Creeks, and near Dutchman's Peak. Cinnabar has been explored on Palmer Creek, Brush Creek, and Squaw Creek.

There are several deposits of limestone in the area, some of which are high-grade. Poor transportation facilities are an obstacle to their development.

Favorable Areas for Prospecting:

Margins of the granitoid intrusion appear to be favorable areas for prospecting. These areas are shown on the accompanying geologic map of Jackson County. The serpentine area in the southeast has some interesting prospects; some good copper showings have been reported. The Blue Ledge copper mine is just south of the Oregon-California line. Zones of hydrothermally altered rocks would be favorable for the occurrence of stibnite and cinnabar.

The placers on the northward-flowing tributaries of the Applegate, such as Thompson Creek, yield "pocket" gold, and a fair proportion of the clean-ups contains gold of this type. This indicates the result of break-down of high-grade stringers carrying free gold, and suggests the possibility of finding the sources of such gold above the placers.

Mining Properties:

Descriptions of mining properties of record are given in the following pages.

AFTERTHOUGHT MINE (gold) Upper Applegate area

Owner: J. R. Bailey

General: "The Afterthought Mine, 2 miles south of Applegate, is in Sec. 27, T. 38 S., R. 4 W., near the top of a ridge at an elevation of about 2300 feet. It is owned by J. R. Bailey. The country rock is a dark gray to green to black argillite. The ore is white to bluish quartz with some sulphides and rare calcite. The vein is nearly vertical and strikes N. 70° E. The walls are not clearly defined and they show no gouge. The vein is opened by an adit crosscutting N. 20° E. 50 feet and then drifting N. 70° E. 150 feet. The ore has been milled in an arrastre in the gulch below. A granitic intrusion outcrops on the southwest slope of the ridge about 600 feet from the mine."

According to Mr. J. R. Bailey, underground workings include a discovery shaft 45 feet deep, a crosscut tunnel, named No. 1, containing 100 feet of drift on the vein, and a winze 50 feet deep sunk near the portal to a tunnel called No. 2. This tunnel consists of a short crosscut and a drift 160 feet long on the vein. No. 3 tunnel includes a crosscut 150 feet long and a drift 75 feet in length driven on the vein.

Reference: Parks & Swartley, 16:7 (quoted)

Informant: J. R. Bailey, 1939.

ALASKA OF OREGON (placer) Upper Applegate area

Location: secs. 11 and 14, T. 38 S., R. 3 W., on Forest Creek, downstream from Sturgis placer.

Area: 151 acres in sec. 11, and 160 acres in sec. 14.

General: This ground was dredged first by the B-H Company, and part of the ground was worked later by the Hayfork Exploration Company.

Informants: J.E.M., 1939.
R.C.T., 1942.

ANDES AND HOWARD PLACER — Upper Applegate area

Owners: M. E. Andes and G. V. Howard, Grants Pass, Oregon.

Location: NW¼ and NE¼ sec. 30, T. 38 S., R. 4 W. Elevation is 1890 feet.

Area: Ten claims, 200 acres, located September 21, 1937.

History: A portion of the Ferris Gulch property included in the Layton mine was worked many years ago. The remainder is virgin ground, consisting of side gulches that are tributary to Ferris Gulch.

Development: There is an area containing 500,000 yards of potentially dredgeable ground suitable for a dry-land plant (1940).

Geology: Most of the gold is rough; some shows particles of attached quartz. A small amount is characteristic placer gold. Bedrock is slate, metavolcanics and some granite. The slate and granite are soft, but the metavolcanics are hard. There are no boulders and little clay.

Equipment: 500 feet of 8-inch pipe, one No. 1 giant, 1¼ miles of ditch, 60 feet of 12 by 12-inch sluice box.

Informant: G. V. Howard, March 29, 1940.

ANTIMONY PROSPECTS — Upper Applegate area

"A deposit of antimony ore is known near Watkins and another one is reported on Forest creek. The former is in the N.E.¼ sec. 35, T. 40 S., R. 4 W.; it is opened by an adit said to be a drift 250 feet long, which enters in a direction N. 56° E.; it is on Grouse creek at an elevation of 2160 feet by barometer. The dump shows stibnite altering to yellow oxide (cervantite?); the former is accompanied by some quartz and feldspathic material in a vein in andesite. The ore is said to carry $19 in gold and $8 in silver per ton."

Another occurrence of antimony at a point 12 miles west of the old U.S. Highway No. 99 near the Siskiyou summit has been reported, but the deposit could not be found.

Reference: Winchell, 14:129

Report by: R.C.T., December 16, 1942.

APPLEGATE CHROME CLAIMS — Upper Applegate area

see Cass Ranch Chrome

AURORA PLACER — Upper Applegate area

see Federal Placer

THE B-H COMPANY (placer) — Upper Applegate area

Owner: The B-H Company, P.O. Box 1091, Medford, Oregon; Tom Gerety, president; Harry Skyrman, secretary; G. E. Conklin, dredgemaster.

Location: secs. 4, 5, and 6, T. 38 S., R. 4 W., and sec. 32, T. 37 S., R. 4 W. on Forest Creek. Most of the land is patented.

History: The B-H Company dredged ground formerly hydraulicked by the following operators, Alaska of Oregon, Christine-Dobbins, Green, Sturgis, and Black. The B-H Company

started operations in 1936 at a point approximately half a mile below the junction of Forest and Poorman Creeks. Forest Creek was dredged up to the junction of the right and left forks, also a short distance up the right fork; in 1941 a distance of about a mile up the left fork had been dredged. Later the equipment was moved to Black's placer where operations were continued during the spring of 1942.

Development: Approximately 150 acres has been dredged (1940) and the working force included 14 men of which 9 men operated the dredge - 3 men to a shift. The balance of the crew worked at clearing on day shift. Some stripping of overburden was done. Thickness of gravel to bedrock averages 9 feet. Value is reported to range from 6 to 25 cents a yard.

Geology: The dredging area is about 150 yards wide; overburden varies from 5 to 20 feet thick at the margin of the channel. Boulders are usually small; 10 percent is more than 2 feet in diameter. Bedrock is fairly hard schist. There is little clay. Gold is distributed more or less uniformly, is medium in size, well-rounded, and is reported to run 850 fine.

Equipment: The washing plant consists of a Diesel-powered Bodinson washer having a capacity of 150 yards per hour. The boat has a steel frame and wooden pontoons. Trommel is 54 inches by 31 feet with openings from 3/4 inch to 3/8 inch. The stacker belt is 50 feet long by 30 inches wide. The dragline is powered by a 95-hp. Atlas-Imperial engine. The boom is 60 feet long and is equipped with a 1½-yard Esco bucket. Equipment also includes an RD8 bulldozer, welding equipment, tool shop, retorts and melting furnace.

Informant: Tom Gerety, February 1940.

Report by: R.C.T., February 1942.

BAMBOO GULCH PLACER — Upper Applegate area

see Layton Mine

BELLAND MANKINS (gold) — Upper Applegate area

Location: sec. 20, T. 38 S., R. 2 W.

Reference: Wells, 39. No further information.

BENSON PLACER — Upper Applegate area

see Humbug Creek Placers

BIG FOUR MINE — Upper Applegate area

see Llano De Oro Mine

BIG SHOT MINE (gold) — Upper Applegate area

Location: sec. 22, T. 39 S., R. 2 W.

Reference: Wells, 39. No further information.

BISHOP & STURTEVANT DREDGE — Upper Applegate area

This equipment operated on Poorman Creek. The ground was later reworked by the Glide Foundation.

Informant: R.C.T., 1940.

BLACK'S PLACER Upper Applegate area

Owner: Lee Black, Route 1, Box 13, Jacksonville, Oregon.

Location: sec. 5, T. 38 S., R. 3 W., on Oregon Belle Fork of Left Fork of Forest Creek.

Area: 268 acres patented. This placer property extends for 3/4 of a mile along the creek.

History: The property has been worked since 1857, both by hand methods and by hydraulicking. Present operator started work in 1935. The ground was not worked consistently before because of insufficient water supply for hydraulicking. Part of the ground was dredged by the B-H Company in 1941-42.

Geology: Thickness of the deposit varies from 8 to 18 feet. Overburden is from 3 to 4 feet thick. Bedrock is "porphyry" and is generally soft. Most of the gold is within 1 foot of bedrock. The gold is coarse and averages 856 fine. There are few large boulders, the average size being 8 inches. There is no clay.

Equipment: One No. 1 giant, 1500 feet of pipe, including 600 feet of 15-inch, the remainder being 11, 8, 7, 6-inch. Water is delivered through 1½ miles of ditch from the Oregon Belle Fork. The giant delivers water under a head of 120 feet.

General: Lack of water hampers operation. In favorable years there has been sufficient water for three weeks' work. In 1938-39, 1520 yards was moved; recovery was valued at $580. There was no work in 1940-41.

Informant: John M. Black, March 4, 1941.

Report by: R.C.T., March 4, 1941.

BLUE JAY PROSPECT (antimony) Upper Applegate area

Owners: S. J. and E. P. Merrick, Medford.

Location: NW¼ NW¼ sec. 14, T. 40 S., R. 4 W., just north of Kinney Creek, a tributary of the Applegate River. Elevation is 3000 feet.

Area: One mining claim.

History: The claim was located in 1939 by a Mr. Lewis and C. W. Culey, who did some surface work. The Merrick brothers acquired the property in 1941. Up to August, 1942, approximately 75 tons of ore assaying more than 45 percent antimony had been shipped.

Development: No. 1 adit has been driven more than 100 feet and contains several overhead stopes. No. 2 adit, 55 feet lower in elevation than No. 1, is 170 feet long and contains a raise to No. 1 adit. Some drifting has been done in a sub-level. A road 3.7 miles long and rising 1500 feet has been built to the property from Palmer Creek.

Geology: The country rock is fine-grained and slightly banded metasediment. Some of the rock is calcareous. Basalt (?) dikes which cut the metasediment trend generally N. 17° W. and dip at steep angles. A strong shear zone which trends N. 80° W. and dips 80° SW. is exposed in the adits. Stibnite occurs in lentils in the shear zone, usually along the hanging wall. The ore in No. 1 adit is from 12 to 25 inches wide beginning at a point 42 feet from the portal. Ore continues to the surface where it is exposed in a trench above the adit. The shear zone as exposed in the adit cuts through a basic dike and beyond this dike no ore is found up to a point 18 feet from the face. From this point to the face, ore shows along the hanging wall and is from 6 to 15 inches wide. Stibnite is associated with blue quartz. A pronounced fracture plane within the shear zone is reported to carry high values in gold. No. 2 adit follows a well-defined shear zone but no ore has been found

here (1942). A raise connecting No. 2 with No. 1 encountered ore 20 feet below No. 1. The ore shoot appears to rake to the west.

High-grade stibnite, both crystallized and massive, usually surrounded by more or less yellow oxide, occurs in pods or lentils. Some kermesite (red antimony oxide) has been found.

General: Ore is hand-sorted and piled at the portals. Low-grade ore is stocked in separate piles. The gold-bearing ore is also segregated.

Report by: R.C.T., January 29 and September 24, 1942.

BRANTER MINE (placer) Upper Applegate area

Owner: D. H. Mansfield, Williams, Oregon.

General: "The Branter Mine is on Applegate River near the mouth of Keller Creek, and 3 miles east of Applegate, in Sec. 25, T. 38 S., R. 4 W. It is owned by D. H. Mansfield. In the present workings the sands and gravels have a thickness of 30 to 35 feet and show distinct stratification. Many large angular and sub-angular boulders (chiefly of greenstone) are found at and near the base of the deposit. The bedrock is decomposed greenstone. The mine is equipped for hydraulicking, the water used having a pressure of about 100 feet."

Reference: Parks & Swartley, 16:43 (quoted)

BRICK PILE MINE (quicksilver) Upper Applegate area

Owner: Timber Products Co., N. Central, Medford, Oregon.

Location: socs. 4 and 9, T. 40 S., R. 1 W., west of the Little Applegate River. Reached via road from Talent through Wagner Gap, by taking all left hand turns after passing the gap. Road ends about half a mile from the Little Applegate River. A trail loads down Greely Creek and across the Little Applegate, and from this point about half a mile upstream to a Forest Service camp. About 50 feet downstream, and 50 feet up the hill from the camp there are ruins of an old brick retort. The mine workings are up the hill above the retort; one cut is just above the retort; others are about S. 45° W. of the retort.

Area: Reported to be 893 acres.

History: 1/ The mine was located in the early 70's and quicksilver was recovered in a crude retort. Brick for the retort was made about a mile downstream at the "Brick Pile Ranch." Quicksilver was supplied to the placer miners around Jacksonville and northern California. The property was acquired by the Oregon-Montana Mining, Milling, & Manufacturing Company in 1914. In 1928 the old cinnabar workings were discovered. No work has been done on the property since the activity during the 70's. The Timber Products Company of Medford, Oregon, acquired the mine in 1938 after investigating reports of the early production. In 1941 the property was opened by lessees. About 600 feet of old workings were cleaned out.

Schuette (38:127) reported as follows:

"Between Talent and Ashland, in T. 38 and 39 S., R. 1 W., and R. 1 E. there are cinnabar prospects and traces of cinnabar have been reported at various places from here south past Squaw Lake to the California line. From Wagners Gap the mountain slopes towards the Little Applegate River and a trail leads down to an old quicksilver mine said to have produced in 1876. Remains of an old retort tend to support the story. This property now belongs to the Oregon-Montana Milling and Mining Company and lies in sec. 9, T. 40 S., R. 1 W. There are a number of old tunnels and open cuts on the property."

Development: At the time of the inspection (September 1940), all tunnels and cuts were caved. The cut just above the retort shows no cinnabar on the dump. Farther up the hill another dump indicates a caved tunnel, apparently trending S. 50° W., and perhaps 400-600 feet in length (Single-Tree dump). Elevation of this dump is 3450 feet by aneroid barometer. A few cinnabar specimens were found.

At an altitude of 3665 feet aneroid, there is a large dump and a tunnel, trending S. 45° W., which is open for about 100 feet from the portal. Good cinnabar specimens were found on the dump, and indications are that the most recent work was done in this tunnel.

Farther up the hill is the "ore bucket" dump, smaller than the others and apparently from a shaft.

The uppermost dump from a caved adit is small, indicating a short tunnel only. No cinnabar was found. Just over the top of the low ridge, and at an altitude of approximately 3800 feet, there are 4 caved trenches, each about 100 feet long. No cinnabar was seen here.

The retort was probably about 10 feet in diameter and was built with common brick - no mortar. There is no evidence of a tailings pile. It is reported that about a mile down the Little Applegate River, at the Brick Pile Ranch, there is the ruin of a sizeable retort.

Geology: The country rock of the area is classed by Wells (39) as belonging to the Younger Metamorphic series. It is difficult to determine whether these metamorphics were originally sedimentary or igneous rocks, but Wells states that the series is undoubtedly part of the metamorphic aureole around the margin of the granodiorite batholith. In the uppermost adit, at the portal, there is a shear zone that trends S. 43° W. and dips 37° NW. As this trend is similar to that of the underground workings, it may be that this shear zone defines the hanging wall of the ore body.

The ore is in a silicified portion of the country rock. Numerous quartz stringers cut the rock which is well silicified. Oxidized portions have a rust-brown color; the prevailing color is buff. The cinnabar occurs as small crystals, averaging about 1/8 inch in length although there is some evidence of "paint." Some specimens are regularly spotted with cinnabar. A few very small grains of sulphides were seen.

Conclusions: As all workings are caved no definite conclusions regarding ore occurrence may be drawn. Good cinnabar specimens may indicate that cinnabar has penetrated the country rock and has not merely been deposited in cracks and fractures.

References: 1/ Albert Burch
Schuette, 38:127 (quoted)

Informant: F. G. Wells, 1940

Report by: R.C.T., 1940-41.

CALIFORNIA-OREGON DREDGE COMPANY — Upper Applegate area

see Crescent-Pacific Mining Corporation

CARBERRY MINE — Upper Applegate area

see Llano de Oro Mine

CASS RANCH (chromite) — Upper Applegate area

Location: West center of section line between secs. 29 and 32, T. 39 S., R. 1 W., on the Little Applegate River, opposite Brick Pile Ranch.

History: According to notes of J. S. Diller, U.S.G.S. (1918):

"Applegate chrome group, secs. 29, 31, 32, T. 39 S., R. 1 W., includes 4 claims. Reported by Alva Gunnell of Sierra Metals Corp. to be near contact of limestone and serpentine. The Sierra Metals Company of which Alva Gunnell is president and manager appears to include the claims worked by Mr. Horn as well as those of Munger Group in Josephine County."

Development: Open cut 15 feet long, 10 feet wide, and 12 feet deep. The trend is N. 82° E. Ore is mined out. A few sacks remain on the dump.

Geology: Fairly high-grade ore in small segregations occurs in serpentine. Country rock is greenish and hard with no apparent schistosity, although there are definite cleavage directions approximately N. 25° W., 42° SW. Major jointing trends N. 64° E. and is vertical. The rock immediately surrounding the prospect is brownish-weathering, and fine-grained. It has a greenish color, sugary texture and contains flecks of chromite.

Report by: R.C.T., 1941.

CHRISTINE-DOBBINS PLACER — Upper Applegate area

Owner: Jack Horner; leased by F. W. Christine and W. C. Dobbins, Jacksonville, Oregon.

Location: sec. 10 (?), T. 38 S., R. 3 W., on west side of Forest Creek, near Sturgis Mine.

Development: About 1000 lineal feet of bedrock tunnels.

Geology: The setting is similar to that of the Sturgis Placer. Bedrock varies in depth from 28 to 34 feet. The ground is said to carry values up to $3.00 per cubic yard.

