GOLD IN WASHINGTON

By
MARSHALL T. HUNTTING
GOLD IN WASHINGTON

By

MARSHALL T. HUNTING
FOREWORD

Gold, throughout the ages, has been synonymous with wealth. For thousands of years, it has been the foremost medium of exchange in most countries. Everyone is familiar with gold and with the romance associated with its recovery from occurrences in nature. In fact, it is probable that gold is the first, and to many the only, metal thought of when mining is mentioned. Certainly, it is the metal first thought of under ordinary conditions when a person decides to become a prospector and seek his fortune on the streams and in the mountains. This is easily understood, for, of all metals, gold is the most simply and easily recovered from its containing formation, whether it occurs as a lode or as a placer deposit. A minimum of experience and equipment is required, and, when won, gold is tangible wealth, requiring little or no treatment to be exchangeable for goods.

The interest in gold shown by the larger mining concerns has declined in late years because its fixed price does not compensate for the continually increasing costs of mining—in labor, equipment, and supplies. This situation will change when and if the price of gold is increased. In the meantime, small-scale gold-mining operations, with limited investment, still find gold mining attractive. That such operations are still more attractive and profitable in periods of depression is obvious, and the fear of "hard times" is the motivation for much of the interest constantly shown in gold prospecting.

The present report is designed to answer the questions most commonly asked as to how and where gold occurs in Washington, and to provide useful information to those who wish to examine old properties or search for new occurrences. It is believed that the report will prove useful and repay the time and effort that has been necessary in its preparation.

SHELDON L. GLOVER, Supervisor.
Division of Mines and Geology

February 17, 1955
## CONTENTS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>3</td>
</tr>
<tr>
<td>Introduction</td>
<td>7</td>
</tr>
<tr>
<td>Selected bibliography</td>
<td>7</td>
</tr>
<tr>
<td>Properties of gold</td>
<td>9</td>
</tr>
<tr>
<td>Uses</td>
<td>10</td>
</tr>
<tr>
<td>Gold ores and ore minerals</td>
<td>11</td>
</tr>
<tr>
<td>Lode deposits</td>
<td>12</td>
</tr>
<tr>
<td>Placer deposits</td>
<td>12</td>
</tr>
<tr>
<td>Prospecting for gold</td>
<td>13</td>
</tr>
<tr>
<td>Sampling</td>
<td>15</td>
</tr>
<tr>
<td>Size of gold particles</td>
<td>16</td>
</tr>
<tr>
<td>Identification tests</td>
<td>17</td>
</tr>
<tr>
<td>Locating mining claims</td>
<td>19</td>
</tr>
<tr>
<td>Mineral rights</td>
<td>19</td>
</tr>
<tr>
<td>Staking lode claims</td>
<td>22</td>
</tr>
<tr>
<td>Staking placer claims</td>
<td>23</td>
</tr>
<tr>
<td>Patenting mining claims</td>
<td>24</td>
</tr>
<tr>
<td>Mining methods and treatment</td>
<td>25</td>
</tr>
<tr>
<td>Market and prices</td>
<td>27</td>
</tr>
<tr>
<td>History of gold in Washington</td>
<td>28</td>
</tr>
<tr>
<td>Production</td>
<td>32</td>
</tr>
<tr>
<td>Occurrences</td>
<td>36</td>
</tr>
<tr>
<td>General statement</td>
<td>36</td>
</tr>
<tr>
<td>Abbreviations</td>
<td>38</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>39</td>
</tr>
<tr>
<td>Benton County</td>
<td>39</td>
</tr>
<tr>
<td>Chelan County</td>
<td>39</td>
</tr>
<tr>
<td>Clallam County</td>
<td>49</td>
</tr>
<tr>
<td>Clark County</td>
<td>49</td>
</tr>
<tr>
<td>Cowlitz County</td>
<td>50</td>
</tr>
<tr>
<td>Ferry County</td>
<td>50</td>
</tr>
<tr>
<td>Jefferson County</td>
<td>50</td>
</tr>
<tr>
<td>King County</td>
<td>61</td>
</tr>
<tr>
<td>Kittitas County</td>
<td>61</td>
</tr>
<tr>
<td>Okanogan County</td>
<td>64</td>
</tr>
<tr>
<td>Pend Oreille County</td>
<td>68</td>
</tr>
<tr>
<td>Pierce County</td>
<td>84</td>
</tr>
<tr>
<td>Skagit County</td>
<td>85</td>
</tr>
<tr>
<td>Skamania County</td>
<td>87</td>
</tr>
<tr>
<td>Snohomish County</td>
<td>88</td>
</tr>
<tr>
<td>Stevens County</td>
<td>89</td>
</tr>
<tr>
<td>Whatcom County</td>
<td>96</td>
</tr>
<tr>
<td>Yakima County</td>
<td>102</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>110</td>
</tr>
<tr>
<td>Asotin County</td>
<td>113</td>
</tr>
<tr>
<td>Benton County</td>
<td>113</td>
</tr>
<tr>
<td>Chelan County</td>
<td>114</td>
</tr>
<tr>
<td>Clallam County</td>
<td>115</td>
</tr>
<tr>
<td>Clark County</td>
<td>117</td>
</tr>
<tr>
<td>Douglas County</td>
<td>118</td>
</tr>
<tr>
<td>Ferry County</td>
<td>118</td>
</tr>
<tr>
<td>Grant County</td>
<td>121</td>
</tr>
<tr>
<td>Grays Harbor County</td>
<td>121</td>
</tr>
<tr>
<td>Jefferson County</td>
<td>121</td>
</tr>
<tr>
<td>King County</td>
<td>121</td>
</tr>
<tr>
<td>Kittitas County</td>
<td>122</td>
</tr>
<tr>
<td>Lincoln County</td>
<td>124</td>
</tr>
</tbody>
</table>
## Contents

Occurrences—Continued

<table>
<thead>
<tr>
<th>Place</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placer gold occurrences—Continued</td>
<td></td>
</tr>
<tr>
<td>Okanogan County</td>
<td>125</td>
</tr>
<tr>
<td>Pacific County</td>
<td>126</td>
</tr>
<tr>
<td>Pend Oreille County</td>
<td>127</td>
</tr>
<tr>
<td>Pierce County</td>
<td>127</td>
</tr>
<tr>
<td>Skagit County</td>
<td>128</td>
</tr>
<tr>
<td>Skamania County</td>
<td>128</td>
</tr>
<tr>
<td>Snohomish County</td>
<td>128</td>
</tr>
<tr>
<td>Stevens County</td>
<td>130</td>
</tr>
<tr>
<td>Whatcom County</td>
<td>132</td>
</tr>
<tr>
<td>Whitman County</td>
<td>133</td>
</tr>
<tr>
<td>Yakima County</td>
<td>133</td>
</tr>
<tr>
<td>Bibliography for occurrences</td>
<td>135</td>
</tr>
<tr>
<td>Index</td>
<td>139</td>
</tr>
</tbody>
</table>

## ILLUSTRATIONS

**Figure 1.** Lode gold occurrences in Washington. .............................. 111

**Figure 2.** Placer gold occurrences in Washington. .......................... 112
GOLD IN WASHINGTON

By MARSHALL T. HUNTITING

INTRODUCTION

Gold has a wider appeal to prospectors than almost any other metal, and although other metals, uranium for example, have attracted much popular attention at times, it is likely that gold will continue for many years as a staple in the field of prospecting. In the inquiries received by the Division of Mines and Geology, gold has been the metal most frequently asked about, and the purpose of this report is to provide some of the data most often requested, including a list of the more important gold occurrences, both lode and placer, in the state of Washington. Most of the general data in this report are from various published sources, which are indicated in the list of references. The section on occurrences is abstracted from the chapters on lode and placer gold in Bulletin 37, Inventory of Washington Minerals, Part 2, Metallic Minerals, a report that is in preparation in 1955 by the Division of Mines and Geology, but the publication date of which is yet undetermined.

SELECTED BIBLIOGRAPHY


Stevens, I. I., Explorations for a railroad route from the Mississippi River to the Pacific Ocean: Pacific Railway Reports, vol. 12, no. 1, 1860.


PROPERTIES OF GOLD

Gold is bright yellow when pure, but, as originally found, most gold is naturally alloyed with silver, and the color varies through lighter shades of yellow to yellowish-white as the silver content increases. Much less commonly gold is found naturally alloyed with copper. Such alloys are reddish yellow. Gold has also been found naturally alloyed with iron, platinum, bismuth, and mercury. Although gold does not tarnish, nuggets and flakes of the metal are often covered by reddish, brown, or black films of iron and manganese oxides.

Gold is the most malleable and ductile of metals and is one of the softest. Its hardness is 2.5 to 3—harder than lead but softer than copper or silver. It can be hammered out into leaves thin enough to be transparent and so thin that more than 500 of them would be required to equal the thickness of this page; also it can be drawn out in wire so fine that one troy ounce would produce a wire more than 57 miles long. Gold weighs 1.206 pounds per cubic foot, and the specific gravity of pure gold is 19.32 at 17.5° C. However, the specific gravity of natural gold may be as low as 12.5, owing to the presence of alloy metals. Gold is a good conductor of heat and electricity, its electrical conductivity being exceeded only by silver and copper. Its electrical resistivity is 2.4 x 10⁻⁴ ohms per cubic centimeter. The melting point of the metal is 1963° C., and the boiling point, 2600° C. The thermal coefficient of linear expansion of gold at 20° C. is 14.2 x 10⁻⁶, and the magnetic susceptibility at 18° C. is -0.15 x 10⁻⁶.

Gold crystallizes in the isometric system, but distinct crystals are comparatively rare. Usually those found are small, more or less distorted, and in dendritic or branching groups. The most common crystal forms are cubes, octahedrons, and dodecahedrons, but usually gold occurs as disseminated scales or grains, as filiform, dendritic, spongy, or reticulate particles, or in larger irregular lumps or nuggets. The individual particles are commonly submicroscopic in size but may range up to nuggets weighing several pounds each. Crystalline gold has been recovered in Washington from some of the lode deposits in the Swauk district of Kittitas County.

The chemical symbol for gold is Au, the atomic weight is 197.2, and the atomic number is 79. Gold is both univalent and trivalent, but is not very active chemically and forms very few compounds. It is one of the most permanent and least active of the metals; because of its resistance to oxidation the alchemists called gold a "noble metal" in contrast to the base metals, which oxidize when heated in air. Gold is not affected by air or most reagents and does not dissolve in any of the common single acids but does dissolve in aqua regia, a combination of hydrochloric and nitric acids. Also, it is soluble in alkali cyanides in the presence of air.
USES

Gold has been desired and used by man from before the beginning of written history. Its color, ease of recovery from its ores, extreme malleability, chemical stability, and rarity have combined to create man's early and continued interest in the metal, and these same properties account for its preeminence in its current uses for monetary and ornamental purposes. Since earliest historical time gold has been used for currency or as a monetary standard, and at the present time these are the principal uses of the metal. Gold holdings of the United States Treasury on December 31, 1950 were $22,706,000,000. This is a decrease of 7 percent from the previous year and represents a reversal of the trend of increasing gold reserves which had been in effect since 1946.¹

In the arts gold is used in the manufacture of jewelry, watches, and gold foil for lettering and decorative purposes. Lesser amounts are used in dentistry and in the electrical and chemical industries. Because of their nonoxidizing characteristics at high temperatures, gold alloys are used in some special electrical contact points; also, on account of its high resistance to chemical attack, gold is used in technological and laboratory equipment used for handling corrosive fluids. Gold-platinum alloys are used in the textile industry in spinnerets which form the filaments of rayon and other synthetic fibers. Small quantities of gold are used in medicine and photography.

For most of its uses gold is alloyed with other metals, generally to increase its hardness. The metals commonly used in the alloys are copper, silver, nickel, tin, aluminum, iron, zinc, lead, platinum, and palladium. Gold-mercury alloys are known as amalgams. The purity of gold is expressed as "fineness," based on 1,000. For example, gold that is 915 fine is 91.5 percent pure. However, jewelers generally express the gold content of an alloy in "carats." Pure gold (1,000 fine) is called 24 carat. Gold that is marked 20 kt. is 20/24 pure gold, or 833 fine, or 83.3 percent pure gold by weight. The unit of weight used for gold is the troy ounce, which is equal to 1.097 avoirdupois ounces, 31.103 grams, or 480 grains.

GOLD ORES AND ORE MINERALS

Although gold is one of the scarcer elements, it is widely distributed in nature and has been found in minute quantities in various kinds of igneous, metamorphic, and sedimentary rocks in places remote from known ore deposits. Gold is known to concentrate in certain plants and in some marine animals. The ashes of *Equisetum* (commonly called the “Horsetail” rush) have been reported to contain up to 610 grams of gold per ton. Sea water has been variously reported to contain from 5 to 65 milligrams of gold per ton, and on the basis of such assays one estimate of the total content of gold in all the oceans is 10,000,000,000 tons.

Gold occurs by far most commonly as the native metal, which always is alloyed with varying amounts of silver, generally 10 to 20 percent. Any alloy in which the silver content exceeds 20 percent is known as electrum. Usually the gold in ores is in particles too small to be seen with the unaided eye; commonly it is of submicroscopic size. Other than the native metal and its alloys, the only naturally occurring gold minerals are the tellurides, the most common of which are calaverite, AuTe₂, containing 43.5 percent gold; sylvanite, (Au,Ag) Te₂, containing 24.5 percent gold; and petzite, (Au,Ag)₄Te, containing 25.2 percent gold. These minerals are rather rare, and none of them has been recognized in Washington. Other gold minerals even less common are the gold-silver-mercury tellurides, kalgoorlite and coolgardite; the silver-gold tellurides, muthmannite and goldschmidtite; the gold telluride, krennerite; and the gold-lead-sulpho-telluride, nagyagite.

Gold accompanies selenium and particularly tellurium, the latter association being illustrated by the gold tellurides in sulfide ore deposits. In the presence of both sulfides and arsenides or antimonides gold usually is found concentrated in the arsenides or antimonides rather than in the sulfides. In sulfide deposits gold is usually associated with pyrite and less commonly with arsenopyrite; it may be found also in chalcopyrite, stibnite, pyrrhotite, sphalerite, and other sulfides. The most common gangue mineral is quartz, but other gangue minerals in gold ores include carbonates, fluorite, tourmaline, and barite.

Gold deposits are of three main types: veins or other lode ore bodies of hydrothermal origin, ordinary placer deposits, and consolidated placer deposits (gold-bearing conglomerates and sandstones).

---

LODE DEPOSITS

In hydrothermal deposits gold occurs in recoverable quantities in most ores of silver, copper, bismuth, and antimony and in many ores of lead and zinc, as well as in many deposits where gold is the only value. These deposits range from deep-seated, high-temperature ores to epithermal ores, and they may be found in rocks of many types, but most commonly gold-bearing ores are in quartz veins closely associated with granitic or volcanic rocks of acidic to intermediate composition. Because gold is chemically inert it is sometimes found to be concentrated as free-milling ore in the oxidized zones of sulfide bodies through leaching and partial removal of the sulfides. Many mines have operated successfully on such free-milling ore, but as the workings went to greater depths and reached the base (sulfide) ore the operations became unprofitable, largely because of increased cost for metallurgical treatment of the base ore. Lode gold ore mined in Washington in 1950 averaged 0.485 ounce of gold and 1.509 ounces of silver per ton, as compared with averages of 0.277 ounce of gold and 0.273 ounce of silver per ton for the United States as a whole.

PLACER DEPOSITS

Because gold has a high specific gravity and is chemically inert it becomes concentrated in placer deposits, where it commonly is found associated with magnetite, ilmenite, chromite, monazite, rutile, zircon, garnet, and other heavy minerals. These minerals are the principal constituents of the so-called “black sands.” The gold-bearing sands and gravels in placers may be derived from lode gold deposits, but the gold in many placers originated not in lode gold ores but as sparsely disseminated gold in rock too lightly mineralized to be classed as ore. Because of this and the fact that lode deposits from which some placers have been derived have been completely destroyed by erosion, a search for the “mother lode”—the “hard-rock” source of the gold—may be futile in many placer districts. Placer deposits may be of many kinds, as (1) residual deposits from weathering of rocks in place, (2) river gravels in active streams, (3) river gravels in abandoned and often buried channels, (4) eolian deposits, (5) ocean beaches at sea level, and (6) ancient ocean beaches now raised and inland.

Beach placers form through the agency of ocean waves reworking beach sands and gravels and concentrating the heavy minerals. These sands and gravels may represent alluvium brought to the coast by streams, or they may originate from the erosion of the bedrock of the sea cliffs or erosion of unconsolidated glacial or other sediments which overlie the bedrock along the shore. Gold present in minute amounts in the eroded material is released by this process and accumulates with other heavy minerals in the beach sands.
Beach placers are frequently found to be enriched when examined directly following storms, when wave action has been especially vigorous.

Stream placers usually are restricted to present-day valleys, but there are numerous examples of bench placers in bars and terraces high above present stream channels and of placers in old valleys not now occupied by streams. Gold in streams usually accumulates at places of slackened stream velocity, as in a broader valley below a narrow gorge, at junctions of tributaries, near the heads of quiet reaches, and on the inside of bends. Furthermore, placer values are almost always concentrated on or near bedrock or on a "false bedrock," which may be a hard clay bed.

 Consolidated placers are formed through the same processes that produce ordinary unconsolidated placer gravels and sands, but the consolidated placer deposits originated in pre-Pleistocene time and have subsequently been converted to conglomerates, sandstones, and even quartzites by cementation, compaction, and sometimes recrystallization. The beds comprising these deposits usually are overlain by other sedimentary rocks or by flows of volcanic rocks.

**PROSPECTING FOR GOLD**

As the old saying goes, "gold is where you find it," and the places where it is found are many and varied. Some very unlikely looking rocks carry gold in paying quantities, and other rocks that are mineralized and look very favorable for the occurrence of gold have none. However, there is another old saying that advises the prospector to "look for bears in bear country." In other words, the best areas in which to prospect for gold are those where gold has been found previously. This is axiomatic, of course, yet it is surprising how much effort is wasted each year by people who, for reasons of their own, persist in prospecting some of the least likely areas. The maps (figs. 1 and 2 facing pp. 111 and 112) show the locations where lode and placer gold have been found in the state, and, although in the future a few discoveries will no doubt be made in areas remote from previously known occurrences, the great majority of the new finds will be in areas shown on the maps where gold has been found most commonly in the past. Thus, the maps are probably the best, and yet simplest, guides to prospecting this report can furnish.

As noted before, there are few rock types that may be eliminated as possible hosts for gold ore deposits, but most lode gold is in quartz veins closely associated with intrusive or extrusive igneous rocks of intermediate to acidic composition, such as diorite, granodiorite, granite, andesite, or rhyolite. This fact suggests, as an aid in prospecting for gold, the use of geologic maps showing the areas
underlain by these rocks. A geologic map covering the whole state\textsuperscript{5} has been published, as has an index map\textsuperscript{6} which shows the outlines of all the geologically mapped areas in the state and cites the literature in which these maps may be found.

The application of geological principles and the study of geologic maps and aerial photographs may be of assistance in both placer and lode prospecting. An insight into the probable location of channels and paystreaks in placers may be gained through a study of physiography and the application of stream-sedimentation principles. As placer gold tends to concentrate in stream channels in places of slackened water velocity, the prospector should examine with special care such places as the bars on the inner sides of curves and places where streams emerge from rapids into quiet water. Attention to the structure and the types of bedrock may be profitable, as gold often concentrates on the edges of steeply dipping schist, thin-bedded sediments, and other formations that erode into miniature ridges and grooves, thus forming natural riffles in the stream bed. Riffles parallel to the direction of streamflow are more effective than riffles crossing at a large angle;\textsuperscript{7} therefore, portions of channels roughly paralleling the strike of such rocks are most favorable. The pitted, rough surfaces of limestone are more effective in catching gold particles than are the smooth surfaces that erosion produces on most granitic rock, although under favorable conditions potholes may form in granite as well as other rock types, and these potholes may act as effective gold traps.

Oftentimes attention to details in placers may lead the prospector to the discovery of lode deposits. Gold particles in stream gravels commonly may be traced upstream to their source even though the placer itself may be too low in grade to work at a profit. The size and shape of the gold particles give clues to the distance they have traveled. Nuggets found near their point of origin may be comparatively large and quite irregular and angular in shape, whereas particles that have been transported for some distance generally are smaller, more regular, and rounded or flattened.

Geophysical investigations, using magnetic, electric, gravimetric, or seismic methods, are sometimes helpful in locating mineralized zones in bedrock or, when placer prospecting, in determining depth to bedrock or in locating magnetic black sands with which gold may be associated. Geophysical exploration methods and techniques are described in detail by Heiland\textsuperscript{8} and Jakosky.\textsuperscript{9} The prospector

\textsuperscript{5}Culver, H. E., Geology of Washington—Part I, General features of Washington geology (with preliminary geologic map in colors); Washington Div. Geology Bull. 32, 1936.
\textsuperscript{6}Boardman, Leona, Geologic map index of Washington; U. S. Geol. Survey map, scale = 1:750,000, 1949.
\textsuperscript{8}Heiland, C. A., Geophysical exploration, New York, Prentice-Hall, Inc., 1940.
\textsuperscript{9}Jakosky, J. J., Exploration geophysics, Los Angeles, Times-Mirror Press, 1940.
should be very careful to distinguish between geophysical prospecting equipment (all of which has been described in published technical papers) and the many and varied kinds of "doodlebugs," which operate on "mysterious" and "secret" principles known only to the operator or to no one. These include many variations on the old-time pendulum-type doodlebug, the forked divining rod or witch stick, and the "electronic" and other more imaginative and modern versions, all of which have been represented by misguided or unscrupulous persons to be infallible in locating, identifying, and evaluating ores. These same gadgets are usually reputed to be equally effective in locating water, oil, buried treasure, lost persons, and just about anything imaginable. This "divining rod myth" is effectively disposed of by Butler,\textsuperscript{10} who also discusses a number of useful facts about ore deposits in a paper written especially for prospectors and miners.

\textbf{SAMPLING}

In searching for lode-gold ores the prospector is obliged to depend heavily upon assays to determine whether or not a vein carries gold values or how rich a given ore is. Until a person becomes very familiar with the gold ore in a given mining district his estimate of the value of a specific ore sample can be little more than a guess, and in many gold mines even experienced operators have to rely entirely upon assays to distinguish between ore and waste. Upon finding a possible gold-bearing vein the prospector may be well advised to "high-grade" the deposit and take his preliminary samples from the best looking portions of the ore. Then if the assays show nothing or only traces of gold the deposit may be eliminated from further consideration. If the assays are favorable the vein should be resampled in such a way that the samples will be as truly representative as possible. Details of sampling methods and of evaluating ore deposits, both lode and placer, are described in many books,\textsuperscript{11} and a bibliography of literature on sampling has been published by the U. S. Bureau of Mines.\textsuperscript{12} Sampling methods, as well as most of the other subjects that would be of interest to the gold prospector, are also described in a very usable handbook for prospectors by Von Bernewitz.\textsuperscript{13}

\textsuperscript{11}McKinstry, H. E., Mining geology, New York, Prentice Hall, Inc., 1948.
Placer sampling is usually accomplished by panning, but rockers or even small sluice boxes may be used. Since placer gold tends to concentrate on or near bedrock, it is necessary in most places for the prospector to dig trenches, pits, or shafts, or to drill to obtain samples for testing. The following description of the technique of panning may be of some assistance to the beginner.

The pan of gravel is held under water, the contents are stirred by hand to break up cemented pieces of gravel and lumps of clay, and the larger stones are picked out. The pan, still under water, is held with both hands in a level position and is given a series of rotary or gyratory motions, largely through wrist action. This causes the heavy particles to settle and the light material to work its way to the top. The pan is tilted, and by raising and lowering it in the water the surface material is washed off. Then by holding the pan in a position tilted away from the prospector, so the contents just barely do not spill, it is alternately gyrated to bring the light material to the surface and washed by raising and lowering the tipped pan in the water. As they come to the surface the larger pieces of barren gravel are picked off by hand. The panning is continued with gradually increased tipping until only the gold and a little heavy sand are left. The residual sand may be separated from the gold by drying and blowing, by removal of magnetite with a magnet, or by adding mercury to collect the gold as amalgam. In experienced hands there is little or no loss of gold.

SIZE OF GOLD PARTICLES

The size of individual gold particles ranges widely. Commonly the gold in lode deposits occurs in particles of submicroscopic size. In placer deposits the finest flour gold may be too tiny for individual particles to be seen without the aid of a magnifier, but they may range upward in size to nuggets weighing several pounds each. The largest nugget known is the Welcome Stranger, weighing 190 pounds, found in 1869 near Ballarat in Australia. The largest nuggets yet found in Washington are from the Swauk district in Kittitas County. Landes\textsuperscript{14} reports a $1,100 nugget that was found in 1900 at the Elliott placer on Williams Creek, and a $1,004 nugget on a bench of Swauk Creek above the mouth of Baker Creek.

Placer gold particles are classified as (1) coarse—more than 0.06 inch in diameter (about the size of a grain of rice), (2) medium—less than 0.06 inch but more than 0.03 inch in diameter (about half the size of a pinhead), (3) fine—less than 0.03 inch but more than 0.015 inch in diameter (about a quarter of the size of a pinhead), and (4) very fine—less than 0.015 inch in diameter. Fine gold averages 12,000 colors (particles) per ounce, and very fine averages 40,000

---

colors per ounce. Gold particles that require 300,000 or more colors per ounce are called flour gold, and about 100 particles of this size are required to have a value of one cent. Some flour gold is so small that it takes 4,000 colors to be worth one cent, and about 14 million colors are needed to weigh one ounce. Tiny as they are, each of these individual particles can be seen when placed on a black surface. A particle of gold the size of a common pinhead has a value of about one cent; a particle the size of a grain of rice has a value of about 20 cents; and a particle the size of a navy bean has a value of about $3.50. One troy ounce of pure gold (worth $35) has a volume equal to that of a cube a little less than half an inch (0.464 in.) on a side.

IDENTIFICATION TESTS

Many times the novice prospector is undecided whether the “yellow stuff” he is looking at is really gold or is something else. The yellow minerals that are most commonly mistaken for gold are pyrite, chalcopyrite, and golden-colored mica flakes. Pyrite, or “fool’s gold,” is heavy, but not as heavy as gold; it is hard and brittle and crushes to a black powder when hammered, whereas gold is soft (almost as soft as lead) and malleable and can be easily beaten into very thin sheets that are flexible (can be bent a number of times without breaking). Pyrite is soluble in concentrated nitric acid; gold is insoluble. Chalcopyrite, also sometimes mistaken for gold, is similar to pyrite in these properties. Pyrite commonly occurs as cubic crystals, but gold almost always is found in irregular shapes, and in those rare places where it does occur as crystals the crystals are always in intergrown masses.

Tiny golden-colored mica flakes sometimes look deceptively like gold, but the luster of mica is different from that of gold; mica has laminations that can be split with a knife; and mica flakes, like gold, are flexible, but, unlike gold, the flakes are elastic, so that when bent they tend to return to their original shape. Gold is malleable, but mica is not; when mica is hammered it breaks up into numerous tiny flakes. Gold is heavy, but mica is light. Thus, when panned, gold becomes concentrated in the very lowest part of the pan, but mica will be washed out of the pan, although, because of its flakiness, it does tend to segregate somewhat from other light minerals. Mica is difficultly fusible; gold, pyrite, and chalcopyrite fuse easily in a blowpipe flame (gold at 1063° C.); and gold when roasted is odorless, but the sulfides, pyrite and chalcopyrite, yield sharp-smelling sulfur dioxide fumes.

The gold telluride minerals are comparatively rare and are not easily recognizable. Furthermore, they usually occur as small, sparsely disseminated grains that are difficult to isolate for testing. They vary in color from silver white, yellow, and steel gray to nearly black. Gold in the tellurides may be recognized by its
physical properties after the tellurides have been roasted, but it can best be detected by fire assay.

There are no simple, easily performed chemical tests for gold, but Scott\textsuperscript{15} describes several qualitative tests as well as several wet assay methods. The "Purple of Cassius" test, often referred to as the most easily performed test for gold, may be satisfactory as a means of confirming the identification of an unknown metal suspected of being gold, but as a means of detecting gold in an ore it can not ordinarily be relied on.

Spectrographic methods are not very satisfactory for the detection of gold because the gold concentration in many ores is below the limit of spectrographic observation. Ahrens\textsuperscript{16} discusses the problems of detecting gold spectrographically and refers to a number of published papers on the subject.

The standard method for the analysis of gold is the fire assay, and, in view of the modest charge made for gold assays, the prospector would be well advised to send his samples to a reputable assayer rather than attempt "home assays." The main steps in a fire assay are: First, the specimen is fused in a suitable alkali-flux mixture, containing lead oxide and sodium carbonate and/or borax, from which fusion is obtained a lead "button" in which is alloyed all the gold and silver that was in the sample. This is then cupeled by heating in a bone-ash container in an oxidizing atmosphere to eliminate the lead by volatilization and by oxidation and absorption into the body of the container. The bead remaining is made up of the precious metals, from which the silver is extracted by "parting" in nitric acid. The residual gold "sponge" may then be melted down and weighed.

The prospector may in some instances wonder whether a given specimen is worth assaying. The identification service offered by the State Division of Mines and Geology may then be of value. The Division examines at no cost to the sender samples of rocks or minerals that occur in Washington and notifies the sender what the material is. Assays or chemical analyses are not made, but mineralogic and petrographic determinations are. If an assay appears warranted, the sender is so advised, so that he may submit a sample of the material to a commercial assayer if he desires.


LOCATING MINING CLAIMS

MINERAL RIGHTS

No license is required to prospect for gold or any other mineral in Washington. The right to mine gold or other minerals on land in Washington may be acquired in one of several ways, depending upon the ownership of the land and its mineral rights. The right is acquired on "open" land simply by making a discovery followed by proper staking and recording, and the mining claim then may be held indefinitely by doing the required $100 worth of assessment work each year. "Open" land is defined and the procedures for obtaining the rights to minerals on land not "open" are described in a leaflet entitled "Mineral Rights," by Sheldon L. Glover, Supervisor, Division of Mines and Geology, and the following is abstracted from that leaflet.

Mining claims, either lode or placer, may be staked without permit or license on the "open" Federal land of the State by any United States citizen or person who in good faith has declared his intention of becoming a citizen. In general, "open" lands include only (1) land of the United States Public Domain (unreserved and unappropriated U. S. public lands) and (2) lands of the National Forests (National Parks are not "open"). The National Forests in Washington are: Olympic, Mount Baker, Snoqualmie, Gifford Pinchot (Columbia), Chelan, Wenatchee, Colville, Kaniksu, and Umatilla. Maps of these National Forests may be obtained from the Regional Forester, U. S. Forest Service, P. O. Box 4137, Portland, Oregon. Records of such Public Domain as remains are kept in the United States Land Office, Federal Building, Spokane 1, Washington, and information about these lands may be obtained there.

Claims may not be staked on land that is not "open." Other procedures, which depend on the ownership of the land, must be followed then if a person desires to prospect or mine on land not belonging to him.

1) **State-owned land.**—Application should be made to the Commissioner of Public Lands, Public Lands-Social Security Building, Olympia, Washington, for applicable rules and regulations and for a mineral prospecting lease or mining contract on the particular tract, described by legal land description and not to exceed 80 acres. Submerged lands of Puget Sound and of the larger lakes, tidelands of the ocean and sound, and beds of so-called "navigable" streams (many not actually navigable) are either State-owned or (since 1907) have been sold by the State with mineral rights reserved to the State. Information may be obtained from the Commissioner of Public Lands, if there is doubt as to whether land is State-owned or not.

2) **County-owned land.**—Application should be made to the Board of County Commissioners of the county in which the land is situated for details and permit.

3) **State Highway rights-of-way.**—Conditions will vary, depending on the status of the land prior to the laying out of the right-of-way. Inquiry may be made of the Director of Highways, Commissioner of Public Lands, or the Division of Mines and Geology.

4) **Indian Reservations.**—Application should be made to the Agent in charge of the particular reservation for regulations pertaining to prospecting and leasing.
(5) **Privately owned land.**—(Including land owned by any individual or any corporation such as Northern Pacific Railway Co., Weyerhaeuser Timber Co., or other). Application should be made to the owner for permission to trespass, prospect, lease, mine, or purchase. Probably in most instances a private land owner (owner in fee) not only owns the surface rights but also owns the subsurface and all mineral rights to his land. He then may mine or not as he chooses. Anyone else entering the land without the consent of the owner is subject to trespass, he may not stake claims or mine, and he is liable for damages if he persists and injures the land. There are instances, however, where surface rights and mineral rights are separately owned, as described below.

In some land exchanges and in all stock-raising homesteads, all minerals have been reserved to the United States upon issuance of the original patents. In these instances a qualified person may enter the land, prospect for, locate a claim, mine, and remove any of the minerals except those named in the next paragraph. Any person entering such lands to prospect must compensate the owner for any damages caused thereby to crops or improvements.

Ordinarily, the minerals reserved to the United States consist of deposits containing coal, oil, gas, phosphate, sodium, potassium, and oil shale. Lands containing such deposits have not been subject to location since July 17, 1914. Since 1873, coal has been the subject of special laws. Since February 25, 1920, all these minerals may be prospected for under a prospecting permit, and may be leased under certain conditions. Further information about such permits or leases can be obtained from the United States Land Office, Federal Building, Spokane 1, Washington.

Lands containing deposits reserved to the United States are chiefly: (1) lands classified or withdrawn as coal lands and patented thereafter under nonmineral land laws subsequent to March 3, 1909, or (2) lands classified or withdrawn as phosphate, nitrate, potash, oil, gas, and asphaltic minerals, or valuable for such deposits and thereafter patented under the nonmineral land laws (for example, homesteads), subsequent to July 17, 1914.

Whether or not a given tract of land has minerals reserved to the United States, as mentioned above, may be determined by examining the original patent covering the lands in question—this is a matter of record in the office of the County Auditor of the county where the land is situated. Lands which have been patented with mineral reservations are also recorded in the Land Office, at Spokane. The status of all Federal public lands in Washington may be ascertained by correspondence with that office.

In some instances, a previous owner (private individual or a corporation) of a tract of land has reserved to himself the mineral rights when he transferred title to the land. In other words, he may have sold the surface rights and retained ownership of certain or all minerals existing in the land. This has been the case with all State-owned land when the contract of sale was later than 1907, and it is commonly the case with land sold by the Northern Pacific Railway Co. The mineral rights, in such instances, belong to the previous owner of the land, and he has the right of entry for mining purposes, and he may lease his rights or mine if he chooses, but he must compensate the surface owner for damages done to improvements on the land. The only way the surface owner may acquire the mineral rights when they have been reserved by a previous owner is by purchase or lease from the previous owner. Whether or not a previous owner of a given tract of land has reserved the mineral rights when he transferred title to the land may be ascertained by reading the various
Locating Mining Claims

deeds applicable to the given tract on record in the office of the County
Auditor of the county where the land is situated.

