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OREGON'S MINERAL INDUSTRY IN 1955

By  
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*TO HIS C  
WITHOUT WHOSE HELP  
I WOULD NEVER HAVE  
FORWARDED THIS  
-R.S.M.*

Oregon's mineral industry in 1955 ran up an all-time record of an estimated \$33,050,000 and it is likely this record will be surpassed in the years immediately ahead. The upward trend was most noticeable in the industrial minerals, a good indicator of the economic condition of an area. Metals turned in mixed reports. Gold nose-dived to a new low, and chromite was off 20 percent as termination of the stockpile program neared. Mercury more than doubled its 1954 value, and nickel and uranium, newcomers to Oregon's family of mineral products, made impressive first strides.

With the exception of chromite sold to the federal stockpile at Grants Pass and nickel sold under government contract, Oregon miners and mineral producers operated without federal assistance in the form of subsidies, price support, or direct aid. Metal prices fluctuated considerably during the year, mostly in response to normal supply and demand, but partly, as in the case of mercury, to government "cloak and dagger" manipulations which left the mercury miner wondering what his future was to be.

Exploration for oil and gas was conducted at a record rate in 1955, but no significant showings were found. Twelve permits to drill were issued by the Department during the year, and at year's end one company was drilling at a depth of 12,000 feet, a record for the Northwest.

Nonmetallic Minerals

Limestone. A continuing strong demand for limestone in the Northwest kept Oregon's six quarries operating at full capacity throughout the year. Three quarries produced rock principally for the manufacture of cement, one for calcium carbide manufacture, one for paper mills and sugar refineries, and one wholly for agricultural use.

Oregon Portland Cement Company opened a new quarry on their property at Lime, Baker County, and announced additions to their quarry facilities at Dallas, Polk County. According to the Baker Record Courier the Chemical Lime Company of Baker purchased a plant site at Wingville on the Union Pacific Railroad 4 miles north of Baker and announced that a 30-car siding was being built and that a lime-burning plant to treat ore from their high-grade Marble Creek deposit was in the planning stage.

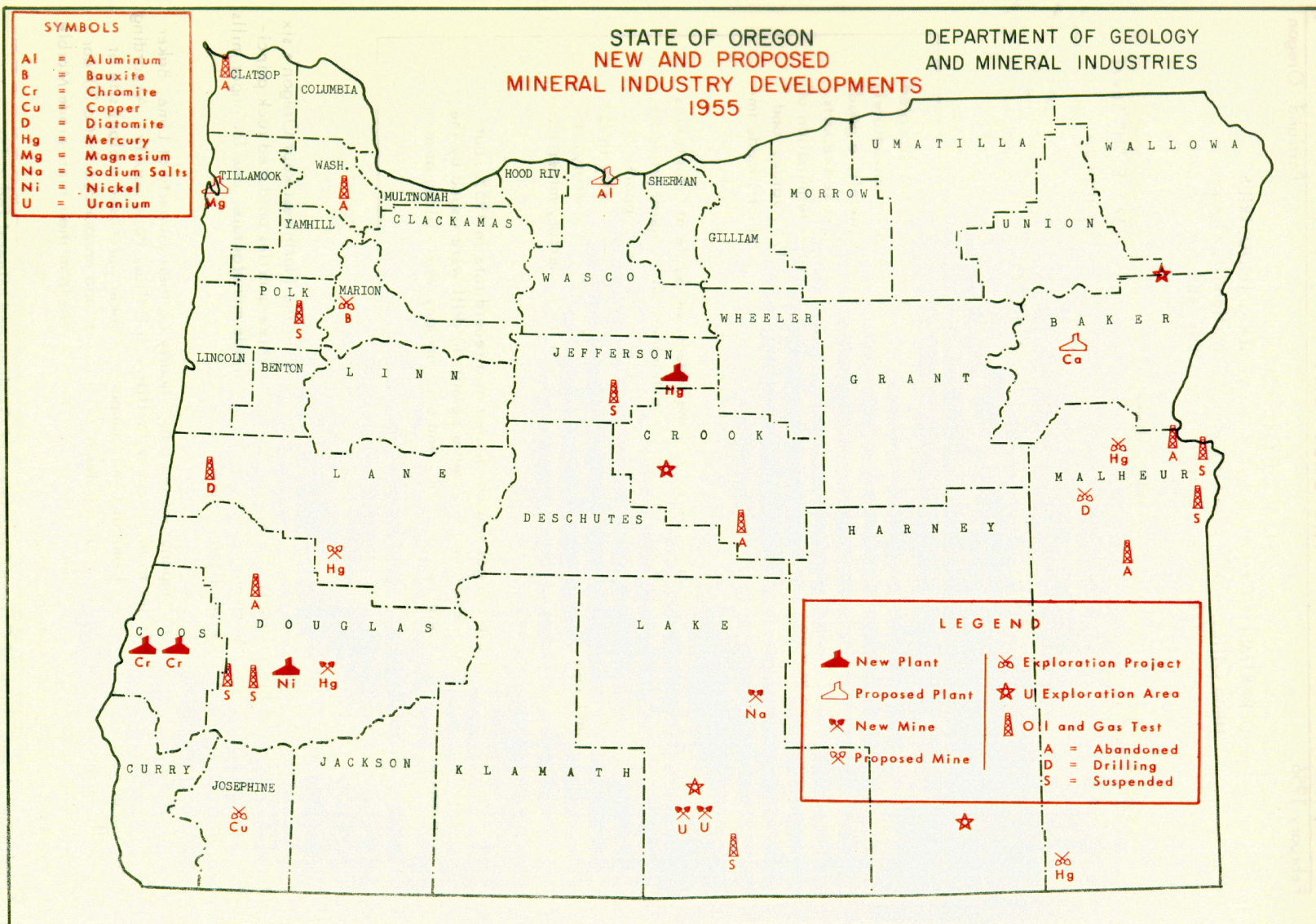
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SYMBOLS

