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A SUMMARY OF ASSESSMENT REGULATIONS

By
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During recent years, Congress has enacted two important laws relating to assessment work. One is Public Law 85-876 (Sept.2, 1958), allowing assessment credit for expenditures covering performance of certain types of technological survey work. The other is Public Law 85-736 (Aug.23, 1958), changing the date of the assessment year.

In themselves, both laws are readily understandable. Unfortunately, however, their enactment at a time when prospectors were still bewildered by Public Law 167 (July 23, 1955), and its maze of procedural requirements, resulted in confused interpretations on the part of many. For this reason an attempt has been made here to clarify the problem by summarizing and discussing assessment regulations.

History:

Federal laws governing the rights of a discoverer with respect to mineral resources on the public domain were first enacted on a comprehensive scale by Congress on May 10, 1872. These laws included requirements for the performance of assessment work as a condition for the holding of unpatented mining claims.

Few changes have been made in the original statutes dealing with assessment. For this reason present-day assessment regulations represent the original law as it has been extended, modified, and clarified by years of judicial rulings. The original law has been tested to the extent that conflicting interpretations have been explored quite thoroughly and resolved to the point wherein the finer details are now defined by a multitude of court decisions.

Original Law:

The portion of the original 1872 statutes dealing with assessment requirements (Section 2324, Title XXXII, Chapter 6, Revised Statutes, as quoted from General Land Office Circular 430) states:

> "On each claim located after the tenth day of May, eighteen hundred and seventy-two, and until the patent has been issued therefor, not less than one hundred dollars' worth of labor shall be performed or improvements made during each year. On all claims located prior to the tenth day of May, eighteen hundred and seventy-two, ten dollars' worth of labor shall be performed or improvements made by the tenth day of June, eighteen hundred and seventy-four, and each year thereafter, for each one hundred feet in length along the vein until a patent has been issued therefor; but where such claims are held in common, such expenditure may be made upon any one claim; and upon a failure to comply with these conditions the claim or mine upon which such failure occured shall be open to relocation in the same manner as if no location of the same had ever been made, provided that the original locators, their heirs, assigns, or legal representatives, have not resumed work upon the claim after failure and before such location."

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In view of the punctuation in the second sentence of the above quotation, there appears to be room to wonder if the right to group claims and the right to validate inactive claims by the resumption of assessment work were not originally intended as special provisions applicable only to old claims already in existence at the time the 1872 laws were enacted, and applicable even then only during the special grace period ending June 10, 1874. However, assessment regulations as they are written today specifically accept each of these provisions as applicable to all claims regardless of the date of their location.

Another portion of the 1872 statutes contains the stipulation that the miners of each district may make regulations of their own choosing governing the location, manner of recording, and the amount of assessment work necessary to hold possession of a mining claim, provided such regulations are not in conflict with the laws of the United States, or with the laws of the state or territory in which the district is situated.

Oregon Law:

Under the provisions which enable local mining districts to make regulations of their own choosing, the State of Oregon has formulated laws pertaining to assessment work as follows:

> REVISED STATUTE 517.210. RECORDATION OF AFFIDAVIT OF ANNUAL LABOR. Within 30 days after the performance of labor or making of improvements, required by law to be annually performed or made upon any mining claim, the person in whose behalf such labor was performed or improvement made, or someone in his behalf, knowing the facts, shall make and have recorded in the mining records of the county in which the mining claim is situated, an affidavit setting forth:
>
> (1) The name of the claim or claims if grouped and the book and page of the record where the location notice of each such claim is recorded.
> (2) The number of days' work done and the character and value of the improvements placed thereon, together with their location.
> (3) The dates of performing the labor and making the improvements.
> (4) At whose instance or request the work was done or improvements made.
> (5) The actual amount paid for the labor and improvements, and by whom paid, when the same was not done by the claim owner.
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> REVISED STATUTE 517.220. AFFIDAVIT OR LACK THEREOF AS EVIDENCE: RECORDING FEE. The affidavit described in ORS 517.210, when so recorded, or a duly certified copy thereof, is prima facie evidence of the facts therein stated. Failure to file such affidavit within the prescribed time is prima facie evidence that such labor has not been done. The fee for recording the affidavit is $1. All claims constituting one group belonging to the same person, persons, association may be included in one affidavit without additional charge.

