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STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
Head Office: 702 Woodlark Building, Portland 5, Oregon

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OREGON'S MINERAL INDUSTRY IN 1950

By

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The year has seen little real change in the State's mineral production during 1950. Nonmetallic production continues at a high rate. Metallic mining is at a very low ebb as it has been ever since the end of World War II. After the Defense Production Act of 1950 became law in September, the somnolent strategic minerals industry showed signs of resurgence because of expectations of increased market prices of war minerals, some of which are critically low in the national stockpile. There appears to be now a long-overdue appreciation in government circles that the domestic strategic minerals industry has national importance as compared to foreign sources of supply. We now hear that the domestic industry must be built up if we are to have insurance of security in the event of a third world war.

Oregon mineral production statistics for 1950 are not yet available; it seems unlikely, however, that there will be any material change from those of 1949. Preliminary figures for 1949 as reported to the Department by the U.S. Bureau of Mines are tabulated on page 2.

Nonmetallics

In approximate order of importance Oregon's commercial nonmetallic minerals are sand, gravel, and crushed rock; limestone and portland cement; clay; perlite, pumice, and expanded shale; diatomite; silica; coal; and gem stones.

Sand, gravel, and crushed rock

Construction activity of all kinds has been at a high rate and sand and gravel companies have operated at capacity throughout the year. A large amount of such material has gone into government construction at Detroit and McNary dams. Public and private building construction in the large population centers has consumed large quantities of sand and gravel. Highways and logging roads consume most of the rock.

Limestone

The largest demand for limestone in the State is for portland cement and because of the high construction activity cement plants have been busy throughout the year. More cement could have been sold by Oregon plants if it had been available. The Oregon Portland Cement Company has quarries at Lime in Baker County and at Dallas in Polk County. The company has kilns both at Lime and at Oswego south of Portland. The Pacific Portland Cement Company has a large quarry on Marble Mountain south of Wilderville in Josephine County and a kiln at Gold Hill in Jackson County. Limestone is transported by rail between Marble Mountain and

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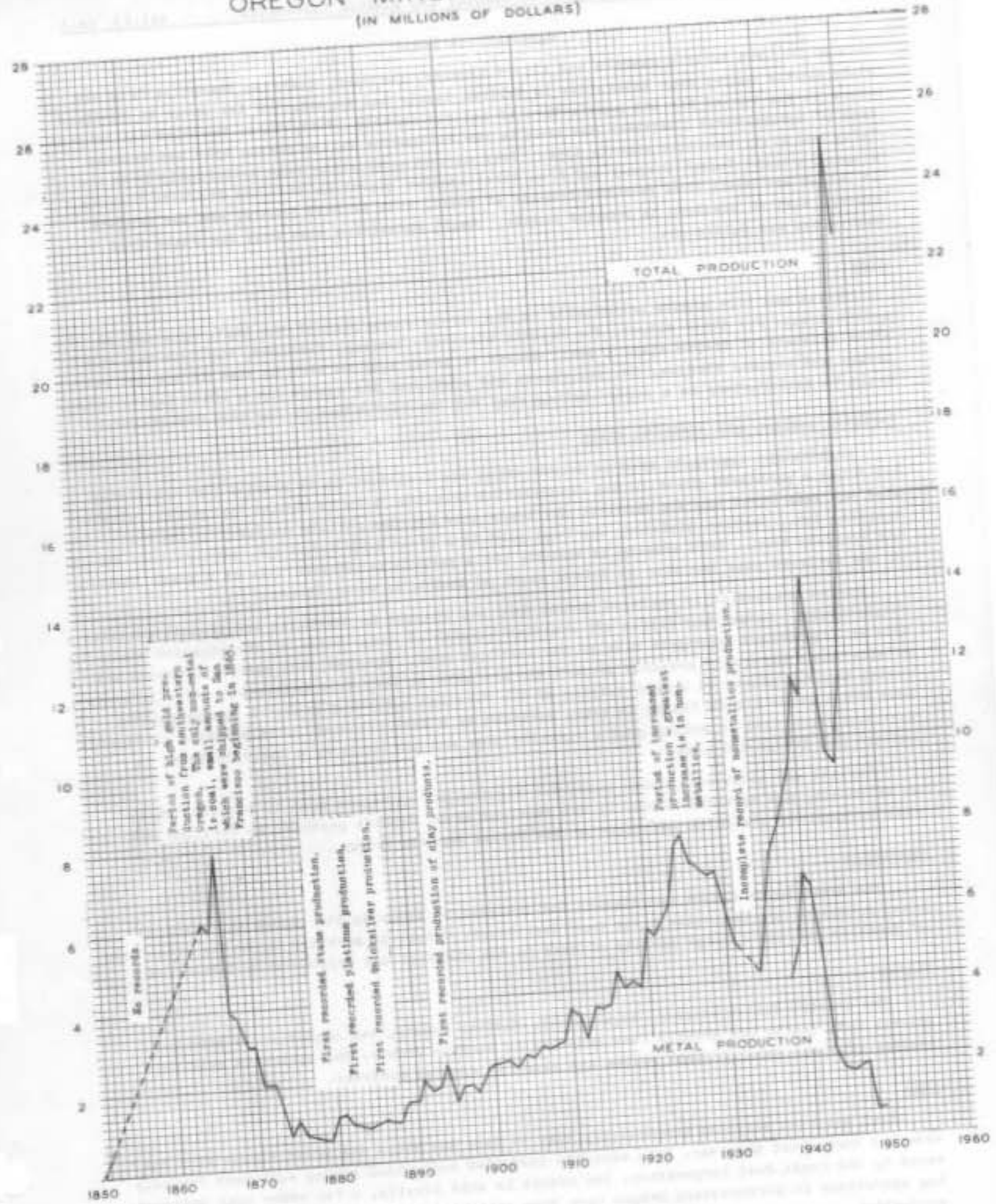
Mineral Production of Oregon in 1949

Product	Quantity	Value
Aluminum (short tons)	(1/ 2/)	(1/ 2/)
Antimony ore - concentrates (short tons)	54	$2,851
Asbestos (short tons)	(1/)	(1/)
Cement (barrels)	(1/)	(1/)
Chromite (short tons)	-----	-----
Clay:		
Products, heavy clay (other than pottery and refractories)	-----	3/ 1,065,000
Raw - sold or used (short tons)	4/ 164,399	4/ 131,177
Copper (pounds)	40,000	7,880
Diatomite (short tons)	(1/)	(1/)
Ferro-alloys (short tons)	(1/ 2/)	(1/ 2/)
Gem stones	(5/)	(5/)
Gold (troy ounces)	16,226	567,910
Lead (short tons)	12	3,792
Lime (short tons)	-----	-----
Mercury - flasks (76 pounds)	1,167	92,730
Mineral waters	(5/)	(5/)
Ores (crude), etc.:		
Copper (short tons)	46	(6)
Dry and siliceous - gold and silver (short tons)	6,169	(6)
Perlite (short tons)	(1/)	(1/)
Pumice (short tons)	104,475	273,427
Quartz (short tons)	(1/)	(1/)
Sand and gravel (short tons)	7,134,751	7,682,272
Silver (troy ounces)	12,195	11,037
Stone (short tons)	7/ 4,397,390	7/ 6,479,164
Tungsten concentrates (short tons)	3	(1/)
Zinc (short tons)	6	1,488
Miscellaneous 8/	-----	8/ 29,291,312
Total value, eliminating duplications	-----	$22,479,000

1/ Value included with "Miscellaneous."
2/ Value not included in total value for State.
3/ Figure obtained through cooperation with Bureau of the Census.
4/ Value of clay used in cement and heavy clay products is included here but is not included in total value for State.
5/ No canvass.
6/ Not valued as ore; value of recoverable metal content included with the metals.
7/ Exclusive of dimension granite, value of which is included with "Miscellaneous."
8/ Includes minerals indicated by footnotes 1 and 7 above. The bulk of the $29,291,312 represents the value of the manufactured mineral products, aluminum and ferro-alloys - items that are not considered in determining the value of mineral production of the State.

OREGON MINERAL PRODUCTION

(IN MILLIONS OF DOLLARS)



Nonmetallics (cont.)

Gold Hill. The Pacific Carbide and Alloys Company, Portland, quarried limestone from the Black Marble quarry near Enterprise in Wallowa County and transported the stone to Portland where it was burned for the manufacture of calcium carbide. Fifty-three thousand two hundred tons of agricultural limestone was used in the Willamette Valley during 1949 and between fifty and sixty thousand tons in 1950. This agricultural stone came principally from the Oregon Portland Cement Company and from three smaller quarries: the Lime Products Company at Dallas and Buell Lime Products Company at Buell, both in Polk County, and the Landers quarry, east of Roseburg in Douglas County. Small quantities came into the State from Washington and California.

Clay

Brick and tile plants principally in the northwestern part of the State have had an active demand for their output. The Pacific Stoneware Company, Portland, has been the only other consumer of Oregon clay. A small amount of local clay is used in some of the art potteries and ceramic studios. The Department has continued its search for a white kaolin which would be satisfactory as a paper-coating clay but the search has so far been unsuccessful.

Perlite, pumice, and expanded shale

Lightweight aggregate used in construction has continued to be popular and apparently has found a permanent place in the construction industry. A large demand for perlite plaster sand has been built up, and Dantore, the trade name for the perlite produced by Dant & Russell, Inc., Dantore Division, has been used in a great many buildings, particularly in the Portland area. This company is turning out a perlite acoustical tile at a plant located on the railroad near the mine at Frieda south of Maupin in Wasco County.

Pumice production is centered around Bend and Chemult in Deschutes and Klamath counties respectively. Output has fallen off somewhat because of competition of the expanded shale type of lightweight aggregate made in the Portland area. However, the pumice producers are putting out a carefully prepared product and are able to ship into Washington and California cities besides places in Oregon outside of the Portland marketing area. A pumice plaster sand which gives a hard finish is being marketed by a Bend producer. One producer at Redmond uses his production in making pumice concrete pipe and has built up a large business in culvert and irrigation pipe.

Haydite and Lite-rock, trade names for lightweight aggregate made by bloating shale or siltstone, are marketed widely in the Portland area. Haydite produced in Portland was used in concrete placed on the floor of the Tacoma Narrows Bridge.

Diatomite

The Great Lakes Carbon Corporation has operated at capacity its quarry and plant at Lower Bridge on the Deschutes River near Terrebonne. Output is marketed under the trade name of Dicalite and has a large variety of uses in the chemical and construction industries.

Silica

The Bristol Silica Company, Rogue River, Jackson County, has continued to mine and process both quartz and granite from quarries in Jackson County. The output is sold for poultry grit and metallurgical silica and also for special purposes.

Coal

Coal has been produced commercially only at Coos Bay where the South Slough mine has operated throughout the year. This mine has installed mechanical mining equipment formerly owned by the Coast Fuel Corporation; the output is sold locally. A few other coal prospecting operations in northwestern Oregon have been attempted but so far have resulted in no production.

Gem stones

This Oregon industry is a combination of commercial lapidaries and hobbyists. Oregon is famous for its agates and "thunder eggs," and collectors from all over the West come to the State in order to obtain the material. Part of it is sold to lapidaries and part goes into private collections. Some collectors buy and sell agates and other mineral specimens as a business aside from their regular employment. It is impossible to determine the dollar value of this business but it is relatively large. If it were possible to separate the commercial from the noncommercial production, it would probably be found that the value of the raw stones sold commercially would be many thousands of dollars; the value of the cut and polished stones would be of the order of several hundred thousand dollars.

Metallics

Gold, silver, copper, lead, and zinc

Gold lode mining has been almost at a standstill. There have been a few small underground operations but the State's lode gold production has been principally a by-product from sulphide ores shipped to copper smelters. The principal production of shipping ore has been from the Buffalo mine in Grant County and the Champion mine in eastern Lane County. Two cars of gold ore were shipped to the Tacoma Smelter from the Humdinger mine in Josephine County. Two gold dredges, both bucketline, have operated throughout the year in Eastern Oregon. The Baker Dredging Company sold out during the year to the Powder River Dredging Company which is digging in the lower part of Sumpter Valley. Porter & Company finished dredging in the Clear Creek section of Grant County near the end of the year and then moved over the divide on the north to Crane Creek. Seasonal hydraulic operations were continued in both the northeastern and southwestern parts of the State with the large majority in Josephine County where about 40 separate operations were active during the winter and spring seasons. About 90 percent of the State's gold production came from placers.

Mercury

The Bonanza quicksilver mine, one of the largest producers during World War II, closed down during 1949. There was no activity reported anywhere in the State in 1950. The market price for quicksilver, which is governed by the European price, has been far too low to offer any inducements to reopen mines in this country. Toward the end of the year the tense international situation caused a strengthening in the market price and during December quotations have shown a rapid increase. The price quoted for the week ending January 4, 1951, was $150-$153 per flask depending upon the quantity. In the absence of a European war, it is questionable whether or not a market price established by European producers would be stable enough to interest capital in reopening domestic mines without a long-term government contract.

Chromite

There has been no chrome production during the year. A small amount of diamond drilling was done at the Oregon Chrome Mine in Josephine County after passage of the Defense Production Act of 1950 when it seemed assured that the government would be obliged to provide a price incentive to obtain domestic production for the national stockpile. Some new ore was found by this diamond drilling but work was suspended until a suitable price schedule is established. Former chrome producers have held meetings in Grants Pass in order to present a unified program for a suitable price to the Defense Minerals Administration.

Antimony

Exploration of a low-grade antimony deposit in Crook County was conducted during both 1949 and 1950. Metallurgical testing aimed at producing metallic antimony was done at one property in southern Oregon.

Exploration Activities

Bauxite

A small amount of auger-hole drilling was done by Alcoa Mining Company on land owned by the company in the fall of 1950. All other areas owned or controlled by the company have been drilled and sampled so that an accurate estimate of quantity and quality has been made. During 1949 some good grade bauxite was found east of Mehama in eastern Marion County and a small amount of exploration work was done in the area during 1950. No estimate of the extent of the deposit may be made from the small amount of work done.

Asbestos

During the year the Asbestos Corporation of Canada explored by diamond drilling and trenching an asbestos deposit located about 5 miles north of Mt. Vernon in Grant County. The company also trenched a deposit on Butte Creek near the Middle Fork of the John Day River and examined several other deposits in eastern Oregon. It is reported that none of these deposits contained tonnage sufficient to warrant a concentrating plant.

Nickel

The M. A. Hanna Company has leased the Nickel Mountain nickel deposit near Riddle in southern Douglas County where a large amount of diamond drilling was done by Freeport Sulphur Company during World War II. The Hanna Company is investigating the metallurgy and economics of producing nickel from this low-grade deposit of oxidized ore. Metallurgists of the U.S. Bureau of Mines have been carrying on tests of this ore aimed at direct smelting to a stainless steel. The Mining Division of the Bureau has made field investigations of nickel occurrences in southwestern Oregon. The studies included soil sampling to determine any unusual concentrations of nickel and copper.

Tungsten

Considerable trenching was done on an occurrence of scheelite discovered near Ashland by Mr. L. A. Bratcher. Some of the ore has been milled by Van Curler Brothers, Ashland. The Department has mapped this scheelite locality and has also studied scheelite occurrences in the Gold Hill area of Jackson County. A report of these studies which have been planned to assist prospecting for this important war mineral, is in preparation and will be issued early in 1951.

Oil and gas testing

Test drilling for oil and gas was suspended in the Burns and Vale areas, and a test was started in both Jefferson and Crook counties. A test near the Hay Creek Ranch in Crook County was suspended in November and the rig was moved to a new location about 5 miles north of Mitchell in Wheeler County. The other test located in southern Crook County was reported inactive at the end of the year. Another test in southern Lake County, started early in the year, was also reportedly inactive as the year closed.

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MANGANESE RECOVERED FROM OPEN HEARTH SLAGS

Critically short manganese, used by the steel industry in large amounts, is now recovered from open hearth furnace slags which were once discarded. Flush slag, tapped from the furnace early during a heat of steel, contains about 9 percent manganese and 26 percent iron. Slag may be used to replace not more than 10 percent of the flux ordinarily used, and when tapped the second time contains only about one half of one percent iron and less than 2 percent manganese. In addition to saving both iron and manganese, the new process also reduces the amount of limestone used as a flux.

(From Steel Facts, December 1950.)

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A "PLANNED" METAL SHORTAGE

The nation is now beginning to "reap the whirlwind" as a result of its failure to heed the warning of the metal mining industry.

Mining men have for the past several years pointed continuously to the unhealthy state of the industry and recommended that the government take the necessary legislative action, particularly in the area of taxes and tariffs, which would insure development of the strong and expanding industry essential to our national economy.

The advice was ignored and now the results are all too apparent. Dr. James Boyd, defense minerals administrator, revealed this week that there is not sufficient copper available to the domestic market to meet the country's defense and civilian requirements. Zinc also is in "terrible short supply" he says. The situation with regard to several other metals, including cobalt, tungsten, manganese, mercury, aluminum, cadmium, and nickel, to name a few, is equally or even more critical.

Talk of opening new deposits at this date is again in the "too little too late" category. New mines cannot be opened overnight. Normally it takes five to ten years to develop a copper deposit. Smaller zinc and lead properties can be put into operation a little faster, but it is still not a matter of a few weeks or months. Even opening and re-equipping an old, marginal producer is a time-consuming proposition.

These "facts of life" were pointed out time and again by mining men. They asked for a modification of tax laws, for better tariff protection from unfair foreign competition, and for more realistic administration of the securities and exchange laws so that the industry could prosper and attract the kind of private capital essential to the continuing discovery and development of new mineral resources.

Now the critical metal shortage is upon us and it is bound to work many hardships. The government is scurrying around for a solution to the difficulty, and as usual, comes up with the only answer it seems to have for any problem - spending more government money to help new mines get into production.

No recognition of the fundamental problems is yet apparent among leading administration officials. The recent excess profits tax law makes that part of the industry's handicaps worse instead of better. Recommendations by mining men for changes in the SEC law have been taken under advisement by top SEC officials and little can be expected from that quarter for some time.

It seems apparent that only an aroused electorate, weary of unnecessarily recurring controls and shortages, can dictate the kind of metal industry policy which will insure a metal supply adequate for the maintenance of our national economy.

(From the Wallace Miner, Wallace, Idaho, January 11, 1951.)

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CLEAN BUT COSTLY

Last week Columbia Steel Company displayed the results of a heavy investment in an electrostatic precipitator on one of its open hearths at Torrance, California. What is believed to be the first installation of its kind in the country proved a complete success controlling approximately 96 percent of the emissions of the furnace. Three other similar units are to be installed on the remaining furnaces with a total cost of approximately $600,000. It is believed that when the installation is completed the operation will comply with the extremely stringent regulations of the Los Angeles County Air Polution Control District.

(From Iron Age, West Coast Edition, San Francisco, December 28, 1950.)

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CHROME MINERS MEET AT GRANTS PASS

On January 15 chrome miners in southern Oregon held a meeting in the Veterans of Foreign Wars Building, Grants Pass, under the auspices of the Oregon Mining Association. The object of the meeting was to decide upon a price which would allow the chrome miners of southern Oregon and northern California to mine and ship chromite to a government ore purchasing depot at a price that would allow a reasonable profit to the miners. The discussion centered around a proper price and a minimum guaranteed time during which the price would be in effect.

Mr. F. I. Bristol, President of the Oregon Mining Association, led a forum discussion which considered chrome ore distribution, the possibilities of finding new chrome ore bodies in southern Oregon and northern California, and the need, from a national standpoint, of developing and producing chrome to the greatest extent possible. It was unanimously voted by those present to send a representative to Washington, D.C., as soon as practicable to discuss a satisfactory price for chrome with Mr. S. H. Williston, Head of the Supply Division of the Defense Minerals Administration. The meeting voted that Mr. Bristol should be the representative to represent both the chrome miners and the Oregon Mining Association. It is expected that Mr. Bristol will leave for Washington in the near future.

Mr. Niel R. Allen, Chairman of the Governing Board of the State Department of Geology and Mineral Industries, gave a talk on the functions and accomplishments of the Department with particular attention to statutory as well as budgetary limitations on Departmental activities. The other members of the Board, H. E. Hendryx and Mason L. Bingham, were introduced and made brief statements. Regular meetings of the Governing Board to act upon department business were held both before and after the chrome miners meeting.

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WILLISTON TO TALK TO PORTLAND CHAMBER OF COMMERCE

"Western Mining's Part in the Defense Program" will be the title of a talk to be given by Mr. S. H. Williston to a joint Portland Chamber of Commerce-Raw Materials Survey luncheon at the Multnomah Hotel February 12.

Mr. Williston, a former resident of Portland and former member of the Governing Board of the State Department of Geology and Mineral Industries, is now in charge of the Supply Division of the Defense Minerals Administration, Washington, D.C. This agency was set up to build new mineral production under the Defense Production Act of 1950.

While living in Oregon Mr. Williston managed the Horse Heaven mine, large producer of quicksilver, which was later absorbed by the Cordero Mining Company with quicksilver mine located near McDermott, Nevada, just south of the Oregon boundary. Besides being vice president and general manager of the Cordero Mining Company, Mr. Williston is vice president of the Sperry-Sun Well Surveying Company, vice president of the Oregon Mining Association, member of the American Institute of Mining and Metallurgical Engineers, member of the Mining and Metallurgical Society of America, and member of the Mining Committee of the San Francisco Chamber of Commerce.

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CONDON LECTURE

The Condon Lectures, financed by the Oregon System of Higher Education and sponsored by the Oregon Academy of Science, will have as lecturer this year Dr. Perry Byerly of the Department of Geology, University of California. Dr. Byerly's subject will be on Pacific Coast earthquakes. Two lectures will be given in Portland, one on Tuesday, February 6, and one on Thursday, February 8, both in the auditorium of the Lincoln High School at 8:15 p.m. On Tuesday the lecture will be "The Causes of Geographical Distribution of Earthquakes" and on Thursday the title will be "The Effects and Their Mitigation." The public is invited to attend these lectures. There is no admission charge.

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COMMENTS ON THE GEOLOGY AND MINERAL RESOURCES OF DOUGLAS COUNTY, OREGON*

General geology

Douglas County contains rocks of every geologic period from the Triassic to the Quaternary. These rocks furnish one of the most continuous and complete records in Oregon's geologic history and record geologic events over a 165-million-year period.

The oldest rocks are found in the southern lobe of the county in the area of the towns of Glendale, Riddle, Canyonville, Myrtle Creek, Days Creek, and Tiller. These are old volcanics and marine sediments into which granitics and basic rocks such as peridotite have been intruded. Gold, silver, copper, chromite, and other metallic minerals were introduced at the time of this great period of intrusion and are associated with these rocks. Intrusion was accompanied by uplift and after a long period of erosion, seas returned to this area; their record is left in the limestones and other sediments that are found east and southeast of Roseburg in a northeast-trending band extending from Dillard to the upper North Fork of Deer Creek.

The geology of the other parts of the county can probably be best outlined briefly by describing the rocks along a west-trending section extending from Mt. Thielsen to Roseburg to Reedsport.

Mt. Thielsen and the other volcanic peaks at the summit of the Cascades are the last products of severe vulcanism in the Cascades. These high peaks rest on a thick foundation of still older volcanics formed at a much earlier date. These are the dissected foothills of the Cascades. The western margin of this series of rocks would lie near a north-south line extending from Drew to Cottage Grove in Lane County.

Most of the rocks west of this line are sediments deposited in former seas. Around Roseburg and northward, volcanics interfinger with the sediments but west of this area, sandstones and shales make up the bulk of the rocks exposed. Tyee Mountain, most of the rocks of the Calapooya Mountains, and the rocks bordering the Umpqua River all the way to Reedsport were deposited in a sea that was present shortly after the one in which formed the sandstones, shales, and limestones of the Roseburg-Oakland-Yoncalla area. Among the sediments of the latter sea some coal was formed, indicating that this area was near the coastline.

At the present, the most spectacular geologic deposits that are forming are the sand dunes found near Reedsport.

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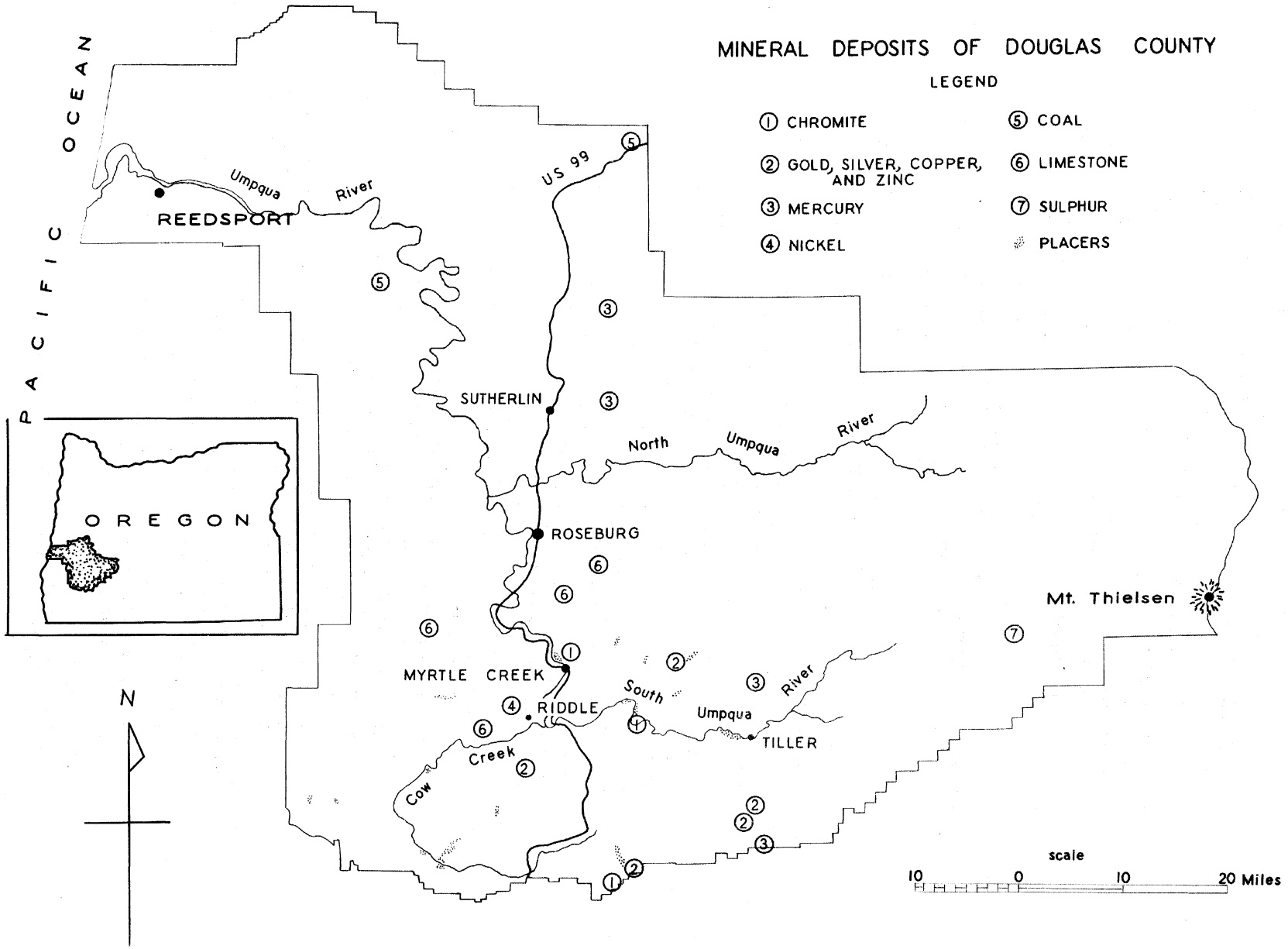
*Speech by F. W. Libbey, Director Oregon Department of Geology and Mineral Industries, at Roseburg Chamber of Commerce, February 5, 1951.


MINERAL DEPOSITS OF DOUGLAS COUNTY
LEGEND
① CHROMITE
② GOLD, SILVER, COPPER, AND ZINC
③ MERCURY
④ NICKEL
⑤ COAL
⑥ LIMESTONE
⑦ SULPHUR
PLACERS
PACIFIC OCEAN
OREGON
REEDSPORT
Umpqua River
US 99
SUTHERLIN
North Umpqua River
ROSEBURG
Mt. Thielsen
MYRTLE CREEK
RIDDLE
South Umpqua River
TILLER
Cow Creek
N
scale
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Economic geology

There is a considerable diversity of mineral resources in the county. The most important with typical mines of the various districts are described below. Because of the strained and confused international situation, most attention is given here to war minerals.