Al	=	Aluminum
B	=	Bauxite
Cr	=	Chromite
Cu	=	Copper
D	=	Diatomite
Hg	=	Mercury
Mg	=	Magnesium
Na	=	Sodium Salts
Ni	=	Nickel
U	=	Uranium

STATE OF OREGON  
NEW AND PROPOSED  
MINERAL INDUSTRY DEVELOPMENTS  
1955

DEPARTMENT OF GEOLOGY  
AND MINERAL INDUSTRIES



National Industrial Products Company shipped more than 150,000 tons of high-grade limestone from their quarry at Durkee, Baker County. The bulk of their production went to sugar refineries in Idaho with some going to Northwest paper manufacturers. Ideal Cement Company operated its Marble Mountain quarry, Josephine County, at full capacity and trucked crushed limestone to their cement plant at Gold Hill, Jackson County. Formerly rock was transported over the C&OC and Southern Pacific railroads. Pacific Carbide and Alloys Company operated their quarry near Enterprise, Wallowa County, during all but the winter months. The bulk of their production went into the manufacture of calcium carbide at the Portland plant.

Total tonnage of agricultural limestone produced in the State in 1955, as reported to the State Agriculture Department, was 32,117 tons. Approximately 51,000 tons of limestone were spread on Oregon farms in 1955, however, with some lime coming from Washington and some recovered from carbide sludge.

Cement. Business was good-to-booming in cement during 1955. In addition to top-capacity production from the three plants located in the State, a considerable quantity of cement was imported from outside the area to meet the demand. During the year Oregon Portland Cement Company announced plans to enlarge the capacity of their Oswego plant by 50 percent and to double the capacity of their Lime plant. Included in their \$6,000,000 expansion program started in 1947 are new kilns, additional storage space, and new machinery. Ideal Cement Company's Gold Hill plant operated at full capacity during the year.

Demand for cement came from accelerated domestic and industrial construction. Added to this is the present and anticipated future construction of massive concrete dams for power and flood control.

Sand, gravel, and crushed stone. One of the best indices of business activity in an area is the production of sand and gravel. Used as a basic ingredient in the construction of all concrete structures, sand and gravel reflect promptly the trends in domestic and industrial growth. Construction of dams consumes large quantities of this commodity but the greatest single continuing use is in road and highway construction.

