

# The Ore Bin

*"Special Subscription Issue."*



Vol. 33, No. 10  
October 1971

STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

## **The Ore Bin**

Published Monthly By

STATE OF OREGON  
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES  
Head Office: 1069 State Office Bldg., Portland, Oregon - 97201  
Telephone: 229 - 5580

### **FIELD OFFICES**

2033 First Street	521 N. E. "E" Street
Baker 97814	Grants Pass 97526

✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕

Subscription rate \$1.00 per year. Available back issues 25 cents each.

Second class postage paid  
at Portland, Oregon

✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕

### **GOVERNING BOARD**

Fayette I. Bristol, Rogue River, Chairman  
R. W. deWeese, Portland  
William E. Miller, Bend

### **STATE GEOLOGIST**

R. E. Corcoran

### **GEOLOGISTS IN CHARGE OF FIELD OFFICES**

Norman S. Wagner, Baker	Len Ramp, Grants Pass
-------------------------	-----------------------

✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕ ✕

Permission is granted to reprint information contained herein.  
Credit given the State of Oregon Department of Geology and Mineral Industries  
for compiling this information will be appreciated.

## GEOLOGY MARKERS ALONG OREGON HIGHWAYS

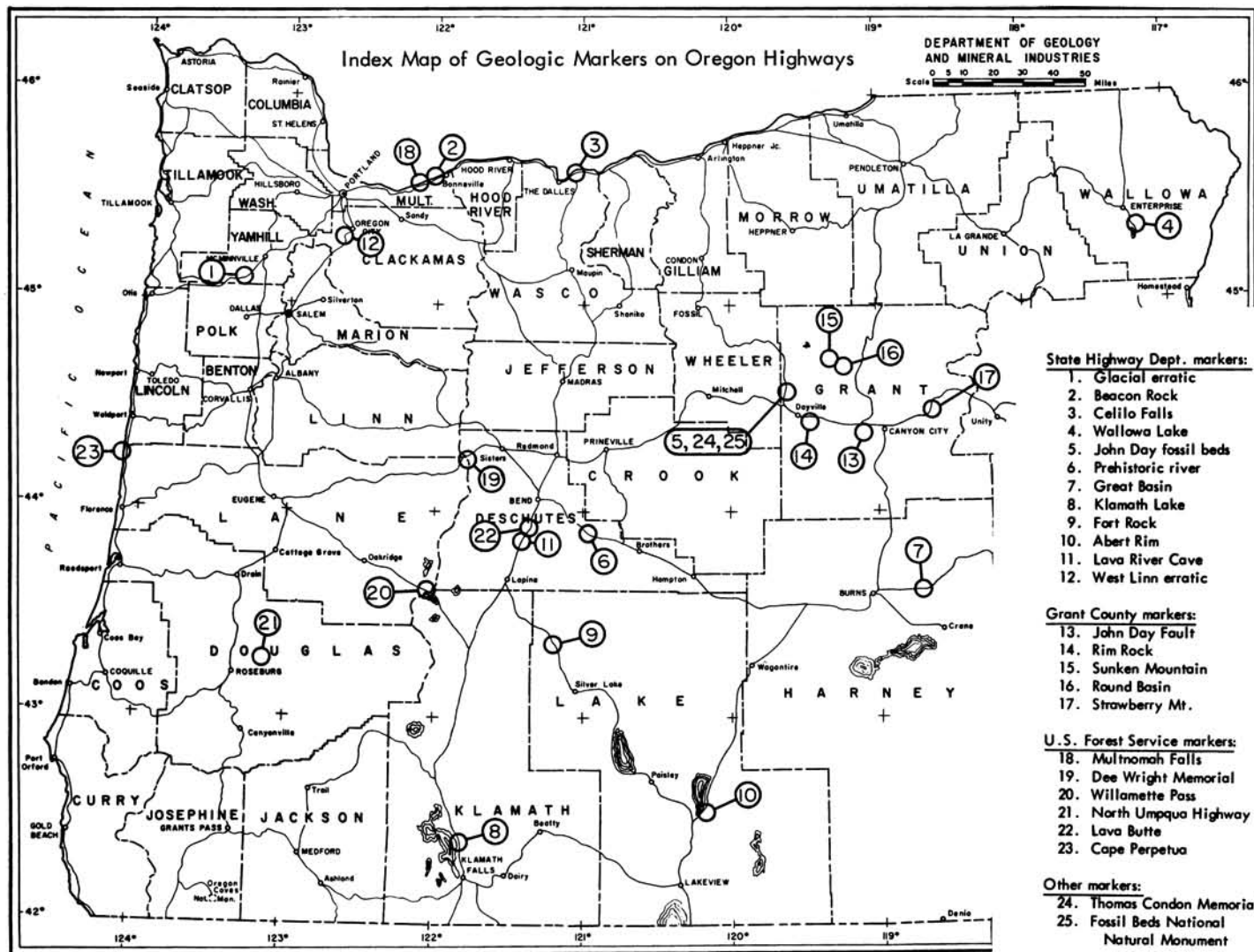
By Erwin F. Lange  
Portland State University, Portland, Oregon

Scattered along the highways of Oregon are a number of markers informing the traveler about the geologic features visible on his route. These signs are the work of five different organizations and are described here as well as being indicated by their numbers on the accompanying map.

