

January 1958

Portland, Oregon

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## OREGON'S MINERAL INDUSTRY IN 1957

By

Ralph S. Mason\*

The value of minerals produced in Oregon in 1957 increased a whopping 11 percent over last year's record-breaking high. This increase is in contrast to the trend taken by nearly every other segment of the State's industry and points up the desirability of encouraging those fields which will broaden the economic base of the region.

The preliminary figures on the value of Oregon's mineral industry released by the U.S. Bureau of Mines give an estimated total of \$37,582,000, or an increase of approximately \$3,600,000 over 1956. The federal bureau's figures are largely based on the value of the raw material rather than on the finished product. On a finished-product basis the value of minerals produced in Oregon would be several times that reported. Furthermore, the value of electro-process products such as aluminum, calcium carbide, ferronickel, elemental silicon, zirconium, titanium, ferrosilicon, and ferro-manganese is not included in the total.

More than 8,200 men were employed by the mineral and metallurgical industries in Oregon in 1956, most of them on a year-around basis. Mineral industry payrolls reported by the State Unemployment Compensation Commission for 1956 totaled \$42,743,678. The increase in value of mineral production in 1957 would indicate that the mineral and metallurgical industries employment and payrolls should exceed the 1956 totals.

## Major Developments

Uranium - Two and a half years after the uranium deposits northwest of Lakeview were discovered, Lakeview Mining Company received a permit from the Atomic Energy Commission to build a 210-ton per day capacity uranium concentrating plant. This AEC permit may be among the last to be granted for new mill construction for some time to come since the Commission announced that capacity of yellow cake concentrate from planned or existing mills

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\* Mining engineer, State of Oregon Department of Geology and Mineral Industries.

## STATE OF OREGON

MINERAL INDUSTRY DEVELOPMENTS  
1957



is in excess of current demands. The Galigher Company of Salt Lake City, Utah, has been retained by Lakeview Mining Company to design and engineer the reduction plant. Construction is scheduled to start early this spring and operation will probably commence in about one year. The \$2,600,000 plant will be located immediately north of Lakeview and when completed will employ around 60 men. The mill should make prospecting for uranium in southeastern Oregon attractive since 20 percent of the plant capacity has been reserved for custom milling ore. This will be the second uranium mill to be erected on the West Coast; the other, near Spokane, Washington, was nearly ready to process ore in late 1957.

Lakeview Mining Company has carried out an intensive exploration project on its two properties, the Lucky Lass and the White King, since they acquired the prospects in September 1955. In addition to drilling 86,000 feet of exploration holes, opening up several pits for bulk sampling, and making several large test shipments of ore to Salt Lake, Lakeview has sunk a vertical shaft and driven drifts on the 70-foot and 155-foot levels.

Little activity in uranium exploration was reported elsewhere in the State during the year. A minor amount of work was done in the Pike Creek area on the east flank of Steens Mountain in southeastern Harney County and late in the year Solar-X Corporation of Boise, Idaho, announced it had taken over many of the claims and expected to intensify exploration in 1958.

Lime - Chemical Lime Company, Baker, fired up the first of its two rotary kilns early in October to produce burnt lime from limestone. A second kiln is expected to be placed in operation early in 1958. The \$2,000,000 plant employs about 50 men three shifts a day and when in full operation will have a capacity of 75,000 tons of lime a year. Stone for the kilns is obtained from a company-owned quarry on Marble Creek 10 miles west of the plant. It was announced that the deposit has a proven reserve of 3,000,000 tons of high calcium marble, with another 3,000,000 tons indicated. The plant will operate continuously, but the quarry, due to rigorous winter weather, will shut down for the three winter months. Main products of the plant include chemical-grade lime, pulverized quicklime, and regular and superfine hydrate. These basic materials will be used in the manufacture of acetylene gas, steel production, nickel smelting, paper industry, insecticides, and building material. A description of the operation was published in The Ore.-Bin in November 1957.

#### Metals

Nickel - Production of ferronickel by Hanna Nickel Smelting Company at its smelter near Riddle, Douglas County, was the highest since the plant went into operation in 1954. Continuous operation of all four of the smelter's ferronickel furnaces during the year was largely responsible for the record production of approximately 18 million pounds of recoverable nickel. Hanna's smelter was the only operation in the United States producing nickel from domestic ore during the year and its output was equivalent to 7 percent of the nation's total consumption of nickel. Hanna Coal & Ore Corporation mined slightly more than 1 million tons of nickel ore from a large open pit on the summit of Nickel Mountain to supply the raw material for the smelter.

Interest in Oregon's nickeliferous laterite deposits reached a new peak in 1957. Two large-scale exploration projects were carried out in southwestern Oregon. Just south of the Oregon border in northern California large areas of land were staked and some drilling and trenching were done by major mining companies. In Josephine County, Nickel Corporation of America investigated the nickel-bearing deposits on Woodcock and Eight Dollar mountains near Cave Junction. The areas were extensively churn-drilled and a series of deep bulldozer cuts were made to permit taking bulk samples for testing. A pilot screening plant was erected to determine beneficiation by simple sizing.