Although accurate statistics for the industry are difficult to obtain due largely to the transient nature of many small operations plus production by companies not normally regarded as stone producers, the overall picture for 1955 was one of continued large-volume production. Dollar value of sand and gravel and crushed stone for Oregon in 1955 is estimated at slightly more than \$22,000,000 or almost two-thirds of the total of all mineral production for the State.

In the past it was common practice to use locally obtainable supplies in road construction. This picture is changing rapidly in Oregon with the advent of lightweight, large-capacity, high-speed haulage units. This practice points up the growing problem of obtaining suitable aggregate in sufficient quantity to meet the ever increasing demand and stringent construction requirements. In western Oregon there is, in certain areas, a shortage of acceptable crushed stone and the supply is steadily decreasing. Movement of concrete and plaster sand from the Portland area to points as far away as Astoria has become regular practice.

Building stone. Demand for building stone saw a decided increase during the year with the bulk of the supply coming from out-of-state quarries. The trend toward "outdoor living" with stone-covered patios, barbecue pits, stone-veneered exterior and interior walls, and fireplaces fashioned from rough and surfaced stone appears to be gaining momentum.



Five Oregon quarries were active during 1955. Though none of them could be said to be large operations, most of them reported that business was good. Without exception all the quarries were producing some form of volcanic rock. Rocky Butte Quarry on the northeast side of Rocky Butte, Multnomah County, and Faoro & Sons Quarry near Carver, Clackamas County, sold rough and surfaced blocks of lava for retaining walls, fireplaces, and other uses. Rainbow Rock Quarry near Pine Grove, Wasco County, installed a wire quarry saw and circular resaw to prepare veneer and patio slabs of brightly colored volcanic tuff. Shipments from this quarry were made to Grants Pass, Portland, and Seattle, Washington. Pacific Cut Stone Company produced a banded, dark pink tuff from their quarry at Willowdale, northern Jefferson County. Most of the production was in the form of gang-sawed veneer stock which was shipped largely to Seattle with a small amount moving into the Portland area. Tuff Stone Company produced a light gray tuff from a quarry located just east of Sublimity, Marion County.

Oregon's Mineral Industry at a Glance	
Chromite	\$ 400,000 -
Clays	352,000 +
Copper	3,700 +
Gold	51,450 -
Lead	1,490 +
Mercury	305,000 +
Nickel (included in undistributed)	+
Pumice	200,000 +
Sand and gravel	14,000,000 =
Silver	6,109 -
Stone	8,000,000 +
Undistributed	10,807,134 +
<b>TOTAL</b>	<b>\$33,050,000 +</b>
(symbols indicate relation to 1954)	

Granite produced by the Northwestern Granite quarry at Haines, Baker County, is limited primarily to monumental stone. The quarry has operated for many years.

Large blocks of dark red scoria were produced from several pits in the Bend-Redmond area of central Oregon for use in garden walls and rock gardens.

Expanded shale. Expanded-shale production continued in much the same manner as it has in former years. Smithwick Concrete Products obtained raw shale from a quarry near Vernonia, Columbia County, and railed it to Portland for expansion. Empire Building Materials

quarried and furnished shale at their operation near Sunset Tunnel in northwest Washington County and trucked the expanded material to their block plant in Portland. Expanded-shale aggregate, in addition to being used in modular precast units and monolithic construction, was finding a new field in the construction of prestressed structural members such as roof and bridge trusses. The strength and comparative lightness of such units may bring them into competition with structural timbers and steel. One manufacturer shipped prefabricated bridge trusses to Alaska during the year.