### Oregon Highway Department markers

Among its 80 or more rustic historical markers, the Oregon Highway Department maintains at least 12 that are concerned wholly or in part with geology. Many of Oregon's historical events occurred where they did because of some geological phenomenon, and for this reason markers in these areas focus attention on some phase of geology.

1. On Oregon Highway 18, a short distance west of McMinnville, is a geological marker defining the term "glacial erratic" and pointing to one of the largest of such rocks to have been brought in during the ice age.
2. Beacon Rock, a giant stone pillar of volcanic origin that rises out of the Columbia River on the Washington side, is noted by a historical marker on Interstate 80-N west of Bonneville Dam. This great geological feature was a prominent landmark for the Lewis and Clark expedition and for many explorers who followed.
3. Also along Interstate 80-N, a few miles east of The Dalles, is a marker dedicated to Celilo Falls, ancient fishing grounds of various Indian tribes. The falls are now inundated by the storage basin of The Dalles Dam.
4. In the far northeast corner of Oregon, south of Joseph, is a geological marker describing the formation of Wallowa Lake from the damming action of glacial drift.
5. Looking out across the John Day River to Sheep Rock on Oregon Highway 19 near the intersection with U.S. 26 is a geology marker describing the John Day Fossil Beds. (Fig. 1)



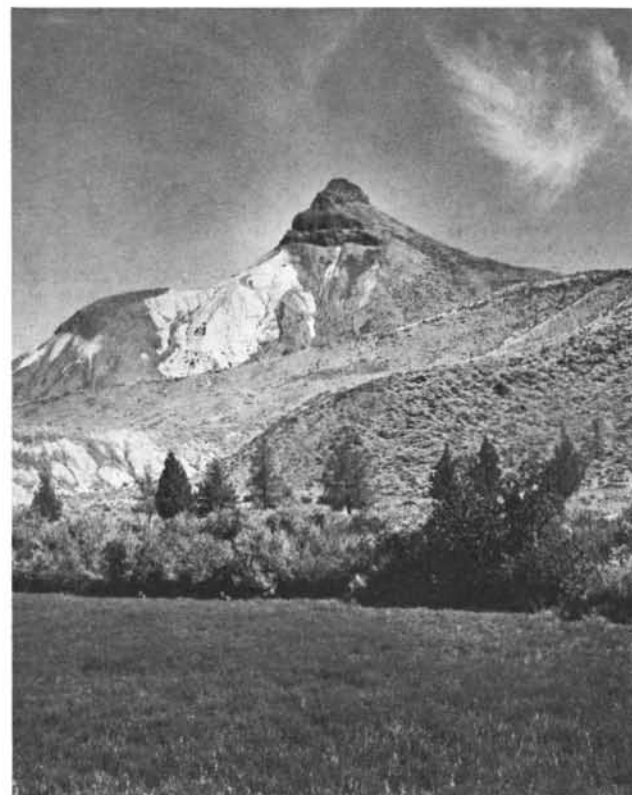
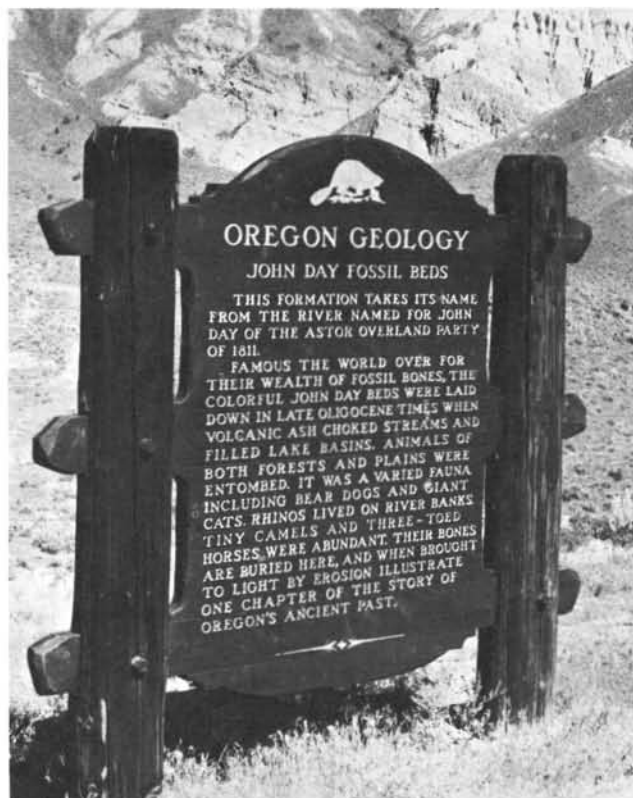


Figure 1. LEFT: One of the three markers on Oregon Highway 19 that calls attention to the John Day fossil beds in Sheep Rock. RIGHT: Across the river from the markers is Sheep Rock, whose strata contain Oligocene and Miocene fossil mammals. (Oregon Highway Division photos).

