

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
Head Office: 1069 State Office Bldg., Portland 1, Oregon
Telephone: Capitol 6-2161, Ext. 488

Field Offices

2033 First Street
Baker

239 S.E. "H" Street
Grants Pass

MINING IN BAKER COUNTY, 1861 to 1959*

By
Norman S. Wagner**

Introduction

Baker County mining began with the discovery of gold in Griffin Gulch in 1861. This and the development which followed at Auburn represent gold mining at its historic best. Since 1861, much water has flowed down the sluice boxes with respect to mineral resource development within the county. As a result, the discovery story is left for historians to tell, and the following paragraphs are devoted to the high points of the many kinds of mining endeavors that occurred in Baker County between 1861 and 1959.

Hydraulic and sluicing operations

All of the earlier placer operations have one thing in common with Griffin Gulch and Auburn. This is that they were carried out by means of ground sluicing and hydraulicking, using generous amounts of hand labor. These means of handling placer ground continued in exclusive use throughout the first forty years of Baker County mining history. It wasn't until the present century that the more familiar bucket-line dredges and other kinds of mechanized digging and washing plants made their appearance. Even yet the old methods are still employed on a small scale in circumstances where ground conditions permit.

The Rye Valley placers on Dixie Creek represent a notable example of an early discovery made shortly after 1862. This placer ground lay in the bed of Dixie Creek and also on high bars blanketing the foothills along both sides of the creek. Unlike Griffin Gulch and Auburn, where production fell off drastically after a few years of intensive mining, the Rye Valley placers supported operations more or less continuously until about 1914, and mining on a small-scale basis lasted even longer. Scarcity of water forced seasonal operations which accounts in part for the long life of these placers. The mining was done by hydraulicking and ground sluicing, and the yardage of ground that was moved over the years was tremendous.

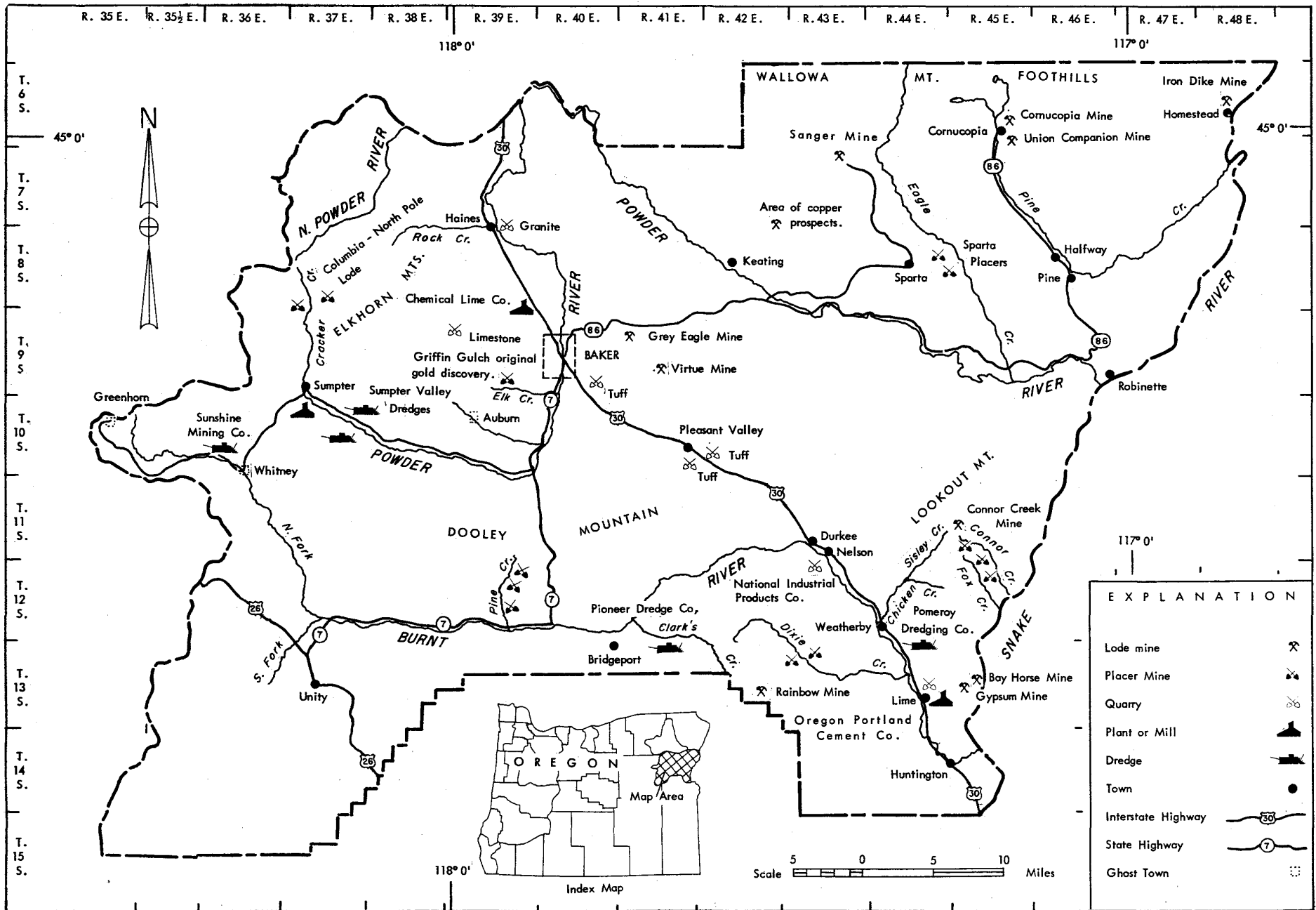
The placers of the Sparta district were also found to be auriferous at a very early date, but lack of water precluded operations until completion of the Sparta ditch in 1873. Production then flourished until about 1890 when output diminished due to exhaustion of workable placer gravels.