Any land owner who may be interested in determining if the mineral
rights to his tract were reserved to the United States when patent was
issued, or if an owner previous to himself had reserved such rights,
may have this information obtained for him by any reliable abstract or
title company. The fee for this commonly ranges from a minimum of
$10.00 to about $25.00 when many transfer instruments must be searched.
Of course, he may search the records himself if he should prefer to do so.

Further information on staking mining claims and on other matters
having to do with Federal and State mining laws may be obtained from
"An outline of mining laws of the State of Washington" by M. H. Van
Nuys (1953).

No list or map has ever been prepared to show (1) lands "open"
for mineral location in Washington, (2) claims that have been staked,
or (3) State-owned lands that are available for mineral leasing. In-
formation regarding "open" lands and State-owned lands may be
obtained from the sources mentioned on page 19. Likewise, no one
has published a list of abandoned mining claims. Such a list would
be virtually impossible to compile and keep up to date, as well
over 125,000 mining claims have been filed in Washington from the
earliest record to the end of 1936, and many thousands more have
been staked since that time. Records of claim locations and assessment
work are not kept by any State or Federal office but are filed with the auditors of the counties in which the claims are
located. Information as to the location and current status of pre-
viously staked claims can be ascertained only by searching the
county records. The auditors also have information as to location
and ownership of individual patented claims. Additional information
about patented claims may be obtained by examining the original
patent survey notes on file in the United States Land Office, Federal
Building, Spokane 1, Washington.

The seven full national forests in Washington cover 9,679,827 acres, which is about 23 percent of the total
area of the state. The national forests cover most of the best
mineralized areas, thus a large part of the best ground for prospect-
ing is "open" land.

An apparent exception to the general rule that State-owned
lands may be leased for mineral exploration and mining are the
tidelands (between extreme low- and ordinary high-tide levels)
along the shore and beach of the Pacific Ocean from the mouth of
the Columbia River north to Cape Flattery, as these tidelands
have been set aside by state laws (Chap. 105 and Chap. 110, session
laws of 1901, and Chap. 54, session laws of 1935) as a "public
highway." These laws forbid the sale or lease of these lands for
any purpose (except that tidelands between the mouth of the
Queets River and Cape Flattery may be leased for the extraction
of petroleum and gas). Later laws, however, allow the leasing of
these lands for gas and oil exploration, but apparently no provision has been made for leasing for other minerals such as gold. The land-ownership and mineral-rights situation along the beach and in the lowlands adjacent is further complicated by (1) the fact that the Olympic National Park includes 47,753 acres in a corridor along the Queets River and a strip ½ mile to 3 miles wide back from the beach and extending from the mouth of the Queets River to Cape Alava, near the mouth of the Ozette River, and (2) the presence along the coast of five Indian Reservations—the Quinault, Hoh, Quillayute, Ozette, and Makah Reservations—on some of which it has been established that the mineral rights on the tidelands belong to the Indians.

**STAKING LODE CLAIMS**

Possessory title to mineral rights on “open” land is established by staking claims, and this entails (1) making a discovery, (2) posting a location notice, (3) staking boundary lines, (4) making a discovery excavation, and (5) recording a location certificate for each claim. A full-size lode claim is 1,500 feet long and 600 feet wide. There is no legal limit to the number of lode claims an individual may hold.

After mineral has been discovered in place the locator should immediately post a location notice at the discovery spot, stating (1) date of discovery (date of posting), (2) name of the claim, (3) name of the locator(s), (4) distance in feet claimed in each direction along the course of the vein from the discovery post, (5) width claimed on each side of the vein, (6) general course of the vein, and (7) description of claim by reference to legal land description or to some natural object or permanent monument.

Within 90 days of the discovery date, and before the claim is recorded, the boundary lines of the claim should be marked by cutting brush and blazing trees along the lines. At each of the four corners of the claim (also at each angle of nonrectangular claims) a substantial stake or stone monument must be erected. A tree or stump will do; if a stake is used, it must be at least 4 inches in diameter; and either a stake or monument must be at least 3 feet high above ground. Each corner must be marked with date of location (same date as recorded on discovery notice) and name of claim. Also, it is recommended that the name of locator(s) and designation of corner (e.g., NW. cor.) be placed on the corner markers. End lines must not be more than 1,500 feet apart, measured along the vein, and to secure full extralateral rights the end lines should be parallel and should cross the vein. The side lines need not be straight, but should follow the course of the vein and should be not more than 300 feet from the center line of the vein.
A discovery excavation must be made within 90 days of the date of discovery and before the claim location notice is recorded. The law relating to discovery shaft requirements (Chap. 45, session laws of 1899, RCW 78.08.130) was amended by the 1955 Legislature—the amendment taking effect June 8, 1955—as follows: "Any open cut, excavation, or tunnel which cuts or exposes a lode and from which a total of two hundred cubic feet of material has been removed, or, in lieu thereof, a test hole drilled on the lode to a minimum depth of twenty feet from the collar, shall hold the lode the same as if a discovery shaft were sunk thereon, and shall be equivalent thereto." (Chap. 357, session laws of 1955.) The amendment also changed another feature of the discovery-shaft law so that a discovery excavation is now required on all mining claims in the state—west of the summit of the Cascade Mountains as well as east of the summit.

After the other steps have been taken, and within 90 days of the date of discovery, the locator must record a copy of his location notice in the office of the auditor of the county in which the lode is found. This notice should contain the same information as is on the location notice on the discovery post.

STAKING PLACER CLAIMS

A placer claim should be in the shape of two or more adjoining 10-acre squares. A claim may be located by one or more persons, but it must be limited in size to 20 acres per locator up to 160 acres for a single placer claim. There is no limit on the number of claims an individual or group may hold. Regardless of the size of a claim (20 acres or 160 acres) only one discovery within it and only $100 annual assessment work is required. On lands covered by a United States survey the placer location should be bounded by lines that conform to the legal survey section lines and section subdivision lines. The claim should be described accordingly (e.g., W½ NE¼ NW¼ sec. 22, T. 20 N., R. 17 E.). On lands not covered by a United States survey the claim boundaries must still follow the same rectangular block system used on surveyed lands, and the description must contain reference to natural landmarks or permanent monuments for identification purposes as in lode claims. Exceptions are made allowing the staking of "gulch claims" of irregular shape in the case of placer locations made in narrow gulches with nonmineral sides.

The procedure for staking placer claims is generally like that for lode claims but differs in detail. Placer claims may be staked on "open" lands by (1) making a discovery (a discovery excavation is not required for placer locations), (2) posting notice, (3) staking lines, (4) recording notice, and (5) doing location development work.

At the point of discovery, immediately after the discovery has been made, a notice of location should be posted, giving the name
of the claim, name of locator(s), date of discovery (same as date of posting), and description of the claim by reference to legal land survey section subdivisions (or, where the land is not within an area covered by United States survey, by reference to some natural landmark or permanent monument). Within 30 days of the discovery date the locator must mark the boundaries of the claim on the ground in the same manner as in lode locations—by corner stakes at least 4 inches square and 3 feet high or by monuments 3 feet high and by cutting brush and blazing trees along the side and end lines. Also within 30 days of the discovery date the locator must record a copy of the posted location notice in the office of the auditor of the county in which the claim is situated. Within 60 days after discovery he must do upon the claim development work valued at $10 for “each 20 acres or fractional part thereof.” This is location work and not to be confused with assessment work. Within a reasonably short time he must record with the same County Auditor an affidavit showing performance of this location work and the nature and kind of work so done.

PATENTING MINING CLAIMS

The owner of a claim held by possessory right has title only to the minerals and such timber on the claim as he uses in his prospecting and mining operations. He may hold these rights only by annually doing assessment work valued at $100. In Washington, taxes are not usually assessed to the owners of such nonpatented claims. Benefits resulting from a patent are: annual assessment work is no longer required; boundaries are established definitely by survey; and the patented claim owner acquires full title to the claim, including land and timber as well as minerals. The patentee may sell or dispose of the timber as he pleases, and may use the claim for any lawful purpose, whether mineral or nonmineral; however, as patented claims are real estate they are subject to taxation as such.

After development work to the value of $500 has been done on a claim the owner may apply for patent to the Bureau of Land Management of the Department of the Interior. A circular outlining procedure for obtaining patents to mining claims is available from the U. S. Land Office, Federal Building, Spokane 1, Washington. The first step is for the claim owner to employ a licensed United States mineral surveyor. He should then request the Area Administrator, Area 1, U. S. Bureau of Land Management, 1001 N. E. Lloyd Boulevard, Portland 14, Oregon, to order the survey to be made. Upon completion of the survey the mineral surveyor's plat and notes must be approved by the Bureau, and then application for patent may be prepared by a qualified attorney and filed in the Land Office.
The recent tendency of the Department of the Interior has been to tighten up on restrictions, and each year fewer and fewer patents are being issued. Two of the things about which the government is strictest are that on each separate claim there must be an adequate discovery and that each claim must be primarily valuable as mineral land. The patent will be denied if the applicant's motive is to acquire land that is valuable primarily for its timber or as a home site, resort site, water power site, as agricultural land, or for other nonmineral use.

The patent costs per claim will vary, depending upon several factors, such as whether only one claim or a group of claims is to be patented. One estimate of the approximate cost for a single lode claim is as follows: surveyor's fee $125 to $250; U. S. Bureau of Land Management office expense $35; attorney's fee $75 to $150; abstract of title $30 to $60; U. S. Land Office entry fee $10; publication fee $30 to $60; purchase price of the land payable to the government (at $5 per acre) $105. Thus the total cost might be between $410 and $670 per claim, but it could well be more.

MINING METHODS AND TREATMENT

Of the United States total production in 1950 of lode and placer gold, 26 percent was recovered by placer methods, 35 percent by amalgamation and cyanidation, and 39 percent by the smelting of ores and concentrates, but of the Washington production of gold in the same year, only 0.04 percent was recovered by placer methods, 0.09 percent by amalgamation, 6.3 percent by cyanidation, 34.5 percent by smelting of ores, and 59.1 percent by smelting of flotation concentrates. Of the placer gold produced in the United States in 1950, 80.6 percent was recovered by bucket-line dredges, and the average value of gravels mined by this method was 15.2 cents per cubic yard. Nonfloating washing plants (dry land dredges) accounted for 14.1 percent of the placer production, operating on gravels averaging 35.3 cents per cubic yard; dragline dredges, 3.4 percent, on 15.9-cent gravel; underground (drift) placers, 0.1 percent, on $2.195-gravel; hydraulicking, 0.7 percent, on 23.8-cent gravel; small-scale hand methods (wet), 0.8 percent, on 65-cent gravel; small-scale hand methods (dry), 0.01 percent, on $1.40-gravel; and suction dredges, 0.2 percent, on 18.9-cent gravel.

A recently published report describes equipment and methods useful to prospectors and operators of small placers, and both small-scale and large-scale placer mining methods have been described

---

by Averill. Details of the various mining methods used in both placer and lode-gold mines are given in many textbooks and handbooks, in publications of the American Institute of Mining and Metallurgical Engineers, and in reports of the U. S. Bureau of Mines. Of the Bureau of Mines reports, a bulletin dealing with metal-mining practice in general is especially helpful, and two information circulars describe mining methods and costs at two of this state’s leading gold producers, the Knob Hill mine and the Holden mine. For other citations to published articles on mining and milling practices at these and other gold-producing mines in the state the reader may refer to the descriptions of the individual properties on pages 39 to 134.

Because gold is present in practically unlimited quantity (thousands of millions of tons) in the oceans of the world, many processes, some meritorious and some fraudulent, have been proposed for extracting gold from this source, but none has proved commercially feasible. One attempt to recover gold from sea water was a Washington operation that was active from the middle to the late 1930’s. The following information is based on statements made by the inventor and observations of disinterested parties. No statements of fact or opinion regarding the process are to be attributed to the Division of Mines and Geology. The method of recovery was based on the collection of gold—supposedly in colloidal form in the sea water—on amalgamated zinc shavings. It was proved by the inventor that satisfactory results could be repeatedly obtained in a laboratory-scale pilot plant using one ton of sea water in a batch process, but the operation of a later commercial-scale plant, built on a pier extending over the water of Puget Sound at Lakota, King County, was not successful due to mechanical and other operational difficulties involving, among other things, inability to control and maintain certain precise and vital technical adjustments. The problems included precise pH adjustments and some galvanic phenomena that defied control in the large-scale, continuous-flow operation but could be maintained in the one-ton pilot model, where most encouraging recoveries of both gold and silver were obtained repeatedly. More than 500 assays on samples of the pilot-plant product indicated that the gold-silver recovery was high enough to justify a commercial operation if it could duplicate the pilot-plant recovery.

---

MARKET AND PRICES

Since January 3, 1934 the domestic gold market has been governed by the United States Gold Reserve Act of 1934, which is summarized by Van Nuys as follows:

Under this Act the United States went off the gold standard, withdrew gold coins from circulation, and authorized the Secretary of the Treasury to make regulations governing the acquisition, holding, melting and treating, and the importing and exporting of gold. These regulations require special licenses from the Secretary for doing any of the acts just enumerated. Such licenses are difficult to obtain. So far as the Act affects gold mining, an important exception relates to "gold in its natural state"; viz., "gold recovered from natural sources which has not been melted, smelted, or refined or otherwise treated by heating or by a chemical or electrical process." Such kind of gold may be "acquired, transported within the United States, imported, or held in custody for domestic account without the necessity of holding a license therefor." Accordingly, a miner (usually placer) who produces gold in such natural state may hold it, import it (if produced outside the United States), transport it within the United States, and sell it, without a license; and his purchaser and assigns may do likewise without a license. But no one, not even the miner, may export such gold or any gold without a license.

The regulations permit the miner, without a license, to [treat] gold amalgam by heating the natural gold sufficiently to separate the mercury without melting the gold; the total retort sponge held by him at any one time is not to exceed 200 troy ounces. The miner may sell such sponge without a license, but only to a United States Mint or to a private party having a license. When the miner sells his natural gold or sponge to a private party, usually a bank or a dealer, or to a U. S. Mint, the miner must furnish the purchaser with a written certificate, Form TG-19, showing he (miner) mined it, etc.; and the purchaser (when he sells it) must likewise furnish his purchaser in turn with a certificate, Form TG-21, showing from whom he purchased, etc.

The U. S. Mints (in 1953) pay $35.00 for an ounce of fine gold, less 1/4 of 1 percent and less Mint charges, subject to change by the Secretary. The U. S. Mint (Assay Office) at Seattle serves Washington, Idaho, Montana, Oregon, and Alaska. "United States Mint" means a United States Mint or Assay Office.

The value of gold has increased gradually for more than 2,000 years. The price was a little over $20 per fine troy ounce for more than 200 years until January 1934, when the President of the United States set the U. S. Mint price at $35 per ounce, at which it has remained. A detailed chronology of events leading to the revaluation of gold in 1934 is given by Libbey and Mason. Henderson has summarized the monetary history of gold in this country as far back as 1786.


The U. S. Mint (Assay Office) in Seattle was closed and, as of February 28, 1955, its gold purchasing functions were transferred to the U. S. Mint, San Francisco, California and the U. S. Mint, Denver, Colorado.


In 1948 and 1949 much publicity was given to the possibility of establishing a premium price for “natural” gold on the open market among hoarders preferring gold to currency and among speculators anticipating a rise in the Mint price for gold. It was estimated\(^3\) that “natural” domestic gold containing 25,000 ounces of fine gold was sold at prices up to $43 per ounce in 1948, and 29,000 ounces at an average price of $39 to $40 in 1949. Such sales declined in volume in 1950, perhaps reflecting pessimism regarding a possible rise in the Mint price. In the past few years gold has been quoted at from $35 to more than $50 per ounce on the free markets in various countries, but much of the trade is conducted secretly in black markets, so that exact prices paid are difficult to determine.

**HISTORY OF GOLD IN WASHINGTON**

The first discovery of gold in Washington was probably that reported by Stevens,\(^3\) who, in describing explorations made by Captain McClellan and his party in search of a railroad route through the Cascades in 1853, said, “Here the first traces of gold were discovered, and though not sufficiently abundant to pay for working, it caused considerable excitement in the camp.” The locality referred to was in the Yakima Valley, though it is not clear whether it was near the mouth of the Naches River or was on the headwaters of the Yakima River. In the same report Stevens\(^3\) wrote, “It is also worthy of observation that gold was found to exist, in the explorations of 1853, throughout the whole region between the Cascades and the main Columbia to north of the boundary, and paying localities have since been found at several points, particularly on the southern tributary [probably Peshastin Creek] of the Wenatcheap [Wenatchee River]. The gold quartz also is found on the Nachess River.”

In 1855 there was a small gold rush to the Colville region,\(^3\) and on September 14 of that year the Oregonian newspaper reported prospectors recovering $5 to $8 per day using rockers along the Pend Oreille River. On September 28 and November 23 the Olympia Pioneer and Democrat newspaper reported placer-gold discoveries along the Columbia River from the mouth of the Spokane River to the mouth of the Pend Oreille River and up that river for at least 40 miles. Prospectors were said to be making fairly good recoveries on Sheep Creek just south of the Canadian boundary. The placers in this region appear to have been too small and too low grade to hold the prospectors’ interest for long, and their attention was soon directed to other areas.

---

\(^3\) Stevens, I. I., Explorations for a railroad route from the Mississippi River to the Pacific Ocean: Pacific Railway Reports, vol. 12, no. 1, p. 140, 1860.
\(^3\) Idem, p. 257.
From the beginning, gold-mining activities were intermittent rather than constant. Periods of activity were followed by periods of stagnation. These cycles were influenced to some extent by economic conditions. In general, gold mining has fared relatively well and prospecting has flourished during economic recessions, and gold mining has been at a disadvantage and has declined during periods of general prosperity and high prices. Of even more influence locally has been the prospectors’ urge to move on to possibly more lucrative fields as news was spread of gold strikes in new areas. Thus, though a party that was surveying the international boundary discovered gold on the Similkameen River in Okanogan County in 1859, the men who rushed to the Similkameen stayed only about three months and then flocked northward to the Frazier River and Cariboo district, leaving the Similkameen placers practically deserted. A few months later the surge was reversed and many of the same men returned to the Similkameen, and others spread out in both eastern and western Washington. Hodges reports that these men returning from the north discovered placer gold on Ruby Creek in Whatcom County, on the Sultan River in Snohomish County, and on Peshastin and Swauk Creeks in Chelan and Kittitas Counties in the early 1860’s, but Bethune sets the dates for discovery of gold in these districts at later dates, as follows: Swauk Creek in 1874, Peshastin Creek in 1877, Ruby Creek in 1878, and Cle Elum River in 1881. Bethune records placer mining on Cassimer Bar at the mouth of the Okanogan River as early as 1860 and increased placer activities along this river in the middle 1880’s.

Bars along the Columbia River adjacent to the Colville Indian Reservation were worked intermittently, mainly by Chinese, from 1870 to 1890, and Columbia River bars above Priest Rapids were reported to have been worked prior to 1860. Other bars of the Columbia, Snake, and most of the other rivers in the state were prospected, and some of these yielded moderate amounts of placer gold. Beach placers were discovered along the Pacific Coast and were worked in a small way for many years. During a brief gold excitement in 1894 the beaches were staked for 60 or 70 miles south of Cape Flattery, but productive localities were found to be limited to 20 miles south of Portage Head. By 1900 most of the state’s placers had been found and largely worked out.

---

35Hodges, L. K., Mining in the Pacific Northwest: Seattle Post-Intelligencer, pp. 6-7, 1897.
36Bethune, G. A., op. cit., pp. 8-12, 1890.
37Idem, pp. 9-10.
Nearly all the lode mining districts in the state have some mines that produce gold, at least as a byproduct, and most of these districts had been discovered by 1897, when a historically interesting account of the mines of the Pacific Northwest was published.\(^1\) One of the first discoveries of lode gold in the state was at the base of Mount Chopaka in 1871. In 1878 C. P. Culver discovered lode gold in the Blewett district, where the first stamp mill was built in the then Territory of Washington.\(^2\) Lode gold was discovered at Monte Cristo in Snohomish County in 1889 and at Republic in Ferry County in 1896.\(^3\) Previous to 1898 gold quartz veins were being mined and the ore milled in arrastres near Liberty in the Swauk district of Kittitas County.\(^4\) A few very early discoveries of lode gold were made within the area of the Colville Indian Reservation, but it was not until the Reservation was opened to mineral entry in 1898 that mining began to expand in this region. The Republic district has been the leading lode gold camp in the state, but other important gold-producing areas have been the Railroad Creek, Blewett, Mount Baker, Monte Cristo, Slate Creek, Oroville-Nighthawk, Orient, and Wenatchee districts.

Lode gold has been mined or reported in 23 counties, and placer gold in 25 counties in Washington. The following list includes most of the placer gold localities in the state. At some of these localities only colors have been found; at others small amounts of gold are reported to have been recovered; and at a few of the places listed fairly large profitable operations have been carried on.

### PLACER GOLD LOCALITIES

<table>
<thead>
<tr>
<th>ASOTIN COUNTY</th>
<th>Clallam County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snake River bars</td>
<td>Cedar Creek</td>
</tr>
<tr>
<td>Benton County</td>
<td>Ozette Beach</td>
</tr>
<tr>
<td>Columbia River bars</td>
<td>Sand Point</td>
</tr>
<tr>
<td>Chelan County</td>
<td>Shi Shi Beach</td>
</tr>
<tr>
<td>Blewett area</td>
<td>Yellow Banks</td>
</tr>
<tr>
<td>Bridge Creek</td>
<td></td>
</tr>
<tr>
<td>Chiwawa River</td>
<td></td>
</tr>
<tr>
<td>Columbia River bars</td>
<td></td>
</tr>
<tr>
<td>Entiat River</td>
<td></td>
</tr>
<tr>
<td>Lakeside (Lake Chelan)</td>
<td></td>
</tr>
<tr>
<td>Leavenworth</td>
<td></td>
</tr>
<tr>
<td>Nigger Creek</td>
<td></td>
</tr>
<tr>
<td>Peshastin Creek</td>
<td></td>
</tr>
<tr>
<td>Railroad Creek</td>
<td></td>
</tr>
<tr>
<td>Wenatchee River</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)Hodges, L. K., op. cit., 1897.
\(^2\)Bethune, G. A., op. cit., pp. 10-12, 1890.
PLACER GOLD LOCALITIES—Continued

FERRY COUNTY—Continued
Danville area
Kettle River bars
Republic
Sanpoil River

GARFIELD COUNTY
Snake River

GRANT COUNTY
Columbia River bars

GRAYS HARBOR COUNTY
Cow Point
Damons Point
Moclips River
Point Brown

JEFFERSON COUNTY
Ruby Beach

KING COUNTY
Denny Creek
Money Creek
Tolt River

KITTITAS COUNTY
Cle Elum River
Columbia River bars
Liberty
Manastash Creek
Naneum Creek
Swauk Creek
Teanaway River
Yakima River

LINCOLN COUNTY
Columbia River bars

OKANOGAN COUNTY
Columbia River bars
Mary Ann Creek
Methow River
Myers Creek
Nighthawk
Oroville
Park City
Similkameen River
Squaw Creek
Twisp
Wauconda

PACIFIC COUNTY
Fort Canby

PEND OREILLE COUNTY
Pend Oreille River bars
Russian Creek
Sullivan Creek

PIERCE COUNTY
Silver Creek

SKAGIT COUNTY
Skagit River

SKAMANIA COUNTY
Camp Creek
McCoy Creek
Texas Gulch

SNOHOMISH COUNTY
Darrington area
Granite Falls
Sultan River

STEVENS COUNTY
Columbia River bars
Kettle Falls
Kettle River bars
Marcus
Meyers Falls
Northport district
Orient

WHATCOM COUNTY
Acme vicinity
Mount Baker
Ruby Creek
Silesia Creek
Slate Creek

WHITMAN COUNTY
Snake River bars

YAKIMA COUNTY
American River
Morse Creek
Summit district
Surveyors Creek
PRODUCTION

Gold production forms an important part of the total mineral output of the state of Washington. Every year prior to 1916 gold out-ranked in value all other metals produced, and it has ranked first in many of the years since that date, but in 1952 gold accounted for only 13 percent of the value of metallic production in the state. Annual gold production in Washington from 1866 through 1902 is shown in the table on page 33, and annual totals for the state since that date, as well as data for individual counties, are given in the table on pages 34 and 35.

The following data on production, except as otherwise noted, are from the annual volumes of Mineral Resources and its successor, the Minerals Yearbook, published prior to 1924 by the United States Geological Survey and later by the United States Bureau of Mines. Total Washington state gold production from 1860 through 1952 was 2,570,002 ounces, valued at $68,705,393, which ranks Washington eleventh among the states as a gold producer. Total United States gold output from the beginning of the record through 1951 has been 283,276,495 ounces, and the Washington share of this amount has been slightly less than 1 percent. The greatest production of gold in Washington in any single year since 1900 was 92,117 ounces, valued at $3,224,095, in 1950. In that year 97 percent of the state production came from three mines: the Holden, Gold King, and Knob Hill, which ranked in production twelfth, fourteenth, and eighteenth, respectively, among the gold mines of the United States. In the next year, 1951, the Gold King mine was the leading producer in the state, ranking eleventh nationally, followed by the Holden mine (thirteenth) and the Knob Hill mine (sixteenth). Combined production from the Holden and Gold King mines in Chelan County out-ranked that of all but six other gold districts in the United States in 1951. Prior to 1900 most of the gold produced in the state was from placers, but since that time less than 2 percent of the output has been from placers. Placer production from 1900 through 1953 was $930,597. To illustrate further, placer production for the 10-year period from 1900 through 1909 was $350,541 but for a similar period from 1944 through 1953 was only $12,456.

The Republic district of Ferry County has had the longest consistent record of gold production, and Ferry County has led all counties during 28 of the 50 years from 1903 to 1952, inclusive. Chelan County, formerly a small producer, took the lead in 1938 as a result of the output of the Holden mine and continued to hold it (except for 1947) up through 1953. Stevens County produced the greatest amount of gold during 5 years (1905 through 1908, and 1922), and Whatcom County led for 3 years (1904, 1929, and 1930). Okanogan, Snohomish, and Kittitas Counties have nearly always
produced some gold, and in some years important amounts. In
total gold production for the years 1903 through 1952, Chelan
and Ferry Counties are at the top of the list with about $21 million
each, followed in order of output by Whatcom, Stevens, Okanogan,
Snohomish, and Kittitas Counties.

**Gold Production in Washington prior to 1903**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fine omissions</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to 1860</td>
<td></td>
<td>$9,000,000</td>
</tr>
<tr>
<td>1866</td>
<td></td>
<td>1,000,000</td>
</tr>
<tr>
<td>1867</td>
<td></td>
<td>400,000</td>
</tr>
<tr>
<td>1868</td>
<td></td>
<td>400,000</td>
</tr>
<tr>
<td>1869</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>1870</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>1871</td>
<td></td>
<td>320,100</td>
</tr>
<tr>
<td>1872</td>
<td></td>
<td>260,000</td>
</tr>
<tr>
<td>1873</td>
<td></td>
<td>260,341</td>
</tr>
<tr>
<td>1874</td>
<td></td>
<td>154,055</td>
</tr>
<tr>
<td>1875</td>
<td></td>
<td>81,922</td>
</tr>
<tr>
<td>1876</td>
<td></td>
<td>20,988</td>
</tr>
<tr>
<td>1877</td>
<td></td>
<td>20,988</td>
</tr>
<tr>
<td>1878</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>1879</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>1880</td>
<td></td>
<td>75,000</td>
</tr>
<tr>
<td>1881</td>
<td>3,800</td>
<td>335,800</td>
</tr>
<tr>
<td>1882</td>
<td>5,800</td>
<td>320,000</td>
</tr>
<tr>
<td>1883</td>
<td>5,800</td>
<td>120,000</td>
</tr>
<tr>
<td>1884</td>
<td>3,870</td>
<td>80,000</td>
</tr>
<tr>
<td>1885</td>
<td>4,112</td>
<td>73,952</td>
</tr>
<tr>
<td>1886</td>
<td>5,850</td>
<td>126,212</td>
</tr>
<tr>
<td>1887</td>
<td>7,111</td>
<td>147,848</td>
</tr>
<tr>
<td>1888</td>
<td>7,327</td>
<td>160,506</td>
</tr>
<tr>
<td>1889</td>
<td>7,015</td>
<td>145,006</td>
</tr>
<tr>
<td>1890</td>
<td>9,001</td>
<td>190,729</td>
</tr>
<tr>
<td>1891</td>
<td>9,869</td>
<td>204,000</td>
</tr>
<tr>
<td>1892</td>
<td>16,206</td>
<td>271,892</td>
</tr>
<tr>
<td>1893</td>
<td>18,971</td>
<td>375,585</td>
</tr>
<tr>
<td>1894</td>
<td>11,049</td>
<td>288,834</td>
</tr>
<tr>
<td>1895</td>
<td>11,261</td>
<td>322,761</td>
</tr>
<tr>
<td>1896</td>
<td>18,682</td>
<td>373,148</td>
</tr>
<tr>
<td>1897</td>
<td>39,184</td>
<td>356,490</td>
</tr>
<tr>
<td>1898</td>
<td>21,524</td>
<td>449,664</td>
</tr>
<tr>
<td>1899</td>
<td>37,655</td>
<td>612,718</td>
</tr>
<tr>
<td>1900</td>
<td>33,156</td>
<td>739,288</td>
</tr>
<tr>
<td>1901</td>
<td>34,743</td>
<td>752,332</td>
</tr>
<tr>
<td>1902</td>
<td>28,682</td>
<td>693,240</td>
</tr>
<tr>
<td></td>
<td>13,166</td>
<td>374,411</td>
</tr>
<tr>
<td>Total</td>
<td>327,591</td>
<td>$29,166,145</td>
</tr>
</tbody>
</table>

Early statistics are not as complete as might be desired, and
some early estimates of production appear to have been too high.
Total gold and silver production in Washington through 1866 was
estimated by J. Ross Browne, United States Commissioner of
Mining Statistics, to be $10,000,000. Estimates of early gold pro-
duction from a few districts follow: $1,500,000 (placer and lode)
from the Blewett district from 1870 through 1900, and $200,000 from
1901 through 1910; $500,000 from the Similkameen placers up to

---

45 Browne, J. R., Resources of the Pacific slope, New York, D. Appleton and Co., p. 6, 1869.
46 Weaver, C. E., Geology and ore deposits of the Blewett mining district: Washington Geol. Survey Bull. 6, p. 71, 1911.
### Gold Production

<table>
<thead>
<tr>
<th>Year</th>
<th>Asotin</th>
<th>Benton</th>
<th>Chelan</th>
<th>Clallam</th>
<th>Douglas</th>
<th>Ferry</th>
<th>Grant</th>
<th>King</th>
<th>Kittitas</th>
<th>Lincoln</th>
</tr>
</thead>
<tbody>
<tr>
<td>1933</td>
<td>$690</td>
<td>1,085</td>
<td>298</td>
<td>2,766</td>
<td>2,280</td>
<td>3,980</td>
<td>535</td>
<td>1,130</td>
<td>403</td>
<td>86</td>
</tr>
<tr>
<td>1934</td>
<td>(a)21,187</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1935</td>
<td></td>
<td>2,093</td>
<td>372</td>
<td>1,220</td>
<td>2,065</td>
<td>7,000</td>
<td>372</td>
<td>140</td>
<td>266</td>
<td>8,850</td>
</tr>
<tr>
<td>1936</td>
<td></td>
<td>4,880</td>
<td>1,085</td>
<td>3,760</td>
<td>2,500</td>
<td>1,050</td>
<td>1,050</td>
<td>1,050</td>
<td>3,760</td>
<td>6,250</td>
</tr>
<tr>
<td>1937</td>
<td></td>
<td>368</td>
<td>624</td>
<td>1,260</td>
<td>2,065</td>
<td>4,500</td>
<td>1,260</td>
<td>1,260</td>
<td>2,065</td>
<td>6,250</td>
</tr>
<tr>
<td>1938</td>
<td></td>
<td>135</td>
<td>259</td>
<td>1,150</td>
<td>2,065</td>
<td>4,500</td>
<td>1,150</td>
<td>1,150</td>
<td>2,065</td>
<td>6,250</td>
</tr>
<tr>
<td>1939</td>
<td></td>
<td>169</td>
<td>180</td>
<td>6,000</td>
<td>2,500</td>
<td>7,000</td>
<td>6,000</td>
<td>6,000</td>
<td>7,000</td>
<td>17,000</td>
</tr>
<tr>
<td>1940</td>
<td></td>
<td>35</td>
<td>27</td>
<td>1,050</td>
<td>2,065</td>
<td>4,500</td>
<td>1,050</td>
<td>1,050</td>
<td>2,065</td>
<td>6,250</td>
</tr>
<tr>
<td>1941</td>
<td></td>
<td>267</td>
<td>180</td>
<td>6,900</td>
<td>2,500</td>
<td>7,000</td>
<td>6,900</td>
<td>6,900</td>
<td>7,000</td>
<td>17,000</td>
</tr>
<tr>
<td>1942</td>
<td></td>
<td>57</td>
<td>180</td>
<td>6,900</td>
<td>2,500</td>
<td>7,000</td>
<td>6,900</td>
<td>6,900</td>
<td>7,000</td>
<td>17,000</td>
</tr>
<tr>
<td>1943</td>
<td></td>
<td>21</td>
<td>9,490</td>
<td>4,500</td>
<td>2,500</td>
<td>7,000</td>
<td>4,500</td>
<td>4,500</td>
<td>2,500</td>
<td>7,000</td>
</tr>
<tr>
<td>1944</td>
<td></td>
<td>22</td>
<td>9,490</td>
<td>4,500</td>
<td>2,500</td>
<td>7,000</td>
<td>4,500</td>
<td>4,500</td>
<td>2,500</td>
<td>7,000</td>
</tr>
<tr>
<td>1945</td>
<td></td>
<td>32</td>
<td>831</td>
<td>4,500</td>
<td>2,500</td>
<td>7,000</td>
<td>4,500</td>
<td>4,500</td>
<td>2,500</td>
<td>7,000</td>
</tr>
<tr>
<td>1946</td>
<td>1,092</td>
<td>1,929</td>
<td>1,130</td>
<td>868</td>
<td>60,800</td>
<td>89</td>
<td>48</td>
<td>6,154</td>
<td>3,710</td>
<td></td>
</tr>
<tr>
<td>1947</td>
<td>1,250</td>
<td>1,530</td>
<td>1,830</td>
<td>1,365</td>
<td>171,365</td>
<td>406</td>
<td>1,736</td>
<td>6,400</td>
<td>2,500</td>
<td></td>
</tr>
<tr>
<td>1948</td>
<td>3,745</td>
<td>630</td>
<td>412</td>
<td>7,365</td>
<td>97,595</td>
<td>1,790</td>
<td>56</td>
<td>5,400</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>1949</td>
<td>3,745</td>
<td>630</td>
<td>412</td>
<td>7,365</td>
<td>97,595</td>
<td>1,790</td>
<td>56</td>
<td>5,400</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>4,025</td>
<td>840</td>
<td>1,300</td>
<td>435</td>
<td>1,295,145</td>
<td>2,353</td>
<td>2,415</td>
<td>5,835</td>
<td>2,415</td>
<td></td>
</tr>
<tr>
<td>1951</td>
<td>4,315</td>
<td>645</td>
<td>1,511</td>
<td>350</td>
<td>1,511,515</td>
<td>2,353</td>
<td>2,415</td>
<td>5,835</td>
<td>2,415</td>
<td></td>
</tr>
<tr>
<td>1952</td>
<td>6,055</td>
<td>6,400</td>
<td>1,050</td>
<td>400</td>
<td>1,050,400</td>
<td>2,353</td>
<td>2,415</td>
<td>5,835</td>
<td>2,415</td>
<td></td>
</tr>
<tr>
<td>1953</td>
<td>(f)584,725</td>
<td></td>
<td></td>
<td>(e)883,860</td>
<td></td>
<td>(d)1,050,400</td>
<td></td>
<td></td>
<td>(c)883,860</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$41,672</td>
<td>$81,712</td>
<td>$22,491,194</td>
<td>$7,754</td>
<td>$8,493</td>
<td>$20,412,921</td>
<td>$10,755</td>
<td>$105,947</td>
<td>$209,566</td>
<td>$35,411</td>
</tr>
</tbody>
</table>

(a) Includes production of Asotin and Clark Counties in 1943.
(b) Includes production of Franklin and Kittitas Counties in 1955.
(c) Includes production of Kittitas County in 1960.
(d) Production figures by counties not available.
(e) Includes production of Kittitas and Whatcom Counties in 1961.
(f) Includes production of Ferry County in 1962.
(g) Includes production of Stevens County in 1962.
### History of Gold in Washington

#### By Counties

<table>
<thead>
<tr>
<th>Okanogan</th>
<th>Pend Oreille</th>
<th>Skamania</th>
<th>Snohomish</th>
<th>Stevens</th>
<th>Whatcom</th>
<th>Whitman</th>
<th>Yakima</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
<tr>
<td>$36,009</td>
<td>$10,469</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
<td>$83,061</td>
</tr>
</tbody>
</table>

---

3️⃣ Clark County: 1933—$100, 1934—$100, 1935—$100, 1936—$100. Total—$300.
6️⃣ Whitman County: 1933—$600, 1934—$600, 1935—$600, 1936—$600. Total—$2,400.
7️⃣ Garfield County: 1933—$600, 1934—$600, 1935—$600, 1936—$600, 1937—$600. Total—$3,000.
8️⃣ Columbia County: 1933—$600, 1934—$600, 1935—$600, 1936—$600. Total—$2,400.
1911; $1,800,000 from the Republic district through 1910; and about $7,000,000 from the Monte Cristo district through 1918.