6. On the Bend-Burns Highway, U.S. 26, about 4 miles west of Millican is a marker that describes a prehistoric river which flowed across the central Oregon desert at this point.
7. On U.S. Highway 20, about 23 miles east of Burns, is a marker that shows the northern limit of the great inland basin, which had no drainage to the sea. A map showing the extent of the basin is included on the marker.
8. A historical marker for Klamath Lake is located on U.S. Highway 97 about nine miles north of Klamath Falls. This marker gives some of the early history relating to the lake and points out that it is the largest body of water in Oregon.
9. A prominent Central Oregon landmark, Fort Rock, is noted by a historical marker on Oregon Highway 31 about 18 miles north of Silver Lake. Not only does the marker refer to the geology of Fort Rock but also to the early inhabitants who lived in a cave nearby. (Fig. 2)
10. Abert Rim, one of the highest fault scarps in the United States, is described by geological markers in two locations, one on Oregon Highway 31 about a mile north of Valley Falls, and the other on U.S. Highway 395 about ten miles north of Valley Falls.
11. A bronze marker describes the origin of a well-preserved lava tube situated on U.S. Highway 97 about 7 miles south of Bend at Lava River Caves State Park. This volcanic feature is not visible from the highway but lies only a few hundred feet to the east.
12. A small glacial erratic bearing a metal geologic plaque is situated at a rest and picnic stop on the west side of I-205 near West Linn. The erratic was transported by an iceberg during the Missoula Flood more than 10 million years ago.

#### Grant County geologic plaques

The Grant County Planning Commission has placed five geologic markers along the John Day "Loop," a 112-mile route via Mt. Vernon, Kimberly, Long Creek and return. These markers are in the form of stainless steel plaques on which the geology is explained in some detail by diagrams and descriptive text. The Grant County plaques were prepared and installed in 1970 in cooperation with the Oregon Department of Geology and Mineral Industries and the Oregon Highway Department. An illustrated booklet, *The Geologic Setting of the John Day Country*, containing a road log of the John Day "Loop" and a geologic story of the area is available (see list at end of report).

13. A metal plaque at the Holliday Rest Area on U.S. Highway 26 near Mt. Vernon shows by diagram and text the way the strata were broken and displaced vertically about 1000 feet along the John Day fault.



Figure 2. ABOVE: A geologic marker on Oregon Highway 31 tells about the early cave dwellers and the origin of Fort Rock. BELOW: Fort Rock, rising 325 feet above the plateau, is the eroded remnant of a volcano. (Oregon Highway Division photos.)



14. A metal plaque on U.S. 26 about 3 miles east of Dayville points to the rimrock across the valley and tells how a flow of red-hot pumice filled the ancient John Day valley to form this extensive layer of rock.
15. A plaque on Oregon Highway 402 (between Kimberly and Long Creek) 8 miles east of Monument illustrates a place where landslides have created an unusual topography known as Sunken Mountain.
16. On Oregon 402, about 4½ miles east of Sunken Mountain a metal plaque explains the geologic relationships of the features within view: Hamilton fault, Round Basin, and Long Creek Mountain.
17. A metal plaque situated at a viewpoint on U.S. 26 about 5 miles east of Prairie City explains the geology of the vista to the south across the John Day Valley toward Strawberry Mountain, which is an uplifted fault block deeply etched by glaciers.

#### U. S. Forest Service markers

The U.S. Forest Service has placed geologic signs in several scenic areas where Oregon Highways pass through National Forest lands. In addition, it maintains two roadside visitor-information centers where the local geologic features are explained and illustrated brochures are made available.

18. At Multnomah Falls on Old Columbia River Highway adjacent to Interstate 80-N is a display shelter in which is told the geological story of the Columbia River Gorge and its lava flows and waterfalls.
19. The Dee Wright Memorial at McKenzie Pass on Oregon Highway 242 has a group of three markers that explain the origin of the fresh black lava fields and point to a short, self-guided tour on a foot trail through the lava. (Fig. 3)
20. Just west of the summit on the Willamette Pass Highway (Oregon Highway 58) is a viewpoint with a rustic sign describing the geology of Diamond Peak.
21. A geologic marker at a roadside turnout on the North Umpqua Highway (Oregon Highway 138) near Glide tells about Eocene marine fossil beds along Little and North Umpqua Rivers. (Fig. 4)
22. Lava Butte, a huge cinder cone on U.S. Highway 97 about 6 miles south of Bend, has a visitor's information center at its top and a foot trail at its base. The geology of the volcanic feature is fully explained. (Fig. 5)
23. At Cape Perpetua on U.S. Highway 101, just south of Yachats in the Siuslaw National Forest, is a visitor's information center and trails where the geology and natural history are interpreted. Among the geologic features in view along this part of the highway and explained are sea stacks, spouting horns, caves, churns, and the changing tides.



## POPULAR PUBLICATIONS ON OREGON GEOLOGY

<u>Geologic Trips Through Oregon's "Moon Country".</u> . . . . .	Bulletin 57, 51 pages . . . .	\$3.50	_____
Five trips, illustrated with maps, diagrams, photos describe the volcanic wonderland in central Oregon which has been used by all the lunar astronauts as a geologic study area in preparation for their walks on the moon.			
<u>Where to Dig for Fossils in Oregon</u> . . . . .	Fossil articles . . . . .	\$1.00	_____
A collection of 9 pamphlets describing the more common fossils, their age, and where to dig for them, plus information on fossil wood.			
<u>Mineral Deposits Map of Oregon</u> . . . . .	Mineral deposits map . . . .	\$ .45	_____
The location of 350 mines and mineral deposits is shown on a 22"x34" map. Marginal notes describe 12 of the 43 minerals listed. Placer mining areas are shown on a small map. A key lists mineral localities by name, location, county and mining district.			
<u>Gold Panning for Fun</u> . . . . .	Miscellaneous paper No. 5	\$ .25	_____
Where to go, how to pan, tests for gold and "fool's gold." Plans for sluice boxes and rockers for the more serious prospector.			
<u>Stones From Outer Space</u> . . . . .	Miscellaneous paper No. 11	\$1.00	_____
Large meteorites have fallen in Oregon -- the Willamette stone, now in Hayden Planetarium; the famous Port Orford stone, still missing 120 years after first report of it. These and others are described, and information on identifying meteorites is given.			
<u>Description of Some Oregon Rocks and Minerals</u> . . . . .	Miscellaneous paper No. 1	\$ .40	_____
Commonly found rocks and minerals are described in non-technical language. Tables, charts and discussions of the various types of rocks and minerals and their formation are also included.			