Other placers, some early discoveries and some not so early, were found and worked by primitive methods in many parts of Baker County. Areas include the Sumpter district placers discovered in 1862, the Mormon Basin placers, and many different localities in the Eagle, Sanger, and Burnt River districts.

While interesting stories could be told about many of these areas, the Connor Creek and Pine Creek placers are singled out here because of their similarities and differences. For example, both creeks were exceptionally rich in heavy specimen or "nugget" gold. A great number of the spectacular specimens in the famous gold exhibit of the First National Bank in Baker came from Pine Creek, and many other Pine Creek specimens have gone to collections elsewhere. On the other hand, comparatively few specimens of Connor Creek gold exist today. The reason for this is that Pine Creek placer, discovered as recently as 1897, has supported virgin production up to within the past few years and has been a source of collector's specimens. But the Connor Creek placer was an early discovery that had already been "worked over twice" when seen by Lindgren in 1901, and the cream of its nugget crop went to the melting furnaces long years before specimen nuggets were held in esteem as collector's items. After all, there once was a time when our national currency was backed by coins made of gold, even though this too is now a matter of history. The melting pot was then more important than a showcase shelf.

* This report was prepared for use as needed in the forthcoming Centennial Edition of the Baker Democrat-Herald, and is printed here in full with permission of the paper's editor, Mr. Bolinger.

** Field Geologist, State of Oregon Department of Geology and Mineral Industries.



BAKER COUNTY SHOWING LOCATION OF PRINCIPAL MINES 1861 - 1959

Dredging

Just when or where mechanized dredging began in Baker County is not known, but as early as 1900 a dredge of stupendous proportions was operating on the lower Burnt River at Weatherby. According to Lindgren (1901) (see list of references at the end of this report) the dredge, operated by the Pomeroy Dredging Company of Portland, was 100 feet long, 33 feet wide, of the "ladder-and-bucket chain type". The ladder was 76 feet long, equipped with 35 buckets of 5 cubic feet capacity each. Steam was the power to the tune of 6 tons of coal a day at \$6 a ton and the digging capacity was 1500 cubic yards in 24 hours. Ten men were employed and total operating expenses were about \$70 a day. The cost of the installations, including test prospecting, a trommel screen, and an elaborate "suspended sluice" system 140 feet long, with wooden riffles, was \$68,000.

It is not known how long the Pomeroy dredge remained in operation, or with what success, but the indications are it didn't last very long or more would be known about it. During later years, several large bucket-line dredges and many other smaller shovel-fed washing plants were in successful operation at various places in the county. The number of small operations is far too great to permit individual description, although one may deserve mention for the reason that in 1940 it made headlines for the newspapers and headaches for its owners by capsizing in 15 feet of water. This was a boat operated by the Oregon Mining Company on Burnt River a few miles below Bridgeport.

The most notable of all Baker County dredging occurred in the Sumpter Valley area where a succession of both bucket-line dredges and "doodle bug" washing plants worked throughout much of the current century. Testing to determine the suitability of large-scale dredge operations in the main valley began in 1901, but it wasn't until January 7, 1913 that the first of the big bucket-line dredges went into operation. This was the "City of Sumpter" and its dedication was the occasion for a major celebration on the part of the citizens of Sumpter. The only difficulty experienced on this "beginning of the history of gold dredging in eastern Oregon" was ice on the dredge pond, according to the Blue Mountain American of January 19, 1913. From this time on until operations were discontinued in July 1954, the dredge payrolls constituted one of the principal economic mainstays to Sumpter's economy, particularly after the lode mines became inactive and local logging operations tapered off.

Operation of the first large bucket-line dredge in Sumpter Valley was begun by the Powder River Dredging Company. This company existed from 1912 to 1924. In 1915 it put a second boat in operation. Whether by coincidence, or not, the last operating company was also known as the Powder River Dredging Company. This company operated from July 1950 to July 1954. Between these extremes other operating companies were: Sumpter Gold Dredging Company, 1919 to 1924; the Sumpter Valley Gold Dredging Company, 1935 to 1948, except during World War II; and the Baker Dredging Company, 1948 to 1950. About 30 men were employed by the last Powder River Dredging Company. Other bucket-line dredge operations took place in the county on Clark's Creek, near Bridgeport and near Whitney.

No total figure is available for the value of the output of these dredges, but the U. S. Bureau of Mines, Minerals Yearbook production statistics show quite clearly that this dredging contributed very substantially to Baker County's prestige as the leading gold producing county in the state.