Equipment: A home-made plant consists of a bucket line with 80 feet of chain with 2-foot spacing between the 240-cubic inch buckets. The buckets empty at the rate of about 7 per minute into a 24-inch trommel, consisting of 5 feet of scrubber with 6 rails and 30 inches of screen with 1-inch holes. The trommel is driven at a speed of about 25 r.p.m. by a Montgomery Ward 7-hp. air-cooled engine. A Sterling 12-inch pump supplies water at the rate of 20 g.p.m.

Report by: J.E.M., 1938.

CLOUDY DAY QUARTZ CLAIM (gold) — Upper Applegate area

Owner: J. L. Tyson, Star Route, Jacksonville, Oregon.

Location: W½ sec. 16, T. 40 S., R. 4 W., on Brush Creek, 8½ miles northwest of Copper and 39 miles southwest of Medford. Elevation is 3200 feet.

Area: One lode mining claim.

History: This claim was formerly owned by George Siple. A number of small gold pockets have been found on the property.

Development: One tunnel, trending northerly, was driven 100 feet; two caved shafts are each 20 feet deep.

Geology: An andesite dike cuts the greenstone country rock. East-trending fractures carry gold at their intersections with the dike.

General: There is no water supply on the claim but water can be developed on Brush Creek. Timber is lacking; topography is mountainous; maximum snowfall is 4 feet.

Informant: J.E.M., October 7, 1938.

COLLINS CLAIMS — Upper Applegate area

see Moses & Collins Claims

CRESCENT-PACIFIC MINING CORPORATION (dredge) — Upper Applegate area

see Rippey Ranch Placer; Greenleaf Ranch Placer

Land owners: Ray Offenbacher, Fred Offenbacher estate, John Matney, William Smith, Ralph and Bessie Smith.

Operator: Crescent-Pacific Mining Corporation (California corporation); E. L. Oliver, Pres.; John Daniel, V.P.; W. L. Oliver, Sec.; 503 Market St., San Francisco, California; Francis R. Thomas, Supt.; L. V. Riddle, Box 1055, Medford, Oregon, manager.

Location: secs. 28 and 29, T. 38 S., R. 3 W., adjacent to the Applegate River.

History: In 1938, E. L. Childers, 230 S. Central, Medford, Oregon, operated a plant on the Ray Offenbacher ranch. It was then called the Horseshoe Mine. Later, M. C. Lininger & Sons operated a small dry-land plant here, and then moved to the Upper Applegate. The Crescent-Pacific Mining Corporation, moved from the Rippey Ranch, Upper Applegate, and began mining in February 1940. Work was discontinued in February 1942.

Development: About 250,000 cubic yards has been mined, and approximately 33 percent of this has been resoiled.

Geology: Average depth of gravel is 15 feet; maximum depth is 20 feet. A few boulders measure as much as 18 inches in diameter, but the greatest proportion of the material is minus 4 inches. There is no clay; a small amount of black sand for which there is no special recovery method is present. The gold is both fine and coarse, with principal values occurring within 3 feet of bedrock. The gold is reported to be 875 fine. Gravel, in some places is quite tight. Some of the bedrock is rough, some smooth, some hard, and some easily dug. Water is plentiful.

Equipment: Lima Diesel dragline, 1½-yd. capacity with a 55-ft. boom; Judson-Pacific standard floating recovery plant with wooden pontoons; trommel is 52 inches by 24 feet, with 18-ft. length, perforated with 3/8-inch holes, standard bridge; four Ainlay bowls, 34 inches in diameter. The fines go from the Ainlay bowls to a launder, which is 30 inches wide; about 24 ft. of riffles with Hungarian riffles; stacker is 30 inches by 50 feet. Caterpillar RD8 bulldozer and 10-yd. LaTourneau scraper. Capacity is 100 cubic yards per hour. The equipment is worked three shifts with 3 men on a shift. A machinist and a bulldozer operator are employed on day shift. About 33 percent of the ground is being resoiled, using the LaTourneau scraper.

In February 1942 the digging equipment was moved to Camp White to assist in construction. The floating plant was dismantled and moved to Greenleaf Ranch placers in the Gold Hill area.

An interesting feature of the dredging operation was the resoiling requirements of some of the leases. The top soil was stripped with the bulldozer and piled at one side. After the ground was dredged, the tailings piles were leveled, and the bulldozer and 10-yd. scraper dragged the top soil back over the dredged ground.

Informants: Ray Offenbacher; L. V. Riddle, October 2, 1940.

Report by: R.C.T., October 3, 1940 and April 7, 1942.

CRYSTAL SPRINGS GROUP (gold) — Upper Applegate area

Owner: L. G. McKenny, 314 Isham Street, Grants Pass, Oregon.

Location: sec. 18, T. 37 S., R. 4 W.

Reference: List of Mines, 39.

DAVIES PLACER Upper Applegate area

also known as Spaulding placer

Owner: Mrs. John Davies, Jacksonville, Oregon.

General: "The Spaulding mine, 7 miles by wagon road southwest from Jacksonville, is on Forest Creek, in sec. 4, T. 38 S., R. 3 W., and is owned by John Davies, of Jacksonville.

"The maximum thickness of the deposit in the present workings is more than 40 feet, but the average thickness does not exceed 25 feet. The lowest 10 feet consists of gravels containing boulders; the upper part of the deposit is hardpan. Even in the lower part there are but few boulders, and these are usually less than 1 foot in diameter. They are rounded or subangular and are usually of greenstone, although some are of granodiorite. The mine is equipped for hydraulicking."

This ground was worked by the B-H dredge in 1940-41. Prior to that time, E. B. Bostwick and Marvin Johnson leased the mine and hydraulicked it, using 2 giants and 1500 feet of pipe. Production by this hydraulicking is said to have averaged $3000 per year.

Reference: Parks & Swartley, 16:209 (quoted)

Informants: J.E.M., 1938; R.C.T., 1941.

DRAPER HOMESTAKE (gold) Upper Applegate area

Owner: B. Draper. Mine is reported to have been sold in 1939 to a Mr. Wyatt for $25.

Location: sec. 30, T. 37 S., R. 4 W.

Area: One claim.

Development: Underground work consists of an adit 150 feet long and a winze 30 feet deep.

Informant: B. Draper

Report by: R.C.T., February 23, 1940.

EDWARDS & GARRISON CLAIM (gold) Upper Applegate area

"Edwards and Garrison have a prospect about 2 miles from the head of Elliott Creek, 30 miles south of Jacksonville and half a mile north of the California line. Small bunches of ore have been obtained from surface workings. The main vein is parallel with the schistosity of the chlorite schist country rock and is 9 to 12 inches thick. It consists largely of pyrite and gouge with only a little quartz; it strikes N. 55° E. and dips 30° N.W. An incline shaft goes down at an angle of 23° about 60 feet N. 60° W. The ore is said to assay about $40 a ton, but some of the gold does not amalgamate readily. A fault striking N.E. outs the vein but the displacement is only about 1 foot."

Reference: Parks & Swartley, 16:89 (quoted)

EL SENORA MINE (gold) Upper Applegate area

Owner: Ed Hawkins, Applegate, Oregon.

General: "Office: Applegate, Oregon. A. H. Ruelle, Pres., Seattle, Wash.; E. W. Shattuck, Treas., Applegate, Oregon. Capital stock, $500,000; par value $1.00; stock is entirely subscribed, issued and paid up. (1914 report)

"Property consists of 12 located lode claims and 1 placer claim, and is located 3 miles southeast of Applegate in northern part of sec. 34, T. 38 S., R. 4 W. The workings total about 1000 feet, part of which is caved and closed. The lowest entry was a shaft 130 feet deep and a level said to follow a 4-foot vein of low grade quartz ore for 200 feet. The next entry is an adit which crosscuts N. 60° E. for 80 feet and then drifts S. 45° E. for 70 feet. The vein shows 2 feet of quartz in argillite. Some gold is found also in seams in the country rock. About 100 yards to the southeast the next higher adit follows the vein S. 55° E. for 220 feet. Above this are two short adits and a shaft, where a pocket of ore was removed. The strike of the vein is not constant in all the adits, but it is apparently continuous; in one place it narrows to 1 inch of fault gouge. The company owns a 10-stamp mill, which is on the ground, but not erected. It was obtained from the Oregon Belle mine.

"The management states that late development shows a 3½-foot vein that averages about $12 per ton."

Reference: Parks & Swartley, 16:90 (quoted)

FEDERAL (Aurora) MINE (placer) Upper Applegate area

Operator: Grand Placer, Inc., 610 Coleman Bldg., Seattle, Washington; W. L. Grill, F. L. Smith, Star Route, Jacksonville, Oregon.

Location: sec. 13, T. 39 S., R. 3 W. Elevation, 2700 feet.

Area: 250 acres.

History: This ground was formerly a part of the Sterling mine. The second year of operation for the present operator was 1937-38. Before that time the property was idle for a number of years.

General: 10 acres has been mined by gulch and sidehill operation. Bedrock is irregular greenstone. Gravel is coarse but there are no large boulders. Gold is coarse; its source is an old river channel.

Operating season between Nov. 15 and May 1 is usually short because farmers have prior water rights. A ditch, 6 miles long, delivers water to giants with 200-ft. head. The ditch has a capacity of about 30 c.f.s. although water right specifies 83½ c.f.s.

Equipment includes 5 No.3 giants and 2700 feet of pipe of various sizes.

Informant: J.E.M., 1939.

FERRIS GULCH PLACER Upper Applegate area

see Layton Placers

FLEMING PROSPECT (gold) Upper Applegate area

Owner: Larabee Estate, leased by Frank Gustis, Jacksonville, Oregon.

Location: sec. 23, T. 38 S., R. 3 W., close to quarter corner on south line northeast of Ruch.

Area: Lease is 20 acres, patented land.

History: This property was formerly known as the Reed and Fletcher property. Most of the underground work was done prior to Gustis' lease.

Development: 400 feet of drift and 200 feet of crosscut; a 100-ft. shaft connects the drift with the surface.

Geology: The country rock is diorite. The vein has a slate footwall. The quartz in the vein occurs in small kidneys. Some of the gold is free and some is in sulphides. Mr. Gustis states that "good ore" will assay $25.

Equipment: An ingenious home-made compressor is driven by a Maxwell engine directly connected to a Chevrolet motor block, converted to a compressor. The receiver is 3 by 5 ft. and it is claimed that pressure of 100 pounds can be built up in 1½ minutes. Other mine equipment includes small tools. Compressed air is used for running the pump. The mill has a small Blake crusher and a 10-ton Huntington mill both driven by a Model T Ford engine. After the pulp passes over amalgamation plates, it passes over corduroy. Concentrates have been stockpiled.

Report by: R.C.T., March 6, 1941

GAMMILL PLACER — Upper Applegate area

Owner: W. P. Gammill, Murphy, Oregon.

Location: sec. 30 (?), T. 37 S., R. 4 W., in Missouri Flat.

General: Owner's report indicates there is 4 million yards of 50-cent ground having an average depth of 15 feet. Water right is for 60 c.f.s., available about 7 months of the year.

Informant: W. P. Gammill, March 5, 1938.

GIBSON PLACER — Upper Applegate area

see Merrick Mine.

GLIDE FOUNDATION (dredge) — Upper Applegate area

This company operated on Henry Mankin's property on Poorman Creek during 1938 and part of 1939. The company was reorganized as the Southern Oregon Mining Company and the equipment was moved to the Lance Placer, Gold Hill area. In late 1940 and in 1941-42, the new company also dredged the Hamilton-Taylor Ranch, and Forest Creek downstream from Ruch.

Informant: R.C.T., April 20, 1942.

GOLD PAN GROUP (gold) — Upper Applegate area

formerly known as Ray Mine

Owner: R. T. Davison, Palace Hotel, Grants Pass, Oregon.

Location: sec. 2, T. 40 S., R. 4 W., at mouth of Bailey Creek, 3½ miles up Palmer Creek from the Applegate River and 11 miles by road from Ruch. Elevation, 2000 feet.

Area: 8 lode mining claims, located in 1919.

History: There is no record of production but it is estimated to be approximately $5000. The mine usually produced a little every year.

General: Country rock is porphyry. It is reported that 15 adits were driven but only 3 are accessible. No record of sampling is available. Equipment includes a 3-stamp mill, a 25-ton Forester rod mill, and amalgamation plates.

Informant: J.E.M., 1939.

GOLDEN STAR MINE (gold) Upper Applegate area

Owners: Valores and Haskins, Star Route, Jacksonville, Oregon.

Location: secs. 3, 4, and 9, T. 40 S., R. 4 W., on north side of Burnt Peak in Black Canyon, a tributary of Palmer Creek on the Upper Applegate River. The road up Palmer Creek goes to within a mile of the property.

History: This property was first discovered in 1935 and produced about $400. It was relocated in 1937.

Geology: The vein was formed in a shear zone in andesite porphyry. It strikes N. 70° E., is almost vertical, varies from 0 to 2 feet wide, and is composed of wall rock, gouge, and quartz. The gold is about 75 percent free milling. The rest of the values are contained in pyrite. Gold can be panned along the outcrop for a distance of about 800 feet.

General: One shaft is 30 feet deep, one is 20 feet deep, and two are each 10 feet deep. Mining timber is available on the property. Maximum snowfall is 5 feet.

Informant: J.E.M., October 7, 1938

GRAND PLACERS, INC. Upper Applegate area

see Federal Placer

GREAT I AM MINE (gold) Upper Applegate area

also known as Josie Jack, and Wilkens Mine

Owner: Mrs. Harry Wilken, 7th Street, Grants Pass, Oregon.

Location: NW¼ sec. 31, T. 38 S., R. 4 W., near the head of Ferris Gulch.

Area: Four claims, unpatented.

History: Original claims were located by Zeb Hyde. The uppermost workings were the earliest, and included an 80-foot shaft. In 1922 Harry Wilken bought the property from Hyde for a few hundred dollars. Later, a group leased it from Wilken, calling the property the Josie Jack. In 1940 Earl Young cyanided the dump. Leaching of the mill tails yielded $3 - $4 a ton in gold. The mine is now idle (1940). Production amounted to about $30,000.

Development: There are three adit levels. The upper level consists of 220 feet of workings, part of which are caved to the surface. There are two raises to the surface, two shallow winzes, and some underhand stoping. The main, or middle level, is caved 65 feet from the portal, but indications are that it continued under the upper level and connected with it by means of raises. It is estimated that the middle adit was 275 feet long. A raise to the surface starts 35 feet from the portal. Young reports that the level can be entered from the upper workings.

Outside the portal of the middle adit a shaft was sunk to a point about 30 feet below the lower level and contains 30 feet of water. The lower level was driven on a gouge zone to a point about 10 feet north of the shaft. At 165 feet from the portal there is a drift to the right on which considerable stoping has been done. The main drift was driven 250 feet.

Geology: The country rock appears to be meta-igneous rock that has been considerably sheared. Some of the shear zones have been invaded by quartz. Probably the ore shoots are defined by the narrow stopes, and, if so, the shoots had a northwest trend and a southeast rake. In the upper level, there is a 6 - 10-inch vein that is brecciated and quartz-filled. In the lower level, the main adit follows a shear zone and ore was encountered 165 feet from the portal. The footwall of the shear zone is a well-defined fault plane which is followed by the adit and along which the movement was evidently horizontal. Near the portal, the direction of movement appears to have been somewhat inclined.

Reports obtained from Earl Young indicate that the mine was a high-grade pocket; perhaps additional good ore may be found.

Equipment: Practically all mining equipment of any value has been removed. The mill has four stamps and a concentrating table; power was obtained from an automobile engine and an auxiliary gas engine. Mr. Young has leaching tanks for his cyaniding work.

Informant: Earl Young.

Report by: J.E.A. and R.C.T., January 1940.

GREEN MINE — Upper Applegate area

see Davies Placer

GRUBSTAKE MINE (gold) — Upper Applegate area

"This mine is 35 miles south from Jacksonville, in Secs. 9 and 16, T. 41 S., R. 2 W., on the Elliott Creek branch of the Applegate. Mr. F. W. Carnahan, of Medford; Frank Edwards, of Watkins; and Walter Garrison, of Myrtle Creek, are the owners.

"Three hundred feet of tunnels have been driven on the property, more than 200 of which is a drift on a good-looking quartz vein. The property is equipped with an arrastre, a 32-foot overshot wheel and a small cyanide plant. The mine was in operation in 1916."

Reference: Parks & Swartley, 16:115 (quoted)

HASKINS & TRAVERSO CLAIM (gold) — Upper Applegate area

"Haskins and Traverso have a prospect in the NW¼ sec. 6, T. 41 S., R. 2 W., on the north side of Squaw Creek at an elevation of 3450 feet by barometer. It is opened by 2 short adits and a 20-foot shaft. The vein is 1 to 3 feet thick, striking N. 71° W. and dipping 60° N.E. in old andesite. The quartz near the surface shows a little copper stain."

Reference: Parks & Swartley, 16:117 (quoted)

HAMILTON-TAYLOR RANCH (placer) — Upper Applegate area

Owners: Charles Hamilton and Edwin Taylor.

Operators: Southern Oregon Mining Company; Dr. O'Rear, Pres.; John W. Cotton, Sec.-treas.; San Francisco. J. D. Bowdish, Medford, Oregon, Supt.

Location: sec. 33, T. 38 S., R. 3 W., the Applegate River.

History: Operations began about the last week of October 1940, and were discontinued in March 1941 when the dredge was moved to Forest Creek just below Ruch.

Equipment: See Lance Placer, Gold Hill area, for Southern Oregon Mining Company equipment. The set-up is the same except for minor changes in the Bodinson Dry-Bank washer.

Report by: R.C.T., October 3, 1940.

HAYFORK GOLD DREDGING COMPANY — Upper Applegate area

Owner: Hayfork Gold Dredging Company, Jacksonville, Oregon; C. Fred Holmes, president; Charles C. Stearns, secretary-manager. The company leased ground purchased or held by Oroville Gold Exploration Company, John C. Boyle, secretary.