(Center fold pages may be removed for mailing)

## IMPORTANT NOTICE FOR ALL

### ORE BIN SUBSCRIPTION NOTICE

On January 1, 1972 all ORE BIN subscriptions will go on a calendar year basis, January through December.

---

Individual renewal reminder cards will no longer be sent to subscribers. Each Fall a reminder will be printed in The ORE BIN.

---

Please note: All subscriptions will run for the calendar year January through December. Your expiration date is shown in the box at the bottom of this page. Please check the following schedule for the amount to pay in order to extend your ORE BIN to December 31, 1972.

<u>If your subscription expires:</u>	<u>Your renewal through December 1972 will be:</u>
Sept., Oct., Nov. 1971 . . . . .	\$1.25
Dec. '71, Jan., Feb., Mar. 1972 . . . . .	1.00
Apr., May, June 1972 . . . . .	.75
July, Aug., Sept. 1972 . . . . .	.50
Oct., Nov. 1972 . . . . .	.25
Dec. 1972 . . . . .	.00

Your subscription expires: \_\_\_\_\_

If this date is after 1972 DO NOT RENEW NOW.

Individual copies - \$.25  
(effective July 1, 1971)

## ORE BIN SUBSCRIBERS

EXTEND YOUR SUBSCRIPTION NOW TO  
DECEMBER 31, 1972

---

### ORE BIN RENEWAL FORM

Enclosed is \$ \_\_\_\_\_ to extend my ORE BIN thru December 1972.

Name \_\_\_\_\_

Street \_\_\_\_\_

City, State \_\_\_\_\_ ZIP \_\_\_\_\_

---

---

### NEW OR GIFT SUBSCRIPTION FORM

Please send The ORE BIN during 1972 (\$1 enclosed) to:

Name \_\_\_\_\_

Street \_\_\_\_\_

City, State \_\_\_\_\_ ZIP \_\_\_\_\_

---

Mail form(s) together with remittance to:

The ORE BIN  
1069 State Office Building  
Portland, Oregon 97201

(Center fold pages may be removed for mailing)

Geology of Selected Lava Tubes in the Bend Area, Oregon . . . . Bulletin 71, 47 pages . . . \$2.50 \_\_\_\_\_  
More than 20 lava-tube caves in the Bend area are mapped, described, and  
illustrated by photographs.

Geology of Selected State Parks . . . . . Each pamphlet \$ .25; Total \_\_\_\_\_  
Many of Oregon's state parks have superb scenic attractions, and these illustrated  
pamphlets explain the geology behind the scenery: faults and folds, volcanism,  
fossils, age of rocks.

Beverly Beach \_\_\_\_\_  
Cape Arago \_\_\_\_\_  
Cape Blanco \_\_\_\_\_  
Cape Lookout \_\_\_\_\_

Cape Sebastian \_\_\_\_\_  
Cove Palisades \_\_\_\_\_  
Florence-Yachats \_\_\_\_\_  
Humbug Mountain \_\_\_\_\_

Collier \_\_\_\_\_  
Ecola \_\_\_\_\_  
Lake Owyhee \_\_\_\_\_

Topographic maps . . . . . Index - free; Maps - \$ .50 at counter; \$ .75 mailed . . . . . \_\_\_\_\_  
Elevations of all geographic points, names of streams, mountains and valleys, and dozens  
of other bits of information are printed on the 5-color U.S. Geological Survey topographic  
quadrangles. Free index of available sheets sent on request. Order by map name and  
series. Scales vary with area mapped.

.>

\_\_\_\_\_  
Please send the publications checked above to:  
  
Name \_\_\_\_\_  
  
Street \_\_\_\_\_  
  
City, State \_\_\_\_\_ ZIP \_\_\_\_\_

Amount for publications \$ \_\_\_\_\_  
Amount for ORE BIN \$ \_\_\_\_\_  
  
Total amount enclosed \$ \_\_\_\_\_

For office use only		
Check	M.O.	Cash
Filled by: _____		Shipped: _____

Mail this form to: Oregon Department of Geology & Mineral Industries  
1069 State Office Building, Portland, Oregon 97201