(1) Quicksilver

Douglas County has been the leading quicksilver area of the State and one of the leading areas of the nation. The best known quicksilver mine in the State is the Bonanza located east of Sutherlin. History has it that the Bonanza and the adjoining Nonpareil mine were discovered in the 1860's. Nothing much in the way of their early history is known but very old workings have been found in the Bonanza property as well as the remains of an old Scott furnace. In 1935 H. C. Wilmot acquired the property from J. W. Wenzel and associates. In 1937 Wilmot put in a furnace plant and his underground work opened up high-grade ore. A little later the tension in Europe occasioned by fear of what Hitler would do, together with the demand for quicksilver for war purposes, caused the price to skyrocket to more than $200 a flask. The Bonanza got its plant in working order and discovered new ore at a time when there was a heavy demand at a price which allowed very profitable operation. In 1940 Bonanza was ranked second among domestic quicksilver producers. It continued to operate after the war even though the market price dropped to $70 with costs double prewar costs. It struggled to keep its head above water until 1949 when it finally closed down. The property still contains a substantial tonnage of low-grade ore and could very well resume operations if some assurance could be obtained which would guarantee a price over a sufficient period of time.

In the general locality of the Bonanza there is the Nonpareil, mentioned above, and farther north the Elkhead. Both of these properties had a small production in the early days but were inactive during World War II. In the eastern and southern parts of the county many prospects are known. Perhaps the best known are the Buena Vista, the Maud S, and the Red Cloud in the Tiller-Drew area.

(2) Gold, Silver, Copper, and zinc

From quicksilver we turn to a group of properties containing sulphide deposits in which the commercial metals are gold, silver, copper, and zinc. The best known are on Silver Peak south of Riddle where two properties, the Silver Peak and the Umpqua Consolidated, adjoin and would probably need to be operated as a unit. These properties have a record of production of shipping ore to the Tacoma Smelter. The average assay value for 3,329 tons shipped in 1936 was about 0.1 ounce gold, 3.0 ounces silver, 5.6 percent copper, and 6.0 percent zinc. The ore shipped was massive sulphide containing copper, iron, and zinc sulphides. At today's prices gross value of this ore would be about $55 a ton. Much more development work needs to be done here before plans for a treatment plant could be intelligently drawn. Besides the solid sulphide ore, there is a substantial width of low-grade disseminated sulphides indicated. Whether this low-grade would be commercial is unknown at present, but the property warrants a thorough investigation including development work, especially because of the urgent need for development of strategic minerals.

In the southern part of the county worthy prospects are the Chieftain, the South Umpqua or Banfield, and the Rowley. These mines also require development work in order to be able to plan for the proper scale of operations and the proper treatment plants. However, they all have some very favorable characteristics.

(3) Nickel

The deposit on Nickel Mountain near Riddle resulted from a weathering and enriching process in the peridotite rock which caps the mountain. The unweathered rock contains small amounts of nickel and chrome. The occurrence is of especial interest at

the present time because it is probably the largest known nickel deposit in the United States and because of the extremely strategic nature of nickel metal. The deposit has drawbacks of being both low-grade and oxidized, but it contains a small percentage of chromite which should help out as a by-product.

Discovery of the deposit was made in 1864 by sheepherders. From 1880 to 1900 a large portion of the deposit was owned and managed by W. Q. Brown who carried on exploration and also experimented with concentration and treatment of the ore. Early in World War II, the Freeport Sulphur Company, then lessee of the property, developed a large tonnage of low-grade ore. Recently the M. A. Hanna Company leased the property.

World supplies of nickel in normal times come from three areas. The largest is the International Nickel Company property near Sudbury, Ontario, upon which the United States absolutely depends for its domestic supplies. The second is the Petsamo deposit in Finland now owned by the U.S.S.R. Both of these are sulphide deposits and the metallurgy or treatment of such deposits has been worked out over a long period of years. The third best known deposit is in New Caledonia owned by France. Here deposits are similar to the Nickel Mountain deposit but are very much higher grade, which allows France to use a relatively expensive method of treatment to convert the oxide into the sulphide. A large deposit of ore in Cuba very similar to the Nickel Mountain ore was put into production during World War II by Freeport Sulphur Company using government funds. It was closed down after the war because of high production costs. Recently it was reportedly reactivated by government order.

Two methods have been developed which are applicable to treatment of oxide deposits. One is a leaching process involving several reagents. The other, worked on by the U. S. Bureau of Mines, produces a stainless steel direct from the ore. Metallurgists of the Bureau are strongly in favor of this direct smelting process. The M. A. Hanna Company, present lessee of the Nickel Mountain deposit, has already done a large amount of metallurgical testing work. Further work including additional exploration of the deposit on the ground will be done this year.

(4) Chromite

Chromite is another very important war mineral. In normal times the United States has depended wholly upon foreign chromite. It is believed that over the past four or five years because of the great demand for chrome for ferro-alloys, no very large amount of chrome has been accumulated in our national stockpile. Therefore because of war tension, it behooves us to get busy and promote domestic production of chromite for national security reasons. We should have been doing this for the past four years. Oregon and California are about the only states which can produce a metallurgical grade chrome without chemical beneficiation.

In Douglas County several deposits are known and should be investigated by surface work and possibly diamond drilling. On Quartzmill Peak in the Starveout Creek area a deposit has been mined and the workings show that a considerable tonnage must have been shipped. It is believed that most of the ore would not rate as metallurgical grade according to present standards but the ore might be concentrated. It seems likely that more ore could be developed here if a market were available. Another chrome-bearing zone is on the South Umpqua River near Days Creek. Some samples obtained here have shown very good grade material. Other chrome deposits are known on Nickel Mountain and on Cow Creek south of Riddle. Because Douglas County contains large areas of serpentine, the source rock of chromite, chances for finding other chromite ore zones are favorable.

(5) Limestone

Limestone lenses occur southeast and east of Roseburg and also in Camas Valley. The most important appear to be those near Roseburg. The Oregon Portland Cement Company operated one quarry in this locality in the early days but the attitude of the limestone forced them to go underground which made for expensive quarrying. They abandoned this quarry

when they opened their quarry in Baker County. Several other lenses are known and one has been quarried recently for agricultural limestone on the Landers farm about 12 miles east of Roseburg.

(6) Gold placers

For a great many years streams in Douglas County, especially those tributary to the South Umpqua, have been placered both by hand methods and by larger scale operations. In 1940 a dragline worked on the South Umpqua and on Cow Creek. Various placers have been worked on tributaries of Cow Creek.

(7) Coal and sulphur

Subbituminous coal deposits typical of Eocene sandstone beds are found at Comstock and near the Umpqua River about 17 miles west of Drain. Little is known of the Comstock coal except that a slope was driven on it many years ago. It is now caved. The Umpqua coal occurs in a flat-lying bed which crops out at several places around a hill. Analyses indicate a good grade of subbituminous coal quite similar to the Coos Bay coal.

Sulphur occurs in small lenses at the headwaters of Castle Rock Creek about 4 miles by trail from the Diamond Lake highway up Foster Creek. Very little in the way of development work has been done. Our Department looked them over in 1939. Because of the shortage of sulphur these deposits should receive much more attention and as soon as the snow is off, the Department intends to make a further examination. Both paper companies and chemical companies are looking rather intensively for Northwest supplies, preferably in the form of elemental sulphur, but sulphur from sulphides would be acceptable. Therefore very large deposits containing iron sulphide would be very interesting to paper and chemical companies.

(8) Sand, gravel, and crushed rock are important construction materials in Douglas County. Occurrences of clays, sandstone, and talc have potential importance.

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DR. FRANCIS A. THOMSON PASSES

Dr. Francis A. Thomson, one of the best known mining educators and mining engineers in the West, died in Spokane on January 11, 1951. Dr. Thomson had been in ill health for several months. He retired from the presidency of the Montana School of Mines on October 1, 1950, and moved to Spokane to take advantage of the lower altitude. He was a graduate of the Colorado School of Mines and also studied abroad. Among the important positions in the educational field held by Dr. Thomson were Dean of the School of Mines, Washington State College, and Dean of the School of Mines, University of Idaho. He became President of the Montana School of Mines in 1928 and remained in that position until 1950. He had been a member of the American Institute of Mining and Metallurgical Engineers for nearly fifty years and served one term as a Director. As Head of the Montana School of Mines, Dr. Thomson was also Director of the Montana Bureau of Mines and Geology. He took an active part in western activities of the American Mining Congress and was active also in the Montana Mining Association and the Northwest Mining Association. His students are in all parts of the world and probably no single educator in the mining field will be as long and affectionately remembered by students as will Francis A. Thomson.

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PERLITE PLASTER SAND RECORD

In 1950 Dant & Russell, Inc., Dantore Division, sold five hundred thousand 3-cubic-foot bags of Dantore. This quantity is estimated to be sufficient to cover 7,500,000 square yards of plastered surface if all were placed on rock lath.

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OREGON LEGISLATURE ISSUES MEMORIAL ON CHROME

House Joint Memorial No. 4

Introduced by Representative Dickson and read January 30, 1951

TO HIS EXCELLENCY, THE HONORABLE PRESIDENT OF THE UNITED STATES, AND TO THE HONORABLE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA, IN CONGRESS ASSEMBLED:

We, your memorialists, the Forty-sixth Legislative Assembly of the State of Oregon, in legislative session assembled, most respectfully represent as follows:

Whereas chromite is an essential war mineral and without an adequate supply the United States would be dangerously handicapped in an all-out war; and

Whereas in time of war, foreign sources may be cut off in whole or in part; and

Whereas Oregon and California contain the most important domestic deposits of chromite and these deposits could be made available to the national stockpile if a price would be paid sufficient to make it profitable to develop the available chromite deposits; and

Whereas the chrome miners of southern Oregon and northern California have organized in order to negotiate with government officials to secure an adequate price for chromite to cover development, mining, transportation and profit, as well as to secure assistance in building access roads; now, therefore,

BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF THE STATE OF OREGON, THE SENATE JOINTLY CONCURRING THEREIN:

That the President and the Congress of the United States hereby are memorialized, and this forty-sixth Legislative Assembly of the State of Oregon hereby does petition that the Defense Minerals Administration be directed to purchase chromite without further delay from Oregon and California producers at a price that will allow delivery to a government ore purchasing depot at a fair profit for the producer; and be it further

Resolved, That the Secretary of State of the State of Oregon be and the same hereby is directed to transmit copies of this memorial to the President of the United States and every member of Congress.

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CHROME MEETINGS IN WASHINGTON, D.C.

According to the Grants Pass Courier, issue of February 1, Fay Bristol, President of the Oregon Mining Association, and William Robertson, Chairman of the Association's Chrome Committee, were called to Washington, D.C., on January 31 to confer with S. H. Williston, Director of the Supply Division of the Defense Minerals Administration. The conference is designed to set up a program for government purchase of chrome from southwestern Oregon and northern California mines. Mr. Niel R. Allen of Grants Pass, Chairman of the Board of the State Department of Geology and Mineral Industries, also attended meetings held to set up the program, and Senator Guy Cordon of Oregon participated in the conference.

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INDUSTRIAL MINERALS CONFERENCE

The Oregon Section of the American Institute of Mining and Metallurgical Engineers is again playing host to the Northwest Industrial Minerals Conference. The all-day meeting will be held at the Congress Hotel on Friday, April 27. The Saturday following will be devoted to tours to industrial mineral plants in the area and to manufacturers of earthmoving equipment. This will be the first Northwest conference to be sponsored by the Industrial Minerals Division of the A.I.M.E.

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SYMPOSIUM ON POSSIBLE FUTURE OIL PROVINCES OF THE PACIFIC COAST REGION

Part III - Oregon (Abstract)*

By
H. J. Buddenhagen, Shell Oil Company, Portland, Oregon

Oregon's prospective oil territory is considered to be limited to two areas where thick sections of unmetamorphosed marine sediments occur, namely, the Coast Range province of northwestern Oregon, and a part of the Ochoco Mountains region in central Oregon.

The former, with an area of 14,000 square miles, contains more than 15,000 feet of clastic sediments mostly of marine origin, together with several thousand feet in interbedded volcanics. These rocks range in age from middle Eocene to Pliocene.

In central Oregon more than 35,000 feet of Mesozoic and Paleozoic predominantly marine sediments, with no interbedded lavas, are exposed in windows in the regional cover of Tertiary and younger volcanics. Their extent below the volcanic cover is unknown.

The detailed structure and geologic history of neither region has been adequately deciphered. The Coast Range area seems to be essentially a broad, undulating northerly plunging geanticline, but it is modified and complicated by many lesser structural features. Dips are generally gentle and folds symmetrical. The central Oregon area is closely and complexly folded and numerous unconformities are present.

No oil seepages or oil sands are known in Oregon although oil and asphalt have been found in basalt vesicles, fossil cavities, and drusy cavities in quartz veins.

Ninety-five to 100 wildcat wells have been drilled in Oregon: 45-50 in the Coast Range Province; 3 in central Oregon; 25-30 in the Harney Basin and Vale areas of southeastern Oregon, with the remainder at scattered locations. Noncommercial amounts of gas were encountered in some of these wells, but no authenticated oil indications are known. Wildcatters have been attracted to the southeastern Oregon areas apparently by the occurrence of natural gas in the lacustrine and other continental sediments which occupy structural basins in this area.

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*Reproduced by courtesy of the American Association of Petroleum Geologists, from the Bulletin, vol. 34, no. 12, p. 2382, December 1950.

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NO INCENTIVE FOR VENTURE CAPITAL*

One of the matters that causes headaches in business and financial circles is the decline in the net returns which investors, taking them by and large, receive on the money they have placed in the securities of industry. A number of commentators are of the opinion that the investor has become the real "forgotten man" in the era of enormous material progress which he financed.

A typical comment was recently written by W. Alton Jones, president of the Cities Service Company. He observed that in the petroleum industry someone must provide $34,000 worth of "tools" for each worker employed. He said, "A worker so dependent upon tools should cultivate the good will of the man - and not overlook the woman - who makes the job possible. . . .The American custom is to induce someone who has saved to join in an enterprise by investing his savings in tools and facilities so that management can assemble workers and get on with the task of producing something people want."

The drop in the return paid for the use of the "tools" has been very sharp. At one time it averaged around 8 cents - now in many instances it is down to 2 or 3 cents. The factor is of extreme importance here. The investor, whether rightly or wrongly, must pay a double tax. First, the profits earned by corporations are heavily taxed on a graduated scale. Second, whatever is paid out to investors in the form of dividends or interest, is hit hard by the

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*From Pay Dirt, January 1951, reprinted in Wallace Miner, February 1, 1951.

individual income tax. The result is to dry up sources of "tool" money.

This is not a problem of moment only to the large business. In fact, it is felt most severely by the new and smaller business. The big going corporations, which have been in operation for many years, are already financed. Generally, they have large reserves earned in the past. They are best able to adapt themselves to changes in the economic climate or government policy. The smaller business, on the other hand, doesn't have these advantages. It may need money for expansion, or to start in the first place. The investor who puts up that money is running a risk of losing it all. So, knowing that even if the concern does succeed his net returns after taxes will be small, he is chary of the risk.

In view of the above, one can readily see why there is mightly little venture money going into new mining enterprises at the present time. Those who invest and take the added risks must be assured of more than normal profit if they strike the kind of ore bodies that they hope for. However, with the government taking the bulk of the profits when you win and not sharing any part of the losses if you lose, there is certainly but little inducement for those who do have money available. A tax-incentive program for new mines would bring about renewed exploration of our natural resources.

* * * * *

CANADA DOES ALL RIGHT

Apropos the above discussion of incentives for mining investments, we have recently noted with a great deal of interest a couple of news releases with a Nelson, British Columbia, dateline which were headlined approximately as follows:

"Woodbury Issue Oversubscribed" and "Van Roi Finance Plan Completed."

There followed brief descriptions of the new mining development projects being undertaken by the companies and the purposes for which the newly invested private capital would be expended.

These cases are by no means isolated. Similar new items from north of the international border have been fairly common, particularly during the past year or so. Hon. R. C. MacDonald, British Columbia minister of Mines, told a meeting of Northwest Mining Association members at their convention in Spokane last December that in recent months some 30 new mining companies were organized in the province.

To what can be attributed this healthy expanding condition in Canadian mining? The answer to that one is not difficult. Briefly, it is favorable tax laws.

In Canada a new mining venture is entirely exempt from taxation during the first three years of production, and, in addition, is allowed a six-months period of tax-free operation for "tune-up." Their laws permit deduction of exploration and development costs from taxable income as operating expenses. They have no capital gains tax, and they grant a depletion allowance to stockholders amounting to 10 to 20 percent of the dividend, in addition to the depletion allowance which corporations receive. Finally, they recognize losses from unsuccessful mining ventures as losses and permit their deduction from taxable income in the year of loss.

This type of tax climate gives the investor a run for his money. The man taking a big risk has a chance for a big pay-off. There's some real incentive for taking the risk.

So mining flourishes in Canada while the domestic industry withers. "Responsible" officials in the administration view with alarm the critical shortage of many metals, while others, including the president, continue their unsettling references to "excessive depletion allowances." In the present urgent situation, good money is poured after bad in marginal holes in the ground in the hope of gleaning a few additional pounds of badly needed metal.

. . .The National Minerals Advisory Council to the Department of Interior has long recommended a six-point tax program which includes in large part our northern neighbor's favorable features. Passage of legislation incorporating this six-point program would, more than any other single action, reawaken the languishing interest in mining ventures in this country. . . .

** (Wallace Miner, Feb. 1, 1951)

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THE DOMESTIC STRATEGIC MINERALS SITUATION[1]

By

S. H. Williston[2]

[3]Thank you, Mr. Chairman and General Robins. I might say that this is like coming home, and after Washington, anything that seems like home is quite a relief. I have here today a rather divided audience. I know that a good many of you are mining engineers interested in the exact situation in Washington and what the Government is doing in regard to strategic and critical metals. Another large proportion of you is interested not as producers but as consumers of those very same metals. I am going to try to answer the questions that I think you would ask if you had the opportunity. In regard to the general metal situation in the United States, probably some of you don't realize that at the present time there are one-fourth as many underground metal mines operating as there were ten years ago. There are far less than half as many people engaged in underground metal mining now as there were in 1940.

During the war years, we increased the production of many of the strategic and critical metals in the United States to a rather phenomenal extent, but since those war years, most of our strategic metal industry has died and even the productive capacity of our critical metals has seriously declined. With another serious emergency upon us, we are faced with the necessity to bring back the production of both the critical and strategic metals. You who are consumers of metals, whether as civilians or whether as members of industries, have seen the recent restrictions on the use of copper, of zinc, of aluminum, of molybdenum, and you wondered what is going to happen and how tight the restrictions will become.

The copper industry prior to 1940 was almost on an export basis in the United States. We are able to produce most of our requirements, but not all. During World War II, we were heavy importers of copper. At the present time even with all available imports there is an insufficient amount of copper to supply the requirements of civilian life and the requirements of the Department of Defense. The same thing applies to zinc and, to a much lesser extent, the supply of lead.

Insofar as the strategic metals are concerned, most of you as consumers are a little concerned. You think of tungsten, if you think of it at all, as something that industry requires and does not affect the everyday life of those of you who are merely civilian buyers, although if you are an industrial manufacturer, the shortage in tungsten-carbide tools and high-speed steel probably has you rather worried. I might say in that respect, if you are not worried now, you had better be. The same thing applies to others of the strategic metals.

1/ Talk delivered to joint meeting of Raw Materials Survey and Portland Chamber of Commerce, February 12, 1951.

2/ Formerly Director Supply Division, Defense Minerals Administration, Washington, D.C.

3/ From recording reproduced without corrections by the speaker.

Chrome, of course, the people of the State of Oregon are quite familiar with. You realize the application of chrome in the steel industry and realize the importance in matters of defense. Chrome largely comes from Africa, at the present time, with somewhat lesser amounts from Caledonia, Philippines, Cuba, and Turkey. The chrome deposits of the United States are limited and you in Oregon feel much more interested in them because Southern Oregon and Northern California have a considerable portion of those chrome reserves.

Your interest in manganese is probably entirely casual, although without manganese our steel industry could not exist for any appreciable length of time. Antimony is a very inconspicuous metal. You hardly realize that without it you would have no storage battery for your automobile. Beryllium you have heard of probably, but its importance in the defense of the United States would appear to be a very minor matter. It doesn't seem that way to the Atomic Energy Commission, and it doesn't seem that way to many users of beryllium in the form of beryllium-copper where nothing will serve as a substitute. Most of you are not familiar with columbium; it has another name - niobium - and to most of you it would be merely a metallurgical curiosity, but the essentiality of columbium for the defense effort is probably greater than any other single metal. We do not produce it in the United States and the world supply is insufficient for our requirements.

I could go on speaking about these various metals at considerable length, but their importance, both as to the civilian economy and to war economy, can hardly be over-emphasized. I mentioned tungsten briefly. Tungsten has in the past been imported largely from Korea, from China, and from Indonesia, and to some extent, from South America. Since the change in the political complexion in the Far East, we have lost some 75 percent of the world's capacity to produce tungsten; whereas we in the United States require some 75 percent of the world's tungsten to carry on our civilian and military activities. I think you can see that if we are forced to get 75 percent of the tungsten from 25 percent of the world's capacity to produce, the tungsten problem is, to say the least, a very serious one.

Let us leave these few strategic metals I have mentioned (there are many more such as mica and mercury), and go on to the commoner metals, copper, zinc, and lead. Thirty percent cut-backs in the civilian use of copper certainly brings to the attention of the civilian the fact that we need more copper. A 40-cent gray market price for zinc before the price freeze indicates the importance of zinc in the national economy. If we are to take care of both civilian and military requirements, it is quite plain that we are going to have to expand not only the domestic production of this metal wherever it is possible to expand it, but we are also going to have to import from foreign sources where we can and when we can.

With the Defense Production Act that was passed in September of 1950, broad powers were given by Congress to the President to take care of these and a great many other matters. Those powers were delegated by the President through various defense organizations to the Department of Interior, and in the Department of Interior those authorities were transferred to a Defense Minerals Administration setup in that department. Mr. James Boyd, Director of the Bureau of Mines, took leave from the Bureau and was made administrator of the Defense Minerals Administration.

I know a good many of you have felt that the progress made in Washington has been very slow in very many cases, but I would like to mention at this point that although Mr. Boyd was made administrator of this department back in October or November, he really didn't get the powers and the authority delegated to him to take care of this job until very recently, and many of the powers are still very indistinct. There are certain problems, for example, in connection with the Defense Minerals Administration's work in foreign fields that even now have not been spelled out so that the Defense Minerals Administration may know to what extent its authority may stretch in the procurement of strategic and critical metals from foreign sources. In the Defense Act of 1950, there were certain tools granted to the defense agency for the expansion of production and I might briefly set forth the tools that the Defense Minerals Administration has to work with.

First, it can make procurement contracts. At least it can approve procurement contracts. Actually the Defense Minerals Administration has no money, and all it can do is certify to other agencies of the Government its opinion as to whether certain steps should be taken and the form those steps should take. In speaking of procurement in the event that a supply of strategic or critical metal is offered to the Defense Minerals Administration and if after study by the Bureau and the Survey who are advisers to the Defense Minerals Administration, it seems quite feasible to obtain this metal from this particular source, a contract would be drawn up in the Plant Expansion Division of the Defense Minerals Administration and certified to the Defense Production Administration, to the National - I get mixed up on these alphabets just as badly as you do - to the NPA, from there to the DPA and then come back to us and would be sent to the Emergency Procurement Division of the General Supply and which would enter into the contract.

A second tool which can be used under the 1950 Defense Act are loans to industry for plant expansion and that, insofar as our shop is concerned, means the opening of new mines. Those loans can take only one form if it means plant expansion or mine reopening. They might take another form if they were merely connected with the procurement contracts. I'll speak of the first half before I go into the second half. In the event that an owner of mining property felt that his reserves were sufficiently large, that his deposit was sufficiently promising to justify a mill, he can make application to DMA setting out the information he has on that property. That would normally go to the Commodity Group in the Supply Division most familiar with that commodity. If it's copper, it would go to the copper desk. After checking with the Geological Survey for any information which they might have on the geology of the deposit and after checking with the Bureau of Mines on any information they might have on ore reserves, if the project were feasible, it would be referred to Plant Expansion with the recommendation that a contract be entered into and that a loan be granted. After the legal aspects were worked out, that contract would then go to the NPA, the DPA, and then over to Emergency and then in this case, RFC with a certification that the loan be granted, and after that has been taken care of, the loan would be granted and the operator could build his mill.

A third tool is the "V" type loan which can be made through private banking with Government guarantee and these are more or less restricted to assistance in connection with procurement loans. If a company entered into a contract guaranteeing delivery of certain metals to the Government and then finds that they don't have enough working capital, or they need minor help in plant expansion, etc., they can go to their own bank, put in application for a "V" type loan which will be referred to the Federal Reserve Bank which will be referred to the Defense Minerals Administration, and then through the other agencies and finally receive guarantee of that loan by the Government for the purpose mentioned. To date, none of the "V" type loans have gone through and candidly I couldn't say just exactly all the procedures that might be necessary. But it's a tool of the DMA and it can be used by the mining industry.

In the Defense Act, there were further authorizations in connection with the encouragement of exploration and development of strategic and critical metals. Until December 31 of this last year, it was impossible for the Defense Minerals Administration to give any help for exploration or for development because under the tax laws it was impossible for us even to give money away without it being considered taxable income to the recipient, and if the loan granted was made on the 29th of December, the recipient would have had to pay 45 percent back to the Treasury on the 15th day of March. Fortunately, that particular problem was eliminated in the excess profit tax act which was signed on the second of January, so that now it is possible for DMA to assist in exploration by grants or by loan which might be cancelled if unsuccessful, and so that field is open now to aid in exploration where just a little over a month ago it was almost impossible.

The Defense Minerals Administration under Mr. Boyd has worked out several plans for the encouragement of exploration and development. Those plans have not received the final approval nor have appropriations been made in final forms necessary to carry them out.

I cannot say when they may come out, but I do feel that you may expect word from Washington in the very near future which will spell out an aid for exploration and development of the strategic and critical metals and which I hope will be of considerable assistance to the mining industry.

Another tool which was granted to the Defense Minerals Administration as well as to industry as a whole to aid in the development of materials for the war effort, is the five-year amortization of or a certificate of necessity which would empower private industry to put in facilities and then charging off those facilities against their other income in a period of five years. The general intent of Congress was similar to that of the Certificate of Necessity in World War I where it was realized that plants would have to be built, chiefly by private industry, which might have no value after the emergency was over. Those certificates of necessity are under the law available now. It takes considerable time to process that type of thing, and one of the reasons is that the law provided that any value of this facility after the five-year period must be taken into account in the granting of accelerated amortization. That takes the whole problem of the certificates of necessity into the type of study which required the evaluation of the plant 7½ or 15 years from now, and I think you can all realize that such evaluation is subject to considerable argument depending upon whether you are a conservative or liberal; whether you feel the country is in a rising economy or that it may be near its peak. It involves a study of the national income 15 years from now and a good many other economic questions. For that reason, the granting of Certificates of Necessity has been very slow.

I might give you some idea of the channel through which they have to pass when I say that the Certificate of Necessity is filed by the National Security Resources Board and immediately gets transferred to Mr. Harrison's shop and from there it goes to the defense agency most directly concerned. In this case if it were mining, it would go to the Defense Minerals Administration and after the technical details have been studied by the engineers and geologists of the Supply Division, it is given further study by the economists who estimate what the general picture will be some years from now. After they have seconded the technical men, it goes over to the Defense National Production Administration where they add their ideas, possibly changing the percentage which may be amortized up or down and then it follows up the line before it is finally certified to by one of the officials of the (again I'll get my alphabet straight) DPA and finally sent to the Treasury. The problem involved with those five steps put a rather tremendous job on the Defense Minerals Administration because first, it has been in existence only a little bit more than a month so far as its authority is concerned, and second, the policies and the backing of some of it has not been completed.

I know that all of you have felt that progress in Washington has been entirely too slow. I agree with you, and I think that possibly I'm to a great extent to blame. The Supply Division leads the job of planning and programming not for one of those metals, but for all 60. The personnel is far too few, the job is a big one. Under the law each of these arrangements for each expansion in each mineral must be done by individual contract, and as yet the trend of those contracts isn't clear. I hope that all of these things will work much faster in the future than they do now, but I do want to assure you that under the very able leadership of Mr. Boyd of the Bureau, who incidentally is working many hours trying to get the job done, and also with the capable assistance of Deputy Administrator Jim Douglas, a well-known mining man and most competent, that the job will be done and it will be done as soon as it is physically possible to do it.