Pumice. Pumice producers enjoyed their biggest year in 1955 with the three producers (Williamson Cascade Pumice Company, Bend; Central Oregon Pumice Company, Bend; and Harney Concrete Tile Company, Burns) reporting construction of additional plant facilities or the acquisition of more deposits. Both Central Oregon and Williamson Cascade produced, besides pumice, an aggregate from volcanic cinders or scoria. The bulk of the pumice aggregate went into lightweight concrete blocks but considerable quantities were also sold for plaster sand, loose fill insulation, and sweeping compound. Harney Concrete opened a new pit near Burns, Harney County, of buff-colored, hard lump pumice which mixes well with mortar to form blocks and makes a pleasing color contrast with the more common white material. Shipments of abrasive-grade pumice by Cascade Pumice from a deposit located in Newberry Crater were about the same as in previous years.

Through modern processing plants and rigid controls, pumice producers in the State have improved their product, found new markets, some at considerable distances from their plants, and developed new uses for the various pumice fractions.

Diatomite. The Dicalite Division of Great Lakes Carbon Company operated steadily during 1955 at its Lower Bridge site, Deschutes County, and was the sole producer of diatomite in the State. At Lower Bridge a thick deposit of diatomite is stripped with heavy equipment, windrowed for air drying, and then processed and bagged for shipment. The company also did considerable exploration work on the diatomite near Drewsey, Harney County, where large diameter holes were drilled for sampling and inspection. Numerous deposits of diatomite, some of them very large, occur throughout central and eastern Oregon. Those in the Harper-Westfall area of Malheur County have been investigated by several companies in the past year and leases have been taken. Some exploration activity on a deposit at Telocaset, Union County, is reportedly scheduled for 1956.

Scoria and volcanic cinders. Large quantities of unconsolidated scoria and volcanic cinders are used annually for aggregate in highway construction in central and eastern Oregon where the mileage of "red roads" has been increasing rapidly. Lightness of material, which permits hauling greater yardage, plus excellent drainage and low frost<sup>damage</sup> characteristics, make this type of material exceptionally suitable for road aggregate. Local cinder cones, spotted across much of eastern Oregon, supply the bulk of this product which is easily quarried and crushed.

Scoria and cinders found increased use as concrete aggregate during the year. Two central Oregon operators reported substantial shipments from cinder cones in the Bend-Redmond area. Cinders are slightly heavier than pumice but much lighter than crushed basalt or river gravel and produce blocks having higher crushing strengths than pumice.

Perlite. There was no production of crude perlite (a type of volcanic glass) in the State in 1955, although large deposits are known to exist. Supreme Perlite Company continued to expand crude ore shipped in from Pioche, Nevada, at their plant in Portland.

Carbon dioxide. The Gas-Ice Corporation plant near Ashland recovered carbon dioxide from a group of drilled wells during the year (see The Ore.-Bin, July 1955). A simple separator removes the gas from the water after which it is processed into solid 80-pound cakes for shipment in cardboard containers as "dry ice." Portland Gas & Coke Company reclaims carbon dioxide by scrubbing flue gases and distributes it in liquid form.

Salines. A. M. Matlock, Eugene, removed 100 tons of solid salines from "potholes" at the south end of Alkali Lake, eastern Lake County. The material, a residue formed by dessication of large Ice Age lakes, consists primarily of sodium carbonate. Considerable tonnages of dried salines have been concentrated in Alkali, Abert, and Summer lakes and numerous investigations of the deposits have been made in the past.

Silica. Bristol Silica Company, Rogue River, Jackson County, remained the State's sole producer of silica, a position the company has maintained for nearly 20 years. A white, nearly chemically pure quartz deposit near the plant is mined, washed, crushed, and screened for shipment to manufacturers of ferrosilicon, refractories, and silicon carbide. Some of the product is used directly for poultry grit, roof granules, petrochemical tower packing, and acid hearth ramming material. Demand for silica in Oregon exceeded the supply and considerable exploration work was done.

Brick and tile. There was little change in Oregon's oldest mineral industry during the year. Twenty kilns of varying sizes and mostly concentrated in the Willamette Valley produced fired clay brick, tile, and hollow tile. Reserves of suitable clays are large.

### Processing plants.

Vermiculite. Vermiculite-Northwest, Inc., operated an exfoliation plant in Portland for processing raw vermiculite ore shipped in from Libby, Montana.