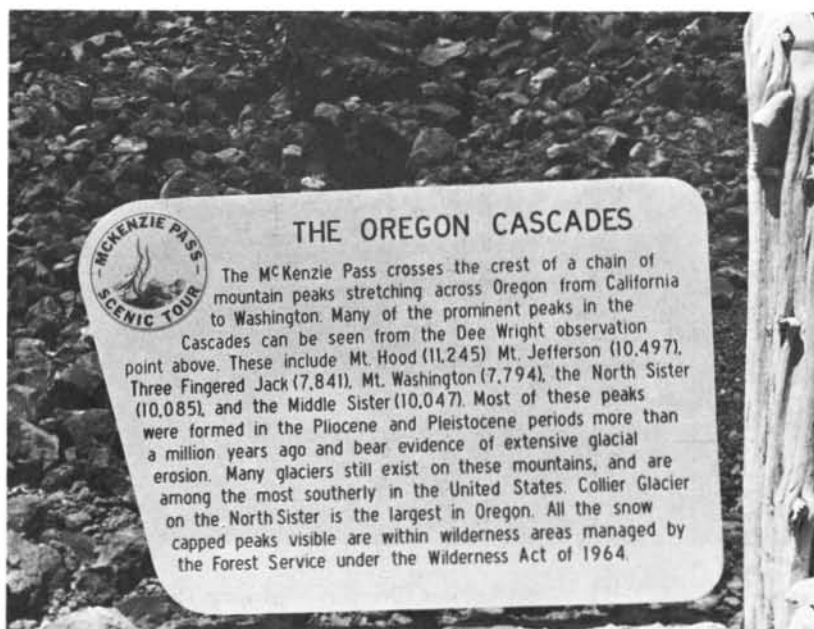
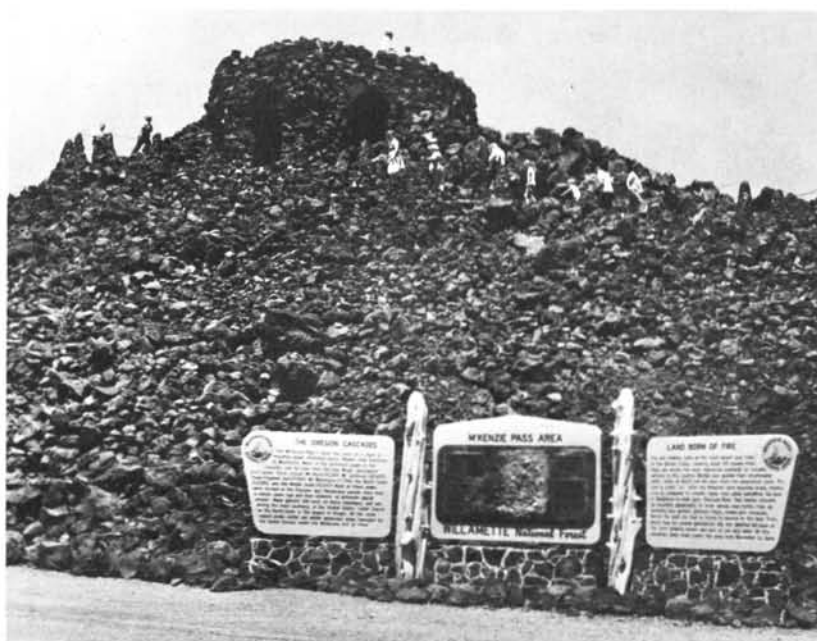


Figure 3. ABOVE: An interpretive sign at McKenzie Pass below the Dee Wright observation point. BELOW: Dee Wright Memorial with the descriptive signs, scenic viewpoint, and self-guided tour through the fresh lava. (U.S. Forest Service photos)



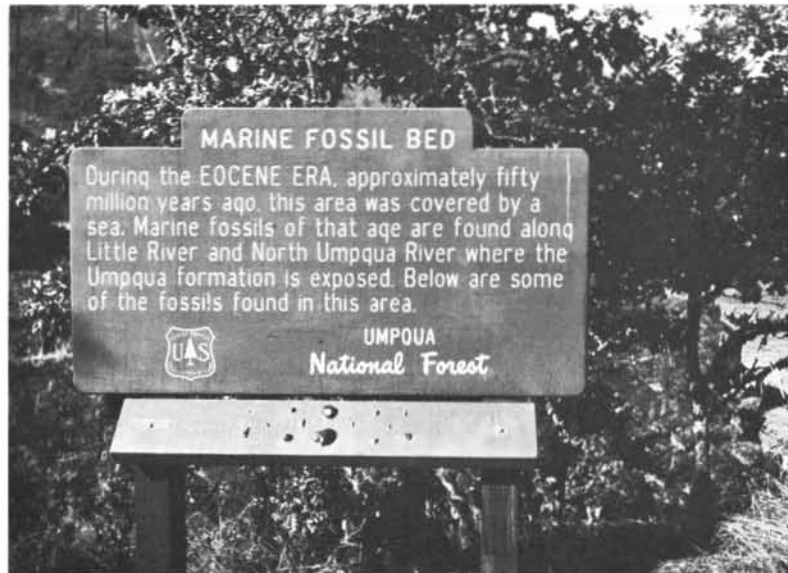


Figure 4. ABOVE: A marker on Oregon Highway 138 near Glide calls attention to the confluence of Little River and the North Umpqua where Eocene marine fossils are numerous. (U.S. Forest Service photo)

Figure 5. BELOW: A marker on U.S. Highway 97 points to nearby Lava Butte, an extinct volcano, with its visitor's information center at the top and a trail over the lava at the base. (U.S. Forest Service photo)



### Other highway markers

Three geologic markers have been placed at a viewpoint in Thomas Condon - John Day Fossil Beds State Park opposite Sheep Rock on Oregon Highway 19. One is the State Highway marker No. 5, above, describing the fossil beds; the other two are:

24. The Thomas Condon marker, installed by the Geological Society of the Oregon Country, is a large block of Cretaceous conglomerate bearing a bronze tablet dedicated to Dr. Condon, pioneer pastor and geologist, who came to Oregon in 1853 and was the first to investigate the fossil beds of the John Day Country.
25. A National Parks marker designates the Thomas Condon - John Day Fossil Beds State Park area as a National Natural Landmark.