Pacific Nickel Company explored the Red Flat area east of Gold Beach, Curry County, with a series of bulldozer cuts and churn-drill holes. Field work was handled by Southwestern Engineering Company, Los Angeles, which holds a license for the Krupp-Renn process of direct smelting. The process was originally designed for the reduction of iron ores but a report<sup>1</sup> published late in the year indicated that nickeliferous ore identical in composition to that at Red Flat had been up-graded with an 83-percent recovery from a raw ore containing

.93 percent nickel to metallic nodules containing 8.8 percent nickel. The Krupp-Renn process is carried out in a revolving kiln which can be heated by practically any solid fuel, even low-grade, high-ash coal. Cost of a reduction plant using this system is said to be a fraction of that for plants of standard design. If proved feasible, a process of this type would be attractive for intermediate sized, low-grade deposits located in areas where high-grade fuels are difficult to obtain and large plant amortization charges are not justified.

Oregon's Mineral Industry at a Glance

	1956	1957
Chromite	\$ 2,001,083	\$ 670,800-
Clays	278,205	260,000-
Copper	5,950	5,040-
Mercury	492,029	955,890+
Sand and gravel	11,646,367	12,000,000+
Stone	7,890,197	8,200,000+
Undistributed	12,929,235	16,889,829+
Total	\$34,011,000	\$37,582,000+

(Symbols indicate relation to 1956)

Chromite - With the termination of the General Services Administration stockpile program for chromite growing steadily closer, production of lump ore and concentrates in Oregon declined 12 percent from last year. Mine operators were understandably reluctant to do any exploration or development work beyond that required for immediate production when shipments to the stockpile at Grants Pass will probably be cut off this fall. Of the fourteen concentrating plants in southwestern Oregon, only two were in full-time operation, two were inactive, and ten were operated intermittently. Only three of the thirty mines were active on a year-around basis, with the balance either being worked seasonally or making small shipments at irregular intervals. In Grant County, activity was reported at eleven properties but substantial production was limited to only a few. Value of chromite produced in 1957 is estimated by the U.S. Bureau of Mines at \$670,800 for a total of 7,800 long tons.

At the Oregon Chrome Mine, Josephine County, Bill Robertson discontinued exploration work with a diamond drill and reduced his crew to six men. Oregon Chrome has a history of production dating back to World War I and was considered to have been worked out several times. Through exploration under the incentive of two government stockpile programs, new ore bodies were discovered and the mine has been the State's top chromite producer.

In Coos County, Mineral Sands Company, which began construction of a black sands plant a few miles north of Bandon in 1954, was reported to have commenced operations in December.

Mercury - Mercury production in 1957 was more than double the 1956 figure, with an estimated total of 3,870 flasks valued at \$955,890. Four properties contributed the bulk of the State's production. These were the Bretz in southern Malheur County, operated by Arentz-Comstock Mining Venture; the Bonanza in Douglas County, operated by Bonanza Oil and Mine Corporation; the Horse Heaven in Jefferson County, operated by Cordero Mining Company; and the Black Butte in Lane County, operated by Mercury and Chemicals Corporation. The Black Butte mine was forced to close in July and at year's end the Horse Heaven was understood to be nearing the end of its reserves. At Glass Buttes, northeastern Lake County, Oregon Uranium Corporation installed a 20-ton rotary furnace in May and fired it up in June. Con-

<sup>1</sup>Engineering and Mining Journal, December 1957, pp. 84-93.

siderable exploration work has been done on the property and ten men are currently employed in the mine and mill.

Nearly 7,000 feet of diamond drilling was done at the Bretz during the first nine months on a continuing exploration program. A 10-ton Herreschoff furnace was added to the mill in May to treat concentrates. An article describing the operation appeared in the October 1957 Ore.-Bin. In Crook County, the following properties were explored: the old Blue Ridge and Number One mines held by Mia Mines; the Amity mine held by Orion Exploration and Development Corporation; and the Axehandle mine held by International Engineering & Mining Company. In Jackson County an 18-foot rotary furnace was installed at the Bonita mine and a considerable amount of stripping with a bulldozer was done. At the Steamboat mine, also in Jackson County, Kubli Bothers cleaned out an old tunnel and stripped with a bulldozer. Oregon Drilling and Mining Company did minor exploration work on their group of claims near Fields in Harney County.

At the end of December 1957, the government stockpile program calling for the purchase of 125,000 flasks of domestic metal was replaced by a program that would allow purchase of 30,000 flasks during 1958. Price to be paid under the new program remained at \$225 per flask. A review of 30 years of mercury production in Oregon by Howard C. Brooks of the Department's field office at Baker appeared in the March 1957 issue of The Ore.-Bin.

Gold - Oregon's only year-around hard-rock gold operation, the Buffalo mine in the Granite district of Grant County, still continued to produce during the year. The mine, which dates back to early mining days in Oregon, operates a mill on an intermittent basis. The Standard Milling Company moved the 50-ton mill from the Pyx mine to a location just north of Prairie City on Dixie Creek, Grant County. Installation was completed late in the year and several cars of gold and copper concentrates were produced before the collapse of the copper market forced closure. Ore was obtained from the Standard mine 6 miles north of Prairie City.