No history of placer mining would be complete without reference to the great amount of small-scale sniper-type operations that took place during the depression. Men by the hundreds took to the hills at this time, and the hills rewarded many with what it took to keep skin and bones together until jobs in their normal fields once again became available. The Snake River in particular was dotted with the sluice boxes and wheelbarrows of these rugged individuals, some of whom worked bedrock crevices far out into the river while others centered their attention on remnants of high bar gravels plastered on the hills above the river.

Lode mines

Although some men were confirmed placer operators, there were others always interested in the nebulous "mother lode" from which the gold in the placers came. Thus it is that vein discoveries were made even during the earliest period of Oregon's mining history. The milling endeavors which followed lode discoveries included the erection of three arrastras and three stamp mills in Baker County by 1870, according to Raymond (1871).

The earliest of the stamp mills is described as being a 10-stamp mill, located on the eastern outskirts of Baker City. This mill was erected by Colonel Ruckles in 1864 to handle ore from the mine now known as the Virtue. By 1870 the Virtue had been worked so extensively that ore reserves had been largely depleted above the two tunnel levels, and the sinking of a 200-foot vertical shaft below the lowest tunnel level had reached the 50-foot mark. Between 1870 and 1898 this shaft was deepened to 800 feet. Since 1898 the mine has been inactive except for a few brief periods during which small amounts of ore have been recovered from above the drainage level.

The first mill at Sanger is understood to have been a single-bed arrastra, built by Colonel Clough on a site above the present Wendt cabin, according to Charlie Marks and the late Bert Sturgill, both old-time miners

well versed on the early mining history in the Eagle Creek district. This arrastra was replaced in 1865 by a 5-stamp mill brought in from San Francisco and erected about where the Wendt cabin now stands. The story is that Colonel Clough didn't like the mill and proceeded to build another arrastra, a large double-bed unit constructed entirely of hand-hewn timbers. Remnants of one section of this second arrastra still exist, as Mr. Marks salvaged it about 30 years ago and put it back into service at another, nearby location. The rest was destroyed during construction of the Goose Creek road which passes directly over the site where the original unit stood. According to Lindgren, the later, better known Sanger mill was a 10-stamp unit, built in 1887.

The first Connor Creek mill was a 5-stamp unit erected in 1872. In 1876, 15-stamps were in use and still larger mills were erected in later years. Incidentally, it is reported that a large part of the profits from this operation went as an endowment to Reed College. By and large, the main period of lode mining activity on Connor Creek ended by 1902.

During the ensuing years, the centers of maximum production from lode mines jumped from one district to another. For instance, the Rainbow mine in Mormon Basin is credited as the largest lode producer in the state in 1913, 1914, and 1915 (Gilluly, Reed and Park 1933). The most productive period of operation for the Cracker Creek district, above Sumpter, occurred between 1895 and 1910, ending three years before large-scale, consistent mining operations began in the Cornucopia district. During the late 1930's the veins of the Cornucopia district enjoyed the prestige of state-wide productive leadership, with the Cornucopia mine credited as being the producer of "60 percent of Oregon's output of vein gold in 1939" according to a report in the Mining Journal, January 30, 1941.

Although sporadic production began in the 1880's in the Cornucopia district it wasn't until a well-devised cyanide plant was erected at the Union Companion mine in 1913 that production got under way in earnest. From 1913 on, mining activity expanded in the area, coming to an end as recently as October 31, 1941, and then only because of operating hardships imposed by the abnormal labor and supply conditions which preceded World War II. The Cornucopia Gold mine was the last and largest of the operations active in the region at the time. About 350 men, including contractors and independent lessees, were employed during its heyday. Total production from the Cornucopia district as a whole for the period between 1870 and 1939, is estimated at \$10,000,000 (Oregon Department of Geology and Mineral Industries, 1939).

The Cracker Creek district has a total production record of \$9,000,000, almost all of which originated from veins and in particular from the mines located on the celebrated North Pole-Columbia lode. Although this production record is comparable to that from the Cornucopia district, the history is far different. Steam power was still in vogue when Cracker Creek was active, and the rock-drilling practices of the period would have made a 1940 miner shudder. Indeed, rock-drilling machines were so new in 1902 and 1903 that the newspapers gave headline space to stories announcing experimental introduction of this equipment by Cracker Creek operators.

Milling facilities were also crude during Cracker Creek time as compared to those available when Cornucopia was active. Thus, despite a total production of over \$8,000,000 from lode sources, tailings losses of \$4,000,000 were experienced by all the mills in the Cracker Creek district, according to Parks and Swartley (1916). These authors state further that \$2,800,000 could have been saved in modern mills. It should be remembered, however, that their "modern mills" were based on 1916 standards, and their production statistics were calculated on the old \$20.67 price of gold.

Several attempts have been made since 1910 to revive mining in the Cracker Creek lode, but none have thus far met with lasting success. Why this should be so today is easy to answer. Gold mining is at a virtual standstill throughout the nation due to the fact that the price of gold is still pegged at its pre-Pearl Harbor level while the costs of labor and supplies have risen to unprecedented highs.

