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The Ore Bin



Volume 26, No. 5
May, 1964

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: 226 - 2161, Ext. 488

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2033 First Street
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Effective January 1, 1964

Subscription rate \$1.00 per year. Available back issues 10 cents each.

Second class postage paid
at Portland, Oregon

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SEDIMENTARY ROCKS FROM THE CONTINENTAL SHELF AND SLOPE OFF THE CENTRAL COAST OF OREGON

By

Neil J. Maloney and John V. Byrne*

During the period from July 1961 to September 1963, rocks were collected from 138 different locations on the continental shelf and slope off the central coast of Oregon by the Department of Oceanography, Oregon State University. The sample locations, types of samplers, and general lithologies for all of the samples are listed in Table 1. The sample positions are plotted in Figure 1.

In Table 1 the samples are numbered consecutively according to their geographic position. The OSU Sample Number, by which the sample is filed at the Department of Oceanography, is given also. Two locations are listed for those samples collected by dragging a dredge along the bottom for some distance. The two positions indicate the start and finish of the dredge haul. Other types of samples have only one location listed. Positions are based on navigation by loran or by radar. The approximate depths from which the samples were taken can be estimated from the contours in Figure 1.

Gravity corers, grab samplers, and a variety of dredges were used to collect the rocks. The gravity corer was allowed to fall free into the bottom. The weight of the instrument (about 50 pounds) was sufficient to drive the core barrel 3 to 4 inches into soft rock. The grab sampler used was a Dietz-Lafond "snapper" type and was successful in collecting rocks lying loose on the bottom. Four types of dredges were employed: The anchor dredge and the otter trawl are primarily biological dredges; the frame or Agassiz dredge is used both by geologists and biologists; and the pipe dredge, designed for collecting rocks, is employed almost solely by geologists. In essence, all of the dredges are simply open frames to which is attached some type of collecting bag or container. As the dredge is dragged across the sea floor, it scoops up whatever it encounters.

General lithologies are listed in Table 1. The rocks are predominantly siltstones, with a few samples of sandstone and limestone. Limestone samples

* Department of Oceanography, Oregon State University, Corvallis.

TABLE 1. Rock Samples - Oregon Continental Terrace

No.	OSU Sample No.	Latitude	Longitude	Type of Sampler ^{1/}	Rock Type
1	6308-1	43 48.1 43 50.0	124 53.8 124 55.0	P	Silty limestone
2	OC-0023	43 49.8	124 46.5	OT	Calcareous siltstone with vugular aragonite
3	6306-2	43 50.1	124 55.5	P	Silty limestone
4	6306-3	43 50.3	124 53.1	P	Shaley mud
5	6301-16	43 51.0	124 25.0	F	Siltstone
6	6306-4	43 52.0	124 56.0	P	Green pellet, calcareous siltstone
7	6306-10	43 54.6 43 55.0	124 47.1 124 47.6	P	Limestone
8	6308-15	43 55.1	124 54.2	P	Silty limestone
9	6306-8	43 55.1	124 56.0	P	Silty limestone
10	6209-23	43 55.4	124 47.7	F	Limestone
11	6306-9	43 55.4	124 42.2	P	Limestone
12	6301-2-100	43 56.0	124 25.4	G	Siltstone
13	6301-2-96	43 56.0	124 43.0	C	Stiff, gray, silty clay
14	6301-2-95	43 56.0	124 47.2	C	Clayey siltstone
15	6301-2-93	43 56.0	124 55.4	C	Limestone pebbles
16	6301-17	43 57.7 43 58.4	124 40.0 124 41.6	F	Siltstone
17	6308-16	43 58.5 43 59.8	125 08.3 125 09.0	P	Silty limestone
18	6301-2-89	43 59.0	124 42.8	G	Calcareous siltstone pebble
19	6301-2-90	43 59.0	124 46.9	C	Friable clayey siltstone
20	6209-24	43 59.0	124 47.7	F	Silty limestone
21	6301-2-91	43 59.0	124 51.0	C	Friable clayey siltstone
22	6301-2-92	43 59.0	124 56.7	C	Diatomaceous clayey siltstone
23	6209-25	43 59.3	124 53.9	F	Diatomaceous siltstone
24	6209-21	43 59.8	124 51.6	F	Siltstone
25	6306-11	44 00.0	124 56.8	P	Diatomaceous siltstone
26	6301-2-73	44 02.0	124 47.4	C	Friable clayey siltstone
27	6301-2-72	44 02.0	124 51.5	C	Friable clayey siltstone
28	6301-2-71	44 02.0	124 55.5	C	Friable clayey siltstone
29	6209-20	44 02.1	124 51.9	F	Diatomaceous siltstone, calcareous pebble
30	6209-19	44 04.0	124 51.5	F	Calcareous fine sandstone and siltstone
31	6308-18	44 04.5 44 04.3	125 14.4 125 14.2	P	Stiff clay and shale chips
32	6306-15	44 04.9	125 01.0	P	Pebbles
33	6301-2-69	44 05.1	124 50.5	C	Friable clayey siltstone
34	6301-2-67	44 05.2	124 42.2	C	Limestone pebbles
35	6301-2-68	44 05.5	124 46.3	C	Friable clayey siltstone
36	6209-18	44 05.5	124 54.3	F	Silty limestone cobble, diatomaceous siltstone