Other Oregon statutes pertaining to assessment work deal with the performance of this work by co-owners, the failure of co-owners to contribute their share of assessment expense, and the procedures by which other co-owners can protect themselves under such circumstances. For these and other considerations, the reader is referred to "Mining Laws of the State of Oregon," (Oregon Department of Geology and Mineral Industries, 1954). It should be noted, however, that Oregon law does not stipulate the amount of assessment work that should be done, or its nature, or location, or the date of performance. For these details the federal laws and their related administrative regulations and court decisions take precedence.

Annual Expenditure:

The performance of assessment work in the amount of $100 per claim, or $10 per hundred linear feet for claims located prior to May 10, 1872, still holds as called for in the laws of 1872. However, the concept of what constitutes acceptable work, the question of how and where it may be done, and practices with respect to claim grouping are matters which have been dealt with and clarified by a succession of rulings. For this reason, the Department urges that

the advice of accredited legal counsel be sought whenever the claim owner has doubts concerning the validity of procedural practices.

Assessment Year:

Since 1872, the assessment year has been changed several times. The most recent change occurred August 23, 1958, with the enactment of Public Law 85-736. This law changed the deadline for annual assessment work on unpatented claims from July 1 to September 1 of each year, beginning with the work year ending in 1959. As quoted in The Ore.-Bin (vol. 21, no.5, p.49, May 1959), Public Law 85-736 reads:

> An Act: To amend section 2324 of the Revised Statutes, as amended, to change the period for doing annual assessment work on unpatented mineral claims so that it will run from Sept. 1 of one year to Sept. 1 of the succeeding year, and to make such change effective with respect to the assessment work year commencing in 1959.
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> BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That section 2324 of the Revised Statutes, as amended (30 U.S.C.28), is amended by striking out "1st day of July" and inserting in lieu thereof "1st day of September."
>
> Sec.2. Notwithstanding the amendment made by the first section of this Act, the period commencing in 1957 for the performance of annual assessment work under section 2324 of the Revised Statutes, as amended, shall end at 12 o'clock meridian on the 1st day of July 1958, and the period commencing in 1958 for the performance of such annual assessment work shall commence at 12 o'clock meridian on the 1st day of July 1958, and shall continue to 12 o'clock meridian on September 1, 1959.

Failure to Perform Annual Assessment Work:

Federal regulations, as stated in the U.S.Bureau of Land Management Circular No.1941, "Lode and Placer Mining Regulations as Amended to and Including November 1, 1955," stipulate: "Failure to make the expenditure or perform the labor required upon a location made before or since May 10, 1872, will subject the claim to relocation unless the original locator, his heirs, assigns, or legal representatives have resumed work after such failure and before relocation." In this connection attention is redirected to section 517.220 of the State of Oregon Revised Statutes, previously quoted, which stipulates that failure to record the required affidavit describing the assessment work, as called for in ORS 517.210, constitutes "prima facie evidence that such work was not done."

Acceptable Assessment Improvements:

Public Law 85-876, as enacted Sept.2, 1958, allows the cost of geological, geophysical, and geochemical work to be credited as a valid assessment labor requirement on unpatented mining claims. Such surveys must be conducted by qualified experts and "verified by a detailed report filed in the county office in which the claim is located which sets forth fully (a) the location of the work performed in relation to the point of discovery and the boundaries of the claim, (b) the nature, extent and cost thereof, (c) the basic findings therefrom, and the (d) name, address, and professional background of the person or persons conducting the work" (30 U.S.C.A. S28-1 & 2). Such surveys may not be credited for more than two consecutive years or for more than a total of five years on any one claim, and no survey may be repetitive of any previous survey on the same claim. Surveys are also limited to those made "on the ground."