History: Between January and April, 1940, operations were conducted on Thompson Creek, at the Mee Placers (which see). This work was discontinued after a narrow channel was dredged from a point about 0.7 miles south of the Applegate River to the first bridge. On April 25, 1940, the equipment was moved to Forest Creek in the SE¼ sec. 22, T. 38 S., R. 3 W., where the dredge worked upstream. In the summers of 1940 and 1941 low water caused temporary discontinuance of operations. During the summer of 1941 the dredge was moved to the Applegate River where some ground upstream was dredged for Crescent-Pacific Mining Corp. The Hayfork equipment was returned to Forest Creek in the fall of 1941 to dredge the margin of the area worked by the B-H Company.

Equipment: All equipment is Diesel-powered, including floating washing plant with wooden frame and pontoons. Trommel is 26 feet by 48 inches with eight feet of 3/8-inch perforations and eight feet of ½-inch perforations. Other equipment consists of angle-iron riffles; a 45-foot long by 24-inch wide stacker belt, a 1 3/4-yard (Diesel) dragline with 1½-yard bucket and 45-foot boom, with an extension for deeper ground; Diesel caterpillar; and welding truck. It is estimated that an average of 2000 yards can be dug and treated daily. Working force includes 3 men on the boat and a dragline operator each shift. In addition there are an oiler, welder, and a caterpillar operator.

Reference: Mining World, September 1940, pp. 19-20.

Informants: Charles C. Stearns, January 31, 1940; R.C.T., April 25, 1940.

HEAD'S WASHER — Upper Applegate area

Owner: Dick Head, Star Route, Jacksonville, Oregon.

Location: NW¼ sec. 8, T. 40 S., R. 3 W., 1.7 miles south of McKee bridge, on west side of the Applegate River.

Geology: A river bar in the immediate vicinity was worked. Material is mainly sand with small cobbles.

Equipment: A small dry-land washing plant treats gravel excavated by a bucket on the end of a hollow rod, 20 feet long. The rod and bucket are pulled through rollers and the gravel dumped into a small trommel. A stacker handles the oversize.

Informant: R.C.T., July 11, 1940.

HOPE MINING CLAIM (gold) — Upper Applegate area

Owner: Grace Buck, Star Route, Jacksonville, Oregon.

Location: SE¼ of sec. 31, T. 40 S., R. 3 W., on ridge north of Squaw Creek, 30 miles southwest of Medford. Elevation, 2500 feet.

Area: One lode mining claim, located June 18, 1938.

Geology: A small pocket worth about $30 was found near the contact between schist and diorite. No trace of a pocket has since been picked up.

General: Work done consisted of a location cut and a shaft 22 feet deep. No water has been developed but there is sufficient timber for mining purposes. Maximum snowfall is 4 feet.

Informant: J.E.M., 1938.

HORSESHOE CHROME CLAIMS — Upper Applegate area

Location: NW¼ NW¼ sec. 5, T. 40 S., R. 1 W.

General: On the upper side hill trail to the Brickpile Ranch a dump of a small caved tunnel which trends N. 80° E. shows some low-grade chromite. The ore is both spotted and in thin bands in pale green, somewhat granular and sheared serpentine. The banded type is the more common.

J. S. Diller of tho U. S. Geological Survey examined the property in 1918 and made the following notes:

> "Horseshoe Chrome Group, sec. 5, T. 40 S., R. 1 W. James Reynolds & Edward Spence associated with L. A. Van Horn in this group.
>
> "For the above - 45 tons out and 50 tons in sight. Total available, 95 tons of 45 percent ore. Shipped; none by rail but 45 tons by trail to within 5 miles of Talent on SPRR. Drop in price stopped work. No considerable development work - pack 4 miles by way of Wagner Creek to road, yet to haul 5 miles to reach Talent for shipment. Claims not examined - data reported by Alva Gunnell and L. H. Van Horn."

Report by: R.C.T., 1941.

HORSESHOE MINE (gold?) — Upper Applegate area

Owner: E. L. Childers, 230 S. Central, Medford, Oregon.

Location: sec. 29 (?), T. 38 S., R. 3 W.

Reference: List of Mines, 1939.

HUMBUG CREEK PLACERS — Upper Applegate area

Location: secs. 2, 11, and 14, T. 38 S., R. 4 W., along the channel of Humbug Creek.

History: Several small placers and bedrock-drift mines have been worked along Humbug Creek. The Benson Mine was hydraulicked in 1912 near the junction of Humbug and Ball Creeks. T. Ralph Pittook has hydraulicked and drifted on West Humbug Creek.

Geology: Bedrock is a metavolcanic that is easily cleaned. The gravel is generally small in size although a few large boulders occur. Along lower Humbug the gravel is uniformly small. Some clay is present. The gold is clean and fine but not flaky. The overburden is practically barren.

General: The ground is reported to run from 35¢ to $1.14 per cubic yard and it has been estimated that the placer ground contains 1,500,000 cubic yards. Information on water

supply is not definite but it is presumed that water would not be available for about two months each summer. The channel varies in width. The ground is suitable for a small dredge. Very little clearing is necessary.

Reference: Report by G. T. Vandel, July 15, 1939.

JACKSON EXCHEQUER PLACER — Upper Applegate area

Owner: Robert Downing, Jacksonville, Oregon.

Location: SW¼ sec. 19 and NW¼ sec. 30, T. 40 S., R. 4 W., on Steve's Fork of Carberry Creek, tributary to the Applegate River.

Area: Five placer claims, located July 12, 1934.

History: Steve's Fork was placered in the 1870's by the Oyster Bay Mining Company. Since then, some "snipers" have worked the ground.

Geology: The locality is downstream from the old Browntown, where gold was first discovered about 1851. The ground has been worked considerably and it is difficult to determine what part represents old workings and what has resulted from erosion.

There appear to be 3 terraces. The first is about 10 feet above the stream channel; the second, about 10 feet higher; and a third lies at a considerable elevation above. It is not known whether the third terrace is entirely gravel or represents tailings from former operations against bedrock "reefs."

Boulders are large and not well rounded. Gold is scattered throughout the gravel, and is very fine on top, becoming coarser with depth. It is reported that the gravel contains approximately 3 pounds of black sands per cubic yard. When the black sand is cleaned, it assays as much as $50 a ton in gold.

General: There is no water right. At the upper end of the claims is a good damsite at Rattlesnake Point. Depth to bedrock is from 14 to 30 feet.

Informant: Robert Downing, October 14, 1940.

Report by: R.C.T., October 16, 1940.

JEEDNESS AND RHODES (quicksilver) — Upper Applegate area

Location: sec. 6, T. 41 S., R. 2 W.

Reference: Wells 39. No further data.

JOHNSTON MINE (placer) — Upper Applegate area

"The Johnston Mine, 3 miles northeast from Applegate, in sec. 11, T. 38 S., R. 4 W., at the junction of the west branch with the main Humbug Creek, is owned by W. H. Johnston. The bank averages about 8 feet in thickness and contains considerable clay, in which the main values are found. Boulders of greenstone and granodiorite from 6 inches to more than 8 feet in diameter are present. The bedrock consists of fine-grained greenstone, much fractured and veined. The mine is equipped for hydraulicking, the water being brought from Humbug Creek. Usually worked only 3 or 4 months of the year with water available."

Reference: Parks & Swartley, 16:135 (quoted)
Winchell, 14:132.

JOSIE JACK MINE Upper Applegate area

see Great I Am mine

JUBY LODE (cinnabar) Upper Applegate area

Owner: Wade Crawford, 529 S. Grape St., Medford, Oregon.

Location: SW¼ sec. 31, T. 40 S., R. 3 W., just north of Squaw Creek on the Applegate River.

Development: Overburden has been removed from bedrock by a bulldozer and small trenches were cut into bedrock. One tunnel was driven in the overburden just above bedrock.

Geology: The property is near the contact of diorite and metavolcanics as shown by Wells, 40. The area is covered with deep soil and vegetation so that it is necessary to strip sizeable areas to determine bedrock conditions.

Bedrock appears to be metavolcanic rock intruded by dikes of diorite from a few inches up to as much as 30 feet in width. Occasional quartz veins occur and the overburden is full of quartz float. Two old tunnels (opened years ago as gold prospects) show similar relationships. The most pervalent trend is southwesterly.

As reported by Crawford, surface panning shows small amounts of cinnabar. Coarse cinnabar was found in the tunnel in overburden just above bedrock. Crawford's work shows that cinnabar occupies tiny stringers in the metavolcanics; also that the stringers follow fracture or joint planes. Apparently the stringers have no prevailing trend.

None of the stringers seen could have been the source of cinnabar nuggets reported found near bedrock. It is probable that thorough testing might indicate the limits of the coarse cinnabar and thus direct the search for the source.

Report by: R.C.T., September 13, 1941.

KLEINHAMMER PLACER Upper Applegate area

Location: secs. 19, 20, 29, T. 39 S., R. 2 W.

The Kleinhammer Ranch is located on the Little Applegate River about 2 miles above the mouth of Sterling Creek at an elevation of about 1750 feet. The placer gravel will probably not exceed 12 feet in depth with a maximum width of 300 feet; it extends 1½ miles along the river. Water is plentiful, and tailing disposals should not be a problem. Bedrock is rough metavolcanic rock. The ground was tested by taking half a yard from three different places, giving a recovery of 20 cents to the yard. Many years ago the Chinese worked about 5 years on the lower end of the property.

Informant: J.E.K., 1939.

KUBLI RANCH (dredge) Upper Applegate area

Owners: Kubli and others.

Operators: Charles Stearns and Mr. Owens, 56 - 4th Ave. West, Medford, Oregon.

Location: sec. 22, T. 38 S., R. 4 W., from the mouth of Humbug Creek upstream for 2½ miles to mouth of Chapman Creek.

History: Only hand work has been done. Dredging commenced October 20, 1941.

Development: Five acres was dredged from October 20 to December 3, 1941.

Geology: Bedrock is hard diorite and shale. Where bedrock is even, it is soft; where uneven, it is hard. Boulders over 12 inches in diameter make up less than 1 percent of the gravels; very little sand under 3/8-inch in size is present; 5 percent of the gravel is clay. Most of the gold is fine in size and a small amount of platinum is recovered. The gold amalgamates freely. Water from the Applegate River is plentiful for year-round operation. Depth to bedrock is 25 feet.

Equipment: Bodinson washing plant with a capacity of 130 cu. yd. per hour; Diesel dragline; bulldozer; carryall; electric welder; etc.

Informants: Mr. McDonald and R. G. Bassett, December 3, 1941.

Report by: R.C.T., January 5, 1942.

LAST CHANCE MINE (gold) Upper Applegate area

Owners: Lloyd E. Bennett, Jacksonville, Oregon, James M. Rock, 329 Jeanette St., Medford, Oregon.

Location: On Quartz Gulch, a tributary to Brush Creek in sec. 6, T. 40 S., R. 4 W., 22 miles SW. of Ruch. Elevation is 3500 feet.

Area: One unpatented lode claim. Located August 15, 1938.

General: It is reported a shaft 30 feet deep has been sunk on a quartz vein. No sampling results are available. Timber is plentiful. Maximum snowfall is 4 feet.

Informant: J.E.M., November 23, 1938.

LAUREL CLAIMS Upper Applegate area

see Rattlesnake Group

LAYTON MINE (placer) Upper Applegate area

Owner: Pacific Placer Company, Inc.; Carrie N. Wilson, Trustee.

Location: SW¼ sec. 20, T. 38 S., R. 4 W., on Ferris Gulch at an elevation of 1500 feet.

Area: Over 1100 acres (400 unpatented, balance patented). It includes Ferris, Whiskey, and Bamboo Gulches.

History: "The Layton Mine is part of the estate of J. F. Layton, and is under lease and bond by Austin Wilson, of Boston, Mass. It is located 2 miles west of Applegate, in sec. 20, T. 38 S., R. 4 W. The average thickness of the gravels is about 25 feet and the width is more than 200 feet. The best values are found in an old channel about 15 feet below the level of the present stream bed. The bedrock is greenstone, which in places is distinctly vesicular and greatly fractured and veined. Mr. Layton put in 2 ditches, the upper of which is 21 miles long and the lower 18 miles. Three giants are used under a head of about 300 feet. A considerable area of good ground remains to be washed.

"According to a late report, Mr. Wilson is installing considerable additional equipment in order to effect a better saving of values and increase the amount of material handled. This equipment includes 2 Pierce amalgamators and a large winch to use on a derrick to handle the stumps and large boulders. He proposes further to install an electric power plant for both light and power. The mine has been a good payer for years and it is expected that the improvements will be the means of materially increasing its production."

In recent years, W. A. and Lou Robertson worked on Bamboo Gulch where it is reported the gold particles ran up to 25 cents to the yard and the ground averaged 30 cents. There are 40-ft. banks of virgin gravel. Some work is reported on Whiskey Gulch.

Geology: Bedrock is argillite, fairly smooth, and weathered so that it can be dug to a depth of 2 feet. There is very little clay and no large boulders. The banks are up to 40 feet high and the placered area in Ferris Gulch is from 100 to 300 yards wide.

General: The property has a water right on Grayback Creek which could deliver to a high-line ditch. A low-line ditch has water except the interval between July 10 and Sept. 22 when the water is used for agricultural purposes.

Reference: Parks & Swartley, 16:139 (quoted)
Winchell, 14:132

Informants: Mrs. Carrie N. Wilson and R.C.T., January 30, 1940.

LLANO DE ORO MINES, LTD. (gold) Upper Applegate area

Location: sec. 17 & 20, T. 40 S., R. 4 W., on the north side of Carberry Creek at elevations of 2440 to 3200 feet.

Area: 12 claims and a millsite (5 acres).

History: Formerly known as the Carberry mine and Big Four mine. Oregon corporation, E. K. Brown, Pres., 428 Mead Building, Portland, Oregon; William Pelletries, Sec.-treas., 428 Mead Building, Portland, Oregon. Capitalization $50,000.

Development: Six short tunnels have been driven and some large open cuts excavated. Water for power and milling is supplied through two ditches with a capacity of 10 second-feet under 200 foot head.

Geology: Country rocks are schist and andesite porphyry. The principal veins strike east. The low-grade ore occurs in schist cut by quartz veins and quartz stringers. The widths of the veins vary from one foot to several feet while the gold-bearing schist is extensive but full width has not been determined. Ore in the veins is of good grade.

Equipment: Milling equipment includes 5-stamp mill, amalgamation plates, and concentrating table. The mill is driven by a Pelton wheel. Mining equipment consists of a small air compressor, air pipe, buildings, etc.

Reference: Report by M. E. Hughes, dated January 1, 1935.

LONE PINE MINE (gold) Upper Applegate area

"The Lone Pine Mine, 8 miles east of Applegate, is near the north line of sec. 15, T. 38 S., R. 3 W., on Forest Creek, at an elevation of 2200 to 2600 feet by barometer. It is opened by 3 adits, which are supposed to reach the same ore body. As shown in the illustration, the main entry is a crosscut adit striking the vein about 250 feet from the portal. The vein strikes S. 60° W. and dips 85° W., but it does not seem to be continuous to the southwest, being replaced in that direction by veins of white quartz in slate in various directions. On top of the ridge at an elevation of about 2600 feet shallow workings show a vein striking S. 80° W. and dipping 80° N. in a black argillite. This mine is equipped with a Beers mill having a plate and a jig. It is owned by G. L. Huff, of Gold Hill."

Reference: Parks & Swartley, 16:143 (quoted)

LOWRY ANTIMONY — Upper Applegate area

Owner: Bert B. Lowry, Route 1, Medford, Oregon.

Location: NW¼ NW¼ sec. 25, T. 40 S., R. 4 W., approximately 1 mile northwest of the Applegate River, near the Fred Dorn ranch, on Kanaka Gulch. This Gulch is about 3½ miles north of the Copper store and is reached by the way of Medford, Jacksonville, Ruch, and the upper Applegate county road. From Grants Pass the property may be reached by the way of Murphy, Applegate, Ruch, and south on upper Applegate county road. It is necessary to cross swinging bridge to the west side of the river, turn north (right) along river on trail about 200 yards to old camp. Here, an old wagon road leads up the west gulch to the property.

Area: 2 unpatented mining claims, Antimony Lode and Applegate, located in line. The location is dated September 2, 1939. Discovery notice on Antimony Lode is 75 feet southwest of an old shaft. The center line of the claim trends N. 55° W., and joins the Applegate claim to the northwest.

History: This property has been worked off and on since the First World War. Lowry reports that at least two carloads of high-grade ore were shipped in 1918. Apparently, this ore came from two shafts. Sometime after 1930, Mr. Schumacher, Medford, concentrated some of the ore and made a small shipment. Since then, work has been confined to cleaning out the old tunnels and extending the lower tunnel 100 feet.

Development: Recent development consists of an assessment cut on the Antimony Lode claim above an old cut and winze. The vein is exposed but contains no ore. On the Applegate claim, a tunnel was driven 162 feet, including 50 feet of open cut at portal; also a winze sloping 40° N. and 55° E. was sunk on the vein. It has a slope length of 50 feet. Some stoping was done in the winze, and a very small stope was mined above the tunnel. The vein was lost just northwest of the winze and the tunnel was driven westward to intercept a vein thought to be present in the old tunnel, 60 feet to the west. Surface trenches have been dug at various points.

The lowest workings are at an elevation of 2300 feet and consist of a new adit 112 feet long.

A shaft, 36 feet deep, out of which ore was removed is 50 feet above the tunnel and a 6-inch stringer is visible in the sump. An old caved cut extends northwest from the collar of the shaft. One upper tunnel is 162 feet long including a 50-ft. open cut at the portal and includes also a winze 50 feet deep that was sunk on ore. There are several other workings in the vicinity, but they are caved and inaccessible. About 20 tons of hand-picked ore remain on the dump. Above the upper tunnel workings, Mr. Lowry has found stibnite float and has started two pits.