Why attempts to reactivate the Cracker Creek mines didn't succeed before the war when the economic climate was favorable is another story, but reactivating old mines once they have been abandoned and caved is always fraught with abnormal difficulties. One all-too-common cause of failure is that new companies underestimate the cost of rehabilitating an old mine and exhaust their funds before getting in shape for well-established, sound operations. Other stumbling blocks in the path of reopening abandoned mines are legal complications which arise over the years with respect to titles, owners who won't lease on favorable terms, and hopeful operators who sometimes have more enthusiasm than judgment. Mining camps everywhere are faced with these difficulties and Oregon is no exception. Nevertheless, the productive history of the Cracker Creek district is such that it can be predicted that successful reactivation will surely click someday if favorable changes in the economy of gold mining ever occur.

One of the examples of attempted reactivation of the Cracker Creek mines was the erection in 1940-1941 of the modern 100-ton mill by the Ellis Company, on a consolidation of several of the important Columbia-North Pole properties. Unfortunately this endeavor was completed just prior to the start of the industrial upset brought about by the defense mobilization of World War II. As a result, the undertaking had to be discontinued before substantial production got under way. Another large-scale development program was started soon after the war when the restrictions on gold mining were lifted. This was conducted by the Solar Development Company, a subsidiary of the well-known Canadian Consolidated Mining & Smelting Company of British Columbia. The venture

was abandoned, however, when it became clear that the anticipated rise in gold price was not going to materialize. The company found it could realize far more for its development dollar in Canada where an enlightened government has always followed a realistic course of encouraging prospect development in all categories of mining endeavor. The late John Arthur of Baker is another who expended sound, ambitious efforts in fruitless attempts to reactivate the camp.

Mineral resources other than gold

Limestone: Utilization of Baker County's vast limestone resources had its humble beginning way back in the last century. This is manifest today by the remnants of small batch-type kilns at Nelson, Pleasant Valley, and Marble Creek. In these crude kilns limestone was burned with wood for fuel. Primitive though they were, the mortar made from the lime derived from these kilns was used in all the chimneys and the stone and brick buildings of the county. According to Lindgren (1901), the deposits at Lime supplied the larger part of the lime used in the state of Oregon during this period. Even the Marble Mountain limestone, which today supplies rock for the Chemical Lime Company, Baker County's newest mineral resource development and Oregon's only burnt lime plant, had its productive debut back in the 1800's.

Today, Baker County's limestone industry produces for industrial outlets never dreamed of during the last century. For example, the output of the National Industrial Products Corporation at Durkee goes primarily to the sugar-refining industry of Idaho and to various paper manufacturers. The burned-lime products of the Chemical Lime Plant have application in an even wider range of industries, one of the most important of which has to do with the manufacture of acetylene gas. Cement manufacture by the Oregon Portland Cement Company at Lime has been going on since the 1920's, and the quarries there have also been supplying raw stone to the company's plant at Oswego in Clackamas County. The Oregon Portland Cement Company recently completed a major enlargement and modernization of both its plants. Although the yearly value of all these limestone products cannot be determined very accurately, it can be stated that the annual output is several times higher than the value of Baker County's gold output during the best gold-production year on record, even with the value of the limestone figured as raw, unprocessed quarry rock.

Gypsum: Gypsum is a mineral resource closely allied to limestone in its industrial applications. No gypsum is mined in Baker County today, but it was mined extensively from the 1890's to about 1924 at an occurrence high above the Snake River below Huntington. A tramline conveyed the gypsum from the quarry to the plant. The original company in the 1890's was known as the Oregon Plaster Company. Later the Certainteed Products Company took over operations. The foundation of its large, elaborate plant was long a landmark on the old Huntington-Robinette road, but it is probably now flooded by waters of the Brownlee reservoir.

Building stone: Baker's old stone buildings are made out of blocks of volcanic tuff. Most of this rock came from quarries located at Pleasant Valley, but some also came from quarries near Baker. These quarries were operated around the turn of the century at which time the county also boasted a brick yard. Today the only stone quarried in the county is the granite extracted for monumental uses by the Northwest Granite Company from the quarries at Haines. This small but durable industry was started before 1900 and has been in continuous operation ever since.

"Coal": All mining ventures include some sad stories, and Baker County's experiences in "coal" mining are an example. Lignite, a low-quality form of coal, occurs in the county, interbedded with the Tertiary lavas and lake-bed formations which cover the older basement rocks in many places. Several attempts to mine this "coal" proved disastrous because of its high ash content, low heat value, and tendency to air slack into powder after being mined. The story goes that the Baker City school system was once talked into using this local coal, and the result was a major job of shoveling the slacked powder out of the bins. Whether this story is true or not, all geologic reports agree that good marketable coal is one thing which Baker County lacks.

Antimony: The United States chooses to rely upon imports for its source of antimony. Mining of domestic occurrences was important, however, during the emergencies created by both the first and the second World Wars. In Baker County the Koehler, or Gray Eagle mine as it was later known, yielded good, high-quality antimony ores during both emergencies. Operations during World War II were conducted by Anthony Brandenthaler, who was also responsible for the development of the Chemical Lime Company.

