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THE KLAMATH FALLS IRON METEORITE

by Erwin F. Lange*

It seems incredible that an important meteorite found in 1952 has taken 18 years to be authenticated for the people of Oregon. Such is the story of the Klamath Falls iron.

The writer has sought to discover the whereabouts of this elusive 30-pound iron since 1962 when it was first mentioned by Brian Mason in his book, "Meteorites," published by John Wiley and Sons. On writing to Mason, then in New York with the American Museum of Natural History, it was learned that the meteorite was in the H. H. Nininger collection, which had been sold to Arizona State University in Tempe.

When he visited the Nininger collection in the spring of 1964, the writer was much surprised and also disappointed to find that only a small fragment, weighing probably less than 10 grams, of the Klamath Falls meteorite was in the collection. The staff members had no knowledge of the main mass, estimated to weigh more than 30 pounds. They were, however, willing to seek more information from Dr. H. H. Nininger. Several months after the Arizona visit, copies of a number of letters were received. These letters were the correspondence between Dr. Nininger and J. D. Howard, an assayer in Klamath Falls.

From these letters it was learned that an unidentified rancher or logger had brought a small metallic specimen to Mr. Howard for analysis in January 1952. The piece had been badly beaten and had been broken off a 30-pound mass. Mr. Howard, suspecting the specimen to be a meteorite, forwarded it to Dr. Nininger at Winslow, Arizona, for verification. Dr. Nininger found it to be a meteorite and asked to have the opportunity to examine and purchase the main mass. Meanwhile, Howard reported that he had failed to get the name of the finder and that this person had never returned for the analysis. Advertising in the Klamath Falls newspaper was unsuccessful in locating the finder of the meteorite, Howard also stated.

The above information, derived from the letters, was interpreted by this writer as meaning that a meteorite of some 30 pounds was still somewhere in the Klamath Falls area, but technically it could be considered as lost. This view was reported in The ORE BIN for February 1965 in an article

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entitled "Oregon's Lost Meteorites." Then on April 12, 1965 the ORE BIN article was reported in the Klamath Falls Herald and News in a major feature article entitled "Basin Hunt under Way for Missing Meteorite." During the next several days the newspaper received a number of callers who reported they had the lost meteorite, but it turned out that not one of their specimens was found in the Klamath Falls area. To date not any of these specimens have been verified as meteorites. Although there was much good advertising for the search of what was believed to be a lost or missing meteorite, no trace of the Klamath Falls iron meteorite was forthcoming.

When the third edition of the "Catalogue of Meteorites" by Max H. Hey was published in 1966 by the British Museum of Natural History, there was mentioned as an addendum to the regular listing of all known meteorites an Oregon iron with the indication it might possibly be a fragment of the Willamette meteorite. The so-called Oregon iron was designated as being in the collection of the Institute of Meteorites at the University of New Mexico in Albuquerque. Among the regular listings in the "Catalogue of Meteorites" was also the Klamath Falls iron in the Nininger collection at Arizona State University. The data given for the two meteorites were strikingly similar:

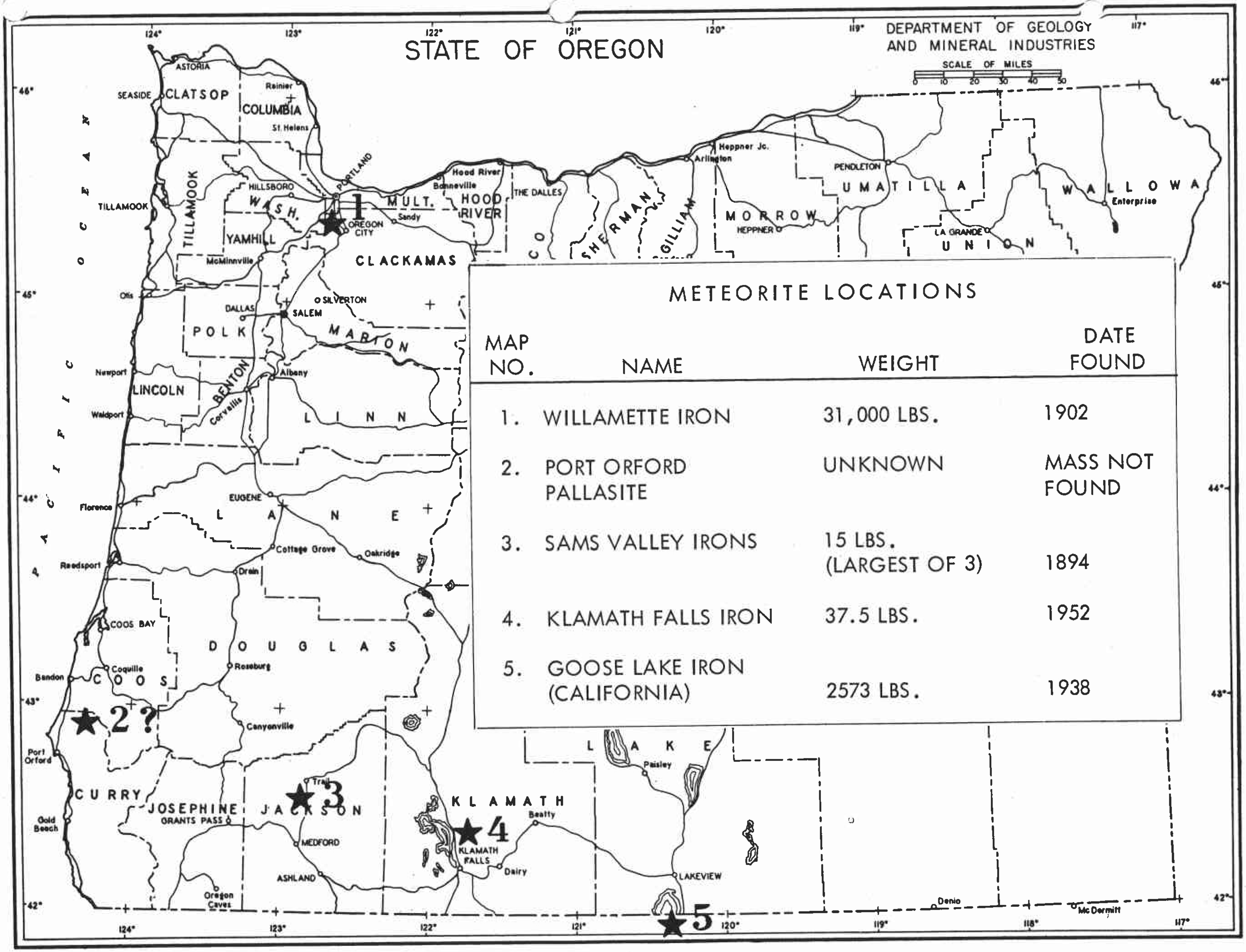
Name	Type	Found	Weight
Klamath Falls	iron, octahedrite	1952	13.6 Kg.
Oregon	iron, octahedrite	1952	12.96 Kg.

It seemed inconceivable that two new separate meteorites from Oregon could be so similar. The feeling was that these two represented the same meteoritic fall. This hypothesis or viewpoint was conveyed to the staffs at both the University of New Mexico and Arizona State University in an effort to ascertain if the two meteorites were really just one.

Correspondence to the University of New Mexico was eventually forwarded to Dr. Lincoln LaPaz, who had been director of the Institute of Meteoritics from 1944 to 1966. Dr. LaPaz kindly forwarded a copy of a chapter, "An Octahedrite from Klamath Falls, Oregon" from a forthcoming book, "Hunting Meteorites: Their Recovery, Use, and Abuse from Paleolithic to Present." This book is being published by the University of New Mexico Press.

In this brief chapter Dr. LaPaz relates how he purchased in 1952 a 37.5-pound iron meteorite from Jack Halsell of Klamath Falls. The account indicates that Mr. Halsell had found the meteorite in the Klamath Falls area but was reluctant to reveal the exact place of discovery. The meteorite was not a recent fall, since the outer surface had undergone prolonged weathering.

This new information was forwarded by R.E. Corcoran, Oregon State



METEORITE LOCATIONS

MAP NO.	NAME	WEIGHT	DATE FOUND
1.	WILLAMETTE IRON	31,000 LBS.	1902
2.	PORT ORFORD PALLASITE	UNKNOWN	MASS NOT FOUND
3.	SAMS VALLEY IRONS	15 LBS. (LARGEST OF 3)	1894
4.	KLAMATH FALLS IRON	37.5 LBS.	1952
5.	GOOSE LAKE IRON (CALIFORNIA)	2573 LBS.	1938

Geologist, and Norman Peterson of the State of Oregon Department of Geology and Mineral Industries to Alfred D. Collier at Klamath Falls. Mr. Collier was able to locate the finder, Jack J. Halsell, living at 2830 Kane Street in Klamath Falls. From him Mr. Collier learned that he had found the meteorite in 1952, when he was a logger for the Ellingson Lumber Company. While he was building a road from Barkley Spring up into Antelope Flat north of Klamath Falls, he had noted the unusual rock and was very surprised that he was unable to pick it up with one hand. It was the heaviest rock he had ever lifted. He took a small fragment to J. D. Howard (now deceased) for analysis. Through Mr. Howard, Halsell was able to sell the main mass to the Institute of Meteoritics at Albuquerque. Halsell reported to Collier that Howard kept the small piece for himself. This undoubtedly is the fragment now in the Nininger collection at Arizona State University.