Calcium hydrate. Industrial Processing Company prepared powdered calcium hydrate from calcium carbide sludge at its Portland plant.

Limonite. Orr Engineering and Chemical Company produced limonite for pigments and activated limonite for use as a sulphur scrubber in petroleum gas plants. Limonite is obtained from a deposit near Scappoose, Columbia County, and trucked to the plant at Scappoose for fine grinding and calcining with caustic soda.

### Metallic Minerals

Nickel. Nickel mining and smelting, a newcomer to Oregon's industrial family, proved to be a robust child and gave a substantial boost to the State's economy. The Hanna operation at Riddle, Douglas County, is the only nickel mine in the United States. Nickel is one of the most important alloying metals, and long ago the Federal Government labeled it a strategic and critical material for stockpiling. In 1954 the United States consumed 94,733 net tons of nickel of which only 2,645 tons were produced domestically. The Hanna production of 3,250 tons in 1955 amounts to 3.4 percent of the 1954 domestic requirements for the United States.

New Oregon Mineral Products Nickel Uranium Salines
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The open-pit mine on the top of Nickel Mountain, Douglas County, is operated by Hanna Coal and Ore Corporation which trams the ore  $1\frac{1}{2}$  miles down the mountainside to the smelter operated by Hanna Nickel Smelting Company. Size of the whole operation is indicated by the 1955 production of 390,000 tons of ore and 15 million pounds of ferronickel which contained  $6\frac{1}{2}$  million pounds of nickel. In addition, large quantities of ferrosilicon, for use in the ferro-nickel smelting process, were manufactured. Production during 1955 was obtained with two electric melting furnaces. Two additional furnaces are scheduled to be put in operation early in 1956.

Interest in other nickeliferous deposits in southwestern Oregon continued during the year and several localities were investigated.

Uranium. 1955 marked the end of Oregon being a "have not" state for uranium. Discovery in mid-year of promising looking outcrops northwest of Lakeview, Lake County, touched off a rush of prospectors to the area. To John Roush and Don Tracy of Lakeview goes the honor of finding the first commercial body of uranium ore in the State. Their discovery, the White King prospect, and its neighbor, the Lucky Lass prospect located by a group headed by Bob Adams, Jr., were taken over by Lakeview Mining Company. Three carloads of ore were shipped from the properties during the year to Salt Lake City, Utah, under an AEC contract. Exploration and development is continuing. Numerous other occurrences of uranium were reported in the State during the summer and fall (see The Ore.-Bin, December 1955) and exploration work was started in some of the more promising areas. The wide distribution of rocks similar to those at the Lakeview deposits offers considerable hope that other commercial-grade ore bodies will be found. The outlook for 1956 is one of increased prospecting and exploration activity.

**Chromite.** Oregon shipments of concentrates and lump chromite to the General Services Administration depot at Grants Pass declined from 6,665 short tons in 1954 to an estimated 5000 tons in 1955. Value of production dropped from \$536,387 in 1954 to an estimated \$400,000 in 1955. The decline was attributed to the reluctance of operators to continue exploration for new deposits in the face of impending termination of the GSA ore-buying program in mid-1957.

CHROME MINES	CHROME MILLS
<u>Curry County</u> Fourth of July McCaleb Pearsoll Sourdough Uncle Sam	<u>Curry County</u> McCaleb Sourdough Wonder
<u>Douglas County</u> Black Boy	<u>Douglas County</u> Fitzpatrick Triple L
<u>Grant County</u> Gardner Ranch Haggard New Red Hill Ward	<u>Grant County</u> Comstock-Uranium & Tungsten Co. John Day Mining Co. Tri-County Milling Co.
<u>Josephine County</u> Black Otter Black Prince Chrome King Crown Chrome Deep Gorge Lucky L & R Nickel Ridge Oregon Chrome Sad Sack Sordy	<u>Jackson County</u> Ashland Mining Co.
	<u>Josephine County</u> Bowers Foster Gallaher Grants Pass Chrome McTimmonds Radcliffe Six Mile Waldo Milling Co.