The confusion in Washington you have heard about. In Washington, we say we have three kinds of confusion - "confused-confusion," "organized confusion," and "departmental confusion." I don't know which the DMA may be; I am a little proud of it. I think we might say that we have "organized confusion" at the DMA. It's a big job. The men in Washington are doing the best they can; I hope you will be patient with them, because if you try to drive them much more, they won't live much longer.

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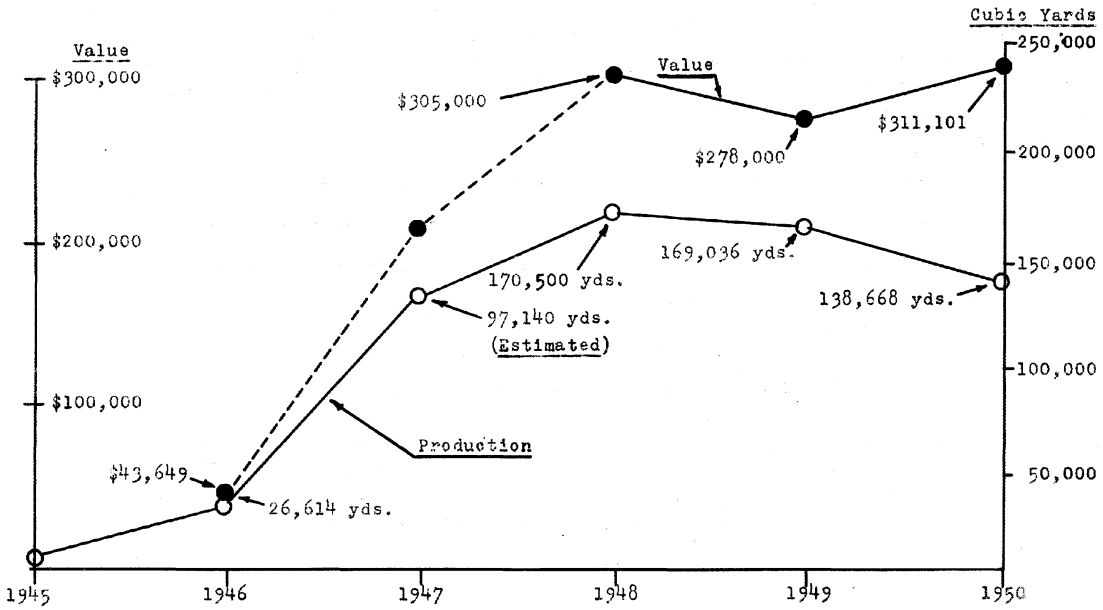
PUMICE INDUSTRY IN OREGON

Progress Report for 1950

By

N. S. Wagner*

Pumice production in Oregon during 1950 was characterized by a moderate falling off of production on a yardage basis, and a substantial increase in value of the various products sold. A total of 138,668 cubic yards valued at $311,101.50 was produced by six operators in central Oregon. Production figures from two small operations were not obtained but the above figures represent all but a small fraction of the material handled. The accompanying graph shows the trend for both yardage and value of pumice mined and processed from 1945 to 1950.



Originally the pumice industry almost exclusively produced an aggregate for precast concrete blocks. More recently, the producers have diversified their production somewhat in utilizing the inherent value of the lightweight material, and today they are producing not only block aggregate but ready-mix aggregate, poultry litter, florists' bedding material, and plaster aggregate. The unit value of plaster aggregate is, of course, much higher than that of the other products and accounts largely for the nearly 12 percent increase in value of products sold despite the 16 percent reduction in yardage. Production of ready-mix aggregate increased to roughly 15 times the 1949 level and that of plaster aggregate to more than $2\frac{1}{2}$ times. No survey has been made of the types of construction that are using monolithic pumice concrete, and it is not known whether this trend will continue at its present accelerated rate of increase.

Competition from expanded shale aggregate has resulted in a reduction of pumice-block aggregate. In 1949, 162,899 cubic yards were produced while only 90,152 yards were sold in 1950. Producers are making strenuous efforts to improve their product. Research work is now being conducted at Washington State College Institute of Technology, at Oregon State College, and in the laboratories of the Oregon Department of Geology and Mineral Industries.

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

This research is directed mainly toward eliminating or minimizing the shrinkage of precast pumice blocks. Not enough work has been done yet to determine what improvements might be expected from this research, and progress by these organizations is being watched closely by the industry. The producers of concrete blocks using pumice for an aggregate have greatly improved their plant practice during the last year or so, and the production of inferior blocks characteristic of the period five years ago has been replaced by a much improved product.

One new operation located near Gilchrist was reported to have commenced production during the year, and one operator in the Bend area apparently closed down permanently. The six remaining plants produced steadily during the year with no change in ownership or management. Nearly all of the producers have improved their plant facilities and as a result their products are being turned out with greater control and are being tailored to meet specific consumer requirements.

The pumice industry seems to have secured a solid foothold for itself, and continuing production of a variety of processed and semiprocessed pumice fractions may be expected. During 1950 a total of three operators marketed plaster aggregate while five reported a ready-mix aggregate production. All but one reported a block aggregate production and three sold pit-run material. The producers who supplied the above production information, and whose production accounts for all but a small percentage of the total production, are as follows:

Chester T. Lackey, Deschutes Concrete Products Company, Redmond, Oregon.

William E. Miller, Central Oregon Pumice Company, 644 Franklin Street, Bend, Oregon.

Thomas Philipsen, Western Pumice Sand Company, 2321 Eberlien Street, Klamath Falls, Oregon.

Don Robbins, Harney Concrete Tile Company, Burns, Oregon.

Merle Sleeper, Pumice Engineering Company, Box 808, Bend, Oregon.

Lloyd A. Williamson, 114 Oregon Avenue, Bend, Oregon.

The accompanying graph of the production of pumice in the State during the past five years shows the impact of the specialized products that the State has produced during the past year. These products have a higher unit value than the material formerly supplied the market, and it is believed that this tendency will continue.

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CANADA INCREASES GOLD MINE SUBSIDY

The Canadian Government announced from Ottawa on March 9 a new subsidy formula for gold mines. The Government officials said that it will add about $3,000,000 to the 1951 aid previously decided upon for the industry.

The main point of the new plan is that mines with a production cost of more than $22 an ounce will be subsidized on not less than half their 1951 production that is sold. In the previous plan the minimum was one-third.

As reported in the Victoria, B.C., Colonist, Mr. D. C. Abbott, Finance Minister, announced the new assistance formula as follows: The rate of subsidy per ounce will be one-half the amount by which the average cost of production per ounce from any mine exceeds $22 with the maximum assistance per ounce of $11.50. This rate will apply to the number of ounces by which 1951 production exceeds half the production of the base year of 1949. It will be paid on not less than half the amount produced and sold from any mine in 1951.

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FOR SALE

Number 1-S LeRoi powered gasoline Boyles Brothers Diamond Drill, including 800 feet of AX rods in 10-foot sections and 60 feet of EX rod, one 10-foot and three 5-foot AX core barrels, pump, and a full complement of normal accessories. This outfit was purchased new in November 1947 and used for less than 1000 feet of drilling. Correspond with Wm. Phelan, Durkee, Oregon.

MERCURY IN THE FOURTH QUARTER OF 1950
(Including summary for the entire year)

Consumption of mercury trended upward throughout 1950 and in the fourth quarter was at the highest rate since the second quarter of 1948, according to the Bureau of Mines, United States Department of the Interior. Consumption in the final quarter was almost entirely for dissipative uses, whereas that in April-June 1948 was influenced to a notable degree by the installation of two chlorine and caustic soda plants using mercury cells. Imports in October-December 1950 fell sharply from the high level of the third quarter but nonetheless were larger than most earlier three-month periods. Domestic production, on the other hand, dropped to a rate unprecedented in the past 100 years. Prices, after lagging far behind those for commodities in general, turned upward in the third quarter of 1950 and moved forward at an accelerated rate in the fourth; the advance was unchecked at the year end.

In all of 1950 imports were an outstanding feature, falling short of those for 1949 and 1945 only. Receipts in 1949, however, were largely for the Government strategic stockpile, which did not influence the 1950 entries. Consumption in all of 1950 was at a new peacetime peak despite the fact that the large chlorine and caustic soda and mercury boiler installations of the past two years did not characterize 1950. A new large chlorine and caustic soda plant will be put into operation in Virginia in 1951 and industry inventories on December 31, 1950, reflected the accumulation of stocks for the opening of this plant. Three additional chlorine and caustic soda installations are in prospect for the near future.

According to foreign data available when this report was written output in Spain and Italy continued far below their production potential; output in the former being reported as 50,025 flasks and in the latter as 47,705 flasks. Imports into the United Kingdom jumped from 9,242 flasks in the first 11 months of 1949 to 54,199 in the similar period of 1950. Deducting reexports of 3,667 and 13,310 flasks, respectively, for the two periods, the quantities that remained for consumption or subsequent reexportation were 5,575 in the first 11 months of 1949 and 40,889 in 1950. Thus, it would appear that a large part of the surplus stocks of mercury in the world moved to the United Kingdom in 1950. The restricted sales in Spain and Italy at the year end, may actually indicate as reported that little metal was available for sale.

Domestic production: Mercury production in the fourth quarter of 1950 was 630 flasks or a reduction of 50 percent from the quarterly average of 1,270 flasks for January-September. Chief producing property in the fourth quarter was the Mt. Jackson (including Great Eastern) mine, Sonoma County, California, but at least a half dozen other properties had some production.

In all of 1950, as has already been stated, output was the smallest in the 100 years covered by the production record. The Mt. Jackson mine likewise dominated annual production. The other most important producer during the year was the Cordero, Humboldt County, Nevada, which, however, was in operation to February 15 only. Some other contributors to domestic supply in 1950 were: Juniper, New Idria, and North Star mines, San Benito County; Almaden Placers, Santa Clara County; Culver-Baer and Dewey Geyser in Sonoma County, California.

Salient Statistics of Mercury in 1950 in flasks of 76 pounds

Domestic	
Production	4,440
General imports	60,564
Exports	447
Consumption	49,600
Stocks at end of period	
Consumers and dealers	33,100
Producers	2,719

Imports into the United States by Countries	
Canada and Newfoundland	107
Denmark	300
Italy	18,073
Japan	793
Mexico	3,986
Netherlands	825
Spain	29,439
Sweden	1,061
Yugoslavia	5,980
TOTAL	60,564

(From Mineral Report 27)

BAKER MINING MEETING MARCH 26

Eastern Oregon Mining association will perfect the organization at a meeting, Monday, March 26, at 7:30 p.m. in the court house.

Officers will be elected and members enrolled.

At the preliminary meeting held March 14, B. F. Kulis acted as temporary chairman and Nadie Strayer, temporary secretary.

Plans and immediate objectives were discussed informally and will be molded into a definite pattern at the forthcoming meeting.

One point definitely settled upon was that the organization would secure speakers of competent authority to outline the future of the mining industry and that the organization would sponsor legislation that would provide encouragement, aid, and assistance to the mining industry that is basic for the common defense and the general welfare.

(From Baker Record Courier, March 22, 1951.)

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MINING CLAIMS NO GOOD AS TIMBER GRABS

Claimants in recent large-scale mineral-claims stakings in Jackson and Josephine counties are in for a shock if they are after timber.

That is the announcement of Raw Materials Survey, a nonprofit corporation dedicated to the study of industrial raw materials problems, with headquarters in Portland.

The statement by Thomas M. Robins, Survey president, is as follows:

> "There are no loopholes in the mining laws that will allow 'timber grabs' and this fact should be made known so that the rush of claim staking will stop.
>
> "A mineral claimant cannot sell a single stick of timber from his claim until he has received a patent from the federal government, and such patents are difficult to obtain. As a matter of record, in Oregon in the last 20 years, patents have been granted to only 15 groups of claims comprising 1228 acres - less than four-thousandths of one percent of the total of Oregon's federally held land."

The Survey, an industry-sponsored fact-finding organization, has just released a comprehensive study made by its managing engineer, A. O. Bartell, on the Pacific Northwest timber resources in relation to the mining laws. Bartell's report shows that the claimants who have filed in the Union Creek area are wasting their time. The claims are staked as placer locations in an area that is nearly devoid of valuable mineral. In the past, the courts have made it clear that on placer claims in a forest preserve, mere mineral discovery alone is not sufficient, and that nothing short of a probable commercially valuable mine will suffice to qualify for a patent.

The Board of directors of the Raw Materials Survey has gone on record as urging that the administrative officers of the Department of the Interior initiate cancelation proceedings against the claimants of the apparently invalid mining claims recently located en masse in the timber-covered Union Creek area.

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(Editorial in the Grants Pass Courier, March 21, 1951.)

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METAL PRICES

Copper, per pound	24½ cents
Lead, New York, per pound .	17 cents
Zinc, East St. Louis, per pound	17½ cents
Tin, per pound	$1.34
Quicksilver, per flask of 76 pounds	$218 to $221
Antimony, per pound, in bulk car lots Laredo . .	42 cents
Bismuth, per pound, ton lots . . .	$2.25
Cobalt, per pound, in 100-pound containers	$2.10
Iridium, per ounce troy	$200.00
Nickel, per pound electrolytic cathodes f.o.b. Port Colborne, Ont., U.S. import duty included	15½ cents
Palladium, per ounce troy	$24.00
Platinum, per ounce troy	$90.00

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(From E&MJ Metal and Mineral Markets, March 22, 1951.)

April 1951 Portland, Oregon

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

Head Office: 702 Woodlark Building, Portland 5, Oregon

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CHROMITE

Although both refractory and chemical grades of chromite are very important in the industrial life of the nation, it is metallurgical-grade chromite that assumes dominant importance in time of war. Many alloys required in making war material must have metallurgical-grade chrome. Have we a safe supply of it on hand to tide us over in the event of an attempted submarine blockade?

In 1950, according to the U.S. Bureau of Mines Chromite Report No. 20, the United States imported 1,298,725 short tons of chromite and consumed 980,369 tons (a new high record), of which the metallurgical industries used 50 percent, refractory manufacturers 36 percent, and the chemical industries 14 percent. Total stocks in the hands of industrial consumers at the end of 1950 amounted to 606,271 short tons compared with 756,995 short tons at the end of 1949, a loss of 150,724 tons. Metallurgical-grade consumer stocks on hand at the end of 1950 amounted to 248,872 tons compared with 325,881 tons on December 31, 1949. In 1947 total consumer stocks were 411,067, of which 191,104 were metallurgical grade. This shows that in four years (1947-1950 inclusive) consumer stocks of metallurgical grade increased only 57,768 short tons. Figures on Government holdings of metallurgical-grade chromite are not available. In 1946, when statistics were not confidential, the U.S. Bureau of Mines reported that the office of Metals Reserve had total stocks of metallurgical-grade chromite in stockpiles, purchase depots, etc., of 263,409 tons. Since that time there has been an excess of imports over consumption of about 1,794,000 tons including all grades of chromite. There is no information on what percentage of this excess consists of stocks of metallurgical-grade chrome. Also part of the excess went into consumer stocks so it would appear rather plain that at the end of 1950 total stocks of metallurgical-grade chromite, both government and industrial, are dangerously low. As a statistical sidelight on this situation, in 1947 the United States received from Russia 47 percent of the total amount of chromite imported of 1,106,180 tons; in 1950 2 percent of our total imports of chromite came from Russia, and Russian chrome is metallurgical grade.

Judging from the inaction in setting up a program for the purchase of domestic chrome ore, Government agencies who have to do with mineral procurement under the Defense Production Act of 1950 are not worried about chromite. The brief statistics outlined above indicate that any such complacency is dangerous. If a war should come this summer, no substantial domestic production of chromite could be had for another year at least because, in the absence of a definite Government purchase plan, miners will not put their properties into condition to produce, and nothing can be done on most of the properties during the winter months. It appears difficult for those in authority to understand that judgment of conditions and planning based on knowledge of mining of copper, lead, and zinc is not valid for chrome mining in Oregon and California. Also chrome miners are in a class by themselves and the number is getting fewer and fewer. In another month most of them will be in the logging camps.

F.W.L.

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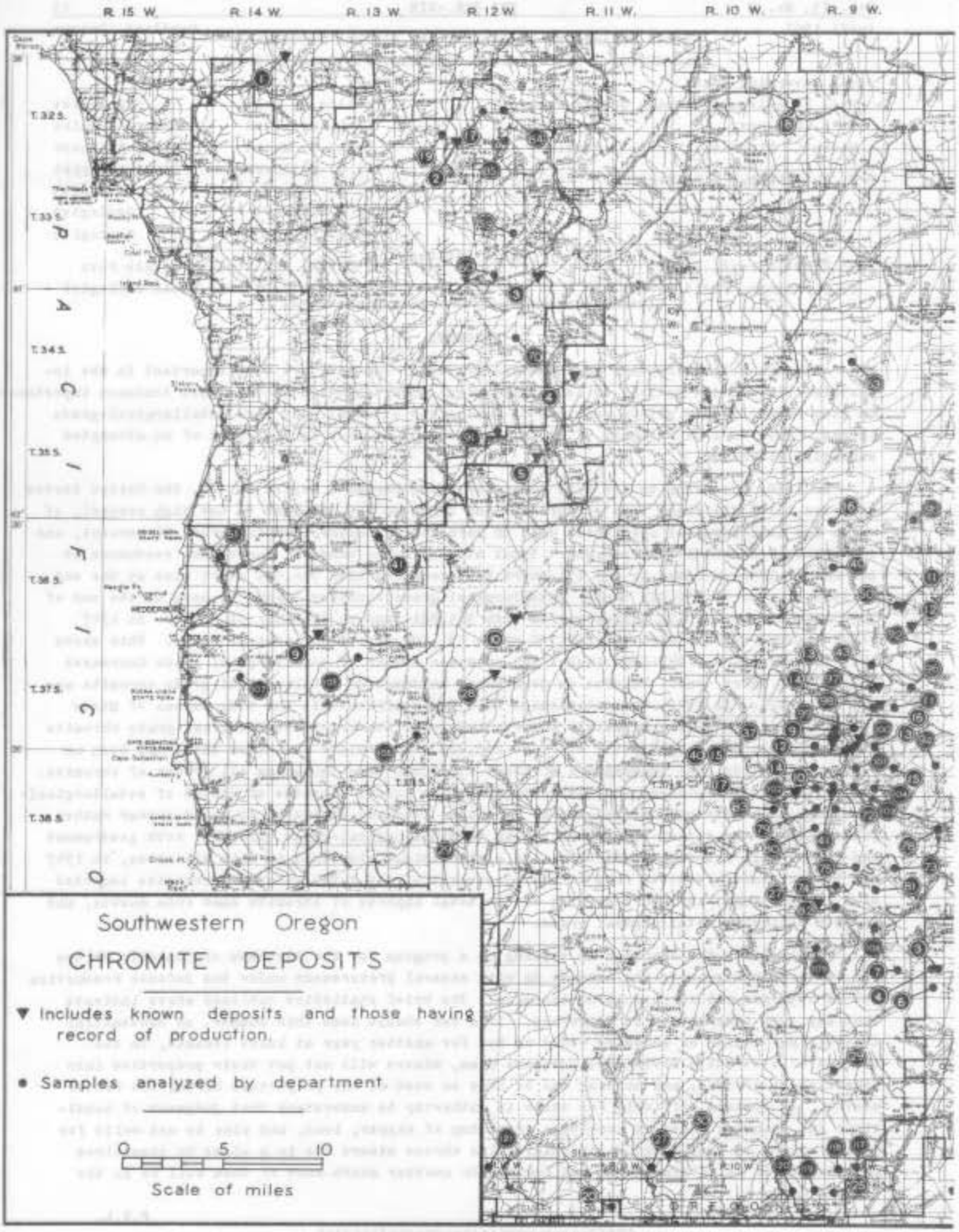
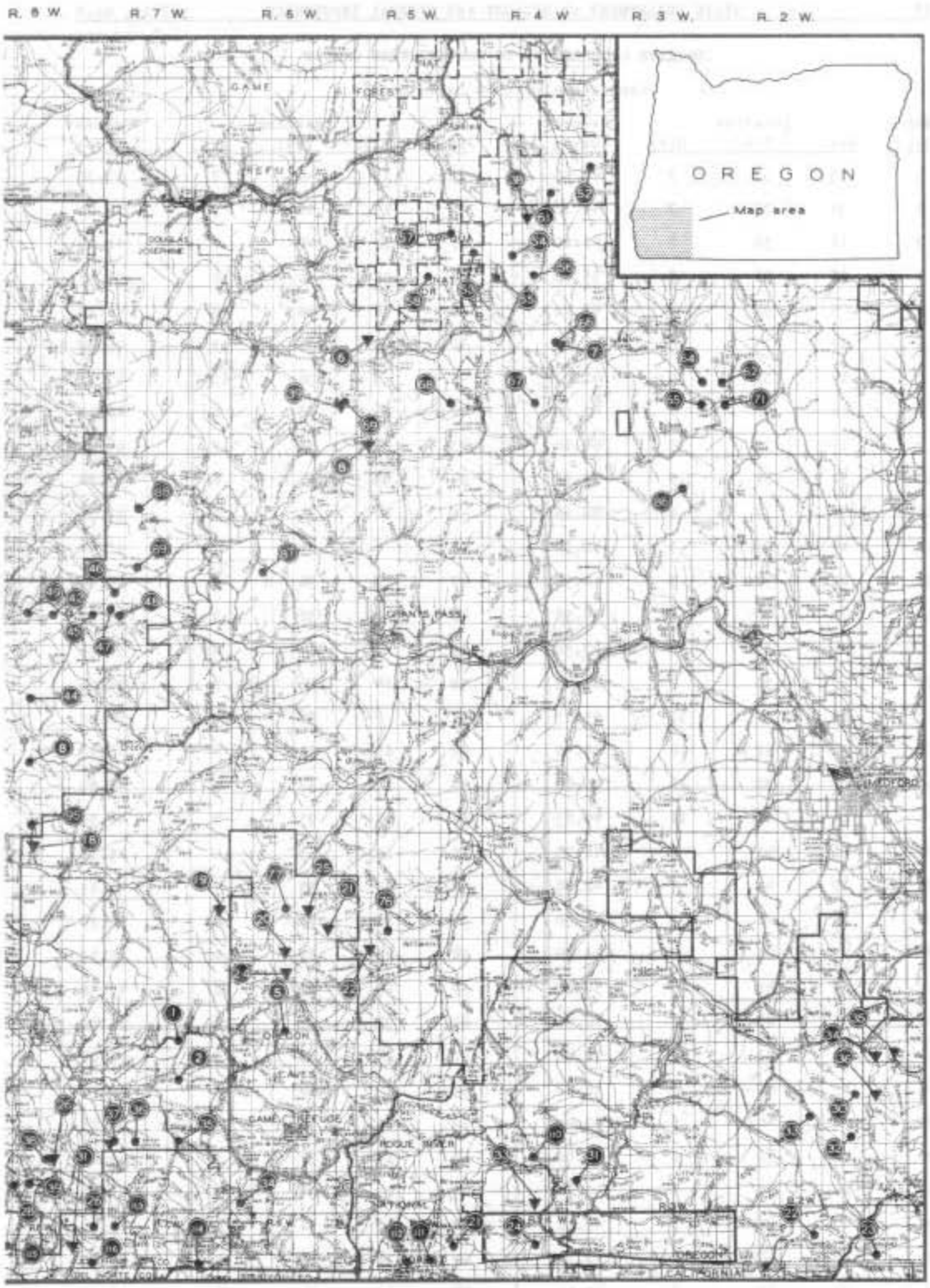

R. 15 W.
R. 14 W.
R. 13 W.
R. 12 W.
R. 11 W.
R. 10 W.
R. 9 W.
T. 32 S.
T. 33 S.
T. 34 S.
T. 35 S.
T. 36 S.
T. 37 S.
T. 38 S.
PACIFIC OCEAN
Southwestern Oregon
CHROMITE DEPOSITS
▼ Includes known deposits and those having record of production.
• Samples analyzed by department.
0 5 10
Scale of miles


R. 8 W.
R. 7 W.
R. 6 W.
R. 5 W.
R. 4 W.
R. 3 W.
R. 2 W.
OREGON
Map area
GRANTS PASS
MEDFORD
ROGUE RIVER
CALIFORNIA

CHROMITE OCCURRENCES IN SOUTHWESTERN OREGON

Samples Analyzed by Department*

Map No.	Location Sec.	T(S)	R(W)	Percent Cr_2O_3	Map No.	Location Sec.	T(S)	R(W)	Percent Cr_2O_3
1	3	39	7	41.50	35	15	40	7	43.70
2	34	39	7	40.18	36	17	40	7	47.80
3	18	39	8	42.60	37	18	40	7	41.00
4	18	39	8	55.40	38	22	40	8	58.52
5	4	39	6	47.20	39	28	40	8	42.20
6	19	39	8	48.14	40	5	36	9	40.37
7	14	39	9	41.81	41	3	36	13	47.12
8	16	37	8	42.57	42	10	36	8	49.10
9	17	37	9	44.60	43	34	36	9	54.10
10	32	37	9	46.67	44	33	36	8	47.90
11	11	37	9	46.69	45	12	36	8	57.87
12	19	37	9	40.50	46	6	36	7	52.40
13	22	37	9	48.30	47	7	36	7	46.80
14	30	37	9	54.52	48	7	36	7	49.10
15	26	37	9	47.50	49	9	36	8	51.56
16	29	35	9	44.03	50	14	36	9	41.60
17	16	32	12	45.19	51	8	36	14	42.40
18	12	32	10	49.50	52	25	32	4	48.23
19	19	32	12	50.10	53	13	33	5	48.70
20	16	41	11	40.83	54	17	33	4	46.72
21	11	41	5	48.99	55	19	33	4	45.10
22	10	41	2	42.20	56	21	33	4	43.15
23	18	41	1	47.50	57	11	33	5	54.20
24	9	41	4	43.10	58	22	33	5	55.40
25	8	41	9	50.80	59	23	33	12	45.50
26	1	41	8	40.92	60	34	33	12	48.80
27	2	41	11	52.60	61	34	32	4	45.00
28	29	40	8	56.08	62	13	34	3	46.60
29	8	40	9	43.95	63	16	34	9	40.85
30	1	40	2	51.00	64	14	34	3	49.20
31	26	40	4	55.90	65	23	34	3	49.10
32	13	40	2	47.10	66	3	34	4	46.30
33	10	40	2	42.20	67	21	34	4	50.40
34	31	40	6	42.90	68	23	34	5	46.30

*Analyses below 40 percent not listed.

Map No.	Location Sec.	T(S)	R(W)	Percent Cr_2O_3
69	24	34	6	47.06
70	14	34	12	45.80
71	24	34	3	52.50
72	5	38	9	44.44
73	23	38	9	54.10
74	29	38	9	45.30
75	21	38	9	40.04
76	29	38	5	40.90
77	21	38	6	47.60
78	7	38	8	55.40
79	6	38	9	41.60
80	7	38	9	45.80
81	27	38	9	45.80
82	32	38	9	45.28
83	2	38	10	46.01
84	15	32	12	45.40
85	21	32	12	49.00
86	10	35	3	55.04
87	32	35	6	49.30
88	17	35	7	49.30
89	32	35	7	45.00
90	25	35	9	49.15
91	10	35	12	49.10
92	30	36	8	40.80
93	21	37	9	44.80
94	30	37	8	48.50
95	33	37	8	53.50
96	1	37	9	46.20
97	3	37	9	41.60
98	10	37	9	46.60
99	16	37	9	48.30
100	21	37	9	51.60
101	28	37	9	52.40
102	31	37	9	47.00
103	33	37	9	48.50
104	34	37	9	44.43
105	4	37	13	42.40
106	25	37	13	40.90
107	9	37	14	47.80
108	3	39	9	45.80
109	8	39	9	45.30
110	21	40	4	43.08
111	15	41	5	41.00
112	16	41	5	43.30
113	6	41	7	46.30
114	14	41	7	41.70
115	8	41	8	44.20
116	13	41	8	50.40
117	4	41	9	62.40
118	5	41	9	51.20
119	7	41	9	43.56
120	12	41	10	41.60
121	4	41	12	43.45

A list of former producers of chromite as well as some additional known occurrences is given on the following page. Analyses of samples of three of these occurrences show less than 40 percent Cr_2O_3.