In southwestern Oregon four small gold lode properties saw some activity during the year. Carl Stevens and Lloyd Gilbert opened the Eureka mine in the Illinois River district, Josephine County; Wes Pieren and Ray Richards built a small mill at the Greenback mine, Josephine County; Walt Cannon enlarged the mill at the Dry Diggings east of Grants Pass to 24-ton per day capacity; and Frank Gelhaus shipped some ore from the Warner mine in Jackson County to the Selby, California, smelter.

Placer mining, mainly concentrated in Josephine County, was confined to seven small part-time operations. Placer mines in the area characteristically operate during the winter and early spring months when water is plentiful and the restrictions on muddying the streams are relaxed.

Bauxite - Harvey Aluminum Company was active during the year in obtaining leases on land in the Salem Hills, Marion County. It was reported in the press that lease holdings total around 5,000 acres. Exploration work by the company so far has been confined to drillings for the purpose of directing their leasing. Investigations of the occurrence of high-iron bauxite in the area were reported in the Department's Bulletin 46 published in 1956.

#### Industrial Minerals

Coal - Initial field explorations in the Eden Ridge coal deposits of southeastern Coos County were concluded in August 1957 by Pacific Power & Light Company's staff engineers and consultants. The project is directed toward the possible development of coal to fire a mine-mouth steam-electric power plant that may be located south of Powers and along the South Fork of the Coquille River. During the early months of 1957 the field investigations

included extensive core drilling of the ridge area, the digging of sufficient coal from the Anderson seam for pilot-plant boiler-firing tests, and the driving of three exploration tunnels into the Anderson and Carter seams. Thirty-two stratigraphic holes were drilled on the ridge and a total of 20,400 feet of core logged.

Pacific reported at year's end that the results of the preliminary investigations indicate a deposit of coal in the neighborhood of 50,000,000 tons and that the laboratory and burning tests have shown that the coal can be utilized in boiler equipment of advanced design. Progress of the studies has designated a tentative site for the power plant on the southeast side of Eden Ridge, where water for cooling purposes would be drawn from a reservoir located on the river. The reservoir may be constructed as a phase of a hydroelectric development for which the company has been conducting investigations under a preliminary permit issued by the Federal Power Commission in February.

#### New Plants in 1957

Chemical Lime Company (Lime)  
Wah Chang Corporation (Zirconium)  
Harvey Aluminum Company (Aluminum)

#### Prospects for 1958

Lakeview Mining Company (Uranium)  
Pacific Power and Light Company (Coal)

Sand and gravel - The year 1957 saw a slight increase in the production of aggregates over the previous year, with more than half being used for road metal, approximately one-third for construction work, and the balance for a variety of purposes. Shortages of suitable natural aggregate in certain areas continued, and longer hauls from quarry to point were being made. Either crushed stone or sand and gravel are produced in every county but one (Wheeler) in the State. The 18,500,000 tons of crushed stone and sand and gravel reported by the U. S. Bureau of Mines does not represent all of the State's production since many private companies, such as logging companies, produce for their own use, and their figures are not included in the State total.

Cement and limestone - Production of cement from the State's three cement plants was about 5 percent greater than last year. Oregon Portland Cement Company completed a plant expansion program at its Lime operation, Baker County, and at its plant at Oswego, Clackamas County, early in the year. Ideal Portland Cement Company trucked cement rock from its quarry on Marble Mountain, Josephine County, to the kilns at Gold Hill, Jackson County. National Industrial Products Company continued shipping high-calcium limestone to sugar mills and metallurgical plants from its crushing and screening plant near Durkee, Baker County. Greely Lime Company furnished rock from a quarry near Enterprise, Wallowa County, to Pacific Carbide & Alloys in Portland for the manufacture of calcium carbide. Greely also distributed agricultural limestone in the Willamette Valley. Near Dallas, Dewitt's Polk County Lime Company and the Oregon Portland Cement Company quarry furnished agrock for farms in the area.

Silica - Bristol Silica Company continued production of metallurgical-grade silica at its plant at Rogue River in Jackson County. Bristol is the only producer of this commodity in the State and supplies metallurgical plants in Oregon, Washington, and California. Poultry grit, Bermuda roof aggregate, and other specialty products are also produced. Plans for relocation of the State highway through Rogue River will force the removal of the plant to another location in the near future.

Late in the year a large deposit of quartz was located by Roy Rannells, Riddle, and G. D. Rannells, Aurora. The deposit is located on Quartz Mountain about 15 miles northeast of Tiller in southern Douglas County. Analysis by a private laboratory of six samples of the quartz gave the following averages:  $\text{SiO}_2$ , 98.75 percent;  $\text{Al}_2\text{O}_3$ , 0.27 percent; Fe, 0.12 percent;  $\text{TiO}_2$ , 0.25 percent; CaO, 0.013 percent; MgO, 0.015 percent;  $\text{P}_2\text{O}_5$ , 0.008 per-

cent; and loss on ignition, 0.35 percent. Preliminary investigations by the Department indicated that the deposit is a replacement of a volcanic tuff by silica.