The data presented confirms the hypothesis that the Oregon and the Klamath Falls irons are one and the same. This important iron has been named by Dr. LaPaz as the Klamath Falls Meteorite and in the future it will be known in science by this name.

The Klamath Falls iron is the fourth known meteorite found in Oregon. The others are the Port Orford, the Sams Valley, and the Willamette. The Port Orford is a pallasite, while the other three are irons. When a new meteoritic specimen is found there is always some concern that it may be part of a known fall. Therefore, the chemical analysis of the Oregon irons is given below, so that the differences can be noted. The analysis of the great Goose Lake iron, which was found less than a mile out of Oregon in northern California, is included because of its geographical position.

The alignment of four of the meteorites, as shown on the accompanying map, is interesting but deceiving, since the three irons (Sams Valley, Klamath Falls, and Goose Lake) are compositionally and structurally different, and the Port Orford meteorite is a stony iron.

Name	Iron	Nickel	Cobalt
Goose Lake	90.80%	8.39%	0.42%
Klamath Falls	92.48	7.24	0.31
Sams Valley	89.35	9.76	0.68
Willamette	91.65	7.88	0.21
Port Orford (iron portion)	89.0	10.29	-

The discovery of the Klamath Falls meteorite is of great interest to Oregonians, because it is the first in 50 years since the discovery of the great Willamette iron in 1902. It is hoped that the announcement of the Klamath Falls meteorite will be instrumental in making yet more new meteorites known. Evidence indicates that more meteorites should be found, particularly in the great open spaces of eastern Oregon.

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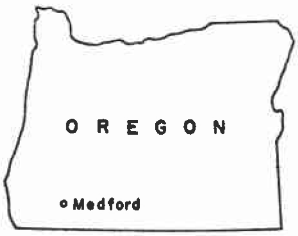
UNUSUAL SLUMP STRUCTURE FROM CRETACEOUS (?) SANDSTONES NORTHERN KLAMATH MOUNTAIN REGION, OREGON

Sam Boggs, Jr.* and Frederick J. Swanson*

Abstract

A unit of massive sandstone which crops out in a highway cut near Medford, Oregon encloses a large, deformed segment of a mudstone-siltstone bed. The mudstone-siltstone segment is unusual in that it is bent into a nearly complete loop. Portions of the bed are squeezed out into the enclosing sandstone forming flame structures. The relationship of the deformed segment to the enclosing sandstone and to an underlying mudstone-siltstone bed suggests that the segment (while still in a semi-consolidated condition) became detached from the underlying unit by slumping; an edge of the detached block was caught by an accompanying, overriding flow of coarse sand which folded part of the segment back upon itself. Subsequent compaction caused additional bending of the segment and squeezing of mudstone into the enclosing sand to form flame structures.



Introduction

A unique sedimentary structure is exposed in beds of Cretaceous (?) sandstone along Interstate Highway 5 about one mile south of Medford, Oregon. This structure, shown in figure 1, is basically a 27-foot-long segment of a mudstone-siltstone bed which has been deformed in such manner that the bed is bent back over itself in a nearly 360° arc. Folding was accompanied by squeezing and distortion of part of the segment, resulting in anomalous thickening of the layer at the point of maximum bending, formation of flame structures, and truncation and thinning of the layer in one flank of the fold.

Discussion

The structure occurs about 8 feet above the base of a 30-foot-thick sandstone bed which contains a few thin layers of finely laminated mudstone and siltstone. The sandstone is poorly sorted with mainly medium to

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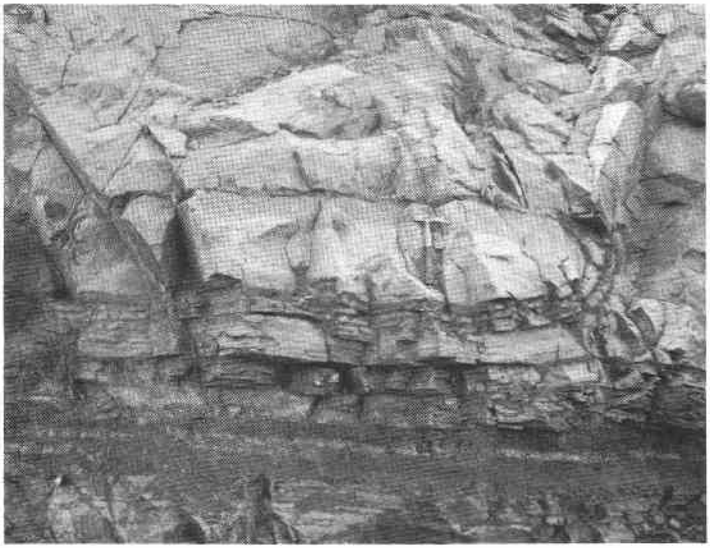

Figure 1. Mudstone-siltstone layer which has been bent and squeezed into a nearly complete loop.