Oregon is rich in scenic geology; hence, highway markers pointing out and interpreting examples of this natural resource are useful in maintaining a permanent account for motorists and tourists to read. A good beginning has been made in calling attention to Oregon's interesting geology, not only by highway markers but also by interpretive signs at some of the state and federal recreational sites situated away from the main-traveled highways; for example, Painted Hills, Cove Palisades, Paulina Peak, and Steens Mountains. However, there remain many unusual geologic features along Oregon's major highways that could be identified by markers, and such information could materially enhance the education and enjoyment of the traveling public.

The reader is referred to the following publications for more information about the highway markers and the geologic features defined:

Oregon's Historical Markers, by W. M. Scofield, Criterion Publishers, 1966. Small illustrated booklet of the State Highway Department's markers; \$1.95 at Oregon Historical Society and at bookstores.

The Lava Butte Geological Area, by Phil F. Brogan.

Descriptive brochure illustrated by a map and photographs; available free from Deschutes National Forest, U.S. Forest Service.

The Geologic Setting of the John Day Country, Grant County, Oregon.

Information provided by T. P. Thayer and published by the U. S. Geological Survey. Available free from the Oregon Department of Geology and Mineral Industries, the Grant County Planning Commission, or the Oregon State Highway Commission.

The Story of the Condon Memorial, by Jane Erickson.

Published in the July 1954 issue of the Geological Society of the Oregon Country News Letter, p. 59-60.

\* \* \* \* \*

### CORRECT ADDRESS, PLEASE!

Is your address exactly right on this issue? Do we use a street address but you are actually receiving mail at a post office box? Have you moved within the same zip code area and not sent in a correction? Second class mail is returned for what may seem petty differences - this delays your ORE BIN and increases our costs. Please -- and thank you!

\* \* \* \* \*

### LAVA CAVES BULLETIN PUBLISHED

"Geology of selected lava tubes in the Bend area, Oregon," is the title of the latest bulletin published by the Oregon Department of Geology and Mineral Industries. The author, Ronald Greeley, geologist with the Space Science Division of NASA, mapped a large group of caves south and east of Bend, including the one at Lava River State Park. The possibility of similar features on the moon's surface prompted the initial research study by NASA. Among the caves described in the bulletin are two extensive lava-tube systems, one of which was originally a continuous tube 7 miles long before collapse of parts of its roof. The peculiar features that have developed in these lava caves both during and after formation are explained.

The bulletin (No. 71) has 47 pages, 22 photographs, numerous maps, longitudinal sections, and cross sections. It can be purchased from the Department's offices in Baker, Grants Pass, and Portland. Price is \$2.50

\* \* \* \* \*

### BOARD MEMBER NAMED

A Bend mining company executive, William E. Miller, graduate of Stanford University and an Air Force veteran, has been named to the Governing Board of the Oregon Department of Geology and Mineral Industries. He will fill the position formerly held by Harold Banta, Baker attorney.

Miller, native of Bend, is president of Miller Lumber Co. and owner and operator of the Central Oregon Pumice Co., one of the largest operations of its kind in the state. He also heads Miller Ranch Co. near Dufur.

Over the years Miller has taken part in many civic and industrial enterprises in Bend and was a member of the original area Board of Directors of Central Oregon Community College. He is a director of the Bend Industrial Development Corp., and associate director of Equitable Savings and Loan in Bend.

Miller served as mayor of Bend in 1960 and was also a member of the City Commission for four years.

\* \* \* \* \*



## GEOHERMAL RESOURCES COUNCIL HOLDS SECOND MEETING

The second meeting of the Geothermal Resources Council Steering Committee was held in Olympia, Washington on September 24. A report on the first meeting, held July 16 in Sacramento, describing the organization and objectives of the group is in the August 1971 issue of The ORE BIN.

The second meeting of the Council was attended by 15 committee members and 16 observers of whom several are also members of the subcommittees. Among reports presented were those of the subcommittees on Environment, Regulations, Utilization, and Education and Information. Reid Stone, the Interior Department's Council representative, distributed copies of the recently prepared Environmental Impact Statement and commented on the progress of the Federal Leasing Law. Mr. Stone felt all necessary steps would be carried out and that the lands would be made available for leasing by early 1972. Howard Nelson, General Public Representative on the Council, read a resolution from the Washington State Sportsmen's Council urging that research, exploration, and development of geothermal resources be carried out in the shortest time possible because of the ability of this resource to provide electrical power with minimal environmental impact.