Lightweight aggregates - Production of pumice and volcanic cinders decreased slightly from 1956 levels. Expanded-shale producers, on the other hand, reported slight increases in production with many orders on the books at the end of the year. Lloyd Williamson, who has been continually producing pumice since 1946, reports that he sold his business at Bend to Boise Cascade Corporation. Williamson has been retained as general manager of the company. Central Oregon Pumice Company produced pumice aggregate from a series of pits just west of Bend and volcanic cinders from a quarry south of town. Pit-run material is trucked to a crushing and screening plant in Bend in a 40-cubic-yard dump truck. Harney Concrete Tile Company shipped pumice for blocks and road rock from a series of pits near Burns, Harney County.

Smithwick Concrete Products Company moved its entire expanded shale plant from Portland to the quarry near Vernonia and revamped and improved its flowsheet. Empire Building Materials Company operated its quarry and plant near Sunset Tunnel in Washington County and a block and precast pre-stressed plant in Portland. The Empire plant is the pioneer expanded-shale producer in the State, dating from 1948. Empire continued to increase the length of pre-stressed lightweight concrete structural members with some 95-foot long girders which were shipped to Washington for a bridge. Both Empire and Smithwick reported increasing acceptance of lightweight aggregate by architects for large commercial and industrial projects including complete prefabricated bridges, multi-storied buildings, and pontoons for floating causeways.

Bentonite - Central Oregon Bentonite Company located a deposit of bentonite east of Logan Butte in Jefferson County early in the year. The company did some exploratory core drilling and supplied the drilling mud for two oil test wells drilled in central Oregon.

Diatomite - Great Lakes Carbon Corporation processed diatomite from a deposit that has been in continuous production since 1935 at Lower Bridge in northern Deschutes County. The corporation conducted a large-scale diatomite exploration and stripping project near Fort Rock, northern Lake County, and test shipments were trucked from the new site to Lower Bridge to determine quality and milling characteristics. The company reports a 12-percent increase in production over last year for its plant located at Lower Bridge. The operating division is now called the Dicalite Department, Mining and Mineral Products Division, Great Lakes Carbon Corporation.

Water - The sand dunes along the southern Oregon Coast have been mined and sampled for more than 100 years and considerable quantities of gold, platinum, chromite, zircon, magnetite, ilmenite, and garnet have been recovered from them. Exploration for an entirely different mineral, water, was conducted during the year by Pacific Power & Light Company in the extensive dune area just north of the mouth of Coos Bay. Despite a heavy annual rainfall, the region is critically short of adequate supplies of industrial water. A series of test holes was drilled and at year's end a pilot pumping plant was in operation to determine the feasibility of the undertaking and the amount of flow that could be obtained on a sustained basis. Pacific is hoping to develop enough water to attract additional industry to the area. Initial studies of the potentialities of the dune area were made by the U.S. Geological Survey, Ground-Water Division, in cooperation with the State Engineer's office in 1954-56. The open-file report on their findings is available for inspection in the Department's library.

The quality of Oregon's waters was jointly studied during the year by the State Water Resources Board and the Engineering Experiment Station at Oregon State College. Results of their study have been published in two bulletins, "Water Quality Data Inventory" and "Water



Quality Data Inventory Supplement." Water from approximately 400 stations was analyzed during the study.

### Electro-process Products

New metals - Sharp increases in the production of the reactive-use metals, zirconium, titanium, and hafnium, were chalked up in 1957. At Albany two commercial plants, Wah Chang Corporation and Oregon Metallurgical Corporation, together with the U.S. Bureau of Mines research laboratories now provide a 3-million dollar annual payroll. Wah Chang opened a zirconium sponge plant in April and simultaneously announced that a 1-million dollar addition would be started immediately. Wah Chang also operates a plant at the U.S. Bureau of Mines Electrodevelopment Laboratory at Albany. Wah Chang processes and purifies zirconium tetrachloride shipped in from the east into metallic zirconium sponge which is then shipped to other plants, including Oregon Metallurgical, for reduction into ingots. The company has announced the possibility that it might produce its own tetrachloride from raw material in the future. Oregon Metallurgical Corporation added new presses during the year and late in November announced a \$4,000,000 contract to supply 350,000 pounds of zirconium ingots to Westinghouse Electric Company. The metal will go into atomic reactors which Westinghouse is building for the Atomic Energy Commission.

The U.S. Bureau of Mines Electrodevelopment Laboratory in Albany processes the metallic hafnium fraction derived from the zirconium tetrachloride during Wah Chang's purification process, and turns it over to the AEC.

Aluminum - At The Dalles, construction by Harvey Aluminum Company of a \$40,000,000 production plant capable of producing 108 million pounds of aluminum per year neared completion at year's end. When this plant goes on stream in 1958 it will employ between 400 and 500 men on a three-shift, year-around basis and consume more than 1 billion kilowatt hours of electric power annually. The economic impact of this plant is even greater when subsidiary services required by the plant are taken into consideration. These include unloading of raw materials from ocean vessels into railroad cars, loading and shipment of aluminum ingots and pigs, and handling of secondary supplies. The 300,000 tons of alumina which will be required annually for reduction in the two potlines will come from Japan. For the present, ocean-going vessels will be unloaded at Portland and the cargo transferred into railroad cars. Eventually the company expects to use river barges to move the alumina from Portland to The Dalles.