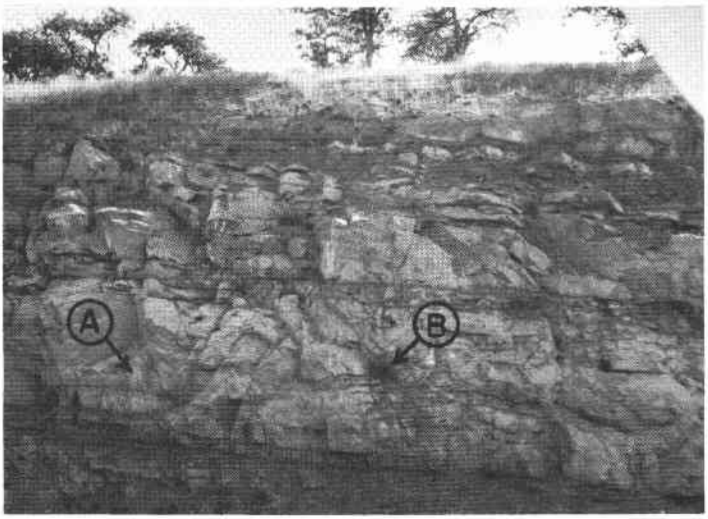

Figure 2. View of the sandstone and mudstone-siltstone beds which encompass the deformed mudstone-siltstone structure (at point A). Note the sharply terminated, thin mudstone layers a few feet to the right of the structure (at point B).

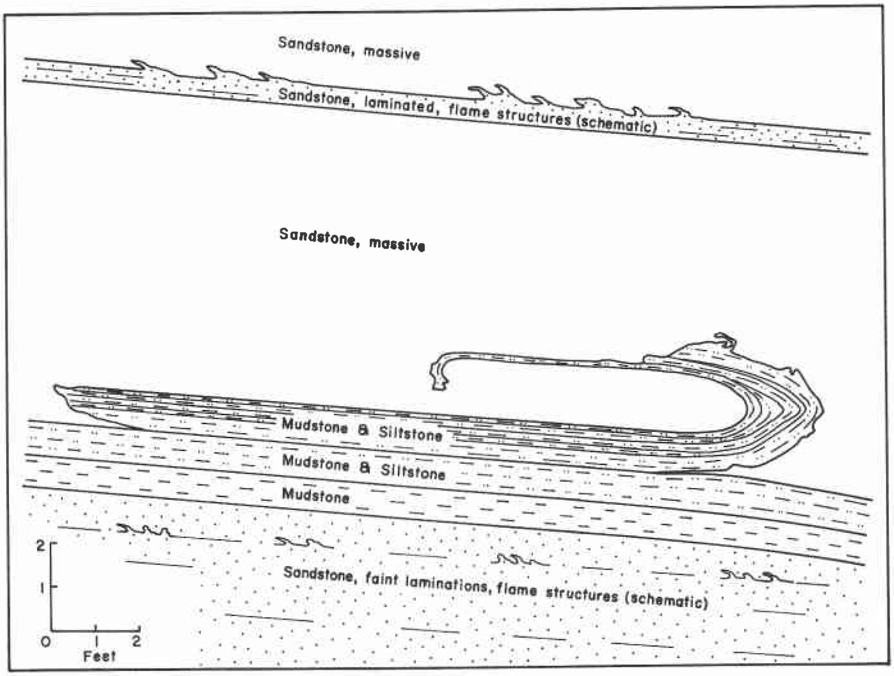

Figure 3. Sketch showing relationship of deformation structure to enclosing beds.

Figure 4. Close-up view showing thickening of the mudstone-siltstone unit in the crest of the fold. (Coin is a nickel.)

coarse, angular to subangular grains. Rock fragments are abundant, and shale chips a few millimeters in length and small wood fragments are scattered through some of the beds. Most of the sandstone is massive and shows no megascopic evidence of grading. Some thin interbeds of finer grained sandstone are laminated and display moderately well-developed flame structures (fig. 3). The mudstone-siltstone bed which constitutes the deformed structure is about 9 to 10 inches thick where undeformed, and lies immediately above an 8- to 10-inch-thick mudstone-siltstone layer of very similar appearance.