Map No.	Name	Location Sec.	T(S)	R(W)	Percent Cr_2O_3
1	Trails End	35	31	14	
2	Salmon Mt.	20?	32	12	
3	Independence	36	33	12	
4	Illahe	29	34	11	48.
5	Agness	13	35	12	
6	Graves Cr.	6	34	5	35.
7	Chrome King	3	34	4	
8	Hammersley	31	34	5	
9	Signal Buttes	31	36	13	50.
10	Game Lake	27	36	12	
11	Sordy (Briggs Cr.)	14	36	9	40.
12	Elkhorn	24	36	9	47.
13	Horse Mt.	3	37	9	35.
14	Black Rock	10	37	9	
15	Oregon Chrome	21	37	9	47.01
16	Shade	21	37	9	
17	Dailey Cr.	36	37	10	44.73
18	Squaw Cr.	4	38	8	
19		24	38	7	
20		33	38	6	
21	Mungers Cr.	26	38	6	
22		31	38	5	
23		22	38	6	
24		4	39	6	
25	Chollard	18	40	7	49.
26	Esterley	22	40	8	
27		31	38	9	
28	Windy Valley	9	37	12	
29	Chetco	8	38	12	
30	Sourdough	36	40	11	43.03
31	Owen	11	41	8	
32	Burro Claim	30	37	9	35.84
33		33	40	4	
34		30	39	1	
35	Cass Ranch	29	39	1	
36	Horseshoe	6	40	1	
37	Oregon Chromite No. 1	20	37	9	44.32
38	Starveout Cr.	5	33	4	40.
39	Sexton Peak	24	34	6	
40	Black Beauty	21	37	9	45.59
41	Deep Gorge	32	37	9	45.17

(R.S.M.)

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TUNGSTEN ORE PURCHASE BY THE GOVERNMENT

On April 24, 1951, the press announced that the General Services Administration, Washington, D.C., had decided to buy tungsten ore at a price of $63 a short ton unit. (No specifications were given but presumably they would be the standard specifications of ore of known good quality, basis of 60 percent WO_3.) The directive from GSA stated that the guaranteed price would extend over a period of five years and would apply only to (1) newly discovered or developed ore, and (2) production above 1950 levels "where this is excess production" (Not very clear. Ed.) with some exceptions to be approved by the administrator. In order to obtain the benefits under the ruling, tungsten miners and tungsten prospectors must register with GSA in the United States Courthouse Building, Seattle. Buying of ore is scheduled to begin July 1. It is stated that notification to GSA may be in the form of a letter, telegram, or postcard postmarked not later than midnight June 30.

What happens if a prospector looking for some other mineral and not previously interested in tungsten happens to stumble onto a commercial deposit after June 30? According to the press notice, he would be disqualified from selling the needed tungsten ore to the government.

****

RESOLUTION

IT IS RESOLVED by the Board of Governors of the Oregon State Department of Geology and Mineral Industries, in session this 30th day of March 1951, that

WHEREAS this board has been advised through the press and otherwise:

1. That this country is at a critical point of international relations;

2. That a vast defense program has been ordered by Congress;

3. That in order to implement this program certain metals are vital; and

WHEREAS this board has been informed that metallurgical grade chrome is essential and over 90 percent of requirements comes from overseas;

This board heretofore has advised the DMA and other Government departments that it believes that southwestern Oregon and northwestern California can produce substantial tonnages of metallurgical chrome, if

(a) A price is set that is realistic as related to local economic conditions;

(b) Contracts be given for a long enough time to permit proper exploration, development, and production;

(c) There be immediate commencement of this program because of the necessity of road development and preliminary work which must be done during the dry season:

NOW THEREFORE this board, being the department of the government of the State of Oregon charged by law with encouraging and developing mineral production in this State, respectfully demands to be advised by Defense Minerals Administration, as follows:

(1) Does DMA believe there is a crisis?

(2) In the opinion of DMA, is metallurgical-grade chrome necessary for national defense?

(3) Does DMA wish to develop chrome production of metallurgical grade, in southwestern Oregon and other portions of this State and elsewhere, or not?

****

OREGON MINING NOTES

Mr. Lester L. Sibley of Medford, Oregon, has formed the Tyrrell Manganese Company which will reopen the old Tyrrell manganese mine located east of Medford in the Lake Creek area. It is stated that the company will install a 50-ton concentrating mill which will be used also for custom milling.

* * * * *

Mr. H. L. Wadell, Grants Pass, has leased the Liberty mine which contains white tremolite asbestos and will operate under the name of Oregon Asbestos and Mining Company. The Liberty mine is located on Cedar Springs Mountain in northern Jackson County.

* * * * *

Pedro Brothers are placering on lower Connor Creek in southeastern Baker County. Operations are located about 2 miles from the mouth of the creek.

* * * * *

The M. A. Hanna Company has started testing the nickel deposit located on Nickel Mountain near Riddle in southern Douglas County, Oregon. A test shaft is being sunk and two rigs owned by the C. Kirk Hillman Company, Seattle, Washington, are churn drilling.

****

TIDELANDS BILL INTRODUCED

Thirty-five United States senators have introduced legislation (S.940) in Congress to quit-claim tidelands to adjoining states. This bill, almost identical to one introduced a year ago, would quitclaim all offshore lands to the states to the low-water mark out 3 miles or to their historical boundaries. (From Compact Comments, March 1951, published by the Interstate Oil Compact Commissior

EXEMPTION OF ASSESSMENT WORK FOR THOSE IN MILITARY SERVICE

The Soldiers and Sailors Civil Relief Act of 1940 exempted assessment work on mining claims for those claimants in military service. The Act specifies that the holder of a mining location who desires to obtain the relief and protection under this act must, before the expiration of the assessment year during which he enters the military service, file or cause to be filed in the county recording office in which the location notice or certificate is recorded, a notice that he has entered such service and that he desires to hold the mining claim under provisions of the Soldiers and Sailors Civil Relief Act of 1940. If application for patent to the mining claim has been made, notice of the military service must also be filed in the proper district land office.

It was specified in the act that it should remain in force until May 15, 1945, but that should the United States be then engaged in a war, the act would remain in force until such war is terminated by treaty of peace proclaimed by the President and for six months thereafter. Since no treaty of peace has been proclaimed by the President, the act remains in effect. In 1947 Congress changed some of the relief provisions of the act but not the provisions relating to holders of mining claims.

****

PRICE FOR CHROMITE

A House of Representatives subcommittee was told that the DMA has recommended a government floor price of $115 a ton for 48 percent chrome ore, with a $4 premium for each 1 percent over the 48 percent analysis and a $3 penalty for each 1 percent below. Concentrates would be bought at $110 a ton. (From the morning Oregonian, April 21, 1951)

****

TOPOGRAPHIC MAPPING IN OREGON

Topographic mapping in Oregon during 1950 by the Topographic Division of the U.S. Geological Survey covered 704 square miles. The newly mapped areas represent seven-tenths of one percent of the total area of the State. Total area mapped is now 38,008 square miles, or 39.2 percent of the State, but some coverage is not of first-grade quality.

Comparable topographic mapping programs during the last fiscal year are as follows: California, 5,669 square miles mapped with 84.1 percent total coverage; Washington, 2,374 square miles with 68.4 percent of the State covered; Idaho, 1,127 square miles and 48.6 percent of the State mapped.

****

WESTERN ALUMINUM OUTLOOK

Northwest aluminum plants would have to expand approximately 60 percent, or from 320,000 short tons to 517,500 short tons if they are to maintain their relative production to national capacity by 1960. This is the forecast of Nathanael H. Engle, director, Bureau of Business Research, University of Washington.

* * * * * * *

Pointing out that western aluminum producers are penalized by having to pay freight in excess of $8 a short ton on alumina, this economist reports that Pacific Northwest producers would materially improve their competitive position by building Bayer process alumina plants in that area. He states that evidence exists that costs of producing alumina at Pacific tide water points should be no higher than elsewhere.

(From Iron Age, West Coast Edition, April 5, 1951)

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STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
Head Office: 702 Woodlark Building, Portland 5, Oregon

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CHROMITE PURCHASING DEPOT PLANNED FOR GRANTS PASS

The General Services Administration, Office of Information, U.S. Court House, Seattle 4, Washington, released information relating to government purchase of chromite on May 11, 1951, as follows:

> Grants Pass, Oregon, has been selected as receiving depot for metallurgical grade chrome ore, according to O. C. Bradeen, Regional Director of General Services Administration, Seattle, Washington. This depot will serve the states of Washington, Oregon, and northern California.
>
> In a conference with metal experts in Washington, D.C., and Mr. A.E. Weissenborn, Defense Minerals Administration representative of Spokane, Mr. Bradeen was informed that the depot was to be established at the earliest possible date to serve miners in the California-Oregon-Washington area. This program is in line with the defense minerals purchasing program of the government and patterned after the minerals purchase plan of World War II.
>
> Present indications are that miners will receive $115 a ton for metallurgical grade chrome ore meeting government specifications and delivered at the depot. The metallurgical grade referred to is 48 percent Cr_2O_3 and the chrome iron ratio is 3 to 1. The minimum that will be accepted is 42 percent Cr_2O_3. The price will be on a sliding base scale downward for decreasing percentage of chrome.
>
> During World War II the government purchased approximately 114,000 tons of metallurgical grade chrome in and around the Grants Pass region.
>
> * * * * * * *
>
> More complete details and information will be released in the near future, but in the meantime it is suggested that those interested might make such interest shown by dropping a penny postal card to General Services Administration, Office of Information, U.S. Court House, Seattle 4, Washington.

Under date of May 17, 1951, the Grants Pass Courier described a meeting of government officials with the State Department of Geology and Mineral Industries Governing Board at which a general discussion was held regarding a possible receiving depot for chromite and a program for buying the ore. The Courier stated:

> Development of chrome ore for the national defense program was discussed at a meeting of the Oregon Board of Geology and Mineral Industries and representatives of the Seattle regional offices of the General Services Administration here today.
>
> Niel R. Allen, board chairman, Mason L. Bingham, board member, and F. W. Libbey, director, conferred with F. I. Bristol, president of the Oregon Mining Association,

and with GSA representatives, W. N. Grabill, regional information officer, and G. J. Jameson, inspector.

Grabill and Jameson are here correlating information on local chrome production costs and mineral potentials. The tentative chrome program, announced last week by Washington agencies, is being written up at the present time. Actual price support levels and ore quality regulations are expected shortly.

Jameson will remain in Josephine County this week, conducting a survey of chrome locations. Grabill returns to Seattle Friday.

As soon as the official directives from Washington are received, GSA officials will meet with local chrome operators to outline details of the program.

****

GOVERNMENT TUNGSTEN PURCHASE PROGRAM

A regulation under which the General Services Administration will carry out a five-year domestic tungsten purchasing program to encourage the discovery, development, and production of tungsten in the United States was issued May 10, 1951, by GSA.

Under the order, which interprets and implements the authority of Administrator of General Services Jess Larson to support the price of this critical metal at a base price of $63 per short ton unit (dry weight) of contained tungsten trioxide, the guarantee will apply to specification grade tungsten concentrates.

The purchasing program will be carried out by GSA in accordance with policy determinations made by Defense Minerals Administrator James Boyd, and certified to GSA by the Defense Production Administration.

The concentrate need not be produced from newly discovered or developed ores, but must be produced from domestic ores.

"While the support price applies to the purchase of concentrates, rather than ores, as previously announced, success of the program must depend on the participation of miners and prospectors," Mr. Larson said. "The anticipated increase in production will depend on the extent to which we can stimulate the flow of ores to mills where concentrates are produced."

In order to assist the miners and prospectors to dispose of ores, the Defense Minerals Administration will aid private operators in the establishment of milling facilities in tungsten producing areas where such facilities are justified but not now available.

The regulation provides that "any operator of a concentrating plant by agreeing to participate in this program also agrees to purchase or process suitable tungsten contained ores offered to him by independent miners to the limit of the capacity of his plant, in excess of that required for his own production and on fair and equitable terms and conditions (including prices). Each operator of a concentrating plant participating in this program shall promptly establish a schedule setting forth his terms and conditions (including prices) for the purchase of crude tungsten ores. Each operator shall promptly submit a copy of such schedule to the Administrator and shall also submit promptly any changes made in such schedule thereafter."

The Government will support the price by buying for $63 per short ton unit all specification grade tungsten concentrates which cannot be sold on the commercial market.

Funds now available for the support price allow for the purchase of 1,468,750 short ton units over the five-year period. It is not expected that the Government will be required to take physical possession of appreciable quantities of tungsten concentrates as the essential requirements of industry for the military and supporting programs are far in excess of anticipated production totals.

Notice of participation in the program must be postmarked or, in the case of a telegram, dated not later than midnight June 30 and be in the form of a letter, telegram, or penny postcard addressed to the nearest GSA office.

Any person participating in the program will be sent promptly a certificate authorizing him to deliver concentrates meeting minimum specifications f.o.b. public carriers' conveyancy, milling point.

Miners holding certificates, but who do not operate concentrating facilities, may participate in this program to the extent of the ore purchased by them, as follows:

1. By selling such ore to operators of concentrating plants.
2. By having ore treated on a toll basis and selling the resulting concentrates meeting specifications to GSA.

Names and address of existing milling facilities for tungsten concentration may be obtained from Defense Minerals Administration, Washington, D.C., or in care of the U.S. Geological Survey, Spokane, Washington.

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ATTENTION MINE OPERATORS

The Defense Minerals Administration issued MO-7 Order on April 17 and MO-7 Amended on May 10. These orders require that mines, smelters, and mineral processing plants must apply for serial numbers not later than June 30, 1951. The serial numbers are essential to an operator to make him eligible for DMA assistance in obtaining priorities for the purchase of all types of supplies and equipment. Application for serial or identification numbers must be made on Form MF-100. These forms may be obtained from the Defense Minerals Administration, Department of the Interior, Washington 25, D.C., or from the DMA Regional Office, in care of the U.S. Geological Survey, Spokane, Washington.

A "producer" is defined by the DMA as any person operating a mine, a nonferrous smelter, or mineral processing plant. A "mine" is defined as an operation underground, open pit quarry, or dredging conducted for the purpose of extracting minerals excepting solid fuels and petroleum products. The definition for a mine includes prospecting enterprises for the discovery, exploration, or development of mining projects.

The Amended Order MO-7 contains instructions for small producers. A producer who produces or processes 50 tons or less of crude ore per week need furnish in MF-100 answers only to questions 1, 3, 10, and 16. In lieu of using Form MF-100 such a small producer may submit in a letter the following information:

1. Kind of material produced or processed and by-products, if any.
2. Location of operations: county, state, township, section, range, mining district, and distance to nearest town and shipping point.
3. Number and types of labor employed.
4. Quantity and kind of product mined or processed and sold during 1948, 1949, 1950, and present monthly average.

Producers commencing operations subsequent to June 30, 1951, are not prohibited from making application at a later date.

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NICKEL EXPLORATION SUPERINTENDENT

Mr. Howard G. Schoenike is superintendent of the Hanna Development Company's exploration work on Nickel Mountain near Riddle, Douglas County, Oregon.

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CHROMITE IN FIRST QUARTER 1951*

Consumption of chromite in the United States during the first quarter 1951 increased 10 percent over the fourth quarter 1950, according to the Bureau of Mines, United States Department of the Interior, and totaled 306,165 short tons. Of this total 142,989 tons (47 percent) were consumed for metallurgical purposes, mainly in the manufacture of ferrochromium; 104,658 tons (34 percent) were consumed in the production of 135,348 tons of chromium refractories, and 9,275 tons (3 percent) were used for miscellaneous purposes, mainly in repairing basic-furnace linings. Thus, a total of 113,933 tons (37 percent) were consumed for refractory use. In the production of 32,051 tons of chromium chemicals, 49,243 short tons (16 percent) were consumed - a ratio of 1.5 tons of chromite per ton of sodium bichromate equivalent. During the last quarter of 1950 metallurgical, refractory, and chemical consumers used 50 percent, 35 percent, and 15 percent, respectively, of the total. Consumers of chromium alloys, during the first quarter of 1951, reported using 43,664 short tons of ferrochromium, 5,680 tons of exothermic chromium additive (Chrom-X), in addition to small quantities of chromium metal and miscellaneous chromium products. Alloy consumers, canvassed by the Bureau of Mines, normally use about 85 percent of the total.

Stocks of chromite on hand in consumers' yards totaled 591,528 short tons on March 31, 1951, compared with 606,272 short tons at the end of 1950. Of the total on hand at the end of the first quarter, 255,049 tons were metallurgical, 249,182 tons refractory, and 87,297 tons chemical.

No domestic production of chromite was reported during the first quarter 1951.

Chromite in 1948-50, and first quarter of 1951, in short tons

	Domestic production	Imports	Total new supply	Consumption
1948	3,619	1,542,125	1,545,744	875,033
1949	433	1,203,911	1,204,344	672,773
1950	425	1,298,300	1,298,725	980,369
1951: 1st Quarter	----	359,474	359,474	306,165

*U.S. Bureau of Mines Chromite Report No. 21.

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INSTITUTE OF NORTHWEST RESOURCES

The Department of Geography, Oregon State College, is again sponsoring its annual conference on Northwest resources. This year emphasis will be placed on national defense. The purpose of the conference as given in the program is "to present a total integrated analysis of Northwest resources - their current utilization, development, potentialities, and problems. To bring together in one meeting leaders in the several fields of the natural resources such as forestry, water, wildlife, agriculture, minerals, fisheries, and recreation." The session of June 19, both forenoon and afternoon, will have a program of talks by experts in their various fields. There will be a dinner at 6:30 p.m. in the Memorial Union Building at which principal addresses will be made by Chancellor C. D. Byrne, Oregon State System of Higher Education, and President R. R. Renne, Montana State College.

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NEW OREGON STATE COLLEGE PUBLICATION

"The Aluminum Industry of the Northwest" is the title of Circular No. 12 just issued by the Engineering Experiment Station of the Oregon State System of Higher Education, Oregon State College, Corvallis. The author is J. Granville Jensen, professor of geography, who presents in the report an up-to-date picture of this important Northwest industry.

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ROGUE RIVER COORDINATION BOARD

R E S O L U T I O N

The members of the Rogue River Coordination Board, in session assembled at Grants Pass, Oregon, on the 1st day of April, 1951, after considerable discussion of the plan of control of the turbidity in the waters of Rogue River and its tributaries, carried on under an order of the said Board, passed at the meeting of the said Board, held at Grants Pass, Oregon, adopted the following resolution:

WHEREAS it is the duty of the Rogue River Coordination Board to regulate placer mining along the Rogue River and its tributaries, with a view to control or prevention of excess turbidity in such waters, thereby providing favorable conditions for angling and game fishing; and

THEREFORE, the Rogue River Coordination Board does hereby order that, except as hereinafter provided, no person, firm or corporation shall, between the 1st day of May 1951 at midnight, and the 1st day of November 1951, operate or assist in the operation of any mine or mining operation whereby water containing mud or tailings is discharged into the Rogue River, or any river, creek, or stream emptying into said Rogue River, when the turbidity of said river, creek, or stream at the point of confluence with said Rogue River, is in excess of 1,000 ppm by weight of suspended matter;

IT IS THE FURTHER ORDER of said Rogue River Coordination Board that in the case of the Applegate River and the Illinois River, both tributary to the Rogue River, no person, firm, or corporation shall, between the dates and hours above mentioned, operate or assist in the operation of any mine or mining operations whereby water containing mud or tailings is discharged into said rivers or their tributaries when the turbidity of said rivers, at a point where the bridges on the Redwood Highway No. 199 cross said streams, is in excess of 1,000 ppm by weight of suspended matter.

IT IS THE FURTHER ORDER of said Rogue River Coordination Board that the Secretary of the Board cause notice of the Order to be published in the papers of general circulation in Grants Pass, Josephine County, Oregon, and in Gold Beach, Curry County, Oregon, and in Medford, Jackson County, Oregon; and that the Secretary file copies of said Order with the Secretary of State at Salem, Oregon, the Superintendent of Police at Salem, Oregon, and with the County Clerks and Sheriffs of Josephine County, Jackson County, and Curry County, in Oregon.

IT IS THE FURTHER ORDER of the said Rogue River Coordination Board that in prosecution of violation of this Order it shall not be necessary to prove Service of Notice upon the Defendant.

/s/ C. H. Demaray, Chairman
/s/ H. K. Lewis
/s/ J. E. Bartlett

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NEW VOLUME OREGON MINES HANDBOOK

A new volume of Oregon Mines Handbook, Bulletin 14-D, has just been issued by the State Department of Geology and Mineral Industries. The new bulletin describes more than 300 mineral deposits in the thirteen counties of Northwestern Oregon in the area north of Douglas County and west of the high Cascades.

Metallic mineral deposits described are gold, silver, copper, lead, and zinc in some well-known mining districts of the western Cascades; quicksilver deposits in the Clackamas River area; limonite iron ore deposits in Columbia County; and ferruginous bauxite deposits in several of the counties. The bulletin has 166 pages and 7 maps. It includes an index and a bibliography. This latest volume of the Oregon Metal Mines Handbook may be obtained from the Portland office of the Department at 702 Woodlark Building, and the field offices in Baker and Grants Pass. Price is $1.25 postpaid.

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NEW MAP TO AID OIL AND GAS PROSPECTING IN VICINITY OF EUGENE, OREGON

A new geologic map of the southern and southwestern border areas of the Willamette Valley near Eugene, Oregon, has been released by the Geological Survey.

Tables showing the relative abundance of fossil plants and animals in the various sedimentary formations have been prepared. These tables are of value in determining the relationships of the formations in the area, and may, perhaps, serve as a basis for determining possible source beds of oil and gas. They will undoubtedly be useful with regard to interpreting the relationships between the sedimentary rocks in this area and related rock units in other parts of Oregon.

The report is published on one sheet, measuring 41 by 54 inches, and includes two cross sections showing the structural relationships, an index map showing the geographic locations of this and other reports that have already been published in the oil and gas investigations series dealing with the geology in western Oregon, a correlation chart, and a text that discusses the geologic formations and the oil and gas possibilities in the area.

The map, titled "Geology of the southern and southwestern border areas of the Willamette Valley, Oregon," by H. E. Vokes, Parke D. Snavely, Jr., and Donald A. Myers, has been published as Map OM 110 of the Oil and Gas Investigations series. Copies may be obtained at 60 cents each from the Distribution Section, Geological Survey, Denver Federal Center, Denver, Colorado, and at Room 1210 General Services Building, Washington, D.C.

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ASSESSMENT WORK

No legislation to exempt mining claims from annual assessment work for the assessment year ending at noon of July 1, 1951, has so far been passed by Congress. Since time to consider such legislation is running short, it seems at present unlikely that a moratorium will be declared. In the absence of a moratorium, work must be started before noon of July 1 and, if not completed at that time, must be continued "with reasonable diligence" until completed. In Oregon proof of labor statements must be filed within 30 days after the performance of labor or making improvements required by law.

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BONANZA QUICKSILVER RESUMES

The Bonanza mine, noted quicksilver producer during World War II, has resumed operations. The Bonanza, located near Sutherlin in Douglas County of western Oregon, shut down in December 1949 after struggling against high costs and low quicksilver prices for more than three years. About 25 men are now employed. The mine is operated two shifts; the plant operates three. Underground exploration work is carried on in addition to stoping. Burt Avery is superintendent.

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NEW WASHINGTON STATE PUBLICATION

The Washington State Division of Mines and Geology, Sheldon L. Glover, Supervisor, has just issued Bulletin 39, "Antimony Occurrences of Washington," by C. Phillips Purdy, Jr. The bulletin represents a study of several years' duration and describes all antimony occurrences of the State by counties.

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NICKEL IN MARCH 1951

Nickel (exclusive of scrap) consumed and in stock in the U.S. in March 1951, by forms, in pounds of nickel: (From U.S. Bureau of Mines Nickel Report No. 3.)

Form	Stocks at consumers' plants February 28	Consumption	Stocks at consumers' plants March 31	In transit to consumers' plants [3/]
Metal [1/]	6,608,269	9,483,443	6,888,332	40,027
Oxide and oxide sinter	737,887	1,678,890	543,741	----
Matte	1,017,980	1,464,942	701,884	----
Salts	195,676	75,108	217,511	----
Total	8,559,812	12,702,383	8,351,468	40,027

1/ Includes secondary nickel (ingot or shot remelted from scrap nickel and scrap-nickel alloys)

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
Head Office: 702 Woodlark Building, Portland 5, Oregon

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GOVERNMENT'S PROGRAM FOR PURCHASE OF CHROME ORES AND CONCENTRATES AT GRANTS PASS, OREGON[1]

The program will be effective for a period not to exceed five years, but may be terminated by the Government at any time subsequent to two years upon the giving by the Government of one year notice of termination. The program will be carried out as a series of spot purchases; in other words, each delivery will be covered by an offer and acceptance and will be paid for immediately upon analysis showing that the material delivered complies with the specifications.

The appropriation from which the payments will be made is a continuing one and, therefore, obviates the necessity of contractual agreements prior to June 30, 1951. Deliveries of ore or concentrates must be in lots of not less than ten tons, and mixed lots of ores and concentrates will not be accepted. The specifications are as follows: Ores and concentrates will not be accepted which contain less than 42 percent chromic oxide, have a chrome to iron ratio of less than 2 to 1, or contain in excess of 10 percent silica. Lumpy ore shall be hard, dense, nonfriable material of which not more than 25 percent shall pass a one-inch Tyler standard screen. All materials shall pass through a twelve-inch ring. No size restrictions will apply to fines or to concentrates.

Purchases will be made at a base price with applicable premiums and penalties. All prices are based on a long dry ton (2,240 pounds avoirdupois). The base price is $115 per long dry ton for lumpy ore and $110 per long dry ton for fines or concentrates. This base price is for material containing 48 percent Cr_2O_3 and having a chrome to iron ratio of 3 to 1. For material having a chromic oxide content above 48 percent, a premium of $4 per ton for each 1 percent additional of chromic oxide content will be paid. For chrome to iron ratio above 3 to 1 there will be paid $4 per ton for each one-tenth increase up to but not exceeding 3.5 to 1. The penalty to be applied for material having a chromic oxide content below 48 percent is $3 per ton for each 1 percent of chromic oxide content down to and including 42 percent. The penalty for chrome to iron ratio below 3 to 1 is $3 per ton for each one-tenth decrease in chrome to iron ratio down to and including 2 to 1.

The producer must, at his own expense, deliver and unload all chrome at the stockpile site. The Government will pay the cost of weighing, sampling, and analyzing. Payment will be made for material which is found to be acceptable immediately upon completion of the analysis. Material which is rejected must be removed at the expense of the producer. It is contemplated that at least the first year of the program deliveries from any one producer will not be accepted in excess of 2,000 tons. This policy is established in order to give the greatest possible opportunity to the small producers.

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[1] As outlined by Mr. Wm. M.B.Freeman of General Services Administration, Washington, D.C., in Grants Pass, June 11, 1951.

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MEETING OF CHROME MINERS AT GRANTS PASS
June 11, 1951

About 200 persons interested in chrome mining in southern Oregon and northern California assembled in Veterans of Foreign Wars hall on the morning of June 11 to listen to an outline of the Government's purchase program for chromite. The meeting was called by the Oregon Mining Association so that chrome miners could hear first hand the specifications of the program and would be able to ask questions on details.

William M. B. Freeman, supply representative of the Emergency Procurement Service of the General Services Administration, described the program and listed the several specifications as given on the preceding page. Until a short time before the meeting the minimum percentage of Cr_2O_3 which would be acceptable had been in doubt because of objections by the Munitions Board on the basis of Bureau of Mines' recommendations, but Washington officials finally verified the figure of 42 percent, 2 to 1 chrome-iron ratio.

It was stated that the purchase depot would be established as soon as conditions permitted, perhaps within 30 days, and that purchases would then be made even though the purchase program would officially date from January 1, 1952.

Mr. Freeman stated that settlement would be made promptly on the basis of Government assays and that there would be no umpire assays. He said that there would be no contract between the government and the producer. A simple "offer and acceptance" form would be signed by each party to cover each lot sampled.

All members of the Governing Board of the State Department of Geology and Mineral Industries were in attendance, and both Niel R. Allen, Chairman, and H. E. Hendryx, member, requested information from Mr. Freeman on the Government's plans for establishing a purchase depot to serve eastern Oregon. They were informed that no plans for such a depot had so far been made, and as GSA is a purchasing organization, not one of policy making, it would be necessary to take up such a plan with Defense Minerals Administration.

The meeting was enthusiastic in crediting Fay Bristol, President of the Oregon Mining Association, and the other members of the Chrome Advisory Committee to the Defense Minerals Administration with the success in obtaining the purchasing depot and the establishment of the program. The constant efforts of the committee had extended over a period of about a year and included a trip to Washington, D.C., to confer with DMA at the request of Government officials but not at Government expense. The members of the committee other than Mr. Bristol are Niel R. Allen, William S. Robertson, Dorothea Moroney, Ray Helmke, Ben Baker, and W. A. Robb.