Manganese oxide: Baker County possesses small deposits of manganese oxide, which is also another mineral normally imported from foreign sources except during periods of national emergency. The first attempted development in the county occurred during World War I near Pleasant Valley. In recent years, limited shipments were again made from prospects in the Pleasant Valley area, from near Durkee, and most recently by Henry Spivey from an occurrence on Dooley Mountain near the head of Cornet Creek.

Copper: Copper is another mineral that has commanded much interest in Baker County. The most productive area to date has been that in the Homestead district. Gilluly (1931) states that "although the copper deposits of this region have been known for over 50 years, practically all the production thus far has come from the Iron Dike and adjacent mines at Homestead." These properties "have produced over 11,500,000 pounds of copper. They were operated vigorously for six or seven years but have been shut down since 1922." The value of the production

as given by Gilluly was "over \$2,400,000". A considerable amount of new, deep-level exploration work was carried out on the Iron Dike property during World War II with the result that substantial reserves of good-grade ores were reportedly demonstrated to exist. The emergency demand for copper ended, however, before production could be gotten under way and, except for maintenance work, the mine has been inactive ever since.

The only other copper production in Baker County originated in the Keating area. This area was known way back in 1873 when, as indicated by the Raymond Report of 1873, "a furnace was erected and 4½ tons of copper were produced". Lindgren (1901), states that "100 tons of 12 percent ore" were subsequently shipped from this area. Gilluly, in his report of 1933, mentions that in 1923 some shipment was supposedly made to the Sumpter smelter. The biggest attempted development in the area started in 1926, when the Oregon Copper Company inaugurated an ambitious development program which lasted until about 1931. A vertical shaft was sunk to a depth of 1080 feet and many hundreds of feet of lateral drifting was done, but no production resulted. Between 1935 and 1938, a new company known as the Balm Creek Gold Mining Company made another operational attempt on a consolidation which included the principal prospects owned by the previous company. The old Oregon Copper Company shaft was dewatered and still more development work done. This time a 100-ton mill was erected and electrically operated by a specially built power line from Baker. Production between June 1935 and January 1938 amounted to 8,108 ounces of gold and slightly more than 4,000,000 pounds of copper, according to a letter to the stockholders dated January 11, 1938. Operating costs exceeded production values, however, and the company went out of business. There has been continued interest in prospecting in the area, but no subsequent production of any significance.

Smelters

Two smelters figure in the mining history of Baker County. Both were in Sumpter and both had their day during the opening decade of the present century. Their history has been preserved by Ed Hendryx, an early eastern Oregon newsman who never ceased to champion the cause of eastern Oregon mining until his death in 1954. Mr. Hendryx's files of newspaper clippings and other news material published between 1897 and 1909 contain a wealth of information on the early mining history of Baker County, and provided data for the following story about the smelters.

The first smelter was a 40-ton matte smelter erected by the "Union Smelter Manufacturing Company of St. Louis in the Spring of 1900", according to a clipping from the Baker City Herald of August 14, 1901.

The article goes on to state that tests of efficiency were made on ores from several different mines in the Greenhorns in Oregon and the Seven Devils area of Idaho, and that the plant was successful in turning out high-grade copper or iron matte, but that "attachments against the plant filed by ore sellers in various parts of the camp forced sacrifice at sheriff's sale". This article in the Baker City Herald, together with others in the Blue Mountain American, show that the smelter was moved to the Standard mine in Grant County in 1901, but was given up after a few months of service in favor of a concentration mill. The interesting point here is that most of the Cracker Creek mines were in active operation at the time the smelter was in Sumpter. Evidently the operators recognized that smelting was not the final answer to their milling problems.

First news of the big, better-known Sumpter smelter appeared in an account in the Sumpter Miner, April 9, 1902. In a long article, the editor explains how Professor W. S. Eberman had succeeded in interesting a wealthy eastern syndicate in the venture and that "he wants citizens (of Sumpter) to donate the site and the lime deposits... and the mine owners to give a certain amount of ore..." in return for which he would agree "to begin, practically immediately, on the erection of a 400-ton sampling plant... and a one-stack smelter of 100 tons daily capacity".

Evidently local people still did not back the smelter idea, for in an article announcing commencement of the work on the smelter, June 11, 1902, the Sumpter Miner emphasizes that the plant would be erected on 160 acres of land "paid for" by the smelter people. This article also states that "there has been an unaccountable reluctance on the part of the mine owners in contributing ore to the bonus asked for and the 3000 tons have not yet been subscribed".

A month later, on July 19, 1902, the Blue Mountain American advises that Dr. E. W. Mueller had arrived for permanent residence in Sumpter, that the company brick yard was already turning out 15,000 bricks a day, and that Dr. Mueller had stated the "mine operators are soon to learn what advantage arises from treatment of base ores at their very doors".

By May 11, 1903, the Mining Investor was able to carry a large picture of the finished smelter. The article accompanying this picture started out by chiding the "doubting Thomases" who previously "predicted" the smelter "would never be built". It concluded that the smelter would accomplish several ends: (1) "it will make many mines valuable which have before been idle on account of excessive railroad charges", (2) it would effect a saving of "thousands of dollars" for the operating mines then in existence, and (3) it will make a "handsome dividend for its stockholders". The assurance was that these benefits "will benefit Sumpter and the mines surrounding it" and will thus "add credit to the substantial reputation which Sumpter and eastern Oregon already enjoy".