Because of its newness this law has not yet been subjected to the rigors of court interpretation. For this reason some question exists as to exactly what is meant by the clause limiting surveys to those made "on the ground." Presumably it was the intent of Congress to distinguish between surveys made in the field as against those made exclusively in the laboratory as by the study of aerial photographs, for example. If this is so, the use of airborne geophysical instruments

as a means of measuring magnetic and radioactive conditions in the ground would be an acceptable form of geophysical work inasmuch as operational procedure by airborne instruments is a long-established geophysical technique. Likewise, the phrase, "on the ground," would presumably include as acceptable work done outside the bounds of a claim (1) in accordance with the established precedent of permitting other conventional types of work to be done outside claim boundaries under certain conditions, and (2) in recognition of the fact that geophysical study must generally be made on a regional scale in order to produce meaningful results. It should be emphasized again, however, that it is impossible to predict the court interpretations which may be sought relative to this clause, or the rulings given on them.

Prior to the passage of Public Law 85-876 assessment work was interpreted as being work of a sort that directly benefited, or improved, the claim. As far back as the horse and candle days this was described by Ricketts (1943, secs.484-485) as follows:

> "------ the labor may be done upon the vein or lode or in a tunnel or upon or below the surface. Work done upon the vein or lode is something more than taking rock therefrom, from time to time, and testing it for the purpose of finding pay ore. Work may consist of unwatering the claim or in the erection of a flume to carry away water or waste, or in the introduction of water or the turning of a stream. The erection of machinery and other works or of a building, if of benefit to the claim and not too distant therefrom, or the building of a road or trail or the clearing of brush from a mining claim to facilitate the work thereon, may be sufficient. Reasonable compensation may be allowed for the use or for the sharpening of tools used, but not the purchase price thereof. The value of powder, fuse, candles, rails, and timber actually used, but not the cost of transporting them, may be counted. Reasonable compensation for the daily use of horses employed in drawing cars or in raising ore, etc., but not their cost; livery hire, feed or shoeing, may be treated as labor performed. Reasonable value of meals furnished to men while employed in 'assessment work,' but not the cost of tableware, house furnishing, provisions, nor tobacco, may be counted ------.
>
> "Diamond drill holes on lode claims and drill tests on placer claims in connection with dredging operations upon adjoining land and the searching for lodes within placer claims have been held to be sufficient compliance with the law.
>
> "The services of a watchman are sufficient, if necessary to preserve the excavations, the structure erected to work the claim, or to preserve personal property; but they are not sufficient when he merely lives upon the claim or warns others from locating it. Negotiations, traveling, preparations for work, contracts and the like, can in no sense be said to be work done on the claim. Personal expenses incurred and the time spent for the purpose of getting water to operate the mill or the services of a person whose time is spent in endeavoring to obtain means for the development of property are, also, in no sense labor performed upon the claim."

Van Nuys (1940) illustrates examples of proper and improper assessment work as follows:

Proper work:

"Prospecting work: Open cuts; prospecting tunnel; diamond drillings; shafts; etc.
Development work: Mine timbering; shaft or tunnel following vein; blocking out ore; etc.
Mining: Stoping; removing ore from mine or to mill; etc.
Miscellaneous: Trails and roads; tramways; mine rails, candles, fuse, powder used; mine machinery, including transportation and installation, if for permanent use; powder house, tool house, blacksmith shop, ore bins, etc. ------"

Illustrations of work not allowed as assessment work:

"Buildings not strictly necessary for development or mining; such as a miner's cabin, bunk house, boarding house, etc.
Tools and other loose equipment; but their current rental value may be counted.
A mill or smelter, and repairing same; ore crushing and treatment being a manufacturing process.
Traveling; services of engineer or geologist; gathering samples and assaying; all being too remote." (Editor's note: This last sentence is in part modified by Public Law 85-876.)

Assessment Evaluation:

Regarding the value of assessment work, Lindley (1914, sec.635) states that according to the Supreme Court of Montana an approved method of arriving at the value is as follows:

> "In determining the amount of work done upon a claim, or improvements placed thereon for the purpose of representation, the test is as to the reasonable value of the said work or improvements ------ not what was paid for it or what the contract price was, but it depends entirely upon whether or not the said work or improvements were reasonably worth the said sum of one hundred dollars."