^{1/}

Type of Sampler -- C-Corer, F-Frame Dredge, G-Grab Sampler, OT-Otter Trawl, P-Pipe Dredge, AD-Anchor Dredge.

Compiled November 1963, Department of Oceanography, Oregon State University.

TABLE 1. Rock Samples - Oregon Continental Terrace, Continued

No.	OSU Sample No.	Latitude	Longitude	Type of Sampler	Rock Type
37	6301-2-51	44 08.0	124 39.2	C	Limestone pebbles
38	6301-2-50	44 08.0	124 43.5	C	Friable clayey siltstone
39	6301-2-49	44 08.0	124 47.5	C	Friable clayey siltstone
40	6301-2-48	44 08.0	124 51.6	C	Friable clayey siltstone
41	6209-17	44 08.1	124 48.5	F	Siltstone
		44 08.1	124 48.9		
42	OC-0048	44 09.2	124 39.2	OT	Calcareous fine sandstone
		44 12.7	124 39.7		
43	6306-18	44 09.7	124 59.3	P	Clayey siltstone
		44 09.5	124 59.7		
44	6209-16	44 09.8	124 48.5	F	Clayey siltstone, calcareous siltstone
45	6209-14	44 10.5	124 48.8	F	Green pellet sandstone, calcareous siltstone, diatomaceous siltstone
		44 10.7	124 49.1		
46	6209-12	44 10.8	124 46.6	F	Siltstone, calcareous siltstone, green pellet sandstone, breccia
47	6209-13	44 10.8	124 51.4	F	Siltstone, calcareous siltstone, green pellet sandstone, breccia
48	6301-2-43	44 11.1	124 44.4	G	Clayey siltstone, limestone pebble
49	6301-2-44	44 11.1	124 48.4	G	Clayey siltstone
50	6301-2-45	44 11.1	124 52.6	C	Clayey siltstone
51	6301-2-41	44 11.3	124 35.8	G	Calcareous siltstone pebble
52	6301-2-42	44 11.3	124 40.0	G	Siltstone
53	6209-15	44 12.4	124 49.5	F	Green pellet sandstone, siltstone
		44 12.6	124 49.9		
54	6308-23	44 13.0	125 14.1	P	Stiff, gray clay
		44 13.9	125 14.1		
55	6209-11	44 14.1	124 43.5	F	Siltstone, calcareous siltstone
56	6301-2-28	44 14.2	124 35.3	G	Limestone pebble, friable siltstone
57	6301-2-27	44 14.2	124 39.5	C	Calcareous siltstone, friable sandstone
58	6301-2-26	44 14.2	124 43.6	G	Siltstone
59	6301-2-25	44 14.2	124 47.7	C	Friable clayey siltstone
60	6301-2-24	44 14.2	124 52.0	C	Friable silty clay
61	6301-2-23	44 14.2	124 56.2	G	Limestone pebble
62	6301-15	44 14.8	124 52.5	F	Sandstone
		44 15.1	124 51.2		
63	6301-14	44 14.9	124 55.0	F	Silty limestone
		44 15.0	124 54.3		
64	6301-2-17	44 17.0	124 35.5	G	Limestone pebbles
65	6301-2-18	44 17.0	124 37.9	G	Siltstone
66	6301-2-19	44 17.0	124 42.0	G	Siltstone
67	6301-2-21	44 17.0	124 50.3	G	Siltstone, gravel
68	6209-7	44 17.2	124 35.5	F	Siltstone, calcareous siltstone
69	6209-8	44 17.2	124 39.8	F	Green pellet sandstone, diatomaceous siltstone
70	6209-9	44 17.3	124 43.4	F	Diatomaceous siltstone, silty limestone boulder
71	OC-0018	44 18.1	125 13.2	OT	Mudstone, diatomite
		44 29.7	125 15.4		
72	6308-28	44 19.0	125 07.7	P	Pebbles, shale chips
		44 20.0	125 07.7		