Many producers feel that a minimum of 5 years is required to prospect, explore, develop, and mine an ore body of several thousand tons. Operations in the State were concentrated in two main areas: the John Day district of Grant County and southwestern Oregon (see list). In Grant County four mines were active and three mills shipped concentrates to the stockpile. Not all properties were steady producers, however. In southwestern Oregon activity was reported in Coos, Curry, Douglas, Josephine, and Jackson counties where a total of 20 mines made shipments of lump ore and 14 mills concentrated disseminated ore.

In Coos County, Pacific Northwest Alloys concentrated black sands accumulated during World War II for upgrading in the now defunct Defense Plant Corporation mill. Pacific uses an electromagnetic and electrostatic circuit to obtain chromite, magnetite, garnet, zircon, and ilmenite concentrates. The chromite fraction is shipped to the company plant at Mead, Washington, for use in

the manufacture of ferrochrome. At the close of the year it was reported that Pacific was investigating black sand deposits in the area north of Bandon.

In the Whiskey Run area about 6 miles north of Bandon, Mineral Sands Company erected a black-sand treatment plant that is scheduled to go into operation about April 1, 1956. The plant will use Humphreys spirals, electromagnets, roasting, and acid leaching to produce concentrates which will include a low-iron chrome product. Overburden stripping operations to obtain the ore to be treated were carried on about a mile south of the plant. Approximately 60 feet of overburden must be removed to reach the black-sand horizon which will be dug with a "sandhog," a tractor-mounted continuous digger feeding directly onto a rubber belt that discharges into trucks.

The Department continued its detailed study of chromite deposits in southwestern Oregon and results will be published in 1956.

**Bauxite.** Announcement by the Department in 1954 of the distribution of high-iron bauxite in the Salem Hills area of Marion County resulted in exploration activity in 1955 by Aluminium Laboratories, Limited, Canada. Four drill crews using light power drills sampled the area during the summer and fall. Although no tonnage figures have been published, the Department estimated in the April 1955 issue of The Ore.-Bin that a total area of more than 1500 acres may be underlain with bauxitic laterite having an average thickness of about  $14\frac{1}{2}$  feet with about  $3\frac{1}{2}$  feet of overburden. Analysis of the ore sampled from 23 holes drilled by the Department showed an average of 35.40 percent  $\text{Al}_2\text{O}_3$ , 6.67 percent  $\text{SiO}_2$ , 30.60 percent  $\text{Fe}_2\text{O}_3$ , and 6.56 percent  $\text{TiO}_2$ .

Copper, gold, silver, lead, and zinc. The Buffalo mine near Granite, Grant County, operated by the Boaz Mining Company of Seattle, contributed the bulk of Oregon's gold production of \$51,450. The Pyx mine in the Greenhorn district on the Grant-Baker county line operated by the Greenhorn Mountain Development Company was also active. No dredges were active during the year and only small seasonal hydraulic mines were run for a few months by 14 different operators. Production of copper, lead, and silver (estimated value of \$11,300) was obtained largely as by-products from gold mining. Some copper was shipped from the Standard mine, Grant County, by Ray Summers. Fall Creek Mining Company leased the Fall Creek copper mine, Josephine County, from J. A. Phillips of the United Copper Gold Mines and commenced exploration work late in the year. There was no zinc production during the year.

Tungsten. Northwest Mining Company shipped low-grade tungsten ore from their property on Footh Creek in Jackson County to the Laughlin Alloy Steel Company plant at Eagle Point. Mining was suspended in December reportedly due to the low tungsten content of the ore.

In Grant County, Tony Brandenthaler explored a new scheelite deposit discovered by Lester E. Thornton near the head of Lemon Creek in the Morning mine district. No activity was reported at either the Bratcher or Mattern mines in Jackson County which shipped ore a few years ago.