Geology: Heavy soil cover obscures most outcrops, and those that are exposed are badly weathered. Exposures along the trail from the River show, first, meta-igneous to metavolcanic rock. At about the three-quarter mile point, there is a change to metasediment that is well-jointed. Bedding seems to parallel the more closely spaced joints, and stands at high angles. The rock in the tunnels appears to be metasediment.

A vein in the Applegate tunnel has a definite hanging wall that dips 40° N. and 55° E. As a rule the footwall is not as well defined as the hanging wall. The ore zone seems to vary in width, from a few inches to as much as four feet, although the vein remains fairly constant. The ore seems to be in shoots; within the shoot itself the ore occurs in lenses. In the shaft at two places in the slope distance of 50 feet, the ore pinched to a few inches in width, and also swelled to two fair-sized pockets, one on each side. Ore is five inches wide in the sump.

The lower adit is 112 feet long. The country rock appears to be metasediment, much like argillite. Some of this argillite has been brecciated and resilicified. About 90 feet

from the portal, the vein is about 5 feet wide and is bounded by two well-defined walls with accompanying gouge. The incline shaft above the adit was sunk in similar rock and apparently a high-grade pocket was removed.

Where the stibnite can be seen, it occurs most frequently in the harder, silicified rock; in part it is disseminated, and in part it occurs as crusts on joint planes. The average grade across a mining width is low, but the prospect shows definite possibilities both for concentrating ore and for developing high-grade lenses.

It is stated that stibnite float is plentiful on the hillside, even above the Applegate tunnel. An interesting ore occurrence was found in the first caved workings southwest of the Applegate tunnel. In the 50-foot out to the portal, there are boulders containing fresh, high-grade stibnite in a matrix that is decomposed to clay. These isolated boulders may be from 6 to 8 feet below the present surface.

The ore on the dump contains a high percentage of oxide, but no antimony oxide was seen in the underground workings.

Equipment: A few hand tools.

General: Ample timber is available for mine timbers. Water is scarce on the hillsides and snowfall would not hamper operation. Topography is mountainous. The surface appears to be a series of small benches. The soil cover is deep; brush is heavy but not deeply rooted. Road construction by bulldozer would be a simple matter.

Informants: Bert B. Lowry, Bert Lowry, Jr.

Report by: R.C.T., February 12-13, 1940, and April 28, 1942.

LUCKY FRIDAY (gold) Upper Applegate area

Owners: D. A. Wright, Star Route, Jacksonville, Oregon, Cliff Sanderson, Benton Mine, Glendale, Oregon.

Location: On Brush Creek, 8½ miles northwest of Copper, and 39 miles southwest of Medford in SE¼ sec. 17, T. 40 S., R. 4 W. Elevation is 2700 feet.

Area: One unpatented lode mining claim.

History: The discovery was made in 1916 by Messrs. Wright and Sanderson. In opening it up, a small amount of ore was produced and milled. According to Mr. Wright $20 to the ton was recovered by amalgamation. At a lower elevation than the discovery, a crosscut tunnel has been driven N. 79° W. for 85 feet. It is estimated that 70 ft. must be driven in order to reach the vein.

Geology: The country rock is andesite. The discovery work from which ore was mined is now caved. Mr. Wright states that there were three parallel veins on the surface. The east vein is 2 to 3 feet wide, and the other two are 10 to 12 inches wide. Near the bottom of a cut all three veins join. The tunnel is 100 feet vertically below the upper workings and is in hard andesite. The vein trends about N. 20° E. and dips vertically. The ore shoot is about 8 feet long. The maximum width is 3 feet.

General: Topography is mountainous. Timber is plentiful. Water is lacking but may be obtained half a mile from the claim. There is a road within a quarter of a mile of the property. The property has no equipment except car and track.

Informant: J.E.M., October 7, 1938.

MAID OF THE MIST MINE (gold) Upper Applegate area

Owner: Dick Hoffman, Applegate, Oregon.

Location: S½ sec. 4, T. 39 S., R. 4 W.

History: Parks & Swartley (16) give the following description:

"The Maid of the Mist Mine, reached by wagon road 5 miles south of Applegate, up Thompson Creek, is in the south half of sec. 4, T. 39 S., R. 4 W., on a branch of Thompson Creek. The country rock is greenstone, in which there are several auriferous quartz veins, the most important striking east and dipping about 55° S. It is opened by a shaft 200 feet deep and about 500 feet of other workings, now full of water. It has not been in operation for several years. According to Kay:

"'The values are irregularly distributed through the quartz, which is fairly free from sulphides. Of the latter, arsenopyrite appears to be more prevalent than pyrite. Calcite is subordinate.'"

Reference: Parks & Swartley, 16:148 (quoted)

MANKINS PROSPECT (gold) Upper Applegate area

Owners: Henry Mankins and Son.

Location: NE¼ sec. 19, T. 38 S., R. 2 W.

General: Gold values from a quartz vein are treated in an 8-ton mill. The property is worked intermittently.

Informant: Nate W. Smith, March 21, 1941.

McKEE, ERNEST AND BOYLE, JOHN Upper Applegate area

see McKee placer

McKEE PLACER Upper Applegate area

Owner: A. M. McKee, Star Route, Jacksonville, Oregon.

Operator: M. C. Lininger & Sons.

Location: NW¼ sec. 8, T. 40 S., R. 3 W., on the Applegate River just downstream from the Rippey Ranch placer.

Area: About 10 acres of patented placer ground.

History: The placer was worked by Ernest McKee and John Boyle, Medford, intermittently, during 1938 and 1939. Equipment was leased from M. C. Lininger and was moved from his operation on the Fred Offenbacher Ranch (ground now held by Crescent-Pacific Mining Corporation). McKee and Boyle released their rights to Lininger who began testing the ground in July, 1940.

Geology: There is little overburden or clay. Gravel size ranges from small pebbles to boulders too large for the shovel, and varies from water-worn to sub-angular in shape. Bedrock is very uneven. Gold seems to be concentrated in streaks through the river bar.

Equipment: A ½-yd. Speeder gasoline shovel; a dry-land washing plant having a 3-yd. hopper; a trommel, 3½ ft. by 24 ft. of which one-third the length has no holes and the remainder has 3/4-inch holes; five 6-ft. by 2-ft. sluices under the trommel and about 50 feet of discharge sluice; a 6-inch pump; the plant is powered with a Star automobile engine. Four trucks carried material from the shovel to the washing plant.

Informant: M. C. Lininger, July 11, 1940.

Report by: R.C.T., July 11, 1940.

MEE PLACERS Upper Applegate area

Owner: Warren Mee Estate.

Location: N½ sec. 29, T. 38 S., R. 4 W., 1 mile south of Applegate. Elevation,1300 feet.

Area: 50 acres, patented.

History: Considerable hand work was done in the past. From January to April 25, 1940, the Hayfork Gold Dredging Company dredged a narrow channel along Thompson Creek. The dredge was moved to Forest Creek, April 25, 1940.

Geology: The property is three-quarters of a mile long and from 235 feet to 900 feet in width. Gravel averages 8 feet in depth; 10 percent of the material is over 1 foot in diameter. No clay is present. Bedrock is soft, decomposed conglomerate with some "porphyry." Gold is said to be about 870 fine, and is of the pocket-type. It is distributed uniformly throughout the gravel. Some wire gold has been found, and crystalline gold is reported from the vicinity of Applegate.

Informant: Charles C. Stearns, January 31, 1940.

Report by: J.E.A. and R.C.T., January 31, 1940.

MERRICK MINE (placer gold) Upper Applegate area
formerly Gibson mine.

Owner: E. P. Merrick, Merrick Auto Court, 120 Riverside, Medford, Oregon.

Location: On Grouse Creek, a tributary to the Little Applegate River, 14 miles SE. of Ruch in sec. 24, T. 39 S., R. 2 W. Elevation is 2900 feet.

Area: 90 acres, patented.

History: The property was worked by hand about 60 years ago. Since then no work was done until June 1927. No record of yardage mined or of bullion shipped is available. About 2000 yards was mined in 1939.

Geology: The placer is a so-called high channel situated about 90 feet above the Little Applegate River. Bedrock consists of granite and porphyry.

General: The water right allows 2 c.f.s. to be taken from Grouse Creek, and 50 c.f.s. from Jin Lin ditch which is a farmers' ditch. Equipment includes two No. 2 giants and 400 feet of 11-inch to 20-inch pipe.

Informant: J.E.M.

MOCKS GULCH CLAIMS (mercury & tungsten) Upper Applegate area

Owners: Russell Mitchell and D. A. Wright, Jacksonville, Oregon.

Location: SW¼ NE¼ sec. 17, T. 40 S., R. 4 W., west of Brush Creek, a tributary of Carberry Creek. Elevation is 3400 feet.

Area: 2 lode mining claims.

History: The scheelito vein opening was made in 1917 by a man who prospected the locality for gold. No work was done on the property.

Development: Five small open cuts, the largest of which is about 50 feet long. The scheelite vein is opened for a length of 5 feet and a width of 3 feet.

Geology: According to Wells, 40, country rock is metavolcanic of the Applegate (Paleozoic?) series. Heavy brush and soil cover obscures practically all outcrops. One outcrop of a sheared pyroclastic, metamorphosed rock showed the schistosity trend to be N. 35° E., with a NW. dip at a high angle. The metavolcanic rock is deeply weathered and iron-stained.

Cinnabar is present in portions of the metavolcanic rock, but no concentration was seen. All cuts showed some cinnabar but the grade is low (from 1 to 2 pounds to the ton). The cinnabar observed occurred on fracture planes as "paint." It is present also in the wall rock at the scheelite vein.

Scheelite occurs in a vein that is 3 feet wide, and is exposed for a length of 5 feet. The vein or fracture zone has well-defined walls and seems to be composed of sheared metavolcanic rock. The strike of the vein is east and the dip is 70 degrees due south. Good showings of scheelite can be obtained by panning.

Report by: R.C.T., March 11, 1941.

MOSES AND COLLINS CLAIMS (gold) Upper Applegate area

"Moses and Collins have gold prospects in quartz veins in greenstone on Collins Mountain in sec. 35, T. 40 S., R. 4 W., 28 miles southwest of Jacksonville on the Applegate River. Most of the veins are small and rather irregular, one of the largest is 1 to 3 feet thick and contains streaks of pyrolusite. The ore is a surface concentration occurring in rich bunches at or very near the surface."

Reference: Parks & Swartley, 16:156 (quoted)

MYERS CLAIMS Upper Applegate area

see Wright and Myers claims

NELLIE GRAY GROUP (placer) Upper Applegate area

Owner: James L. Tyson, Star Route, Jacksonville, Oregon.

Location: On Brush Creek, 7½ miles NW. of Copper, and 38 miles SW. of Medford, in the NE¼ NW¼ and N½ NW¼ NW¼, sec. 21, T. 40 S., R. 4 W. Elevation is 2400 feet.

Area: 3 unpatented placer claims, 20 acres each.

History: These claims were formerly owned by Messrs. Akers and Waldens. Brush Creek has been worked by hand during the last few years.

General: Bedrock is composed of greenstone. The gravel contains many small boulders, and insufficient water is available to work the gravel efficiently. Topography is mountainous. Maximum snowfall is 3 feet.

Informant: J.E.M., 1938

NONE SUCH MINE (gold) Upper Applegate area

Owner: M. H. McClellan, Ruch, Oregon.

Location: Center sec. 23, T. 38 S., R. 4 W.

Area: One claim, recorded May 15, 1926.

History: Parks & Swartley reported as follows:

"The None Such Mine, 2 miles east of Applegate is half a mile east of Humbug Creek and about as far north of Applegate River. It is owned by Longwell and Company, who report that it is opened by a shaft and about 200 feet of workings on a quartz vein. The ore is hauled to the Applegate River and treated in a 3-stamp mill run by water power, which was in operation in September, 1913."

Development: Old workings consisted of a tunnel and some stoping that ultimately broke through to the surface. Later operations entered the mine with a by-pass adit around the caved portion, and then followed the general trend. The adit is 215 feet long. A crosscut opening, length unknown, has been dammed, and is used as a storage reservoir for local water supply.

Geology: The country rock is meta-igneous, greenstone, and is highly sheared and cut by mineralized quartz stringers and pods. The vein strikes N. 65° W., and dips 75° SW. There probably was a second vein in the crosscut since the record board showed ore from the crosscut.

Equipment: None. An old mill has been removed, and only the stamp foundations remain.

Note: Location given in Parks & Swartley is incorrect.

Reference: Parks & Swartley, 16:162 (quoted)

Informant: J.E.A., January 1940.

NORTH CENTRAL CLAIM (gold) Upper Applegate area

Owner: Gerald Buck, Jacksonville, Oregon.

Location: On ridge between French Gulch and Squaw Creek. Thirty miles southwest of Medford in sec. 31, T. 40 S., R. 3 W. There is no road to property. The claim is approximately half a mile by trail northwest of the Old Pacific States Mines. Elevation, 2400 feet.

Area: 1 unpatented lode mining claim.

History: Located by present owner in 1926. Yearly assessment work is the only development work which has been done.

Geology: Pyrite and chalcopyrite occur in schist as replacement bodies. The general strike of the vein is N. 45° E. and dips approximately 75 degrees. The ore shoots are very small and no commercial tonnage has been developed. The owner has never had any assays made.

General: No water is available. Timber is plentiful. There is no equipment. Topography is mountainous. Maximum snowfall is 4 feet.

Informant: J.E.M., October 5, 1938.

OFFENBACHER PLACER Upper Applegate area

Owner: Fred Offenbacher.

Location: secs. 29 & 30, T. 38 S., R. 3 W., along Applegate River.

General: This ground was dredged and resoiled by the Crescent-Pacific Mining Corporation. Portions were worked in 1938 by M. C. Lininger.

Informant: R.C.T., 1940.

OLD FAITHFUL MINING GROUP (gold) Upper Applegate area

Owner: Warren P. Gammill, Murphy, Oregon.

Location: sec. 19, T. 37 S., R. 4 W., SW¼.

Area: 4 claims of 20 acres each.

General: The property has been hydraulicked in past years. It has been estimated that the ground contains 1½ million yards of 40-50 cent gravel. It has been worked on a small scale since 1923. The adjoining ground is similar in value to that belonging to Gammill.

Informant: Warren P. Gammill, 1939.

Report by: A. A. Lewis.

OLD GREAT EASTERN GROUP (gold) Upper Applegate area

see Squaw Creek Copper.

OREGON BELLE MINE (gold) Upper Applegate area

Owner: J. H. Conrad, Jacksonville, Oregon, purchased August 15, 1939, from Mrs. Minnie Ireland.

Location: S½ sec. 6, T. 38 S., R. 3 W., near the head of the south fork of Forest Creek.

Area: 12 unpatented claims, located more than 40 years ago.

History: The following is quoted from Parks & Swartley (16):

> "The Oregon Belle mine, 8 miles by wagon road southwest of Jacksonville, is in the S½ sec. 6, T. 38 S., R. 3 W., near the head of Forest Creek at an elevation of about 3000 feet. It is opened by several adits. The country rock is andesite and argillite. The vein is well defined and reaches a thickness of at least 8 feet in some of the stopes; it strikes S. 72° W., and dips 52° N.W.; it is cut off by a fault which strikes N. 64° W. and dips 74° N.E. The rock within and beyond the big fault 20 feet wide crossing the entry about 220 feet from the portal and dipping 75° S.W. is much altered by vein solutions. There are several adits above the main entry but they are caved and closed. One of them has a large dump at an elevation of 3250 feet. The mine was operated several years ago by a stock company. It is now owned by Minnie Ireland of Grants Pass."

Most of the work was done during the 1890's and 1900's. One of the first tunnels was the Broad and Reed, started about 1890 and driven some 400 feet. Production reports claim one shipment of $45,000 and many small ones of around $2,000. This tunnel is caved and has never been reopened. Approximately 150 feet below the Broad and Reed, the Roberts tunnel was driven about 225 feet. All but 40 feet has been reopened and in addition the present operator has driven a raise 105 feet to the surface on the Roberts Ledge. The Golden King tunnel was driven in 1905 and contains about 500 feet of workings. It penetrated the Oregon Belle Ledge which is reported to have produced $200,000 in a stope that connected with the Broad and Reed tunnel above. This stope, together with a 90-foot winze, and about 120 feet of tunnel, is inaccessible.

In addition, the Conrad tunnel has been opened on the Roberts Ledge at the same elevation as the Broad and Reed tunnel. Above these workings there are many short adits and cuts. Several depressions suggest that stopes from lower workings reached the surface.

Apparently, high-grade ore was mined during the early years of operation. Since then, ore averaging from $10 to $25 has been developed.

Development: Old workings are as follows: Golden King tunnel, 652 feet reopened plus 120 feet caved, together with 90 feet of winze and one caved stope that goes to the Broad and Reed tunnel above; Roberts tunnel, 236 feet reopened plus 40 feet caved, together with a 105-foot raise to the surface; Conrad tunnel 61 feet reopened and an open cut above; Broad and Reed tunnel, in excess of 400 feet, all caved; numerous short adits and pits. A reservoir and 1450 feet of 3-inch pipe provide water under a 3-ft. head to the mill site. A road 2½ miles long has been constructed to the property.

Geology: The principal country rock is metavolcanic (Wells, 40). Shear zones are common and have a generalized northwest strike nearly at right angles to the strike of the ore shoots. Areas between closely spaced shear zones usually are fractured and softened. Tiny quartz veinlets are shot through the fractures.

Some of the rock appears to be argillite. It is extremely fine-grained, and if microscopic examination proves it to be a sediment the metavolcanics are probably sills.