Besides Mr. Freeman, other GSA officials at the meeting in Grants Pass were W. H. Grabill, regional information officer, Seattle; George Jameson, inspector, Seattle; Dan Lillis, chief inspector, Seattle; James Hopkins, inspector, ores and metals, Washington, D.C.; Curtis Nelson, fiscal examiner, Washington, D.C.; and D. C. Beyer, purchasing agent, Washington, D.C. Mr. Beyer was in charge of the Government purchasing depot at Grants Pass operated by Metals Reserve Company during World War II.

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ASSESSMENT WORK

According to word received from Washington, D.C., it seems wholly unlikely that any legislation to exempt mining claims from annual assessment work will be passed. No legislation to extend the time for completing assessment work has been introduced. The time for completion of annual work for the assessment year 1950-1951 is noon of July 1, 1951. If work is not completed at that time, it must be continued "with reasonable diligence" until completed. The Oregon law states that proofs of labor must be filed within 30 days after the performance of labor or making improvements required by law.

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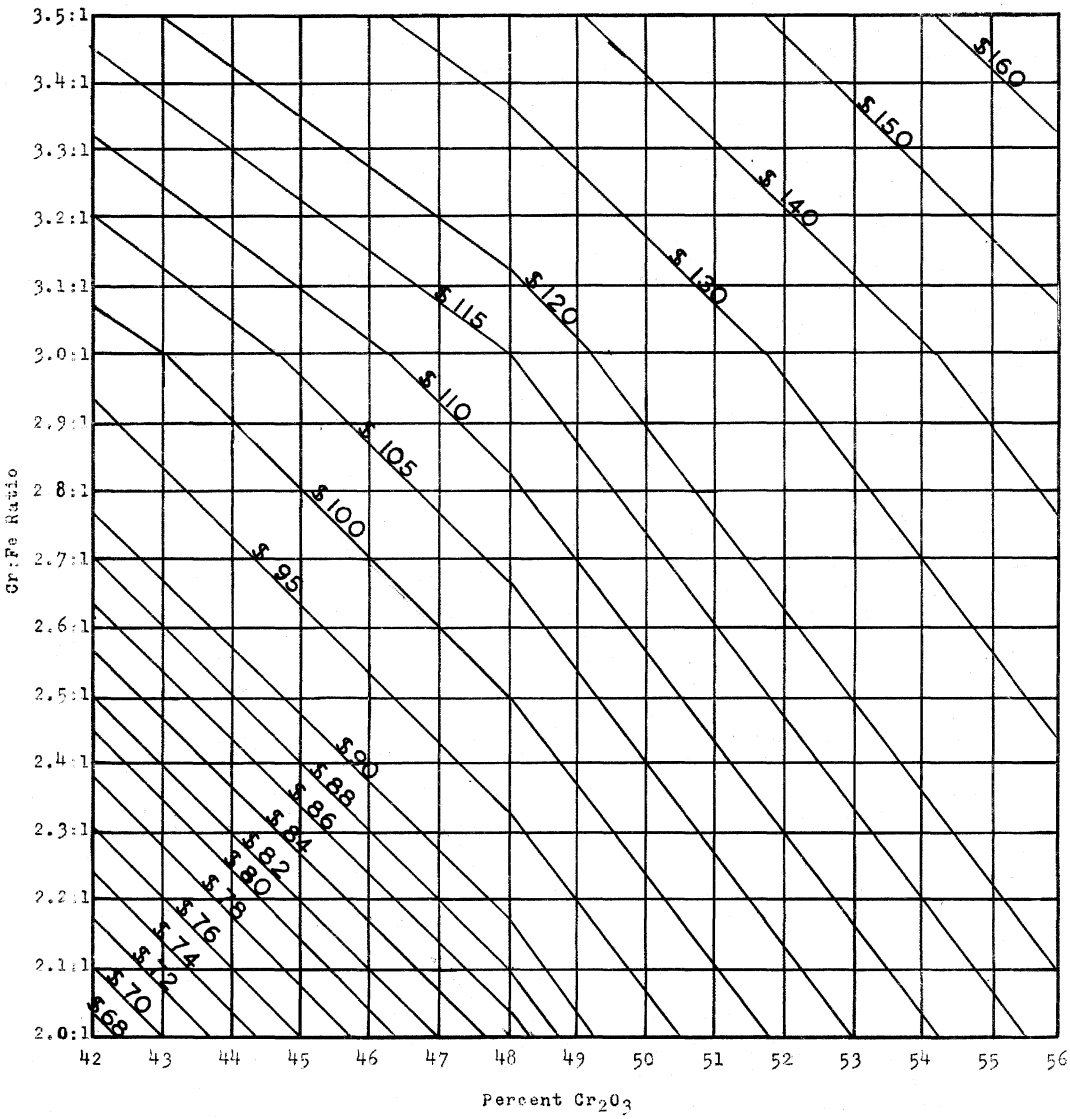

GRAPH

Showing scale of prices for chrome ore to be paid for different grades according to the Government's announced price schedule.

Example: To find value of 48 percent ore with 3.0:1 Cr:Fe ratio. Read up on coordinate line above 48 percent to intersection with horizontal coordinate for 3.0:1 Cr:Fe. At this point graph shows value of $115 per ton. Value for other grades of ore would be determined in same way.

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MERCURY IN 1950

The mercury industry was featured in 1950 by near-record imports, by the highest consumption since the peak established in 1945, by the smallest domestic production by a substantial margin in the 100 years covered by the statistical record, and by a sharp reversal after mid-year of the long-time downtrend in prices, according to the Bureau of Mines, United States Department of the Interior.

Salient statistics of the mercury industry in the United States, 1941-45 (average) and 1946-50, in flasks of 76 pounds

	1941-45 (average)	1946	1947	1948	1949	1950
Production	43,229	25,348	23,244	14,388	9,930	4,535
Number of producing mines	139	51	37	20	23	16
Average price per flask, N.Y.	$165.97	$98.24	$83.74	$76.49	$79.46	$81.26
Imports:						
General	37,118	23,062	10,228	41,732	96,918	60,564
For consumption	36,531	13,894	13,008	31,951	103,141	56,080
Exports	1,022	907	884	526	577	447
Consumption	50,866	31,552	35,581	46,253	39,857	49,215

Domestic production - Domestic production dropped to 46 percent of the small quantity for 1949 and was only 10 percent of the annual average for 1941-45. One large producer, the Mt. Jackson mine, Sonoma County, California, was active throughout 1950, and a second, the Cordero mine, Humboldt County, Nevada, closed on February 15. Ranking third in output was the Juniper mine, San Benito County, California. These three properties accounted for 90 percent of the total for the United States, and about 13 other properties contributed the remaining 10 percent.

Consumption and uses - Consumption of mercury in 1950 was at a new peacetime peak rate, 23 percent above 1949 and 6 percent over the previous top in 1948; it was 21 percent below the all-time record established in 1945. Virtually all classifications, except agriculture, shared in the increased use in 1950. Agricultural consumption dropped 4 percent, following a 34-percent decrease in 1949, but this use had substantially more than doubled in the two years 1946 to 1948. The high rates of consumption in 1948 and 1949 were caused in part by chlorine and caustic soda and mercury boiler installations, but no such constructions contributed to the high total for 1950.

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EASTERN OREGON MINING JUBILEE

Prominent speakers and guests at the Eastern Oregon Mining banquet, including officials of the U.S. Bureau of Mines and leaders of the mining industry, will eat sourdough biscuits and make no complaint. This has been decided by the Eastern Oregon Mining and Mineral Association, sponsor of the Baker Mining Jubilee to be held July 3-4. A regular oldtime miners' feed is planned for the July 3 central event of the celebration. John Arthur, Billy Pierce, and Joe Campbell have been appointed to keep a miner's eye on preparation of the sourdough and will enforce the mining camp rule on criticism.

Steven M. Shelton, regional director of the Bureau of Mines, has assured local leaders that he will make every effort to attend. He will be accompanied by M. E. Volin, chief regional mining engineer. Fay Bristol, president of the Oregon Mining Association, is on the speakers program. Tours of mines have been arranged for visitors, to include a trip to the East Eagle copper mine, now operating with a new mill. Baker merchants have turned over nearly all show windows for mineral and historical exhibits and full representation of Eastern Oregon mines and minerals is promised. The mining association will have an operating clean-up mill in the Fourth-of-July parade, with Culley Trickel in charge of the engineering details.

The Mining Jubilee will be held in conjunction with the annual Oregon Trail Days event, rounding out a full program of activities for the two-day celebration. A hearty welcome is assured all visitors from mining and industrial districts of Western Oregon and elsewhere.

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TAX INCENTIVES - MINING

Chairman O'Mahoney of the Senate Interior and Insular Affairs Committee has written Treasury Secretary John Snyder urging him to cooperate in "an attempt to enact at this session of Congress" a provision of the tax law which, by providing a reasonable incentive, would encourage the owners of small mines to undertake exploration and development work.

O'Mahoney said that he was "convinced that a provision in the pending tax bill which would make expenditures incurred in prospecting, exploration, and development deductible, would result in encouraging the investment of private capital by the owners of thousands of mines." He declared further: "Evidence before the Senate Committee on Interior and Insular Affairs establishes the fact that 73 percent of all western mines have been closed down since 1940. They ought to be opened. Congress by the Defense Production Act has indicated its desire that domestic production should be encouraged. Few if any of these small mines have been enabled as yet to secure any benefit from the program announced by the Department of the Interior earlier this year. I do not need to point out to you that inescapable delays hinder the development of a government loan program, but there would be no delay in the encouragement of the investment of private capital by owners if a tax clause such as I here suggest were adopted."

The Wyoming Senator said that this recommendation had repeatedly been made before the Interior and Insular Affairs Committee. He pointed out that the Bureau of Mines had continually urged the adoption of this proposal in conferences with the Treasury Department. He declared that an obstacle to its adoption had been the fear of the Treasury that it would result in diminishing the revenue derived from mining companies. He said that he believed a workable provision could be drafted which would not cut the revenue of the United States but would encourage production of minerals and metals so essential to the present defense effort. (From Bulletin Service, published by The American Mining Congress, June 11, 1951.)

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METAL MINING IN OREGON, 1950

Reflecting the lower yield from dredging, Oregon gold production in 1950 fell 32 percent below 1949, whereas 1950 silver output, principally from lode mines, rose 11 percent over 1949, according to the San Francisco Office of the Bureau of Mines, United States Department of the Interior. Owing largely to operating problems at Oregon small-scale producing mines, the yield of base metals continued to be relatively low despite the demand for these materials. Zinc production increased 250 percent, lead increased 42 percent, but copper decreased 5 percent compared with the minor recoverable outputs of these three metals in 1949. The total value of the five metals in 1950 was $417,765, a decrease of 29 percent below $592,107 in 1949.

The principal producers of gold in Oregon in 1950 were: Baker Dredging Company and successor Powder River Dredging Company, Sumpter district, Baker County; Porter & Company dredge, Granite district, Grant County; Champion Lease, Champion mine, Bohemia district, Lane County; R. G. Amidon & Company, Buffalo mine, Granite district, Grant County; and C. C. Curl, Bourne mine, Bourne group, Cracker Creek district, Baker County. Leading silver producers, all lode mines, were: the Buffalo mine; Champion mine; and Oregon King mines, Oregon King mine, Ashwood district, Jefferson County. The Champion mine was the principal producer of Oregon copper and contributed some of the State lead and zinc in 1950. The Musick mine (Tar Baby Mining Company), leader in output of zinc and lead, followed the Champion mine in copper yield. Other mines that produced recoverable base metals included: the Helena mine (Helena Mines, Inc.), Bohemia district, Lane County, and the Buffalo mine (copper, lead, and zinc); the Oregon King mine (lead and copper); and Bourne group (copper).

Baker County was the leading metal producer in 1950, registering small gains in gold and copper output. Grant County was relegated to second place owing largely to curtailed dredging. (From U.S. Bureau of Mines Mineral Market Report MMS No. 1977, June 15, 1951.)

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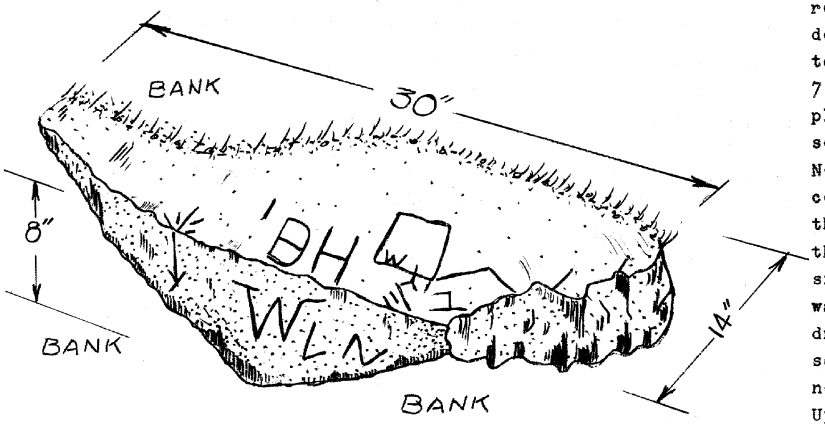
HISTORICAL LANDMARK OR WHAT ?

On a recent sampling trip into Washington County the writer examined a roadcut on Skyline Boulevard 1 mile south of the junction of Skyline with Rocky Point Road. The cut was of interest because of the sharp contact showing between weathered volcanic tuff and overlying red silt. This line of demarkation dipped flatly to the south at about 7 degrees and was marked plainly by moisture seepage (since dried up). Near the low point of the contact about 4 feet above the road, partly buried in the bank under 10 feet of silt, a large flat rock was seen and attention was drawn to it because of some markings which did not look like natural ones. Upon cleaning off the rock and exposing a part of it, the markings showed plainly both on the top part and the vertical face. They are reproduced in the accompanying sketch.



At this writing no satisfactory explanation of the markings has been offered. The correct explanation is probably quite simple after it is discovered. Perhaps the stone marked land ownership in pioneer times. It may have been exposed on the side of an old roadcut and marked there. The old roadcut was probably followed in constructing the new road, but one wonders why the rock is now so deeply embedded in the bank. It is self-evident that the markings could not have been made before the silt was deposited. Perhaps a reader may be able to offer an explanation.

The markings on the stone bring to mind the story by Dickens in "Pickwick Papers" in which Mr. Pickwick discovers a stone bearing a strange inscription in the town of Cobham. He observed the strange markings on the stone in front of a cottage and immediately believed that he had made a great discovery. He bought the stone from the owner for ten shillings and conveyed it to his headquarters in London. After cleaning the stone, markings were clearly deciphered as:

+
B I L S T
U M
P S H I
S M
A R K

Mr. Pickwick lectured on the discovery before the Pickwick Club and presented a faithful delineation of the inscription to the Royal Antiquarian Society. Unfortunately one of the members of Mr. Pickwick's club named Blotton was an unbeliever and made a journey to Cobham in the way of investigation. When he returned he made an oration to the club in which he denied the antiquity of the inscription and stated that he had talked to the man who had sold the stone to Pickwick, that the man's name was Bill Stumps, and that he had carved the stone in "an idle mood" with the letters of his name which assembled in order read - "BILL STUMPS, HIS MARK"- even though he had left out the concluding "L" in his christian name. The story goes that Blotton's story was not given credence and that he was ejected from the club and a great vote of confidence was given to Mr. Pickwick, etc., etc.

F.W.L.

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WHAT IS THE ANSWER?

In the Wall Street Journal under date of June 25 it was stated that more chrome will soon be coming from the French Pacific island of the colony of New Caledonia as the result of a boost in Marshall plan aid. The item stated that the Economic Cooperation Administration is financing a loan to the territory of $737,000 plus a like sum to France from "counterpart" funds - the local money equivalent of dollar aid which each Marshall plan nation puts aside for investment. The loan is to be made in return for chrome concentrates for the United States stockpile. It is stated that this help will probably allow New Caledonia mines to double prewar production.

This news item brings to mind several thoughts connected with our strategic minerals program. Miners in Oregon and northern California, where the greatest domestic reserves of metallurgical grade chrome occur, have been trying to get a government chrome-buying program set up, laboring through DMA, DPA, GSA, and other agencies over a period of more than a year. The buying depot has not yet been established but a program has been finally approved and it appears now reasonably sure that after a few more ponderous moves the government purchasing machinery will begin to function. We wonder if ECA consumed an equivalent amount of time in granting the loan to New Caledonia. We wonder also if, like Oregon and California miners, New Caledonia had to send representatives to Washington, D.C., at their own expense to point out to ECA the need for stockpiling chrome and to petition for the loan. We wonder if they had to present expert technical evidence to ECA concerning the mineral deposits and to give assurance that ore was available and the loan essential in the public interest. We wonder if United States experts were sent to New Caledonia to explain the program to the chrome producers.

Why are obstacles placed in the way of domestic strategic mineral production and why are our miners looked upon with suspicion as trying to gyp the government just because they realize the seriousness of the lack of essential minerals for the government stockpile? This question is insistent because we hear of the ease with which foreign mines are able to obtain huge loans to be paid back (we hope) from future production. The Oregon and California miners didn't ask for loans; all they asked was a price that would make mining of chrome worthwhile.

Nobody can question the need of stockpiling strategics from any place thay can be obtained because quantity of some of these critical materials is undoubtedly dangerously low in our national stockpile. But considering the vital need of having domestic sources of supply available wherever at all possible, why has there been such an evident lack of enthusiasm among the people who make the decisions to put domestic deposits in a position to produce? Have the monkey wrenches been cast into the machinery of execution by people who don't know, don't care, or by design?

We know that there are many qualified, loyal men in the departments connected with procurement of strategic materials. Perhaps some of them are overly imbued with either the big government or the big company operating complex but they wouldn't knowingly allow such a vital program to bog down. But in the face of a tense international situation there have been hesitation, procrastination, alibis, "passing the buck," and delay in execution of the provisions of the Defense Production Act of 1950. What is the answer?

The tungsten-buying program as set up will not help the small operator or promote discovery and development of new deposits. The catch is that the government demands a minimum of 60 percent WO_3 concentrates. A miner lacking a mill must ship crude ore to a customs mill. He must obtain 60 percent concentrates from that mill and thereby probably must accept a large drop in recovery which is a charge against his ore. If he cannot make the 60 percent grade, all of his expenses have been lost. What incentive is there for him to take all the chances of loss in order to turn over most of his receipts to pay for transportation and milling? The object of the Defense Production Act under which the tungsten buying program was set up was to increase production and stimulate prospecting and development. The tungsten program will benefit the large producing companies but it is a dud as far as the little fellow is concerned.

Of all the war minerals necessary to our security, manganese is the most important and most critical under emergency conditions. What is the story on increasing domestic manganese production? For years since the end of World War II we have heard of the extreme need of stimulating domestic manganese mining. Everybody realizes the hazard to steel production of the present situation if imports were cut off. Aside from the Bureau of Mines projects what progress has been made over the years? Reportedly an incentive price program has been considered by government agencies but moss must be thick on the program, judging by the delay. An incentive price is the simplest, quickest, and most effective method of getting production but it is too simple, too easy to administer, to suit the alphabetical agencies. Let us hope we don't get into more of an international jam before the manganese program gets straightened out. We are now producing only 10 percent of our total needs.

Chromite, tungsten, and manganese are only three of the materials vitally needed to insure national security, but they are three which could be produced domestically in substantial amounts if realistic prices for them are established - prices which take into consideration high exploration costs, high production costs, and the artificial barriers set up against the American miner by high taxes, depreciated currencies, and our promotion of foreign production at the expense of our own. These three war minerals are selected as glaring examples of the dangerous condition we are in should war come. We must import them to keep our war machine in high gear. Despite some pooh-poohing there seems little doubt of Russian strength in submarines. What proportion of the chrome, tungsten (assuming that Korean tungsten would be available, which is speculative) and manganese boats would get through? Adding the cost of convoying, plus insurance (if obtainable), plus original cost of the ores, plus ocean freight, plus losses by sinking, what do you think the per-ton costs of the delivered ores would be?

And still there is caviling about paying a "subsidy" to the American miner to produce for our stockpile, **AND THE PROGRAMS DRAG.**

F.W.L.

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COPPER ORE SHIPPED

Strategic Minerals Corporation, Ltd., Medford, Oregon, has shipped two carloads of copper ore from Grants Pass to the Tacoma Smelter. The ore came from the John Hamlin mine on Onion Mountain located about 30 miles by road west of Grants Pass.

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ACTIVITY AT GRANTS PASS FIELD OFFICE

A revived interest in strategic mineral prospecting and development in southwestern Oregon is reflected in the greatly increased business of the Department's Grants Pass field office. The increased activity is largely due to revival in chromite prospecting. During the first 4 months of 1951 the office had a monthly average of 159 visitors. In May there were 351 and in June 353 visitors. During the first 4 months of 1951 Mr. Wolfe, field geologist, had a monthly average of 67 special interviews which may be defined as those requiring a discussion of geological, mining, or prospecting problems. In May, he had 124 and In June 132 special interviews. So much time (an average of 52 hours per month for May and June) has been consumed by these interviews that Wolfe has had no time for field investigations requested of him. In order to help relieve the situation David White, geologist of the Portland office, has been transferred temporarily to the Grants Pass office.

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ASSESSMENT

S. 1726 which proposes the permanent changing of the assessment year from July 1 to November 1 passed the Senate near the end of June but ran into strong opposition in the House Interior and Insular Affairs Committee. At the present time (July 13) action on the bill is still pending in the Committee with rather poor prospects of having it reported to the House.

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UNDERWATER MAPPING OF BEDROCK BY DEPTH-FINDING EQUIPMENT

The U.S. Geological Survey has announced completion of a mapping program tracing the depth of bedrock along a part of Chicago's lake front. This program was conducted by the Survey for Chicago's Department of Public Works using electronic depth-finding equipment supplied by the Edo Corporation. The technique used is believed never to have been used before in this type of work.

A new water filtration plant and distribution system is planned by the City of Chicago and the plan includes a distribution tunnel more than 5 miles long and 16 feet in diameter to be driven beneath the harbor bedrock paralleling the water front. In order to drive the tunnel safely and to have it secure as a part of the distribution system, it was necessary to locate it in bedrock 50 feet below the top of the lowest part of the rock bottom. Depth-finding equipment involving sonar depth finding was arranged for with the Navy Bureau of Ships, Electronic Division. The equipment was made by the Edo Corporation and operated by one of its engineers. The equipment measured depth to the top of the mud and gravel layers and also the depth to bedrock. Distance to these layers is automatically computed by the instruments, and soundings are recorded continuously on graph paper.

Many interesting details of the geology of the cross section of the area worked were discovered in the course of the survey. By using this depth-finding method, the time required for construction of the map and cross section was greatly shortened compared to standard methods of drilling out the area to be penetrated. The preliminary map outlining the project has been placed in open file at the Geological Survey, General Services Building, Washington, D.C.

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LIQUIDATION SALE

Ida mining property located on Louse Creek 1 mile above the Granite Hill mine in secs. 25 and 26, T. 35 S., R. 5 W. Equipment includes diesel engine, power plant, concentrating mill with flotation equipment, assay office, blacksmith shop, and various other pieces of mining equipment. Interested persons should get in touch with Mr. C.F. Pruess, guardian, 138 S.W. "H" Street, Grants Pass, Oregon.

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LETTER

State Dept. of Geology
& Mineral Industries
702 Woodlark Building
Portland, Oregon

Mr. Niel R. Allen
Mr. Fay Libbey
Mr. Mason L. Bingham
Mr. H. E. Hendryx

Gentlemen:

The Oregon Mining Association wishes to extend its thanks and great appreciation to you for your aid and effort on their behalf, in obtaining a chrome program for Southern Oregon and Northern California.

Sincerely,

Oregon Mining Association,
Chrome Committee

/s/ Wm. Robertson.

June 14, 1951

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POZZOLAN TESTING PROJECT

Oregon State College, in cooperation with the Raw Materials Survey, some Bend pumice producers, and the Department, is continuing testing work on pozzolanic materials using new samples recently obtained. The work is being done under the supervision of Prof. C.O. Heath. Emphasis is on volcanic ash but other materials are being tested. Pumice producers of Bend supplied volcanic ash samples; the Department collected a volcanic ash sample in Gilliam County, volcanic tuff and diatomite samples in Baker County, silt from Multnomah County, and bauxite from Washington County. Testing will continue over a year's period.

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MOST NONFERROUS METALS IN TIGHT SUPPLY, NPA SAYS

Virtually all of the important nonferrous metals are listed by the Department of Commerce's salvage and reclamation division, National Production Authority, as being either in very short supply or in tight supply.

In reference to the metals in very short supply, the authorities suggest that alternates should be selected whenever possible.

Listed in Group I-A as metals in very short supply are the following items:

Aluminum, copper, magnesium, lead, selenium, tin, zinc, iridium, osmium, platinum, rhodium, silver, cobalt, columbium, molybdenum, nickel, tantalum, titanium, and tungsten.

Group II-A, metals in tight supply: antimony, bismuth, cadmium, germanium, tellurium, chromium, manganese, silicon, and vanadium.

Group III-A, metals in fair supply: palladium, boron, calcium, titanium (ferro); and zirconium.

Miscellaneous materials in very short supply include asbestos (textile fibers); beryllium ore; corundum; crucible flake and Madagascar flake graphite; industrial diamonds; kyanite; sheet and bookform mica splittings, better than stained; monazite sand; rare earths; block talc.

Miscellaneous materials in tight supply include: asbestos, short fiber; diatomite; acid and metallurgical fluorspar; magnesite; phlogopite and muscovite mica, block and film, stained and poorer grades; grades 1 and 2 quartz crystals; talc, ground, including steatite.

Products in the miscellaneous classification that are in fair supply: Fuller's earth, pyrophyllite, rutile, and zircon. (From E&MJ METAL AND MINERAL MARKETS, June 28, 1951.)

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THE CURRENT NEED FOR ENGINEERS AND SCIENTISTS

A June 1951 survey of the needs of 378 companies and government agencies shows that about 80,000 engineers are needed now exclusive of the needs of the military. When the current graduating class of 38,000 is absorbed there is still an unfilled demand for 42,000 engineering graduates. However, a recent study of the 1951 class of engineering graduates showed that the military, through R.O.T.C. and reserve programs, and through the Selective Service System, will siphon off about 19,000 engineering graduates. The actual unfilled demand will then be for more than 60,000 engineers.

Thus, the urgent need for engineers cannot be met through the current sources of supply. The 1952 graduating class will be only about 26,000; 1953 about 17,000; 1954 about 12,000.

The increased complexity of our industry and the impact of new technological areas such as atomic energy, the development of antibiotics, jet propulsion, electronics, etc. have made a definite upturn in the use of engineers and scientists quite independent of mobilization. The ratio of gainful workers has been increasing steadily since 1890. It now stands at about 1600 engineers per 100,000 workers according to the Bureau of Labor Statistics. There is no sign yet that the ratio of engineers to gainful workers has commenced to level off.

(From News Letter, June 28, 1951, issued by Engineering Manpower Commission of Engineers Joint Council, New York City.)

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GEOLOGICAL SURVEY BULLETINS ON OREGON GEOLOGY

Three new U.S. Geological Survey bulletins concerned with Oregon mineral deposits have just been issued. These are: No. 955-F, "Quicksilver Deposits of the Bonanza-Nonpareil District, Douglas County, Oregon"; No. 969-E, "Quicksilver Deposits of the Horse Heaven Mining District, Oregon"; and No. 973-A, "Magnetic Exploration for Chromite." The first two bulletins named are the result of wartime Survey investigations of well known quicksilver districts in the State. The third bulletin summarizes results of magnetic exploration for chromite and includes results of studies made in central and southwestern Oregon as well as results of magnetometer work on the black sands of the southern Oregon coastal region. These bulletins are for sale by the Superintendent of Documents, Washington, D.C. Price of 955-F is $1.00; of 969-E, not announced; of 973-A, 15 cents.

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DEPARTMENT GEOLOGISTS ON MAP WORK

Mr. Hollis Dole, Department geologist, is mapping the geology of the Dutchman Butte 15-minute quadrangle during the current field season. He is assisted by Mr. Len Ramp, a recent graduate of the University of Oregon.

Mr. Norman Wagner, field geologist stationed at Baker, has been doing reconnaissance mapping in southern Umatilla County where some windows of older rocks in Tertiary lavas are known to occur. Further work in this area will be done.