**OCCURRENCES**

**GENERAL STATEMENT**

The following lists of lode and placer gold occurrences are extracted and condensed from similar but more complete lists in Division of Mines and Geology Bulletin 37, Inventory of Washington minerals, Part 2, Metallic minerals, a report that is in preparation in 1955, but the publication date of which is yet undetermined. The original lists in Bulletin 37 are as complete as it is possible to make them—including every occurrence known to the Division. Those complete inventories include many properties where gold is present in trace or only very minor amounts along with other metals which are the principal constituents of the ore. Most occurrences where gold is of secondary or minor value are not included in the following pages, and anyone wanting the complete list may refer to Bulletin 37, Part 2. Although most of the following occurrences have either been in production in the past or are considered to merit further prospecting, a few of the occurrences shown do not fall in either of these categories, but are included for some special reason—(1) to illustrate the geographic distribution of gold deposits in the state, (2) because of special interest in gold in certain areas even though probabilities of profitable operations in those areas are very slight, or (3) because of special interest or considerable publicity given a few individual deposits of little or no probable value.

The lode gold occurrences are described first. These descriptions are followed by maps (facing pp. 111 and 112) showing the locations of both the lode and placer occurrences. Then follow the descriptions of placer gold deposits. The properties are arranged by counties and are listed within the counties alphabetically by name. The numbers following the names correspond to the numbers designating those same properties on the maps.

To facilitate tracing a numbered symbol on a map to the description of the property represented by the symbol, a finding list (numerically arranged) relating number to property name is included with each map. The scale of the maps is such that they can be regarded as index maps only. Locations of the properties are given as precisely as possible in the text, but, because of the small

---

map scale, the detail is not as great as it would be on larger scale maps. In order to indicate the locations of all the occurrences in some areas it is necessary to allow a single symbol to represent several closely spaced properties.

The property descriptions from which these lists are condensed were compiled from a wide variety of sources, of varying degrees of reliability. Thus, the critical reader probably may find inaccuracies and may recognize that some properties are inadequately described. Little information is available on most of the placer deposits, reflecting the comparatively minor value of the state's placers.

For the reader's convenience the occurrences are described under a standardized set of 14 headings: Loc (location), Elev (elevation), Access, Prop (property), Owner, Ore, Ore min (ore minerals), Gangue, Deposit, Dev (development), Improv (improvements), Assays, Prod (production), and Ref (references). A date in parentheses following any information in the descriptions indicates the date at which that information was assumed to be correct. Legal land descriptions are abbreviated; thus, sec. 3, (40-25E) indicates section 3, Township 40 North, Range 25 East, Willamette Meridian. Under the heading Ref is a list of abbreviated references to the sources of information for each property. The reference is made by a number (in boldface type) which refers to a title under the same number in the bibliography for occurrences on pages 135 to 138. This is followed by the page reference or, in the case of a periodical, by a date (written 7/5/34 [July 5, 1934], or 5/34 [July 1934], or simply 1934), and then the page reference. Where the reference includes several issues of a periodical, the parts of the reference are separated by semi-colons. Thus 1, 4/18, p. 19; 7/18, pp. 45-46, refers to Alaska and Northwest Mining Journal for April 1918, page 19, and August 1918, pages 45 to 46. Other abbreviations used in the property descriptions are in the following list.
ABBREVIATIONS

Ag—silver
approx.—approximately
As—arsenic
Au—gold
av.—average, averaged, averaging
Ave.—avenue
Bi—bismuth
Bros.—Brothers
Bur.—Bureau
C.—centigrade
Co.—Company
conc.—concentrate, concentrates
cor.—corner
Corp.—Corporation
Cr.—chromium
Cr.—Creek
Cu.—copper
cu.—cubic
Dept.—Department
Dev.—development
dia.—diameter
dist.—district
Div.—Division
E.—east
Elev.—elevation
est.—estimated
et al.—et alii (and others)
F.—Fahrenheit
Fe.—iron
Fk.—Fork
fr.—fraction
ft.—foot, feet
gm.—gram, grams
Hg—mercury
Improv.—improvements
in.—inch, inches
Inc.—Incorporated
Is.—Island
lb.—pound, pounds
Lk., lk.—Lake, lake
Loc.—location
Ltd.—Limited
max.—maximum
mi.—mile, miles
min.—minimum
Mt.—Mount
Mtn.—Mountain
N.—north
NE.—northeast
Ni.—nickel
no.—number
Nos.—Numbers
NW.—northwest
O—oxygen
Ore min—ore mineral(s)
oz.—ounce, ounces
p.—page
Pb.—lead
%—percent
pp.—pages
Prod.—production
Prop.—property
Pt.—platinum
R.—river, range
Ref.—references
Ry.—railway
S.—south
Sb.—antimony
Se.—selenium
SE.—southeast
sec.—section
sq.—square
SW.—southwest
T.—township
tr.—trace
U.—uranium
U. S.—United States
vol.—volume
W.—tungsten
W.—west
Wash.—Washington
yd.—yard, yards
yr.—year, years
Zn.—zinc
LODGE GOLD OCCURRENCES

BENTON COUNTY

Prosser (165)


CHELAN COUNTY

Alta Vista (Pole Pick No. 2) (127)


Black and White (Diamond Dick) (128)


Black Jack (Blewett, La Rica) (129)

(See also Gold Bond.)

raises. **Assays:** 3,000 tons of ore av. $10 Au. **Prod:** 3,000 tons of ore about 1900, $4,000 in 1940. **Ref:** 63, p. 73. 67, p. 10. 88, p. 60. 97, 1906, p. 366. 129, p. 275. 161, pp. 84-89.

**Blewett (130)**

(See also Black Jack, Peshastin, Gold Bond.)


**Blinn (151)**

(See also Gold Bond.)

**Loc:** NE1/4 sec. 3, (22-17E). Claims extend from the head of Culver Gulch westward to and across Nigger Cr. **Access:** Road up Nigger Cr. **Prop:** 5 patented claims: Shafer, Olympia, Pole Pick No. 3, Seattle, Vancouver. **Owner:** Gold Bond Mining Co. (1936 ———). Cascade Mining Co. (1911). Bonanza Gold Mine Co. (1934). **Ore:** Gold. **Ore min:** Pyrite, chalcopyrite. **Gangue:** Quartz, calcite. **Deposit:** A 1- to 5-ft. quartz-calcite vein cuts serpentine and greenstone. **Dev:** 1 long adit and 1,000 ft. of shorter ones. **Prod:** In 1880 ore was milled in a 2-stamp Harrington mill. Produced 1936, 1937. **Ref:** 67, p. 10. 104, 11/15/36, p. 27; 1/15/37, p. 28. 113, 7/1/37, p. 16. 158. 161, pp. 92-93.

**Blue Bell (I. X. L.) (131)**

**Loc:** SW1/4 sec. 1, (22-17E), on E. side of Peshastin Cr. ¼ mi. N. of Blewett. **Access:** Road. **Owner:** Thad Neubauer, Blewett, Wash. (1934). **Ore:** Gold. **Ore min:** Pyrite, free gold. **Gangue:** Quartz, calcite. **Deposit:** No well-defined veins. Seams in serpentine are filled with vein and ore minerals. **Dev:** 450 ft. of adits. **Prod:** Some small pockets yielded high values. **Ref:** 63, p. 74. 67, p. 10. 158. 161, p. 99.

**Bobtail (Wye) (132)**

**Loc:** SW1/4 sec. 2, (22-17E), in Culver Gulch, Blewett dist. **Elev:** 3,100 ft. **Access:** Road and trail. **Prop:** 1 claim. **Owner:** Washington Meteor Mining Co. (1908-1911). Blewett Mine Leasing Co. (1910). **Ore:** Gold. **Deposit:** Lenticular quartz vein in serpentine. Small ore body of medium grade. **Dev:** Two short adits, one 50 ft. long. **Prod:** Has produced. **Ref:** 67, p. 14. 129, p. 272. 143, pp. 78-79. 144, p. 4. 161, pp. 84-89.

**Butte (116)**

**Loc:** Secs. 25 and 26, (27-22E), Chelan Butte dist. **Owner:** Chelan Butte Gold Mining Co. (1909-1915). **Ore:** Gold. **Prod:**

Cook-Galbraith (121)


Culver (133)


Diamond Dick

(See Black and White.)

Eastern Star

(See Olden.)

Eureka (Golden Cherry, Golden Chariot) (134)


Fraction (135)


Galbraith

(See Cook-Galbraith.)
Gold Bond
(See also Black Jack, Blinn, La Rica, Olympia, Phipps, Pole Pick, Wilder.)


Gold King
(See Golden King.)

Gold Knob (153)


Golden Chariot
(See Eureka.)

Golden Cherry
(See Eureka.)

Golden Eagle (Lucky King) (136)


Golden King (Wenatchee, Squillchuck, Gold King) (154)


Hidden Treasure (112)


Holden (Howe Sound, Irene) (113)

tion mill, modern camp for 450 men, roads, docks, tug, barges, and all necessary facilities. **Assays:** Mill feed av. 1.45% Cu, 0.09 oz. Au, 0.34 oz. Ag, 1.02% Zn in 1940, and 0.78% Cu, 0.44 oz. Au, 0.213 oz. Ag, 0.48% Zn in 1951. Samples from basic dike outside of ore zone assayed 0.2% to 0.46% Ni. Radiometric tests showed 0.019% \( \text{U}_3\text{O}_8 \) equivalent in one sample. **Prod:** 1938-1955. From 1938 to 1951 8,320,497 tons of ore were produced. 1950 production was 5,005 tons Cu, 2,531 tons Zn. 1951 production was 4,015 tons Cu, 1,958 tons Zn, 24,205 oz. Au, 117,437 oz. Ag from 550,530 tons of ore. **Ref:** 1-A, vol. 163, pp. 73-95. 37, p. 16. 63, p. 82. 67, pp. 35-36. 88, pp. 55-56. 93, Ch. III, p. 13. 97, 1929, 1930, 1937-1952. 98, 1920-1926. 104, 1/15/32, p. 29; 12/30/32, p. 24; 6/15/34, p. 29; 6/30/34, p. 23; 11/15/36, p. 27. 105, 1907, p. 41. 108, 11/39, p. 30; 5/40; 6/40. 113, 6/17/37, p. 7. 114, no. 5, 1909. 133, p. 35. 148. 158. 159, p. 137. 175.

**Howe Sound**

(See Holden.)

**Hummingbird** (137)

**Loc:** SE\( \frac{3}{4} \) sec. 2, (22-17E), in Culver Gulch, Blewett dist. **Elev:** 2,900 ft. **Access:** Road and trail. **Prop:** 1 claim. **Owner:** Washington Meteor Mining Co. (1908-1911). **Ore:** Gold, copper, silver. **Ore min:** Free gold, arsenopyrite, pyrite, chalcopyrite. **Gangue:** Quartz, calcite, talc. **Deposit:** Quartz-calcite vein cutting serpentine. **Dev:** 650-ft. crosscut and drift with stopes. **Prod:** Amount not known. **Ref:** 13, p. 137. 67, p. 11. 129, p. 272. 143, pp. 78-79. 144, p. 9. 161, pp. 84-89.

**I. X. L.**

(See Blue Bell.)

**Irene**

(See Holden.)

**Ivanhoe**

(See Wilder.)

**Kingman and Pershall** (117)

**Loc:** On Chelan Butte. **Ore:** Gold. **Ore min:** Free gold. **Deposit:** 4-ft. vein. **Assays:** One assay as high as $2,000 per ton. **Prod:** $15,000 reported in the 1890's. **Ref:** 67, p. 20. 158.

**La Rica** (138)

(See also Black Jack, Peshastin, Gold Bond.)

**Loc:** Sec. 2, (22-17E), Blewett dist. **Prop:** 3 claims: Peshastin, Keynote, Black Jack. **Ore:** Gold. **Ref:** 97, 1916, p. 610; 1921, p. 462. 98, 1925, p. 1801. 161, p. 89.

**Lucky King**

(See Golden Eagle.)
Lucky Queen (150)

**Loc:** SW¼ sec. 1, (22-17E), about ¼ mi. N. of Blewett on E.
side of Peshastin Cr. **Access:** On highway U. S. 97. **Prop:** 2 claims:
Lucky Queen, Bee Queen. **Owner:** A. Neubaur, Blewett, Wash. (1938).
Lucky Queen Mining Co. (1915). **Ore:** Gold, silver. **Ore
min:** Free gold, chromite. **Gangue:** Talc, calcite, quartz. **Deposit:**
Shear zone in serpentine from a stringer to 3 ft. in width. One
small segregation of chromite encountered. **Dev:** 545-ft. adit,
412-ft. adit. **Prod:** About $1,000 by 1901. **Ref:** 67, p. 11. 88, p. 58.

North Star (139)

**Loc:** SE¼ sec. 2, (22-17E), on S. side and near upper end of
Culver Gulch, Blewett dist. **Prop:** 1 claim. **Owner:** Golden Eagle
Mining Co. (1911-1915). **Ore:** Gold. **Ore min:** Pyrite, arsenopy-
rite. **Gangue:** Quartz, calcite. **Deposit:** A 1- to 8-ft. fissure
vein cutting serpentine. **Dev:** 125-ft. adit with stopes and raises, and 2
other adits totaling 320 ft. of length. **Assays:** Assays at various
intervals across the vein av. $1 to $15 per ton. Av. of 1,000 tons
shipped was $20 per ton. **Prod:** 1,000 tons ore prior to 1907.

Olden (Eastern Star) (140)

**Loc:** SE¼ sec. 2, (22-17E), W. of the Black Jack and immedi-
ately S. of the Peshastin mine, Blewett dist. **Owner:** John Olden
(1902). **Ore:** Gold. **Deposit:** 2 veins varying in width from 1 to 6
ft. **Dev:** 350 ft. of underground work. **Assays:** 500 tons av. about
$5 Au. **Prod:** 500 tons of ore by 1902. **Ref:** 67, p. 12. 88, p. 59.
116, no. 4, 1908, p. 74. 143, p. 79. 144, p. 9.

Olympia (141)

(See also Gold Bond.)

**Loc:** NW¼ sec. 2, (22-17E), about 600 ft. below and due W. of
U. S. Mineral Monument at head of Culver Gulch, Blewett dist.
**Prop:** 1 claim (part of Blinn property). **Owner:** Gold Bond Mining
Co., Spokane, Wash. (1951——). **Ore:** Gold. **Ore min:** Pyrite,
arsenopyrite, chalcopyrite. **Gangue:** Quartz, calcite. **Deposit:**
Small quartz lenses in a shear zone in serpentine. **Dev:** 910 ft. of
crosscut and drifts. **Ref:** 63, pp. 72-73. 67, p. 17.

Ontario (152)

**Loc:** Sec. 4, (22-17E), N. of Nigger Cr. **Ore:** Gold, nickel, cobalt,
copper. **Ore min:** Sulfides. **Deposit:** A wide mineralized zone in
serpentine. **Dev:** 2 short adits and a shaft. **Assays:** $7 to $8 Au,
3% Ni, 3½% Cu. **Ref:** 43, 1895, p. 184. 63, p. 76. 67, pp. 17-18, 29.
105, 1895, p. 399. 141, p. 63.
Pangborn (118)


Peshastin (Blewett, La Rica) (142)

(See also Blewett, La Rica, Gold Bond.)


Phipps (143)

(See also Gold Bond.)


Phoenix (144)

Pole Pick (145)
(See also Gold Bond.)


Pole Pick No. 2
(See Alta Vista.)

Prospect (146)


Red Cap (114)


Red Hill (115)


Rex (Rogers) (120)


Rogers

(See Rex.)

Sandell (147)


Squillechuck

(See Golden King.)

Sunshine (119)


Tip Top (148)


Wenatchee

(See Golden King.)
Lode Gold Occurrences—Clark County

White Elephant
(See Wilder.)

Wilder (Ivanhoe, White Elephant) (149)
(See also Gold Bond.)


Wye
(See Bobtail.)

CLALLAM COUNTY

Port Angeles (1)


CLARK COUNTY

Golden Wonder (82)


Silver Star (83)

nickel. **Ore min:** Chalcopryte, pyrite, siderite, sphalerite, galena, magnetite. **Gangue:** Quartz and altered country rock. **Deposit:** Mineralized extrusive rock. About 2 tons of ore on the dump. **Dev:** 125-ft. adit, 227-ft. adit. **Assays:** Assays show 0.08 to 0.24 oz. Au, 0.50 to 2.8 oz. Ag, 2.32% Cu, 3.6% to 12.3% Zn, and 0.34% to 0.4% Pb. A 3.8-ft. channel sample showed 0.9% Zn, 0.3% Cu, 0.9 oz. Ag. **Ref:** 111, p. 10, 158.

**COWLITZ COUNTY**

**Green Mountain** (81)

**Loc:** Sec. 6, (5-1E), near Woodland. **Prop:** Deeded land. **Owner:** Margaret Hurtienne, Kelso, Wash. **Ore:** Gold, silver, lead, zinc, copper. **Ore min:** Pyrite. **Deposit:** Fault in andesite, with weak hydrothermal alteration along the walls. Gouge and altered walls contain finely crystalline pyrite. **Dev:** Small open cut. **Assays:** 2 samples showed only traces of gold and very low values in silver, lead, zinc, copper. **Ref:** 157, 158.

**FERRY COUNTY**

**Advance** (224)

**Loc:** Secs. 12 and 13, (36-32E), just S. of Old Republic mine, Republic dist. **Prop:** Patented. Part of Consolidated Mines and Smelting Co., Ltd. property. **Owner:** Consolidated Mines and Smelting Co., Ltd., Wenatchee, Wash. (1940). **Ore:** Gold, silver. **Ref:** 57, p. 2, 158.

**Anecia** (205)

**Loc:** Sec. 33, (37-32E), Republic dist. **Owner:** Dr. May, Republic, Wash. (1940). **Ore:** Gold, silver. **Prod:** Unknown amount in 1940 and 1941. **Ref:** 97. 1940, p. 477; 1941, p. 473.

**Apollo**

(See California.)

**Aurum**

(See Day Mines.)

**Ben Hur** (206)

(See also Day Mines.)

**Loc:** Center of line between secs. 34 and 27, (37-32E). **Elev:** 2,500 ft. **Access:** About 2 mi. NW. of Republic by road on W. side of Eureka Gulch. **Prop:** 1 claim adjoining the Trade Dollar on the south. **Owner:** Day Mines, Inc. (1951 ——). Ben Hur Gold Mining Co. (1907-1908). Ben Hur Mining & Milling Co. (1908). Ben Hur Leasing Co. (1909-1924). Aurum Mining Co. (1935-1950). **Ore:** Gold, silver. **Ore min:** Pyrite. **Gangue:** Quartz, calcite. **Deposit:** 4-ft. quartz vein in propylitic latite porphyry. Com-

Black Tail (Hope) (207)

(See also Day Mines.)


Blaine Republic

(See Republic.)

Boston and Butte

(See Butte and Boston.)

Butte and Boston (Boston and Butte) (225)


California (Apollo) (229)


Day Mines (Aurum)

(See also Surprise, Little Cove, Last Chance. San Poil, Ben Hur, Insurgent, Lone Pine, Tom Thumb, Trade Dollar, Black Tail, Pearl, Quilp, South Penn.)


El Caliph (208)


Eureka

(See Quilp.)

Faithful Surprise

(See Morning Star.)

Flag Hill (226)


Golden Harvest (230)

Gold, silver. **Deposit:** Said to be a 2½-ft. vein with an est. length of 150 ft. **Dev:** 1,600-ft. adit and several shafts. **Assays:** Typical assay said to be 0.21 oz. Au, 2.0 oz. Ag. **Prod:** 800 tons in 1937-1938. **Ref:** 28, pp. 112-116. 97, 1939, p. 490. 104, 6/15/35, p. 27; 2/15/35, p. 30; 9/30/36, p. 29; 1/30/37, p. 30. 106, 1/21/32. 158.

**Golden Valley**

(See Valley.)

**Hawkeye** (201)

**Loc:** NE¼ sec. 6, (37-34E), Belcher dist. **Prop:** 8 claims: Hawkeye, Hawkeye No. 3, Struck Luck, Eagle, Governor Rogers, Laughing Water, St. Bernard, Waterloo. **Owner:** Winnipeg Mining Co. (1907-1918). **Ore:** Gold, silver, copper, iron. **Prod:** 1907. **Ref:** 33, 1907, p. 1164; 1908, p. 1431. 98, 1918, p. 148. 116, no. 11, 1907, p. 27.

**Hope**

(See Black Tail.)

**Ida May** (209)

**Loc:** SW¼ sec. 34, (37-32E), Republic dist. **Access:** 2 mi. by road to railroad. **Prop:** 1 patented claim: Ida May. **Owner:** E. D. Hougland, Republic, Wash. (1941). **Ore:** Gold, silver. **Deposit:** Small vein. **Dev:** 50-ft adit. **Prod:** 1914. **Ref:** 97, 1914, p. 649. 158.

**Imperator**

(See Quilp.)

**Insurgent** (221)

(See also Day Mines.)


**Iron Mask** (210)

**Loc:** Sec. 32, (37-32E). **Access:** 1 mi. from Republic by road. **Prop:** 1 patented claim. **Owner:** P. B. Chapman, Republic, Wash. (1941). **Ore:** Gold, silver. **Deposit:** Said to be an 8-ft. vein with an est. length of 400 ft. **Dev:** 49-ft. adit and other workings total 150 ft. **Assays:** Typical assay said to be 0.12 oz. Au, 0.12 oz. Ag. **Ref:** 28, pp. 92-96.
Knob Hill (211)
(See also Mountain Lion, Rebate.)


Lame Foot
(See Valley.)

Last Chance (222)
(See also Day Mines.)

Little Cove (212)

(See also Day Mines.)


Lone Pine (213)

(See also Day Mines.)


Lucile Dreyfus

(See Morning Star.)

Mineral Hill

(See Morning Star.)

Morning Glory (Old Gold) (214)

Morning Star (Lucile Dreyfus, Faithful Surprise, Mineral Hill, Virginia) (197)

(See also Surprise.)


Mountain Lion (215)

(See also Knob Hill.)


Old Gold

(See Morning Glory.)
Panama (199)

**Loc:** Near N. ¼ cor. sec. 6, (39-34E), Curlew area. **Owner:** Boston-New York Mines Co. (1924-1926). Phoenix Gold & Copper Mining & Milling Co. (1911-1918). National Lead-Silver Co. (1918-1922). **Ore:** Gold, silver, copper, lead, zinc. **Assays:** 22 samples showed nil to 4.6% Cu, 0.25 to 7.12 oz. Au, 1.22 to 89.7 oz. Ag. The av. was 1.71% Cu, 0.98 oz. Au, 24.80 oz. Ag. **Ref:** 98, 1918-1925. 116, no. 2, 1911. pp. 40-41.

Pearl (216)

(See also Day Mines.)


Princess Maude (Southern Republic) (227)

**Loc:** Near center sec. 12, (36-32E), near base of the E. slope of Copper Mtn. **Access:** 1 mi. SW. of Republic by road. **Prop:** 1 claim. **Owner:** Blaine-Republic Co. (1932). Southern Republic Mining Co. (1910). Anaconda Gold Mining & Reduction Co. (1914). Alliance Mining Co. (1915-1926). **Ore:** Gold, silver. **Oremin:** Pyrite. **Gangue:** Quartz, calcite, laumontite. **Deposit:** 2- to 4-ft. vein in propylitic andesite. Vein consists of vitreous white quartz showing lines of crustification parallel to the walls. **Dev:** 70-ft. incline and 200-ft. adit from which a 200-ft. and a 300-ft. drift have been driven. **Assays:** Ore shipped said to average $25 per ton. **Prod:** Has produced. **Ref:** 7, pp. 153-154. 88, pp. 21-22. 98, 1918-1926. 106, 7/21/32, p. 7. 112, pp. 164, 166. 114, no. 5, 1909. 153, pp. 52-53.

Quilp (Imperator, Eureka) (223)

(See also Day Mines.)

**Loc:** Near W. line SW¼ sec. 35, (37-32E), on E. side of Eureka Gulch. **Elev:** 2,800 ft. **Access:** 1 mi. NW. of Republic by road.

Rebate (203)

(See also Knob Hill.)


Republic (Blaine Republic) (223)


Rosario (251)

Loc: Sec. 31, (32-37E) and sec. 36, (32-36E), Covada dist. Access: 28 mi. by road to railroad at Kettle Falls. Prop: 2 unpat-
Lode Gold Occurrences—Ferry County

ented claims. **Owner:** R. V. Messenger, Inchelium, Wash. (1941). **Ore:** Gold, silver. **Deposit:** Crushed and mineralized country rock. **Dev:** 300-ft. adit, 50-ft. adit. **Ref:** 158. 163, p. 31.

**San Poil (217)**

(See also Day Mines.)


**Seattle (218)**

**Loc:** W½NW½ sec. 34, (37-32E), Republic dist. **Prop:** 1 patented claim: Seattle. **Owner:** J. A. Wiseman, Republic, Wash. (1939). **Ore:** Gold, silver. **Dev:** 60-ft. shaft. **Prod:** 1933, 1939. **Ref:** 58, p. 61. 97, 1939, p. 490; 1940, p. 477. 158.

**South Penn (204)**

(See also Day Mines.)

**Loc:** Sec. 22, (37-32E), Republic dist. **Owner:** Day Mines, Inc., Wallace, Idaho (1951 ——). C. Trevitt and E. Pierce, Republic, Wash., leasing from Aurum Mining Co. (1949). **Ore:** Gold, silver. **Gangue:** Quartz. **Assays:** 1945 production of 172 tons yielded $2,168. **Prod:** 1941-1949. **Ref:** 22, p. 11. 68, p. 16.

**Southern Republic**

(See Princess Maude.)

**Surprise (219)**

(See also Day Mines.)


Surprise (198)

(See also Morning Star.)


Tom Thumb (202)

(See also Day Mines.)


Trade Dollar (220)

(See also Day Mines.)


Valley (Golden Valley, Lame Foot) (200)


Virginia

(See Morning Star.)

JEFFERSON COUNTY

Rustler Creek (2)


KING COUNTY

Apex (Bondholders Syndicate) (54)


**Beaverdale (56)**

**Loc:** Secs. 8 and 9, (25-10E), 1/2 mi. up Illinois Cr. from N. Fk. of Snoqualmie R. Vein crops out in canyon which enters Illinois Cr. from the W. **Elev:** 3,000 to 3,720 ft. **Access:** Trail. **Prop:** 6 patented claims. **Owner:** A. S. Ryland, Seattle, Wash. (1947). **Ore:** Gold. **Ore min:** Pyrite, arsenopyrite. **Gangue:** Quartz, gouge. **Deposit:** Altered and brecciated granodiorite along narrow zone of faulting in which are seams of quartz and sulfides up to 20 in. thick. **Dev:** 3 adits; one at 3,370 ft. is caved at portal, another at 3,610 ft. is 55 ft. long, and the other at 3,720 ft. follows vein for 140 ft. **Assays:** Said to run as high as $161 Au. **Ref:** 11-A, pp. 210-213. 158.

**Bondholders Syndicate**

(See Apex.)

**Carmack (60)**

**Loc:** Secs. 7 and 8, (22-11E), on S. Fk. of Snoqualmie R. near Snoqualmie Pass. **Prop:** 5 claims. **Owner:** Carmack Gold & Copper Mining Co. (1902-1918). **Ore:** Gold, silver, lead, copper. **Deposit:** 3 veins 12, 2 1/2, and 1 ft. wide. **Dev:** 375 ft. of tunnel and shafts. **Assays:** 1 oz. to 1 1/2 oz. Au. **Prod:** 20 tons shipped prior to 1901. **Ref:** 33, 1907, p. 447. 88, p. 86. 98, p. 66. 158.

**Coney Basin (55)**

**Loc:** Sec. 13, (25-10E) and sec. 19, (25-11E). **Elev:** 2,100 to 5,800 ft. **Access:** 8 mi. up Miller R. from its mouth by road and 2 mi. by trail. **Prop:** 15 claims: Coney Nos. 1 to 3, Jeanette Nos. 1 to 3, Black Bear, Black Bear Nos. 1 and 2, Jake Nos. 1 and 2, Leona Nos. 1 and 2, Gold Chest, Gold Chest No. 1. **Owner:** Coney Basin Gold Mines, Inc. leasing to John Whitham, Seattle, Wash. (1950-1952). **Ore:** Gold, silver, copper, zinc, lead. **Ore min:** Chalcopyrite, galena, sphalerite, pyrite, tetrahedrite. **Gangue:** Quartz. **Deposit:** Small persistent quartz veinlets along joint planes in granodiorite. Also 1 silicified mineralized zone 4 ft. wide. **Dev:** 1,650-ft. adit, another shorter adit, and some open cuts total about 3,000 ft. **Assays:** Av. of 22 samples gave 0.38 oz. Au, 11.97 oz. Ag. 3 other assays showed 0.24% to 1.30% Cu, 2.6% to 6.9% Pb, 2.9% to 9.1% Zn. 8 tons shipped to smelter in 1941 had 0.86 oz. Au,
19.71 oz. Ag, 0.82% Cu, 6.0% Pb, 6.0% Zn, 1.52% As, 0.26% Sb. **Prod:** 40 tons in 1895, produced in 1934, 1937-1939, 1941. **Ref:** 46, pp. 159-160. 63, p. 36. 97, 1935, 1936, 1939, 1940. 104, 9/31/34, p. 22; 6/15/35, p. 28. 114, no. 5, 1909. 132, p. 87. 147, pp. 154-185. 158. 159, p. 135.

**Damon and Pythias (53)**

**Loc:** Sec. 33, (26-10E), at head of Money Cr., adjoining Apex property. **Elev:** 3,000 ft. **Access:** 1 mi. from end of Apex road, by which it is 6 mi. to railroad at Miller R. **Prop:** 18 unpatented claims. **Owner:** W. J. Priestley, Skykomish, Wash. (1939-1944). National Gold Corp. (1928-1932). **Ore:** Gold, silver, lead. **Ore min:** Arsenopyrite, pyrite, chalcopyrite, galena. **Gangue:** Quartz. **Deposit:** 2 veins, one of which is said to av. 3 ft. in width over distance of more than 900 ft. in granodiorite. **Dev:** 3,000 ft. of crosscut and drifts expose the veins for about 1,500 ft. of length and from 800 to 1,400 ft. of depth. **Improv:** Cookhouse and bunkhouse, 2,300 ft. of track. **Assays:** 23 tons shipped said to run 0.87 oz. Au, 9 oz. Ag, 4% Pb. Mine-run ore said to carry 7.86% As, 0.245 oz. Au, 2.2 oz. Ag. **Prod:** 23-ton shipment reported prior to 1940. **Ref:** 63, p. 39. 97, 1928, p. 700. 104, 4/30/32, pp. 3-4. 106, 9/17/28, pp. 29-30; 5/1/30, p. 20. 157. 158.

**Lennox (59)**

**Loc:** Secs. 7 and 18, (25-10E) and sec. 13, (25-9E), Buena Vista dist. **Elev:** 1,830 to 2,870 ft. **Access:** 23 mi. by road from railroad at North Bend. **Prop:** 45 claims held by possessory title. **Owner:** Priestley Mining & Milling Co. (1940 —) leasing from Lennox Mining & Development Co., Seattle, Wash. **Ore:** Gold, silver, zinc, lead, copper, arsenic, antimony. **Ore min:** Sphalerite, chalcopyrite, pyrite, arsenopyrite, galena. **Gangue:** Quartz, calcite. **Deposit:** Shear zones in granodiorite are persistent to depths and lengths of several hundred ft., but mineralization is irregular. **Dev:** 5 adits and 2 open cuts. Lower crosscut 670 ft. long. 3 diamond drill holes totaling 1,240 ft., 120-ft. drift, 20-ft. drift. **Improv:** 4 bunkhouses, messhall, sawmill, 2 machine shops, a Pelton water wheel, and an 80 KW. generator (1950). **Assays:** A 1-ton lot of picked ore (1938): 1.14 oz. Au, 10.42 oz. Ag, 1.5% Cu, 1.2% Pb, 3.3% Zn, 6.18% As, 0.67% Sb. 8 samples assayed in 1947 ranged from $7.51 to $63.91 Au, Ag, Pb, Zn, Cu. **Prod:** 1-ton test shipment in 1947. **Ref:** 11-A, pp. 213-222. 133, p. 38. 157. 158.