The two principal ore bodies are the Oregon Belle, exposed in the Golden King tunnel, and the Roberts, exposed in the Roberts tunnel. The Oregon Belle ledge was stoped, and remaining quartz is from 2 feet to 4 feet wide, with average value of $10 to $15. The vein strikes S. 70°-75° W. and dips 50°-60° NW.; evidently it pinches, swells, and rolls to a certain extent. A possible fault cuts the vein at its northeasterly end and may displace it about 7 feet to the southeast.

The Roberts vein is exposed in the Roberts tunnel, where a raise follows it to the surface at the portal of the Conrad tunnel. Quartz, from 2 feet to 4 feet wide, occupies part of this shear zone, and generally strikes N. 80° E. and dips 60° NW. Some small bits of wall rock are included in the quartz, which is not frozen to the walls. The quartz vein pinches out in the east end of the drift, giving way to a shear zone that strikes S. 75° E. and dips 83° SW. Quartz is exposed in the left drift of the Golden King tunnel, indicating that it is a continuation of the Roberts vein. The quartz occurs as small stringers frozen to the walls in a shear zone. The Roberts vein is exposed in a shear zone in the Conrad tunnel and is reported in workings above.

Evidence indicates the presence of at least two strong veins, the Oregon Belle and the Roberts that are roughly parallel, trending about S. 75° W. and dipping about 60° NW. They pinch and swell and roll, making strike and dip determinations difficult. More gold is reported from areas where the quartz is not frozen to the walls and there are indications that "hot-spots" tend to develop at intersections with cross veins.

Equipment: An Ingersoll-Rand compressor with capacity of 210 c.f.m.; one International Diesel engine; one Joshua-Hendy amalgamator; some machine drills; and small tools.

Reference: Parks & Swartley, 16:170 (quoted)

Informant: J. H. Conrad, August 15, 1941.

Report by: R.C.T., August 18, 1941.

Assays by: R. G. Bassett.

OREGON-MONTANA MINING, MILLING, AND MFG. CO. Upper Applegate area

see Brick Pile mine

OROVILLE GOLD EXPLORATION COMPANY — Upper Applegate area

This company tested and secured dredge ground for the Hayfork dredge during 1940.

PACIFIC STATES MINES — Upper Applegate area

see Squaw Creek Copper.

PEARCE MINE (placer) — Upper Applegate area

"The Pearce Mine, 4 miles southwest from Jacksonville, is on the east fork of Forest Creek in sec. 11, T. 38 S., R. 3 W. It is at present leased by Floyd Pearce, of Jacksonville.

"The gravels have an average thickness of about 12 feet, but in places they have been 45 feet thick. In the lowest 6 feet of the deposit there are many large undecomposed boulders, but above this zone the material is gravel and sand not very strongly cemented. The best values are at and near the bottom. Some of the ground has run as high as $7000 to the acre. The bedrock is greenstone, the slope of which is not more than 2 feet in 100 feet. The mine is equipped for hydraulicking, 3 giants being used. The pressure of the water is only about 85 feet. The property consists of 240 acres, a large part of which remains to be worked."

Reference: Parks & Swartley, 16:178 (quoted)

PITTOCK'S PLACER — Upper Applegate area

see Humbug Creek placers

PURVIS PROSPECT (molybdenum) — Upper Applegate area

Owner: Mrs. Wanda Purvis, Ashland, Oregon, leased to C. O. Smith, Grants Pass, Oregon.

Location: SE¼ sec. 10, T. 41 S., R. 2 W., on Tamarack Creek west of Observation Peak (near Grubstake mine). The prospect is reached via Ashland, or the Star Ranger Station on the Applegate River by way of the Beaver Creek road.

Area: 5 mining claims.

History: Originally located as a gold mine 3 or 4 years ago. Several pockets were removed, one of which netted $22. There was a tunnel 80 feet long, and the molybdenum ore was scattered about the dump.

Development: Several cuts in addition to the tunnel.

Geology: The area is classed as Old Schists by Wells, 39. The vein is quartz and averages 2 feet in width. It can be traced for 1½ miles. The outcrops show sulphides and white glassy quartz. Molybdenum is exposed in the tunnel. Recent assays show $22 in gold and 1.6 percent molybdenum.

General: On August 6, 1940, there was 5 miners' inches of water in Tamarack Creek. There is no water right. A road is within half a mile of the property and is open from June to November.

Informant: C. O. Smith, January 6, 1941

Report by: R.C.T., January 6, 1941.

QUEEN ANNE MINE (gold) Upper Applegate area

"The Queen Anne Mine, 10 miles southeast of Applegate, is in the NE¼ sec. 3, T. 39 S., R. 2 W., on Deming Creek, near the Sterling Placer Mine, at an elevation of 2750 feet by barometer. It is owned by W. H. Simmons, who has a mill at the mine consisting of a boiler, engine and 3-stamp battery of 250-lb. stamps. It is opened by an adit extending 75 feet N. 20° E. along the bedding of the schistose argillites, which contain some pyrite, but no vein quartz. To the northwest there are 3 shafts, the deepest following a quartz vein for 40 feet. The 4-foot quartz vein strikes N. 45° W. and dips 80° N.E."

Reference: Parks & Swartley, 16:184 (quoted)

RAINBOW CLAIM Upper Applegate area

see Rattlesnake Group

RAINBOW GROUP Upper Applegate area

see Head's Washer

RATTLESNAKE GROUP (quicksilver, tungsten) Upper Applegate area

formerly known as Rainbow claim; Laurel claims

Owners: Milton Murphy, Applegate, Oregon, and E. S. Noe, Jacksonville, Oregon. The property is under lease to Horse Heaven Mines, Inc.

Location: The claims extend in a northwesterly direction across the west boundary of sec. 9. Murphy's claims are in the SW¼ sec. 9, and Noe's claims are in NE¼ sec. 8, both in T. 40 S., R. 4 W. The SW¼ corner of sec. 9 is 3000 feet north of Thousand Dollar Creek. Distance to Grants Pass by the way of Thompson Creek is 34 miles, of which 18.7 miles is pavement and 15.3 miles is Forest Service road passable the year round. Distance to Medford is 35 miles. An access road, 5000 feet long, built by the Forest Service in 1942 connects the workings with the Star Gulch road.

Area: Eleven unpatented lode claims, five of which belong to Murphy, six to Noe.

History: The area has been prospected for gold. The location records show that claims were located and cinnabar was discovered in 1935.

Development: On the Gold Seal claim, one adit trending N. 10° E. has been driven. The portal is 460 feet in elevation above the creek. The main cinnabar development is in a tunnel 600 feet higher than the creek and trends S. 70° E. for a distance of 52 feet. Below the main cinnabar tunnel on the Rainbow claim there is a tunnel 200 feet long which trends S. 70° W. and contains a raise and a northeast crosscut. Here the main drift has been driven on a quartz vein 4 inches wide which dips about 45° southeast. Southeast of this tunnel, a short tunnel has been driven southeasterly which is 500 feet in elevation above the creek. In addition there are several cuts and trenches which expose cinnabar.

Geology: The country rock is metavolcanic with a band of metasediments exposed a short distance southeast of the workings. The rock near the surface is weathered and softened but in many places fresh metavolcanic rocks are found immediately below the surface.

In the main cinnabar tunnel, fractures strike S. 70° W. and dip 70° SE. Many of these fractures are heavily "painted" with cinnabar. Occasional cinnabar specks may be seen in the rock. Scheelite present was determined by panning and by means of an ultra-violet light. The mineral occurs in a narrow stringer about 1/8 of an inch wide, extending for 15 feet along the northeast side of the floor of the tunnel.

One specimen showing cinnabar on one set of fractures and scheelite along another intersecting set, indicated the possibility of two periods of metallization.

The amount of scheelite now exposed appears to be too small to be commercial. However, the presence of scheelite at the Mitchell property on the opposite side of Brush Creek about 500 feet east of the Rainbow claim, and also the occurrence of scheelite farther north on Foots Creek, suggests that further prospecting for this mineral is warranted.

The quality of cinnabar ore varies from 2 pounds to 47 pounds of mercury to the ton. The face of the tunnel at 52 feet from the portal shows higher-grade ore than at a point just in front of the face. Considerable native quicksilver occurs in the face also. There is no definite evidence present which might indicate a structural trend for the ore.

Noe's claims show cinnabar in the mantle rock in many of the cuts. Where bedrock is exposed, average samples may run 3 pounds to the ton. Some scheelite occurs in certain cuts. Parts of both Noe's and Murphy's claims have been prospected with a post-hole auger.

Cinnabar occurs on the Mitchell property across Brush Creek (Mock Gulch claim) and this fact, in addition to the occurrences on the Rainbow claim and on Noe's claims, suggests the possibility of a considerable area which contains low-grade cinnabar ore together with some higher-grade ore.

General: The Brush Creek area is deeply incised and hillslopes are from 25° to 35°. Manzanita brush is thick; timber is scarce. Water is available during part of the year. Snowfall is light and seldom remains on the ground more than a few days at a time.

Reference: Wells, 40.

Informant: L. W. Staples, November 12, 1942.

Report by: R.C.T., May 14, 1942 and November 12, 1942.

RED BEAN CLAIM (gold) Upper Applegate area

Owner: James M. Rock, 329 Jeanette Street, Medford, Oregon.

Location: On Quartz Gulch, a tributary to Brush Creek in sec. 6, T. 40 S., R. 4 W., 22 miles southwest of Rush, Oregon. It joins the Last Chance Mine on the east side.

Area: A placer mining claim, 20 acres.

General: No water is available during summer months. Farther down on Brush Creek the gravels contain many boulders and some clay. Gold is generally coarse. No mining work has been done on this claim (1938).

Informant: J.E.M., 1938.

RED FEATHER (quicksilver) Upper Applegate area
see Ruby mines

Owner: D. R. Luper, Jacksonville, Oregon.

Location: On the north side of Squaw Creek in sec. 34 and 35, T. 40 S., R. 3 W., 35 miles southwest of Medford. A trail three-quarters of a mile long leads from Squaw Creek to the property.

Area: Five unpatented lode claims located on an east-west line. Named in order west to east, the claims are Smokey Cabin, Grayback, Red Feather, Ruby, and Ruby Extension.

Development: On the Ruby claim, a tunnel was driven N. 20° W. for 250 feet. A caved tunnel is situated 300 feet to the northeast. On the Red Feather claim there is a location out 20 feet long.

Geology: The cinnabar is said to occur along the contact between granite on the north and serpentine and schist on the south. The strike of the contact is approximately S. 80° W.; it dips steeply to the north. The cut on the Red Feather claim shows that the contact strikes N. 48° E., and dips 73° N. The tunnel on the Ruby claim runs through schist but is said to intersect 3 feet of serpentine which contains ore at a point 150 feet from the portal. A winze said to be fifty feet deep was sunk on the vein at the Ruby location cut. A sample ran 4.5 pounds mercury to the ton.

Reference: Schuette, 38:127

Informant: J.E.M., 1938.

RED STAR CINNABAR (quicksilver) Upper Applegate area

Owners: Eugene Mee and John O'Brien, 107 Washington St., Medford, Oregon.

Location: Near the center of sec. 17, T. 41 S., R. 2 W. approximately 300 yards east of the road leading from Beaver Creek road through Perks pasture, and 1½ miles north of the pasture. The distance to Medford is 40 miles, partly over a mountain road impassable from November to May.

Area: One lode claim.

History: The claim was located November 18, 1938; the location was amended May 13, 1941. It is reported that quicksilver, used by an early-day placer miner, was obtained from this occurrence. Since that time, no work was done on the claim until 1938. This work revealed some high-grade ore. Subsequently a Mr. Cantrell did some work on the claim.

Development: There is one open cut about 20 feet long reaching a face 10 feet high including the start of a tunnel 5 feet in. Below this open cut, a short hole has been driven designed to intersect the ore found in the main open cut. Several shallow prospect pits have also been sunk.

Geology: The country rock is classified as Old Schist. The rock is coarse-grained, greenish in color, and contains noticeable chlorite together with some amphibole. Alteration and silicification as well as shearing and crumpling are prominent features. About 1½ miles north of the work described, younger metamorphic rocks outcrop.

Calcite veins and seams cut the rock along joint planes. Cinnabar is associated with the calcite and, when present in the calcite, may be found also in the wall rock immediately adjacent. Cinnabar is also found as "paint." Visible ore occurs in narrow seams, although it is reported that the original discovery was in a wide calcite vein with cinnabar found also in the wall rock. The width at this point was reported to be 9 feet, length, 10 feet.

Report by: R.C.T., September 17, 1942.

REED AND FLETCHER PROPERTY Upper Applegate area

see Fleming Prospect

RIPPEY RANCH PLACER MINE Upper Applegate area

Owner: J. F. Rippey, Star Route, Jacksonville, Oregon.

Location: secs. 7, 8, and 17, T. 40 S., R. 3 W., on the Applegate River 24 miles southwest of Medford.

Area: 105 acres of patented agricultural land, of which approximately 28 acres is placer ground. In addition, there is one 20-acre placer claim in sec. 7.

History: This property has been worked in a small way intermittently for the past 50 years. Norman Terry operated it from November 1937 to April 20, 1938. It is reported that Joseph H. Garner and Charles Dallerup, Crescent Oil Company, San Francisco, have purchased the Rippey and Dick Head Ranches for a dragline project. The company, incorporated as the Crescent-Pacific Mining Company, worked the property from April to June 1939. The plant was then moved to the Offenbacher Ranch (see Crescent-Pacific Mining Corporation). Excepting some "sniping", the Rippey property was idle during 1940.

Development: Approximately 2000 yards was mined by the Crescent-Pacific Company along the bank of the Applegate River during the period from April to June 1939.

Geology: Elevation of the placer is 1800 feet. There is no overburden and very little clay. The gravel contains cobbles and boulders ranging in size from 2 inches to 2 feet in diameter. Bedrock is very uneven. Maximum depth to bedrock is about 20 feet. The gold is coarse and is reported to be 975 fine. According to a report, samples from 10 test holes returned an average of 60 cents a cubic yard.

Equipment: 1¼-yd dragline Lima shovel, Judson-Pacific washer with 50-ft. stacker, a Caterpillar Diesel-electric 62½ k.v.a. power plant for the washer, and a 4-inch Fairbanks-Morse centrifugal pump.

General: In order to operate, it is necessary to pump water from the Applegate River, 30 feet below the plant.

Informant: J.E.M., 1939.

Report by: R.C.T., July 1940.

ROOSEVELT GROUP (placer) Upper Applegate area

Owner: I. C. Akers, Copper Route, Box 92, Jacksonville, Oregon.

Location: sec. 21, T. 40 S., R. 4 W., on Brush Creek, a tributary of Carberry Creek.

Area: 3 placer claims (60 acres) located April 1937.

History: The area has been worked sporadically since early days. Claims have been located and allowed to lapse from time to time. The present owner bought the right to locate from a previous locator. No plant has been installed but plans to work the deposit have been made.

Geology: Depth of placer gravel varies from 6 to 9 feet; maximum size of boulders is 100 lbs., with 60 percent over 4 inches. Bedrock is rough and hard, but can be cleaned readily. The gold is fairly coarse and amalgamates freely; nuggets up to $40 in value have been found. Considerable pea-size cinnabar occurs in the gravel.

Informant: K. C. Aker, October 14, 1940.

Report by: R.C.T., October 18, 1940.

ROSA PLACER MINE (gold) Upper Applegate area

Owner: L. E. Mullen, Ruch, Oregon.

Location: About 2½ miles up Palmer Creek, a tributary of the Applegate River, in sec. 1, T. 40 S., R. 4 E. The Palmer Creek road goes through the property. Elevation is 2250 feet.

Area: One placer claim (18 acres) extending 1280 feet along the creek.

History: In early days Palmer Creek was worked by hand. The present owner located the property in 1934 and has operated it every winter since. It produces about $500 annually.

General: A flume 350 feet long conveys water from Palmer Creek for use in sluice boxes. The bedrock is rough and hard. Most of the gravel is coarse and contains some large boulders together with considerable clay. The gold is coarse; the largest nugget found weighed 2¼ ounces. The owner states that a small amount of ground contains values of approximately $11.00 a yard. There is no equipment on the property other than that required for hand work. Maximum snowfall is 4 feet.

Informant: J.E.M., October 7, 1938.

RUBY MINES, INC. (quicksilver) Upper Applegate area

Owners: D. R. Luper, Jacksonville, Oregon and Mr. Jarmin, Medford, Oregon.

Operator: Ruby Mines, Inc., a Washington corporation; Dr. G. D. Matson, Chehalis, Washington, president; H. M. Meacham, 4543 11th, N.E., Seattle, Washington, secretary-treasurer; R. W. Fletcher, superintendent.

Location: SE¼ sec. 34, SW¼ sec. 35, T. 40 S., R. 3 W., north of Squaw Creek, a tributary of Applegate River, elevation 3600-3700 feet. The distance to Medford is 35 miles.

Area: 4 unpatented lode claims.

History: Ruby Mines, Inc., leased the property from D. R. Luper and began work on the Red Feather claim. Prospect openings were cleaned out and some new development work was started. Several miles of road were built to the property from the Squaw Creek Forest Service road, and a space was cleared for a 10-ton Gould retort.

Development: One inclined shaft, 70 feet deep, has been sunk. This work included a crosscut and a shallow winze, 25 feet deep. A tunnel, now 60 feet long, is being driven to cut the ore body under the shaft. Two miles of bulldozer road with grades from 7 to 10 percent have been built.

General: Rather scarce pine and fir timber is available for mine timbers. Water is also scarce.