Tentative plans are being made for a general meeting and seminar on geothermal resources on February 16 and 17 at El Centro, California, with a field trip to the Salton Sea and Cerro Prieto geothermal fields. Information on registration and other particulars can be obtained by writing to Mr. Sam Dermengian, Citrus College, Business Education Dept., Azusa, California 91702. As plans for the meeting are formulated, they will be announced in The ORE BIN. In addition, the Geothermal Hot Line, published by the California Division of Oil and Gas, will carry the announcements and other information of the Council. This newsletter is available free by writing to: Geothermal Hot Line, Division of Oil and Gas, Room 1316, 1416 Ninth Street, Sacramento, California 95814.

\* \* \* \* \*

## FOSSIL BOOKLET PUBLISHED

"Fossil Mollusks of Coastal Oregon" is the title of a booklet recently issued as Oregon State University Monographs, Studies in Geology No. 10. The author is Ellen James Moore, paleontologist with the U.S. Geological Survey and a west-coast authority on Miocene fossils. Her 64-page booklet contains basic information on collecting and identifying fossil shells and is illustrated by 20 plates of photographs and drawings of Miocene mollusks from Oregon, Washington, and California. The booklet is for sale by Oregon State University Press, Corvallis, Oregon, for \$2.00.

\* \* \* \* \*

## METALLURGICAL INDUSTRY AIDS ENVIRONMENT

Beer distributors in 34 Oregon cities are now redeeming all-aluminum beer cans. Thanks to Reynolds Metals Company, the program, also operating in several other states, has already recovered 80 tons of cans since April in Oregon alone. All-aluminum cans account for 87 percent of all beer cans used in the northwest.

Any continuing environmental program must have an economic incentive to keep it going. Each pound of aluminum cans turned into one of the 97 redemption centers in the state is worth ten cents to the collector. Figured another way, a ton of cans is worth \$200.

The aluminum of beer cans really gets around. The aluminum ore, bauxite, is mined in Jamaica; is reduced to metal, rolled into sheet and made into cans in California; is filled with beer, distributed, sold, emptied, redeemed and chopped into dime-sized chunks in Oregon; is shipped to Alabama to be remelted and rolled into sheet, and is then ready to start over again.

Oregon beer cans are also reappearing here in those aluminum "dollars" that SOLV (Stop Oregon Litter and Vandalism) now sells as a fund-raising project and to focus attention on litter problems.

An even more important factor of the recycling program is that new beer cans will be made from recycled cans and not from imported ore.

\* \* \* \* \*

## ASSESSMENT WORK

The July 15, 1971 Federal Register carried the following proposed rule with regard to annual assessment work:

"Effect of Failure to Perform Assessment Work. a) Failure of a mining claimant to comply substantially with the requirement of an annual expenditure of \$100 in labor or improvements on a claim imposed by Section 2324 of the Revised Statutes (30 U.S.C. 28) will render the claim subject to cancellation. b) Failure to make the expenditure or perform the labor required upon a location will subject a claim to relocation unless the original locator, his heirs, assigns, or legal representatives have resumed work after such failure and before relocation."

Many claim owners interpret the proposed rule as permitting the Department of the Interior to cancel mining claims without court proceedings in those instances in which it determines the claimant has not substantially complied with the annual assessment work requirements.

(Nevada Mining Assoc. News Letter, Sept. 15, 1971)

\* \* \* \* \*

## 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

8.	Feasibility of steel plant in lower Columbia River area, rev. 1940: Miller	0.40
26.	Soil: Its origin, destruction, preservation, 1944: Twenhofel . . . . .	0.45
33.	Bibliography (1st supplement) of geology and mineral resources of Oregon, 1947: Allen . . . . .	1.00
35.	Geology of Dallas and Valsetz quadrangles, Oregon, rev. 1963: Baldwin	3.00
36.	Vol. 1. Five papers on western Oregon Tertiary foraminifera, 1947: Cushman, Stewart, and Stewart . . . . .	1.00
	Vol. 2. Two papers on foraminifera by Cushman, Stewart, and Stewart, and one paper on mollusca and microfauna by Stewart and Stewart, 1949	1.25
37.	Geology of the Albany quadrangle, Oregon, 1953: Allison . . . . .	0.75
39.	Geology and mineralization of Morning mine region, Grant County, Oregon 1948: R. M. Allen & T. P. Thayer . . . . .	1.00
46.	Ferruginous bauxite deposits, Salem Hills, Marion County, Oregon, 1956: Corcoran and Libbey . . . . .	1.25
49.	Lode mines, Granite mining dist., Grant County, Ore., 1959: Koch . . . . .	1.00
52.	Chromite in southwestern Oregon, 1961: Ramp . . . . .	3.50
53.	Bibliography (3rd supplement) of the geology and mineral resources of Oregon, 1962: Steere and Owen . . . . .	1.50
57.	Lunar Geological Field Conference guide book, 1965: Peterson and Grah, editors . . . . .	3.50
58.	Geology of the Suplee-Izee area, Oregon, 1965: Dickinson and Vigrass	5.00
60.	Engineering geology of the Tualatin Valley region, Oregon, 1967: Schlicker and Deacon . . . . .	5.00
62.	Andesite Conference Guidebook, 1968: Dole, . . . . .	3.50
63.	Sixteenth Biennial Report of the State Geologist, 1966-68 . . . . .	Free
64.	Geology, mineral, and water resources of Oregon, 1969 . . . . .	1.50
66.	Reconnaissance geology and mineral resources, eastern Klamath County & western Lake County, Oregon, 1970: Peterson & McIntyre . . . . .	3.75
67.	Bibliography (4th supplement) geology & mineral industries, 1970: Roberts	2.00
68.	The Seventeenth Biennial Report of the State Geologist, 1968-1970 . . . . .	Free
69.	Geology of the Southwestern Oregon Coast W. of 124th Meridian, 1971: R. H. Datt, Jr. . . . .	3.75
70.	Geologic formations of Western Oregon, 1971: Beaulieu . . . . .	2.00
71.	Geology of selected lava tubes in the Bend area, 1971: Greeley . . . . .	2.50