**Lucky Strike (57)**

**Loc:** Secs. 9 and 10, (25-10E), Buena Vista dist. **Elev:** 3,000 to 4,000 ft. **Access:** 2-mi. trail from N. Fk. road about 3½ mi. above mouth of Lennox R. **Prop:** 3 unpatented claims. **Owner:** George and Gary Rutherford, Seattle, Wash. (1947-1951). **Ore:** Gold, silver, copper. **Ore min:** Pyrite, arsenopyrite, chalcopyrite. Gan-

Monte Carlo (58)


Pythias

(See Damon and Pythias.)

San Jose (61)


White River (62)

Loc: Approx. sec. 6, (19-8E), on S. side of Quartz Mtn. Ore: Gold. Deposit: Silicified and altered volcanic rocks associated with the alunite deposits. Dev: 2 adits, one 300 ft. long. Improv: About 1890 a stamp mill was erected to mill the ore but was soon abandoned. Assays: Said to range from 54¢ to $1.40 Au. Ref: 158.

KITTITAS COUNTY

Aurora (Lynch, Paramount) (122)


Cascade Chief (Morrison, First of August, Gladstone) (157)


Clarence Jordin (162)


Cougar (158)


Ewell (Flag Mountain) (161)


First of August

(See Cascade Chief.)

Flag Mountain

(See Ewell.)

Flodine (159)


Gladstone

(See Cascade Chief.)
Golden Fleece (Mercer, T-Bone) (155)


Ida Elmore (125)


Liberty (160)


Lynch

(See Aurora.)

Maud O. (126)


Mercer

(See Golden Fleece.)

Morrison

(See Cascade Chief.)

Mountain Daisy (163)

**Lode Gold Occurrences—Kittitas County**


**Ollie Jordin (164)**


**Paramount**

(See Aurora.)

**Silver Bull (123)**


**Silver Creek (124)**


**T-Bone**

(See Golden Fleece.)

**Wall Street (156)**

OKANOGAN COUNTY

Alder (94)


Alice (186)

(See also Summit, Black Bear, War Eagle.)


Allison

(See Okanogan Free Gold.)

American Flag (Oriental and Central) (87)


American Rand

(See Spokane.)

Bellevue (177)

in. to 3 ft. wide enclosed in slate. Vein av. 15 in. wide. Dev: Small shaft and several open cuts. Assays: A test shipment of 1,000 lb. returned $75 Au, Ag, more than half of which was Au. Prod: Several tons. Ref: 63, p. 100. 154, p. 101.

**Black Bear** (184)

(See also Alice.)


**Bodie (Northern Gold)** (195)


**Bullfrog** (174)


**Butcher Boy** (188)

**Loc:** SW 1/4NW 1/4 sec. 21, (40-30E), Myers Cr. dist. Access: Road from Chesaw. Prop: 2 claims. Owner: Leased by James

Campbell
(See Holden-Campbell.)

Caribou (191)


Central
(See American Flag.)

Chelan (Pennington) (111)

Loc: Near NE. cor. sec. 17, (30-22E), near head of Squaw Cr. on N. side of the valley. Elev: 3,000 ft. Access: Road up Squaw Cr. Prop: At least 7 claims. Owner: Roy Pennington (1943). Ore: Gold, tungsten. Ore min: Scheelite, pyrite, free gold. Deposit: Several mineralized quartz veins from 6 to 24 in. wide along shear zones in diorite. Dev: Caved adit on No. 7 vein and 40-ft. adit on No. 4 vein, also some open cuts. Assays: Gold values of $21 and $161 are reported. Scheelite content less than ¼%. Ref: 37, p. 49.

Chloride Queen (168)


Continental
(See Mazama Queen.)

Crescent
(See Triune.)

Crown Point
(See Imperial.)
Crystal Butte (Mother Lode) (193)


Denver City

(See Leadville.)

Friday (Tom Hal) (107)


Gold Axe (192)


Gold Coin (98)


Gold Crown (171)


Gold Crown (167)

(1951). **Ore:** Gold, silver, copper. **Ore min:** Pyrite, chalcopyrite. **Gangue:** Quartz. **Deposit:** Veins a few inches to 4 ft. thick in granite. **Dev:** 60-ft. shaft and shallow pits. **Assays:** Av. 2 oz. Au, 4 oz. Ag, 4% Cu reported. **Ref:** 150, p. 32. 158.

**Gold Crown**

(See Spokane.)

**Gold Key (88)**

**Loc:** Near NW. cor. sec. 30, (36-20E), about 1,000 ft. NW. of upper workings of Mazama Pride, Mazama dist. **Elev:** 2,500 ft. **Prop:** Part of Mazama Pride group (?). **Owner:** Alva Sharp, Mazama, Wash. (1946). **Ore:** Gold, copper. **Ore min:** Pyrite, arsenopyrite, and some chalcopyrite. **Deposit:** Quartz stringer in diorite mineralized to some extent. **Dev:** 110-ft. adit with a 15-ft. winze. **Assays:** 37 tons shipped av. 0.7 oz. Au. **Prod:** 37 tons of ore shipped in 1931. **Ref:** 158.

**Golden Zone (166)**

**Loc:** Near SE. cor. sec. 7, (40-25E), at base of Mt. Chopaka, Nighthawk dist., 2 mi. S. of the international boundary. **Elev:** 1,500 ft. **Prop:** 5 patented claims. **Ore:** Gold, silver, lead, copper, reportedly molybdenum. **Ore min:** Pyrite, chalcopyrite, free gold, argentiferous galena, occasionally sphalerite and arsenopyrite. **Gangue:** Quartz. **Deposit:** Vein up to 4 ft. thick in granite a short distance from its contact with metamorphic rocks. **Dev:** 5,000 ft. of adits and drifts. **Assays:** Up to $10 Pb, $25 Au, 4 oz. Ag. **Prod:** Prior to 1911, 1939. **Ref:** 63, p. 103. 88, p. 30. 97, 1915, p. 572; 1940, p. 478. 145, p. 95. 154, p. 95.

**Grand Summit**

(See Palmer Summit.)

**Grandview**

(See Leadville.)

**Gray Eagle (189)**

**Loc:** Sec. 16, (40-30E), Myers Cr. dist. **Access:** Road from Chesaw. **Owner:** C. N. Bagwell, M. L. Pierce, Chas. Atchison, lessees, Loomis, Wash. (1941). Patrick Welch estate, Spokane, Wash. (1937). **Ore:** Gold. **Ore min:** Pyrite, free gold. **Deposit:** Small quartz veinlets filling fractures in altered granitic rock. **Prod:** $8,000 in 1916. 1936-1939. **Ref:** 58, p. 27. 97, 1916, 1921, 1923, 1924, 1935, 1937-1940. 104, 10/30/34, p. 22. 113, 4/15/37, p. 7. 158.

**Grubstake (100)**

(See also Holden-Campbell.)

**Loc:** NE¼SW¼ sec. 10, (30-22E), Squaw Cr. dist. **Access:** 1½ mi. up Vinegar Lk. trail from Squaw Cr. road. **Prop:** Part of Holden-Campbell group. **Owner:** S. J. Holden and A. C. Camp-

Hiawatha (Josie) (178)


Hidden Treasure (Sunshine, Triangle) (104)

(See also Highland.)


Highland (Highland Light) (105)

(See also Hidden Treasure.)

Loc: E½ sec. 11 and W½ sec. 12, (30-22E), Squaw Cr. dist. Access: 2 mi. of steep truck road from the Squaw Cr. road. Prop: 7 claims: Highland Light, Hidden Treasure, Buckhorn, Lookout, Sailor Boy, V. O. B., California, and millsite. Owner: Highland Mining & Milling Co. (1948). Ore: Gold, copper, tungsten, zinc. Ore min: Pyrite, chalcopyrite, scheelite, sphalerite. Deposit: Several quartz veins; one, the Sailor Boy, has an av. width of 6 ft. and is exposed for length of 3,000 ft. Dev: Several old adits and shafts totaling 2,000 ft. Assays: 2 to 5 oz. Au, 1% to 9% Zn, and very small percentage of W. Prod: $13,000 from 1938 to 1941 in
gold and zinc. Ref: 37, p. 47. 63, p. 86. 88, p. 38. 97, 1940, p. 478; 1941, p. 474.

Highland Light
(See Highland.)

Holden-Campbell (101)
(See also Grubstake, Hunter, Okanogan.)


Hotchkiss
(See Mazama Pride.)

Hunter (103)
(See also Holden-Campbell.)


Imperial (Crown Point) (86)

Independence (97)


Iron Cap and Snow Cap (90)


Jessie (176)

(See also Triune.)


John Judge

(See Leadville.)

Josie

(See Hiawatha.)

Last Chance (109)


Leadville (John Judge, Denver City, Grandview) (170)

is sparse. **Dev:** 2,500 ft. of adits and shafts. **Prod:** 1937 (15 tons), 1938, 1939. **Ref:** 63, p. 100. 97, 1939, p. 490; 1940, p. 478. 114, no. 5, 1909, p. 80. 154, pp. 104-105. 158.

**London**

(See Methow.)

**Mazama Pride (Hotchkiss) (89)**

**Loc:** N1/2 sec. 30, (36-20E). **Elev:** 2,000 to 2,800 ft. **Access:** About 1/2 mi. N. of Mazama, 56 mi. by road from railroad at Paterson. **Prop:** 9 unpatented claims. **Owner:** H. A. and Edgar Hotchkiss, Winthrop, Wash., and D. W. Tomlinson, Mansfield, Wash. (1946). Danlee Mining Co. (1931). **Ore:** Gold, silver, copper. **Ore min:** Pyrite, arsenopyrite, chalcopyrite. **Deposit:** 2 or 3 quartz veins 1 to 3 ft. thick in diorite. **Dev:** 525-ft. crosscut, 80-ft. drift, 30-ft. drift, 15-ft. shaft, several open cuts. **Assays:** 37 tons shipped reportedly assayed 0.7 oz. Au. Other assays show 1.08 oz. Au, 1.50 oz. Ag. **Prod:** About 37 tons in 1931 and reportedly another shipment in 1939. **Ref:** 52, p. 11. 58, p. 42. 97, 1931, p. 477; 1940, p. 478. 106, 5/7/31; 5/21/31, p. 17; 7/2/31, p. 18. 158.

**Mazama Queen (Continental) (85)**

**Loc:** SE1/4 sec. 14, (36-19E). **Elev:** 2,600 ft. **Access:** 3 mi. NW. of Mazama by road. **Prop:** 3 unpatented claims: Mazama Queen, K. D., Daisy; and 1 millsite. **Owner:** Leybold-Seales, Inc., Tacoma, Wash. (1946). Mazama Queen Mining Co. (1932). Continental Gold Silver Mining Co. (1932-1936). **Ore:** Gold, silver, copper, lead, zinc. **Ore min:** Pyrite, sphalerite, chalcopyrite, galena. **Deposit:** An 8- to 10-in. quartz-calcite vein in altered andesite. **Dev:** 1,000-ft. adit. **Improv:** 50-ton flotation plant, assay office, camp facilities for 15 to 20 men (1939). **Assays:** Ore said to range from $10 to $47 per ton. 4 samples showed 0.32 to 0.44 oz. Au, 1.74 to 4.30 oz. Ag, 8.5% to 10.0% Zn. **Prod:** Test shipments in 1938 and 1939. **Ref:** 97, 1939, p. 490; 1940, p. 478. 104, 5/30/32, p. 26; 4/30/35, p. 29; 12/15/35, p. 26; 2/15/36, p. 31. 106, 5/19/32; 7/7/32, p. 11. 158.

**Methow (London, New London) (106)**

(See also Roosevelt.)

**Loc:** E1/2 secs. 12 and 13, (30-22E) and W1/2 secs. 7 and 18, (30-23E), on NE. slope of Hunter Mtn., Squaw Cr. dist. **Access:** Methow highway crosses E. end of property and is connected with W. end by truck road. **Prop:** At least 4 claims E. of Hunter Mtn. on W. side of Methow R. and at least 3 claims E. of the river. **Owner:** Methow Mining & Milling Co., Seattle, Wash. (1943-1946). Methow Gold & Copper Co. (1902-1924). **Ore:** Gold, silver, copper, tungsten. **Ore min:** Pyrite, chalcopyrite, scheelite. **Deposit:** Mineralized quartz veins from 3 in. to 15 ft. wide; among
them the New London, Homestake, Mineralite, Roosevelt, Tung-

stic, Milwaukee. **Dev:** More than 2,200 ft. of underground work-
ings, of which more than half are W. of the river, also numerous
trenches and open cuts. **Assays:** Av. 0.44 oz. Au, 0.8 oz. Ag, 1% 
Cu, and a small amount of W. **Prod:** $40,000 in gold in 1940-1941. 
**Ref:** 22, p. 8. 33, 1907, p. 784. 37, pp. 47-49. 63, p. 88. 88, p. 35. 98, 1918-1925. 158.

**Mid Range (91)**

**Loc:** Sec. 34, (35-18E), at head of North Cr. **Elev:** 6,000 to
7,760 ft. **Access:** About 5 mi. by trail N. of Gilbert, terminus of
the Twisp R. road. **Prop:** 8 unpatented claims. **Owner:** Bill
Johnson and Corvin Johnson, Winthrop, Wash. (1946). **Ore**:
Gold, silver, copper, zinc. **Ore min:** Pyrite, arsenopyrite, pyrrho-
tite, chalcopyrite, sphalerite. **Deposit:** 2 mineralized quartz veins
in diorite. **Dev:** Several adits and open cuts. **Assays:** Ore shipped
in 1940 av. 1.27 oz. Au, 1.81 oz. Ag, 0.24% Cu. **Prod:** 10 tons
shipped to Tacoma smelter in 1939 and 22 tons in 1940. **Ref:** 58, 
p. 44. 97, 1940, p. 478. 158.

**Minnie (95)**

**Loc:** NW¼ sec. 23, (32-22E), Twisp dist. **Elev:** 2,400 ft. **Ac-
cess:** Road up Leecher Cr. 3½ mi. NE. of Carlton. **Prop:** 4 un-
patented claims. **Owner:** Franklin C. Blocksom, Twisp, Wash. 
(1949). **Ore:** Gold, silver, zinc. **Ore min:** Pyrite, sphalerite, chal-
copyrite, scheelite, marcabite. **Gangue:** Quartz, gypsum, native
sulphur. **Deposit:** Leached and honeycombed quartz vein av. 
3 ft. wide in metamorphic rocks. **Dev:** 160-ft. adit on which is
55-ft. winze, 25-ft. drift, and 30-ft. stope; also several open cuts. 
**Improv:** House (1951). **Assays:** Carload of ore shipped in Nov. 
1945: 0.46 oz. Au, 7.75 oz. Ag. net $667.56. **Prod:** 2 carloads, one
in 1941, one in 1945. **Ref:** 37, pp. 52-53. 43, 1918, p. 309. 68, p. 14. 
97, 1918, p. 42. 158.

**Molson**

(See Poland China.)

**Mother Lode**

(See Crystal Butte.)

**Mountain Beaver (84)**

**Loc:** NW¼SE¼ sec. 15, (38-20E), on Isabella Ridge adjacent
to Billy Goat prospect. **Elev:** 4,400 to 4,800 ft. **Access:** 27 mi. by
road from Winthrop. **Prop:** 3 unpatented claims: Mountain
Beaver, Buckhorn Nos. 1 and 2. **Owner:** H. A. and Edgar Hotch-
(1946). **Ore:** Gold, copper, silver, bismuth. **Ore min:** Pyrite,
chalcopyrite. **Deposit:** Mineralized andesite agglomerate. **Dev**:
4 adits; one 275 ft. long, another with 200 ft. of work, 2 shorter
ones. **Improv:** Cabin and small flotation mill (1949). **Assays:** Crude ore shipped av. 1.53 oz. Au, 1.13 oz. Ag, 1.81% Cu. Minor amount of bismuth reported. **Prod:** Small shipments in 1922, 1931, 1934, 1935. **Ref:** 97, 1931, p. 477; 1935, p. 354. 158.

**New London**

(See Methow.)

**Northern Gold**

(See Bodie.)

**Occident (179)**

(See also Triune.)

**Loc:** Sec. 10, (39-26E), Wannacut Lk. dist. **Prop:** Part of Triune property. **Ore:** Gold, silver. **Ref:** 12, p. 65. 13, p. 104.

**Okanogan (102)**

(See also Holden-Campbell.)

**Loc:** W. of Hunter adit, secs. 10 and 11, (30-22E), Squaw Cr. dist. **Prop:** 1 claim of Holden-Campbell group. **Owner:** Holden-Campbell Mining Co. (1942). **Ore:** Gold, tungsten. **Ore min:** Scheelite. **Deposit:** Quartz vein as much as 8 ft. wide in granodiorite. Vein exposed on surface for at least 300-ft. length and 142-ft. depth. **Dev:** 160-ft. adit (caved 1942). **Assays:** Est. ¼% scheelite. **Ref:** 37, pp. 45-47. 158.

**Okanogan Free Gold (Owasco, Allison) (175)**

**Loc:** SE ¼ NW ¼ sec. 19, (40-27E), on N. side of Similkameen R. **Elev:** 1,200 ft. **Access:** 3 mi. N. of Oroville by road. **Prop:** 5 patented claims. **Owner:** Roy S. Meader, Oroville, Wash., and H. N. North, Omak, Wash. (1938-1941). United Mines Co. (1914). Owasco Gold Mining Co. (1915-1918). **Ore:** Gold, silver. **Ore min:** Pyrite, sphalerite, galena, free gold. **Deposit:** A quartz vein 0 to 12 ft. wide occurs in country rock of limestone, quartzite, and schist. Ore minerals are disseminated in the quartz. **Dev:** 3 adits, glory hole. **Assays:** 2 assays show $3.92 and $5.37 Au, Ag. **Prod:** 1914, 1918, 1936, 1938-1939. **Ref:** 51, pp. 4-5. 58, pp. 3, 52. 63, p. 102. 97, 1914, 1915, 1937, 1939-1940. 100, 1899, p. 80. 112, p. 196. 154, p. 87. 158.

**Oriental and Central**

(See American Flag.)

**Overtop**

(See Poland China.)

**Owasco**

(See Okanogan Free Gold.)
Palmer Mountain Tunnel (173)


Palmer Summit (Grand Summit) (182)


Pateros

(See Sullivan.)

Paymaster (110)


Pennington

(See Chelan.)

Pinnacle (169)

(1935). **Ore:** Gold, copper, lead, zinc, silver. **Ore min:** Free gold, pyrite, chalcopyrite, sphalerite. **Gangue:** Quartz, some calcite. **Deposit:** Quartz vein 4 to 10 ft. wide in altered gabbro, and disseminated ore minerals in sheared gabbro. **Dev:** Approx. 2,000 ft. of workings in 3 adits. **Assays:** $11 Au across the vein 4 to 10 ft. wide. **Prod:** $200,000 prior to 1910 (gold). **Ref:** 99, 3/26/35. 106, 8/2/28, 10/1/31. 114, no. 5, 1909, p. 80. 150, p. 38. 154, p. 105. 158.

**Poland China (Molson, Overtop) (187)**

**Loc:** SW¼SE¼ sec. 11, (40-29E), Myers Cr. dist. **Elev:** 3,850 ft. **Access:** About 4 mi. NW. of Chesaw. 10 mi. to railroad at Mancaster, B. C. **Prop:** 11 patented claims, including the Charles F. and Kismet. Also 160 acres on which deed to mineral rights is held. **Owner:** Overtop Mining Corp., Molson, Wash. (1932-1940). Molson Mining Co. (1907-1918). Mary Ann Creek Mining Co. (1922). **Ore:** Gold, silver, lead. **Ore min:** Pyrite, marcasite, galena. **Deposit:** Quartz vein from a stringer to 14 ft. wide enclosed in graphitic argillite. Av. width 6 ft. **Dev:** 1,500 ft., consisting of a 436-ft. adit, various shafts, and crosscuts. **Assays:** Ore worked in 1911 av. about $4.75 Au, 1 oz. Ag. 2 cars shipped in 1938 assayed $13 Au. **Prod:** More than $100,000 by 1936, 1937, at least 2 cars in 1938, 1939. **Ref:** 63, p. 110. 97, 1907. 91, 1913. 114, 1923, 1934, 1935, 1938-1940. 98, 1925, p. 1823. 104, 7/30/36, p. 25. 106, 7/30/32; 5/19/32; 7/21/32, p. 1; 7/30/32, pp. 23-29. 112, p. 192. 113, 4/15/37, p 7. 116, no. 6, 1907, p. 33. 154, pp. 50-51. 158.

**Rainbow (183)**

**Loc:** NE¼ sec. 22, (39-26E), between Palmer Mtn. and Wannacut Lk. **Elev:** 2,600 ft. **Access:** Road from Loomis or Golden. **Prop:** 5 claims: Rainbow, Mayflower, Coyote, Cottonwood, June Bug. **Owner:** Wannacut-Rainbow Mining Co. (1930). Washington Mining & Development Co. (1892). **Ore:** Gold, silver, copper, lead. **Ore min:** Pyrite, arsenopyrite, chalcopyrite, galena, malachite, limonite, free gold. **Deposit:** Vein consists of quartz lenses enclosed in limestone, quartzite, and schist. The lenses pinch and swell within short distances. **Dev:** 3 adits. **Assays:** Rich free gold samples assayed 50 to 60 oz. Au, 18 to 20 oz. Ag, 2% Cu, 2.9% to 3.5% Pb. **Prod:** Has produced. **Ref:** 12, p. 66. 13, p. 101. 54, p. 3. 63, p. 100. 106, 10/2/30. 154, p. 102.

**Reco (190)**

**Loc:** SW¼ sec. 16, (40-30E), ½ mi. N. of Chesaw, Myers Cr. dist. **Access:** Road. **Prop:** 2 claims: Reco, Pendennis. **Owner:** Reco Gold Mining Co., Bremerton, Wash. (1915-1938). Reco Mining & Milling Co. (1918). **Ore:** Gold, silver, copper. **Ore min:** Arsenopyrite, free gold, chalcopyrite, pyrite, marcasite, bornite.

Red Shirt (93)


Roosevelt (108)

(See also Methow.)

Loc: SW 1/4NW 1/4 sec. 18, (30-23E), ¼ mi. E. of the Methow R., Squaw Cr. dist. Elev: 75 ft. above Methow R. Owner: Methow Mining & Smelting Co. (1930-1945). Ore: Gold, copper, tungsten. Ore min: Pyrite, chalcopyrite, scheelite. Deposit: Quartz vein associated with basaltic dike in gneissic granitic rock. It varies from less than 1 in. to 6 ft. in thickness and av. 2½ to 3 ft. Sulfides occur in pods on walls of the vein. Scheelite is in pockets and stringers throughout the vein. The vein is exposed in adits and on the surface for length of more than 700 ft. and depth of 400 ft. Dev: 665-ft. drift, a lower 240-ft. drift, both caved in 1938. Assays: Less than ¼% scheelite. Assays for the back 180 ft. of the lower adit av. 0.50% to 0.75% WO₃ over an av. width of 2 ft. Lower scheelite values in the upper adit. Ref: 37, p. 49. 40, p. 15. 97, 1929. p. 426; 1930, p. 673. 106, 4/30/30. 158.

St. Anthony (99)


Silver Bell (196)


Silver Ledge (96)


Snow Cap

(See Iron Cap and Snow Cap.)

Spokane (American Rand) (180)

Spokane (Gold Crown) (92)

**Loc:** Sec. 12, (33-21E). **Access:** On Twisp R. road, 2 mi. W. of Twisp. **Prop:** 2 unpatented claims. **Owner:** S. J. Sherwood, Twisp, Wash. (1946). **Ore:** Gold, silver, lead, zinc, copper. **Ore min:** Sphalerite, arsenopyrite, chalcopyrite, pyrite, galena. **Deposit:** Irregular quartz-calcite vein from few inches to 3 ft. thick in andesite. Ore minerals occur in bunches in vein. **Dev:** Several hundred ft. of crosscuts and drifts and some stopes. **Assays:** 6 tons shipped in 1941 assayed 0.40 oz. Au, 20.25 oz. Ag, 4.5% Zn, 3.8% Pb. **Prod:** Small amount in 1939 and 1941. **Ref:** 1, no. 2, 1917, p. 29. 58, pp. 24, 64. 88, p. 36. 97, 1940, p. 478. 105, no. 3, 1906, p. 46. 158.

Sullivan (Pateros)

**Loc:** 5 mi. NW. of Pateros, on E. side of Methow R. **Access:** Mine is across Methow R. from highway, by which it is 5 mi. to railroad at Pateros. **Prop:** 5 claims: Friday, Saturday, Key, Lone Pine, Prince of Paris. **Owner:** J. J. Sullivan, Pateros, Wash. (1947), leasing to Dr. Roy W. Key (1940-1947). Pateros Mining Co. (1943). **Ore:** Gold, silver, copper. **Ore min:** Pyrite, chalcopyrite. **Gangue:** Quartz, carbonate minerals. **Deposit:** Sheared zones up to 6 ft. thick but av. less than 3 ft. in granite along margins of “andesite” dikes contain small scattered pods of shipping-grade ore. **Dev:** 1,200 ft. of underground workings on 3 levels. A block of ore 75 ft. long, 30 ft. high, and up to 6 ft. thick was stoped above the upper adit in early days. **Assays:** $6 to $30 per ton, mostly in gold. 7 tons shipped in 1940 showed 0.63 oz. Au, 0.80 oz. Ag, 0.17% Cu. **Prod:** Reported 60 carloads of ore prior to 1897 valued at $72,000. 1940, 1941. **Ref:** 157. 158.

Summit (172)

(See also Alice.)

**Loc:** Sec. 30, (39-26E), on summit of Palmer Mtn. **Access:** 12 mi. by road to railroad at Tonasket. **Prop:** 1 patented claim: Summit; 7 unpatented claims: Edgeworth, Latakia, Copenhagen, Nicotine, Velvet, Half-and-Half, Tuxedo. **Owner:** R. D. Heffernan, Tonasket, Wash. (1949). Grand Summit Mining Co. (1936-1939). **Ore:** Gold, silver. **Ore min:** Free gold. **Gangue:** Quartz. **Deposit:** 2 veins. **Dev:** 3 shafts totaling 420 ft., 5 adits totaling 1,200 ft. **Assays:** Av. about $20. Mill recovered $1,538 from 85 tons in 1937. **Prod:** 1937 ($1,900), 1938. **Ref:** 52, p. 5. 104, 11/15/36, p. 27. 113, 11/25/36, p. 18. 158.

Sunshine

(See Hidden Treasure.)

Tom Hal

(See Friday.)
Triangle
(See Hidden Treasure.)

Triune (Crescent) (181)
(See also Jessie, Occident.)


War Eagle (185)
(See also Alice.)


Whitestone (194)


PEND OREILLE COUNTY

Deemer (253)

4 ft. in width is said to carry gold and silver. Dev: 200 ft. of adits and numerous open cuts, mostly caved. Ref: 29, p. 38.

**Gilbert (254)**

**Loc:** Sec. 24, (31-44E), Newport dist. Prop: 160 acres of deeded land. Owner: Gilbert Fellen, Newport, Wash. (1941). Ore: Gold. Deposit: Said to be a gold-bearing quartz vein 6 in. wide which has been traced for 200 ft. on the surface. Dev: Caved open cuts. Ref: 29, p. 73.

**Hansen (256)**


**Rocky Creek (252)**


**Sunrise (255)**


**PIERCe COUNTY**

**Bear Gap**

(See Fife under Yakima County.)

**Blue Bell**

(See Fife under Yakima County.)

**Blue Grouse and Sure Thing (65)**

Campbell (66)

**Loc:** Sec. 36, (17-10E), on S. end of Crystal Mtn. at the head of Silver Cr. **Elev:** 5,500 to 6,000 ft. **Access:** 3 mi. by trail from end of Morse Cr. road. **Prop:** 5 unpatented claims. **Ore:** Gold. **Ore min:** Free gold. **Deposit:** Small quartz veins in volcanic rock. Both veins and volcanics reputedly carry gold values. **Assays:** Gold values from 20¢ to a few dollars per ton. **Ref:** 158.

Fife

(See under Yakima County.)

New Deal

(See Washington Cascade.)

Pickhandle

(See Fife under Yakima County.)

Seigmond Ranch (63)

**Loc:** Sec. 30, (17-5E), 1 mi. from Clay City. **Owner:** E. J. Cowan, Tacoma, Wash. (1952 ——). Seigmond Gold Mining Co. (1920). **Ore:** Gold. **Ore min:** Free gold. **Deposit:** Vein 20 to 40 ft. wide of free-milling gold-bearing quartz. **Assays:** Gold values are very low. **Ref:** 69-A, p. 15. 130, pp. 112-113. 158.

Silver Creek (67)

**Loc:** Sec. 25, (17-10E), at headwaters of Silver Cr. and its tributaries, Summit dist. **Access:** Trail from end of road at head of Silver Cr. **Owner:** J. B. Garrard and H. H. Lentz (1945). **Ore:** Gold, silver, copper, zinc, lead. **Ore min:** Pyrite, chalcopyrite, pyrrhotite, some marcasite, sphalerite, and arsenopyrite. **Gangue:** Quartz, calcite. **Deposit:** Altered and silicified andesite is mineralized along narrow joints and in places heavily impregnated with pyrite. **Dev:** 42-ft. shaft, 23-ft. drift, 300-ft. crosscut, 25-ft. adit, 38-ft. adit, 70-ft. adit, several open cuts. **Assays:** 100 tons shipped reportedly ran more than $50 per ton. **Prod:** 100 tons of ore prior to 1945; 3 oz. Au, 14 oz. Ag, 100 lb. Pb in 1941. **Ref:** 97, 1941, pp. 484, 487. 104, 8/15/34, p. 23. 158.

Silver Creek Gold & Lead (64)

**Loc:** Sec. 12, (17-10E), Summit dist. **Access:** 35 mi. by road to railroad at Enumclaw. 60 mi. by road to copper smelter at Tacoma. **Prop:** 6 unpatented claims and a millsite. **Owner:** Silver Creek Gold & Lead Corp., Seattle, Wash. (1951 ——). **Ore:** Gold, silver, lead, zinc, copper. **Ore min:** Arsenopyrite, pyrite, chalcopyrite, galena, sphalerite. **Deposit:** Rhyolite cut by fault zone 1 to 4 ft. wide containing limy gouge and bands of quartz with sulfides. **Dev:** 100-ft. crosscut with 100-ft. drift. **Improv:** Small cabin, rails, mine car, 10-ton ore bin (1951). **Prod:** 20 tons (1945) reported to have contained $89.75 per ton in gold, silver, lead,
copper. Unknown amount of placer gold has been produced from stream gravels. Ref: 133, p. 39. 157.

Sure Thing

(See Blue Grouse and Sure Thing.)

Tacoma

(See Washington Cascade.)

Washington Cascade (New Deal, Tacoma) (68)


SKAGIT COUNTY

Devils Mountain

(See Mount Vernon.)

Mount Vernon (Devils Mountain, Pacific) (27)

Loc: S 1/2 sec. 4, NE 1/4 sec. 9, N 1/2 sec. 10, and NW 1/4 sec. 11, (33-4E), on Devils Mtn. Elev: 250 to 1,750 ft. Access: 4 1/2 mi. SE. of Mount Vernon by road. 1 1/2 mi. by road from railroad. Prop: 2,100 acres. Owner: Pacific Nickel Co. (1941-1943). Ore: Nickel, gold. Ore min: Chromite, free gold, nickeliferous ankerite, marmasite, pyrite, bravoite. Gangue: Quartz, chaledony, carbonates. Deposit: Fault zone between serpentine and sandstone is made up of silica-carbonate rock with a central core of sulfide-bearing breccia. Silica-carbonate rock portion is 2 mi. long and 100 to 400 ft. wide. Sulfide breccia is in small lenses along the core. Dev: 300 ft. of adits and 6,375 ft. of diamond drilling. Assays: 157 assays on 2,598 ft. of core av. 0.0195 oz. Au, 0.251% Ni. Prod: Test shipments only. Ref: 60. 81. 158.

Pacific

(See Mount Vernon.)

Soldier Boy (26)

SKAMANIA COUNTY

Brown and Livingston (79)

Loc: On Granite Cr., a tributary of McCoy Cr., 3 mi. above the mouth of McCoy Cr., probably in sec. 15, (10-8E). Ore: Gold, silver. Assays: $6.00 to $30.00 Au, Ag. Ref: 158.

Bruhn (74)

Loc: Sec. 10, (10-8E), adjacent to property of Camp Creek Metals Mining Co., McCoy Cr. dist. Ore: Gold. Ore min: Sulfides. Ref: 158.

Camp Creek (75)


Golconda (72)


Grizzly Creek (73)


Johnson (76)


Livingston

(See Brown and Livingston.)

Perry (77)


Plamondon (80)

Loc: SW 1/4 SE 1/4 sec. 7, (8-8E), on N. side of Quartz Cr. Elev: 2,800 ft. Access: 3½ mi. by trail from end of road. Prop: 26 un-
patented claims (1943). 3 unpatented claims (1954). **Owner:** Plamondon Brothers Mining Co. (1939 ——). Plamondon Indian Mines, Inc. (1940-1944). **Ore:** Gold, silver. **Gangue:** Chaledonic quartz. **Deposit:** Chaledonic quartz in iron-stained tuff is reportedly mineralized. **Dev:** Short adit, open cut. **Assays:** As high as $68 reported. **Ref:** 158.

**Primary Gold** (78)

**Loc:** Sec. 10, (10-8E), on both sides of Camp Cr. **Access:** 4 mi. by trail from the end of Niggerhead road. **Prop:** 17 unpatented claims: Jim Nos. 1 to 6; Inez Nos. 1 to 4; Eva Nos. 1, 2, and 5; Jim No. 8; Ialine; O Bill; Orell. **Owner:** Primary Gold Co., Yakima, Wash. (1938). **Ore:** Gold, silver, and platinum reported. **Deposit:** 30-ft. ledge of coarsely crystalline pyrite in quartz gangue. This carries only traces of gold, but narrow stringers of free gold in quartz cut the pyrite. **Dev:** Numerous open cuts, some placer mining. **Assays:** Said to range from $2.10 to $1,500.00 per ton. **Prod:** Has produced (probably small amount). **Ref:** 58, p. 55. 158.

**SNOHOMISH COUNTY**

**Ben Butler** (43)

**Loc:** NE¼ sec. 6, (28-11E), on W. side of Silver Cr. **Owner:** David Fergerson. **Ore:** Gold. **Deposit:** 12- to 15-ft. vein carrying 12 to 30 in. of ore. **Dev:** 60-ft. adit. **Ref:** 14, p. 29. 63, p. 32.