Geology: The cinnabar ore is found in a fault zone trending from N. 45° E. to N. 60° E. and dipping from 35° to 50° NW. South of the fault zone Older Schists (Wells, 40) crop out which are intensely sheared and crumpled in a generalized trend slightly east of north, and contain considerable sericite. When used for road material the rock becomes slick from the large amount of mica present. The schist contains many quartz stringers and pods, and in places there are quartz veins up to several feet in width.

The shear zone is approximately 50 feet wide. Ore occurs in the footwall along with considerable gouge. The fault zone is in serpentine which has been intensely sheared and altered with the development of a quantity of light-green serpentinoid minerals. Parts of the serpentine have been silicified. A granitic rock forms the hanging wall. Megascopically it appears to be composed of feldspar, quartz, and white mica, and some pieces of float were found that resembled graphic granite. It is reported however that thin sections show that the feldspar is plagioclase, and the rock is probably quartz diorite.

Cinnabar seems to be deposited in streaks or zones within the serpentine shear zone, and some of it has penetrated the quartz diorite, although the diorite is usually barren. Some of the light-green, altered serpentine has spots of vermillion cinnabar scattered through it, but this is not classed as ore. It is reported that the ore will average from 6 to 10 pounds mercury to the ton. The ore zone has been prospected on the surface for 1500 feet.

Reference: Mining Journal, December 15, 1940 and February 15, 1941.

Informant: R. W. Fletcher, October 18, 1940.

Report by: R.C.T., October 19, 1940; revised September 16, 1942.

SALLY ANN CHROME — Upper Applegate area

see Snowy Ridge Chrome

SCHWARTZFADER CLAIM (gold) — Upper Applegate area

see Steamboat mine

Owner: D. A. Wright, Jacksonville, Oregon.

Location: sec. 20, T. 40 S., R. 4 W.

General: "William Schwartzfader has a claim east of the famous Steamboat pocket, which has bunches of auriferous quartz in andesite, at an elevation of 3100 feet by barometer. The veins contain a little calcite and pyrite. The ore is treated in Scheerer's 4-stamp mill, located at the Steamboat pocket. So far as seen this ore is the product of surface enrichment."

Reference: Parks & Swartley, 16:200 (quoted).

SEATTLE BAR (limestone) — Upper Applegate area

White, crystalline limestone crops out across a low ridge from Seattle Bar on the Applegate River to beyond Manzanita Creek, a distance of over a mile. The limestone zone is some 75 feet thick and dips at a steep angle to the northwest. The zone appears to contain a series of overlapping limestone lentils instead of a solid mass. Lentils are separated by schist and siliceous bands are common within the limestone.

Ownership: Not determined.

Location: secs. 2, 10, and 11, T. 41 S., R. 4 W., on the Applegate River about a mile north of the California line and a short distance southeast of the Seattle Bar C.C.C. camp.

History: The locality is described by Hodge, 38, as follows:

"This area is in the Upper Applegate region, within a mile of the California line, in Sec. 2, 10, 11, T. 41 S., R. 4 W. Plate 57. The main limestone bed outcrops at Seattle Bar, and runs northeastward across Manzanita Creek to the top of the ridge. Its general strike is N. 30° E., dip 45° to 60° NW. The land in Sec. 10 is owned by the American Smelting and Refining Company; in Sec. 11, Oregon-California railroad grant land; in Sec. 2, by C. E. Wade.

"The limestone outcrops in the riverbed, and forms a bold outcrop up to an elevation of 2800 feet where it cuts across the ridge. Plate 62. It extends down into Manzanita Creek and up the other side to an elevation of about 2500 feet where it appears to be cut off by an igneous intrusion. To the southwest across the river, the limestone is not exposed, although the area was traversed to the California line. It is reported that limestone float can be found on the ridge extending southwest, but no field confirmation could be obtained.

"The wall rocks on both sides appear to be the schist so prevalent in this area, and the schists are apparently conformable at the river's edge. Farther up

the hillside, they are reported as having a southward dip, opposite to that of the limestone. The sequence southward is schist, impure quartzite, and schist.

"The limestone averages about 75 feet thick, is exposed for 3/4 mile to 1 mile in length, and has a maximum relief of 800 feet. The limestone is light colored, white, cream and gray, and in part well crystallized. Banding is quite marked in some instances, the bands containing a black mineral, perhaps magnetite, and occasionally mica. Weathering produces lamellar ridges across the banding, and the crystalline varieties weather to a coarse sand.

"The steep dip, and comparative thinness of the bed would constitute a difficult quarrying problem. It would be necessary to shoot down a large amount of schist on the hanging wall in order to quarry the limestone safely. A quarry face only 100 feet wide could be maintained.

"Transportation is 30 miles by gravelled road to Jacksonville. As stated before, a proposed railroad may at some future date be extended up the Applegate River to tap the mining area to the south. In such case, transportation problems would be largely solved.

"The timber is of fair quality, and pine and fir of 1½ foot diameter is reasonably plentiful. The other timber is manzanita and laurel, and could offer a limited supply of fuel. Electric power is not available. Water power might be developed at considerable expense....

"Analyses of Seattle Bar Limestone

	1.	2.
SiO_2	1.63	0.94
Al_2O_3	0.45	0.50
Fe_2O_3	0.30	0.37
CaO	54.15	55.15
MgO	0.28	0.78
H_2O	n.d.	n.d.
CO_2	42.32	42.44
S	0.03	0.02
Total	99.74	100.20 "

Geology: The areal geology of this locality is quite complex, as shown by Wells, 40. Rocks consist of Old schists of Paleozoic age, previously correlated with Abrams schist; serpentine, contact aureole complex, and limestone that lies across the old schist and serpentine. The locality was visited at the Seattle Bar outcrop where the enclosing rock is Old schist.

The limestone is white and coarsely crystalline. Edges of weathered limestone blocks tend to be angular rather than rounded, and the rock surfaces are quite rough. Narrow siliceous bands stand out prominently and they are quite common. Fresh rock surfaces may show dark bands and yellowish areas.

Earlier reports indicate that the limestone is 75 feet wide. This is not the case at the southern end. Bold limestone outcrops, up to 30 feet wide, are separated by schistose material. The deposit appears to be a series of overlapping limestone lentils in a schistose country rock. It is possible, however, that at points nearer the middle of the limestone zone the schistose material is absent.

References: Hodge, 38:307-308, 310. (quoted)
Wells, 40.

Report by: R.C.T., March 6, 1943.

SHANDER MINE (gold) Upper Applegate area

Location: sec. 5, T. 39 S., R. 2 W.

Reference: Wells, 40.

SNOWY RIDGE CHROME Upper Applegate

see Sally Ann Chrome

Owners: H. C. Whitney and Mr. Kleinhammer. The property has been leased to F. I. Bristol, Grants Pass, Oregon.

Location: SW¼ sec. 13, T. 41 S., R. 2 W., Oregon; and SW¼ sec. 15, T. 48 N., R. 9 W., California, on Beaver Creek Road. The mine is 20.2 miles up Beaver Creek road from the Applegate Highway.

Area: Two unpatented lode claims, one in Oregon, one in California.

History: In 1938, the property was known as the Sally Ann and was located by L. N. Hallowell and J. A. McAchan. Later it was located and opened further by Whitney and Kleinhammer. In June 1941, it was leased to Mr. F. I. Bristol.

Development: One trench is 100 feet long by 12 feet wide by 10 feet deep at one end. Several prospect pits have been dug up the hill to the north. Production prior to 1941 is reported to have been 720 tons.

Geology: Country rock is peridotite which contacts metamorphic rocks about 200 feet east of the prospect tunnel or trench. The peridotite is fractured; major joint planes trend N. 83° W. and N. 46° E. Some shearing has occurred along joint planes. Low-grade cross-fiber asbestos lines larger joint planes. Some of the peridotite contains star-shaped clusters of amphibole.

The ore lens is exposed in the large trench. The lens trends N. 10° W., and dips steeply to the east. Width varies from 8 inches to 2 feet. The boundaries are sharply defined with some slickensiding along the walls. The ore is massive and of good grade. "Low-grade" is reported to average 39 percent and "high-grade" well over 50 percent. The ore is spotted and contains considerable pink kammererite.

Ore is exposed at the face and along the east wall of the trench. Several tons are in sight and there is reasonable expectation of ore continuing down the dip of the lens. It may also continue into the hill to the north. Test pits up the hill in this direction trend N. 20° W., as against a strike of N. 10° W. - indicating the slope of the hill. Total tonnage may not be large but the property should produce several carloads.

Reference: Wells, 39.

Informant: F. I. Bristol, June 20, 1941.

Report by: R.C.T., June 21, 1941.

SOUTHERN OREGON MINING COMPANY Upper Applegate area

Owner: Southern Oregon Mining Company, Dr. O'Rear, president; John W. Cotton, secretary-treasurer, San Francisco; J. D. Bowdish, Medford, Oregon, superintendent.

History: Operated as Glide Foundation, on Poorman Creek in the summer of 1938. The company was reorganized as the Southern Oregon Mining Company and moved to Right Fork of Foots Creek, Lance placer. Operations began here in December 1939. The channel was dredged to the dam and the equipment was moved to the Hamilton-Taylor Ranch on the Applegate River, October 1, 1940. The dry-land Bodinson washer was converted to a floating plant at this time. Dredging of this land was completed in March 1941, and the plant was moved to Forest

Creek near Ruch. Ground on Forest Creek was first dug on April 1, 1941. During the latter part of August 1941, low water conditions caused the company to suspend operations temporarily. On April 30, 1942, the company was dredging just upstream from the Applegate Highway crossing over Forest Creek.

Report by: R.C.T., April 30, 1942.

SPAULDING MINE — Upper Applegate area

see Davies placer

SQUAW CREEK COPPER — Upper Applegate area

formerly known as Old Great Eastern Group; Pacific States Mines.

Owner: Dow Lewis, Star Route, Jacksonville, Oregon.

Location: sec. 5, T. 41 S., R. 3 W.

History: Bruce Buck discovered this property in 1907 and did a small amount of work. Considerable development work was done by the Pacific States Mines in 1928. All the work on levels 2 and 3 was done by this company. The present owner located a claim, the Grizzley King, June 18, 1938.

General: Shenon, 33a, describes the property as follows:

"Location and access. - The property operated by the Pacific States Mines Co. is in sec. 5, T. 41 S., R. 8 W., Willamette meridian, along Squaw Creek about 32 miles southwest of Medford. The road is narrow but serviceable and follows a water grade for practically its entire distance.

"Most of the development work has been done on the Gold Nob, Pacific, and Iron Hand claims, named in order from east to west. Three short tunnels and several surface trenches have been excavated on the Gold Nob claim. On the Iron Hand, in addition to many surface trenches, two tunnels, 80 and 90 feet long, have been opened. The lode on the Pacific claim is developed by three adit levels and several surface outs. The principal level, No. 3, includes a crosscut 320 feet long from which drifts that aggregate 350 feet have been driven northeast and southwest. (See fig. 1) Level 2 is 150 feet long and is 95 feet above level 3 and connected with it by an inclined raise. Level 1 is 32 feet long. In August 1930 development work was confined to drifting on level 3.

"The ore at the Pacific States mine occurs as replacement bodies along certain beds of the schist. Several beds of schist distributed through a zone nearly a mile wide have been partly prospected, and all are more or less mineralized. The schist beds strike from N. 30° E. on the Iron Hand claim to N. 65° E. on the Gold Nob claim and dip 40°-65° N.W. In some places the schist has been largely replaced by quartz and sulphides; in other places, even within the same bed, the sulphides are sparsely distributed. The more intensely mineralized beds range in thickness from a few inches to over 40 feet and consist of highly altered chlorite schist containing considerable quartz, some epidote and sericite, and sulphide in varying amounts. In general the thicker beds are less mineralized.

"Pyrite and chalcopyrite are the principal sulphides, and sphalerite is present in small amounts. Pyrite is by far the most abundant sulphide except in some places--for example, in certain beds at the face of the south drift on level 2, where it is exceeded by chalcopyrite. Polished surfaces clearly show two stages of mineralization. Quartz and pyrite were deposited first, and after they were fractured, quartz, chalcopyrite, and sphalerite were introduced. The zone of oxidation is very shallow. Fresh-appearing sulphides occur a few feet beneath the surface.

"Economic consideration. - The ore at the Pacific States mine has been formed by replacement of schistose beds of Devonian or older age. Several beds have been more or less mineralized, including three that have been partly prospected on the Gold Nob claim and at least three on the Iron Hand claim, as well as several beds exposed by the Pacific workings. In some places chalcopyrite is plainly visible, associated with pyrite. These mineralized beds evidently contain a large tonnage of ore, but the material appears to be of very low average grade. The numerous trenches indicate that the beds have been sampled at the surface by the operators, but the results are not available to the writer. The paragenesis of the minerals shows that quartz and chalcopyrite were introduced along fractures into schist containing an early generation of quartz and pyrite. It would, therefore, be expected that chalcopyrite would tend to concentrate along the most permeable zones of fracturing. This is borne out by the field evidence. The higher-grade chalcopyrite ore occurs in shoots, but the earlier quartz-pyrite ore is much more uniform and widespread. The deposits are similar in type to those at the Blue Ledge mine and at Silver Peak, in all of which sulphide minerals have replaced schistose beds. However, at Blue Ledge and Silver Peak the replacement has been more complete and the more minerals occur in greater variety and abundance."

There is no equipment on the property (1938). Sufficient timber and water for mining purposes are available. Two samples were taken. No. 1 sample represents the face of the left drift in the lower tunnel and was cut across 40 inches of schist containing pyrite. It returned traces in gold, silver, and copper. No. 2 sample was taken beginning about 10 feet from the face in the same drift as No. 1 sample and represents 36 feet of schist, quartz, and pyrite. It returned 0.01 oz. of gold, trace of silver, and 0.08 percent copper.

Reference: Shenon, 33a:10 (quoted)

Report by: J.E.M., 1938

STEAMBOAT MINE (gold) Upper Applegate area

Owner: D. W. Wright, Jacksonville, Oregon.

Location: On Brush Creek, a tributary of Carberry Creek, 42 miles by road southwest of Medford in secs. 16, 17, 20, and 21, T. 40 S., R. 4 W.

Area: 8 unpatented lode claims and one placer claim (total 180 acres).

History: The Steamboat mine was discovered about 1860. A rich pocket was mined and since that time the mine has been worked intermittently in a small way. The property described in this report includes some mining claims listed under various other names in Parks & Swartley, 16. The present Blue Jay claim was in 1916 known as the Wright and Myers claim. The present Gold Chief claim was then known as the Schwartzfader claim. The present Fowler claim contained the old Steamboat pocket, concerning which Parks & Swartley (16: 212-213) reported as follows:

"The Steamboat pocket, 2 miles west of Steamboat, was mined out before 1869; it is said to have produced $350,000, which came from a shallow surface working in andesite. Scheerer has explored the andesite under the Steamboat pocket by several adits, two entering from the south and one from the north side of the hill. The upper adit is at an elevation of about 3000 feet in sec. 20, T. 40 S., R. 4 W., entering N. 10° E. and opening into several cross-cuts and drifts following small veins and fractures. A little stoping has been done chiefly on two veins. The country rock is andesite which is faulted in several directions like a system of joints on a large scale. One vein containing 18 inches of quartz strikes N. and dips 45° W. Another with 10 inches of quartz (on which the pocket was located)

strikes N. 10° W. and dips 45° E. Another with 5 inches of quartz strikes N. 80° W. and dips 75° N. Another with the same thickness of quartz strikes N. 45° and dips 55° N.E. Still another with 3 inches of quartz strikes N. 55°E. and dips 75° N.W. The adit from the north extends S. 70° E. into the other workings. At the present face of the main adit there is a pyritized shear zone."

The Rich Mortar and Blue Jay claims were located in 1908. The Fowler and White Rock claims were purchased by Mr. Wright from a Mr. Shearer in 1927. In 1937 lessees on the Fowler claim mined about 4 tons of ore from a narrow stringer and recovered 14.3 ozs. gold. Work has always consisted of searching for high-grade ore. No record of production has been kept but in recent years from a few hundred dollars to $1,000 has been produced annually. Each claim of the group has produced some high-grade ore.

Development: Blue Jay claim: Two tunnels have been driven northerly on a vein in porphyry. The lower of these is approximately 150 feet in length. The upper tunnel, about 75 feet higher in elevation was driven 100 feet. The vein was reported to be from 3 to 4 feet wide. Both tunnels are now caved. About 300 feet west of the owner's cabin, a tunnel was driven westerly along a vein for 255 feet. It is reported that the first 60 feet of the tunnel was in good ore. Near the face a crosscut was driven 56 feet in a southerly direction. A second west-trending tunnel, the portal of which is situated 100 feet vertically above and 200 feet west of the first tunnel, is reported to be 150 feet in length. About half of this distance was in ore, said to assay $30 to the ton in gold. Part of this value was reported in sulphides, causing difficulty in gold recovery.

Rich Mortar claim: Approximately 500 feet from the west end of this claim and on the west slope of the ridge, there are two tunnels trending in an easterly direction. These tunnels were driven on a vein which dips 65° S. and varies in width from nothing up to 3 feet. The upper tunnel, now caved, is reported to be 250 feet in length and is said to have produced millable ore. The lower tunnel is 75 feet in length. At a point 40 feet from the portal, a drift 85 feet long was driven to the right.

Gold Chief claim: Old workings consist of a tunnel driven east 300 feet. This tunnel has been cleaned out and a south-trending crosscut 30 feet long has been driven by the owner.

Fowler claim: No development work has been done on this claim in recent years.

The Holdup, Big Pine, and White Rock claims have several shallow prospect shafts and open cuts.

Geology: The country rock consists mainly of altered andesite. The structural trend appears to be northeast. South of the east-west vein on the Blue Jay claim, the structural dip appears to be west. North of this vein the dip is east. In many places the country rock contains gold values probably due to some surface concentrations. Ore shoots have had dimensions up to 100 feet long, 50 feet vertically, and 5 feet in width. The placer claim located on Brush Creek has produced considerable placer gold recovered by hand methods.