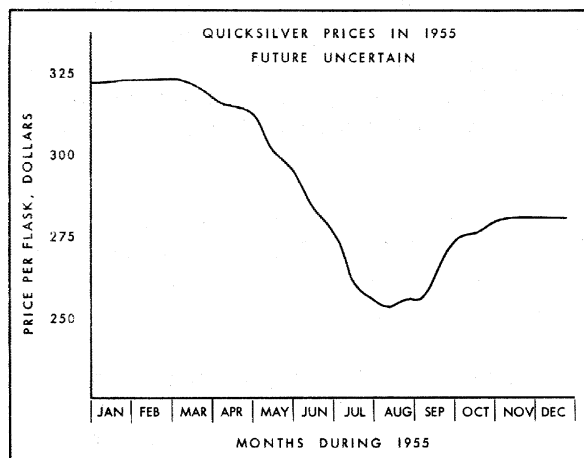
Magnesium. Plans to erect a plant near Tillamook, Tillamook County, to recover magnesium from sea water were announced in the press by Hatch Bros. Chemical Company, Tillamook.

Mercury. The wide fluctuations in the price of mercury during the year seemingly acted as a damper on operators to open new mines or reopen old ones. Production nevertheless rose to an estimated 1000 flasks, highest since 1951. Value based on an average New York price per flask of \$290.05 was estimated at \$300,000. Only two mines ran continuously: the Bonanza east of Sutherlin, Douglas County, owned by the Bonanza Oil and Mine Corporation, and the Horse Heaven mine east of Ashwood, Jefferson County, owned by Cordero Mining Company.

The Horse Heaven mine plant was erected late in 1954 on the site of a former furnace destroyed by fire 10 years earlier. Ore broken underground at the time of the fire was furnaceed as well as newly mined ore developed during the year. At the Bonanza mine a 1953 DMEA loan was reactivated and exploration and development were done principally on the 800 North level with some work on the 1000 and 1100 levels. A rise in the ground-water level due to unseasonable rainfall and power failures combined to flood the lower levels of the mine in late December, causing a shutdown.

The Black Butte mine, Lane County, once an important producer but inactive for a number of years, was purchased by the Mercury and Chemical Corporation of New York in December. The company announced plans to spend \$250,000 in exploring and developing the property and in the construction of a new mill. Shawano Development Company of New York announced in May that the Bretz mine, southern Malheur County, had been acquired and that a churn-drilling program would be conducted during the summer. The Hope Butte prospect near Vale, Malheur County, owned by B. E. and R. L. Jordan, was the scene of considerable exploration activity by H. K. Riddle, lessee. In Douglas County the Buena Vista mine carried on exploration and refurbished a 50-ton Gould furnace in





preparation for operation in 1956. About 20 men were employed under the supervision of B. A. Young, Roseburg. Winter Creek Mining Company furnished ore from the Blue Ridge mine, Crook County, and from the McCammon mine in Coyote Hills, Lake County. Small production came from several mines in the Prineville area including the Maury Mountain, Mother Lode, and Towner mines. No activity was reported at the Roba quicksilver mine in Grant County where considerable exploration under a DMEA loan was carried on in 1953.

**Electro-process industries.** Reynolds Metals Company operated their Troutdale smelter continuously in 1955 using alumina imported from Jamaica. Announcement was made in the press that construction on the long-delayed Harvey Aluminum plant at The Dalles would get underway in the near future. Capacity of the 65 million dollar plant will be an estimated 100 million pounds of aluminum annually. The National Metallurgical Corporation electric furnace at Springfield produced aluminum-silicon alloy by direct reduction of aluminum-bearing clay from California and silicon metal by the reduction of silica obtained largely from the Bristol silica deposit. Electro Metallurgical Company produced ferrosilicon and calcium carbide in their Portland plant using silica and lime obtained from deposits in Oregon and other sources. Pacific Carbide and Alloys used high-calcium limestone from their Enterprise quarry in Wallowa County and petroleum coke obtained from Portland Gas & Coke Company to produce calcium carbide in their Portland plant. Zirconium and hafnium sponge and ingot metal production at the U.S. Bureau of Mines Northwest Electrodevelopment Laboratory at Albany was discontinued July 1.