**Ben Lomond**

(See Rainy.)

**Blue Bird** (28)

**Loc:** Sec. 24, (32-9E) and sec. 19, (32-10E), Darrington dist. **Prop:** Several claims. **Owner:** Pacific Nickel Co., Mount Vernon, Wash., leasing from Earl Scott, Bellingham, Wash. (1943-1944). Sauk River Mining Co. (1907). Albert Hawkinsion (1908). **Ore:** Gold, copper, silver, nickel. **Ore min:** Chalcopyrite, pyrrhotite. **Deposit:** Vein av. 8 ft. in width. **Dev:** 200 to 300 ft. of adits. **Assays:** High-grade ore runs $30 per ton. **Prod:** Small amount reported about 1940. **Ref:** 14, p. 8. 22, p. 9. 33, 1907, p. 1011. 49, p. 10. 88, p. 62. 159, p. 134.

**Bonanza**

(See Mineral Center.)

**Calumet** (48)

**Loc:** Near center N½ sec. 27, (29-10E), in Sultan Basin. **Elev:** 4,600 to 5,000 ft. **Access:** About ½ mi. from road. 26 mi. to railroad at Sultan. **Prop:** Calumet claim. **Owner:** Sultan Basin Mining Co., Robert Curtis, lessee, Monroe, Wash. (1951). **Ore:** Gold,
silver, copper, zinc. **Ore min:** Chalcopyrite, pyrrhotite, marcasite, arsenopyrite, sphalerite, galena. **Deposit:** Quartz vein from 6 to 24 in. wide along a fracture zone in metamorphic rocks. **Dev:** 250-ft. adit, 9 open cuts. **Assays:** Tr. to 1.03 oz. Au, 0.56 to 5.33 oz. Ag, 0.48% to 6.50% Cu, 0.10% to 4.85% Zn. **Ref:** 23, pp. 62, 65-68. 37, p. 56. 150, p. 30.

**Caplin-Holbrooke** (38)

**Loc:** Sec. 33, (29-11E), on the E. Fk. of Silver Cr. about 2 mi. N. of Mineral City. **Prop:** 9 claims: Gold Eagle, New Strike, Last Chance, Mt. Beauty, Fortunate Monarch, Silver Queen, Good Grub, Cougar, Two Hams. **Ore:** Gold, silver, copper. **Deposit:** 10-ft. vein with two 12-in. paystreaks of ore. **Dev:** 75-ft. adit. **Assays:** As high as $90 Au, Ag, Cu. **Ref:** 13, pp. 159-160. 14, p. 29.

**Clara Thompson**

(See Jasperon.)

**Commonwealth**

(See Jasperon.)

**Copper Independent (Independent) (32)**

**Loc:** NE¼ sec. 19, (30-10E), at mouth of Silver Gulch, ½ mi. SE. of Silverton. **Elev:** 3,000 ft. **Access:** Road from Silverton. **Prop:** 3 claims. **Owner:** Leased from Lambda Chemical Corp. by Ore Recoveries Corp. (1943). Copper Independent Consolidated Mining Co. (1902-1908). **Ore:** Gold, silver. **Ore min:** Pyrite, arsenopyrite. **Gangue:** Sheared granite and quartz. **Deposit:** Mineralized shear zone in granite contains ore bodies from 100 to 200 ft. in dia. and 2 to 3 ft. wide. **Dev:** 3 adits, drifts, and raises totaling about 700 ft. **Assays:** 0.6 to 0.7 oz. Au. **Prod:** 1 carload of picked ore shipped to Everett smelter prior to 1901. **Ref:** 14, pp. 39-40. 22, p. 9. 33, 1907, p. 518; 1908, p. 557. 43, 1902, p. 832. 46, pp. 164-165. 63, p. 18. 88, p. 68. 114, no. 5, 1909, pp. 98-99. 158.

**Dahl**

(See Eclipse.)

**Del Campo**

**Loc:** On the E. slope of the ridge dividing the Sawk, Sultan, and Stilaguamish watersheds, overlooking Crater Lk., 2½ mi. W. of Monte Cristo. **Prop:** 3 claims. **Owner:** Del Campo Metals Co. **Ore:** Gold, silver, copper. **Ore min:** Chalcopyrite. **Deposit:** 10- to 30-ft. fracture zone that can be traced for 2,000 ft. on the surface. **Dev:** 25-ft. adit, several open cuts. **Assays:** Surface ore runs $44.86 Au, Ag, 13.8% Cu. **Ref:** 14, p. 23. 63, p. 14. 105, 1909, p. 871.
Eclipse (Dahl) (33)


Edison (49)

(See also Mineral Center.)


“45” (Magus) (34)


Glory of the Mountain (35)

pyrite. **Deposit**: Wide mineralized fracture zone contains an ore body 20 ft. wide. **Dev**: 40-ft. adit. **Assays**: $21 to $27 Au, $1.80 to $4.80 Ag. **Prod**: Has produced. **Ref**: 14, p. 23. 58, p. 24. 63, p. 16.

**Golden Chord**

(See Justice.)

**Good Hope** (39)


**Great Northern** (47)

**Loc**: NW¼ sec. 35, (29-8E), on S. side of Sultan R. **Access**: Road up Sultan R. **Prop**: 3 claims. **Ore**: Gold, copper, silver. **Ore min**: Chalcopyrite, pyrite. **Deposit**: Mineralized shear zone 60 ft. wide along a contact between granite and slate. Ore minerals are disseminated throughout the zone. **Assays**: Av. of 6 assays showed $32 Au, $3.45 Cu, $1.76 Ag. **Ref**: 14, pp. 47-48. 63, p. 25.

**Independent**

(See Copper Independent.)

**Index Gold Mines, Inc.** (45)

**Loc**: Secs. 18 and 19, (28-11E), Silver Cr. dist. **Access**: Road. **Prop**: 5 unpatented claims: Daily West, Daily West No. 1, LeRoy, Snow Shoe, Virtue. **Owner**: Henry Siepmann, Seattle, Wash. (1942). **Ore**: Gold, silver, lead, zinc. **Ore min**: Arsenopyrite. **Deposit**: Said to be a vein more than 18 in. wide. **Dev**: 300-ft. adit. **Assays**: Typical assay said to be 5.4 oz. Ag, 6.4% Pb, 2.5% Zn, 11.5% As. **Prod**: Reportedly shipped 10 tons of ore per day in 1939. **Ref**: 14, p. 28. 46, p. 168. 158.

**Iowa**

(See Washington-Iowa.)

**Jasperson (Clara Thompson, Webster, Commonwealth, McCombs)** (44)

**Loc**: Sec. 36, (29-10E) and sec. 6, (28-11E), N. of the Bear claim on S. slope of Mineral Mtn., on W. side of the W. Fk. of Silver Cr. **Elev**: 3,400 ft. **Access**: Truck road. **Prop**: 17 unpatented claims, including: Sigma, Bullion King. **Owner**: Leased by W. Eggart, Seattle, Wash. (1941). Mrs. Clara Thompson and
Lawrence Thompson, Index, Wash. (1938). McCombs & Co. (1934). Ore: Gold, silver, copper, lead, mercury, vanadium. Ore min: Cinnabar, pyrite, arsenopyrite, chalcopyrite, galena, sphalerite, stibnite, vanadinite. Gangue: Quartz. Deposit: Narrow mineralized fracture zones in granodiorite. Ore shoots are sporadic and only 3 to 8 in. wide. Dev: Adit more than 30 ft. long and other workings said to total 3,000 ft. Assays: 8 samples show 0.02 to 0.44 oz. Au, tr. to 19.20 oz. Ag, tr. to 4.5% Cu, 0.8% to 15.1% Pb. Ref: 13, p. 160. 14, pp. 30, 34, 38. 58, p. 72. 63, p. 30. 158.

Justice (Golden Chord) (40)


Last Chance (46)


Louise

(See Mineral Center.)

McCombs

(See Jasperson.)

Magus

(See "45".)

Mineral Center (Bonanza, Edison, Louise, Washington-Iowa) (50)

(See also Edison, Washington-Iowa.)


Monte Cristo (Mystery, Pride) (37)

Mystery
(See Monte Cristo.)

North Star
(See Sunrise.)

Oldfield
(See Sunrise.)

Peabody (41)
(See also Sidney.)

Cristo. **Prop:** 1 patented claim: Remnant; 6 unpatented claims: Gene Elton, Lincoln, Sheridan, Kittie Mackay, Grant, Sidney. **Owner:** Louis H. McRae, Everett, Wash. (1949). Kitty A. Peabody, Edmonds, Wash. (1936). **Ore:** Gold, silver, lead, zinc. **Ore min:** Arsenopyrite, pyrite, galena, sphalerite. **Gangue:** Quartz and altered andesite. **Deposit:** Mineralized fracture zone in andesite ranges from a few in. to 18 in. wide. **Dev:** 200-ft. adit, several short adits and open cuts. **Assays:** 0.3 to 0.6 oz. Au, 1 to 35 oz. Ag. **Prod:** 1905. **Ref:** 14, p. 21. 97, 1905, p. 336. 114, no. 5, 1909, p. 103. 157. 158.

**Pride**

(See Monte Cristo.)

**Queen Anne** (29)

**Loc:** SE¼ sec. 27, (32-9E), on Jumbo Mtn., Darrington dist. **Owner:** Ole and Pete Nesta, Darrington, Wash. (1942). **Ore:** Gold, silver, copper, lead, zinc. **Ore min:** Chalcopyrite, galena, sphalerite, arsenopyrite, bornite. **Gangue:** Quartz. **Deposit:** Ore minerals associated with quartz in a 3-ft. fracture zone in granite. **Dev:** 1 adit. **Assays:** Tr. to $550 Au, tr. to $60 Ag, tr. to $35 Cu. **Ref:** 14, p. 10.

**Rainy (Ben Lomond)** (36)

**Loc:** Sec. 22, (29-11E), ¼ mi. NE. of Monte Cristo. **Elev:** 3,000 ft. **Access:** Trail from Monte Cristo. **Prop:** 3 claims. **Owner:** J. F. Birney, Everett, Wash. (1930-1940). Ben Lomond Mining Co. (1914-1915). **Ore:** Gold, silver. **Ore min:** Arsenopyrite, pyrite. **Deposit:** Mineralized fracture zone in schist and andesite. Main ore body is 300 ft. in dia. and 8 in. to 5 ft. wide. **Dev:** 800-ft. adit, 200-ft. shaft. **Assays:** 862 tons shipped to smelter in 1913 to 1915 av. 0.633 oz. Au, 2.20 oz. Ag, 19.6% As. **Prod:** 20,000 tons of ore reported. **Ref:** 13, p. 149. 14, pp. 21-22. 63, p. 13. 97, 1914, p. 651; 1915, p. 572. 149, p. 814. 158.

**Sidney** (42)

(See also Peabody.)

**Loc:** Sec. 27, (29-11E), Monte Cristo dist. **Prop:** 1 unpatented claim (part of Peabody group). **Owner:** L. H. McRae, Everett, Wash. (1950). **Ore:** Gold, silver, copper. **Ore min:** Pyrite, chalcopyrite. **Gangue:** Quartz. **Dev:** Small amount. **Ref:** 13, p. 150. 14, p. 25. 114, no. 5, 1909, p. 104. 149, p. 833. 157.

**Sunrise (North Star, Oldfield)** (30)

**Loc:** NE¼NE¼ sec. 29, (32-9E). **Access:** 5 mi. by road to railroad near Darrington. **Prop:** 4 claims. **Owner:** W. E. Oldfield, Seattle, Wash. (1951-1952). **Ore:** Gold, silver, copper, lead, zinc, molybdenum. **Ore min:** Chalcopyrite, galena, molybdenite,
arsenopyrite, sphalerite, pyrite. **Gangue:** Quartz. **Deposit:** Narrow fractures cutting granite are filled with quartz and ore minerals. **Dev:** 2 adits aggregating 155 ft. **Assays:** 0.08 to 0.55 oz. Au, 1.3 to 9.1 oz. Ag, 0.8% to 1.67% Cu, 0.1% Mo, 9% As. **Ref:** 14, p. 10. 133, p. 40.

**Undaunted (51)**

**Loc:** Sec. 31, (29-11E), on Mineral Mtn., Silver Cr. dist. **Prop:** 4 claims. **Ore:** Gold, silver. **Ore min:** Pyrite. **Deposit:** 6 mineralized shear zones that range from 1 1/2 to 6 ft. in width and carry from 6 to 36 in. of ore. **Dev:** 35-ft. adit and several open cuts. **Assays:** $12 to $70 per ton. **Ref:** 14, p. 38. 63, p. 29.

**Washington-Iowa (52)**

(See also Mineral Center.)

**Loc:** Sec. 32, (29-11E), Silver Cr. dist. **Owner:** Mineral Center Mining Co. (1924-1951). Washington-Iowa Copper Mining Co. (1907-1918). **Ore:** Copper, lead, zinc, gold, silver. **Ref:** 33, 1908, p. 1414. 98, 1918-1926. 105, 1910, p. 63. 112, p. 209. 116, p. 1, 1907, p. 18.

**Wayside (31)**

**Loc:** SE1/4 sec. 8, (30-7E), 1 1/2 mi. E. of Granite Falls. **Elev:** 1,200 to 1,500 ft. **Access:** 1 1/2 mi. above the Yankee Boy property by road. 10 mi. from railroad at Hartford. **Prop:** 15 patented claims. **Owner:** F. G. DeShane, Seattle, Wash. (1943-1953). Wayside Mining Co. (1905). American Copper Co. (1924). Riverside Minerals Co. (1928). Vanguard Metals, Inc., Everett, Wash. (1936-1939). **Ore:** Copper, gold, silver, lead, zinc, vanadium. **Ore min:** Chalcopyrite, pyrite, galena, sphalerite, bornite. **Gangue:** Cherty quartz. **Deposit:** Vein 6 to 18 in. wide cutting slate and siliceous limestone. **Dev:** Shaft and 7 levels, 6 under water. **Assays:** 0.01 to 0.25 oz. Au, 6 to 10 oz. Ag, 10% Cu. The reported occurrence of vanadium has not been verified. **Prod:** About $500,000 worth of high-grade ore shipped. **Ref:** 14, p. 13. 40, p. 37. 97, 1905, 1919, 1924, 1928. 104, 12/30/33, p. 29. 158.

**Webster**

(See Jasperson.)

**STEVENS COUNTY**

**Acme**

(See F. H. and C.)

**Antelope (246)**

**Loc:** Sec. 20, (39-38E), Orient dist. **Elev:** 3,650 ft. **Access:** Near road. **Prop:** 1 unpatented claim. **Owner:** Abandoned (1941). **Ore:** Gold, copper. **Ore min:** Pyrite, pyrrhotite, chal-
copyrite, melanite. **Gangue:** Quartz. **Deposit:** 2½- to 4-ft. vein in Jumbo volcanics. **Dev:** Inclined shaft about 100 ft. deep. **Assays:** Sample taken across the vein said to assay $26.25. **Prod:** 50 tons of ore said to have been mined. **Ref:** 30, p. 135. 164, p. 251.

**Beecher (235)**

**Loc:** Near center sec. 31, (40-37E), Orient dist. **Elev:** 2,500 ft. **Access:** 2 mi. NE. of Rockcut by road. **Owner:** Beecher Gold Mining Co. (1909-1924). **Ore:** Gold, silver, copper, lead. **Ore min:** Free gold, pyrite, sylvanite, galena, limonite, calcopyrite. **Gangue:** Quartz, calcite. **Deposit:** 2 quartz veins, one 4 to 24 in. wide, another as much as 8 ft. wide. Country rock is schist and Rossland volcanics cut by diabase. **Dev:** 65-ft. shaft with 115-ft. drift at bottom. Other short drifts. **Assays:** Av. $4 to $24 Au, high-grade $136 to $296 Au. **Prod:** 2 shipments aggregating 22 tons prior to 1913. **Ref:** 7, p. 38. 97, 1915, p. 575; 1916, p. 616. 98, 1918, 1922, 1925. 114, 8/09, p. 60. 164, p. 285.

**Benvenue**
(See Gold Reef.)

**Charity**
(See F. H. and C.)

**Easter Sunday (237)**


**Eureka (Eureka and Orient, Indian, Orient Eureka) (236)**

**Loc:** Secs. 13, 24, and 25, (40-36E), E. of Kettle R., Orient dist. **Elev:** 2,485 ft. **Access:** 5 mi. by road from railroad at Rockcut. **Prop:** 11 patented and 14 unpatented claims. **Owner:** Orient Eureka Gold Mines Co., Tacoma, Wash. (1951). **Ore:** Gold, silver, lead, zinc, copper. **Ore min:** Galena, calcopyrite, spha-
erite, pyrite. **Deposit:** Several quartz veins in schist and diabase. **Dev:** 1,500 ft. workings in adits, shafts, and open cuts. **Assays:** Some veins returned $32 Au, others $60 Pb and Zn. **Prod:** Produced in 1890's. **Ref:** 108, 9/39, p. 30. 164, p. 292.

**Eureka and Orient**

(See Eureka.)

**F. H. and C. (Faith, Hope, and Charity; or Acme) (233)**

**Loc:** Secs. 19 and 30, (40-37E), Orient dist. **Elev:** 2,600 ft. **Access:** 5 mi. NE. of Rockcut by road. **Prop:** 3 patented, 10 unpatented claims. **Owner:** Goldstake Mining Corp. (1941). F. H. & C. Gold Mining Co. (1918-1920). Acme Consolidated Mines, Inc. (1930). **Ore:** Gold, silver. **Ore min:** Pyrite. **Deposit:** 3- to 5-ft. quartz vein. **Dev:** 250-ft. shaft with drifts on 4 levels, total 1,500 ft. Large amount of open-cut work. **Assays:** Smelter shipment said to return 2.36 oz. Au, 1.9 oz. Ag. **Prod:** 1 small shipment to Tacoma smelter about 1917, produced 1929. **Ref:** 1-B, 7/21/32, p. 1. 30, p. 118. 97, 1918, p. 510; 1930, p. 667. 98, 1920-1925. 104, 6/15/35, p. 27; 2/29/36, p. 28; 12/15/36, p. 27. 112, p. 178. 113, April-May 1934, p. 15. 158. 164, pp. 277-278.

**Faith**

(See F. H. and C.)

**First Thought (239)**


**First Thought Extension (240)**

**Loc:** Sec. 18, (39-37E), SE. of the First Thought property, Orient dist. **Access:** Near road. **Prop:** Several claims. **Owner:** May be part of holdings of the Gold Syndicate Corp. **Ore:** Gold. **Ore min:** Pyrite. **Deposit:** Latite flows cut by monzonite dikes. Numerous fault zones in both formations are mineralized by
pyrite said to carry gold. **Dev:** 650 ft. of work in main adit. **Assays:** Said to assay up to $400 Au. **Ref:** 30, p. 135. 114, no. 5, 1909, p. 59. 164, p. 261.

**Gem (244)**

**Loc:** Sec. 19, (39-37E), on N. slope of First Thought Mtn., 6 mi. NE. of Orient. **Elev:** 3,440 ft. **Access:** Road. **Prop:** 4 un patented claims. **Owner:** Paul Anderson, Colville, Wash. (1941). **Ore:** Gold. **Ore min:** Auriferous pyrite. **Gangue:** Quartz. **Deposit:** Lavas and interbedded sediments cut by monzonite and fine-grained granite dikes. Ore occurs in a 4-ft. fracture zone in one of the granite dikes. **Dev:** 250-ft. adit, 105-ft. shaft, and 4 drifts from 12 to 60 ft. long. **Assays:** Some selected samples assayed $1,000 Au. Ore said to av. $40 per ton. **Prod:** 1939. **Ref:** 30, p. 123. 97, 1940, p. 480. 106, 7/21/32, p. 1. 158. 164, p. 271.

**Gold Bar (248)**

**Loc:** Secs. 15 and 22, (37-38E). **Elev:** 1,600 to 2,100 ft. **Access:** 1,000 ft. E. of State Highway 22 by road. 1½ mi. to railroad at Evans. **Prop:** 120 acres of deeded land in 8 patented claims: Mayflower Nos. 1 to 6 and Contact Nos. 1 and 2. **Owner:** Gold Bar Mining Co., Bossburg, Wash. (1948-1950). **Ore:** Gold, silver, copper, lead, zinc. **Ore min:** Pyrite, tetrahedrite, sphalerite. **Deposit:** Quartz veins from ½ in. to 8 in. wide filling fractures in quartzite and argillite. Veins sparsely mineralized. Small tonnage of ore exposed. **Dev:** About 1,000 ft. of workings in 4 adits and 2 inclines. **Assays:** 7 assays show from 0.005 to 0.15 oz. Au, 1.2 to 62.0 oz. Ag, tr. to 1.3% Pb, tr. to 1.7% Zn, tr. to 0.3% Cu. 1.02% to 2.70% As. **Prod:** 400-lb. test shipment to Bunker Hill smelter prior to 1945. **Ref:** 30, pp. 80-81. 69, p. 8. 158.

**Gold Ledge (249)**

**Loc:** SW¼ sec. 4, (36-38E), Kettle Falls dist. **Access:** Near road. **Prop:** 460 acres of deeded land. **Owner:** Franklin Good (1941). Silver Queen Mining Co. (1934-1935). **Ore:** Gold, silver. **Deposit:** Quartz vein along contact of argillite and porphyry. **Dev:** 150-ft. inclined shaft, large open cut. **Assays:** 6 tons shipped netted $40 per ton Au, Ag. **Prod:** 6 tons in 1934. **Ref:** 30, p. 56. 97, 1935, p. 355. 99, 1/8/35. 104, 12/15/34, p. 22. 113, April-May 1934, p. 5.

**Gold Reef (Benvenue, Golden Reef) (250)**

**Loc:** SW¼SE¼ sec. 9, (36-38E), on top of hill, Kettle Falls dist. **Elev:** 3,100 ft. **Access:** Road. **Prop:** 4 unpatented claims. **Owner:** William Setzen and Ross Morehead, Colville, Wash. (1949). Bunker Hill & Sullivan Mining & Concentrating Co. (1932). M. I. Stellman and G. F. Grundy (1938). **Ore:** Gold, silver, copper. **Deposit:** Quartz vein said to av. 2 to 3 ft. wide

Golden Hope
(See Sunday.)

Golden Reef
(See Gold Reef.)

Homestake (245)


Hope
(See F. H. and C.)

Indian
(See Eureka.)

Kettle River
(See White Elephant.)

Michigan (241)


Orient Eureka
(See Eureka.)
St. Crispin (247)


Second Thought (243)


Sunday (Sunday Morning Star, Golden Hope) (251)


Sunday Morning Star

(See Sunday.)

Swamp King (234)

Titanic (Valley Dew) (238)


Trophy (242)


Valley Dew

(See Titanic.)

White Elephant (Kettle River) (232)


WHATCOM COUNTY

Allen Basin (15)


Anacortes (14)


Anoka (22)


Azurite (25)

Beck and Short Grub (16)


Bonita
(See New Light.)

Boundary Gold
(See Lone Jack.)

Boundary Red Mountain (Red Mountain) (7)


Brooks-Willis
(See Lone Jack.)

Chancellor (Indiana) (17)

veinlets fill fractures along shear zones in quartzite. Zones are 3 to 12 in. wide. **Dev:** 2 levels 250 ft. apart; one is a 225-ft. adit and the other is an adit with 650 ft. of drifts and crosscuts. **Assays:** 119.4 tons shipped av. 0.735 oz. Au, 3.48 oz. Ag. **Prod:** 1903, 119.4 tons in 1935-1939. **Ref:** 58, p. 33. 104, 8 30/36, p. 26; 10/30/36, p. 32. 114, no. 2, 1906, p. 22; no. 5, 1909, p. 90. 158. 159, p. 133.

**Eureka**

(See New Light.)

**Evergreen** (8)

**Loc:** NW 1/4 sec. 21, (40-9E), on Swamp Cr., 2 mi. N. of Shuksan Cabins. **Elev:** 200 ft. above Swamp Cr. **Access:** Across the creek from Swamp Cr. road. **Prop:** 8 unpatented claims: Evergreen Nos. 6 to 13. **Owner:** Bert Lowry, Bellingham, Wash. (1943). Evergreen Mines, Inc., Seattle, Wash. (1937). **Ore:** Gold, silver, lead, zinc, copper. **Ore min:** Sphalerite, galena, pyrite, chalcopyrite. **Gangue:** Quartz, calcite. **Deposit:** Small ore stringers from ½ in. to 8 in. wide in argillite. Pyrite is also disseminated in the argillite. **Dev:** 2 drifts 40 and 30 ft. long. **Assays:** Ore said to av. $17.00 in all values. **Prod:** Shipped to Tacoma smelter in 1938. **Ref:** 158.

**Galena**

(See Verona.)

**Garrett** (5)

**Loc:** SW 1/4 sec. 4 and SE 1/4 sec. 8, (40-9E), on S. side of Red Mtn., Mt. Baker dist. **Elev:** 5,000 and 7,000 ft. **Access:** Trail from Twin Lakes. **Prop:** 7 unpatented claims. **Owner:** John Curtis, Victor Todd, Bert Boyer, Bellingham, Wash. (1952). Garrett Bros., Sumas, Wash. (1940). **Ore:** Gold, silver, copper, lead, zinc. **Ore min:** Sphalerite, galena, chalcopyrite, pyrite, malachite, chalcocite, azurite, massicot, pyrrhotite. **Deposit:** Mineralized quartz vein in limestone and a band of mineralized siliceous limestone in argillite and quartzite. The vein av. 12 in. in width for a length of 20 ft. **Dev:** Open cut on upper property and a 2000-ft. adit on the lower property, also a second adit. **Assays:** A 5-ton test shipment av. 1.03 oz. Au, 4.34 oz. Ag, 0.78% Cu. 8% Pb and Zn reported from upper adit. **Prod:** A 5-ton test shipment was made to the Tacoma smelter in 1940. **Ref:** 58, p. 23. 158.

**Goat** (18)

(See also New Light.)

**Loc:** SW 1/4 sec. 33, (38-17E), SW. of and adjacent to the Allen Basin claims, Slate Cr. dist. **Prop:** Part of the Slate Creek group (1950). **Owner:** Slate Creek Mining Co. (1950). **Ore:** Gold. **Prod:** Produced many years ago. **Ref:** 158.
Goat Mountain (11)

**Loc:** On Goat Mtn., 4 mi. from Shuksan and 1 mi. E. of Swamp Cr., Mt. Baker dist. Probably in sec. 28, (40-9E). **Prop:** 2 claims. **Ore:** Gold. **Ore min:** Pyrite, free gold. **Deposit:** Quartz vein 6 to 12 in. wide, 450 ft. long. **Dev:** Open cuts. **Assays:** Possibly $60 to $70 Au. **Prod:** Small amounts in 1902 and 1903. **Ref:** 158.

Gold Run (6)


Golden Arrow
(See Tacoma.)

Great Excelsior (Lincoln, President) (4)

**Loc:** Sec. 6, (39-8E), W. of Wells Cr. and S. of N. Fk. of Nooksack R. **Elev:** 1,400 to 2,500 ft. **Access:** 2 mi. by trail from the Nooksack Forest Camp. **Prop:** 10 claims and 2 fractions. **Owner:** Great Excelsior Mining Co., H. E. Barnes, Bellingham, Wash. (1902-1952). Hammond Mining Co. (1914-1926). **Ore:** Gold, silver. **Ore min:** Pyrite, chalcopyrite, arsenopyrite, galena, sphalerite, tellurides, native silver. **Gangue:** Quartz, dolomite. **Deposit:** Brecciated greenstone cemented by sulfides. 2 mineralized zones; one is 75 ft. wide and said to be all paying ore. **Dev:** Several adits and a large stope total several hundred ft. of workings. **Assays:** 64 samples showed tr. to 0.08 oz. Au, the av. being 0.02 to .03 oz. In some samples Ag av. 2.0 oz. **Prod:** 10,000 tons with net return of $20,276 to 1915. 305.095 tons of conc. shipped av. 1.857 oz. Au per ton. **Ref:** 1, 1914, pp. 51-53. 88, pp. 43-44. 98, 1918-1926. 112, p. 182. 114, no. 5, 1909, p. 87. 119, no. 2, 1913, pp. 1-3. 145, p. 96. 158. 159, p. 132.

Indiana
(See Chancellor.)

Lambert
(See Lone Jack.)

Lincoln
(See Great Excelsior.)

Lone Jack (Mount Baker, Post-Lambert, Brooks-Willis, Boundary Gold) (9)


Mammoth (19)


Monica

(See New Light.)

Mount Baker

(See Lone Jack.)

New Light (Eureka, Bonita, Slate Creek, Monica) (20)

(See also Goat.)

ft. on 6 levels. **Improv:** Camp buildings and 100-ton flotation mill (1951). **Assays:** Early work, $30 to $40 Au, later work 0.2 to 0.4 oz. Au, in 1950 about $12 Au. **Prod:** 60,000 tons of ore in the 1900's and several tons of good-grade ore in 1940 to 1942. Small amount 1949. **Ref:** 1, no. 2, 1917, p. 29. 46, pp. 234-235. 63, p. 57. 88, p. 47. 97, 1907, 1935, 1938-1940. 99, 2/26/35. 104, 6/15/32, p. 18; 10/30/34, p. 22; 9/30/35, p. 24; 8/30/36, p. 26; 11/30/36, p. 29. 105, 1895, p. 106. 106, 6/4/31; 8/3/33. 114, no. 2, 1906, p. 22; no. 5, 1909, pp. 88, 90. 150, p. 39. 158. 159, p. 133.

**Nooksack (3)**

**Loc:** Near E. ¼ cor. sec. 35, (40-4E), Mt. Baker dist. **Elev:** 1,200 ft. **Access:** Trail. **Prop:** 3 properties: Nooksack, Givens-Nooksack, Land-Nooksack. **Owner:** Nooksack Mining Co. (1903). **Ore:** Gold. **Ore min:** Gold-bearing sulfide. **Deposit:** Small quartz stringers in andesite. **Dev:** More than 1,500 ft. of underground workings, mostly caved. **Assays:** It is reliably reported that more than 50 channel samples av. $2 Au at the old price. **Prod:** Probably produced. **Ref:** 88, p. 44. 105, 4/04, p. 236. 158. 159, p. 131.

**North American (Velvet) (23)**

**Loc:** Sec. 11, (37-16E), between Boulder Cr. and Mill Cr., Slate Cr. dist. **Elev:** 4,300 ft. **Prop:** 10 unpatented claims. **Owner:** North American Mining & Milling Co. (1902-1915). **Ore:** Gold, silver. **Ore min:** Free gold. **Gangue:** Quartz. **Deposit:** 6 veins. **Dev:** 240-ft. adit, 28-ft. adit, 22-ft. adit, 2 other old adits. **Assays:** Av. $15 Au, Ag (1934). **Prod:** Has produced. **Ref:** 88, p. 50. 114, no. 5, 1909. 116, no. 10, 1907, p. 18.

**Post-Lambert**

(See Lone Jack.)

**President**

(See Great Excelsior.)

**Red Mountain**

(See Boundary Red Mountain.)

**Ruth Mountain Pyrite** (13)

**Loc:** On Ruth Mtn., approx. in secs. 17 and 20, (39-10E), Mt. Baker dist. **Elev:** 2,500 to 6,600 ft. **Access:** Trail from Ruth Cr. road. **Owner:** Abandoned (1949). **Ore:** Gold, iron. **Ore min:** Pyrite. **Deposit:** Said to be 4 veins; one on top of the mountain 30 ft. wide, one halfway down 15 ft. wide, one nearly down 20 ft. wide, and one near the river 10 to 15 ft. wide. **Dev:** Short crosscut adit on 15-ft. vein. **Assays:** Reportedly 28¢ to $176.00 Au. **Ref:** 158.
Lode Gold Occurrences—Whatcom County

Saginaw (10)


Short Grub
(See Beck and Short Grub.)

Slate Creek
(See New Light.)

Tacoma (Golden Arrow) (21)


Velvet
(See North American.)

Verona (Galena) (12)


Whistler (24)

Willis
(See Lone Jack.)

YAKIMA COUNTY

Bear Gap
(See Fife.)

Blue Bell
(See Fife.)

Crown Point (69)


Fife (Bear Gap, Pickhandle, Manitau, Blue Bell) (70)

Loc: Sec. 31, (17-11E), along the Cascade crest from Bear Gap to Crown Point. Elev: 5,000 to 6,000 ft. Access: Road up Morse Cr. from Chinook Pass highway reaches within ½ mi. of the property. Prop: 2 patented claims: Cold Spring, Silver Reef; and 12 unpatented claims. Owner: Manitau Mining & Milling Co. (1941). Ore: Gold, silver. Ore min: Free gold. Deposit: Small quartz veinlets in volcanic rock. Volcanic rock itself reputedly carries gold values. Assays: 90 channel samples 10 to 20 ft. in length over an area 1,200 by 1,800 ft. showed an av. value of $1.37 Au. Prod: 1896. Ref: 13, p. 162. 63, p. 44. 158.

Gold Hill (71)


Manitau
(See Fife.)