Figure 2 shows the general relationship of the structure (at point A) to the enclosing units of sandstone and mudstone. Note that the bedding surfaces above and below the massive sandstone unit which encompasses the structure are essentially planar. Figure 3 is a sketch which shows in greater detail the contact relationships of the structure to the enclosing rocks, and figure 4 is a close-up view of the thickened part of the fold. Note the extreme thickening of all of the beds making up the mudstone-siltstone unit in the crest of the fold, the abrupt truncation of all beds except one in the upper limb of the fold, and the squeezing of mudstone into adjacent sandstone to produce flame structures (fig. 4).

Figure 2 also shows a series of thin mudstone beds (at point B) located about 10 feet south and a few feet stratigraphically above the deformed mudstone-siltstone structure. These mudstone layers are 1 to 2 inches thick and are separated by fine- to medium- and coarse-grained sandstone interbeds about 8 to 10 inches thick. The length of each mudstone layer is about 15 feet; they all terminate at roughly the same point to the north and south, and the ends of the layers give the appearance of being squeezed and "smeared" out. The sandstone enclosing these mudstone layers and the deformation structure shows no laminations or megascopic internal lineations of any type.

The features described above are not primary sedimentary structures, but are due in part to some type of deformation. The planar contacts with beds above and below the unit containing these structures indicate that deformation must have been penecontemporaneous with deposition of the coarse sandstone while the mudstone-siltstone beds were still in a semiconsolidated state. The close resemblance of the undeformed portion of the structure to the underlying mudstone-siltstone bed in thickness, general composition, and bedding characteristics strongly suggests that the mudstone-siltstone segment became detached from the underlying unit and then slid into its present position together with a "slurry" of unconsolidated, coarse sand. Deformation probably occurred when one edge of the detached block, caught by an overriding flow of coarse sand, was folded back upon itself. The orientation of flame structures and the fold geometry of the deformation structure indicate that the direction of sediment transport was to the northwest (from right to left in figure 1).

The sequence of thin mudstone beds just south of the structure appears to have a similar origin. The abrupt termination of these beds suggests that they may be portions of a block which became detached from an underlying mudstone-siltstone unit. The strong similarity of all the beds in thickness and character further indicates that the beds may represent one mudstone-siltstone and sandstone unit that was imbricated or stacked up during slumping, or was folded into a series of recumbent folds which have been truncated.

Slump structures are common in many sedimentary deposits and have been described numerous times in the literature (see Potter and Pettijohn, 1963). The structure discussed in this paper appears to be unique, however, in that it is quite large and is folded or bent into an almost complete loop. We know of no similar structure that has been described previously.

Reference Cited

Potter, P. E. and Pettijohn, F. J., 1963, Paleocurrents and basin analysis: Berlin, Springer Verlag, 296 p.

* * * * *

WILDERNESS ACT GETS LIVELY DISCUSSION

Interest was extremely high at recent public hearings on the proposed Blue Range Wilderness in Arizona, and all who indicated a desire to testify were heard. Most of the testimony was well prepared and demonstrated a thorough knowledge of the issues, but some was poorly put together and based strictly on an emotional appeal.

A spokesman for the New Mexico Mountain Club said it was not true that wilderness was a single use, stating, "Why, one can hunt, fish, take pictures, watch birds, etc. If this isn't multiple use, then I don't know what it is." He also proposed limiting future population to reduce the demand for minerals, timber, and other natural resources. A spectator voiced the opinion that one way to cut down population growth would be for everyone to go to the wilderness alone.

Dean Lynch, land manager for Duval Corporation, departed from his prepared statement as a mining industry witness and, addressing himself to the preservationists, explained why Duval was mining very low-grade copper ore in the Southwest. He said, "We do it because we make money. If you people want to put the miners, the timber industry, and the cattlemen out of business, just quit buying automobiles, quit eating beef, and grow clothes on trees. We'll only supply these products if there is a demand and money to be made. Incidentally, how many of you walked here today from Tucson and Scottsdale?" (Nevada Mining Assn. News Letter No. 202, Jan. 15, 1970.)

* * * * *

PIERRE R. HINES

An Appreciation by Fay Wilmott Libbey

Pierre Rossiter Hines (Legion of Honor, 50-year member AIME) was born in Toledo, Ohio on January 25, 1887, and died at his home in Portland, Oregon, on December 26, 1969. He is survived by a son, John T. Hines of Portland, four grandchildren, and one great-grandchild.

Pierre was attracted to mining as a career and entered the New Mexico School of Mines. Later he became influenced by published descriptions of the Michigan copper mines and entered Michigan College of Mines and Technology, from which he graduated with an EM degree in 1907. From 1907 to 1917 he worked for mining companies in Canada, United States, Mexico, and Russia. He became interested in mill operation and design, and for a time he worked for David Cole of El Paso, one of the best-known design engineers of that period.