General: Mining timber is available but water is scarce. A 2-stamp mill built in 1912, together with amalgamation plant and gas engine, are still used for milling the ore.

Reference: Parks & Swartley, 16:212-213 (quoted).

Report by: J.E.M., 1938.

STERLING GOLD QUARTZ MINING & MILLING CO. (gold) Upper Applegate area

"The Sterling Gold Quartz and Milling Company has developed a group of claims near the north line of section 33, T. 38 S., R. 2 W., at an elevation of about 2800 feet by barometer. The lower adit is about 240 feet long following a vertical

quartz vein 1 foot or less in thickness associated with fissuring filled by calcite and sulphides. The middle adit is about 60 feet long following quartz stringers which strike S. 70° E. and dip about 50° N.E. The upper adit is about 400 feet long; it enters as a crosscut, and then drifts on crushed zones in the country rock, one of which strikes N. 15° W. and is nearly vertical. Seams of calcite, quartz, and some pyrite run in all directions. The main crushed zone strikes N. 45° W. and dips about 80° S.W. Some stoping has been done irregularly in this zone. No work has been done for the last few years."

Reference: Winchell, 14:133

STERLING MINE (placer) Upper Applegate area

Owner: Sterling Mines, Inc. Operated by Quercus Corporation of Elizabeth, N. J., as lessee.

Location: secs. 27, 28, 30, 33, T. 38 S., R. 2 W., and secs. 4, 8, 9, 17, 18, T. 39 S., R. 2 W., on Sterling Creek, a tributary to the Little Applegate River. The creek is 7 miles long; elevation at its source is 3000 feet and at its mouth is 1850 feet.

Area: 1800 acres, patented.

History: Parks & Swartley, 16:213 described the property as follows:

"The Sterling Placer Mine is on Sterling Creek, from 1 to 4 miles above its mouth, at Buncom, on Little Applegate River, and is owned by R. S. Bullis, of Medford. The present workings are on the south line of sec. 33, T. 38 S., R. 2 W., at an elevation of about 2300 feet. A large electric power pump has recently been installed, by means of which pressure at the nozzle has been increased to the equivalent of a head of about 200 feet. The gravel is so thoroughly cemented that much of it must be broken with powder before using the giants. The deposit is 20 to 40 feet thick and about 400 feet wide. Drifts have been run on bedrock ahead of the giants about 100 feet. The gravel contains boulders of andesite and some quartz. According to G. F. Kay:

"'The values are found across a width of nearly 200 feet. In these gravels the tusks and jaws of a mammoth, as well as mammalian bones, have been found. The bedrock at the mine is greenstone, in which are patches of slaty tuffs, whose strike is N. 8° E. and dip is about 60° W. The slope of the bedrock is about 2 feet in 100 feet. The length of the working season varies from 6 to 9 months. The value of the gravels was about 40 cents to a cubic yard. Total production is said to exceed $3,000,000.'"

Considerable hydraulic mining has been done for a distance of 4 out of the 7 miles extending upstream from the mouth of Sterling Creek at Buncom. No records of the yardage moved are available, but it is stated that over $3,000,000 has been recovered from this mining. Mining was first done by hand, then by hydraulicking on a large scale after 1852. The first company was organized in 1872, and the 30- mile Sterling mine ditch was constructed by Chinese labor to carry 75 second-feet of water out of the Upper Little Applegate River to a point approximately four miles up Sterling Creek above Buncom. First records of gold shipments date back to 1878, and are continuous until 1917.

The Ankenys, of Portland, purchased the property in 1877, had the long ditch built, and operated the property for 30 years. The Sterling Mining Company operated from 1909 to 1914. R. S. Bullis worked the property from 1914 to 1919.

Development: From 50,000 to 100,000 cubic yards of material above the level of the ditch have been tested for treatment in washing plants of several designs and capacities. Tailings and ground formerly worked by bedrock drifting below the ditch have been

hydraulicked each year, during a 5 months period between January and July. About 2½ miles of virgin channel above the level where the ditch line crosses Sterling Creek remain.

Geology: Sterling Creek flows at about a 4 percent grade between low hills, and the largest flat is approximately 1500 feet wide. Bedrock consists of greenstone and argillite. The average thickness of the gravel mined has been about 40 feet for a width of from 200 to 400 feet, following the ancient channel. The gravel becomes very much wider near the head of Sterling Creek. It contains considerable clay; some large boulders are found that average 3 to 4 feet in diameter. The gold is medium to coarse with relatively little black sand. Some nuggets are found that range in value from $1.50 to $100. The largest known nugget was valued at $500. The gravel contains values ranging from 10 cents to $1.00 in value; in "hot spots" $40-pans have been washed out.

Equipment: The washing plant and three giants together with flume necessary for gold recovery receive water from the 30-mile Sterling mine ditch. The giants operate with 3½- and 5-inch nozzles, under a 300-foot head. Eleven to sixteen men are employed.

The water right dates back to 1877 for water during the period from November to August 1st of each year. Normal precipitation is about 15 inches per annum, but the mine depends on the snowfall in the Dutchman Peak region of the Siskiyou Mountains.

Reference: Parks & Swartley, 16:214 (quoted).

Informant: D. Ford McCormich, February 6, 1940.

STURGIS PLACER — Upper Applegate area

"The Sturgis mine is 4 miles southwest from Jacksonville on Forest Creek, in sec. 10, T. 38 S., R. 3 W. It was formerly the property of the Sterling Mining Company but is now owned by Vance Mining Company, of Eureka, Calif., and leased by Lou Stone. The property contains about 900 acres.

"The deposit has an average thickness of about 30 feet. In the lowest 10 feet are gravels and sand containing rounded and subangular boulders, which are chiefly of greenstone, although some are of granodiorite. The bedrock is greenstone much fractured and veined; in places it is very slaty, the strike being N. 30° E. and the dip 48° S.E. The mine is equipped with giants, and a derrick is used for handling the boulders. About 1 acre a year is mined."
This placer ground was dredged by the B-H Company in 1940-41.
Reference: Parks & Swartley, 16:214-215 (quoted)

TIMBER PRODUCTS COMPANY — Upper Applegate area

see Brick Pile mine

TRAVERSO CLAIM — Upper Applegate area

see Haskins and Traverso claim

TREE MINE (gold) — Upper Applegate area

Owner: Tree Mining Company, an association composed of about twenty-five partners. R. E. Millard is reported to have a 51 percent interest.

Location: sec. 5, T. 40 S., R. 3 W.

Area: Unpatented lode mining claim or claims (information on number of claims located not available).

History: According to report, discovery of the mine was in an excavation caused by an up-rooted tree. It is said that samples from shallow pits assay from $3 to $14 to the ton in gold.

Development: A tunnel 30 feet long has been driven. In addition some trenching has been done.

Geology: The country rock exposed in the tunnel is probably metasediment which has been resilicified. The rock is out by numerous narrow quartz seams. All of it is soft and weathered. Some sulphides occur in the quartz veinlets, but only a few sulphides were observed in the rock.

Equipment: One air-compressor with capacity of 110 c.f.m. driven by a gas engine; one jackhammer; some cabins have been built; and a mill building is being constructed.

Informant: Mr. Marvin, mill foreman, July 11, 1940.

Report by: R.C.T., July 11, 1940.

TYSON (placer) Upper Applegate area

Owner: James L. Tyson, Star Route, Jacksonville, Oregon.

Location: On Brush Creek, 8½ miles northwest of Copper and 39 miles southwest of Medford in E½ NW¼ SE¼ sec. 17, T. 40 S., R. 4 W.

Area: One unpatented placer claim (20 acres).

Geology: Bedrock is andesite, and is rough. The placer gravel has a maximum thickness of 5 feet and in places there is some overburden. The gravel contains large boulders and pods of clay. The gold is coarse.

General: Work has been done by hand. A small quantity of water, sufficient only for hand work, is available from November to June. The topography is mountainous and the placer is in a gulch. Maximum snowfall is 4 feet.

Informant: J.E.M., October 6, 1938.

UNNAMED MINE (gold) Upper Applegate area

Location: sec. 10, T. 41 S., R. 2 W.

Reference: Wells, 39.

WAGNER CLAIM (placer) Upper Applegate area

"G. P. Wagner has several claims about a mile west of Steamboat in sec. 20, T. 40 S., R. 4 W., where he is removing ore brought to its present position by surface waters. In Rich Gulch, which was mined by placer methods years ago, small quartz veins are known in the bedrock; one of them is nearly vertical and strikes N. 55° E. They are said to produce high-grade ore."

Reference: Parks & Swartley, 16:230 (quoted).

WHISKEY GULCH PLACER Upper Applegate area

see Layton Mine

WILKENS MINE Upper Applegate area

see Great I Am mine

WILLIAMS DREDGE (placer) Upper Applegate area

Owner and Operator: P. W., J. W., and Tom Williams, Route 1, Jacksonville, Oregon, one claim purchased, two or more claims were leased.

Location: SW¼ NW¼ sec. 30, T. 38 S., R. 2 W., 1.7 miles up Bishop Creek east of Applegate highway.

Area: The property includes approximately 1½ miles of creek bottom. Mining width is about 300 feet.

History: Equipment was brought in March 1, 1940. The property was active for about one week.

Equipment: The dry-land plant includes a trommel, 4 feet by 16 feet, with ½-inch and 3/4-inch holes. Sluices total 48 linear feet and have Hungarian riffles. Power is supplied by a 25-hp. gasoline engine. A 4-inch centrifugal pump supplies water at the rate of 235 g.p.m. and is driven by an automobile engine. Also included are a 1-yd. Marion shovel, a 5/8-yd. Bay City shovel, and a "40" caterpillar with bulldozer.

General: Water is available all summer as the stream is fed from springs. Bedrock is mainly diorite porphyry. Part of it is hard and uneven; part is decomposed. Some large boulders occur in the gravel. The gold is coarse, rough, and of "pocket" type.

Informant: Stewart Williams, March 20, 1940.

Report by: R.C.T.

WOODPECKER CLAIMS (quicksilver) Upper Applegate area

Owners: Valorie Haskins, Paul Seidel, Jacksonville, Oregon.

Location: on Brush Creek in NW¼ sec. 21, SW¼ sec.16, T. 40 S., R. 4 W.

Area: 4 lode claims.

History: Located in 1941 as Woodpecker No. 1, No. 2, No. 3, and Circle Park claims.

Development: One open cut together with 35 feet of underground work. Several short open cuts.

Geology: (Refer to Rainbow mine).

Report by: R.C.T.,Dec.11, 1942.

WRIGHT MINE (gold) Upper Applegate area

"The Wright Mine 2 miles east of Applegate is near the south line of sec. 14, T. 38 S., R. 4 W., near Humbug Creek. It is opened by two adits, the upper running 80 feet north in decomposed 'granite' to dense hard greenstone while the lower runs 150 feet north and thence 20 feet west; it enters in decomposed 'granite' which becomes harder as the contact is approached. At the turn, and beyond, the adit is in hard greenstone with quartz here and there apparently produced by replacement. No well defined vein is visible. The ore consists of mineralized greenstone containing free gold, galena, and sphalerite."

Reference: Parks & Swartley, 16:240 (quoted)

WRIGHT & MYER CLAIM — Upper Applegate area

see Steamboat mine

"Wright and Myer have a mine 3 miles northwest of Steamboat in the SW¼ sec. 17, T. 40 S., R. 4 W., at an elevation of about 3200 feet as measured by barometer. An adit crosscuts 30 feet to a vein which is followed 70 feet N. 60° W. The vein contains a little chalcopyrite and is said to average $28 in gold per ton. Pyrite disseminated in the andesite wall rock is said to carry $16 a ton in gold and very little copper. The vein plays out upward but the surface workings are on a vein dipping 50° N.E. while the lower vein dips 75° S.W. Adjoining claims have ore containing arsenopyrite, pyrrhotite, and chalcopyrite in quartz. Wright and Myer have a 2-stamp mill with an 8-foot plate and one jig operated by a gasoline engine."

Reference: Parks & Swartley, 16:240 (quoted).

UNCLASSIFIED MINING AREA

General:

The Unclassified area includes a large part of eastern Jackson County east of the Gold Hill, Lake Creek, and Ashland areas and comprises more than 1000 square miles.

The area is mountainous, forming part of the west flank of the Cascade Mountains. It is drained principally by the Rogue River, Butte Creek and Little Butte Creek. Most of the tributary streams are short, have high gradients, and are practically dry during the late summer and fall months.

The area is well forested with conifers, and with hardwoods along certain stream courses. Pine and Douglas fir are the principal commercial trees. Most of the area is included in the Rogue River National Forest. Snow remains in the "high country" until late spring or early summer.

Geology:

Rocks of the area are confined to volcanics of the Western Cascades and lavas of the High Cascades, which are described under general geology of the County. Many of the stream channels were filled with High Cascade lavas, through which the streams have excavated box canyons - a valley-in-valley topographic feature.

Mining:

Mining is not important in this area. The High Cascade lavas are unlikely to contain extensive economic mineral deposits; however, some of the pumice deposits may have future commercial importance. Certain zones in the Western Cascades show intense hydrothermal alteration, and cinnabar may occur in such altered zones. The only property with a record of production is the Al Sarena (Buzzard) mine. This ore deposit contains complex sulphides together with gold and silver values.

Mining Properties:

Descriptions of mining properties of record are given in the following pages.

AL SARENA (Buzzard) MINE (gold, silver, lead, zinc) Unclassified area

Owner: Al Sarena Mining Company, an Oregon corporation. H. P. McDonald, Sr., president; W. G. McDonald, vice-president; H. P. McDonald, Jr., secretary-treasurer.

Location: In sec. 29, T. 31 S., R. 2 E., 18 miles east of Rogue Elk, north of the Crater Lake highway.

Area: 21 or 22 unpatented mining claims are owned by the Company; 9 of these claims form the Buzzard Group.

History: The following is quoted from Callaghan & Buddington based on field work performed in 1930-1931:

> "The Buzzard mine is in northeastern Jackson County, and the 10 claims constituting the property are in secs. 19, 20, and 29, T. 31 S., R. 2 E. It is about 47 miles from Medford and 20 miles from the Crater Lake Highway at the mouth of Elk Creek. The first 11 miles of the Elk Creek road, which serves the Buzzard area, is surfaced, but the remainder is unimproved, and the last 5 miles is very steep.

"The mine is on a heavily timbered ridge trending nearly north in rugged country near the divide between the drainage systems of the Rogue and Umpqua Rivers, on the headwaters of Elk Creek. The ridge is 4,000 feet in altitude, according to aneroid measurement, and slopes toward the south; the ravine on the east side is about 700 feet below the summit, and that on the west side is about 300 feet below the summit.

"The rocks exposed in the mine workings are volcanic breccias and dikes of rhyolite and andesite, all altered and bleached. The vein appears to be near the center of a large area of altered rocks. Fragmental rocks appear to be dominant both in the vicinity of the mine and along the road to the south, though flows of rhyolite, andesite, and labradorite andesite occur. No dioritic intrusive rocks were found.

"No evidence of folding or tilting was seen in the mine, as no bedding was revealed. Outcrops in the valley of Elk Creek suggest that the region has been only slightly deformed. The strike of the vein on which almost all the work has been done is N. 40° W., and the dip is vertical to 85° E. Most of the dikes trend to the northwest.

"Gold was discovered in Elk Creek below the mine, and the claims were located in 1897 by Peter and Mark Applegate, according to the latter. The Pearl Mining Co. was incorporated in 1898, but the first ore was not shipped until 1909. W. L. Freres, under an option, shipped ore in 1912 and 1913, and the Pearl Mining Co. was active in 1914 and 1915. The mine was leased in 1916 to Paul Wright, who drove tunnel 4 on the east side of the ridge and shipped considerable ore. The total production, 1909-18, was nearly $24,000 chiefly in gold, but it included some silver and lead.

"According to the owners, the mine workings consist of 3,334 feet of drifts and crosscuts, 1,000 feet of raises and winzes, and 75 feet of open cuts and trenches. About 3,200 feet of drifts and crosscuts (Pl. 22) were accessible, but only a few of the raises and winzes were examined. Levels 1, 2, and 4 reach the vein and expose it for lengths of 430 feet, 160 feet, and 720 feet, respectively. Small stopes were opened on all these levels. The difference in altitude between level 4 and the summit of the ridge is about 500 feet.

"The vein matter consists chiefly of altered rock, gouge seams, very little cherty quartz, and no comb quartz, and contains streaks and lenses of sulphides, chiefly sphalerite, and smaller amounts of pyrite and galena. Chalcopyrite was observed only with the aid of the microscope as blebs in sphalerite (pl. 6,A). Arsenopyrite was found in a small seam on level 1. Sphalerite occurs as black crystals and aggregates ranging in size from a fraction of a millimeter to more than an inch. The occurrence of sulphide veinlets without quartz in altered rock is very different from that of the quartz veins characteristic of the larger districts. The original nature of the gold in the main vein is not known to the writers, but the specimen of dendritic gold shown in plate 3 was obtained, according to the owner, from a small lens or pipe, called level 6, which is 360 feet northeast of the main vein (pl. 22). Wire gold was also reported to have been found in a small pocket here, associated with manganese oxide and with sphalerite and pyrite nearby.

"Apparently the veins shown in plate 22 are the only ones found up to the present time, though it seems possible that so large an area of altered rock might contain similar veins. No large production is anticipated."

Development: The mine has in excess of half a mile of underground workings. No. 1 tunnel is 850 feet long and contains a drift 120 feet in length, beginning at a point 60 feet from the end of the tunnel. No. 2 tunnel is the main haulage way. It is 1600 feet long and contains crosscuts 400 feet and 500 feet in length respectively. The portal of No. 3 tunnel which crosscuts the main vein is 800 feet northwest of No. 6 tunnel. Five surface pits have been dug along the main vein. The ore is mined by shrinkage stoping. Thirty-five thousand tons of ore is reported to be blocked out.