### GEOLOGIC MAPS

Geologic map of Oregon west of 121st meridian, 1961: (over the counter) . . . . .		2.00
folded in envelope, \$2.15		
Geologic map of Oregon (12" x 9"), 1969: Walker and King . . . . .		0.25
Preliminary geologic map of Sumpter quadrangle, 1941: Pardee and others . . . . .		0.40
Geologic map of Albany quadrangle, Oregon, 1953: Allison (also in Bull. 37) . . . . .		0.50
Geologic map of Galice quadrangle, Oregon, 1953: Wells and Walker . . . . .		1.00
Geologic map of Lebanon quadrangle, Oregon, 1956: Allison and Felts . . . . .		0.75
Geologic map of Bend quadrangle, and reconnaissance geologic map of central portion, High Cascade Mountains, Oregon, 1957: Williams . . . . .		1.00
GMS-1: Geologic map of the Sparta quadrangle, Oregon, 1962: Prostka . . . . .		1.50
GMS-2: Geologic map, Mitchell Butte quad., Oregon: 1962, Corcoran et. al. . . . .		1.50
GMS-3: Preliminary geologic map, Durkee quad., Oregon, 1967: Prostka . . . . .		1.50
GMS-4: Gravity maps of Oregon, onshore & offshore, 1967: [Sold only in set] flat, \$2.00; folded in envelope, \$2.25; rolled in map tube . . . . .		2.50
GMS-5: Geology of the Powers quadrangle, 1971: Baldwin and Hess . . . . .		1.50

[Continued on back cover]

The ORE BIN  
1069 State Office Bldg., Portland, Oregon 97201

## The Ore Bin

POSTMASTER: Return postage guaranteed.



Available Publications, Continued:

### SHORT PAPERS

- |   |        |
|---|--------|
| 2. Industrial aluminum, a brief survey, 1940: Matz . . . . .  | 5 0.10 |
| 18. Radioactive minerals the prospectors should know (2nd rev.), 1955:<br>White and Schafer . . . . . | 0.30   |
| 19. Brick and tile industry in Oregon, 1949: Allen and Mason . . . . .                                | 0.20   |
| 21. Lightweight aggregate industry in Oregon, 1951: Mason . . . . .                                   | 0.25   |
| 24. The Almeda mine, Josephine County, Oregon, 1967: Libbey . . . . .                                 | 2.00   |

### MISCELLANEOUS PAPERS

- |  |      |
|--|------|
| 1. Description of some Oregon rocks and minerals, 1950: Dale . . . . .                       | 0.40 |
| 2. Key to Oregon mineral deposits map, 1951: Mason . . . . .                                 | 0.15 |
| Oregon mineral deposits map (22" x 34"), rev. 1958 (see M. P. 2 for key)                     | 0.30 |
| 3. Facts about fossils (reprints), 1953 . . . . .  | 0.35 |
| 4. Rules and regulations for conservation of oil and natural gas (rev. 1962) .               | 1.00 |
| 5. Oregon's gold placers (reprints), 1954 . . . . .  | 0.25 |
| 6. Oil and gas exploration in Oregon, rev. 1965: Stewart and Newton . . .                    | 1.50 |
| 7. Bibliography of theses on Oregon geology, 1959: Schlicker . . . . .                       | 0.50 |
| 7. (Supplement) Bibliography of theses, 1959 to Dec. 31, 1965: Roberts .                     | 0.50 |
| 8. Available well records of oil & gas exploration in Oregon, rev. 1963:<br>Newton . . . . . | 0.50 |
| 11. A collection of articles on meteorites, 1968: (reprints, The ORE BIN) .                  | 1.00 |
| 12. Index to published geologic mapping in Oregon, 1968: Carcáran . . . . .                  | Free |
| 13. Index to The ORE BIN, 1950-1969, 1970: M. Lewis . . . . .                                | 0.30 |
| 14. Thermal springs and wells, 1970: R. G. Bowen and N. V. Peterson . . .                    | 1.00 |

### MISCELLANEOUS PUBLICATIONS

- |   |                   |
|---|-------------------|
| Oregon quicksilver localities map (22" x 34"), 1946 . . . . .           | Revision In Press |
| Landforms of Oregon: a physiographic sketch (17" x 22"), 1941 . . . . . | 0.25              |
| Index to topographic mapping in Oregon, 1969 . . . . .                  | Free              |
| Geologic time chart for Oregon, 1961 . . . . .                          | Free              |
| The ORE BIN - available back issues, each . . . . .                     | 0.25              |

### OIL and GAS INVESTIGATIONS SERIES

- |   |      |
|---|------|
| 1. Petroleum geology of the western Snake River basin, Oregon-Idaho, 1963:<br>Newton and Carcáran . . . . . | 2.50 |
| 2. Subsurface geology of the lower Columbia and Willamette basins, Oregon,<br>1969: Newton . . . . .        | 2.50 |