In more detail, Lindley writes in the same section:

> "In estimating the value of the labor performed the jury should consider the distance of the mine from the nearest point where labor could be procured, the cost of maintaining men while the labor was being performed, the current rate of wages, and any other necessary and reasonable expense which might be incurred in the performance of the said labor."

Ricketts (1943, sec.491) writes on sufficiency of performance:

> "The test of the sufficiency of the annual expenditure is the reasonable value and not what was paid nor the contract price, but whether the expenditure tends to facilitate the development or actually promotes or directly tends to promote the extraction of mineral from or improve the property or be necessary for its care or the protection of the mining works thereon or pertaining thereto."

Place of Performance:

Section 185.16 in the Bureau of Land Management Circular No.1941 states: "Where a number of contiguous claims are held in common the aggregate expenditure that would be necessary to hold all the claims, may be made upon any one claim." An additional provision states: "Cornering locations are held not to be contiguous." In "Federal Placer Mining Laws and Regulations," Johnson (1938) voices the same conclusion with the added remark that such grouping is acceptable provided that the expenditures "will benefit or develop each claim of the group." The opinion of Ricketts (1943, secs.488 and 490) on this question is as follows:

> "A general system may be adopted for the improvement and working of contiguous claims held in common. In such case the expenditure required under the law may be made upon any one of them, or upon adjacent patented lands, or upon public lands, but the expenditure of money or labor must be equal in value to that which would be required on all the claims if they were separate and independent. The claims must be contiguous, and each location thus associated must, in some way, be benefited by the work done or money expended as labor performed or improvements made upon or for a location therein. Assessment work which has no reference to the development of all the locations will not be sufficient. It is not necessary for a claimant to prepare plans and specifications with regard to how he intends to develop his location. A court should not substitute its judgment for that of the claimant as to the wisdom and expediency of the 'plan.' Yet it remains a question whether the requirement of the law has been fulfilled, i.e., that the work is such that, if continued, it will lead to a discovery and development of the veins or ore bodies that are supposed to be in the locations, or, if these are known that the work will facilitate the extraction of the ores, or be necessary for the care and protection of the property ------.
>
> "The natural and reasonable presumption is that all work is done as a part of the 'plan' or system, and, as such applicable to all the locations within the group; still the burden of proof as to the sufficiency of the expenditure rests with its claimants."

Also in this connection Lindley (1914, sec.631) states:

> "Obviously, a tunnel, the portal of which is situated at a higher elevation than some of the claims in a group and projected in a direction away from them, could hardly aid in the development of such lower claims.

"As water is essential to the development and working of placers, expenditures made in constructing ditches, flumes, and pipe-lines, for the purpose of conducting water to the property for use on such property, will undoubtedly satisfy the law. The cost of a survey preliminary to the location of a ditch for the development of the claim will not, however, be credited on the required statutory expenditure, where the ditch has not been dug."

Under certain circumstances acceptable assessment work may be done outside the boundary of a claim or group of claims. On this point Ricketts (1943, sec.486) can again be quoted:

"Work done in good faith outside of the limits of a mining claim for the purpose of prospecting or working it, will hold the claim the same as if done within the boundaries of the location itself. But it must be made to appear that the work is of value to the claim upon which it is sought to apply such work. The work may be done at a distance from the property and may consist, say, in the turning of a stream, or the introduction of water, or the construction of a flume to carry off the debris or waste material, or the construction of a road or trail outside of the limits of the claim, or the construction of a tunnel made solely with reference to the development of the claim, or the sinking of a shaft and running drifts therefrom."

From Lindley (1914, sec.631) we have the additional observations that:

"Work done outside of the claim upon another patented claim, if for the benefit of the one unpatented, may be considered as work done upon it. In cases of consolidation of claims, it is not necessary, in order to have its due share of such work or improvements credited to each claim, that such group of claims should all be embraced in the same proceedings for patent: If the mining laws are complied with in other respects, such claims may be applied for and entered singly or otherwise, and at different times, without in any way impairing the right to have the value of such share credited to them respectively. But where improvements not situated upon the claim are alleged to have been made for the development of such claim, it must be clearly demonstrated that such improvements have a direct tendency to such development. They must have direct relation to the claim, or be in reasonable proximity to it."