### Miscellaneous

New State dredge law - The 1957 regular session of the State Legislature passed a dredge bill which requires a license and a performance bond and imposes restrictions on any dredging activity which disturbs the topsoil or ground cover of more than 15 acres of land annually, if the land so disturbed constitutes the floor of a valley. Application for a license must be accompanied by a fee of \$50 for each 50 acres of land. After investigation of the land to be dredged, a bond of \$300 per acre may be required to insure faithful performance of the provisions of the law. Upon completion of the dredging operation, the operator is required to replace the topsoil and to restore the area to a reasonably useful condition. Furthermore, any streams disturbed must be restored with a pool structure conducive to good fish habitat and recreational use, and settling ponds must be constructed to avoid silting or muddying of the stream.

Multiple-use mining law - Investigations of mining claims under Public Law 167 in Oregon by the U.S. Forest Service and Bureau of Land Management were carried on vigorously during the year. A total of 4½ million acres either has been or is in the process of being investigated by the two agencies. Acreages involved were published in the December 1957 Ore.-Bin.

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## OIL AND GAS EXPLORATION

By V. C. Newton, Jr.\*

Oil drilling in Oregon did not increase significantly in 1957 over the previous years; seven new drilling permits were issued during the year as compared with six in 1956. Drilling activity reached its highest point in 1955 when twelve drilling permits were issued. This trend agrees with the national drilling picture and does not necessarily indicate a decrease of interest in Oregon's oil prospects. Six major oil companies made geologic investigations in the State during 1957 and two companies carried on geophysical exploration. There were four small companies drilling for oil in the State at the beginning of 1958. Six oil tests were abandoned as dry holes during 1957. Oil in commercial quantity has yet to be found in Oregon.

Commercial oil production was obtained for the first time in the State of Washington July 17, 1957. This discovery created a great deal of interest in prospects for northwestern Oregon. Several applications to the State Land Board for off-shore oil leases have been submitted.

At present Oregon is virtually unexplored as to petroleum possibilities. There have been about 150 tests drilled in the State up to this time. Of these, only thirteen have been drilled deeper than 5,000 feet. This is significant since the average depth for wildcats drilled in the United States during 1956 was 4,600 feet, and only one wildcat in forty-four hit oil in sizeable quantity.<sup>1/ 2/</sup> Statistically, 31 more dry oil tests deeper than 4,600 feet could be drilled in Oregon before it would be considered a poor prospect area. It is interesting to note that Oregon and Idaho are the only nonproducers in the western half of the United States.<sup>3/</sup>

Oregon, west of the Cascades, is made up primarily of Cenozoic marine sediments with islands of volcanic rock in the northwestern section. Oil and gas shows have been reported in the area for the last 50 years and, in the past, this part of the State has been most popular for oil test drilling. Recently, however, oil test drilling has been divided about equally east and west of the Cascades. The increasing popularity of central and southeastern Oregon is due in part to the shift from exploration of anticlinal and domal structures to exploration for stratigraphic traps. It is also due to the discovery of oil in continental Tertiary sediments in Utah, Wyoming, and Nevada, as similar sedimentary basins occur in central and southeastern Oregon.<sup>4/</sup> Prospects should be good for stratigraphic-type oil accumulations in the Paleozoic and Mesozoic marine sediments believed to underlie about 8,000 square miles of surface in central Oregon.<sup>5/</sup>

The outlook for continued oil and gas exploration in Oregon is good. Economic forecasts for the United States call for the finding and development of 45 billion barrels of new oil by 1965. This is nearly as much oil as has been produced since the discovery of oil by the Drake well in 1859.<sup>6/</sup> No doubt some of this oil will come from oil shale production and secondary recovery projects but new field discoveries will be of first importance. An estimated 645,000 new wells should be drilled by 1965 to meet the increasing demand for oil.

In order to expedite oil development in Oregon, the Department hired a petroleum engineer in September 1957 to help with enforcement of the oil and gas conservation law and to assist companies or individuals seeking oil information. His duties will also include assembling Oregon oil-exploration records for public use.

The U.S. Geological Survey released a series of nine aeromagnetic profiles of western Oregon (see November 1957 Ore.-Bin) in the summer of 1957. These should be helpful in locating areas where basalt underlies the sediments. During the past 15 years the Survey has made oil and gas investigations and published geologic maps covering most of the western part of the State.

1/ Gonzales, R. J., Land of the big risk (reprint): Humble Oil and Refining Company  
The Humble Way, November-December 1955.

2/ Am. Assoc. Petrol. Geol. Bull., v. 41, no. 6, June 1957, p. 989-1001.

3/ Oil and Gas Journal, v. 55, no. 36, September 9, 1957, p. 161-63.