In the above article it was stated that the prevailing rate of shipment to outside smelters was \$7.00 a ton, that the Sumpter smelter would afford a saving of \$6.00 a ton, and that, in view of the "great amounts of ore being produced" at some of the mines and the "great amounts blocked out and ready for production", it was surprising "that a smelter had not been built many years before".

The Oregon Smelting and Refining Company's plant was indeed a technically well-built plant. It was as modern and as efficient as most any smelter of its time, and was apparently staffed by competent, experienced smelter people -- from its 1800-ton capacity ore storage bins down to its 400-ton automatic sampling plant.

The Standard mine in the Quartzburg district, Grant County, is known to have been one of the smelter's biggest customers and it also is known that concentrate shipments were sent to the smelter from many other mines in eastern Oregon as well. Nevertheless, the amount of materials handled by the smelter was small during the three years its backers managed to maintain operation. This is shown by an article in the Blue Mountain American of July 30, 1910, which states that only "19,068 tons of ore, both crude and concentrates" were treated at the smelter between November 15, 1904 and November 15, 1907. Even here the article refers to the company as the "old" Oregon Smelting & Refining Company. By 1916 the Oregon Bureau of Mines and Geology (Parks and Swartley, 1916) had to report that the smelter had "been idle for several years" and had "been sold for taxes to J. A. Gyllenberg".

Not only did the smelter fail to reward its backers with the promised dividends, it also failed as the "gift of a lifetime" to the eastern Oregon mine operators. Thus ends the story of smelting in Oregon, except that the Sumpter smelter was reactivated for a short time in 1922 and 1923 by the operators of the Bay Horse silver mine near Huntington. It has since been completely dismantled, and the foundations and slag piles now remain as the only monument to this phase of the county's mining history.

Because available concentrates were far too inadequate to sustain a smelting operation of this size, even when the mines of the Cracker Creek and other neighboring Blue Mountain camps were making their best recorded productions, we raise the question of whether the building of a new smelter is really the answer to the problem of reactivating eastern Oregon's lode mines.

Every so often during recent years the citizens of Baker County have been subjected to proposals about building a smelter as a means of reactivating lode mining. If history has any lesson to teach, the answer should be quite self-evident from the record just cited. In any event, a drastic improvement must first occur in the economic climate of gold mining before a profitable reactivation of gold mining can be expected anywhere in the nation -- either with or without the aid of local smelters.

References

- Gilluly, James, 1931
Copper deposits near Keating, Oregon: U. S. Geological Survey Bulletin 830-A, 1931
- Gilluly, James, Reed, J. C., and Park, C. F., 1933
Some mining districts of eastern Oregon: U. S. Geological Survey Bulletin 846-A, 1933
- Lindgren, Waldemar, 1901
The gold belt of the Blue Mountains of Oregon: U. S. Geological Survey 22nd Annual Report, part 2, 1901.
- Oregon Department of Geology and Mineral Industries, 1939
Oregon Metal Mines Handbook (Baker and Wallowa counties): Oregon Department of Geology and Mineral Industries Bulletin 14-A, 1939.
- Parks, H. M., and Swartley, A. M., 1916
Handbook of the mining industry of Oregon: Oregon Bureau of Mines, Mineral Resources, vol. 2, no. 4, 1916.
- Raymond, R. W.
Mining statistics west of the Rocky Mountains: Annual Reports of the U. S. Commissioner of Mining Statistics, 1870, 1871, and 1873.

ROCK CLUB EXHIBITS AT DEPARTMENT

The Mount Hood Rock Club of Gresham, Oregon, is exhibiting Oregon gem stones and other material in one of the Department's display cases in the State Office Building in Portland. This fine exhibit displays cut and polished agates and petrified wood, some of which are made into jewelry. Also shown are geodes, thunder eggs, and various rocks, minerals, and fossils. Localities are shown on labels accompanying the specimens. The exhibit will be on display for the next few weeks. Other rock clubs or groups who would like to show their collections are invited to do so.

CHROME BILLS INTRODUCED IN CONGRESS

Companion bills have been introduced in the House and Senate that would provide incentive payments to domestic producers of chrome, beryl, and columbium-tantalum. Payments for commercial-grade metallurgical chromite (46 percent basis) would be \$46 per long dry ton for the first 1,000 tons produced each year by each producer, and \$35 per ton for each additional ton produced up to a maximum of 5,000 tons. Payments could not be made on more than 50,000 tons a year from all producers.

House Bill 5023 was introduced by Al Ullman of Oregon's Second Congressional District. "I think it is foolhardy for this country to continue the trend toward complete reliance on foreign chrome imports", Ullman stated. "We have substantial domestic chromite deposits but unless they are developed we may find ourselves totally lacking in readily available supplies of this essential metal."