Preceding World War I, he accepted a job with the Caucasus Copper Co. in southwestern Russia - a company financed by American capital. In this work he was involved in a study of the application of flotation, an innovation at that time, to the treatment of the Caucasus Co. ore. The early experiments were successful, but World War I came suddenly and the mine was shut down. Pierre returned to the United States at a time when the whole country was preparing for war. He applied for U.S. Army Engineers Reserve Officers' training in 1917, was accepted and sent to Vancouver Barracks, Vancouver, Wash. He completed the training, was married to Charlotte Brady of Portland, commissioned Captain, and sent to France with the A.E.F., where he remained until the Armistice in 1919.

He returned to his old position with Allis Chalmers, and as a result of his experience in Russia the company offered him a job to promote machinery sales in eastern Russia. He sailed from San Francisco to Vladivostok at a precarious time of civil war in Russia with Japan waiting in the wings, and the waiting period was short. He was lucky to get out alive on one of the last ships sailing from Vladivostok at the time of the crisis.

In 1920, Pierre became associated with Dings Magnetic Separator Co., Milwaukee, and was occupied in several installation jobs.

From 1921 to his death, he was the owner of his own engineering and machinery business, and for many years he was Stephens-Adamson's representative in Oregon, specializing in materials handling. He gave a course of lectures on the subject at the Crown Zellerbach Corp. Paper Makers' School at Camas, Wash. He also was engaged in special flotation research and one especially interesting study was his invention and patenting of the application of flotation to the de-inking of old printed material.

Other studies at this period included the design of a cyanide mill at the Benton gold mine west of Grants Pass in Josephine County, and a rock crushing plant for the Pacific Building Materials Co. of Portland.

Pierre was active in AIME over the years, serving as Secretary and Chairman of the Oregon Section in its early organizational period, and as a Director from 1931 through 1937. In 1966 he became eligible for the Legion of Honor award and a special meeting of the Section was held to confer the honor and to present a scroll to him from the Institute's head office in New York.

Aside from his professional work, Pierre was greatly interested in some outside activities, including the Portland Fruit and Flower Mission of which he was Treasurer and Board Member. He was also a Board Member of the Doernbecher Memorial Hospital Guild for several years up to the time of his death.

He served 6 years on the Oregon Technical Council and for 10 years was a member of the State Board of Engineering Examiners. He was the author of the chapter entitled "Before Flotation" in the Centennial Volume published by the Minerals Beneficiation Division of AIME in 1962; he also co-authored with J.D. Vincent the chapter titled "The Early Days of Froth Flotation" in the same volume. Recently he wrote an article called "Notes on the History of the Sand and Gravel Industry in Oregon," which was published in the December 1969 issue of The ORE BIN.

During recent years, Pierre gave much of his time to the study of the economics of gold in our monetary system and in publishing articles on the subject in The ORE BIN. He was instrumental in organizing the Gold and Money Sessions of the AIME regional conferences which have had world-wide attention and discussion. The planning and administration of these sessions have been under the direction of a committee headed by Pierre Hines and Hollis Dole. Their primary objective has been to present the facts in our monetary management to as wide an audience as possible. From the viewpoint of this writer, the subject is of paramount importance to our economy, not just to the gold-mining industry but to everyone who wishes to protect the integrity of our money.

Pierre's passing has left a large gap in this program, but its essentials will be continued by the many thoughtful persons who believe in it.

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ROCKHOUND MAP AVAILABLE

"The Rockhound's Map of Oregon," in its third edition, is available from its originator and publisher, J. R. Rodgers, 6844 S. W. 33rd Place, Portland, Oregon 97219. It is a road map of the state showing more than 60 localities where one can find gem-quality crystals or agate material and it includes directions for finding the sites. The map is priced at 75 cents.

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Revised Percentage Depletion Rates

Commodity	Percent		Commodity	Percent	
	Domestic	Foreign		Domestic	Foreign
Antimony	22	14	Dolomite 6/	14	14
Arsenic	14	14	Feldspar	14	14
Asbestos	22	10	Fluorspar	22	14
Ball clay 1/	14	14	Fuller's earth	14	14
Barite	14	14	Garnet	14	14
Bauxite	22	14	Gem stones	14	14
Beryllium	22	14	Germanium	14	14
Bismuth	22	14	Gilsonite	14	14
Borax	14	14	Gold	15	14
Bromine 2/	5	5	Graphite	22	14
Brucite	10	10	Granite 6/	14	14
Cadmium	22	14	Gypsum	14	14
Calcium carbonates	14	14	Ilmenite	22	14
Calcium chloride 2/	5	5	Iodine	14	14
Celestite	22	14	Iron ore	15	14
Cesium and rubidium	14	14	Kyanite	22	14
Chromium	22	14	Lead	22	14
Clay 3/	22	NA	Limestone 6/	14	14
Clay 4/	5	5	Lithium	22	14
Clay and shale 5/	7½	7½	Magnesium carbonates	14	14
Coal and lignite	10	10	Magnesium chloride 2/	5	5
Cobalt	22	14	Manganese	22	14
Columbium	22	14	Marble 6/	14	14
Copper	15	14	Mercury	22	14
Corundum	22	14	Mica	22	14
Diamond, industrial	14	14	Molybdenum	22	14
Diatomaceous earth	14	14	Natural gas	22	22