#### Mineral Fuels

**Oil and gas exploration.** Oil and gas exploration in 1955 was the most active in Oregon's history, but significant amounts of oil are yet to be discovered and commercial quantities of gas to be proved. During the year twelve new permits to drill were granted by the Governing Board of the Department, bringing the total to seventeen issued since the Oil and Gas Conservation Law was passed by the 1953 Legislative Assembly. At year's end one test was drilling, two tests were suspended but may do further drilling, five operations were suspended and unlikely to do more work, and seven tests had been abandoned. One operator was drilling sporadically and another had the location graded in preparation to drill. (See The Ore.-Bin, vol. 17, no. 8.)

Sinclair Oil and Gas Company was approaching a depth of 12,000 feet in their test near Mapleton, Lane County, setting a record for deep holes in the Northwest. Other deep drillings made in the State during 1955 were Standard Oil Company of California's Hoagland Unit No. 2 in Clatsop County and their Pexco No. 1 in Crook County, Sinclair Oil and Gas Company's Eastern Oregon Land Company No. 1 in Malheur County, and Uranium Oil and Gas Company of Klamath Falls Ziedrich No. 1 in Douglas County.

The Department of Geology and Mineral Industries published Misc. Paper 6 in January 1955 which listed more than 200 wells drilled in Oregon during the years. Including the 1955 drillings, a total of 15 tests have reached a depth between 3 and 5 thousand feet in Oregon, 11 tests a depth between 5 and 10 thousand feet, and one test in excess of 10,000 feet. This makes a total of only 27 tests which could have significance in the exploration of Oregon's 96,000 square mile area.

In June the Governing Board of the Department held a public meeting at which time the bond requirement for drilling was increased from \$2,000 to \$4,000 for each new test and the provision allowing for a "blanket" bond was struck out. Other minor changes in the rules and regulations were made. (See The Ore.-Bin, vol. 17, no. 6.)

Coal. With the closing of the South Slough mine in Coos County last May, Oregon coal production dropped to a new low. Only one mine, the Mandrones Big Dipper near Wilhoit in Clackamas County, maintained any activity. Some exploration work was done at Eden Ridge in Coos County by Roy Rannells on several of the exposed seams.

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#### DOMESTIC METAL PRICES

From E&MJ Metal and Mineral Markets, February 16, 1956

Copper - 43.015 cents per pound, refinery (domestic average).  
Lead - 16 cents per pound New York.  
Zinc - 13½ cents per pound East St. Louis.  
Quicksilver - \$268-271 per 76-pound flask New York.  
Silver - (foreign) 1.375 cents per ounce New York; (domestic) 90½ cents government price.  
Aluminum - per pound f.o.b. shipping point (freight allowed) 30-pound ingot 99+ percent, 24.4 cents; in pigs, 22.5 cents.  
Antimony - 99½ percent grade, domestic, bulk, Laredo, 33 cents per pound.  
Cobalt ore - per pound of cobalt contained f.o.b. Cobalt, Ontario, 9 percent grade, \$1.30; 10 percent, \$1.40.  
Germanium - per gram f.o.b. Miami, Oklahoma; 10,000-gram lots, first reduction 44½ cents.  
Iridium - per ounce troy \$100-110.  
Lithium - per pound 98 percent \$11-14.  
Nickel - per pound electrolytic cathodes f.o.b. Port Colborne, Ontario, 64½ cents duty included.  
Osmium - per ounce troy \$80-100.  
Palladium - per ounce troy \$23-24.  
Platinum - per ounce troy \$97-111.  
Selenium - producers quote \$13.50 per pound; distributors, \$15.50, effective February 1.  
Titanium - per pound 99.3+ percent, maximum .3 percent iron, \$3.45, f.o.b. shipping center.  
Titanium ore - per long ton, ilmenite 59.5 percent TiO<sub>2</sub> f.o.b. Atlantic seaboard \$26-29; rutile per pound, minimum 94 percent, concentrate 10-15 cents.  
Tungsten - per pound 98.8 percent, minimum 1,000-pound lots, \$4.50.  
Zirconium - per pound, sponge, \$10.  
Bismuth - \$2.25 per pound in ton lots.  
Cadmium - delivered, \$1.70 per pound.

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