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IMPORTANT PAPER ON SOIL FERTILIZERS

"Industrial Minerals and Rocks as Plant Nutrient Sources" is the title of a paper prepared for the Maine Development Commission by W. D. Keller, Professor of Geology, University of Missouri, and a consultant to the Maine Geological Survey. Dr. Keller's paper is a part of the Report of the State Geologist 1949-50, Maine Geological Survey, Augusta, Maine. Abstract of the paper reads as follows:

> "Industrial minerals and rocks constituted most of the raw materials for the 750 million dollars worth of soil fertilizers sold in 1948. The demand for fertilizers is expanding. Hitherto unused rock products are potential sources of plant nutrients. Geologists will be better equipped to develop new and additional industrial rock sources as fertilizers when they understand the underlying requirements for soil rebuilders."

Chapter titles, besides the Introduction, are:

The Ionic Exchange Concept Common to Both Plant Nutrition and Rock Weathering; Trace Elements, and Native Rocks as Fertilizers; Minerals Serve in Soil Restoration rather than as Starter Fertilizers; Geological Sources of Calcium; Magnesium Sources; Potassium, Phosphorus and Sulphur; Trace Elements; Non-obvious Sources Need to be Explored.

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IRON IS ABUNDANT ON OCEAN FLOOR

The oceans of the world are "liquid mines." Among other elements they contain an iron-bearing mineral called glauconite, which is a close chemical relative of the taconites found in the sedimentary rock deposits of the Lake Superior Region.

Glauconite, a greenish, granular mineral, is deposited slowly near the mudline along seacoasts at depths of 600 to 5,000 feet, away from large or swiftly flowing rivers. That mineral, which contains about 23 percent iron, is formed when shell fish, after death, become filled with fine mud which contains iron leached from rocks on the land.

The sulphates in sea water react with the flesh of the shell fish to form iron sulphide which in turn reacts with dissolved oxygen to form ferric hydroxide. This, with silica and potassium contained in the sea water, forms glauconite, the iron-bearing mineral of the sea. It is thought that bacteria play an important part in the reaction.

Tiny plants, animals take iron

Iron is also present in sea water in organic form, that is, in a form produced by animal or plant action. The iron, originally in inorganic form derived from the leaching of rocks, is removed from solution by plankton. These are primitive, usually minute, marine or fresh water plants and animals, often found in colonies. They are basic foods for fishes and marine animals in whose bodies relatively high concentrations of many elements may be found.

In addition to concentrating silicon, calcium, and phosphorous, some sea creatures concentrate alloying metals used in steelmaking. That concentration is so low, however, that it is improbable that commercial use will be made of any of them in the forseeable future. Lobsters, for example, concentrate cobalt; oysters concentrate copper; scallops concentrate nickel; sea slugs and a sea animal called an ascidian concentrate vanadium, while mussels and plankton concentrate manganese. Marine plants also concentrate steelmaking elements such as boron and molybdenum while aluminum, selenium, titanium, and tungsten remain largely dissolved in the water.

Manganese has been found in thick layers on the ocean floor but its origin and mode of formation are unsolved puzzles. More frequently manganese is found in rough, round nodules or balls about the size of a walnut. These nodules, which are nearly pure manganese dioxide, invariably form around a nucleus of pebbles, whale or shark teeth, or other small skeletal bones.

(From Steel Facts, June 1951, published by American Iron and Steel Institute, New York City.)

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NEW GOVERNMENT PROCUREMENT AGENCY

On August 1 the President created a new agency to speed up production and procurement of strategic materials, and issued the following statement as reported by the American Mining Congress Bulletin Service:

"The Federal Government's programs for purchasing and increasing the supply of critical and strategic materials are vital to the security of this Nation. It is essential that we have ample supplies of basic and rare materials if we are to fulfill our mobilization goals during the coming months and if we are to maintain the expanding national economy which gives us one of the necessary elements of strength in international affairs.

"I have decided, therefore, that we must give special attention to our organization for assuring the continued supply of critical and strategic materials. Accordingly, I am creating, under the authority of the newly extended Defense Production Act, a new independent agency whose sole job will be to procure and to increase the supply of critical and strategic materials at home and abroad.

"These new organizational arrangements are being made upon the recommendation of the Director of Defense Mobilization, the Secretary of the Interior, and the Director of the Budget, with the concurrence of the Administrator of General Services, the Economic Cooperation Administrator and other interested officials of the Government. I am confident that they will provide the Government with better machinery for continuing the vital functions of maintaining an ample supply of critical and strategic materials for our economy.

"This new agency will be called the Defense Materials Procurement Agency. It will be headed by an Administrator to be appointed by me with the advice and consent of the Senate. I expect to nominate Mr. Jess Larson, who will be relieved of his present duties as General Services Administrator, to be the Administrator of the new agency. He will administer the Defense Materials Procurement Agency under the direction, control and coordination of the Director of Defense Mobilization. The reorganization will be effected as soon as the necessary orders can be arranged by the Director of the Bureau of the Budget.

"The various procurement and development functions presently vested in the General Services Administration, the Department of the Interior, the Economic Cooperation Administration, and the Defense Production Administration will be transferred to the Defense Materials Procurement Agency. Specifically, the following functions will be transferred and consolidated in the Defense Materials Procurement Agency:

"From the Defense Minerals Administration in the Department of the Interior:

A responsibility for materials supply expansion, including development of supply expansion programs;

Responsibility for recommending tax amortization for materials expansion action;

Responsibility for certifying Defense Production Administration loans to the Reconstruction Finance Corporation for materials expansion actions.

"From the General Services Administration:

Responsibility for materials procurement under the Defense Production Act.

"By delegation from the Economic Cooperation Administration:

Responsibility for serving as the agency to perform Economic Cooperation Administration materials procurement actions.

"Under the planned arrangements, the Defense Materials Procurement Agency will become the operating agency for procuring and increasing the supply of critical and strategic materials both domestically and abroad. The Defense Production Administrator will continue to exercise his responsibilities concerning the development of materials requirements and will certify to the Defense Materials Procurement Agency the materials needed in the economy. The new agency will undertake both the necessary spot procurement and the development and execution of materials expansion programs.

"Under the new arrangements there will be retained in the Department of the Interior - in the metals and minerals field - the regular statutory responsibilities of the Bureau of Mines and the Geological Survey, expanded to provide additional services required by the emergency programs. Also, the Department of the Interior will continue to administer the domestic exploration loans program authorized by the Defense Production Act and will carry on the priorities and allocations functions with respect to metals and minerals under that Act.

"The General Services Administration will continue its present responsibilities for stockpile procurement. As a rule, however, the General Services Administration will purchase stockpile materials from the Defense Materials Procurement Agency, which will act as the sole Government procuring authority for nonagricultural materials. The present arrangements for developing stockpile requirements will remain unchanged, and the General Services Administration will continue as the financial and custodial agency for the stockpile.

"In providing a new agency for administering a more unified program for procuring and increasing the supply of critical and strategic materials, I shall expect that it will utilize to the maximum extent the resources of all agencies in the conduct of scheduled procurement and development projects."

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DREDGE CLOSES DOWN

The Porter Dredging Company, which has operated in the Granite area of Grant County for the past 13 years, and most recently on Crane Creek, closed down on July 21, 1951. According to newspaper reports the dredge will be moved to a locality near Cascade, Idaho, and will continue dredging operations at that place.

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THREE MANGANESE PURCHASING DEPOTS PLANNED

Two regulations under which the General Services Administration will carry out a five-year domestic manganese purchasing program to encourage the discovery, development, and production of manganese in the United States were issued on July 21, 1951.

Jess Larson, Administrator of General Services, said the Government will purchase manganese ore from miners at three depots being set up by GSA at Butte and Philipsburg, Montana, and Deming, New Mexico.

Mr. Larson said that miners who want to sell manganese ore to the Government at the depots in Montana must notify in advance the GSA Regional Office located in the United States Courthouse Building, Seattle 4, Washington. Those who wish to sell manganese at the Deming, New Mexico, depot should declare their intentions to the GSA Regional Office located in Building 1-C, Denver Federal Center, Denver, Colorado.

Mr. Larson said that although miners have until midnight, September 15, to make notification, they are urged to declare their intentions as soon as possible so that the Government can better anticipate the facilities needed to carry out the program. Notification may be in the form of a letter, telegram, or penny postcard, and should state that the writer desires to participate in the program. In return, the miner will receive a certificate which will authorize him to bring manganese ore to the specified depots where it will be assayed and weighed and where he will be paid immediately.

Under the regulations, the price paid for the ore will be based on the manganese content of the ore. Five long tons of ore is the minimum that will be accepted in a single delivery at the depots.

Ore delivered at the Butte depot must contain a minimum of 12 percent manganese in order to be acceptable under the regulations, and ore brought to the Philipsburg and Deming depots must contain at least 15 percent manganese.

Prices are determined by the quality of the ore and vary at each depot. At Deming, the Government will pay $6.10 per long dry ton containing 15 percent manganese, with payments ranging up to $76 per long dry ton for ore with a 40-percent manganese content. At Philipsburg, the prices will range from $6.43 per long dry ton for ore containing 15 percent manganese to $34.81 for ore with a content of 30 percent. At the Butte depot, the Government's prices start at $6.05 per long dry ton with 12 percent manganese content and go up to $40.42 for ore containing 30 percent.

Funds are available for the purchase of 12,000,000 contained long dry ton units of manganese. A public announcement will be made when the depots are ready to receive ore.

Detailed specifications may be obtained from General Services Administration offices specified above or in Washington, D.C.

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OREGON BEACHES CONTROLLED BY STATE LAND BOARD

The 1951 Oregon Legislature passed legislation which gives management of Oregon beaches to the State Land Board insofar as removal of sand, rock, marine growth, or other natural products on the ocean beaches is concerned. The law is contained in Chapter 106, Oregon Laws of 1951, which amends Section 3, Chapter 493, Oregon Laws of 1947.

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NICKEL IN 1950

A substantial upward surge in nickel requirements, which were well above production, resulted in an acute shortage in 1950. Before mid-year it became apparent that the demand for nickel would exceed the available supply. Accordingly, both the International Nickel Company of Canada, Ltd., and Falconbridge Nickel Mines, Ltd., established voluntary rationing programs for equitable distribution of nickel. Total consumption of nickel in the United States established a peacetime record in 1950 and was 45 percent greater than in 1949. Deliveries to the Government stockpile were smaller. Stocks of nickel held by consumers in the United States declined 34 percent to 11,813,000 pounds on December 31, 1950, and were equivalent to slightly more than three weeks' requirements at the 1950 rate of consumption. Imports of nickel into the United States were about the same in 1950 as in 1949.

Total consumption of nickel was 198,043,618 pounds in 1950, of which about 39 percent was utilized in stainless and other steels. Usage of nickel in stainless steel was 76 percent more in 1950 than in 1949, but that for other steels was only 32 percent larger. Consumption of nickel in high-temperature and electrical-resistance alloys was up 38 percent and that for anodes gained 26 percent. The use of nickel in cast irons was 44 percent more. Most of the nickel consumed in 1950 was in the form of metal, but the proportion of oxide and oxide sinter used was slightly more in 1950 than in 1949.

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Imports of nickel in all forms were virtually the same in 1950 as in 1949. As heretofore, Canada was the chief source of the imports; it supplied 130,426,076 pounds of refined nickel, 22,261,814 pounds of roasted and sintered matte, 32,612,122 pounds of oxide and oxide sinter, 337,965 pounds of nickel scrap, 36,659 pounds of nickel bars, rods, etc., 15,485 pounds of nickel-silver, and 356,561 pounds of nickel residues. In 1950, Norway furnished 7,216,093 pounds of refined nickel and 82,622 pounds of nickel scrap; the United Kingdom 23,568 pounds of refined nickel, 727,010 pounds of nickel scrap, 9,072 pounds of matte, and 14,597 pounds of bars, rods, etc.; Denmark 49,890 pounds of refined nickel and 33,600 pounds of nickel scrap; Belgium and Luxembourg 2,494 pounds of refined nickel, 13,225 pounds of nickel scrap, and 11,076 pounds of bars, rods, etc.; France 540,127 pounds of refined nickel, 50,228 pounds of nickel scrap, and 4,415 pounds of bars, rods, etc.; Japan 5,937 pounds of refined nickel; Netherlands 6,013 pounds of nickel scrap and 7,160 pounds of bars, rods, etc.; and Sweden and Switzerland 23,331 and 23,148 pounds, respectively, of nickel-silver. (From U.S. Bureau of Mines Mineral Market Reports MMS-1994.)

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SMELTER SHIPMENTS

Prospective shippers of ore to a smelter should be sure that the ore to be shipped contains dollar values in sufficient amount to repay all costs and provide a profit. It sometimes seems to a shipper that the amount of work required to determine the value with reasonable accuracy is not warranted and that a chance may be taken. This is an unwise policy and careful sampling should be done on all smelter shipments before shipment is made. Smelters are always glad to make analyses for prospective shippers.

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GOVERNMENT CHROME DEPOT OPENS

On August 3 the Government's Grants Pass chrome purchasing depot started buying ore with Dan Beyer in charge for the General Services Administration. The initial shipment of ore purchased was delivered by W. S. Robertson of the Oregon Chrome Mines on the Illinois River. The depot was opened in order to accommodate chrome shippers even though preparations for sampling and storing ore are incomplete. A concrete slab and spur track must be laid and crushing, sampling, and weighing equipment installed. The Northwest Testing Laboratories, Portland, are doing the sampling and assaying. Besides Robertson, several World War II shippers, including Eugene Brown, have delivered ore. In the absence of Government weighing scales, the ore is being weighed at the Morton Milling Company scales. Approximately 30 truckloads of ore had been delivered during the first 10 days of operation.

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ANTIMONY DEVELOPMENT

The Current Creek antimony property owned by Dragich and Amundsen, Prineville, is being developed by Mike Dragich and two miners. The property is about 8 miles east of Ashwood in Jefferson County on the road to the Horse Heaven mine. At present principal work is in no. 3 tunnel where stibnite has been found in several places.

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PERLITE PROPERTY PRODUCING

The Lady Frances mine of Dant & Russell, Inc., Dantore Division, on the Deschutes River in southern Wasco County, is producing at capacity. The perlite is mined by open pit methods and processed to make both plaster aggregate and acoustical tile. The plant is on the Great Northern Railroad at Dant where a postoffice was recently established. About 65 men are employed at both mine and plant.

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NICKEL EXPLORATION

The Hanna Development Company is continuing exploration of the Nickel Mountain garnierite deposit near Riddle, Douglas County, Oregon. Two churn drills are employed and metallurgical testing work is being done.

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DR. BOYD RETURNS TO BUREAU OF MINES

Dr. James Boyd has resigned as Administrator of the Defense Minerals Administration and has returned to his former position as Director of the U.S. Bureau of Mines. Mr. W. C. Schroeder has been named acting administrator of DMA to succeed Dr. Boyd.

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STRATEGIC MINERALS DECONTROLLED

On August 10, OPS, by amending GOR-9, exempted from price controls several strategic and critical metals and minerals. Those exempted are raw asbestos; beryl ores; chrome ores; cobalt ores and metal; columbite-tantalite ores; natural graphite; kyanite and related ores; manganese ores; and acid grade fluorspar. Sales of domestic mercury are also exempted from price control, but sales of imported mercury will remain under price control and are being included in CPR 31 (imports). (From American Mining Congress, August 13, 1951.)

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SHELL GEOLOGIST TRANSFERRED

H. J. Buddenhagen who, since May 1949 with office in Portland, has been in charge of exploration for the Shell Oil Company in Oregon, Washington, and western Idaho, left Portland August 17 for a six week's tour of Shell's operating areas in the United States and Canada. Early in October, accompanied by Mrs. Buddenhagen and their two sons, he will sail for Holland to spend a year in Shell's head office at the Hague.

Since graduating from Stanford University in 1926, Mr. Buddenhagen has seen continuous service with the Shell Oil Company. Three years were spent in Venezuela; the remainder in the United States in Arizona, New Mexico, Utah, Montana, Colorado, California, and the Pacific Northwest.

The day he left Oregon, Buddenhagen said, "You can tell anyone who is interested that I hope to be back. This is my idea of about the best place in the world to live in." He undoubtedly will be influenced by his ownership of 230 acres of good Josephine County land that he acquired back in 1938.

The local office of the Shell Oil Company's exploration department is being moved from Portland to Elma, Washington, where Dr. R. L. Lupher will take charge of Shell's exploration work in the Pacific Northwest. Dr. Lupher is a graduate of the University of Oregon and obtained his doctorate at California Institute of Technology. He was on the geology staff of Washington State College for several years before becoming a geologist for Shell Oil Company in 1947.

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PRICE SCHEDULE FOR MANGANESE ORES

Geneva Steel Company, P.O. Box 269, Salt Lake City 8, Utah, is prepared to buy ores containing manganese and offers the following price schedule:

Price: The price schedule per gross ton (2240 lbs.) unit (1% or 22.4 lbs.) of DRY metallic manganese is:

Manganese Content (%)	Price (¢ per unit)	EXAMPLES: % Mn (dry basis)	Value per Gross Ton ($)
Minus 20 (rejectable)	45	19.0	8.55 (rejectable)
20 to 25	50	20.0	10.00
25.1 to 30	55	25.0	12.50
30.1 to 35	60	25.1	13.81
Plus 35	65	30.0	16.50
		30.1	18.06
		35	21.00
		35.1	22.81

Iron Content (Fe): Iron content will be paid for at the rate of 3¢ per unit unless iron content falls below 10%, in which event no payment for iron will be made. No payment for iron will be made for ores with a Mn content of less than 20%.

Freight: Geneva Steel Company will pay towards the freight in an amount equal to 25 cents per unit, but not to exceed total freight. Shipper will pay that portion, if any, of the freight not covered by Geneva Steel Company's payment of 25 cents per unit toward freight charges.

EXAMPLES: Mn Content (%)	Portion of freight paid by Geneva ($)
19 (rejectable)	4.75
20	5.00
25	5.25
30	7.50
35	8.75

Complete specifications may be obtained by writing the company.

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STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
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CHROMITE PURCHASING DEPOT NEWS

Construction activities at the Grants Pass government ore purchasing depot have been stepped up in order to provide satisfactory sampling and shipping facilities and additional storage capacity. An extensive addition to the present concrete slab will be laid and platform scales of 40,000 pounds capacity are being installed. A new railroad siding is under construction. It is expected that crushing and mechanical sampling equipment will also be included. In excess of 1,000 tons of chrome ore had been received at the depot up to September 15. Weather conditions will probably prevent shipments from some of the chrome properties during the winter but with the large amount of exploration work going on, there is good evidence that there will be a substantial production of chrome in 1952. The purchasing depot is located on the old C. & O. C. Railroad line to Marble Mountain about 1 mile west of Grants Pass. This connects with the Southern Pacific line at Grants Pass.

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The Chetco Mining Company is a partnership made up of Ben Baker, F. I. Bristol, Ed Knox, and Gordon White, all of Grants Pass, and T. T. Leonard of Eugene. The company is building nearly 9 miles of road into the headwaters of the Chetco River in Curry County to mine chromite from properties in that area. It is expected that shipping will be started within 40 days. Two caterpillar tractors and a compressor are now on the property.

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A new deposit of chromite has been found in a tunnel on the old Jack Shade property above the Oregon Chrome mine in Josephine County. The property is being explored by Roy Hillis of Galice.

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Joe Inman is shipping about one truckload of chrome ore a day. The Inman property is located near the Illinois River below the Oregon Chrome mine, and was a shipper during World War II.

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A group headed by W. S. Robertson of the Oregon Chrome mine is exploring a large body of chromite discovered recently in a new tunnel at Cyclone Gap about 10 miles south of the Oregon line in Siskiyou County, California. The tunnel has penetrated 30 feet of chromite and a raise is now being driven to show vertical extent above the tunnel level. Development ore from the Cyclone Gap mine is being hauled to Grants Pass. Chromite was shipped from the Cyclone Gap locality to the Grants Pass depot during World War II.

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George Clark is shipping to Grants Pass from the Black Diamond mine near Bolan Lake, Josephine County, close to the California line. About 100 tons of ore has been shipped so far.

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Dana Bowers has set up a small concentrating mill on Galice Creek, Josephine County, and is milling chromite ore from the Harry Sordy property on Briggs Creek. Concentrates are being delivered to the Grants Pass depot.

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Exploratory work at the Tyson chromite property just south of the Redwood Highway near Gasquet, Del Norte, California, has opened up a large body of chromite. The Tyson mine, one of the oldest chromite producers in the West, was a large shipper of chromite to the Grants Pass depot during World War II.

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Other shippers to the Grants Pass depot are as follows: Grissom Bros. from the Deep Gorge mine, Josephine County; William Robertson from the Oregon Chrome mine, Josephine County; Ed Carlson from the Holiday mine, Josephine County; Eugene Brown from the High Plateau mine, Del Norte County, California; Dr. Thompson from the Cox mine, Josephine County; and R. McCaleb from the McCaleb mine, Josephine County. During World War II, Eugene Brown shipped some of the highest grade chromite that was mined in the United States. This premium ore ran better than 50 percent Cr_2O_3 and more than 3.5 to 1 chrome-iron ratio.

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RAILROAD FREIGHT RATES ON CHROMITE FROM EASTERN OREGON TO GRANTS PASS

Mr. R. H. Holmes, Southern Pacific Freight and Passenger Agent at Medford, Oregon, has written to Mr. Niel R. Allen, Chairman of the Department's Governing Board, in reply to an inquiry concerning carload freight rates on chromite ore from eastern Oregon points to Grants Pass. Mr. Holmes writes that this rate matter was considered by members of the North Pacific Coast Freight Bureau at their August 1951 meeting in Seattle under Docket NC-2059. He states that since there are presently low rates in effect as given below from Baker and Seneca to Portland, it was concluded not to publish any through rates to Grants Pass.

From Baker, Oregon, to Portland, Oregon . . . . . $ 4.21 per ton minimum 100,000 lbs.

From Seneca, Oregon, to Portland, Oregon . . . . $ 7.32 per ton minimum 80,000 lbs.

The Southern Pacific Company is publishing, effective October 1, 1951, the following rate:

From Portland, Oregon, to Grants Pass, Oregon . . $4.60 per ton of 2,000 lbs., minimum 100,000 lbs.

This rate will be subject to a possible increase of 6 percent of the total freight bill which was authorized by the Interstate Commerce Commission effective August 28, 1951. However, since routing of chrome shipments would be intra-state, this increase must be approved by the Oregon Public Utilities Commissioner who has not yet authorized the increase. The through rate would be the combination of the rates from Baker or Seneca to Portland plus the rate from Portland to Grants Pass.

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AMERICAN MINING CONGRESS WESTERN DIVISION CONVENTION

The annual convention of the Western Division, American Mining Congress will be held in Los Angeles October 22-24 inclusive. Western Division Chairman is Harvey S. Mudd, Los Angeles, and the national Program Chairman is Ross D. Leisk, Kellogg, Idaho. Sessions of the convention will have discussions of subjects vital to the mining industry such as taxation, strategic metals, gold, uranium, public land problems, and mining and metallurgical technology subjects. The A.M.C. convention will be followed by a two-day meeting October 25 and 26 in Los Angeles of the Industrial Minerals Division of the American Institute of Mining and Metallurgical Engineers.

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DEPARTMENT FIELD STUDIES

During August, Department field men examined reported occurrences of manganese in Grant County, sulphur in Douglas County, and cobalt-copper in Curry County. Further studies will be made of the cobalt-copper occurrence.

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U.S. TO OPPOSE HIGHER GOLD PRICE, SNYDER SAYS

Secretary of the Treasury John W. Snyder informed the press on September 7 that the United States is opposed to any increase in the price of gold over the $35 an ounce level in effect since 1934.

He could see no good reason for this country to pay a higher price, he told a news conference, adding that nothing would contribute more to a world-wide inflation of prices than a higher price for newly mined gold.

Mr. Snyder declared that the International Monetary Fund and World Bank is making a study of the gold price situation, which should be completed before the end of the year.

Representatives from 50 member countries are in Washington to attend the sixth annual meeting of the Fund. The discussions will center on monetary problems. Foreign exchange restrictions, originally scheduled to end next March, are expected to occupy a key position on the program.

United States gold producers have joined with those of South Africa and Canada in urging the Fund to alter its position on gold.

Four domestic mining groups who have appealed to the Fund for a change in its gold-pricing policy are: the California Gold Committee; Western Mining Council; the Colorado Mining Association; and the Mining Workers Protective League.

"FREE" GOLD PRICES

Increased tension resulting from developments in Korea strengthened the free gold market. According to Pick's World Currency Report, the following prices were named in leading trading centers for bars of 12.5 kg. at the end of July and August.

	Per Fine Ounce	
	July 31	Aug. 31
New York, transit	$40.50	$40.25
Manila	39.75	42.10
Hong Kong	43.50	43.65
Bombay	49.00	49.50
Tangier	40.25	40.45
Beyrouth	40.25	40.50
Paris	42.25	41.90
Buenos Aires	43.50	44.00

(From E&MJ Metal and Mineral Markets, New York, September 13, 1951.)

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MERCURY IN SECOND QUARTER OF 1951

According to U.S. Bureau of Mines Mercury Report No. 99 domestic production of mercury rose in the second quarter chiefly because of larger output at the recently reopened Bonanza mine, Douglas County, Oregon, and of expanded operations of smaller properties.

The Mt. Jackson mine (including Great Eastern) Sonoma County, California, retained first place among domestic producers. The Bonanza mine in Oregon was the second largest domestic producer. Other large California producers were the Archer mine, Fresno County; Abbott mine, Lake County; James Creek property, Napa County; Juniper mine, San Bernito County; New Almaden property, Santa Clara County; and the Colver-Baer mine, Sonoma County. At least eight other properties in California contributed to production in the second quarter. Production of mercury at the 38 Mine, Brewster County, Texas, was reported. This was the first output of record in Texas since 1945.

Imports during the second quarter totaled 8,065 flasks, of which 3,903 flasks came from Italy, 1,141 flasks from Spain, and 1,405 flasks from Yugoslavia.

Of some interest is the statement that 400 flasks were re-exported to Japan, a country that has been the source of imports into the United States since World War II.

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CHROMITE IN SECOND QUARTER 1951

Domestic consumption of chromite during the second quarter 1951 decreased slightly from the first quarter and totaled 300,694 short tons, according to the Bureau of Mines, United States Department of the Interior. A total of 140,749 tons (47 percent) was consumed for metallurgical purposes, chiefly in the manufacture of ferrochromium. In the production of 130,343 tons of chromium refractories, a total of 101,457 tons (34 percent) of chromite was consumed, and 9,672 tons (3 percent) were used for miscellaneous purposes, chiefly in repairing basic-furnace linings; thus, a total of 111,129 tons (37 percent) was consumed for refractory use. The producers of chromium chemicals consumed 48,816 tons (16 percent) of chromite (a ratio of 1.5 tons of chromite per ton of sodium bichromate equivalent) in the manufacture of 34,790 tons of chromium chemicals. The proportions of the various grades used were unchanged from the previous period when metallurgical, refractory, and chemical consumers used 142,989 tons, 113,933 tons, and 49,243 tons respectively.

Consumers of chromium alloys, during the second quarter of 1951, reported using 46,157 short tons of ferrochromium, 6,286 tons of the exothermic chromium additive (Chrom-X) in addition of small quantities of chromium metal and miscellaneous chromium products. Alloy consumers, canvassed by the Bureau of Mines, normally use about 85 percent of the total.

Stocks of chromite on hand in consumers' yards totaled 527,098 short tons on June 30, 1951, compared with 591,528 tons on March 31, 1951. Of the total on hand at the end of the second quarter, 221,530 tons were metallurgical, 254,967 refractory, and 50,601 tons chemical.

Domestic production of chromite, during the second quarter 1951, totaled 576 short tons; all came from Butte County, California.

Chromite in 1948-50 and first half of 1951 in short tons

	Domestic production	Imports	Total new supply	Consumption
1948	3,619	1,542,125	1,545,744	875,033
1949	433	* 1,203,852	* 1,204,285	672,773
1950	404	* 1,303,713	* 1,304,117	980,369
1951:(1st quarter)	* 74	359,474	* 359,548	306,165
(2d ")	576	319,371	319,947	300,694

* Revised.

Imports of chromite into the United States during the second quarter 1951 decreased 11 percent from the first quarter and totaled 319,371 short tons. The Union of South Africa was the largest supplier, furnishing 26 percent of the total, mainly chemical grade; the Republic of the Philippines supplied 22 percent, mostly refractory; Southern Rhodesia furnished 19 percent, both metallurgical and refractory; Turkey supplied 18 percent, the largest portion of which was chemical grade; Cuba shipped 7 percent, all refractory; New Caledonia furnished 5 percent, all metallurgical; the balance of 3 percent was supplied by Yugoslavia and India, all metallurgical grade.