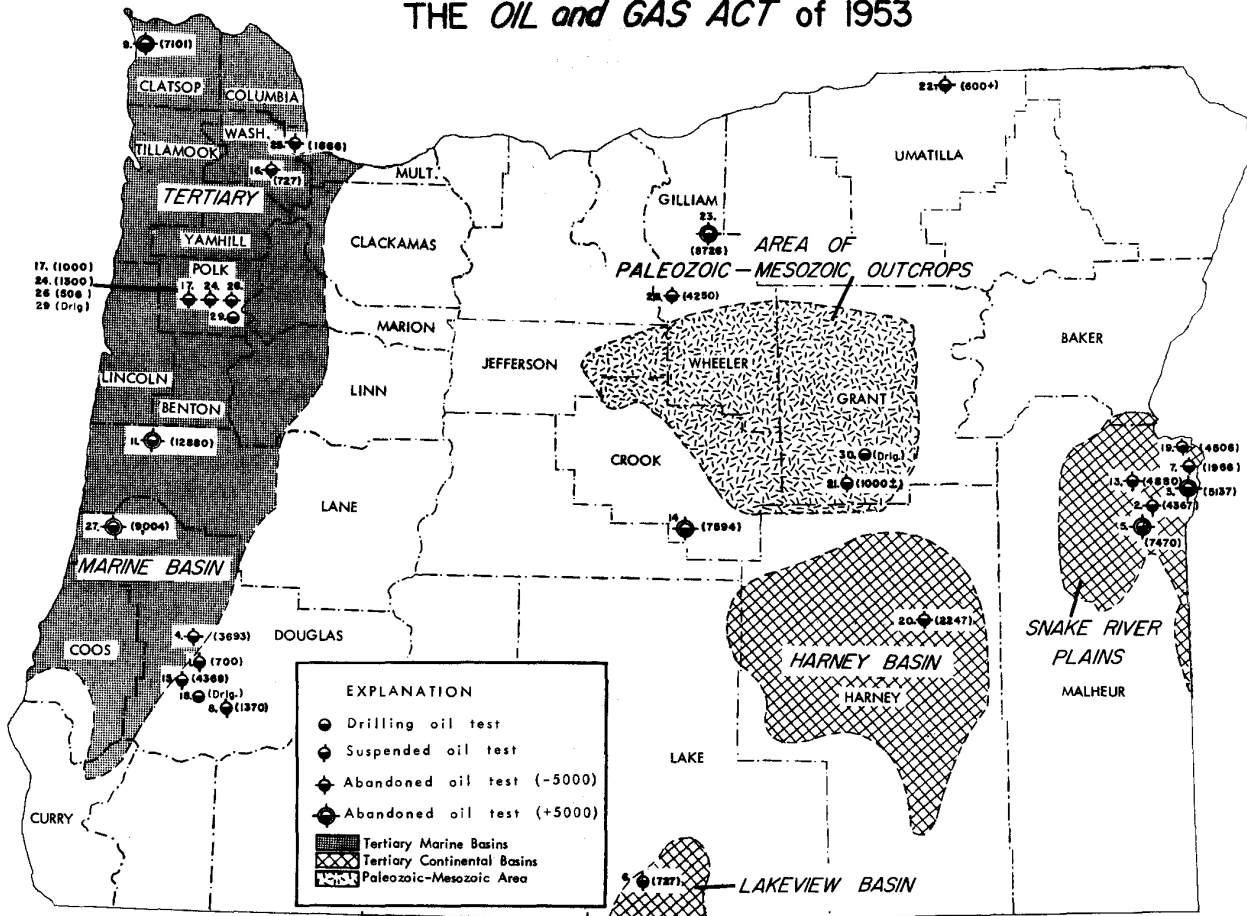
4/ Am. Assoc. Petrol. Geol. Bull., v. 38, no. 8, August 1954, p. 1663-64.

5/ Tenth Biennial Report: Oregon Dept. Geology and Min. Industries Bull. 47, p. 34-37, 1956.

6/ Oil and Gas Journal, v. 55, no. 42, October 21, 1957, p. 69-70.

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OIL TEST WELLS DRILLED UNDER  
THE *OIL and GAS ACT* of 1953