Pickhandle
(See Fife.)
Lode Gold Properties

1. Port Angeles
2. Rustler Creek
3. Nooksack
4. Great Excelsior
5. Garet
6. Gold Run
7. Boundary Red Mountain
8. Evergreen
9. Lone Jack
10. Saginaw
11. Goat Mountain
12. Verona
13. Ruth Mountain Pyrite
14. Anaacutes
15. Allen Basin
16. Beck and Short Grub
17. Chancellor
18. Goat
19. Mammoth
20. New Light
21. Tacoma
22. Tokska
23. North American
24. Whister
25. Azurite
26. Soldier Boy
27. Mount Vernon
28. Blue Bird
29. Queen Anne
30. Sunrise
31. Wayside
32. Copper Independent
33. Eclipse
34. "45"
35. Glory of the Mountain
36. Rainy
37. Monte Cristo
38. Caplin-Holbrooke
39. Good Hope
40. Justice
41. Peabody
42. Sidney
43. Ben Butler
44. Jaspers
45. Index Gold Mines, Inc.
46. Last Chance
47. Great Northern
48. Calumet
49. Edison
50. Mineral Center
51. Undaunted
52. Washington-Iowa
53. Daron and Pythias
54. Apex
55. Coney Basin
56. Beverdale
57. Lucky Strike
58. Monte Carlo
59. Lennox
60. Carmack
61. San Jose
62. White River
63. Seigmuend Ranch
64. Silver Creek Gold & Lead
65. Blue Grouse and Sure Thing
66. Campbell
67. Silver Creek
68. Washington Cascade
69. Crown Point
70. Fife
71. Gold Hill
72. Golconda
73. Grizzly Creek
74. Brunn
75. Camp Creek
76. Johnson
77. Perry
78. Primary Gold
79. Brown and Livingstone
80. Plamondon
81. Green Mountain
82. Golden Wonder
83. Silver Star
84. Mountain Beaver
85. Mazama Queen
86. Imperial
87. American Flag
88. Gold Key
89. Mazama Pride
90. Iron Cap and Snow Cap
91. Mid Range
92. Spokane
93. Red Shirt
94. Alder
95. Minnie
96. Silver Ledge
97. Independence
98. Gold Coin
99. St. Anthony
100. Grubstake
101. Holt-Donnelly
102. Okanogan
103. Hunter
104. Hidden Treasure
105. Highland
106. Methow
107. Friday
108. Roosevelt
109. Last Chance
110. Paymaster
111. Chelan
112. Hidden Treasure
113. Holden
114. Red Cap
115. Red Hill
116. Butte
117. Kingman and Pershall
118. Pangborn
119. Sunshine
120. Rex
121. Cook-Galbraith
122. Aurora
123. Silver Bull
124. Silver Creek
125. Ida Emore
126. Maod O
127. Alta Vista
128. Black and White
129. Black Jack
130. Biewett
131. Blue Bell
132. Bobtail
133. Culver
134. Eureka
135. Faction
136. Golden Eagle
137. Hummingbird
138. La Rica
139. North Star
140. Olden
141. Olympia
142. Peshastin
143. Phipps
144. Phoenix
145. Pole Pick
146. Prospect
147. Sandell
148. Top Tip
149. Wilder
150. Lucky Queen
151. Blinn
152. Ontario
153. Gold Knob
154. Golden King
155. Golden Fleece
156. Wall Street
157. Cascade Chief
158. Cougar
159. Flodine
160. Liberty
161. Ewell
162. Clarence Jordan
163. Mountain Daisy
164. Ollie Jordan
165. Palmer
166. Golden Zone
167. Gold Crown
168. Chloride Queen
169. Pinnacle
170. Leadville
171. Gold Crown
172. Summit
173. Palmer Mountain Tunnel
174. Bullfrog
175. Okanogan Free Gold
176. Jessup
177. Bellevue
178. Hiawatha
179. Occident
180. Spokane
181. Triune
182. Palmer Summit
183. Rainbow
184. Black Bear
185. War Eagle
186. Alice
187. Poland China
188. Butcher Boy
189. Gray Eagle
190. Reco
191. Caribou
192. Gold Axe
193. Crystal Butte
194. Whitestone
195. Bodie
196. Silver Bell
197. Morning Star
198. Surprise
199. Panama
200. Valley
201. Hawkeye
202. Tom Thumb
203. Rebate
204. South Penn
205. Aneela
206. Ben Hur
207. Black Tail
208. El Caliph
209. Ida May
210. Iron Mask
211. Knob Hill
212. Little Cove
213. Lone Pine
214. Morning Glory
215. Mountain Lion
216. Pearl
217. San Point
218. Seattle
219. Surprise
220. Trade Dollar
221. Insurgent
222. Last Chance
223. Quip
224. Advance
225. Butte and Boston
226. Flag Hill
227. Princess Maude
228. Republic
229. California
230. Golden Harvest
231. Rosario
232. White Elephant
233. F. H. and C.
234. Swamp King
235. Beecher
236. Eureka
237. Easter Sunday
238. Titanic
239. First Thought
240. First Thought Extension
241. Michigan
242. Trophy
243. Second Thought
244. Gem
245. Hemestake
246. Antelope
247. St. Crispin
248. Gold Bar
249. Gold Ledge
250. Gold Reef
251. Sunday
252. Rocky Creek
253. Deemer
254. Gilbert
255. Sunrise
256. Hansen
Placer Gold Properties

1. Shi Shi Beach
2. Ozette Beach
3. Little Wink
4. Morgan
5. Morrow
6. Yellow Banks
7. Main and Bartnes
8. Johnson Point
9. Cedar Creek
10. Sunset Creek
11. Ruby Beach
12. Moclips River
13. Oyut
14. Point Brown
15. Ocean Park
16. Fort Canby
17. Sand Island
18. Scougal
19. Jackass
20. Combination
21. Lazy Tar Heel
22. Nip and Tuck
23. Alice Mac
24. Woodrich
25. Farrar
26. Ruby Creek
27. Johnnie S.
28. Old Discovery
29. Anacortes
30. Day Creek
31. Darrington
32. Deer Creek
33. Granite Falls
34. Peterson
35. Alpha and Beta Canyon
36. Sultan Canyon
37. Aristo
38. Horseshoe Bend
39. Sultan River
40. Sultan
41. Gold Bar
42. Bench
43. Phoenix
44. Money Creek
45. Tolt River
46. Raging River
47. Elizabeth
48. Gold Links
49. Gold Hill
50. Ogren
51. River Creek
52. Hudson and Meyers
53. Surveyors Creek
54. Texas Gulch
55. Lewis River
56. McMunn
57. Brush Prairie
58. Similkameen
59. Similkameen Falls
60. Meadows
61. Ballard
62. Methow River
63. Cassimer Bar
64. Stehekin River
65. Railroad Creek
66. Deep Creek
67. Mad River
68. Entiat River
69. Icicle Creek
70. Leavenworth
71. Wenatchee River
72. Wednesday
73. Wenatchee
74. Ingalls Creek
75. Ruby Creek
76. Bloom
77. Solita
78. Shaver Creek
79. Nigger Creek
80. Fortune Creek
81. Big Salmon La Sac
82. Oie Elum
83. Bear Cat
84. Baker Creek
85. Naneum Creek
86. Boulder Creek
87. Nugget
88. Old Bigney
89. Becker
90. Bryant Bar
91. Deepa
92. Swauk Mining & Dredging
93. William Creek
94. Gold Bar
95. Swauk Creek
96. Yakima River
97. Perry
98. A. B. C.
99. Chinaman Bar
100. Artesian Coulee
101. Gone Busted
102. Beaver Island
103. Cuba Line
104. Walker
105. Altoona
106. Deadman Creek
107. Mary Ann Creek
108. Groenius Creek
109. Marcella
110. Alva Stout
111. Crouse
112. Rico
113. Gold Bar
114. Reed and Roberts
115. Nigger Creek Bar
116. Northport Bar
117. Nigger Bar
118. Evans
119. Schierding
120. Harvey Bar
121. Sullivan Creek
122. Schultz
123. Kettle River
124. China Bend
125. Ninemile Bar
126. Bossburg Bar
127. Valbush Bar
128. Brod-Hurst
129. Marcus
130. Holsten
131. Daisy
132. Collins
133. Johnson
134. Stranger Creek
135. Turtle Rapids
136. Blue Bar Island
137. Blue Bar
138. Rogers Bar
139. Wilmont Bar
140. Gibson Bar
141. Ninemile
142. Covington Bar
143. Bacon Bar
144. Hellgate Bar
145. Plum Bar
146. Barnell
147. Clark
148. Keller Ferry
149. Winkelman Bar
150. Creston Ferry
151. Kirby Bar
152. Peach Bar
153. Indian Bar
154. Clarkson
155. Snake River
PLACER GOLD OCCURRENCES

ASOTIN COUNTY

Clarkston Placer (154)


Snake River Placer (155)


BENTON COUNTY

Artesian Coulee Placer (100)


Berrian Island (Goody) Placer (102)


Blalock Island Placer


Gone Busted Placer (101)


Goody Placer

(See Berrian Island Placer.)
CHELAN COUNTY

Bloom Placer (76)


Deep Creek Placer (66)


Entiat River Placers (68)


Icicle Creek Placers (69)


Ingalls Creek Placer (74)


Leavenworth Placer (70)


Mad River Placer (67)


Nigger (Negro) Creek Placers (79)


Peshastin Creek Placers


Railroad Creek Placer (65)

Ruby Creek Placer (75)

**Loc:** Sec. 36, (23-17E), at mouth of Ruby Cr. **Prop:** 6 claims. **Owner:** James and Thomas Lynch, Riley Eisenhour, and Thomas Medhurst (1897). **Ore:** Gold. **Ref:** 67, p. 48.

Shaser Creek Placer (78)

**Loc:** SE ¼ sec. 14, (22-17E), near mouth of Shaser Cr. **Ore:** Gold. **Assays:** Gold is of high purity. **Prod:** Unknown amount. **Ref:** 67, p. 48. 144, p. 9.

Solita Placer (77)

**Loc:** On Peshastin Cr. **Ore:** Gold. **Prod:** Unknown amount in 1931. **Ref:** 67, p. 49.

Stehekin River Placers (64)

**Loc:** Along Stehekin R. **Ore:** Gold. **Ref:** 13, p. 174.

Wednesday Placer (72)

**Loc:** On Wenatchee R. near Dryden. **Ore:** Gold. **Prod:** Unknown amount in 1931. **Ref:** 67, p. 49.

Wenatchee Placer (73)

**Loc:** Sec. 3, (22-20E), at Wenatchee. **Ore:** Gold. **Ref:** 67, p. 49.

Wenatchee River Placer (71)

**Loc:** Sec. 22, (24-18E), on Wenatchee R. 1½ mi. below Peshastin. **Owner:** W. M. Keene and O. A. Benjamin, Seattle, Wash. (1897). **Ore:** Gold. **Assays:** As much as $1.00 per yd. **Prod:** Unknown amount. **Ref:** 67, p. 49.

**CLALLAM COUNTY**

**Bartnes Placer**

(See Main and Bartnes Placer.)

**Big Wink Creek Placer**

(See Morgan Placer.)

Cedar Creek (Starbuck) Placer (9)

**Loc:** Near mouth of Cedar Cr. in E½ sec. 18, (29-15W). **Elev:** Sea level. **Access:** Up the beach 10 mi. N. of La Push. **Owner:** J. M. Starbuck (1917). **Ore:** Gold, platinum. **Ore min:** Free gold, platinum, ilmenite, magnetite, chromite, zircon. **Deposit:** Gold and platinum occur in a beach placer in a 2- to 15-in. sand layer on the surface of a wave-cut bench in clay. The sand layer is said to be 400 ft. long and 100 ft. wide at low tide. **Assays:** Said to yield from 2 to 5 pennyweights of Au and Pt per cu. yd. Ratio of Pt to Au ranges from 1:5 to 1:15. **Prod:** Reported $5,000 in gold and 5 oz. of crude platinum prior to 1917. **Ref:** 126, pp. 3-5.
Japanese Placer
(See Little Wink Placer.)

Johnson Point Placer (8)


Little Wink (Japanese, Sand Point) Placer (3)


Lovelace Placer
(See Shi Shi Beach Placer.)

Main and Bartnes Placer (7)


Morgan (Big Wink Creek) Placer (4)


Morrow Placer (5)


Ozette Beach Placer (2)

**Placer Gold Occurrences—Clark County**


**Sand Point Placer**
(See Little Wink Placer.)

**Shi Shi Beach (Lovelace) Placer (1)**

**Loc:** Beach between Portage Head and Point of Arches in sec. 18, 19, and 30, (32-15W). **Elev:** Sea level. **Access:** Road from Neah Bay reaches place on cliff above the beach. **Owner:** W. W. Lovelace (1908). **Ore:** Gold, platinum, iridium, osmium. **Ore min:** Magnetite, ilmenite, free gold, platinum, iridosmine, zircon. **Deposit:** Beach deposit in which a thin layer of fine heavy sand rests on a wave-cut terrace in sandstone overlain by 1 to 3 ft. of gravel and sand. Gold and platinum are found in the thin layer and in cracks in the bedrock. **Assays:** A conc. showed 1,120 lb. ilmenite, 96 lb. zircon, $558.90 gold, $20.45 platinum per ton. **Prod:** $15,000 in gold prior to 1904 from this and the Ozette placer. **Ref:** 3, pp. 154-156. 38-A, pp. 1218-1219. 47, vol. 17, 1906, p. 467. 97, 1908, p. 578. 126, p. 14. 135-A, p. 232.

**Starbuck Placer**
(See Cedar Creek Placer.)

**Sunset Creek Placer (10)**

**Loc:** Sec. 19, (29-15W). **Ore:** Gold, platinum. **Ref:** 158.

**Yellow Banks Placer (6)**

**Loc:** 2 mi. S. of Sand Point in SW1/4 sec. 18, (30-15W). **Elev:** Sea level. **Access:** Reached by hiking S. along beach from the Ozette R. or N. from La Push. **Owner:** D. J. Wright (1917). **Ore:** Gold, platinum. **Ore min:** Free gold, platinum, ilmenite, magnetite. **Deposit:** Beach deposit of gold and platinum concentrated on surface of a wave-cut terrace in Pleistocene drift. **Prod:** Small amount in early 1900 and in 1939. **Ref:** 3, pp. 156-157. 47, vol. 17, p. 467. 97, 1940, p. 476. 126. 135-A, p. 233. 141, p. 103.

**CLARK COUNTY**

**Brush Prairie Placer (57)**

**Loc:** On Brush Prairie. **Ore:** Gold. **Ore min:** Free gold, magnetite, ilmenite. **Deposit:** Placer “black sands.” **Assays:** A sample of conc. showed 1,176 lb. magnetite, 328 lb. ilmenite, $57.05 gold per ton (1905). **Ref:** 38-A, pp. 1218-1219. 126, p. 14.

**Lewis River Placer (55)**

**Loc:** 5 mi. E. of Moulton on the Lewis R., 1 mi. above McMunn placer. **Elev:** 850 ft. **Access:** Road up E. Fk. Lewis R. **Owner:** Company in Portland, Oregon (1912). **Ore:** Gold. **Deposit:** Placer gravel in river bed. **Dev:** Pit 75 by 100 ft. and 30 ft. deep.
**Improv:** $30,000 hydraulic mining outfit (1912). **Assays:** 1 oz. Au recovered from 1 ton of black sand. **Prod:** 1 oz. of gold. **Ref:** 126, pp. 6-7.

**McMunn Placer (56)**

**Loc:** On E. Fk. Lewis R. about 4 mi. E. of Moulton. Approx. sec. 21, (4-4E). **Elev:** 800 ft. **Access:** Road up E. Fk. Lewis R. **Prop:** 1 placer claim. **Owner:** Harvey McMunn (1912). **Ore:** Gold, platinum. **Ore min:** Free gold, platinum, magnetite, hematite, limonite. **Deposit:** Gold and platinum occur in a thin veneer of gravel on bedrock and in cracks in the bedrock. Gold but not platinum found also in higher terrace gravels. **Assays:** Panning tests indicate the pay gravel to contain 0.126 gm. Pt, 1.14 gm. Au. **Prod:** McMunn reports $150 in gold and 1½ oz. platinum. **Ref:** 126, pp. 6-9. 130, p. 85. 141, p. 103.

**DOUGLAS COUNTY**

**Columbia River Placer**

**Loc:** Columbia R. **Ore:** Gold. **Ore min:** Gold, magnetite, chromite, ilmenite, zircon, monazite. **Assays:** 13 lb. of black sand recovered from 1 cu. yd. of gravel showed 1,414 lb. magnetite, 150 lb. chromite, 188 lb. ilmenite, 24 lb. zircon, 6 lb. monazite, $30.59 gold per ton (1905). **Ref:** 38-A, pp. 1218-1219. 126, p. 14.

**Trouble Placer**

**Loc:** On Columbia R. at Stevenson’s Ferry landmark. **Prop:** 1 placer claim. **Owner:** Mrs. Rebecca Stevenson, Barry, Wash. (1938). **Ore:** Gold. **Assays:** One man panned $105 in 5 days. **Ref:** 158.

**FERRY COUNTY**

**Alva Stout Placer (110)**

**Loc:** NW¼ sec. 2, (36-32E), Republic dist. **Ore:** Gold. **Prod:** 1934. **Ref:** 97, 1935, p. 353.

**Bacon Bar Placer (143)**

**Loc:** N½ sec. 15, (28-33E), on N. side of Columbia R., about 1 mi. upstream from mouth of Sanpoil R. **Ore:** Gold. **Assays:** 15 samples showed 8¢ to 13¢ per cu. yd. **Ref:** 158.

**Blue Bar Island Placer (136)**

**Loc:** Bar in Columbia R. near mouth of Stray Dog Cr., sec. 12, (31-36E). **Ore:** Flour gold. **Deposit:** Flour gold occurs in surficial layer of gravel in low bar. Said to be renewed by annual freshets. **Assays:** Panning tests indicate that a miner with sluice or rocker might wash out 50¢ worth per day. **Ref:** 26, p. 66. 122, p. 177.
Covington Bar Placer (142)

**Loc:** Sec. 9, (28-33E), on N. side of Columbia R. **Owner:** Henry Covington (1934). **Ore:** Gold. **Assays:** 19 test holes showed no values of importance except in a small area of less than 1 acre, where 5 holes tested gave an av. of 30¢ per cu. yd. **Ref:** 158.

Daisy Placer (131)

**Loc:** On W. bank of Columbia R., 2 mi. above Daisy. Approx. in sec. 1, (33-37E). **Ore:** Gold. **Deposit:** Terraces 20 to 30 ft. above river level contain a 6-in. paystreak at a depth of 1 ft. **Assays:** Samples of the paystreak ran 2¢ or 3¢ per cu. yd. **Ref:** 26, p. 68.

Goosmus Creek Placer (108)

**Loc:** On Big Goosmus Cr., Danville area. **Owner:** A. E. Milton and Roy Hathaway, Curlew, Wash. (1950). **Ore:** Gold. **Deposit:** Placer deposit containing many boulders, along narrow creek bottom. **Improv:** Small sluicing outfit (1949). **Ref:** 69, p. 9. 158.

Hellgate Bar Placer (144)

**Loc:** Lot 5, sec. 13, (28-33E), N. side of Columbia R. **Owner:** United States. **Ore:** Gold. **Deposit:** A high bar had gravel 2½ to 3 ft. thick showing values of 21.8¢ per cu. yd. A lower bar had 7 or 8 acres of gravel 2 to 3 ft. thick av. 27¢ per cu. yd. A low bench 2 mi. long and 300 ft. to ½ mi. wide contains an iron-stained gold-bearing layer about 6 in. thick, 100 to 600 yd. wide, and 2 mi. long. **Assays:** The 6-in. paystreak av. 1¢ to 5¢ per cu. yd. **Prod:** Small amount in early 1900's. **Ref:** 26, pp. 62-63. 158.

Johnson Placer (133)

**Loc:** On bank of Columbia R. in NE¼ sec. 8, (32-37E). **Prop:** 1 placer claim. **Owner:** W. Johnson. **Ore:** Gold. **Deposit:** Paystreak consists of 1 to 3 ft. of medium- to fine-textured gravel beneath 4 to 8 ft. of sand. **Dev:** Pit 2,000 cu. yd. in size. **Assays:** Av. of 5¢ per yd. from the pit. **Prod:** $100 reported. **Ref:** 122, pp. 177-178.

Kettle River Placers (123)

**Loc:** Along Kettle R. **Ore:** Gold. **Ref:** 13, p. 174.

Kirby Bar Placer (151)

**Loc:** Secs. 15 and 16, (27-35E), on N. side of Columbia R., opposite Peach. **Owner:** J. M. Kirby, Peach, Wash. (1934). **Ore:** Gold. **Assays:** Panning indicated 38.7¢ per cu. yd. **Ref:** 158.

Marcella Placer (109)

**Loc:** On Granite Cr., Republic dist. **Ore:** Gold. **Prod:** 1939. **Ref:** 97, 1940, p. 477.

Ninemile Placer (141)

**Loc:** On Columbia R. near mouth of Ninemile Cr., probably
in sec. 16, (29-35E). Ore: Gold. Ore min: Flake gold worth 0.02¢ per flake and much flour gold. Deposit: 2 terraces, one 30 ft. and the other 100 ft. above Columbia R. Paystreaks as much as 1 to 3 ft. thick in the terraces. Dev: Old Chinese workings extend \( \frac{3}{4} \) mi. along the river and 200 ft. back from the river. Assays: Paystreak av. a little more than 40¢ per yd. Ref: 26, pp. 64-65.

Plum Bar Placer (145)


Rico Placer (112)


Rogers Bar Placer (138)

Loc: Sec. 23, (30-36E), on W. bank of Columbia R., 2 mi. below the town of Hunters. Prop: Bar is about 3½ mi. long. Owner: Colville Indian Reservation. Ore: Gold, platinum. Deposit: 3 bars, 30, 75, and 100 ft. above the river, include 1,500 acres of land. The best pay gravel is found in bars exposed only at low water. Assays: Tests indicate paystreaks in the lower bar to run 1¢ to 50¢ per yd. in gold. Prod: 4 operators were working in 1934. Ref: 26, pp. 65-66. 97, 1935, p. 352. 158.

Stout Placer

(See Alva Stout Placer.)

Stranger Creek Placer (134)

Loc: At mouth of Stranger Cr., opposite Gifford. Ore: Gold. Deposit: Bar contains a 1- to 3-ft. paystreak at a depth of 7 ft. Sampling indicates the paystreak to have a very limited extent. Assays: Panning tests indicate the paystreak runs 5½¢ to 40¢ per cu. yd. Ref: 26, p. 67.

Turtle Rapids Placer (135)


Wilmont Bar Placer (139)

Loc: Lot 6, sec. 4, (29-36E), on N. bank of Columbia R., opposite Gerome post office. Ore: Gold, cerium, thorium. Ore min:
Monazite, magnetite, ilmenite, zircon, free gold. **Deposit:** 2 terraces, one 20 and the other 100 ft. above Columbia R. In lower terrace gold occurs in surficial 1 to 5 ft. of material. **Assays:** Lb. per ton: magnetite, 1,308; ilmenite, 150; monazite, 30; zircon, 60; gold, $1.65 per ton. Panning tests indicate a value of 10¢ to 14¢ gold per cu. yd. in lower bar and a fraction of a cent per cu. yd. in the upper bar. **Prod:** 1934. **Ref:** 26, p. 65. 38-A, pp. 1218-1219. 97, 1935, p. 352. 126, p. 15. 158.

**GRANT COUNTY**

**A. B. C. Placer (98)**

**Loc:** Sec. 22, (18-23E). **Ore:** Gold. **Ref:** 158.

**Chinaman Bar Placer (99)**


**GRAYS HARBOR COUNTY**

**Cow Point Placer**

**Loc:** On ocean beach, at Cow Point. **Ore:** Gold. **Deposit:** Ocean beach placer. **Assays:** A large sample showed 0.02 oz. Au per ton. **Ref:** 38-A, pp. 1218-1219. 126, pp. 13-14.

**Moclips River Placer (12)**

**Loc:** Sec. 8, (20-12W). **Ore:** Gold. **Ref:** 158.

**Oyht Placer (13)**

**Loc:** On ocean beach at Oyht. **Ore:** Gold. **Deposit:** Beach placer. **Assays:** 72¢ Au per ton. **Ref:** 38-A, pp. 1216-1217. 126, p. 14.

**Point Brown Placer (14)**

**Loc:** Secs. 15 and 23, (17-12W). **Ore:** Gold. **Ref:** 158.

**JEFFERSON COUNTY**

**Ruby Beach Placer (11)**

**Loc:** E1/2NE1/4 sec. 31, (26-13W), on tombolo between Abbey Is. and Ruby Beach. **Access:** Road. **Ore:** Gold. **Deposit:** Very fine grained gold in beach sand. **Improv:** Gold recovery plant built about 1916, but never operated. **Ref:** 158.

**KING COUNTY**

**Money Creek Placer (44)**

**Loc:** Secs. 20 and 29, (26-11E). **Ore:** Gold. **Ref:** 158.

**Raging River Placers (46)**

**Loc:** Along Raging R. **Ore:** Gold. **Ref:** 13, p. 172.
Snoqualmie River Placers


Tolt River Placer (45)

Loc: SE¼ sec. 29, (26-8E), on Tolt R. Ore: Gold. Deposit: Fine placer gold said to occur in top 18 in. of gravel in the river bars in this vicinity. Ref: 158.

KITTITAS COUNTY

Baker Creek Placers (84)

Loc: Along Baker Cr. above its junction with Swauk Cr. Ore: Gold. Deposit: Placers. One nugget found on a bench of Swauk Cr. above the mouth of Baker Cr. had a value of $1,004. Ref: 88, p. 88.

Bear Cat Placer (83)


Becker Placer (89)


Big Salmon La Sac Placer (81)


Boulder Creek Placer (86)


Bryant Bar (Deer Gulch) Placer (90)


Cle Elum Placer (82)


Cle Elum River Placer

Deer Gulch Placer
   (See Bryant Bar Placer.)

Dennett Placer (91)
   Loc: SE¼ sec. 10, (20-17E), Swauk dist. Owner: Cascade
   353. 104, 4/30/34, p. 22.

Elliott Placer
   Loc: On Williams Cr. Prop: 1 claim. Ore: Gold. Assays:
   One nugget found in 1900 had a value of $1,100. Ref: 63, p. 68.
   88, p. 88.

Fortune Creek Placer (80)
   Loc: On Cle Elum R. near mouth of Fortune Cr. Owner:

Gold Bar Placer (94)
   Loc: Sec. 15, (20-17E), Swauk dist. Prop: 3 claims. Owner:
   Ref: 97, 1940, p. 478. 158.

Naneum Creek Placer (85)

Nugget Placer (87)
   Loc: Secs. 1 and 2, (20-17E) and sec. 6, (20-18E). Owner:

Old Bignet Placer (88)
   Loc: SW¼ sec. 1, (20-17E), near Liberty. Ore: Gold. Prod:

Perry Placer (97)
   Loc: On Yakima R. about 2 mi. below mouth of Swauk Cr.
   Small amount in 1934. Ref: 158.

Swauk Creek Placers (95)
   Loc: Along Swauk Cr. between the mouths of Baker and
   First Creeks. Ore: Gold. Deposit: Gravels from a few feet to
   70 or 80 ft. in thickness. Pay gravels are found on and near
   bedrock. Assays: Gravel varies from a few cents to $40 per yd.

Swauk Mining & Dredging Placer (92)
   Loc: Secs. 3 and 10, (20-17E). Owner: Swauk Mining &
   Dredging Co., Cle Elum, Wash. (1921-1949). Ore: Gold. Assays:

**Williams Creek Placers** (93)

**Loc:** Along Williams Cr. near Liberty and at its junction with Swauk Cr. **Ore:** Gold. **Deposit:** Good pay gravel is found within 3 or 4 ft. of bedrock and 70 or 80 ft. below present stream level. **Prod:** Considerable. Ref: 88, p. 88. 143, p. 77. 144, p. 9.

**Yakima River Placer** (96)

**Loc:** Secs. 20 and 21, (19-17E). **Ore:** Gold. Ref: 158.

**LINCOLN COUNTY**

**Angle Placer**

(See Keller Ferry Placer.)

**Barnell Placer** (146)

**Loc:** Sec. 7, (28-33E), on the Columbia R. at Swawilla Basin, near Plum, ½ mi. below the ferry. **Owner:** Mr. Mays, Coeur d'Alene, Idaho. **Ore:** Gold. **Prod:** $200 to $400 per week in 1938. Ref: 158.

**Clark Placer** (147)

**Loc:** SE¼NE¼ sec. 8, (28-33E), along Columbia R. **Ore:** Gold. **Prod:** $4,657 in 1933, $8,243 from 19,700 yd. of gravel in 1934. Ref: 97, 1933, p. 296; 1935, p. 353.

**Creston Ferry Placer** (150)

**Loc:** Sec. 2, (27-34E), at Creston Ferry. **Ore:** Gold. **Deposit:** River bench. **Dev:** A portion of the bench was worked by placer miners prior to 1910. Ref: 26, p. 63.

**Keller Ferry (Angle) Placer** (148)

**Loc:** E½ sec. 8, (28-33E), opposite the mouth of Sanpoil R. **Owner:** James E. Angle (1932-1934). **Ore:** Gold. **Prod:** 1932. 186.8 oz. Au from 11,628 cu. yd. of gravel in 1933-1934. Ref: 104, 6/30/33, p. 18. 158.

**Peach Bar Placer** (152)

**Loc:** Sec. 22, (27-35E), at village of Peach. **Ore:** Gold. **Deposit:** Low bar. **Assays:** Panning gave an av. of 19¢ per cu. yd. Ref: 158.

**Winkelman Bar Placer** (149)

**Loc:** S½ sec. 9, (28-33E). **Owner:** Mr. Winkelman (1934). **Ore:** Gold. **Assays:** 2 composite samples showed 22.5¢ and 20.0¢ per cu. yd. Ref: 158.
OKANOGAN COUNTY

Altoona Placer (105)

**Loc:** Myers Cr. dist. **Ore:** Gold. **Prod:** 1902. **Ref:** 100, no. 4, 1902, p. 77.

Ballard Placer (61)

**Loc:** 1 mi. below Conconully, on Salmon R. **Owner:** Charles H. Ballard and J. R. Wallace (1897). **Ore:** Gold. **Deposit:** Bench about 1 mi. square. **Assays:** 0.1¢ to 10¢ per pan. **Ref:** 63, p. 94.

Cassimer Bar Placer (63)

**Loc:** At mouth of Okanogan R. **Ore:** Gold. **Prod:** Considerable production reported from 1860 to 1890. **Ref:** 12, pp. 10, 94.

Crounse (Strawberry Creek) Placer (111)

**Loc:** On Strawberry Cr. in S½ sec. 35, (34-31E). **Access:** 1½ mi. N. of Park City by road. **Owner:** Harry Crounse (1913). **Ore:** Gold. **Ore min:** Free gold, magnetite, ilmenite. **Deposit:** Flats from 20 to 200 ft. wide along the stream are underlain by a shallow layer of coarse gravel. **Dev:** Small pits. **Assays:** 2 pans of gravel from the layer next to bedrock yielded 1¢ in Au and 1 oz. or more of black sand. **Prod:** Reportedly $100 worth of gold. **Ref:** 122, pp. 93, 102-103.

Cuba Line Placer (103)

**Loc:** Sec. 1, (40-29E), Myers Cr. dist. **Ore:** Gold. **Ref:** 158.

Deadman Creek Placer (106)

**Loc:** On Deadman Cr., Myers Cr. dist. **Ore:** Gold. **Deposit:** Placers in creek bed and in bars as much as 250 ft. above the creek. **Assays:** As much as 40¢ per yd. **Ref:** 63, p. 110.

Gold Bar Placer (113)

**Loc:** Near Kartar, along Columbia R. **Owner:** Gold Bar Mining Co. (1939). **Ore:** Gold. **Prod:** 1934, 1939. Washing plant treated 10,045 cu. yd. in 1939. **Ref:** 97, 1935, p. 353; 1940, p. 478.

Mary Ann Creek Placer (107)

**Loc:** On Mary Ann Cr., 1 mi. S. of Chesaw. **Prop:** 14 claims. **Ore:** Gold. **Deposit:** Gold occurs from grass roots downward to bedrock. 7-in. clay seam 4 ft. above bedrock acts as false bedrock, and values are richer above the clay than elsewhere. **Prod:** $40,000 in 1880's. **Ref:** 88, pp. 27-28. 105, no. 1, 1905, p. 15. 158.

Meadows Placer (60)

**Loc:** 8 mi. above Conconully, on N. Fk. of Salmon R. **Ore:** Gold. **Deposit:** Bar placer. **Assays:** 10¢ to 15¢ per yd. **Ref:** 63, p. 94.
Methow River Placers (62)

Murray Placer

Similkameen Placers (58)

Similkameen Falls Placer (59)

Strawberry Creek Placer
(See Crounce Placer.)

Walker Placer (104)

PACIFIC COUNTY

Fort Canby Placer (16)

Ocean Park Placer (15)

Sand Island Placer (17)
PEND OREILLE COUNTY

**Harvey Bar Placer** (120)


**O'Sullivan Creek Placer**

(See Sullivan Creek Placer.)

**Schierding Placer** (119)


**Schultz Placer** (122)


**Sullivan (O'Sullivan) Creek Placer** (121)


PIERCE COUNTY

**Ogren Placer** (50)


**Silver Creek Placer** (51)

SKAGIT COUNTY

Anacortes Placer (29)


Day Creek Placer (30)


Ruby Creek Placer


SKAMANIA COUNTY

Hudson and Meyers Placer (52)


Texas Gulch Placer (54)


SNOHOMISH COUNTY

Alpha and Beta Placers (35)


Aristo Placer (37)


Bench Placer (42)

Loc: Sec. 19, (28-11E), 800 ft. from junction of Silver Cr. with N. Fk. of Skykomish R. Owner: Mrs. Belle Fowler, Index, Wash. Ore: Gold. Assays: 80¢ to $1.00 per yd. Ref: 158.

Beta Placer

(See Alpha and Beta Placers.)

Darrington Placer (31)

Deer Creek Placer (32)

Gold Bar Placer (41)
  Loc: Secs. 6, 7, and 8, (27-9E), on Skykomish R. Ore: Gold.
  Prod: Small amount. Ref: 14, p. 50.

Granite Falls Placer (33)
  Loc: NW¼ sec. 8, (30-7E), on N. side of the S. Fk. of Stilaguamish R. about 1 mi. NE. of Granite falls. Ore: Gold. Ref: 14, pp. 50-51.

Horseshoe Bend Placer (38)

McCloud Placer
  (See Sultan Canyon Placer.)

Peterson Placer (34)

Phoenix Placer (43)
  Loc: NW¼ sec. 29, (28-11E), on Howard Cr. Prop: 1 claim.

Sailors Bar Placer
  63, p. 25.

Shirley Placer

Stilaguamish River Placers

Sultan Placer (40)
Sultan Canyon (McCloud) Placer (36)

Loc: SE¼SE¼ sec. 32, (29-8E) and NE¼ sec. 5, (28-8E).

Sultan River Placer (39)


Sultan River Placers

Loc: Along Sultan R. from its source to its mouth. Ore: Gold.
Assays: Av. yield said to be 40¢ to 85¢ per yd. Ref: 12, p. 95. 13, p. 172. 63, pp. 25-26.

STEVENS COUNTY

Blue Bar Placer (137)


Bossburg Bar Placer (126)


Brod-Hurst Placer (123)


China Bend Placer (124)

Loc: Lots 3 and 4, sec. 7, (33-38E), on SE. bank of Columbia R. Ore: Gold. Assays: 3 samples showed 8.7¢ to 32.5¢ per cu. yd. Ref: 158.

Collins Placer (132)


Dead Man's Eddy Placer

(See Nigger Creek Bar Placer.)

Evans Placer (118)

shop, and a steam power suction dredge (1941). **Assays:** Said to range from 10¢ to $35.00 per yd. **Prod:** Presumably produced prior to 1941. **Ref:** 30, p. 103.

**Gibson Bar Placer (140)**

**Loc:** Secs. 10 and 15, (29-35E), at Gibson Bar, on E. side of Columbia R. **Owner:** Harvey R. Cline Co. (1940). **Ore:** Gold. **Deposit:** Gravel av. 4 ft. thick covering about 100 acres. **Assays:** 13 test holes av. 14.3¢ per cu. yd. **Prod:** 1938-1940; mined in early days by Chinese. **Ref:** 97, 1939, p. 491; 1940, p. 479; 1941, p. 475. 158.