Total chromite imported into the United States during second quarter 1951

Source	Gross weight	Cr_2O_3 content	Value	Percent Cr_2O_3	Value per ton
Cuba	21,459	7,354	$ 347,600	34.27	$16.19
French Pac. Islands (New Caledonia) . . .	15,454	7,282	356,974	47.18	23.09
India	2,266	1,066	44,503	47.04	19.60
Philippines, Rep. of	70,649	23,969	754,131	33.92	10.67
Southern Rhodesia. . .	60,917	27,067	1,039,309	44.43	17.06
Turkey	56,849	27,039	1,806,483	47.56	31.77
Union of So. Africa	84,620	38,108	945,056	45.03	11.16
Yugoslavia	7,157	2,456	235,610	34.31	32.78
Total	319,371	134,341	$5,529,666		

Note: Computations in last 2 columns added to Bureau of Mines tabulation in first 3 columns. It is not known how value in third column is figured. Market quotations are usually on a long ton basis f.o.b. Atlantic ports with ocean freight differential to Portland, Oregon, and Tacoma, Washington. (Ed.)

(From U.S. Bureau of Mines Chromite Report No. 22)

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NEW CALIFORNIA SPECIAL REPORTS

Special reports recently received from California Division of Mines, Ferry Building, San Francisco.

Special Report 7-B: Economic geology of the Rincon pegmatites, San Diego County, California, by John B. Hanley. 1951. 24 pp., 1 pl., 5 figs. Price 35 cents.

Special Report 10-A: Nephrite jade and associated rocks of the Cape San Martin region, Monterey County, California, by Richard A. Crippen, Jr. 1951. 14 pp.,14 figs. Price 25 cents.

Special Report 10-B: Nephrite in Marin County, California, by Charles W. Chesterman. 1951. 11 pp., 16 figs. Price 25 cents.

Special Report 10-C: Nephrite in San Benito County, California, by H. S. Yoder and C. W. Chesterman. 1951. 8 pp., 6 figs. Price 25 cents.

Special Report 11: Guide to the geology of Pfeiffer Big Sur State Park, Monterey County, California, by Gordon B. Oakshott. 1951. 16 pp., 1 pl., 28 figs. Price 25 cents.

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GOOD FISHING

Some of the best fishing in the midwest is the result of coal mining. When the pits left behind after coal stripping lie below the water table of the surrounding region, they become lakes soon after mining operations cease. Forward looking coal companies have in many cases stocked these lakes with fish and planted evergreen trees on the surrounding country. The result is a blanket of valuable evergreen forest and lakes well stocked with fish.

In the State of Indiana the state Coal Producers Association has thus created 45,000 acres of forest, with 4,500 acres of fine fishing lakes. In one county alone the coal operators have donated 3,900 acres as a state forest, dotted with 350 acres of well-stocked anglers' paradises. (From Mining Congress Journal, June 1951.)

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SHELL GEOLOGISTS IN WESTERN OREGON

Grant Valentine, formerly geologist with the Washington State Division of Mines and Geology, and Howard G. Kinsey, a graduate of Oregon State College, are doing geological mapping in western Oregon for the Shell Oil Company.

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NEW PLACER PROJECT

A new gold placer project has been started on Deer Creek north of Sumpter Valley in Baker County, Oregon, on land owned by Warren MacDonald, Sumpter. About 450 acres are under lease to a partnership composed of Messrs. I. S. Decker, Ward Hill, and Vanderjack, all of Eureka, California, and Mr. Burt Delzine of Junction City, California, who is in charge of the work.

The placer ground contains old Tertiary gravel and is being tested for a hydraulic set-up. An old ditch has been reconditioned and pipe, flumes, boxes, and tailings dams installed. Several miles of access road have been built. Because of water conditions the first test run will be in the spring of 1952.

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PERCENTAGE DEPLETION

The Senate Finance Committee on September 5 agreed to the House-approved provisions increasing the percentage depletion allowance for coal from 5 percent to 10 percent and extending percentage depletion to other minerals (Bull. 22, p. 3). It voted, however, to reduce from 15 percent, as approved by the House, to 10 percent the depletion allowance provided for borax, Fuller's earth, tripoli, refractory and fire clay, quartzite, perlite, diatomaceous earth, and metallurgical and chemical grade limestone.

The committee also approved percentage depletion for aplite at a 15-percent rate, and for asbestos, magnesium compound, and wollastonite at a 10-percent rate. In later action the committee granted a 5-percent depletion allowance to salt and wells containing brines of calcium chloride, magnesium chloride, sodium chloride, potassium chloride or bromine. It provided specifically a 5-percent depletion rate for slate, in addition to the previous action covering stone, shale, sand, gravel, brick and tile clay, etc.

The committee has thus followed the House in rejecting the Administration's proposals for reduction in depletion allowances on oil, gas, and nonmetallic minerals, and has extended the percentage depletion principle to a number of other important mineral commodities. (From The American Mining Congress Bulletin Service No. 30, September 10, 1951.)

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GOVERNMENT CHANGES CHROME-BUYING PROGRAM

The General Services Administration, Office of Information, U.S. Courthouse, Seattle, Washington, on May 11, 1951, released information concerning the government chromite purchasing program including plan to establish a purchasing depot at Grants Pass. On June 11, 1951, a meeting of chrome miners and other interested persons was held at Grants Pass to hear the specifications for chrome buying from special representatives of the Emergency Procurement Service of the General Services Administration, Washington, D.C. At this meeting the program was outlined in detail by Mr. Wm. M. B. Freeman. It was stated that the program would be effective for a period not to exceed 5 years but might be terminated by the government at any time subsequent to 2 years upon the giving by the government of 1 year's notice of termination. The only specification in regard to quantity was that it was contemplated that at least during the first year deliveries from any one producer would not be accepted in excess of 2,000 tons. (It is of interest to note that "contemplated" was the word used in the release from Washington, D.C.) A good reason for this specification was not made clear at the Grants Pass meeting, and the impression was given that a prior arrangement with the government might allow a producer a larger annual production than 2,000 tons.

On the basis of the specifications as set forth by the government representatives, chrome miners in southern Oregon and northern California began to build roads, install equipment, and do exploration work in order to be ready to deliver ore to the purchasing depot when it opened for business. On August 3, the government depot started buying ore, and chromite prospecting and mining activities increased tremendously.

On August 31, the General Services Administration made an announcement from Washington which modified the original purchasing plan. The GSA administrator, Mr. Jess Larson, said that the new program calls for the purchase of chrome ore and concentrates up to 200,000 tons, and that it would end on June 30, 1955, or whenever the 200,000 tons of ore and concentrates have been received, whichever occurs earlier.

Mr. F. I. Bristol, president of the Oregon Mining Association, called a meeting of chrome miners on October 15 to consider the effect of the new program. About 150 persons were present. Many of the chrome people present had not previously heard of the new order and were stunned to learn of it. Five persons stated that they had started construction of concentrating mills; two of these were to have been of 100 tons daily capacity each, and it was stated by the backers of these two projects that they could not go ahead with construction on the basis of the new order. Forty-seven persons present had started exploration and five of these said that they had good ore bodies developed. Two large producers did not have representatives at the meeting.

By this new order the government has changed specifications of a program already set up and this change limiting the total amount to be purchased will discourage investment in

exploration and equipment. If the government bureaus having to do with mineral production wish to discourage exploration and production, the GSA is following the right procedure. What miner will risk money and labor in a development program when he may be "cut off at the pockets" at any time?

Is it any wonder that there has been a loss of confidence in the word of bureaus having to do with encouraging domestic mineral production, and that miners say with bitterness that a new pronouncement may come at any time which will take away completely the incentive for domestic mining of chrome?

F.W.L.

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INTERRUPTION IN ASSAY SERVICE

THE OFFICE AND LABORATORIES OF THE DEPARTMENT MUST BE MOVED FROM THE WOODLARK BUILDING TO THE NEW STATE OFFICE BUILDING IN PORTLAND EARLY IN NOVEMBER. SINCE THE LABORATORIES WILL NEED TO BE DISMANTLED, MOVED AND SET UP IN THE NEW QUARTERS AND SINCE THERE IS A BACK-LOG OF SAMPLES TO BE ANALYZED, THERE WILL BE AN INTERVAL DURING WHICH ANALYTICAL WORK CAN NOT BE DONE. FROM OCTOBER 15 TO NOVEMBER 19, DEPARTMENT LABORATORIES WILL BE CLOSED AND SAMPLES REQUIRING ANALYTICAL WORK WILL NOT BE HANDLED.

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CHROMITE CONCENTRATION IN GRANTS PASS AREA

A small pilot mill for concentrating chromite has been built on Galice Creek about 3 miles southwest of Galice by Dana W. Bowers, 48 Rose Avenue, Medford, Oregon. The mill is on the Dickey placer claims which together with the Sordy lode claims in the Bridge Creek area have been leased to Bowers. These lode claims, owned by the Harry Sordy estate, contain considerable concentrating ore. The present mill includes a small jaw crusher, a 25-ton ball mill with classifier, and one shaking table. Several shipments of concentrates totaling about 50 tons have been delivered to the stockpile at Grants Pass. Initial returns have shown an average of about 53 percent Cr_2O_3 with a 2.6 to 1 chrome-iron ratio.

A second concentrating mill is under construction on the Dickey ground a few hundred feet south of the Bowers mill by the Strategic Minerals Corporation, Ltd., 307 Laurel Street, Medford, Oregon. Officers in this company are W. D. Plumley, President; James Daley, Vice-President; and Robert Brewer, Secretary-Treasurer. The mill site has been leased to the Strategic Minerals Corporation by Bowers. This mill is expected to be in operation by November 1. The equipment will include a hammermill, a ball mill rated at about 50 tons per day, a small classifier, and two concentrating tables. The ore for the second mill will be obtained from the Bowers lease on the Sordy property and the mining by open pit operation, using a power shovel and seven automotive trucks, will be by Strategic Minerals both for its own and Bowers' mill. It is planned to make a stockpile for the two mills of 3,000 and 5,000 tons respectively. Several hundred tons have already been trucked to the mill sites.

It is reported that a third mill of 50 tons capacity will be constructed at a location a few hundred feet north of the Bowers mill for Ernest Foster of Grants Pass, and that ore for this mill also will be obtained from the Sordy mine. Mr. Bowers reports that prospecting for additional ore on the Sordy property is continuing.

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BIOGEOCHEMISTRY AND HYDROGEOCHEMISTRY[1]

By
Harry V. Warren, B.Sc., D.Phil. (Oxon.), P.Eng.[2]
and
Robert E. Delavault, B.Lett., D.V., (Paris)[3]

Introduction

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It was with the object of finding new tools which would assist the prospector in his search for new mineral deposits that the Department of Geology and Geography of the University of British Columbia undertook much research during recent years. Some of our work is beginning to show promise and having devoted two seasons to testing under actual field conditions, the authors feel justified in outlining some of the results so far achieved.

Practical considerations

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As far as the senior author of this article is concerned, his interest in botany and chemistry as possible potential basic tools in the business of mine finding come quite literally from wielding pick and shovel, not with any particular skill, in many prospect trenches. All too often roots interfered with the business of digging and it seemed obvious that the roots of a single tree in many instances penetrated a far greater volume of earth and rock than was moved even in a large pit. Clearly if these roots served to collect any of the metals in which a prospector might be interested these roots might save him a lot of work. It might seem foolish to picture a prospector picking twigs in faithfully carrying out his assessment work, but it might prove infinitely less laborious and could conceivably produce comparable results.

We now know that elsewhere several other workers had had similar ideas and had carried and were carrying out many important investigations. The bibliography at the end of this article lists some of the more readily available of these publications and they in turn provide a reasonably full list of references for anybody wishing to delve more thoroughly into this field of research.

Coupled with this idea of using trees as guides to any metals which might lie buried below the surface, came the idea that any metal ions which were involved in weathering should in part at any rate find their way into circulating ground water. Obviously something had to be done about seeing if either biogeochemistry or hydrogeochemistry could be used by everyday prospectors. First of all, however, we had to find out whether abnormal amounts of metal some ten or twenty feet below the surface produced any readily measurable variations in the trees and lesser plants growing above, and in the surface waters derived, in part at least, from water which had had some connection with these abnormal amounts of buried metal.

For our first experiments we selected the elements copper and zinc. We chose these metals because they were ones which were known to occur in commercial quantities in B.C., and they were also known to be essential for healthy plant growth. Furthermore, there were in B.C., zinc and copper mines at which we were given permission to carry out experiments. We decided that at first we would forget theory and simply confine ourselves to sampling a number of trees growing over buried, but known, mineralization and a number of other trees growing over rock known to be barren, as far as zinc and copper were concerned.

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[1]Abstracted from paper published in B.C. Professional Engineer, Vancouver, B.C., April 1951.

[2]Professor of Geology, Department of Geology and Geography, University of British Columbia.

[3]Research Associate, Department of Geology and Geography, U.B.C.

Early results in biogeochemistry

Our first investigations were altogether too striking and led to expectations which have not altogether been realized. However, in spite of many results which we could not explain we did obtain sufficient evidence at the Sullivan and Britannia mines to show that trees and lesser plants could betray the presence of abnormal amounts of copper or zinc lying from 10 to 30 feet below the surface.

While we were doing our own work we discovered, by looking through the literature made available by the close of World War II, that in the U.S.S.R., and Scandinavia, other men had had ideas similar to ours. Moreover they had made real progress. However, for reasons not yet fully apparent, our results appeared more conclusive than those of our coinvestigators abroad. Almost coincident with our first publication (1) there appeared in the U.S.A. an article (2) showing that others were also alive to this new, fascinating, and, it must be admitted, little-understood science of biogeochemistry.

Unfortunately our financial resources were meagre. Provincial universities are unable adequately to support research unless it has popular appeal. We had the good fortune to be able to obtain financial assistance from the Geological Society of America, who for three years, very critical years for biogeochemistry, supplied us with the bulk of the funds necessary to carry on our work.

To say even that we achieved steady progress would be an exaggeration. At times we seemed to be discovering problems faster than we solved them. Nevertheless, we were able to demonstrate beyond all reasonable doubt that biogeochemistry could be used as a tool in prospecting. We also discovered the reason for some earlier unsatisfactory results. We learned that to achieve useful conclusions one had to be careful to choose appropriate species for the particular problem which was being investigated. Similarly one had to select similar organs of the same age if comparable results were to be achieved. Only healthy trees could be expected to produce valid results. Samples had to be collected not too close to a main water table for usable variations in the metal content of trees to occur. These and many other similar problems had to be investigated before we were able to achieve anything like satisfactory field results. We also, as a by-product of our other investigations, determined the presence of gold and silver in some species of trees and lesser plants, thus confirming observations which had been recorded in Europe, but to the best of our knowledge never before in North America. We published several articles describing the more interesting results we had obtained (3,4,5,6).

Early in 1949, Dr. Charles C. Starr, P. Eng., published in Western Miner an article entitled "Leaf Sampling as an Aid to Prospecting for Zinc." Dr. Starr ended his article with: "The leaf samples seem to indicate that samples of vegetation may be of considerable value in prospecting but that water samples are of doubtful value." This modest and guarded comment represented the first visible evidence of any original biogeochemical investigation in British Columbia, other than our own.

Meanwhile in the United States Dr. H. E. Hawkes, of the United States Geological Survey, and his associates, were carrying on many valuable investigations, some of which appeared in print (7,8,9,10,11). We must publicly express our gratitude to Dr. Hawkes and his associates of the United States Geological Survey: they have throughout done a great deal to further our work. When we appealed for help to the Geological Society of America - all efforts to obtain adequate funds in Canada having failed - the officials of the U.S. Geological Survey supported our request because they believed that two independent lines of attack on biogeochemistry were more likely to provide useful results than one!

Later results in biogeochemistry

In 1950 Dr. W. H. White, a colleague of ours, presented to the Annual Meeting of the C.I.M.M., a paper (12) which showed clearly that under British Columbian conditions it was possible to use biogeochemical "contour" maps to indicate buried ore. Furthermore, in one area Dr. White presented a biogeochemical map and a geophysical map, each indicating anomalous areas above known ore. The results were of comparable value.

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Results in hydrogeochemistry

We had for many years pondered on the possibility of using natural water as a guide to buried orebodies. Our early attempts to obtain results at Britannia were failures. However, this attractive field of research obviously had to be investigated further. It seemed reasonable to assume that our failures might have been caused by extreme dilutions brought about by high rainfalls in the area in which we had worked. Dr. L. C. Huff of the United States Geological Survey produced a method (8) which worked well in parts of the United States but which gave negative results in our coastal area. Another approach to the problem was made and in 1949 Delavault and Irish (13) published an account of a new technique. This technique permitted the detection of as little as one part of zinc or of copper in a thousand million parts of natural water. This technique will be described in detail shortly in a bulletin of the Geological Society of America. In essence this new technique, which we have referred to as the emulsion or Delavault technique, consists of introducing in the sample of water to be tested an emulsion which is lighter than water and which becomes unstable in a weakly acid solution. Previously, the water has been brought to a proper pH with hydrochloric acid or acetic acid-acetate buffer, and a weak ammoniacal solution of dithizone added, which liberates dithizone at once, forming copper and zinc dithizonates. On adding the emulsion it decomposes and rises to the surface, carrying up the dithizonates and eventually excess dithizone. Copper or zinc dithizonate has a distinctive red or purple colour which is readily distinguished from the green colour of dithizone when it is uncombined with metal. Thus by merely adding in known amounts three simple ingredients, a suitable acid, emulsion, and ammoniacal dithizone, and then stirring and examining a surface layer at the top of a small beaker it is possible to say whether or not there is one part in a thousand million of zinc or copper in the sample. With a little practice it is possible to estimate with fair accuracy the number of parts of metal per thousand million there are in a sample.

Let nobody think that mine-finding is a foolproof business even with new aid. There are problems yet to be solved before this method can be used everywhere. For example, too much contamination by algae may spoil the test. However we have worked at the method during two field seasons and it has produced results. Unsuspected mineralization has been discovered and some creeks containing known mineralization have obligingly produced a definite purple!

Alas, some creeks which should have indicated mineralization have not. Whether this is because of some chemical condition which inhibits the release of ions in adequate amounts or whether it is merely our old problem of dilution appearing again remains to be determined.

As might have been expected our claims to be achieving such a high degree of sensitivity were questioned and it was not until our results were duplicated by a member of the United States Geological Survey that we felt free to make public this new technique.

Hydrogeochemistry will be applicable in relatively few areas but it does provide the prospector with a new tool which we expect will find an increasing number of applications in B.C. and elsewhere.

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STATE DEPARTMENT REPORTS ON LIGHTWEIGHT AGGREGATES

"The Lightweight Aggregate Industry in Oregon" is the title of a new report just issued by the State Department of Geology and Mineral Industries. The department has had a working interest in the development of lightweight aggregates in the State for several years especially in pumice, perlite, expanded shale, and volcanic tuff. Both field and laboratory work on these materials has been done by the staff of the department and the report summarizes the information accumulated in this work. A new method for improving the quality of pumice for use in construction is suggested as a result of laboratory work done by the department.

The report is classified as G.M.I. Short Paper No. 21 and consists of 23 pages including an index map of the State and a bibliography. The author is Ralph S. Mason, department mining engineer. This short paper as well as other department reports may be obtained at 702 Woodlark Building, Portland, and at department field offices in Baker and Grants Pass. Price is 25 cents, postpaid.

OREGON TUNGSTEN REPORT

A preliminary report on tungsten in Oregon has just been issued by the State Department of Geology and Mineral Industries. The report is classified as G.M.I. Short Paper No. 22 and includes 23 pages, a geologic map, and a bibliography. The authors are Harold D. Wolfe and David J. White, department geologists.

Occurrences of tungsten have been known in Oregon for many years but they have been considered too small to warrant expenditure for development. However, interest was quickened by discovery of tungsten at two places near Ashland in 1949, and the department's Governing Board decided that studies should be made of these and other known occurrences and results publicized because of the extreme need of developing domestic supplies of this highly strategic material. This need was multiplied by the Korean war which cut off some of our foreign supplies and at the same time increased the demand for tungsten in national defense industries. The report gives results of department studies to date.

The report is designed to help the prospector and gives a brief outline of economics and mineralogy of tungsten as well as geological associations. Descriptions of known occurrences both in the southwestern and northeastern parts of the State are given together with mention of favorable prospecting areas.

G.M.I. Short Paper No. 22 may be obtained at 702 Woodlark Building, Portland, or at department field offices in Baker and Grants Pass. The price is 35 cents, postpaid.

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GOLD ECONOMICS

As quoted in the Mining World, September 1951, Dr. Donald Hamilton McLaughlin, president of Homestake Mining Company, in a recent speech in San Francisco spoke on the proper price for gold and also noted the flow of gold as follows:

> "And now, with paper currencies including the dollar faced with the necessity of a second adjustment resulting from an even more wasteful and destructive war - and still more adjustments to the continuing excessive expenditures of the years of troubled peace - the relative value of our gold stock in terms of what it could command in the world's market is undoubtedly much higher. So far, it is still officially priced at $35.00 per ounce for international settlements. Its availability on a bargain basis, now to our disadvantage, is reversing the flow in spite of the lack of true dollar balances abroad. (Balances created through ECA by ourselves seem hardly fair to include in my simple minded way of looking at the problem.) Our stocks of monetary gold are, as yet, hardly in danger from this outflow, great as it is, but it is surely indicative of a condition that needs consideration. Gold priced at around $1,700,000,000 has left the country in the past year. If it continues much longer at this rate, there will be just cause for alarm. A proper correction would be adjustment of the dollars to gold as dictated by the realities of the postwar world."

United States Exports of Gold in Refined Bullion
In 1949 and 1950 by Countries of Destination*

Country	1949	1950
Canada	738 troy ounces	12,150,010 troy ounces
Venezuela	128,048	47,711
Peru	---	347,147
Germany	14,197	72,106
Kuwait	31,220	167,332
Portuguese Asia	150,318	76,979
Philippine Islands	59,317	67,614
Egypt	---	1,265,675
Poland and Danzig	521,479	85,974
Portugal	40,647	70,355
Tangier	4,126	38,413
Syria	50,000	61,201
French Indochina	188,672	4,021
Formosa	200,012	100,001
China	345,255	---
Mexico	242,993	106
All Others	291,786	83,542
Total	2,168,808	14,633,177

*U.S. Dept. Commerce statements.

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LEAD AND ZINC

The Office of Price Stabilization raised the ceiling price of common lead to the basis of 19¢ per lb., New York, and Prime Western zinc to 19½¢, East St. Louis, effective October 2. At the same time it established ceiling prices on imported lead and zinc at corresponding levels. (From E&MJ Metal and Mineral Markets, New York, October 4, 1951.)

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MINERAL FERTILIZERS FURNISHED OREGON FARMS

A report on Oregon by the Production and Marketing Administration of the U.S. Department of Agriculture giving a statistical summary for 1950 includes statistics on some mineral fertilizers. Liming materials were furnished to 17 counties and to 1,786 farms. Acres benefited totaled 28,271. These farms were furnished with 49,106 tons of liming materials having a total value of $179,653, which amounted to 7.95 percent of total expenditures for conservation practices.

Sulphur was furnished in the amount of 22,200 pounds to 9 farms. Value of this sulphur was $222. Boron, as 100 percent boron equivalent, was furnished to 21 farms and benefited 790 acres; 42,125 pounds were furnished at a cost of $842.

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DEPARTMENT GEOLOGIST GRANTED LEAVE OF ABSENCE

Hollis M. Dole, geologist with the Department for the past four years, has been granted a leave of absence to do graduate work at the University of Utah. He will continue his geological mapping for the Department in the Dutchman Butte quadrangle of southwestern Oregon during the 1952 field season.

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A NEW CINNABAR PROSPECT

Cinnabar ore has been found on Deer Creek near Murderers Creek in Grant County, Oregon, by Mr. Lawrence N. Roba, Canyon City, Oregon. A retort has been installed and production will start about the middle of October.

* * * * *

NEW CHROMITE DISCOVERY

A new chromite ore body has been found at the Black King mine in the Josephine Creek area, Josephine County. Donald A. Foster, operator, reports that the ore will be mined by surface operations and that mining will begin in the near future.

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"FREE" GOLD PRICES

The following prices for "free" gold were compiled by Pick's World Currency Report:

	Per Fine Ounce	
	Coins	Bars (12.5 kg.)
	Oct.6	Oct.6
New York, transit	---	$39.50
Manila	$49.00	42.00
Hong Kong	48.50	42.50
Bombay	58.00	49.00
Tangier	54.00	39.50
Beyrouth	49.50	39.50
Paris	58.00	42.25
Buenos Aires	52.50	43.50

Canada, the world's second largest gold producer, will sell part of its gold for non-monetary purposes in the international market at premium prices, thereby following South Africa which has been doing so for some time. However mines in Canada which are receiving government subsidies for gold production will not be permitted to sell at premium prices. Sales of non-monetary gold may prove attractive to mines such as Wright-Hargreaves, Noranda, Lake Shore, and others which are receiving little or no subsidy. Right now, Canadian producers are not entirely sure whether a "free" market of any size really exists, or whether excessive premium sales would depress the market. (From E&MJ Metal and Mineral Markets, New York, October 11, 1951.)

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STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
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ORIGIN OF MANGANESE NODULES FOUND NEAR HAMILTON, GRANT COUNTY, OREGON

By
F. W. Libbey and Norman S. Wagner

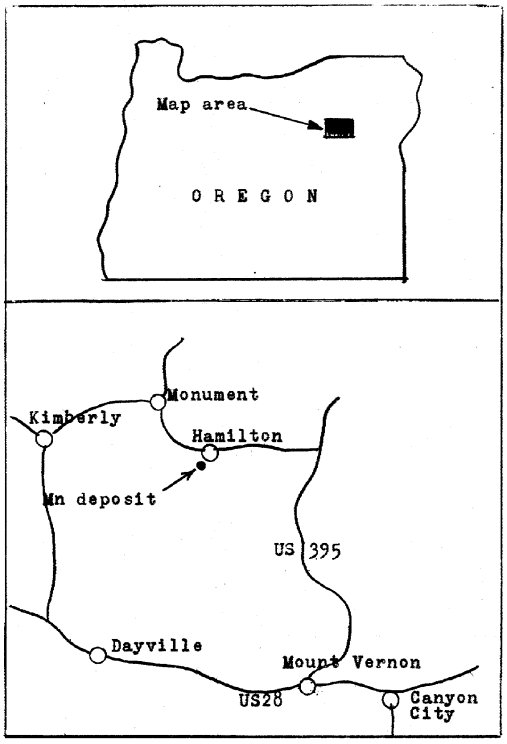
A manganese occurrence in northern Grant County, Oregon, was examined recently by the authors. Some characteristics of migrating mineral-bearing solutions are exemplified here and are of interest in showing how this particular deposit was formed. In this area (see index map) there are extensive exposures of brown and red volcanic tuff beds. These are probably of lower John Day age but the area has not been studied in sufficient detail to permit positive correlation and they may be upper Clarno instead. They have been deeply weathered.

At one place on a road about 1 mile southwest of Hamilton two adjoining cuts have been eroded showing steep faces from 20 to 40 feet in vertical dimension along a total length of about 500 feet. The tuff here is weathered to a bentonitic clay and at this place the weathering is considerably greater than at other tuff beds examined in the area. The manganese herein described is associated with this weathered tuff.

The steep faces of the cuts show furrowing and at the bottom of these furrows there are small gullies which dissect the talus that has accumulated at the base of the faces. The drainage is to a small dry creek bed which is the beginning of a branch of Fox Creek draining west into the North Fork of the John Day River at Monument. Accumulations of manganese oxide in a range of sizes from small particles to, rarely, nodules 2 inches or so in diameter are present at places in the creek bed, on the talus slopes, and even on the faces of the cuts. Viewed from a distance the manganese accumulations show up much better than at close range because of contrast in coloring between the manganese-covered areas and the manganese-free areas. On the steep faces this serves to outline a faint horizontal bedding.

It was originally assumed that the manganese nodules were disseminated in the tuff and that a large low-grade deposit might possibly be indicated, but some observations soon pointed to a different explanation for the occurrence. Digging disclosed that the manganese particles disappear at a depth of a few inches below the surface - at least in the places explored it is apparent that there is a far greater concentration of the manganese particles and pieces on the surface than immediately below the surface. This is true of the manganese on the cliff faces as well as that on the talus surfaces. Further evidence is that many of the small "hogbacks" separating the little gullies at the bottom of the faces are covered with a fair concentration of nodules while the gullies themselves have small concentrations. If the deposit contained disseminated nodules and particles, erosion would have concentrated them in the gullies. As an interesting sidelight, it was discovered that some moss growing at the bottom of one of the cuts was black. Examination under a

glass showed that the small tufted stems were covered with a coating of black metallic oxide. It is probable that the moss acts as a wick to draw up manganese solution from the tuff soil and concentrates it along with iron oxide on the surface of the moss by evaporation.