Senate Bill 1245 was introduced by Senators Morse and Neuberger of Oregon and Senators Mansfield and O'Mahoney of Wyoming. Senator Morse, in introducing the bill, stated, "As a member of the Senate Committee on Foreign Relations, I feel that we should be prepared at all times to meet the Nation's needs for strategic metals and that we should not be called upon to rely solely on foreign sources and upon stockpiles that would dwindle swiftly under the pressure of defense requirements. Our reliance upon foreign sources of strategic metals is particularly shortsighted because I recall vividly the difficulties we faced during the early days of World War II when our shipping lanes were exposed to constant danger of submarine attack. Wise planning for defense emergency requires that we keep our domestic mining industry on at least a minimal operating basis to assure an existing and an expandable source of supply on short notice."

Incentive payments for beryl concentrates would be \$70 per short ton for not more than 1,000 tons annually. Payments could not be made on more than 150 tons per year to any producer from his production in any one mining district. Payments on columbium-tantalum concentrates would be \$2.35 per pound of contained combined pentoxides, up to 50,000 pounds per year. No producer could be paid for production exceeding 10,000 pounds annually from any one mining district.

BIBLIOGRAPHY OF GEOLOGY THESES PUBLISHED

The Department has just published "Bibliography of Theses on Oregon Geology" as Miscellaneous Paper 7. Author is Herbert G. Schlicker, geologist with the Department. The 13-page booklet contains 191 entries representing all of the theses on Oregon geology known to have been written. Of these, 132 are the work of Oregon students; the remainder were done by students from colleges and universities in other states. Most of the theses are on file at the various college libraries.

Included with this bibliography is a large index map of Oregon showing, where possible, the location of each thesis area.

The publication is available from the Department's offices in Portland, Baker, and Grants Pass. The price is 50 cents.

NEW OREGON MINERAL

The secondary uranium minerals from the White King mine that have previously been reported as autunite, novacekite, and/or lakeviewite have been officially described as heinrichite and metaheinrichite. The new minerals were described by Eugene B. Gross and Alice S. Corey of the Atomic Energy Commission, Richard S. Mitchell of the University of Virginia, and Kurt Walenta of Stuttgart, Germany, in the November-December, 1958 issue of the American Mineralogist in an article entitled "Heinrichite and metaheinrichite, hydrated barium uranyl arsenate minerals". These minerals have thus far been found at Lakeview, Oregon, and in the Black Forest of Germany. They are named for Professor E. William Heinrich, University of Michigan.

Heinrichite and metaheinrichite are found at or near the surface at the White King mine near Lakeview, Oregon. The crystals that coat fractures and line vugs in light gray, altered, silicified rhyolite tuff, are transparent to translucent and yellow to green in color. They have a vitreous to pearly luster and fluoresce bright green to greenish-yellow under short and long wave ultraviolet light.

SOVIET FOREIGN MINERAL TRADE EXPANDING RAPIDLY

The U. S. Bureau of Mines, Division of Foreign Activities, recently published a resumé of the foreign mineral trade of the USSR in 1957. The review, part of which is given below, notes that the value of mineral exports increased in the 3-year period 1955-57 by more than 68 percent, while the value of all exports increased 26 percent. The greatest gains in the Soviet mineral export trade were made in the field of mineral fuels where the value of solid and liquid fuels doubled in the 3-year period. The principal export in the category of ore and concentrates was iron ore which was shipped exclusively to the Soviet's European satellites. Exports of ferrous metals increased at approximately the same rate as total exports, while nonferrous metal export showed a gain of over 80 percent. The greatest increase in nonferrous metal export was made in shipments of zinc, lead, aluminum, and tin. The value of Soviet foreign trade in nonmetals changed in step with overall trade. Apatite concentrates and asbestos headed the export list.

The Bureau report is to be found in Special Supplement 56 to vol. 48, no. 1 of Mineral Trade Notes, January, 1959. Those wishing the complete report should write to the U. S. Bureau of Mines, Publication Distribution Section, 4800 Forbes Street, Pittsburgh 13, Pennsylvania. The foreign mineral trade of the USSR in 1956 by the Bureau was reprinted in part in the October 1958 issue of THE ORE.-BIN.

Soviet Foreign Mineral Trade - Evolving Patterns

The "Statistical Review of the U.S.S.R. Foreign Trade in 1957" has now been issued. This review, together with the Mineral Trade Notes, Special Supplement No. 55, Vol. 47, No. 3, covering the years 1955 and 1956, completes a 3-year statistical series in Soviet foreign trade. To the extent that trade statistics for any 3 consecutive years can reflect basic trends, certain patterns appear to be evolving in the Soviet Union's foreign-mineral trade. These patterns appear to be consistent with the reported Soviet economic expansion program and its drive towards greater mineral self-sufficiency.

Although some trends may not as yet be recognized, there can be no mistake about the great importance of minerals and metals in the Soviet foreign-trade picture and in Soviet relations to other countries within and without the bloc.

Overall mineral trade. - The growing mineral and metal self-sufficiency of the Soviet Union has enabled that country to increase its exports of mineral commodities. During the years 1955-57, the value of mineral and metal exports increased at a much greater rate than total trade. In fact, while the value of all exports during that 3-year period increased by 26 percent, the value of mineral exports increased by more than 68 percent. Thus, the proportion of mineral commodity exports expanded from approximately one-quarter of the total in 1955 to nearly 35 percent of the total in 1957.