OIL AND GAS DRILLING PERMITS ISSUED SINCE ADOPTION OF THE OIL AND GAS ACT

<u>Permit No.</u>	<u>Company</u>	<u>Well Name</u>	<u>Location</u>	<u>Status</u>
1.	W. F. Kernin	D. Coon #1	SE½ sec. 30, T. 28 S., R. 6 W.	Drilling
2.	R. A. Stamey	G. B. Russell #1	NW½ sec. 14, T. 19 S., R. 47 E.	Suspended Oct. 1954
* 3.	H. K. Riddle	Kiesel Est. #1	SW½ sec. 8, T. 19 S., R. 47 E.	Abandoned Oct. 1955
* 4.	Oil Developers, Inc.	Scott #1	SW½ sec. 5, T. 27 S., R. 6 W.	Abandoned Dec. 1954
* 5.	El Paso Nat. Gas Co.	Federal #1	NE½ sec. 5, T. 20 S., R. 44 E.	Abandoned Jan. 1955
6.	Chas. A. Stone	Shelley #3	SW½ sec. 20, T. 39 S., R. 19 E.	Suspended Apr. 1955
* 7.	Oroco Oil & Gas Co.	Bolles #1	NW½ sec. 15, T. 17 S., R. 47 E.	Abandoned Apr. 1955
8.	Riddle Oil & Gas Prod.	Dayton #1	SW½ sec. 34, T. 30 S., R. 6 W.	Suspension Ext. Jan. 1957
* 9.	Standard Oil Co.	Hoogland Unit #1	SE½ sec. 11, T. 7 N., R. 10 W.	Abandoned June 1955
10.	Sinclair Oil & Gas Co.	R. N. Ranger, et al	(Hole was not drilled - bond cancelled)	
11.	Sinclair Oil & Gas Co.	Federal-Mapleton #1	SE½ sec. 12, T. 16 S., R. 10 W.	Abandoned Feb. 1956
12.	Oroco Oil & Gas Co.	Lane #1	(Hole was not drilled - bond cancelled)	
* 13.	Sinclair Oil & Gas Co.	Eastern Oregon Land Co. #1	SW½ sec. 15, T. 16 S., R. 44 E.	Abandoned Sept. 1955
* 14.	Standard Oil Co.	Pexco-State #1	NE½ sec. 36, T. 20 S., R. 20 E.	Abandoned Dec. 1955
15.	Uranium Oil & Gas Co.	Ziedrich #1	NW½ sec. 16, T. 29 S., R. 8 W.	Suspended Nov. 1955
* 16.	Oregon Explorations	Wohler #1	NE½ sec. 11, T. 1 S., R. 3 W.	Abandoned Oct. 1955
17.	Miriam Oil Co.	Elliott #1	SW½ sec. 9, T. 8 S., R. 5 W.	Abandoned June 1956
18.	Riddle Oil & Gas Prod.	Wallenberg #1	NE½ sec. 28, T. 30 S., R. 6 W.	Drilling
19.	Oroco Oil & Gas Co.	McBride #1	SE½ sec. 19, T. 16 S., R. 46 E.	Abandoned Nov. 1956
20.	Oroco Oil & Gas Co.	Portland Co. #1	NW½ sec. 18, T. 24 S., R. 33 E.	Abandoned Nov. 1956
21.	Seneca Oil & Gas Co.	Lemmons #1	NE½ sec. 18, T. 17 S., R. 29 E.	Suspended Aug. 1957
22.	Big Red Uranium	Richartz #1	NW½ sec. 24, T. 6 N., R. 34 E.	Suspended Apr. 1957
23.	Standard Oil Co.	Kirkpatrick #1	NW½ sec. 6, T. 4 S., R. 21 E.	Abandoned June 1957
24.	Miriam Oil Co.	Bliven #1	SW½ sec. 11, T. 8 S., R. 5 W.	Abandoned March 1957
25.	Sunray Mid-Continent Oil Co.	Kappler #1	NW½ sec. 12, T. 2 N., R. 2 W.	Abandoned July 1957
26.	Miriam Oil Co.	Bliven #2	SE½ sec. 10, T. 8 S., R. 5 W.	Abandoned Oct. 1957
27.	General Petroleum Corp.	Long Bell #1	SW½ sec. 27, T. 20 S., R. 10 W.	Abandoned Oct. 1957
28.	Oregon Petroleum Corp.	Clarno #1	SE½ sec. 27, T. 7 S., R. 19 E.	Abandoned Sept. 1957
29.	Miriam Oil Co.	Bliven #3	SE½ sec. 10, T. 8 S., R. 5 W.	Drilling
30.	Sunnyvale Oil Co.	Mitchell #1	SE½ sec. 14, T. 16 S., R. 29 E.	Drilling

\* Records on these wells are available for public use.

## DMEA ACTIVITY IN OREGON

DMEA CONTRACTS			
Name	Commodity	Government participation	Total
Bonanza Oil & Mine Corp. Bonanza Mine Douglas County, Oregon	Mercury	\$ 70,575.00	\$ 94,100.00
H. K. Riddle Jordan Mine Malheur County, Oregon	Mercury	22,875.00	30,500.00
Mercury & Chemical Corp. Black Butte Mine Lane County, Oregon	Mercury	46,755.00	62,340.00
John McManmon Joe Dandy, Red Idol, and Independence claims Crook County, Oregon	Mercury	7,074.75	9,433.00
Roba & Westfall Purple Ridge, et al, claims Grant County, Oregon	Mercury	15,105.00	20,140.00
M. L. & Charles Page d.b.a. Strickland Butte Mines Crook County, Oregon	Mercury	4,200.00	5,600.00
Paul W. Wise Coyote Antimony Group Malheur County, Oregon	Antimony	26,045.00	34,727.00
* Orion Exploration & Development Corp. Log Cabin, Ridge, & Camp claims Crook County, Oregon	Mercury	9,075.00	12,100.00
* Ford Converse Grand Cove claims Jackson County, Oregon	Copper	3,600.00	7,200.00
* International Engineering Co. Axehandle Mine Jefferson County, Oregon	Mercury	7,815.00	10,420.00
		\$ 213,119.75	\$ 286,560.00
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* Active contracts. Last two will not begin work until Spring, 1958.			