Index Map of Hamilton Manganese Occurrence, Grant County, Oregon.

All the evidence points to formation of the manganese oxides by surface phenomena. Dilute manganese solutions migrate to or near to the surface where evaporation in this semi-arid climate allows the manganese oxide to build up. Conditions which would allow the considerable variation in size of nodules are not easy to explain. It seems likely that the larger nodules must have been built up in a place which allowed ready access to the migrating solutions and at the same time was undisturbed by erosion of the tuff over a long period of time. As mentioned above, bedding in the tuff is in places emphasized from a distance by the coloration from the manganese oxide on the surface; otherwise the bedding is not distinct. This indicates that migration is facilitated in parts of the tuff at the expense of other parts.

The horizon of the tuff where the manganese nodules formed appears to be lower stratigraphically than other tuff beds seen between Hamilton and Monument 10 miles to the west.

The manganese nodules are principally impure psilomelane with some included tuff. A sample from the surface of a face of the cut showing a good accumulation of nodules returned 18.85 percent Mn whereas a large sample of the tuff about 6 inches below the surface at the same place returned 0.1 percent Mn. The nodules contained about 31 percent Mn and 7 percent BaO. A sample of stems of the ashed moss gave 0.23 percent Mn.

It is reported* that a manganese deposit similar in petrology and origin occurs south of the Hay Creek Ranch near the road connecting Hay Creek and Grizzly and about midway between these places, in southeastern Jefferson County.

*Verbal communication from F. J. Rosenberg, mining engineer, Portland, Oregon.

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OIL TEST NEAR ROSEBURG, DOUGLAS COUNTY, CHANGES HANDS

The Union Oil Company of California has purchased a controlling interest in Oil Developers, Inc., which has been drilling at the location in the SE¼ SE¼ sec. 27, T. 25 S., R. 7 W., in Coles Valley about 20 miles northwest of Roseburg. The test, which was spudded September 20, 1951, had reached a depth of approximately 5,390 feet when the Union Oil Company took over on November 13. Drilling is being done by the Santa Maria Drilling Company of California. Mr. W. Layton Stanton, Jr., Union Oil Company geologist, is now in charge of the operation. Mr. Stanton supervised the Union Oil Company exploration at Ocean City, Washington, in the late 1940's.

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DOMESTIC PRICE OF CHROME

The price of $115 a ton for standard 48 percent chrome has been criticized as too high. Criticism is that, compared to the market price for imported chrome, the domestic price represents an unwarranted bonus and a burden on the American taxpayer.

It is not necessary here to emphasize the strategic nature of chrome or the advantage of having a domestic source of supply available in an emergency. It is, however, important to point out that the country needs chrome for the national stockpile as insurance for our national security, and that the stockpile is not being built up rapidly enough from imports. It is pertinent to point out also that the domestic price was established by experienced mining people representing the government after extensive hearings.

Let us make some comparisons between foreign and domestic prices for chrome.

When the Metals Reserve Company early in the World War II period was frantically seeking domestic production of chrome, a buying depot was set up at Grants Pass and a price schedule established. This schedule had a base price about half the price offered at present but the dollar was worth about twice what it is now worth. Further the Metals Reserve schedule was more liberal in that a percentage as low as 35 percent Cr_2O_3 was acceptable compared to a minimum of 42 percent in the present schedule. Another factor bearing on the present schedule is the matter of wages and the competition for mine labor from the booming lumber industry. At the time that Metals Reserve Company was buying chrome ore at Grants Pass the going miners' wage was $1.00 an hour. Now the competitive wage is more than twice that amount.

The market price quoted for foreign chrome of metallurgical grade is $43-$45 for Indian and Rhodesian ore and $52-$54 for Turkish ore. (The reason for the variation is not clear since these prices are all based on 48 percent Cr_2O_3 and 3 to 1 chrome-iron ratio f.o.b. cars Atlantic Seaboard.)

Thus it appears upon first thought that the price of imported chrome is less than half that paid by the government for domestic chrome. But before this comparison may be intelligently made, certain questions need to be answered. What is the influence exerted by American metallurgical industries in keeping the price of imported chrome down? What is the influence of depreciated currencies on the price of imported chrome? How much money from ECA funds goes to the foreign producers of chrome as a bonus?

Numerous examples of ECA assistance could be cited. These represent direct grants and loans, such as the grant to New Caledonia, and indirect grants for purchase of mining equipment and supplies. Railroad facilities for the South African chromite fields, lack of which was formerly a serious obstacle to production, have been built through financial aid from the United States.

The American taxpayer is usually the loser in all such situations but if all these factors connected with buying of foreign chrome could be assessed accurately, it is likely that the government price for domestic chrome is not out of line even without considering the important advantage of spending the taxpayers' dollars at home.

F.W.L.

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NEW LOCATION OF STATE DEPARTMENT

The State Department of Geology and Mineral Industries is now in its new offices on the tenth floor of the State Office Building at 1400 S.W. Fifth Avenue. The telephone number is Capitol 5561, Ext. 488.

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OLIGOCENE SHALE IN ASTORIA, OREGON

Recent re-examination of foraminifera from Astoria, Oregon, which were first collected and studied in 1945, has called attention to one assemblage which suggests an upper Oligocene age rather than the Astoria Miocene age which the writers had previously assigned to it.

The main content of this assemblage includes Cyclammina, Martinottiella, Bathysiphon, and several other arenaceous genera, although a number of calcareous genera are also represented.

The shale sample from which these foraminifera were obtained was collected by Dr. E. M. Baldwin and R. E. Stewart in May 1945 from a roadcut along Commercial Street about 100 yards east of 37th Street. An automobile speedometer reading gave 1.6 miles as the distance between this locality and the intersection of 14th and Commercial Streets in Astoria.

Field notes taken by Dr. Baldwin describe this collecting locality as a high cut exposing about 50 feet of black rusty shale in which occur many small round concretions and some lens-like elongate concretions. Strike and dip readings of N. 55° E., 18° SE. were recorded.

An east-west trending syncline has been mapped[1] through Astoria, and the sample here believed to be of upper Oligocene age was taken from the northern flank of this structure where one might logically expect the exposed beds to be older than the Astoria Miocene beds found near the axis in the center of the city.

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[1]Weaver, C. E., Tertiary stratigraphy of western Washington and northwestern Oregon: Washington Univ. (Seattle) Pub. in Geology, vol. 4, pl. 8A, June 1937.

R. E. and K. C. S.

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NEW ORE CONCENTRATING PLANT AT EAGLE POINT, JACKSON COUNTY

A concentrating plant for treatment of both chromite and manganese ores is being constructed about 1½ miles west of Eagle Point by the G.M.C. Mining and Milling Company. This company is composed of J. C. Larsen, George McKay, H. Harmes, James Bodenhamer, all of Sacramento, California, and Lester L. Sibley, Managing Engineer of Medford. The mill is expected to be in operation by December 15. The equipment will include an 18 x 30 jaw crusher, a 100-foot conveyor to transport ore from the crusher to a 200-ton ore bin, a large ball mill, Dorr classifier, three jigs, and eight concentrating tables. The mill will have a daily capacity of about 350 tons of ore.

The G.M.C. Company, which owns the Tyrrell manganese mine situated in the Lake Creek district east of Eagle Point, will obtain chromite ore from the Sordy chromite mine in the Briggs Creek area near Galice, Josephine County. The company is planning to accept custom ore in addition to the ore from its own properties.

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CHROME MINERS HOLD MEETING

The Oregon Mining Association called a meeting of chrome miners on November 5, 1951. Mr. F. I. Bristol, President of the Association, reviewed conferences he had with government officials in Los Angeles at the American Mining Congress convention. Mr. Bristol expressed some optimism that maximum tonnage specifications which had been set up in the government chromite buying program might be removed or at least raised. It was the consensus at the meeting that much more chrome could be made available to the government stockpile from southern Oregon and northern California than had been previously estimated by government experts. It was also the consensus that the maximum specifications in the government program acted as a brake on achievement of maximum production.

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BILL TO AMEND MINING LAWS

H.R. 4916 was introduced in the 82nd Congress and referred to the Committee on Interior and Insular Affairs where it remained until adjournment. This bill, copy of which is appended, apparently was prepared by the Bureau of Land Management and was designed to prevent filing of claims, principally on forest lands, by those whose principal interest is in timber rather than in mineral deposits.

The Act of July 31, 1947, establishes procedures available to the Secretary of the Interior for disposition of nonmetallics such as those listed in the bill and H.R. 4916 provides specifically that such disposition may not be made except under the procedures established by the Act of July 31, 1947. In other words, entry of such claims under the mining laws would not be legal. Presumably the bill will be re-introduced in the next session of Congress.

H. R. 4916

In the House of Representatives

July 23, 1951

Mr. Regan introduced the following bill;
which was referred to the Committee on Interior and Insular Affairs

- - - -

A B I L L

To amend the Act of July 31, 1947 (61 Stat. 681).

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That the following sections are hereby added to the Act:

"Sec. 5. Deposits of sand, stone, gravel, pumice, pumicite, and cinders when situated on public lands of the United States shall not be subject to acquisition under any other law.

"Sec. 6. The provisions of the Act insofar as it relates to the materials described in section 1 shall apply to lands in National forests and such materials when situated on national-forest lands may be disposed of by the Secretary of Agriculture pursuant to the terms, conditions, and limitations of the Act, as hereby amended. All moneys received from the disposal of materials by the Secretary of Agriculture under this Act shall be disposed of in the same manner as other receipts from the land from which the materials are disposed of."

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BUFFALO MINE REACTIVATED

It is reported by the Baker Record Courier, issue of November 8, that R. G. Amidon will resume operations at the Buffalo mine, Grant County, Oregon, in the near future. According to this article the property was recently purchased from the Dennis estate by the Boaz Mining Company of Seattle, a newly formed company made up of a group including Mr. Amidon who will be in charge of operations. Gold is the principal metal produced.

****

LATEST REVENUE ACT

The Revenue Act of 1951 passed by the 82nd Congress late in the session and approved by the President October 20 contains provisions especially important to the mining industry. Some of these are as follows:

The capital gains rate has increased from 25% to 26%, effective January 1, 1952.

Excess profits tax base period income credit cut back to 84% for all of 1951 income and to 83% for 1952 and later years.

Section 453(b), (2) and (4) of Excess Profits Tax law includes potash, sulphur and chemical and metallurgical grade limestone mines with coal and metal mines for exclusion from excess profits tax of one-half of the unit net income on all production in excess of average base period production. If mine was not in production, or was operated at an over-all loss during base period, one-third of its net income would be excluded from excess profits tax under this section.

Bauxite included as a strategic mineral exempt from excess profits tax.

Expenditures incurred in developing a mine after existence of ores or minerals in commercial quantities has been disclosed, are deductible in year incurred or, at election of taxpayer, may be deferred and charged off ratably against resulting ore or minerals.

Prospecting and exploration costs up to $75,000 per year in any four years, prior to disclosure of a commercial deposit, may be charged off as expense, either currently or on a deferred basis.

Percentage depletion rate for coal is increased from 5 to 10 percent.

Percentage depletion at 15% granted to refractory clay, fire clay, chemical and metallurgical grade limestone, borax, Fuller's earth, tripoli, quartzite, diatomaceous earth, aplite and garnet; at 10% for asbestos, brucite, dolomite, calcium carbonate, magnesium carbonate (including magnesite), wollastonite and perlite; at 5% for sand, gravel, slate, stone (including pumice and scoria), brick and tile clay, shale, oyster shell, clam shell, granite, marble, sodium chloride and, if from brine wells, calcium chloride, magnesium chloride and bromine.

Capital gains treatment accorded to income received from coal royalties, with proviso that new provision will in no way change present tax treatment accorded royalties paid by lessee. (From American Mining Congress Legislative Bulletin No. 10, October 24, 1951.)

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METAL PRICES

The E&MJ Metal and Mineral Markets, November 22, reports prices for nonferrous metals as follows:

Copper, 24½ cents per pound, Connecticut Valley. Copper situation is extremely tight.

Lead, 19 cents per pound, New York. Mexican lead, 21½ cents to 22 cents, f.a.s. Gulf ports.

Zinc, 19½ cents per pound, East St. Louis. Mexican zinc for export, 30 cents to 31 cents, f.a.s. Gulf ports.

Tin, $1.02 per pound.

Antimony, 50½ cents per pound in bulk, f.o.b. producer's plant.

Quicksilver, $215 to $218 per flask.

Silver, foreign, 88 cents per ounce troy.

Aluminum, 19 cents per pound in ingots.

Nickel, 56½ cents per pound, f.o.b. Port Colborne, Ontario.

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
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WILLISTON TALKS TO WESTERN STATES COUNCIL

It may seem profitless to emphasize past mistakes in our Government mineral policies but it is the part of wisdom to remember historical facts in order to understand the reason for some of the present metal shortages. Also these facts should point the way in our striving to regain a measure of self sufficiency in metals. This thought is prompted by a news item in the American Mining Congress Bulletin Service of November 26, 1951, as follows:

> On November 12, the Western States Council, composed of Chamber of Commerce executives from the 11 Western States, met at San Francisco to discuss regional problems ranging from atomic production through mining, farming, water, power, and tourist trade.
>
> Sam Williston, vice president, Cordero Mining Company, condemned "bureaucratic action" by the Federal Government in leading the nation to its present "have not" position with respect to strategic metals.
>
> He told the Council, "In 1937, with the Reciprocal Trade Act, we began to lose the position we had (of self-sufficiency in the basic nonferrous metals, copper, lead, and zinc). Our Government, in an effort to help foreign developments, started to sacrifice part of our domestic market to foreign producers.
>
> "This encouragement to foreign producers, by the lowering of tariffs, required less of the domestic producers and consequently, less exploration and less development was carried on.
>
> "World War II," he said, "cut deeply into our stockpile of strategic metals and at the war's end, instead of replacing and enlarging reserves consumed, our Government planners in Washington threw almost every possible roadblock into the path of the mining industry.
>
> "High tax rates of the war years were maintained and made more onerous. The end effect was to tell the prospector and the small company to proceed at their own risk in the search for new mineral deposits.
>
> "Another failure of the Federal Government," he said, "was in its strategic metal stockpiling program, whose administrators showed complete lack of understanding of basic features."
>
> Williston said, "These ills may yet be corrected through the new Defense Materials Procurement Agency which needs all our prayers and all our hopes, best wishes, and best efforts."

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MERCURY IN THE THIRD QUARTER OF 1951

(From U.S. Bureau of Mines Mercury Report No. 100)

Mercury consumption in the third quarter of 1951 fell 37 percent below the April-June quarter and to less than half of the all-time peak established in the first quarter of the year, according to the Bureau of Mines, Department of the Interior. Meanwhile, production continued to rise slowly, and there were indications that further gains were in prospect for the fourth quarter. Imports were 47 percent higher than in the second quarter and only 7 percent less than in January-March, continuing at a relatively high rate in relation to most earlier periods. A large quantity of mercury received during the quarter and on hand September 30, was for a new chlorine installation at McIntosh, Alabama. Inventories at the end of September already were above normal because of the accumulation of metal for the new large chlorine plant at Saltville, Virginia, expected to open soon.

Salient statistics of mercury in January-September 1951, by quarters, in flasks of 76 pounds

Period	Production[1/]	General imports	Exports	Consumption	Stocks at end of period: Consumers & dealers	Stocks at end of period: Producers	Price per flask at New York (average)
1951:							
January-March . .	880	12,805	38	17,700	27,300	2,181	$209.20
April-June . . .	1,400	8,065	75	13,300	25,400	2,288	212.84
July-September .	1,600	11,867	53	8,400	32,300	1,582	202.97

[1/] In addition at least 500 flasks were produced from the treatment of scrap such as old batteries in the first quarter of 1951, 400 in the second, and 600 in the third.

The average quoted price for mercury at New York declined from a range of $210 to $213 a flask in early July to $195 to $200 in late August and early September, but recovered to $215 to $220 by the end of September.

Domestic production: Three large mines were productive in the third quarter. In addition to the Mount Jackson (Sonoma County, California), leading producer in the United States in every quarter since 1949, the Bonanza (Douglas County, Oregon) continued to produce, and the Cordero (Humboldt County, Nevada) reopened on a large scale, after having been closed since February 15, 1950. Producers ranking next in size, all in California, were the Archer (Fresno County), and the Juniper and North Star (San Benito County), and Culver-Baer (Sonoma County). The foregoing properties accounted for 97 percent of production in July-September 1951. The Hermes mine, Valley County, Idaho, reopened before the end of the quarter and produced some metal; increased production in the final quarter of the year was assured.

Mercury imported into the United States in the first three quarters of 1951, by countries, in flasks (general imports)

(From records of the U.S. Department of Commerce)

	1951		
	January-March	April-June	July-September
Bolivia	19	--	--
Canada and Newfoundland . . .	13	(2)	140
Germany	--	--	150
Honduras	--	--	10
Italy	1,462	3,903	8,907
Japan	250	--	--
Mexico	1,237	987	1,137
Spain	7,199	1,141	159
Sweden	155	525	--
Switzerland	--	104	--
Yugoslavia	2,470	1,405	1,364
	12,805	8,065	11,867

Foreign trade: Imports of mercury rose 47 percent in the third quarter of 1951 but were 22 and 51 percent, respectively, below quarterly averages for 1950 and 1949. Receipts of metal in July-September, 1951, however, were not small in relation to most earlier periods other than World War II years. Receipts from Italy (8,907 flasks) dominated foreign trade movements in the third quarter of 1951.

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BONANZA MINE STEADY PRODUCER

The Bonanza quicksilver mine, Douglas County, Oregon, has been operating steadily since it resumed work last March. Present production from its Gould furnace is approximately 6 flasks a day. It is reported that exploration in new ground south from old workings has developed new ore bodies on the 500 and 600 levels. A new block of ore has been developed from the 500 up to the 300. The drift on the 600 was barren but a raise ran into an ore shoot above this level.

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MINING ASSOCIATION PRESIDENT REPORTS ON CONFERENCES WITH GOVERNMENT OFFICIALS

According to the Grants Pass Daily Courier of December 11, Mr. F. I. Bristol, President of the Oregon Mining Association, has returned from Washington, D.C., where he has been conferring with government officials since November 25. Mr. Bristol presented statements from a large number of chrome operators in southern Oregon and northern California to the Defense Minerals Production Administration, the Defense Minerals Administration, the National Security Resources Board, and members of the Linden V. Johnson Senate Committee on Preparedness. He had conferences with Howard Young, Deputy Administrator of DMPA; James Douglas of DMPA; Tom Lyons, Head of DMA; W.M.B. Freeman, Special Assistant to the Administrator of the Emergency Procurement Administration; J. K. Remsen, Director of Materials for the National Security Resources Board; and several members of Congress. Congressman Claire Engle of California promised to assist in the development of a workable chrome program. All of the officials promised that they would give earnest assistance in writing specifications so that present maximum tonnage restrictions would be lifted or at least liberalized. Mr. Bristol stated that he was assured that the government wants all the chrome it can get and that producers should band together in petitioning for access roads to chrome areas.

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MANGANESE PURCHASING DEPOT REQUESTED

The Baker Record Courier reports that the Eastern Oregon Mining and Mineral Association, through its President, Miss Nadine Strayer, has presented documentary evidence to the Defense Minerals Administration office in Spokane to support the Association's petition for establishing a manganese ore purchasing depot at Baker. The documents included an index map and reports on several manganese areas in eastern Oregon and western Idaho. Several property owners provided information on quantity and quality of available ore. Emphasis was placed on the fact that railroad freight rates were so high that local manganese ore could not be shipped to present markets.

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FOR SALE

Two silver amalgamated copper plates, each 48 inches by 54 inches, containing 1 ounce of silver per square foot. Anyone interested should get in touch with Mr. W. J. Seufert, The Dalles, Oregon.

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DAM SITE ON ROGUE RIVER, OREGON, FOUND UNSUITABLE

A long expensive dam will be required at the Mile 186.5 dam site on the Rogue River, Oregon, according to a report made to the District Engineer, Corps of Engineers, Portland, Oregon, by J. C. Miller, Regional Geologist, U.S. Geological Survey, Los Angeles, California.

A map reconnaissance by Department of the Interior engineers had previously indicated that this site might make a good reservoir location. The geological examination showed that the river had developed a broad floodplain over a period of many centuries and that a large quantity of volcanic ash has been deposited at the proposed dam site in more recent times.

The site in question is north of the Union Creek resort on the Rogue River in sec. 26, T. 30 S., R. 3 E., Jackson County. The report states that the rocks exposed at this locality are andesite presumably underlain by vesicular basalt judged by exposures at places nearby. Overlying these rocks is a thick blanket of pumice and volcanic ash which in places may be as much as 150 feet thick and would provide no anchorage for an abutment on the left bank. Therefore a dam or cutoff wall of excessive length would probably be needed to prevent leakage through these soft beds.

The report is in files open to public inspection at offices of the Geological Survey as follows: Portland, Oregon, Room 619, Post Office Building; Los Angeles, California, Room 527, Post Office and Court House; and Washington, D.C., Room 3218, General Services Building.

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FEDERAL BUREAU OUSTS MINERAL CLAIMANTS

It was announced in Portland by Roscoe E. Bell, Regional Administrator of the Bureau of Land Management, that 43 mining claims of 160 acres each, near Randle in the Mount St. Helens area, had been declared null and void. It was stated that a careful field examination disclosed that the claims which are in the Gifford Pinchot National Forest contained a small amount of pumice but insufficient in quantity and quality to be a valuable mineral under the mining laws. It was further stated that timber on the locations is of considerable value.

Adverse proceedings have also been started against 72 other placer claims in the same area covering 7,600 acres. Twenty-four of these claims were located wholly or partially in a power site withdrawal which superseded the location of the mining claims, automatically rendering them void.

It seems to this writer that publicity along the lines of the above should be commended because it points out a fact which has been emphasized by Oregon mining people many times - namely, that the Bureau of Land Management has ample power to adverse invalid mining claims and that if the mining laws are administered as the Bureau has power to administer them, the need for changing the laws to give the Bureau control over the surface of mining claims is without force. In recent years the Bureau and the Forest Service have released voluminous publicity emphasizing alleged weaknesses in the mining laws which allow mineral claimants to locate mining claims for nonmineral purposes. The releases indicated that the Bureau was helpless to prevent abuses unless the laws were revised to allow greater control of public lands by the Government. This publicity had the effect of revealing to people who want to get something for nothing how, under the mining laws, it is seemingly a simple matter to obtain land for any purpose, even for summer homes, filling stations, or, most important, timber.

It appeared that the releases were designed primarily as propaganda to obtain mining law revision and failed to present all the facts, especially that the Bureau could and would enforce the laws to prevent invalid location of mining claims.

Action such as promised by Mr. Bell will tend to discourage location of mining claims for nonmineral purposes and it is believed that in his administration of public land laws Mr. Bell will try to be entirely fair and impartial. His news releases will not be issued for propaganda purposes.

F.W.L.

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CHROMITE PRODUCTION NEWS
Grants Pass, Oregon

The mill at the Homa mine located about two miles southeast of the town of Rogue River is being converted for use in concentration of chromite ore by Roy A. Mills, Gold Hill, and W. H. Holloway, Medford, Oregon. The mill is under lease from the Tyrrell Manganese Company, Medford, and was constructed in 1947 for milling gold ore by G. S. Holmes, Los Angeles, California, and R. J. Howard, San Mateo, California. The mill was operated briefly in 1947. The property has been idle since that time.

According to Mills, after additions are made the mill will include a hammermill, conveyor, a Gibson ball mill rated at about 50 tons per day, and two concentrating tables. Initial operation will be on chromite ore from the Coyote Creek area in northern Josephine County.

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The mill of the Ashland Mining Company, about one mile west of Ashland, Oregon, is now being readied for use in concentrating both tungsten and chromite ores. The mill, which in the past has been used principally on gold ore, includes a jaw crusher, Harding ball mill rated at about 50 tons per day, and two concentrating tables. A jig and two additional concentrating tables will be installed to handle the chromite ore.

Tungsten ore (scheelite) for the mill will come from the Mattern deposit on the Southern Pacific Railroad right-of-way one mile northwest of Ashland. Mining at this property will begin in the near future.

The company will obtain concentrating grade chromite ore from properties on Chrome Ridge near Galice, Josephine County. Three claims, Shady Cove, Chrome Monument, and Rocky Point, have recently been leased by the company from H. Z. Bielenberg of Galice. Mining operations will be started there early next spring.

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Operations were begun November 24 at the Strategic Minerals Corporation chromite concentrating mill at Galice. According to W. D. Plumley, company president, the mill will be in limited operation for a short time pending installation of a second concentrating table. An estimated 1500 tons of concentrating grade chromite ore from the Sordy Mine near Briggs Creek, Josephine County, has been stockpiled at the millsite.

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The Bowers chromite concentrating mill at Galice is reported to have suspended operations to wait for installation of a hammermill.

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Operations are expected to be renewed early in 1952 at the Oregon Chrome mine on the Illinois River, Josephine County. The mine is owned by W. S. Robertson, Grants Pass, and has been Oregon's largest producer of chromite ore in the past.

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Chromite mining operations at the Black Diamond mine near Bolan Lake, Josephine County, near the California-Oregon line, have been stopped by snow. The mine operated by Marlin Williams, George Clark, Jack Speitzner, and John Speitzner, Grants Pass, produced about 75 tons of good grade lump ore and 75 tons of concentrating grade ore during the past summer. Ore has been developed at four places on the property.

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Jack Leonard and Joe Inman of Grants Pass have been mining at the Jim Bus, Black Beauty, and Midnight claims about 10 miles northwest of Selma, Josephine County. The claims are under lease from James Gallaher, Grants Pass. Mining operations were begun last January 2 and have continued throughout the year. Mining is done with a caterpillar tractor. Approximately 200 tons of good grade lump ore has been produced. About 80 tons has been mined at the Black Beauty and Midnight claims and the remainder at the Jim Bus claim.

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The Cyclone Gap mine located in northern Siskiyou County, California, produced 1060 short tons of very high-grade chromite ore in the initial two months of operation prior to

closure by snow early in November. Exploration work was begun at the mine early in July by a group headed by W. S. Robertson of Grants Pass. A 350-foot crosscut was driven intersecting a large body of chromite. The initial shipment of ore was made on August 28. Operations will be resumed as early in the spring as weather permits.

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The Shade and Hammer mines northwest of Selma are being developed by Roy Hillis, Wesley Pieren, and Earl Pieren. Both of these properties were producers during World War II.

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The Chetco Mining Company has completed several miles of road extending from the Josephine Creek area of Josephine County to chromite deposits in the Upper Chetco River area of Curry County. Heavy snow in that area has forced a shut-down of operations until spring. One truckload of ore was brought out before operations were stopped. Full-scale mining operations will begin early next spring and roads will be extended to other chromite properties in that area.

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Glenn Shippen, Canyonville, Oregon, is mining at the Rainy Day chromite mine near Days Creek in Douglas County. Two pods of chromite are now exposed.

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UNION OIL TEST CONTINUES

The Union Oil Company of California test well 20 miles northwest of Roseburg, Oregon, had reached a depth of about 6,650 feet on December 12 according to A. S. Fowks, who is supervising the drilling for the company. The well continues in shale and sandstone at that depth.

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CALIFORNIA RANCH DREDGED AND RESOILED BOTH PROFITABLY

Horse Creek, Siskiyou County.- Charles Rainey is a firm disbeliever in the old saw about having your cake and eating it, too.

Rainey did that with his land, which was dredged for gold between 1940 and 1942, but now produces some of the best grass crops in this area. Rainey says the Harms and Larsen dredging firm took about $900,000 from the 300 acres it worked, but finished up by leaving level farmland better than it had been before.

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In 1938, test holes were dug and promising gold returns were measured. Dredger representatives came around to tell Rainey about the assay, but he told them he was a farmer, not a miner. The gold could stay right where it was before he would permit one foot of his land to be converted to a rock pile.

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The dredger company thought about Rainey's stand for awhile and proposed terms which he accepted. . . .It would scrape off the topsoil, stockpile it, level off dredge tailings, resoil them, leave the old homestead untouched and pay royalties on gold recovered.

So today the biggest flat spot in the rugged Klamath River country near here is in the lush meadows of the Rainey Ranch.

The cattle now are all Angus instead of mixed breeds. They summer on high Siskiyou Mountains forest ranges and all the Raineys have to do to put them there is open a back gate.

(From California Mining Journal, October 1951.)

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