* The Federal Tax Reform Act of 1969, signed by the President on December 30, 1969, authorized changes in certain mineral and metal percentage depletion rates, effective with taxable years beginning after October 9, 1969.

Revised Percentage Depletion Rates, continued

Commodity	Percent Domestic	Percent Foreign	Commodity	Percent Domestic	Percent Foreign
Nickel	22	14	Silver	15	14
Nitrogen compounds	14	14	Slate 6/ 7/	5	5
Olivine 6/	22	14	Sodium carbonate	14	14
Peat	5	5	Sodium chloride	10	10
Perlite	10	10	Sodium sulfate	14	14
Petroleum	22	22	Stone 6/	14	14
Phosphate rock	14	14	Sulfur	22	22
Platinum and platinum-group metals	22	14	Talc (block steatite)	22	14
Potash	14	14	Talc, all other	14	14
Pumice	5	5	Tantalum	22	14
			Tellurium	14	14
Quartz crystals (radio grade)	22	14	Thorium (monazite)	22	14
Quartzite 6/	14	14	Other rare earth minerals	14	14
Radium	14	14			
Rhenium	14	14	Tin	22	14
Rutile	22	14	Tungsten	22	14
Salt	10	10	Uranium	22	22
Sand and gravel	5	5	Vanadium	22	14
Selenium	14	14	Vermiculite	14	14
Shale	5	5	Wollastonite	10	10
Shale, oil	15	14	Zinc	22	14

NA Not applicable.
1/ Ball clay, bentonite, china clay, sagger clay and clay used or sold for purposes dependent on its refractory properties.
2/ If from brine from wells or a saline perennial lake within the United States.
3/ Anorthosite, clay, laterite and nephelite syenite to the extent that alumina and aluminum compounds are extracted therefrom.
4/ Used or sold for use in manufacture of drainage and roofing tile, flower pots, and kindred products.
5/ Clay and shale used for making brick, tile, and lightweight aggregate.
6/ Except 5 percent if used for riprap, ballast, road material, rubble, concrete aggregate, or similar purposes.
7/ Except $7\frac{1}{2}$ percent if used for making lightweight aggregate.

PRICEITE IN CURRY COUNTY

By Charles S. Hoffman
Brookings, Oregon

It was recently suggested to me that a record should be made of the location and manner of deposit of the borax mineral named priceite*. My wife and I are probably the only two people in the state who have dug out a complete borax "pod."

Priceite was discovered in Curry County, Oregon in 1873. It is one of eight minerals not previously found anywhere in the world except Oregon. The seven other minerals are josephinite, johannsenite, mansfieldite, erionite, heinrichite, metaheinrichite, and oregonite.

We had been searching for priceite because rockhounds from other areas had frequently visited our lapidary shop inquiring about the existence of this material. Although I had prospected the surface outcroppings of borax in the Lone Ranch area near Brookings, I had not found any of the priceite until highway construction crews started building a road from the new stretch of Highway 101 down to the picnic site at Lone Ranch.

According to local records, borax was mined from this location and loaded onto sailing vessels anchored offshore. In 1890, the land and mineral rights were bought by Borax Consolidated, Ltd. of London. The site is 3 miles north of Brookings, between U.S. Highway 101 and the Pacific Ocean. The company made a gift of this land for a state park, marked by a plaque dedicated in May 1962.

When a grader operator brought some of the brown, peanut-cluster-type of crystalline material to us, we felt reasonably certain that it was priceite. We got in touch with Mr. H. P. Gower, retired superintendent of Pacific Borax Co., who identified the mineral as "priceite, a high grade of borate."

The deposit crops out in several places in the small basin at the mouth of the creek which empties into the ocean at this point. The entrance road to the site leaves the highway in a northerly direction for approximately 150 yards and turns left toward the ocean at a small knoll capped by several pine trees. The country rock is serpentine, with quartz showing on the surface.