Assessment on Placer Claims:

Annual assessment is required on placer claims much the same as it is on lodes. However, an associated placer is considered as a single entity for assessment purposes, and not as a group of individual 20-acre tracts. Because of this, the required annual expenditure of $100 for labor and improvements applies to both single claims and associated placers without regard to the differences in acreage. "In other words," Ricketts (1943, sec.490-a) states, "no greater annual expenditure is required upon an association claim of 160 acres, or less, than upon an individual location of 20 acres, or less." Although this seems inconsistent with the assessment regulations for lode groups, where an expenditure of $100 is required for each individual claim, it is nevertheless an accepted practice. As Van Nuys (1953, p.55) explains it, "An association placer claim is legally one and not several claims, for which reason only one discovery is required and only $100 annual assessment work is required."

Claims on O. and C. Lands:

Holders of mining claims on Oregon and California railroad revested lands and Coos Bay wagon road grant lands of western Oregon must file a proof of annual assessment work with the recorder of the county in which the claims are located, and also with the U.S. District Land Office, 1001 N.E. Lloyd Blvd., Portland, Oregon, according to a provision in the law which re-opened these revested lands to exploration, location, entry, and disposition under the general mining laws. This provision reads as follows:

"The owner of any unpatented mining claim located upon O. and C. lands must file for record in the United States district land office of the land district in which the claim is situated, within sixty days after the expiration of any annual assessment year, a statement as to the assessment work done or improvements made during the previous assessment year, or, as to compliance in lieu thereof, with any applicable relief Act." (U.S. Bureau of Land Management, Circular No. 1941, Section 185.37C).

O.and C. lands were made up originally of odd-numbered sections. There have been some exchanges and therefore these lands now contain certain even-numbered sections. A claim owner who is not certain whether or not his claim lies within these revested lands should request information concerning the status of his claim from the Bureau of Land Management.

Special Considerations:

Assessment work can be done at any time during the assessment year. Furthermore, a claim owner is protected against the relocation of his claim by another party even though he may have put off doing the required work until so late in the year that the bulk of the performance is carried out during the opening days of the following assessment year. For such protection to be realized, however, the work must have been begun during the assessment year for which it is required, and must then be pursued thereafter with diligence and without undue delay.

Large expenditures made on a claim in any one year cannot be credited to assessment work in the ensuing years. In other words, if a greater amount of work is done in the one year than is required by statute, the excess cannot be applied to the succeeding year or years. However, two years' work can be performed as one continuous job if so desired by scheduling the work to begin at the close of the current assessment year and then continuing it past noon of September 1st.

Annual work may be done by the locator or owner, or by a contractor or lessee. In fact, a stockholder may do the work on claims held by his company. However, work done by a trespasser or a stranger to the title cannot be credited to the benefit of the claimant.

Assessment work is not required for mill sites or tunnel locations.

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BUREAU OF MINES CHROMITE STUDIES PUBLISHED

"Utilization Studies on Chromite from Seiad Creek, California," by W.L.Hunter and G.V.Sullivan, published as Report of Investigations 5576 by the U.S.Bureau of Mines, describes the methods developed for producing commercial-grade ferrochromium from Seiad ore. Report of Investigations 5576 (37 pages) may be obtained free of charge from the Publications Distribution Section, U.S.Bureau of Mines, 4800 Forbes Avenue, Pittsburgh 13, Pa. The summary, which appears on the first two pages of the report, is reproduced below:

Summary

This report describes results of beneficiation and smelting studies conducted by the Federal Bureau of Mines on chromite samples from the Emma Belle and Seiad Creek prospects in the Seiad Creek area, northern California. Samples were chosen from this area because the ore is typical of disseminated types that represent a sizable domestic reserve.