Geology: The vein from which production has been obtained strikes N. 45° W. and has a vertical dip. Material making up the vein is brecciated and contains narrow gouge seams near one or both walls. The gouge contains abundant sulphides together with quartz. Ore values appear to vary directly according to the width of the seams and the amount of galena, sphalerite, and quartz contained in the gouge. In places where the gouge lies against the walls, sulphides are commonly frozen to the walls. The average width of the vein is 2½ feet but there is considerable variation in the width. In places the galena, sphalerite, quartz, and pyrite are well crystallized. The vein narrows rather abruptly just south of No. 1 stope.

Another vein which may be productive is exposed in the north drift. This vein is composed of a rhyolite breccia, from 3 to 3½ feet wide, together with a persistent narrow gouge seam. Walls of the vein are not as clearly defined as those of the main vein and the accompanying gouge does not contain such a large amount of sulphides. This vein is apparently a fault fissure and contains circulating water.

The outcrop of the ore body is considerably altered. The rhyolite is soft and may be cut easily with a knife. Pyrite has been altered to hematite. On the lower levels the fault zones show alteration but the rhyolite wall rock is relatively unaltered.

Equipment: Mill equipment consists of a 75-ton ore bin; a 10-inch by 16-inch Universal jaw crusher; 80-ton fine ore bin; Marcy 5-ft. by 4-ft. ball mill; McDonald jig; Dorr duplex classifier; four Kraut rougher flotation cells; one Kraut cleaner cell, and Pan-American reagent feeders.

Mine equipment includes an Ingersoll-Rand 280-cu. ft. single-stage compressor; one 300-cu. ft. receiver; one Fairbanks-Morse 120-hp. Diesel engine; one Fairbanks-Morse 50-hp. semi-Diesel engine; one Langman 32-kw. 220-V. generator; blacksmith shop; timber shed; change room; mine cars; mine rails; and installed air pipe.

The mill is equipped with belt drives except the flotation cells which are motor driven.

Capacity of the mill is 100 tons per day; concentration ratio is 30:1; actual recovery, according to an engineer's report, is 87 percent.

General: Water is taken from Elk Creek and delivered to the mine by means of a ditch half a mile long. Additional water may be developed from Swanson Creek which has a flow ranging from 250-500 gallons per minute. Water in excess of 100 gallons per minute runs out of No. 2 tunnel. Approximately 12,000,000 board feet of timber is estimated to be available on the mining claims. The California-Oregon Power Company's line is within six miles of the mine.

The area surrounding the Al Sarena mine is drained by Elk Creek and its tributaries. Summits of the nearby ridges are approximately 2000 feet above the creek and the slopes are about 30°.

Reference: Callaghan & Buddington, 38:131-132 (quoted).

Informant: George P. Sopp, report dated May 19, 1939.

Report by: R.C.T., May 7, 1940.

BERYLLIUM CLAIMS Unclassified area

Owners: It is reported (1943) that Charles Lull and James Rhino of Grants Pass are owners of olaims in this locality. In 1941 it was reported that the property was owned by a syndioate with Wendell P. Hubbard, 1015 Security Bldg., Los Angeles, acting as trustee. Donald J. Heintzelman, Medford Hotel, Medford, Oregon, was local representative. Location notices were made out to James E. Rhino and Ruth F. Inks, dated July 1, 1936, and located as "glucium deposits."

Looation: sec. 27, T. 33 S., R. 1 E., and secs. 3, 10, 15, 17, and part of 18, T. 34 S., R. 1 E., Butte Falls Quadrangle, in the region of Big Butte Creek.

Area: It is reported that 81 claims have been staked.

History: Beryllium was reported in this area several years ago. Many claims were staked and sold. In 1941, the syndicate mentioned above was working on the claims but their activity ceased early in the year. At various times, activity at the properties has been reported. On April 23, 1943, P. M. Millspaugh, director of a strategic minerals survey of the County Supervisors Assoc. of California, released to the press information received from R. O. Hamilton, a mining engineer of Los Angeles, concerning the discovery of a large deposit of beryllium in this locality.

Development: Only the locality in sec. 3 was visited. Development work consisted of a series of shallow trenches and assessment work tunnels. It is understood that a quarry face was opened in sec. 17 or 18.

Geology: The country rocks of this area are andesitic tuffs and other pyroclastics that are interbedded with lava flows. They have been called the Western Cascades Volcanics by Callaghan & Buddington (38) and range in age from middle Miocene to late Pliocene. Some of the tuffs are very fine-grained and resemble pumicites. Others are coarse-grained and contain pumice fragments up to $\frac{1}{2}$-inch in size. Color ranges from white, to buff, to light green. No granitic or pegmatitic rocks have been found in the area.

Percolating ground water has altered many of the tuffs to bentonitoid olay material. Silica has been deposited from solution in cavities as chalcedony and crystalline quartz. Large masses of chalcedony with greenish streaks are common, and vugs and geodes are in places lined with beautifully terminated quartz crystals one-half-inch in diameter.

Microscopic examination of the greenish tuff indicates that the greenish material is one of the bentonitic olay minerals (montmorillinite?) or perhaps a zeolite which is colored green by chlorite. The green streaks and color of some of the chalcedony probably results from chloritio inclusions.

In general, there are three types of "ore." The greenish tuff is variously reported to contain from 5 to 12 percent beryllium oxide. The green-streaked chalcedony is reported to be phenacite, beryllium silicate. The quartz crystals are stated to be beryl crystals.

Spectrographio examination of these materials shows from blanks to traces of beryllium. Even the traces are not significant as many rocks contain traces of beryllium, as well as other elements.

General: 5 samples were taken from an area in section 3, the only deposit that was accessible in February 1941. The samples came from places reported to contain high beryllium values.

The deposit was sampled by E. K. Nixon and Ray C. Treasher. No.1 was from the company's No. 16 pit and consists of material dug from a 10-foot pit. It was weathered to sticky clay. No. 2 was from the same locality, but was dug from the bank (in place). No. 3 and No. 4 were taken from material piled alongside the road leading into the property. No. 5 was taken from a shallow trench near the entrance to the property.

References: Callaghan & Buddington, 38
Wells, 39

Report by: R.C.T., May 15, 1943.

BUZZARD MINE — Unclassified area

see Al Sarena mine

DEAD INDIAN CLAY — Unclassified area

Location: SW¼ sec. 19, T. 38 S., R. 3 E., just west of Dead Indian Road, 15.6 miles east of Ashland city limits and a quarter of a mile south of the summit.

Area: Approximately 20 acres.

History: At one time material was removed from the west side of the deposit and fired to make refractory brick. Two or three truckloads were used.

Geology: Altered Cascade lavas and tuffs trending S. 30° W. crop out over a distance of about 1000 feet. The material is cream-colored and has a flint-like texture. Cavities in the material are similar to those in a vesicular lava. In the southwesterly part of the deposit the outcrops are dark cream to light chocolate in color, sometimes showing iron stain. Some of the material is colored a brilliant red as if it had been exposed to a forest fire.

Analyses indicate that the flint-like material is 90 percent silica, the balance being alumina and iron oxide. This material has good refractory qualities which decrease as the iron oxide increases.

Reference: Wilson & Treasher, 38:82-83, 84, 93.

Report by: R.C.T., 1942.

RAYOMES LAND (quicksilver) — Unclassified area

Location: NE¼ NE¼ sec. 32, T. 33 S., R. 1 E.

Geology: "This prospect is located in the NE¼ of NE¼ sec. 32, T. 33 S., R. 1 E. on property belonging to W. F. Rayomes. Development consists of three open-cuts about twenty-five feet long and eight feet deep, trending N. 55° W.

"A fault zone having a trend of N. 55° W. extends from the Crater Lake Highway through this property. This zone is probably a continuation of that on the Rogue Elk Mining property across the Rogue River.

"The country rock is a basalt which has been brecciated and altered in the vicinity of the fault zone. Fault gouge about one foot thick occurs along the exposures of the fault plane.

"A few cinnabar colors may be obtained by panning this fault gouge, but no cinnabar could be seen in the rook in place or in specimens from the dump. Nor were any colors obtained by panning material from limonite ribs which occur in a set of major fractures striking N. 74° E.

"Mr. W. F. Rayomes has specimens which contained disseminated cinnabar and paint-thin streaks along fractures. This prospect, up to the present, has produced no mercury. No assay reports were available, so the actual tenor of the ore is not known.

Reference: Wilkinson, 40:4 (quoted).

RED CHIEF PROSPECT Unclassified area

see Rogue River Mining Claims

ROGUE RIVER MINING CLAIMS (quicksilver) Unclassified area

see Red Chief Prospect

Owner: A. G. Rogers, Rogue Elk, Oregon.

Location: SW¼ sec. 33, T. 33 S., R. 1 E., on south side of Rogue River.

Area: Four claims.

History: The mine, formerly known as the Red Chief, was described by Wells & Waters (34:49) as follows:

"About 2½ miles east of the Poole property on the south bank of the Rogue River in sec. 33, T. 33 S., R. 1 E., is the Red Chief claim, owned by G. C. Cottrell, William Cottrell, and Sprat Wells. The only way of crossing the river is by boat. Two short adits, both trending a few degrees east of south, have been driven into the hill, about 100 feet south of the river. The lower adit is 50 to 100 feet above the river, and the upper adit is about 70 feet above the lower adit. These adits are in thoroughly altered rock out by a few iron ribs. The lower adit is cut by a fault that strikes S. 20° E. and dips 82° SW. In the face of this adit is an 8-inch zone of gray chalcedony that lies along the fault. A little cinnabar was seen in the lower adit.

"Many open pits are scattered over the prospect, none of which are more than 10 feet deep or penetrate below the surface mantle of soil and disintegrated rock. They show that a bed of pyroclastic material separates two flows, but all the rocks were too much altered to permit definite determination. It is said that much of this soil will show cinnabar on panning."

Development: The lower adit has been driven a total of 300 feet, of which 50 feet was added in 1940. An adit, 50 feet long, has been driven farther up on the hill.

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INDEX OF MINES

Symbols Used In Index

Ag.....silver	Mn.....manganese
Au.....gold	Mo.....molybdenum
Cr.....chromium	Pb.....lead
Cu.....copper	Sb.....antimony
Fe.....iron	W.....tungsten
Hg.....mercury	Zn.....zinc

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5. Survey of Non-Metallic Mineral Production of Oregon for 1940:1941: C.P.Holdredge. . . .	0.10
6. Pumice and Pumicite, 1941: James A. Adams	0.10
7. Geologic History of the Portland Area, 1942: Ray C. Treasher.	0.15
8. Strategic & Critical Minerals, A Guide for Oregon Prospectors, 1942: Lloyd W. Staples .	0.15
9. Some Manganese Deposits in the Southern Oregon Coastal Region, 1942: Randall E. Brown .	0.10
10. Investigation of Tyrrell Manganese and other nearby Deposits, 1943: W.D.Lowry	0.15
11. Mineral Deposits in Region of Imnaha and Snake Rivers, Oregon, 1943: F.W.Libbey	0.15
GEOLOGIC MAP SERIES	
1. Geologic Map of the Wallowa Lake Quad., 1938: W.D.Smith & others (also in Bull. 12) . .	0.45
3. Geologic Map and Geology of Round Mountain Quad., 1940: W.D.Wilkinson & others.	0.25
4. Geologic Map of the Butte Falls Quad., 1941: W.D.Wilkinson & others (also in Bull. 22).	0.45
6. Preliminary Geologic Map of the Sumpter Quad., 1941: J.T.Pardee & others.	0.40
NOTE: Sale of maps nos. 2, 5, and 7 is restricted for the duration.	
MISCELLANEOUS PUBLICATIONS	
The Ore.-Bin: staff, issued monthly, as medium for news items about the Department, mines and minerals. Subscription price per year	0.25
Sampling of Small Prospects and New Discoveries	Free
The Spectrographic Laboratory of the State Dept. of Geology & Mineral Industries, 1942.	Free
Oregon Mineral Localities Map	0.05
Landforms of Oregon: a physiographic sketch; (17 by 22 inches) 1941	0.10

STATE OF OREGON
Department of Geology and Mineral Industries
702 Woodlark Building, Portland, Oregon
EARL K. NIXON, Director

Map of Mining Areas

SOUTHWESTERN OREGON

to accompany

Bulletin 14-C (Volumes 1 and 2) Oregon Metal Mines Handbook

Map base courtesy U. S. Forest Service

Issued November, 1940

Scale — ¼-inch = 1 mile

For convenience, areas with their contained mining districts (see index map) are outlined below:

Volume 1—Coos, Curry and Douglas Counties

AREAS	Includes mining districts formerly known as:
COOS COUNTY	
1—Beach	Beach
2—Coos Bay	Coos Bay
3—Powers	Eden Ridge, Iron Mountain, Mt. Bolivar, Powers, Rock Creek, Salmon Mountain
4—Coquille	Coquille (eastern Coos County)
CURRY COUNTY	
5—Agness	Agness, Colliers Creek
6—Chetco	Chetco, China Diggings, Gold Basin, Mount Emily, Smith River, Tincup Creek
7—Gold Beach	Gold Beach, Pistol River, Signal Buttes
8—Lobster Creek	Euchre Creek, Lobster Creek, Ophir Mountain
9—Mule Creek	Mule Creek
10—Sixes River	Elk River, Sixes River
DOUGLAS COUNTY	
11—Monparel-Bonanza	Nonpariel-Bonanza
12—Riddle	Green Mountain, Silver Peak, Starveout Creek, Riddle
13—Tiller-Drew	Drew Creek, Tiller-Drew
14—Umpqua	Umpqua (unclassified)

Volume 2—Jackson and Josephine Counties

AREAS	Includes mining districts formerly known as:
JACKSON COUNTY	
15—Ashland	Ashland, Forty-Nine Diggings
16—Gold Hill	Evans Creek, Foots Creek, Gold Hill, Sardine Creek, Upper Graves Creek
17—Jacksonville	Jacksonville
18—Lake Creek	Butte Creek, Lake Creek
19—Upper Applegate	Applegate, Buncom, Carberry Creek
20—Unclassified	Elk Creek, Trail Creek
JOSEPHINE COUNTY	
21—Galice	Galice, Mount Reuben
22—Grants Pass	Dry Diggings, Grants Pass, Jump-off-Joe, Louse Creek, Merlin, Pickett Creek, Rogue River, Winona
23—Greenback	Coyote Creek, Grave Creek, Greenback, Leland, Wolf Creek
24—Illinois River	Illinois River, Josephine Creek, Selma
25—Upper Applegate	Applegate, Davidson, Missouri Flat, Murphy, Oscar Creek, Powell Creek, Slate Creek, Williamsburg or Williams Creek
26—Waldo	Althouse Creek, Bolan Creek, Browntown, Holland, Indian Creek, Sailor Diggings, Sucker Creek, Takilma

Longitude west from Greenwich

Generalized Geologic Map
OF
JACKSON COUNTY
OREGON

TO ACCOMPANY

Oregon Metal Mines Handbook

BULLETIN 14-C

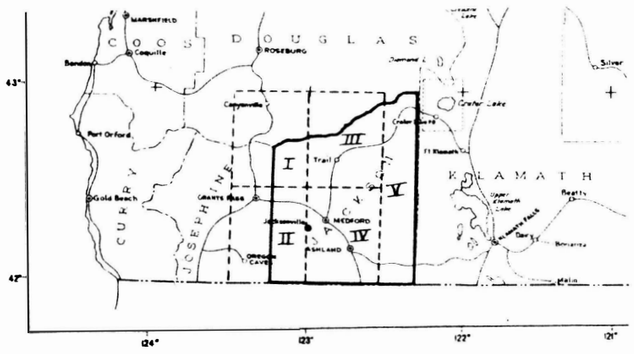
Volume II Part II

1943

Scaled for use as overlay on U. S. Forest Service base of the Rogue River National Forest.

Compiled by R. C. Treasher

INDEX MAP



I—Riddle quadrangle, Diller (24).
II—Grants Pass quadrangle, Wells (40).
III—Butte Falls quadrangle, Wilkenson (41).
IV—Medford quadrangle, Wells (39).
V—Callaghan & Buddington (38).

EXPLANATION

Pliocene-Pleistocene

QTv

High Cascade Lavas

Includes late andesite & basalt flows; olivine basalts.

Post-Miocene

Ti

Later Intrusives

Intrusive diorite & basalt.

Miocene-Pliocene

Tmp

Western Cascade Volcanics

Includes agglomerate, basalt, & rhyolite of Wilkinson (41) and volcanic flows, flow breccia, & tuff of Wells (39).

Eocene

Tu

Umpqua formation

Upper Cretaceous

Kc

Chico formation

Jurassic

gd gb

Granitoid Rocks

Includes granite, tonolite, granodiorite, diorite, & gabbro (gb) of Wells (39, 40) and quartz diorite & quartz-mica diorite of Diller (24).

sp

Peridotite & Serpentine

Jg

Galice formation

Triassic (?)

gs

Greenstone

Includes metavolcanics & metasediments of Wells (39, 40) and greenstone, older metarhyolite, & May Creek schist of Diller (24).

Pre-Mesozoic

os

Old Schists

Includes old schist & younger metamorphics of Wells (39, 40).

T. 30 S.
T. 31 S.
T. 32 S.
T. 33 S.
T. 34 S
T. 35 S.
T. 36 S
T. 37 S.
T. 38 S.
T. 39 S.
T. 40 S.
T. 41 S.

R. 4 W. R. 3 W. R. 2 W. R. 1 W. R. 1 E. R. 2 E. R. 3 E R. 4 E.