A. E. Weissenborn, Defense Minerals Exploration Administration area executive officer, informed the Department that since the inception of the DMEA program in 1950, the Government executed ten contracts with private mining operators in the State of Oregon. These contracts provided for exploration work estimated to cost a total of \$286,560.00, with maximum Government participation of \$213,119.75. Eight of the contracts were for exploration of mercury deposits, with Government participation at 75 percent and one contract each for antimony and copper with Government participation at 50 percent. Seven contracts have been completed and three contracts are in effect. Of the active contracts, work on one has just started and work on the other two will not begin until spring 1958. In addition, two more applications are being processed, one for uranium and the other for nickel. A summary of the DMEA contracts is given on this page.

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## AMERICAN QUICKSILVER INSTITUTE ORGANIZED

A new organization called the American Quicksilver Institute has been set up to act as spokesman for the quicksilver industry, E&MJ Metal and Mineral Markets reports. The organization is headed by S. R. Smith, president of Sonoma Quicksilver Mines, Inc., Guerneville, California. Louis D. Gordon, secretary of the Nevada Mining Association, is secretary-treasurer. Among the nine directors are Arthur L. Albee, president of Bonanza Oil and Mines Corp., Sutherlin, Oregon, and S. H. Williston, vice-president of Cordero Mining Company (Horse Heaven mine), Palo Alto, California.

The Institute will represent the industry on such issues as tariffs and Government regulations. Its first action was to send a telegram to GSA administrator Franklin G. Floete protesting the recent unwarranted change in quicksilver flask specifications. Other aims of the Institute will be to keep the Government and the consuming industry familiarized with uses and properties of mercury and to sponsor research and development work on finding new uses for the metal.

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## DOMESTIC METAL PRICES

According to January 16 quotations in E&MJ Metal and Mineral Markets, price of quicksilver has dropped to \$220-25 per flask and copper to 25.37 cents per pound.

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## ALASKAN CHROMITE ORES RESPOND TO UPGRADING

Chromite ore from the Red Mountain district of the Kenai Peninsula, Alaska, can be upgraded by simple methods to yield concentrates eligible for Government purchase, according to a U.S. Bureau of Mines technical report R.I. 5377. The report describes beneficiation tests at the Bureau's Juneau, Alaska, and Albany, Oregon, laboratories on ore samples from three of the more extensive chromite deposits in the district. Specimens responded to gravity concentration methods to yield products assaying 48 percent or more chromic oxide, and only one sample yielded a concentrate with a chrome-iron ratio below the minimum established for the minerals stockpile program. Chromium recovery ranged from 20 percent for low-grade ores (10 to 20 percent chromic oxide) to 95 percent for one high-grade sample.

A copy of the report, R.I. 5377, "Laboratory Concentration of Chromite Ores, Red Mountain District, Kenai Peninsula, Alaska," can be obtained by writing the Bureau of Mines, Publications-Distribution Section, 4800 Forbes Street, Pittsburgh 13, Pennsylvania. It should be identified by number and title.

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## RAW MATERIAL SURVEY ISSUES NEW PUBLICATIONS

Two new publications have just been issued by Raw Materials Survey, Portland, Oregon. One of these is Information Circular No. 3, "Principal chemical and metallurgical industries of the Pacific Northwest, which is a current (January 1958) revision of the original directory first issued in 1948. The other publication is Market Survey No. 5, "The 1956 raw material requirements of Pacific Northwest foundry and metallurgical industry," which shows the tonnages of ferroalloys, electrodes, pig iron, and iron and steel scrap consumed in 1956.

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## FORT ROCK GIVEN TO LAKE COUNTY

The Lake County Examiner reports that a patent of 160 acres of land, including the Fort Rock, has been given to Lake County by the United States Government for use as an historical monument. The County had proposed that this property be given it for use as an historical monument and as a county park, but the patent specifies "for use as an historical monument only." It reserves mineral rights to the United States. Use of the land for a different purpose than that specified will require the consent of the Secretary of the Interior. After 25 years, however, all restrictions on the land will cease.

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## NEW DIVISIONS AT GRAND JUNCTION AEC OFFICE

A reorganization of the Grand Junction Operations Office of the U. S. Atomic Energy Commission became effective January 1, according to an announcement from Allan E. Jones, Manager of the Office. The changes, Mr. Jones points out, involve a realignment of the organization to serve better the current needs of the program. The reorganization primarily affects those units responsible for programs for the evaluation of source material resources, uranium ore procurement, mining incentives, and the acquisition and production of uranium concentrates. Two new organizational units, a Production Evaluation Division and a Source Materials Procurement Division, have been established to replace the three former operating and technical divisions: the Mining, Exploration, and Concentrate Procurement divisions. Both the Production Evaluations Division and the Source Materials Procurement Division will report to Elton A. Youngberg, Assistant Manager for Operations.

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