The two samples were similar in composition, and both responded in like manner to gravity beneficiation. As the ore was banded, considerable coarse gangue was rejected in laboratory sink-float from a minus-3/4-inch, plus-6-mesh fraction without excessive chromium loss at a medium density of 3.32. An average of 85.6 percent of the chromium was recovered in the sink product, which analyzed 35 percent chromic oxide (Cr_2O_3). Tabling yielded concentrates containing 49 percent or more Cr_2O_3; however, recoveries, ranged from only 33 to 45 percent. A combination of tabling and electrostatic separation of the table middlings showed that the chromium recovery could be increased to about 73 percent; the composite concentrate averaged 53 percent Cr_2O_3.

Flotation studies demonstrated that chromite could be selectively concentrated by flotation in the presence of slimes. The use of fuel oil in a preconditioning step permitted flotation of the chromite from the flocculated siliceous gangue slimes, thus eliminating the high chromium losses in the slime fraction. Concentrates containing as much as 45 percent Cr_2O_3 were obtained with recoveries of 83 to 91 percent. A combination of flotation of the minus-200-mesh fraction and electrostatic treatment of the plus-200-mesh fraction showed that 75.4 percent of the chromium could be recovered in a product containing 53.5 percent Cr_2O_3.

Magnetic separation was not as satisfactory as other methods, and chromium recoveries did not exceed 62 percent; magnetic concentrates graded from 41 to 42 percent Cr_2O_3. Separation by electrostatic methods gave high-grade concentrates that contained 52.7 to 53.9 percent Cr_2O_3; however, chromium recoveries were only about 59 percent.

In batch-smelting tests on raw ore, high-carbon ferrochromium containing 46.9 to 51.2 percent Cr was produced with chromium recoveries of as much as 86.3 percent. Some iron was preferentially reduced at low stoichiometric carbon additions.

The high-carbon ferrochromium obtained when smelting raw ore in an experimental submerged-arc furnace analyzed about 46 percent Cr with a chromium recovery of 79.9 percent. Electrical-energy consumption was 9.15 kw.-hr. per pound of chromium contained in the alloy. The smelting of sink-float concentrates yielded a high-carbon ferrochromium containing 52.0 to 58.2 percent Cr; chromium recovery in the alloy was 71.8 percent. Energy consumption was lower than in the preceding tests, 5.65 kw.-hr. per pound of chromium, and the rate of alloy production was materially higher.

Ferrochromium produced from ore containing 48 percent or more Cr_2O_3 with a Cr/Fe ratio of 3:1 usually contains from 68 to 72 percent chromium. Ferrochromium produced from lower grade material may contain as little as 50 percent chromium, in which case the product sells for a few cents less per pound of contained chromium. These studies show that commercial-grade ferrochromium can be produced by a combination of beneficiation and smelting.

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MOLLARD APPOINTED TO GOVERNING BOARD

Earl S.Mollard of Riddle, Oregon, has been appointed by Governor Mark Hatfield as a member of the Department's Governing Board for a term beginning May 9, 1960, and ending March 15, 1964. He succeeds Lester R.Child of Grants Pass, whose term of office expired as of March 16, 1960.

Mr. Mollard has been connected with the Hanna Mining Company and the M.A.Hanna Company for more than 25 years. Prior to 1952, he held the positions of general superintendent and assistant general manager for Hanna operations in Minnesota. In 1952, he came to Riddle, Oregon, as general manager of the Hanna Nickel Smelting Company and the Hanna Mining Company operation in Oregon, which position he still holds. Mr. Mollard is a member of AIME, and is a vice-president of both the Associated Oregon Industries and the First National Bank of Roseburg.

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ROCK PAINTINGS ON DISPLAY

An unusual and original kind of hobby in which rocks and minerals are used for painting pictures is now on display at the Department's office in Portland. The artist is Mrs. Barbara O'Neil, member of the Oregon Trail Gem and Mineral Society of Pendleton. Her display consists of four attractive and colorful paintings and 48 samples of the rocks and minerals she uses for her work. Most of the materials are from Oregon and Washington. Her method of painting is, briefly, to crush and pulverize the materials, mix them with glue, and apply this mixture to a design drawn on masonite. Mrs. O'Neil's rock paintings will be on display until the end of June.