When we arrived to check the occurrence, the grader had cut into the top of a short adit which opened onto the south side of the knoll. Fifteen

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*A hydrated calcium borate of uncertain formula, which is probably $Ca_4B_{10}O_{19} \cdot 7\,H_2O$, named after Thomas Price, San Francisco metallurgist who first analyzed it [Ed.].

feet west of the top of the exposed adit, priceite nodules were showing where the grader had cut partly through the serpentine.

With rock picks we cut away the serpentine from the sides of the borax pod, which was approximately oval in shape and about $2\frac{1}{2}$ feet by $3\frac{1}{2}$ feet in horizontal dimensions. The pod was thickest at the center, where it was about 12 inches through, and tapered out to about 3 inches or less at the margin. The pod was originally completely encased in serpentine.

Priceite nodules of all sizes covered the sides, top, and bottom of the pod. They ranged from bird-shot size up to deformed shapes about an inch across. They occurred in layers which averaged approximately an inch in thickness, although some chunks of the material were 4 to 5 inches thick.

The white borax center of the pod was criss-crossed with vertical "veins" of priceite in exceedingly thin seams, most of which broke apart upon being handled. The remaining portion of the pod was the pure white borax which came out in large chunks; within a few days most of it apparently absorbed moisture and disintegrated into a white powder.

The peanut-shaped nodules are a brownish ochre color and the inside of them is a lighter shade of the same color. The outside of the nodule can be scratched easily with a knife blade. The inside part is slightly harder. The nodules show a concentric or fortification pattern near their outside edges.

Priceite is not particularly attractive, but it is rare and therefore of interest. For a more detailed description of the Curry County priceite, see the report by Dr. L. L. Staples, "The occurrence of priceite in Oregon," Northwest Science, May 1948.

When rockhounds now inquire about priceite, we tell them about Lone Ranch, but advise them to search only on the surface and not dig up a state park.

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STORY OF MOUNT RAINIER PUBLISHED

"The Geologic Story of Mount Rainier," by Dr. Dwight Crandell, has been published by the U.S. Geological Survey as Bulletin 1292. This highly illustrated publication, containing color and black-and-white photographs and diagrams, is written in a nontechnical manner. It is for sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, for 65 cents per copy.

The bulletin describes the volcanic history of Mount Rainier and gives geologic evidence for an eruption of pumice 100 to 150 years ago. A new "warm spot" on the summit cone, recently revealed by infrared photography, suggests to Crandell that the mountain needs close watching, particularly for melting of glacial ice and attendant flood waters.

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URBAN PLANNING NEEDS EARTH SCIENTISTS' SKILLS

The Nation must make better use of its earth scientists in order to solve some of its deepening environmental problems resulting from urban growth. Thus warned Hollis M. Dole, Interior's Assistant Secretary for Mineral Resources, at a recent meeting of the Association of Engineering Geologists. He stated:

"Too often a housing development is planned, a complex industrial facility is laid out, a bridge built, a road constructed, without knowledge of the terrain conditions or hazards that might have been avoided. It's after an earthquake occurs, or a hill slides -- after the hand-wringing -- that the realization dawns: An application of basic knowledge of terrain and its geologic and hydrologic characteristics might have averted disaster, and high economic loss."

"The fact is," Dole emphasized, "that there has to be more meaningful and practical dialogue among those who are in the geologic profession on one hand, and those who must make decisions at the planning and engineering level on the other. Those who possess geologic and hydrologic knowledge must make their findings known to planners <u>before</u> the action starts."

"Let's face it -- the engineer, the public official, or the planner is not necessarily a geologist, yet he must know where to place his housing, where to place his industrial parks and his recreation areas, and where, for example, to preserve grounds for the extraction of sand and gravel. We may know such things, but we have to communicate our knowledge to those who make decisions. Our geologic maps may or may not provide the kind of information or provide it in a form useful to the nongeologist. If such maps make sense only to a geologist, and not to a construction man, we must make the maps more meaningful. And our published words - learned though they be - are of little value if they aren't used, or cannot be used by the people who should have the information."

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BRUER NAMED CHIEF OF CALIFORNIA MINES DIVISION

Wesley G. Bruer has been named chief of the California Division of Mines and Geology, replacing Ian Campbell, who retired last fall. Bruer, a former consulting petroleum geologist, has been program development officer in the Department of Conservation in Sacramento, and was active in promoting the Registration of Geologists Act in California. He holds a bachelor's degree from Oregon State College, Corvallis.

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AVAILABLE PUBLICATIONS

(Please include remittance with order. Postage free. All sales are final and no material is returnable. Upon request, a complete list of the Department's publications, including those no longer in print, will be mailed.)

BULLETINS

2.	Progress report on Coos Bay coal field, 1938: Libbey	$ 0.15
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Geologic map of Oregon west of 121st meridian: (over the counter)	2.00
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