**Holsten Placer (130)**

**Loc:** Sec. 29, (35-37E), on E. bank of Columbia R., 6 mi. below Kettle Falls. **Owner:** Mr. Holsten (1934). **Ore:** Gold. **Assays:** Small production in 1934 on gravels running 26¢ to 30¢ per cu. yd. **Ref:** 158.

**Hurst Placer**

(See Brod-Hurst Placer.)

**Marcus Placer (129)**

**Loc:** At Marcus. **Ore:** Gold. **Deposit:** River sand. **Assays:** 1,096 lb. magnetite, 56 lb. ilmenite, $12.61 gold per ton from a 5-lb. conc. from 1 yd. of gravel. **Ref:** 38-A, pp. 1218-1219. 126, p. 15.

**Nigger Bar Placer (117)**

**Loc:** Secs. 14 and 21, (40-41E), 2 mi. S. of Canadian boundary, on W. side of Columbia R. **Ore:** Gold. **Deposit:** Bar 300 ft. wide and more than 1 mi. long is covered by a 2-ft. overburden of sand and large boulders. **Assays:** A 125-ft. strip 1,000 ft. long had 2½ ft. of gravel av. 26¢ per cu. yd. **Ref:** 158.

**Nigger Creek Bar (Dead Man’s Eddy) Placer (115)**

**Loc:** Sec. 28, (40-40E), at mouth of Nigger Cr., on W. bank of Columbia R. **Owner:** Roberts Leasing Co. (1933-1934). **Ore:** Gold. **Deposit:** Large low bar, with no large boulders. **Assays:** Av. 27.9¢ per cu. yd. **Prod:** 1933-1934. **Ref:** 97, 1934, p. 297; 1935, p. 355. 158.

**Ninemile Bar Placer (125)**

**Loc:** Sec. 15, (38-38E), on E. bank of Columbia R. **Owner:** State (1934). **Ore:** Gold. **Deposit:** Large bar. **Assays:** 8 tests showed 2.6¢ to $1.18 per cu. yd. **Ref:** 158.

**Northport Bar Placer (116)**

**Loc:** Sec. 36, (40-39E), on W. bank of Columbia R., opposite Northport. **Ore:** Gold. **Assays:** 7 test pits showed an av. of 2 ft. of gravel which ran 20.1¢ per cu. yd. **Ref:** 158.
Reed and Roberts Placer (114)


Roberts Placer
(See Reed and Roberts Placer.)

Valbush Bar Placer (127)


WHATCOM COUNTY

Alice Mae Placer (23)


Combination Placer (20)


Farrar Placer (25)


Jackass Placer (19)


Johnnie S. Placer (27)


Lazy Tar Heel Placer (21)

Nip and Tuck (Tanya) Placer (22)


Old Discovery Placer (28)

Loc: On Ruby Cr. about 2 mi. above its confluence with Granite Cr. Probably SE ¼ sec. 9, (37-16E). Ore: Gold. Deposit: Placer gold is found in old stream channels well above present stream level. Prod: Several thousand dollars in "old days." Ref: 63, p. 58. 158.

Ruby Creek Placer (26)


Scougale Placer (18)


Tanya Placer

(See Nip and Tuck Placer.)

Woodrich Placer (24)

Loc: Approx. in sec. 25, (37-14E), 2 mi. up Canyon Cr. from Beebe's cabin on Granite Cr. Access: About 5 mi. by trail from the Ruby Cr. road. Ore: Gold. Deposit: An old gravel bar, 300 ft. long and 5 to 20 ft. thick, from which at least 2 nuggets valued at $30 to $40 each were taken. Ref: 158.

WHITMAN COUNTY

Indian Bar Placer (153)


YAKIMA COUNTY

Elizabeth Placer (47)


Gold Hill Placer (49)


Gold Links Placer (48)

Morse Creek Placer

**Loc:** Near head of Morse Cr., Summit dist. **Owner:** H. L. Tucker and George Gibbs, Yakima, Wash. (1880-1882). **Ore:** Gold. **Deposit:** An $80 nugget was found, and $1 nuggets were not uncommon. **Assays:** Early operators made "good wages." **Ref:** 63, p. 44.

**Surveyors Creek Placer** (53)

**Loc:** Sec. 14, (8-12E), on Klickitat R. **Ore:** Gold. **Ref:** 158.
BIBLIOGRAPHY FOR OCCURRENCES

This bibliography is extracted from one which is more complete, compiled to be included in a forthcoming report on all metallic minerals of the state and to be published as Inventory of Washington Minerals, Part 2, Metallic Minerals: Division of Mines and Geology Bulletin 37. (Part 1 of Bulletin 37, dealing with nonmetallic minerals, was published in 1949.) Each reference, here, is assigned a number, but these numbers in the present report are not consecutive because only those references pertaining to gold have been taken from the long list, applicable to all metals, of Bulletin 37.

1. Alaska and Northwest Mining Journal; continued as Pacific and Alaskan Review.

1-A. American Institute of Mining and Metallurgical Engineers, Transactions.

1-B. ————, Mining Technology.


29. ————, Report on minerals in Pend Oreille County: Pend Oreille County P. U. D. Rept., 75 pp., 1941.

30. ————, Report on minerals in Stevens County: Stevens County P. U. D. Rept., 137 pp., 1941.


33. The Copper Handbook; continued as Mines Handbook and later as Mines Register.


43. Engineering and Mining Journal (from 1922 to 1927 this was published as Engineering and Mining Journal-Press).


47. Geological Society of America Bulletin.


77. Journal of Geology.


98. Mines Handbook; continued as Mines Register.


100. Mining. Spokane.

104. Mining Journal.

105. Mining and Scientific Press.

106. Mining Truth; continued as Northwest Mining. Formerly Northwest Mining Truth.


113. Northwest Mining. Formerly Mining Truth, and formerly Northwest Mining Truth.


117. Northwest Mining Truth; continued as Mining Truth and later as Northwest Mining.


161. Weaver, C. E., Geology and ore deposits of the Blewett mining district: Washington Geol. Survey Bull. 6, 104 pp., 1911.
<table>
<thead>
<tr>
<th>Index</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. B. C. Placer</td>
<td>121</td>
</tr>
<tr>
<td>Abandoned claims, list or map of</td>
<td>21</td>
</tr>
<tr>
<td>Abbreviations</td>
<td></td>
</tr>
<tr>
<td>Acme property</td>
<td>36</td>
</tr>
<tr>
<td>Advance property</td>
<td>96</td>
</tr>
<tr>
<td>Alder mine</td>
<td>50</td>
</tr>
<tr>
<td>Alice Mae Placer</td>
<td>68</td>
</tr>
<tr>
<td>Alice property</td>
<td>132</td>
</tr>
<tr>
<td>Allen Basin property</td>
<td>68</td>
</tr>
<tr>
<td>Allison property</td>
<td>102</td>
</tr>
<tr>
<td>Alloys of gold</td>
<td>68</td>
</tr>
<tr>
<td>Alpha and Beta Placers</td>
<td>9, 10, 11</td>
</tr>
<tr>
<td>Alta Vista property</td>
<td>128</td>
</tr>
<tr>
<td>Altoona Placer</td>
<td>39</td>
</tr>
<tr>
<td>Alva Stout Placer</td>
<td>125</td>
</tr>
<tr>
<td>Amalgam</td>
<td>118</td>
</tr>
<tr>
<td>American Flag property</td>
<td>16, 27</td>
</tr>
<tr>
<td>American Rand property</td>
<td>68</td>
</tr>
<tr>
<td>Anacortes Placer</td>
<td>68</td>
</tr>
<tr>
<td>Anacortes property</td>
<td>128</td>
</tr>
<tr>
<td>Analysis</td>
<td>103</td>
</tr>
<tr>
<td>Anecia property</td>
<td>18</td>
</tr>
<tr>
<td>Angle Placer</td>
<td>50</td>
</tr>
<tr>
<td>Animals, marine, gold in</td>
<td>124</td>
</tr>
<tr>
<td>Anoka property</td>
<td>11</td>
</tr>
<tr>
<td>Antelope property</td>
<td>103</td>
</tr>
<tr>
<td>Apex property</td>
<td>96</td>
</tr>
<tr>
<td>Apollo property</td>
<td>61</td>
</tr>
<tr>
<td>Aristo Placer</td>
<td>50</td>
</tr>
<tr>
<td>Artesian Coulee Placer</td>
<td>128</td>
</tr>
<tr>
<td>Asotin County</td>
<td>113</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>30, 113</td>
</tr>
<tr>
<td>Assay Office, United States</td>
<td>30, 113</td>
</tr>
<tr>
<td>Assays</td>
<td>27</td>
</tr>
<tr>
<td>Aurora property</td>
<td>15, 18</td>
</tr>
<tr>
<td>Aurum property</td>
<td>64</td>
</tr>
<tr>
<td>Azurite property</td>
<td>50</td>
</tr>
</tbody>
</table>

**B**

<table>
<thead>
<tr>
<th>Property Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacon Bar Placer</td>
<td>118</td>
</tr>
<tr>
<td>Baker Creek Placers</td>
<td>122</td>
</tr>
<tr>
<td>Ballard Placer</td>
<td>125</td>
</tr>
<tr>
<td>Barnell Placer</td>
<td>124</td>
</tr>
<tr>
<td>Bartnes Placer</td>
<td>115</td>
</tr>
<tr>
<td>Base ore</td>
<td>12</td>
</tr>
<tr>
<td>Beach placer deposits</td>
<td>12, 29</td>
</tr>
<tr>
<td>Bear Cat Placer</td>
<td>122</td>
</tr>
<tr>
<td>Bear Gap property</td>
<td>85, 110</td>
</tr>
<tr>
<td>Beaverdale property</td>
<td>62</td>
</tr>
<tr>
<td>Property/Location</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Beck and Short Grub property</td>
<td>104</td>
</tr>
<tr>
<td>Becker Placer</td>
<td>122</td>
</tr>
<tr>
<td>Bedrock</td>
<td>14</td>
</tr>
<tr>
<td>Beecher property</td>
<td>97</td>
</tr>
<tr>
<td>Bellevue property</td>
<td>68</td>
</tr>
<tr>
<td>Ben Butler property</td>
<td>89</td>
</tr>
<tr>
<td>Ben Hur property</td>
<td>50</td>
</tr>
<tr>
<td>Ben Lomond property</td>
<td>89</td>
</tr>
<tr>
<td>Bench Placer</td>
<td>128</td>
</tr>
<tr>
<td>Bench placer deposits</td>
<td>13</td>
</tr>
<tr>
<td>Benton County</td>
<td>30, 39, 113</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>39</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>30, 113</td>
</tr>
<tr>
<td>Benvenue property</td>
<td>97</td>
</tr>
<tr>
<td>Berrian Island Placer</td>
<td>113</td>
</tr>
<tr>
<td>Beta Placer</td>
<td>128</td>
</tr>
<tr>
<td>Bibliography for occurrences</td>
<td>135</td>
</tr>
<tr>
<td>Bibliography, selected</td>
<td>7</td>
</tr>
<tr>
<td>Big Salmon La Sac Placer</td>
<td>122</td>
</tr>
<tr>
<td>Big Wink Creek Placer</td>
<td>115</td>
</tr>
<tr>
<td>Black and White property</td>
<td>39</td>
</tr>
<tr>
<td>Black Bear property</td>
<td>69</td>
</tr>
<tr>
<td>Black Jack property</td>
<td>39</td>
</tr>
<tr>
<td>Black sands</td>
<td>12</td>
</tr>
<tr>
<td>Black Tail property</td>
<td>51</td>
</tr>
<tr>
<td>Blaine Republic property</td>
<td>51</td>
</tr>
<tr>
<td>Blalock Island Placer</td>
<td>113</td>
</tr>
<tr>
<td>Blewett district</td>
<td>30, 33</td>
</tr>
<tr>
<td>Blewett property</td>
<td>40</td>
</tr>
<tr>
<td>Blinn property</td>
<td>40</td>
</tr>
<tr>
<td>Bloom Placer</td>
<td>114</td>
</tr>
<tr>
<td>Blue Bar Island Placer</td>
<td>118</td>
</tr>
<tr>
<td>Blue Bar Placer</td>
<td>130</td>
</tr>
<tr>
<td>Blue Bell property</td>
<td>40, 85, 110</td>
</tr>
<tr>
<td>Blue Bird property</td>
<td>89</td>
</tr>
<tr>
<td>Blue Grouse and Sure Thing property</td>
<td>85</td>
</tr>
<tr>
<td>Bobtail property</td>
<td>40</td>
</tr>
<tr>
<td>Bodie property</td>
<td>69</td>
</tr>
<tr>
<td>Bonanza property</td>
<td>89</td>
</tr>
<tr>
<td>Bondholders Syndicate property</td>
<td>62</td>
</tr>
<tr>
<td>Bonita property</td>
<td>104</td>
</tr>
<tr>
<td>Bossburg Bar Placer</td>
<td>130</td>
</tr>
<tr>
<td>Boston and Butte property</td>
<td>51</td>
</tr>
<tr>
<td>Boulder Creek Placer</td>
<td>122</td>
</tr>
<tr>
<td>Boundary Gold property</td>
<td>104</td>
</tr>
<tr>
<td>Boundary Red Mountain property</td>
<td>104</td>
</tr>
<tr>
<td>Brod-Hurst Placer</td>
<td>130</td>
</tr>
<tr>
<td>Brooks-Willis property</td>
<td>104</td>
</tr>
<tr>
<td>Brown and Livingston property</td>
<td>88</td>
</tr>
<tr>
<td>Bruhn property</td>
<td>88</td>
</tr>
</tbody>
</table>
## Index

<table>
<thead>
<tr>
<th>Property</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brush Prairie Placer</td>
<td>117</td>
</tr>
<tr>
<td>Bryant Bar Placer</td>
<td>122</td>
</tr>
<tr>
<td>Bullfrog property</td>
<td>69</td>
</tr>
<tr>
<td>Butcher Boy property</td>
<td>69</td>
</tr>
<tr>
<td>Butte and Boston property</td>
<td>51</td>
</tr>
<tr>
<td>Butte property</td>
<td>40</td>
</tr>
<tr>
<td>Calaverite</td>
<td>11</td>
</tr>
<tr>
<td>California property</td>
<td>51</td>
</tr>
<tr>
<td>Calumet property</td>
<td>89</td>
</tr>
<tr>
<td>Camp Creek property</td>
<td>88</td>
</tr>
<tr>
<td>Campbell property</td>
<td>70, 86</td>
</tr>
<tr>
<td>Caplin-Holbrooke property</td>
<td>90</td>
</tr>
<tr>
<td>Carat</td>
<td>10</td>
</tr>
<tr>
<td>Caribou property</td>
<td>70</td>
</tr>
<tr>
<td>Carmack property</td>
<td>62</td>
</tr>
<tr>
<td>Cascade Chief property</td>
<td>64</td>
</tr>
<tr>
<td>Cassimer Bar Placer</td>
<td>29, 125</td>
</tr>
<tr>
<td>Cassius, Purple of, test</td>
<td>18</td>
</tr>
<tr>
<td>Cedar Creek Placer</td>
<td>115</td>
</tr>
<tr>
<td>Central property</td>
<td>70</td>
</tr>
<tr>
<td>Chancellor property</td>
<td>104</td>
</tr>
<tr>
<td>Charity property</td>
<td>97</td>
</tr>
<tr>
<td>Chelan County</td>
<td>29, 30, 32, 33, 39-49, 114-115</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>39-49</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>29, 30, 114-115</td>
</tr>
<tr>
<td>Chelan property</td>
<td>70</td>
</tr>
<tr>
<td>Chemical properties of gold</td>
<td>9</td>
</tr>
<tr>
<td>Chemical tests</td>
<td>18</td>
</tr>
<tr>
<td>China Bend Placer</td>
<td>130</td>
</tr>
<tr>
<td>Chinaman Bar Placer</td>
<td>121</td>
</tr>
<tr>
<td>Chinese placers</td>
<td>29</td>
</tr>
<tr>
<td>Chloride Queen property</td>
<td>70</td>
</tr>
<tr>
<td>Claims:</td>
<td></td>
</tr>
<tr>
<td>Locating</td>
<td>19-24</td>
</tr>
<tr>
<td>Patenting</td>
<td>24</td>
</tr>
<tr>
<td>Staking</td>
<td>22, 23</td>
</tr>
<tr>
<td>Taxation of</td>
<td>24</td>
</tr>
<tr>
<td>Claims staked, list or map of</td>
<td>21</td>
</tr>
<tr>
<td>Clallam County</td>
<td>30, 49, 115-117</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>49</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>30, 115-117</td>
</tr>
<tr>
<td>Clara Thompson property</td>
<td>90</td>
</tr>
<tr>
<td>Clarence Jordin property</td>
<td>65</td>
</tr>
<tr>
<td>Clark County</td>
<td>30, 49-50, 117-118</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>49-50</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>30, 117-118</td>
</tr>
<tr>
<td>Clark Placer</td>
<td>124</td>
</tr>
<tr>
<td>Clarkston Placer</td>
<td>113</td>
</tr>
<tr>
<td>Cle Elum Placer</td>
<td>122</td>
</tr>
<tr>
<td>Index</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>Cle Elum River placers .......................... 29, 122</td>
<td></td>
</tr>
<tr>
<td>Collins Placer ................................... 130</td>
<td></td>
</tr>
<tr>
<td>Colors ........................................... 16</td>
<td></td>
</tr>
<tr>
<td>Columbia River Placer ............................ 118</td>
<td></td>
</tr>
<tr>
<td>Columbia River placers .......................... 28, 29</td>
<td></td>
</tr>
<tr>
<td>Colville gold rush ................................ 28</td>
<td></td>
</tr>
<tr>
<td>Colville Indian Reservation ...................... 29, 30</td>
<td></td>
</tr>
<tr>
<td>Colville region ................................... 28</td>
<td></td>
</tr>
<tr>
<td>Combination Placer ................................ 132</td>
<td></td>
</tr>
<tr>
<td>Commonwealth property ............................ 90</td>
<td></td>
</tr>
<tr>
<td>Coney Basin property ............................. 62</td>
<td></td>
</tr>
<tr>
<td>Consolidated placer deposits .................... 11, 13</td>
<td></td>
</tr>
<tr>
<td>Continental property ............................. 70</td>
<td></td>
</tr>
<tr>
<td>Cook-Galbraith property .......................... 41</td>
<td></td>
</tr>
<tr>
<td>Coolgardite ....................................... 11</td>
<td></td>
</tr>
<tr>
<td>Copper Independent property ..................... 90</td>
<td></td>
</tr>
<tr>
<td>Costs:</td>
<td></td>
</tr>
<tr>
<td>Of mining ......................................... 26</td>
<td></td>
</tr>
<tr>
<td>Of patenting claims .............................. 25</td>
<td></td>
</tr>
<tr>
<td>Cougar property .................................. 65</td>
<td></td>
</tr>
<tr>
<td>County-owned land ................................ 19</td>
<td></td>
</tr>
<tr>
<td>Covington Bar Placer ............................. 119</td>
<td></td>
</tr>
<tr>
<td>Cow Point Placer .................................. 121</td>
<td></td>
</tr>
<tr>
<td>Cowlitz County ................................... 50</td>
<td></td>
</tr>
<tr>
<td>Lode gold occurrences ............................ 50</td>
<td></td>
</tr>
<tr>
<td>Crescent property ................................ 70</td>
<td></td>
</tr>
<tr>
<td>Creston Ferry Placer .............................. 124</td>
<td></td>
</tr>
<tr>
<td>Crouse Placer ..................................... 125</td>
<td></td>
</tr>
<tr>
<td>Crown Point property ............................. 70, 110</td>
<td></td>
</tr>
<tr>
<td>Crystal Butte property ........................... 71</td>
<td></td>
</tr>
<tr>
<td>Crystalline gold .................................. 9</td>
<td></td>
</tr>
<tr>
<td>Cuba Line Placer .................................. 125</td>
<td></td>
</tr>
<tr>
<td>Culver property ................................... 41</td>
<td></td>
</tr>
</tbody>
</table>

**D**

<p>| Dahl property ..................................... 90 |
| Daisy Placer ....................................... 119 |
| Damon and Pythias property ..................... 63 |
| Darrington Placer ................................ 128 |
| Day Creek Placer .................................. 128 |
| Day Mines property ................................ 52 |
| Dead Man's Eddy Placer ......................... 130 |
| Deadman Creek Placer ......................... 125 |
| Deemer property ................................... 84 |
| Deep Creek Placer ................................ 114 |
| Deer Creek Placer ................................ 129 |
| Deer Gulch Placer ................................ 123 |
| Del Campo property ................................ 90 |
| Dennett Placer .................................... 123 |
| Denver City property ............................ 71 |</p>
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposits, types of</td>
</tr>
<tr>
<td>Consolidated placer</td>
</tr>
<tr>
<td>Lode</td>
</tr>
<tr>
<td>Placer</td>
</tr>
<tr>
<td>Devils Mountain property</td>
</tr>
<tr>
<td>Diamond Dick property</td>
</tr>
<tr>
<td>Discoveries of gold in Washington, first</td>
</tr>
<tr>
<td>Lode gold</td>
</tr>
<tr>
<td>Placer gold</td>
</tr>
<tr>
<td>Discovery, necessary</td>
</tr>
<tr>
<td>Divining rod</td>
</tr>
<tr>
<td>Doodlebugs</td>
</tr>
<tr>
<td>Douglas County</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
</tr>
<tr>
<td>Easter Sunday property</td>
</tr>
<tr>
<td>Eastern Star property</td>
</tr>
<tr>
<td>Eclipse property</td>
</tr>
<tr>
<td>Edison property</td>
</tr>
<tr>
<td>El Caliph property</td>
</tr>
<tr>
<td>Electrum</td>
</tr>
<tr>
<td>Elizabeth Placer</td>
</tr>
<tr>
<td>Elliott Placer</td>
</tr>
<tr>
<td>Entiat River Placers</td>
</tr>
<tr>
<td>Eolian placer deposits</td>
</tr>
<tr>
<td>Eureka and Orient property</td>
</tr>
<tr>
<td>Eureka property</td>
</tr>
<tr>
<td>Evaluating ore deposits</td>
</tr>
<tr>
<td>Evans Placer</td>
</tr>
<tr>
<td>Evergreen property</td>
</tr>
<tr>
<td>Ewell property</td>
</tr>
<tr>
<td>F. H. and C. property</td>
</tr>
<tr>
<td>Faith property</td>
</tr>
<tr>
<td>Faithful Surprise property</td>
</tr>
<tr>
<td>False bedrock</td>
</tr>
<tr>
<td>Farrar Placer</td>
</tr>
<tr>
<td>Ferry County</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
</tr>
<tr>
<td>Fife property</td>
</tr>
<tr>
<td>Fineness</td>
</tr>
<tr>
<td>Fire assay</td>
</tr>
<tr>
<td>First discovery of gold in Washington</td>
</tr>
<tr>
<td>First of August property</td>
</tr>
<tr>
<td>First Thought Extension property</td>
</tr>
<tr>
<td>First Thought property</td>
</tr>
<tr>
<td>Flag Hill property</td>
</tr>
<tr>
<td>Flag Mountain property</td>
</tr>
<tr>
<td>Flodine property</td>
</tr>
<tr>
<td>Flodine property</td>
</tr>
</tbody>
</table>
Index

Flour gold ............................................ 16
Fool's gold ........................................ 17
Fort Canby Placer .................................. 126
Fortune Creek Placer .............................. 123
"45" property ...................................... 91
Fraction property .................................... 41
Free-milling ore .................................... 12
Friday property ...................................... 71

G

Galbraith property .................................. 41
Galena property .................................... 105
Gangue minerals ..................................... 11
Garfield County .................................... 31
    Placer gold localities ......................... 31
Gargett property ................................... 105
Gem property ....................................... 99
Geophysical investigations ..................... 14
Gibson Bar Placer .................................. 131
Gilbert property .................................... 85
Gladstone property ................................ 65
Glory of the Mountain property ................ 91
Goat Mountain property ........................... 106
Goat property ....................................... 105
Golconda property ................................ 88
Gold (see also Ores and ore minerals):
    Alloys ........................................... 9, 10, 11
    Amalgam ....................................... 16, 27
    Crystalline .................................... 9
    Electrum ....................................... 11
    Flour .......................................... 16
    Natural ....................................... 27
    Nuggets ....................................... 14, 16
    Sponge ........................................ 18, 27
Gold Axe property .................................. 71
Gold Bar Placer .................................... 123, 125, 129
Gold Bar property ................................ 99
Gold Bond property ................................ 42
Gold Coin property ................................ 71
Gold Crown property ................................ 71, 72
Gold Hill Placer ................................... 133
Gold Hill property ................................ 110
Gold Key property ................................ 72
Gold King mine .................................... 32, 42
Gold Knob property ................................ 42
Gold Ledge property ................................ 99
Gold Links Placer .................................. 133
Gold ores and ore minerals ...................... 11-13
Gold production ................................... 32-36
Gold Reef property ................................ 99
Gold Reserve Act of 1934, U. S. .................. 27
<table>
<thead>
<tr>
<th>Property</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold Run property</td>
<td>106</td>
</tr>
<tr>
<td>Gold rush</td>
<td>28, 29</td>
</tr>
<tr>
<td>Golden Arrow property</td>
<td>106</td>
</tr>
<tr>
<td>Golden Chariot property</td>
<td>42</td>
</tr>
<tr>
<td>Golden Cherry property</td>
<td>42</td>
</tr>
<tr>
<td>Golden Chord property</td>
<td>92</td>
</tr>
<tr>
<td>Golden Eagle property</td>
<td>42</td>
</tr>
<tr>
<td>Golden Fleece property</td>
<td>66</td>
</tr>
<tr>
<td>Golden Harvest property</td>
<td>52</td>
</tr>
<tr>
<td>Golden Hope property</td>
<td>100</td>
</tr>
<tr>
<td>Golden King mine</td>
<td>42</td>
</tr>
<tr>
<td>Golden Reef property</td>
<td>100</td>
</tr>
<tr>
<td>Golden Valley property</td>
<td>53</td>
</tr>
<tr>
<td>Golden Wonder property</td>
<td>49</td>
</tr>
<tr>
<td>Golden Zone property</td>
<td>72</td>
</tr>
<tr>
<td>Goldschmidtite</td>
<td>11</td>
</tr>
<tr>
<td>Gone Busted Placer</td>
<td>113</td>
</tr>
<tr>
<td>Good Hope property</td>
<td>92</td>
</tr>
<tr>
<td>Goody Placer</td>
<td>113</td>
</tr>
<tr>
<td>Goosmus Creek Placer</td>
<td>119</td>
</tr>
<tr>
<td>Grade of ore mined in Washington</td>
<td>12</td>
</tr>
<tr>
<td>Grand Summit property</td>
<td>72</td>
</tr>
<tr>
<td>Grandview property</td>
<td>72</td>
</tr>
<tr>
<td>Granite Falls Placer</td>
<td>129</td>
</tr>
<tr>
<td>Grant County</td>
<td>31, 121</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 121</td>
</tr>
<tr>
<td>Gray Eagle property</td>
<td>72</td>
</tr>
<tr>
<td>Grays Harbor County</td>
<td>31, 121</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 121</td>
</tr>
<tr>
<td>Great Excelsior property</td>
<td>106</td>
</tr>
<tr>
<td>Great Northern property</td>
<td>92</td>
</tr>
<tr>
<td>Green Mountain property</td>
<td>50</td>
</tr>
<tr>
<td>Grizzly Creek property</td>
<td>88</td>
</tr>
<tr>
<td>Grubstake property</td>
<td>72</td>
</tr>
<tr>
<td>Gulch claims</td>
<td>23</td>
</tr>
<tr>
<td>Hansen property</td>
<td>85</td>
</tr>
<tr>
<td>Harvey Bar Placer</td>
<td>127</td>
</tr>
<tr>
<td>Hawkeye property</td>
<td>53</td>
</tr>
<tr>
<td>Heavy minerals</td>
<td>12</td>
</tr>
<tr>
<td>Hellgate Bar Placer</td>
<td>119</td>
</tr>
<tr>
<td>Hiawatha property</td>
<td>73</td>
</tr>
<tr>
<td>Hidden Treasure property</td>
<td>43, 73</td>
</tr>
<tr>
<td>Highland Light property</td>
<td>74</td>
</tr>
<tr>
<td>Highland property</td>
<td>73</td>
</tr>
<tr>
<td>History of gold in Washington</td>
<td>28-36</td>
</tr>
<tr>
<td>Production</td>
<td>32-36</td>
</tr>
<tr>
<td>Holden-Campbell property</td>
<td>74</td>
</tr>
<tr>
<td>Holden mine</td>
<td>26, 32, 43</td>
</tr>
<tr>
<td>Holsten Placer</td>
<td>131</td>
</tr>
<tr>
<td>Property</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Homestake property</td>
<td>100</td>
</tr>
<tr>
<td>Homestead land</td>
<td>20</td>
</tr>
<tr>
<td>Hope property</td>
<td>53, 100</td>
</tr>
<tr>
<td>Horseshoe Bend Placer</td>
<td>129</td>
</tr>
<tr>
<td>Hotchkiss property</td>
<td>74</td>
</tr>
<tr>
<td>Howe Sound mine</td>
<td>44</td>
</tr>
<tr>
<td>Hudson and Meyers Placer</td>
<td>128</td>
</tr>
<tr>
<td>Hummingbird property</td>
<td>44</td>
</tr>
<tr>
<td>Hunter property</td>
<td>74</td>
</tr>
<tr>
<td>Hurst Placer</td>
<td>131</td>
</tr>
<tr>
<td>Hydrothermal deposits</td>
<td>12</td>
</tr>
<tr>
<td>I. X. L. property</td>
<td>44</td>
</tr>
<tr>
<td>Icicle Creek Placers</td>
<td>114</td>
</tr>
<tr>
<td>Ida Elmore property</td>
<td>66</td>
</tr>
<tr>
<td>Ida May property</td>
<td>53</td>
</tr>
<tr>
<td>Identification service</td>
<td>18</td>
</tr>
<tr>
<td>Identification tests</td>
<td>17</td>
</tr>
<tr>
<td>Imperator property</td>
<td>53</td>
</tr>
<tr>
<td>Imperial property</td>
<td>74</td>
</tr>
<tr>
<td>Independence property</td>
<td>75</td>
</tr>
<tr>
<td>Independent property</td>
<td>92</td>
</tr>
<tr>
<td>Index Gold Mines, Inc. property</td>
<td>92</td>
</tr>
<tr>
<td>Indian Bar Placer</td>
<td>133</td>
</tr>
<tr>
<td>Indian property</td>
<td>100</td>
</tr>
<tr>
<td>Indian reservations</td>
<td>19, 22</td>
</tr>
<tr>
<td>Indiana property</td>
<td>106</td>
</tr>
<tr>
<td>Ingalls Creek Placer</td>
<td>114</td>
</tr>
<tr>
<td>Insurgent property</td>
<td>53</td>
</tr>
<tr>
<td>Introduction</td>
<td>7</td>
</tr>
<tr>
<td>Iowa property</td>
<td>92</td>
</tr>
<tr>
<td>Irene property</td>
<td>44</td>
</tr>
<tr>
<td>Iron Cap and Snow Cap property</td>
<td>75</td>
</tr>
<tr>
<td>Iron Mask property</td>
<td>53</td>
</tr>
<tr>
<td>Ivanhoe property</td>
<td>44</td>
</tr>
<tr>
<td>Jackass Placer</td>
<td>132</td>
</tr>
<tr>
<td>Japanese Placer</td>
<td>116</td>
</tr>
<tr>
<td>Jasperson property</td>
<td>92</td>
</tr>
<tr>
<td>Jefferson County</td>
<td>31, 61, 121</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>61</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 121</td>
</tr>
<tr>
<td>Jessie property</td>
<td>75</td>
</tr>
<tr>
<td>John Judge property</td>
<td>75</td>
</tr>
<tr>
<td>Johnnie S. Placer</td>
<td>132</td>
</tr>
<tr>
<td>Johnson Placer</td>
<td>119</td>
</tr>
<tr>
<td>Johnson Point Placer</td>
<td>116</td>
</tr>
<tr>
<td>Johnson property</td>
<td>88</td>
</tr>
<tr>
<td>Josie property</td>
<td>75</td>
</tr>
<tr>
<td>Justice property</td>
<td>93</td>
</tr>
</tbody>
</table>
### Index