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OFFICE OF MINERALS EXPLORATION REPORTS ON PROGRAM

The Office of Minerals Exploration, which succeeded the Defense Minerals Exploration Administration, is a permanent agency of the Department of the Interior and participates with private industry in exploration for critical and strategic minerals. According to its third semi-annual report, OME received 12 applications for minerals exploration assistance, entered into five new contracts with mine operators for exploration assistance, and certified discoveries on 12 projects during the last half of 1959. Public interest in the exploration assistance program is somewhat less than shown in pervious periods. The following are the totals for the OME program as of December 31, 1959:

Received more than 2,000 requests for information.

Received 69 applications for financial assistance on exploration work estimated to cost $3,927,931 in searching for 20 minerals in 20 states.

Denied 34 applications.

Withdrew 14 applications.

Executed 13 contracts for a total estimated cost of $397,000, of which the government's share was $198,500.

Eight applications in process.

In keeping with Senate committee recommendations to reduce the cost of administrative and technical services, changes in the field organization of OME have gone into effect. Field officers replace executive officers, who prior to this change had been selected from the staffs of the Bureau of Mines and the Geological Survey to direct OME work in their respective regions. Acting Field Officer D.R.MacLaren has succeeded Executive Officer A.E.Weissenborn in the Spokane office, headquarters for Region 1 of OME.

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STEEL IMPORTS EXCEED EXPORTS IN 1959

The United States was a net importer of steel-mill products during 1959 for the first time in 56 years, Department of Commerce data show.

An average of more than 6 out of every 100 tons of steel-mill products available to consumers in the United States last year consisted of imports. That ratio was higher than in any other recent year. Nearly 62 percent of all barbed wire, 44 percent of nails and staples, and 36 percent of woven wire fence originated in foreign countries. More than 28 percent of the supply of concrete reinforcing bars, 16 percent of semifinished steel, and 11 percent of heavy steel structural shapes was of foreign origin. (From Steel Facts, April, 1960).

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GROUND WATER STORAGE IN COLUMBIA RIVER BASALT

"Storage of Ground Water behind Subsurface Dams in the Columbia River Basalt," by R.C.Newcomb, has been issued as an open-file report by the U.S.Geological Survey. Mr. Newcomb's study has shown that ground water is impounded behind fault zones in basalt underlying semiarid parts of the Columbia Plateau in Oregon, Washington, and Idaho, forming natural water-storage systems. Some of these reservoirs are already in use and many more may be available as a source of additional water for irrigation and public supply when streams are low. Pending publication as a water-supply paper, the report may be consulted at a limited number of places, including the Department's office in Portland, the Geological Survey's offices in Portland, Spokane, and Tacoma, the State Engineer's office in Salem, and at the larger public libraries in the area under study.

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PATENT EXPIRED

Process for treating high-alumina chromite ores, such as masiloc ore of the Philippines, to produce chromium, aluminum, and ferrochromium: Ore is crushed, ground, mixed with Na_2CO_3 and Al_2O_3, the mixture roasted, and the calcine leached with hot water. $Al(OH)_3$ is precipitated, separated, dried, and calcined to produce metallurgical alumina. The chromium-containing solution is dried, calcined, and leached to produce $Cr(OH)_3$ which is dried and calcined. E.M.Hawk, vested in Alien Property Custodian, Apr.13, 1943. No.2,316,330. (From Engineering and Mining Journal, April, 1960.)

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WILDERNESS AREA VISITS LOW

Wilderness areas, which account for nearly eight percent of the national forest acreage, had only eight tenths of one percent of the overall recreation visits in 1958, according to a report by R.E.McArdle, chief of the U.S.forest service.

The 14 million wilderness acres received 556,100 visitors, which represents a four percent increase over 1957. There are 82 wilderness areas on 73 national forests in 13 states. California has the largest number of wilderness visits, with 197,400; Minnesota was second with 104,000. Each of the other 11 states, including Oregon, tallied less than 50,000 visits.

While Oregon has some 909,773 acres of wilderness areas administered by the U.S. forest service, which is about six percent of its national forest acreage, the recreational use of these areas was less than seven-hundredths of one percent of the total number of recreation visits made in 1958. (From The Forest Log, April 1, 1960).

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