However, the ruble value of mineral imports increased only 36 percent during the same 3-year period, and the proportion of these mineral imports remained at a more or less even level of about one-quarter of the total trade.

These trends are reflected in the following tabulations:

	In Million Soviet Rubles		
	1955	1956	1957
Exports:			
Total value of exports	13,874.3	14,676.8	17,526.0
Total value of mineral exports	3,615.8	4,553.4	6,078.6
Mineral exports as percent of total exports	26.1	31.0	34.7
Imports:			
Total value of imports	12,242.2	14,452.5	15,751.3
Total value of mineral imports	2,853.9	3,727.2	3,868.6
Mineral imports as percent of total imports	23.3	25.8	24.5

Note: The nominal commercial exchange rate is four Soviet rubles equals one U. S. dollar

Although Soviet-export statistics include re-exports, it is evident that an increasing quantity of indigenously produced minerals and metals are being exported. This trend undoubtedly will continue for some time as the USSR broadens its domestic mineral production base and seeks to demonstrate its mineral wealth and growing mineral output to economically underdeveloped nations.

AIME TO HOLD PACIFIC NORTHWEST REGIONAL CONFERENCE

The American Institute of Mining, Metallurgical, and Petroleum Engineers will hold its Northwest Regional Conference at the Olympic Hotel in Seattle, Washington, on April 16 and 17, 1959. The Conference, sponsored by the North Pacific Section of AIME, will consist of addresses, field trips, and nine technical sessions. Originally, the Conference was devoted entirely to industrial minerals, but in succeeding years other sessions have been added until now every phase of the mining, metallurgical, and petroleum engineering fields is included.

The geology technical session will have the following papers: "Mercury in Oregon" by Howard C. Brooks, "Coal Resources Investigations in Washington" by Howard D. Gower, "Black Sands of Central Idaho" by C. N. Savage, and "Shales for Expanded Aggregate in the North Pacific Coast Area" by H. M. Harris. The various educational aspects of nuclear engineering will be discussed in four papers presented by University of Washington faculty members. There will be five papers on mineral beneficiation, five on extractive metallurgy, three on petroleum engineering, four on industrial minerals, and others on iron and steel, mining, and metals.

Speaker at the Thursday luncheon will be Dr. H. DeWayne Kreager, Director, State of Washington Department of Commerce and Economic Development, who will talk on the "Economic Factors Affecting the Growth of the Pacific Northwest". At the Friday luncheon Howard C. Pyle, President of AIME will be the speaker. Mr. Pyle has long been identified with the petroleum industry and is currently a director of the American Petroleum Institute and the Western Oil and Gas Association.

Two field trips have been planned for Thursday afternoon and evening. One trip will be to the Bethlehem Pacific Coast Steel Corporation plant where a new electric furnace will be inspected. The second tour will be to Boeing's Renton plant to see the new 707 jet passenger plane. A dinner dance Friday evening will wind up the Conference. The Women's Auxilliary has planned several social events for women attending the Conference. Women are also invited to attend the technical sessions, luncheons, and field trips.

NEW HOUSE BILL ON SAND AND GRAVEL

Hearings on House Bill 472, which relates to removal of sand and gravel from streams, were held on Monday evening, March 9. The bill, introduced in the State Legislature by Representative Holmstrom (Clatsop County), provides that any person or any State or Federal agency desiring to remove gravel, sand, or other material from the bed of streams in the State of Oregon must notify the State Fish Commission or the State Game Commission. Within thirty days after the receipt of the notice, either of the commissions shall inspect the location to determine whether such operations will be injurious or destructive to food fish or game fish. If the study by the State commissions indicates that damage will be done, they shall so notify the operator and it would then be unlawful to remove material from the stream. As a result of the hearings, it is understood that amendments will be made and the bill brought to the House floor in the near future.

WITHDRAWAL OF PUBLIC LANDS PROPOSED

The U. S. Bureau of Land Management notified the Department on March 19th of a proposed withdrawal of approximately 1,340 acres in Lake County, including all, or parts of, secs. 7, 8, 9, 10, 13, 14, and 15, T. 33 S., R. 18 E. The proposed withdrawal is requested by the Bureau of Land Management for the purpose of creating a stock driveway along the Fremont Highway (State Highway 31).

The withdrawal is subject to valid existing rights, from all forms of appropriation under the public land laws, including the general mining laws, but excepting the mineral leasing laws, grazing of livestock under the Taylor Grazing Act (48 Stat. 1269) as amended, and disposal of materials as provided for in the act of July 31, 1947, (61 Stat. 681; 43 U. S. C. 1185), as amended.

All persons who wish to submit comments, suggestions, or objections in connection with the proposed withdrawal have 30 days in which to present their views in writing to the State Supervisor, Bureau of Land Management, 809 N. E. 6th Avenue, Portland 12, Oregon.

OIL RECORDS RELEASED FROM CONFIDENTIAL FILES

Records on Oroco Oil and Gas Company's "McBride No. 1" (Permit No. 19) were released from the confidential files on February 1, 1959. The well was drilled in the SE $\frac{1}{4}$ sec. 19, T. 16 S., R. 46 E., Malheur County. Total depth was 4506 feet.