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
</tr>
<tr>
<td>Kalgoorlie ........................................ 11</td>
</tr>
<tr>
<td>Keller Ferry Placer ................................ 124</td>
</tr>
<tr>
<td>Kettle River Placers ................................ 119</td>
</tr>
<tr>
<td>Kettle River property ................................ 100</td>
</tr>
<tr>
<td>King County ........................................... 31, 61-64, 121-122</td>
</tr>
<tr>
<td>Lode gold occurrences ................................ 61-64</td>
</tr>
<tr>
<td>Placer gold occurrences ................................ 31, 121-122</td>
</tr>
<tr>
<td>Kingman and Pershall property ....................... 44</td>
</tr>
<tr>
<td>Kirby Bar Placer ....................................... 119</td>
</tr>
<tr>
<td>Kittitas County ........................................ 16, 29, 30, 31, 32, 33, 64-67, 122-124</td>
</tr>
<tr>
<td>Lode gold occurrences ................................ 30, 64-67</td>
</tr>
<tr>
<td>Placer gold occurrences ................................ 29, 31, 122-124</td>
</tr>
<tr>
<td>Knob Hill mine ......................................... 26, 32, 54</td>
</tr>
<tr>
<td>Krennerite ............................................. 11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>La Rica property ....................................... 44</td>
</tr>
<tr>
<td>Lambert property ....................................... 106</td>
</tr>
<tr>
<td>Lame Foot property ..................................... 54</td>
</tr>
<tr>
<td>Lands:</td>
</tr>
<tr>
<td>County-owned ........................................... 19</td>
</tr>
<tr>
<td>Homesteads ............................................. 20</td>
</tr>
<tr>
<td>Indian reservations ................................... 19, 22</td>
</tr>
<tr>
<td>National forests ....................................... 19</td>
</tr>
<tr>
<td>National parks ......................................... 19</td>
</tr>
<tr>
<td>Not &quot;open&quot; ............................................... 19</td>
</tr>
<tr>
<td>&quot;Open&quot; .................................................... 19</td>
</tr>
<tr>
<td>Privately owned ........................................ 20</td>
</tr>
<tr>
<td>Reserved mineral ....................................... 20</td>
</tr>
<tr>
<td>State highway rights-of-way ......................... 19</td>
</tr>
<tr>
<td>State-owned ............................................ 19, 21</td>
</tr>
<tr>
<td>Tidelands ................................................ 19, 21</td>
</tr>
<tr>
<td>U. S. public domain ..................................... 19</td>
</tr>
<tr>
<td>Last Chance property ................................... 54, 75, 93</td>
</tr>
<tr>
<td>Lazy Tar Heel Placer ................................... 132</td>
</tr>
<tr>
<td>Leading producing mines ................................ 32</td>
</tr>
<tr>
<td>Leadville property ..................................... 75</td>
</tr>
<tr>
<td>Lease ...................................................... 20</td>
</tr>
<tr>
<td>Leavenworth Placer .................................... 114</td>
</tr>
<tr>
<td>Lennox property ........................................ 63</td>
</tr>
<tr>
<td>Lewis River Placer ..................................... 117</td>
</tr>
<tr>
<td>Liberty property ........................................ 66</td>
</tr>
<tr>
<td>License .................................................. 19, 27</td>
</tr>
<tr>
<td>Lincoln County .......................................... 31, 124</td>
</tr>
<tr>
<td>Placer gold occurrences .............................. 31, 124</td>
</tr>
<tr>
<td>Lincoln property ........................................ 106</td>
</tr>
<tr>
<td>List of:</td>
</tr>
<tr>
<td>Abandoned claims ....................................... 21</td>
</tr>
<tr>
<td>Claims staked .......................................... 21</td>
</tr>
<tr>
<td>&quot;Open&quot; lands ............................................ 21</td>
</tr>
<tr>
<td>Index</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Patented claims</td>
</tr>
<tr>
<td>State-owned lands</td>
</tr>
<tr>
<td>Little Cove property</td>
</tr>
<tr>
<td>Little Wink Placer</td>
</tr>
<tr>
<td>Livingston property</td>
</tr>
<tr>
<td>Localities of placer gold</td>
</tr>
<tr>
<td>Locating mining claims (see also Patenting mining claims)</td>
</tr>
<tr>
<td>Mineral rights</td>
</tr>
<tr>
<td>Staking lode claims</td>
</tr>
<tr>
<td>Staking placer claims</td>
</tr>
<tr>
<td>Lode claims, staking of</td>
</tr>
<tr>
<td>Lode deposits</td>
</tr>
<tr>
<td>Lode gold discoveries</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
</tr>
<tr>
<td>Benton County</td>
</tr>
<tr>
<td>Chelan County</td>
</tr>
<tr>
<td>Clallam County</td>
</tr>
<tr>
<td>Clark County</td>
</tr>
<tr>
<td>Cowlitz County</td>
</tr>
<tr>
<td>Ferry County</td>
</tr>
<tr>
<td>Jefferson County</td>
</tr>
<tr>
<td>King County</td>
</tr>
<tr>
<td>Kittitas County</td>
</tr>
<tr>
<td>Okanogan County</td>
</tr>
<tr>
<td>Pend Oreille County</td>
</tr>
<tr>
<td>Pierce County</td>
</tr>
<tr>
<td>Skagit County</td>
</tr>
<tr>
<td>Skamania County</td>
</tr>
<tr>
<td>Snohomish County</td>
</tr>
<tr>
<td>Stevens County</td>
</tr>
<tr>
<td>Whatcom County</td>
</tr>
<tr>
<td>Yakima County</td>
</tr>
<tr>
<td>Lode mining:</td>
</tr>
<tr>
<td>Districts</td>
</tr>
<tr>
<td>Methods</td>
</tr>
<tr>
<td>London property</td>
</tr>
<tr>
<td>Lone Jack property</td>
</tr>
<tr>
<td>Lone Pine property</td>
</tr>
<tr>
<td>Louise property</td>
</tr>
<tr>
<td>Lovelace property</td>
</tr>
<tr>
<td>Lucile Dreyfus property</td>
</tr>
<tr>
<td>Lucky King property</td>
</tr>
<tr>
<td>Lucky Queen property</td>
</tr>
<tr>
<td>Lucky Strike property</td>
</tr>
<tr>
<td>Lynch property</td>
</tr>
</tbody>
</table>

**M**

<p>| Mad River Placer                                                   | 114  |
| Magus property                                                     | 93   |
| Main and Bartnes Placer                                            | 116  |
| Mammoth property                                                   | 107  |</p>
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manitau property</td>
<td></td>
</tr>
<tr>
<td>Map of:</td>
<td></td>
</tr>
<tr>
<td>Abandoned claims</td>
<td>110</td>
</tr>
<tr>
<td>Claims staked</td>
<td>21</td>
</tr>
<tr>
<td>“Open” lands</td>
<td>21</td>
</tr>
<tr>
<td>Patented claims</td>
<td>21</td>
</tr>
<tr>
<td>State-owned lands</td>
<td>21</td>
</tr>
<tr>
<td>Marcella Placer</td>
<td>119</td>
</tr>
<tr>
<td>Marcus Placer</td>
<td>131</td>
</tr>
<tr>
<td>Market and prices</td>
<td>27</td>
</tr>
<tr>
<td>Mary Ann Creek Placer</td>
<td>125</td>
</tr>
<tr>
<td>Maud O. property</td>
<td>66</td>
</tr>
<tr>
<td>Mazama Pride property</td>
<td>76</td>
</tr>
<tr>
<td>Mazama Queen property</td>
<td>76</td>
</tr>
<tr>
<td>McCloud Placer</td>
<td>129</td>
</tr>
<tr>
<td>McCombs property</td>
<td>93</td>
</tr>
<tr>
<td>McMunn Placer</td>
<td>118</td>
</tr>
<tr>
<td>Meadows Placer</td>
<td>125</td>
</tr>
<tr>
<td>Mercer property</td>
<td>66</td>
</tr>
<tr>
<td>Methods of mining</td>
<td></td>
</tr>
<tr>
<td>Lode</td>
<td>25</td>
</tr>
<tr>
<td>Placer</td>
<td>26</td>
</tr>
<tr>
<td>Methow property</td>
<td>16, 26</td>
</tr>
<tr>
<td>Methow River Placers</td>
<td>76</td>
</tr>
<tr>
<td>Michigan property</td>
<td>126</td>
</tr>
<tr>
<td>Mid Range property</td>
<td>100</td>
</tr>
<tr>
<td>Mineral Center property</td>
<td>77</td>
</tr>
<tr>
<td>Mineral Hill property</td>
<td>93</td>
</tr>
<tr>
<td>Mineral reservations</td>
<td>55</td>
</tr>
<tr>
<td>Mineral rights</td>
<td>20</td>
</tr>
<tr>
<td>Mining claims:</td>
<td></td>
</tr>
<tr>
<td>Locating</td>
<td>19-22</td>
</tr>
<tr>
<td>Patenting</td>
<td>19-24</td>
</tr>
<tr>
<td>Staking</td>
<td>24</td>
</tr>
<tr>
<td>Taxation of</td>
<td>22, 23</td>
</tr>
<tr>
<td>Mining costs</td>
<td>24</td>
</tr>
<tr>
<td>Mining districts:</td>
<td></td>
</tr>
<tr>
<td>Lode</td>
<td>26</td>
</tr>
<tr>
<td>Placer</td>
<td>30</td>
</tr>
<tr>
<td>Mining laws</td>
<td>30</td>
</tr>
<tr>
<td>Mining lease</td>
<td>21</td>
</tr>
<tr>
<td>Mining methods and treatment</td>
<td>20</td>
</tr>
<tr>
<td>Minnie property</td>
<td>25</td>
</tr>
<tr>
<td>Mint, United States</td>
<td>77</td>
</tr>
<tr>
<td>Moclips River Placer</td>
<td>27</td>
</tr>
<tr>
<td>Molson property</td>
<td>121</td>
</tr>
<tr>
<td>Monetary history of gold</td>
<td>77</td>
</tr>
<tr>
<td>Money Creek Placer</td>
<td>27</td>
</tr>
<tr>
<td>Monica property</td>
<td>121</td>
</tr>
<tr>
<td>Monte Carlo property</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>64</td>
</tr>
<tr>
<td>Name</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Monte Cristo district</td>
<td>30, 36</td>
</tr>
<tr>
<td>Monte Cristo property</td>
<td>94</td>
</tr>
<tr>
<td>Morgan Placer</td>
<td>116</td>
</tr>
<tr>
<td>Morning Glory property</td>
<td>55</td>
</tr>
<tr>
<td>Morning Star property</td>
<td>56</td>
</tr>
<tr>
<td>Morrison property</td>
<td>66</td>
</tr>
<tr>
<td>Morrow Placer</td>
<td>116</td>
</tr>
<tr>
<td>Morse Creek Placer</td>
<td>134</td>
</tr>
<tr>
<td>Mother lode</td>
<td>12</td>
</tr>
<tr>
<td>Mother Lode property</td>
<td>77</td>
</tr>
<tr>
<td>Mount Baker district</td>
<td>30</td>
</tr>
<tr>
<td>Mount Baker property</td>
<td>107</td>
</tr>
<tr>
<td>Mount Chopaka area</td>
<td>30</td>
</tr>
<tr>
<td>Mount Vernon property</td>
<td>87</td>
</tr>
<tr>
<td>Mountain Beaver property</td>
<td>77</td>
</tr>
<tr>
<td>Mountain Daisy property</td>
<td>66</td>
</tr>
<tr>
<td>Mountain Lion property</td>
<td>56</td>
</tr>
<tr>
<td>Murray Placer</td>
<td>126</td>
</tr>
<tr>
<td>Muthmannite</td>
<td>11</td>
</tr>
<tr>
<td>Mystery property</td>
<td>94</td>
</tr>
</tbody>
</table>

**N**

<table>
<thead>
<tr>
<th>Name</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naches River lode gold</td>
<td>28</td>
</tr>
<tr>
<td>Nagyagite</td>
<td>11</td>
</tr>
<tr>
<td>Naneum Creek Placer</td>
<td>123</td>
</tr>
<tr>
<td>National forests</td>
<td>19</td>
</tr>
<tr>
<td>National parks</td>
<td>19</td>
</tr>
<tr>
<td>Natural gold</td>
<td>27, 28</td>
</tr>
<tr>
<td>New Deal property</td>
<td>86</td>
</tr>
<tr>
<td>New Light property</td>
<td>107</td>
</tr>
<tr>
<td>New London property</td>
<td>78</td>
</tr>
<tr>
<td>Nigger Bar Placer</td>
<td>131</td>
</tr>
<tr>
<td>Nigger Creek Bar Placer</td>
<td>131</td>
</tr>
<tr>
<td>Nigger (Negro) Creek Placers</td>
<td>114</td>
</tr>
<tr>
<td>Nighthawk district. (See Oroville-Nighthawk district.)</td>
<td></td>
</tr>
<tr>
<td>Ninemile Bar Placer</td>
<td>131</td>
</tr>
<tr>
<td>Ninemile Placer</td>
<td>119</td>
</tr>
<tr>
<td>Nip and Tuck Placer</td>
<td>133</td>
</tr>
<tr>
<td>Nooksack property</td>
<td>108</td>
</tr>
<tr>
<td>North American property</td>
<td>108</td>
</tr>
<tr>
<td>North Star property</td>
<td>45, 94</td>
</tr>
<tr>
<td>Northern Gold property</td>
<td>78</td>
</tr>
<tr>
<td>Northport Bar Placer</td>
<td>131</td>
</tr>
<tr>
<td>Not “open” lands</td>
<td>19</td>
</tr>
<tr>
<td>County-owned land</td>
<td>19</td>
</tr>
<tr>
<td>Indian reservations</td>
<td>19, 22</td>
</tr>
<tr>
<td>Privately owned land</td>
<td>20</td>
</tr>
<tr>
<td>Reserved mineral rights</td>
<td>20</td>
</tr>
<tr>
<td>State highway rights-of-way</td>
<td>19</td>
</tr>
</tbody>
</table>
State-owned land .................................................. 19, 21
Tidelands. (See under State-owned land.) .......................... 123
Nugget Placer .......................................................... 14, 16

O

Occident property ...................................................... 78
Occurrences .................................................................. 36-138
Abbreviations ............................................................... 38
Bibliography for occurrences ......................................... 135
General statement ......................................................... 36
Lode gold (see also Lode gold: discoveries, occurrences) ....... 39-110
Placer gold (see also Placer gold: discoveries, localities, occurrences) ...................................................... 113-134
Ocean beach placer deposits ........................................... 12
Ocean Park Placer ......................................................... 126
Ogren Placer ................................................................. 127
Okanogan County ......................................................... 31, 32, 33, 68-84, 125-126
Lode gold occurrences .................................................. 68-84
Placer gold occurrences ................................................ 31, 125-126
Okanogan Free Gold property ........................................ 78
Okanogan property ......................................................... 78
Okanogan River placers .................................................. 29
Old Bigney Placer .......................................................... 123
Old Discovery Placer ....................................................... 133
Old Gold property .......................................................... 56
Olden property ............................................................... 45
Oldfield property ............................................................ 94
Ollie Jordin property ....................................................... 67
Olympia property ........................................................... 45
Ontario property ............................................................ 45
“Open” land ................................................................. 19
List or map ................................................................ 21
National forests ............................................................. 19
United States public domain ............................................ 19
Ore minerals of gold ....................................................... 11-13
Ores and ore minerals of gold ......................................... 11-13
Lode deposits ............................................................... 12
Placer deposits ............................................................. 12
Orient district ................................................................. 30
Orient Eureka property .................................................... 100
Oriental and Central property ........................................... 78
Orovile-Nighthawk district .............................................. 30
O'Sullivan Creek Placer ................................................... 127
Overtop property ........................................................... 78
Owasco property ............................................................ 78
Oyhut Placer ................................................................. 121
Ozette Beach Placer ....................................................... 116
<table>
<thead>
<tr>
<th>P</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Coast beach placers</td>
<td>29</td>
</tr>
<tr>
<td>Pacific County</td>
<td>31, 126</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 126</td>
</tr>
<tr>
<td>Pacific property</td>
<td>87</td>
</tr>
<tr>
<td>Palmer Mountain Tunnel property</td>
<td>79</td>
</tr>
<tr>
<td>Palmer Summit property</td>
<td>79</td>
</tr>
<tr>
<td>Panama property</td>
<td>57</td>
</tr>
<tr>
<td>Pangborn property</td>
<td>46</td>
</tr>
<tr>
<td>Panning, method of</td>
<td>16</td>
</tr>
<tr>
<td>Paramount property</td>
<td>67</td>
</tr>
<tr>
<td>Patented claims</td>
<td>21</td>
</tr>
<tr>
<td>Patenting mining claims</td>
<td>24</td>
</tr>
<tr>
<td>Pateros property</td>
<td>79</td>
</tr>
<tr>
<td>Paymaster property</td>
<td>79</td>
</tr>
<tr>
<td>Peabody property</td>
<td>94</td>
</tr>
<tr>
<td>Peach Bar Placer</td>
<td>124</td>
</tr>
<tr>
<td>Pearl property</td>
<td>57</td>
</tr>
<tr>
<td>Pend Oreille County</td>
<td>31, 84-85, 127</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>84-85</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 127</td>
</tr>
<tr>
<td>Pend Oreille River placers</td>
<td>28</td>
</tr>
<tr>
<td>Pennington property</td>
<td>79</td>
</tr>
<tr>
<td>Permit</td>
<td>20</td>
</tr>
<tr>
<td>Perry Placer</td>
<td>123</td>
</tr>
<tr>
<td>Perry property</td>
<td>88</td>
</tr>
<tr>
<td>Peshastin Creek placers</td>
<td>28, 29, 114</td>
</tr>
<tr>
<td>Peshastin property</td>
<td>46</td>
</tr>
<tr>
<td>Peterson Placer</td>
<td>129</td>
</tr>
<tr>
<td>Petzite</td>
<td>11</td>
</tr>
<tr>
<td>Phipps property</td>
<td>46</td>
</tr>
<tr>
<td>Phoenix Placer</td>
<td>129</td>
</tr>
<tr>
<td>Phoenix property</td>
<td>46</td>
</tr>
<tr>
<td>Physical properties of gold</td>
<td>9</td>
</tr>
<tr>
<td>Pickhandle property</td>
<td>86, 110</td>
</tr>
<tr>
<td>Pierce County</td>
<td>31, 85-87, 127</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>85-87</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 127</td>
</tr>
<tr>
<td>Pinnacle property</td>
<td>79</td>
</tr>
<tr>
<td>Placer claims, staking of</td>
<td>23</td>
</tr>
<tr>
<td>Placer deposits</td>
<td>12, 32</td>
</tr>
<tr>
<td>Placer gold discoveries</td>
<td>28, 29, 30, 31</td>
</tr>
<tr>
<td>Placer gold localities</td>
<td>30, 31</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>113-134</td>
</tr>
<tr>
<td>Asotin County</td>
<td>113</td>
</tr>
<tr>
<td>Benton County</td>
<td>113</td>
</tr>
<tr>
<td>Chelan County</td>
<td>114-115</td>
</tr>
<tr>
<td>Clallam County</td>
<td>115-117</td>
</tr>
<tr>
<td>Clark County</td>
<td>117-118</td>
</tr>
<tr>
<td>Douglas County</td>
<td>118</td>
</tr>
<tr>
<td>County</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Ferry County</td>
<td>118-121</td>
</tr>
<tr>
<td>Grant County</td>
<td>121</td>
</tr>
<tr>
<td>Grays Harbor County</td>
<td>121</td>
</tr>
<tr>
<td>Jefferson County</td>
<td>121</td>
</tr>
<tr>
<td>King County</td>
<td>121-122</td>
</tr>
<tr>
<td>Kittitas County</td>
<td>124</td>
</tr>
<tr>
<td>Lincoln County</td>
<td>124</td>
</tr>
<tr>
<td>Okanogan County</td>
<td>125-126</td>
</tr>
<tr>
<td>Pacific County</td>
<td>126</td>
</tr>
<tr>
<td>Pend Oreille County</td>
<td>127</td>
</tr>
<tr>
<td>Pierce County</td>
<td>127</td>
</tr>
<tr>
<td>Skagit County</td>
<td>128</td>
</tr>
<tr>
<td>Skamania County</td>
<td>128</td>
</tr>
<tr>
<td>Snohomish County</td>
<td>128-130</td>
</tr>
<tr>
<td>Stevens County</td>
<td>130-132</td>
</tr>
<tr>
<td>Whatcom County</td>
<td>132-133</td>
</tr>
<tr>
<td>Whitman County</td>
<td>133</td>
</tr>
<tr>
<td>Yakima County</td>
<td>133-134</td>
</tr>
<tr>
<td>Placer mining:</td>
<td></td>
</tr>
<tr>
<td>Districts</td>
<td>30</td>
</tr>
<tr>
<td>Methods</td>
<td>16, 26</td>
</tr>
<tr>
<td>Plamondon property</td>
<td>88</td>
</tr>
<tr>
<td>Plants, gold in</td>
<td>11</td>
</tr>
<tr>
<td>Plum Bar Placer</td>
<td>120</td>
</tr>
<tr>
<td>Point Brown Placer</td>
<td>121</td>
</tr>
<tr>
<td>Poland China property</td>
<td>80</td>
</tr>
<tr>
<td>Pole Pick No. 2 property</td>
<td>47</td>
</tr>
<tr>
<td>Pole Pick property</td>
<td>47</td>
</tr>
<tr>
<td>Port Angeles property</td>
<td>49</td>
</tr>
<tr>
<td>Possessory title</td>
<td>22, 24</td>
</tr>
<tr>
<td>Post-Lambert property</td>
<td>108</td>
</tr>
<tr>
<td>President property</td>
<td>108</td>
</tr>
<tr>
<td>Prices</td>
<td>27</td>
</tr>
<tr>
<td>Pride property</td>
<td>95</td>
</tr>
<tr>
<td>Primary Gold property</td>
<td>89</td>
</tr>
<tr>
<td>Princess Maude property</td>
<td>57</td>
</tr>
<tr>
<td>Privately owned land</td>
<td>20</td>
</tr>
<tr>
<td>Production</td>
<td>32-36</td>
</tr>
<tr>
<td>Properties of gold, physical and chemical</td>
<td>9</td>
</tr>
<tr>
<td>Prospect property</td>
<td>47</td>
</tr>
<tr>
<td>Prospecting for gold</td>
<td>13-18</td>
</tr>
<tr>
<td>Identification tests</td>
<td>17</td>
</tr>
<tr>
<td>Sampling</td>
<td>15</td>
</tr>
<tr>
<td>Size of gold particles</td>
<td>16</td>
</tr>
<tr>
<td>Prospecting permit</td>
<td>20</td>
</tr>
<tr>
<td>Prosser property</td>
<td>39</td>
</tr>
<tr>
<td>Public domain, U. S.</td>
<td>19</td>
</tr>
<tr>
<td>Purple of Cassius test</td>
<td>18</td>
</tr>
<tr>
<td>Pythias property</td>
<td>64</td>
</tr>
</tbody>
</table>
### Index

<table>
<thead>
<tr>
<th>Q</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queen Anne property</td>
<td>95</td>
</tr>
<tr>
<td>Quilp property</td>
<td>57</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Raging River Placers</td>
<td>121</td>
</tr>
<tr>
<td>Railroad Creek district</td>
<td>30</td>
</tr>
<tr>
<td>Railroad Creek Placer</td>
<td>114</td>
</tr>
<tr>
<td>Rainbow property</td>
<td>80</td>
</tr>
<tr>
<td>Rainy property</td>
<td>95</td>
</tr>
<tr>
<td>Raised beach placer deposits</td>
<td>12</td>
</tr>
<tr>
<td>Rebate property</td>
<td>58</td>
</tr>
<tr>
<td>Reco property</td>
<td>80</td>
</tr>
<tr>
<td>Recovery of gold:</td>
<td></td>
</tr>
<tr>
<td>From ores</td>
<td>25</td>
</tr>
<tr>
<td>From placer deposits</td>
<td>25, 26</td>
</tr>
<tr>
<td>From sea water</td>
<td>26</td>
</tr>
<tr>
<td>Red Cap property</td>
<td>47</td>
</tr>
<tr>
<td>Red Hill property</td>
<td>47</td>
</tr>
<tr>
<td>Red Mountain property</td>
<td>108</td>
</tr>
<tr>
<td>Red Shirt property</td>
<td>81</td>
</tr>
<tr>
<td>Reed and Roberts Placer</td>
<td>132</td>
</tr>
<tr>
<td>Republic district</td>
<td>30, 32, 36</td>
</tr>
<tr>
<td>Republic property</td>
<td>58</td>
</tr>
<tr>
<td>Reservations, Indian</td>
<td>19, 22</td>
</tr>
<tr>
<td>Reserved mineral rights</td>
<td>20</td>
</tr>
<tr>
<td>Residual placer deposits</td>
<td>12</td>
</tr>
<tr>
<td>Revaluation of gold</td>
<td>27</td>
</tr>
<tr>
<td>Rex property</td>
<td>47</td>
</tr>
<tr>
<td>Rico Placer</td>
<td>120</td>
</tr>
<tr>
<td>Rights, mineral</td>
<td>19-22</td>
</tr>
<tr>
<td>River gravel placer deposits</td>
<td>12</td>
</tr>
<tr>
<td>Roberts Placer</td>
<td>132</td>
</tr>
<tr>
<td>Rocky Creek property</td>
<td>83</td>
</tr>
<tr>
<td>Rogers Bar Placer</td>
<td>120</td>
</tr>
<tr>
<td>Rogers property</td>
<td>48</td>
</tr>
<tr>
<td>Roosevelt property</td>
<td>81</td>
</tr>
<tr>
<td>Rosario property</td>
<td>58</td>
</tr>
<tr>
<td>Ruby Beach Placer</td>
<td>121</td>
</tr>
<tr>
<td>Ruby Creek Placer</td>
<td>115, 128, 133</td>
</tr>
<tr>
<td>Ruby Creek placers</td>
<td>29</td>
</tr>
<tr>
<td>Rustler Creek property</td>
<td>61</td>
</tr>
<tr>
<td>Ruth Mountain Pyrite property</td>
<td>108</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Saginaw property</td>
<td>109</td>
</tr>
<tr>
<td>Sailors Bar Placer</td>
<td>129</td>
</tr>
<tr>
<td>St. Anthony property</td>
<td>81</td>
</tr>
<tr>
<td>St. Crispin property</td>
<td>101</td>
</tr>
<tr>
<td>Sampling</td>
<td>15</td>
</tr>
<tr>
<td>San Jose property</td>
<td>64</td>
</tr>
<tr>
<td>San Poll property</td>
<td>59</td>
</tr>
<tr>
<td>Location/Property</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Sand Island Placer</td>
<td>126</td>
</tr>
<tr>
<td>Sand Point Placer</td>
<td>117</td>
</tr>
<tr>
<td>Sandell property</td>
<td>48</td>
</tr>
<tr>
<td>Schierding Placer</td>
<td>127</td>
</tr>
<tr>
<td>Schultz Placer</td>
<td>127</td>
</tr>
<tr>
<td>Scougale Placer</td>
<td>133</td>
</tr>
<tr>
<td>Sea water:</td>
<td></td>
</tr>
<tr>
<td>Gold in</td>
<td>11</td>
</tr>
<tr>
<td>Recovery of gold from</td>
<td>26</td>
</tr>
<tr>
<td>Seattle property</td>
<td>59</td>
</tr>
<tr>
<td>Second Thought property</td>
<td>101</td>
</tr>
<tr>
<td>Seigmund Ranch property</td>
<td>86</td>
</tr>
<tr>
<td>Shaser Creek Placer</td>
<td>115</td>
</tr>
<tr>
<td>Sheep Creek placer</td>
<td>28</td>
</tr>
<tr>
<td>Shi Shi Beach Placer</td>
<td>117</td>
</tr>
<tr>
<td>Shirley Placer</td>
<td>129</td>
</tr>
<tr>
<td>Short Grub property</td>
<td>109</td>
</tr>
<tr>
<td>Sidney property</td>
<td>95</td>
</tr>
<tr>
<td>Silver Bell property</td>
<td>82</td>
</tr>
<tr>
<td>Silver Bull property</td>
<td>67</td>
</tr>
<tr>
<td>Silver Creek Gold &amp; Lead property</td>
<td>86</td>
</tr>
<tr>
<td>Silver Creek Placer</td>
<td>127</td>
</tr>
<tr>
<td>Silver Creek property</td>
<td>67, 86</td>
</tr>
<tr>
<td>Silver Ledge property</td>
<td>82</td>
</tr>
<tr>
<td>Silver Star property</td>
<td>49</td>
</tr>
<tr>
<td>Similkameen Falls Placer</td>
<td>126</td>
</tr>
<tr>
<td>Similkameen placers</td>
<td>29, 33, 126</td>
</tr>
<tr>
<td>Size of gold particles</td>
<td>16</td>
</tr>
<tr>
<td>Skagit County</td>
<td>31, 87, 128</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>87</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 128</td>
</tr>
<tr>
<td>Skamania County</td>
<td>31, 88-89, 128</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>88-89</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 128</td>
</tr>
<tr>
<td>Slate Creek district</td>
<td>31</td>
</tr>
<tr>
<td>Slate Creek property</td>
<td>109</td>
</tr>
<tr>
<td>Snake River Placer</td>
<td>113</td>
</tr>
<tr>
<td>Snake River placers</td>
<td>29</td>
</tr>
<tr>
<td>Snohomish County</td>
<td>29, 30, 31, 32, 33, 89-96, 128-130</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>30, 89-96</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>29, 31, 128-130</td>
</tr>
<tr>
<td>Snoqualmie River Placers</td>
<td>122</td>
</tr>
<tr>
<td>Snow Cap property</td>
<td>82</td>
</tr>
<tr>
<td>Soldier Boy property</td>
<td>87</td>
</tr>
<tr>
<td>Solita Placer</td>
<td>115</td>
</tr>
<tr>
<td>South Penn property</td>
<td>59</td>
</tr>
<tr>
<td>Southern Republic property</td>
<td>59</td>
</tr>
<tr>
<td>Spectrographic test</td>
<td>18</td>
</tr>
<tr>
<td>Spokane property</td>
<td>82, 83</td>
</tr>
<tr>
<td>Sponge, gold</td>
<td>18, 27</td>
</tr>
<tr>
<td>Squillchuck property</td>
<td>48</td>
</tr>
</tbody>
</table>
Index

Staking:

Lode claims ............................................. 22
Placer claims ........................................... 23
Starbuck Placer ........................................ 117
State highway rights-of-way ......................... 19
State-owned land ....................................... 19, 21
List or map .............................................. 21
Tidelands .................................................. 21
Stehekin River Placers ................................. 115
Stevens County .......................................... 31, 32, 33, 96-102, 130-132
Lode gold occurrences ................................. 96-102
Placer gold occurrences ............................... 31, 130-132
Stillaguamish River Placers ........................ 129
Stout Placer .............................................. 120
Stranger Creek Placer ................................ 120
Strawberry Creek Placer .............................. 126
Stream placer deposits ................................ 13
Sullivan Creek Placer .................................. 127
Sullivan property ....................................... 83
Sultan Canyon Placer .................................. 130
Sultan Placer ............................................ 129
Sultan River Placer .................................... 130
Sultan River placers ................................... 29, 130
Summit property ......................................... 83
Sunday Morning Star property ...................... 101
Sunday property ......................................... 101
Sunrise property ....................................... .85, 95
Sunset Creek Placer .................................... 117
Sunshine property .......................... 48, 83
Sure Thing property ................................... 87
Surprise property ....................................... 59, 60
Surveyors Creek Placer ............................... 134
Swamp King property .................................. 101
Swauk Creek placers .................................. 29, 123
Swauk district .......................................... 16, 30
Swauk Mining & Dredging Placer ................. 123
Sylvanite .................................................. 11

T

T-Bone property .......................................... 67
Tacoma property ........................................ 87, 109
Tanya Placer ............................................. 133
Taxation of claims .................................... 24
Tellurides ................................................ 11, 17
Tests:

Chemical .................................................. 18
Fire assay ................................................. 18
Identification ............................................ 17
Purple of Cassius ...................................... 18
Spectrographic ......................................... 18
Texas Gulch Placer .................................... 128
# Index

<table>
<thead>
<tr>
<th>Property</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tidelands</td>
<td>19, 21</td>
</tr>
<tr>
<td>Tip Top property</td>
<td>48</td>
</tr>
<tr>
<td>Titanic property</td>
<td>102</td>
</tr>
<tr>
<td>Title, possessory</td>
<td>22, 24</td>
</tr>
<tr>
<td>Tolt River Placer</td>
<td>122</td>
</tr>
<tr>
<td>Tom Hal property</td>
<td>83</td>
</tr>
<tr>
<td>Tom Thumb property</td>
<td>60</td>
</tr>
<tr>
<td>Trade Dollar property</td>
<td>60</td>
</tr>
<tr>
<td>Treatment:</td>
<td></td>
</tr>
<tr>
<td>Of amalgam</td>
<td>27</td>
</tr>
<tr>
<td>Of ores</td>
<td>25</td>
</tr>
<tr>
<td>Of sea water</td>
<td>26</td>
</tr>
<tr>
<td>Triangle property</td>
<td>84</td>
</tr>
<tr>
<td>Triune property</td>
<td>84</td>
</tr>
<tr>
<td>Trophy property</td>
<td>102</td>
</tr>
<tr>
<td>Trouble Placer</td>
<td>118</td>
</tr>
<tr>
<td>Turtle Rapids Placer</td>
<td>120</td>
</tr>
<tr>
<td>Undaunted property</td>
<td>96</td>
</tr>
<tr>
<td>U. S. Gold Reserve Act of 1934</td>
<td></td>
</tr>
<tr>
<td>U. S. Land Office</td>
<td>27</td>
</tr>
<tr>
<td>U. S. Mint (Assay Office)</td>
<td>19, 20, 24</td>
</tr>
<tr>
<td>U. S. National Forests</td>
<td>27</td>
</tr>
<tr>
<td>U. S. National Parks</td>
<td>19</td>
</tr>
<tr>
<td>U. S. Public Domain</td>
<td>19</td>
</tr>
<tr>
<td>Uses of gold</td>
<td>10</td>
</tr>
<tr>
<td>Valbush Bar Placer</td>
<td>132</td>
</tr>
<tr>
<td>Valley Dew property</td>
<td>102</td>
</tr>
<tr>
<td>Valley property</td>
<td>61</td>
</tr>
<tr>
<td>Value of gold</td>
<td>17, 27</td>
</tr>
<tr>
<td>Velvet property</td>
<td>109</td>
</tr>
<tr>
<td>Verona property</td>
<td>109</td>
</tr>
<tr>
<td>Virginia property</td>
<td>61</td>
</tr>
<tr>
<td>Walker Placer</td>
<td>126</td>
</tr>
<tr>
<td>Wall Street property</td>
<td>67</td>
</tr>
<tr>
<td>War Eagle property</td>
<td>34</td>
</tr>
<tr>
<td>Washington Cascade property</td>
<td>87</td>
</tr>
<tr>
<td>Washington-Iowa property</td>
<td>96</td>
</tr>
<tr>
<td>Wayside property</td>
<td>96</td>
</tr>
<tr>
<td>Webster property</td>
<td>96</td>
</tr>
<tr>
<td>Wednesday Placer</td>
<td>96</td>
</tr>
<tr>
<td>Weight of gold</td>
<td>115</td>
</tr>
<tr>
<td>Welcome Stranger nugget</td>
<td>9, 17</td>
</tr>
<tr>
<td>Wenatchee district</td>
<td>16</td>
</tr>
<tr>
<td>Wenatchee Placer</td>
<td>30</td>
</tr>
<tr>
<td>Wenatchee property</td>
<td>115</td>
</tr>
<tr>
<td>Wenatchee River placer</td>
<td>48</td>
</tr>
<tr>
<td>Wenatchee River placer</td>
<td>28, 115</td>
</tr>
<tr>
<td>County/Property</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Whatcom County</td>
<td>29, 31, 32, 33, 102-110, 132-133</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>102-110</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>29, 31, 132-133</td>
</tr>
<tr>
<td>Whitman County</td>
<td>31, 133</td>
</tr>
<tr>
<td>Placer gold occurrence</td>
<td>31, 133</td>
</tr>
<tr>
<td>Wilder property</td>
<td>49</td>
</tr>
<tr>
<td>Williams Creek placers</td>
<td>124</td>
</tr>
<tr>
<td>Willis property</td>
<td>110</td>
</tr>
<tr>
<td>Wilmont Bar Placer</td>
<td>120</td>
</tr>
<tr>
<td>Winkelman Bar Placer</td>
<td>124</td>
</tr>
<tr>
<td>Woodrich Placer</td>
<td>133</td>
</tr>
<tr>
<td>Wye property</td>
<td>49</td>
</tr>
<tr>
<td>Yakima County</td>
<td>31, 110, 133-134</td>
</tr>
<tr>
<td>Lode gold occurrences</td>
<td>110</td>
</tr>
<tr>
<td>Placer gold occurrences</td>
<td>31, 133-134</td>
</tr>
<tr>
<td>Yakima River gold discovery</td>
<td>28</td>
</tr>
<tr>
<td>Yakima River Placer</td>
<td>124</td>
</tr>
<tr>
<td>Yellow Banks Placer</td>
<td>117</td>
</tr>
</tbody>
</table>