TABLE 1. Rock Samples - Oregon Continental Terrace, Continued

No.	OSU Sample No.	Latitude	Longitude	Type of Sampler	Rock Type
73	6301-2-4	44 19.7	124 30.0	G	Gravel
74	6301-2-5	44 19.9	124 28.3	G	Limestone pebbles
75	6301-2-3	44 20.0	124 41.0	C	Friable fine sandstone
76	6209-10	44 20.0	124 41.0	F	Siltstone
77	6301-2-2	44 20.0	124 45.2	C	Clayey siltstone
78	6212-18	44 20.6	124 34.4	F	Clayey siltstone
79	OC-0022	44 21.9	124 43.6	OT	Clayey siltstone
		44 21.0	124 43.6		
80	OC-0002	44 22.5	125 13.8	OT	Silty limestone
		44.24.0	125 14.2		
81	OC-0015	44 22.7	124 38.8	OT	Silty mudstone
82	OC-0027	44 22.7	124 39.3	G	Diatomaceous siltstone
83	OC-0032	44 22.8	124 35.4	G	Siltstone, limestone, pebbles
84	OC-0024	44 23.0	124 31.0	G	Silty limestone, diatomaceous siltstone
85	OC-0012	44 23.9	124 40.1	OT	Diatomaceous siltstone
86	OC-0028	44 25.6	124 26.8	G	Siltstone
87	OC-0026	44 25.6	124 31.2	G	Siltstone
88	OC-0033	44 25.8	124 39.3	G	Siltstone
89	6209-4	44 26.3	124 50.6	F	Siltstone
90	6209-5	44 26.3	124 42.8	F	Calcareous siltstone
		44 26.7	124 44.1		
91	OC-0017	44 27.0	125 15.6	OT	Mudstone, clinker
		44 35.8	125 15.6		
92	OC-0005	44 27.6	125 14.2	OT	Wood, clinker, clayey siltstone
93	OC-0014	44 28.3	125 13.4	OT	Clinker
94	OC-0027	44 28.8	124 31.2	G	Calcareous siltstone
95	OC-0043	44 28.8	124 48.1		Siltstone
96	6212-17	44 28.9	124 39.5	F	Calcareous siltstone
97	6301-4	44 29.5	124 56.0	F	Siltstone
		44 30.0	124 56.0		
98	6212-8	44 30.0	124 20.5	F	Silty limestone, siltstone
99	6212-9	44 30.0	124 24.0	F	Diatomaceous siltstone
100	6212-10	44 30.0	124 25.5	F	Siltstone, calcareous siltstone with green pellets
101	6301-1	44 30.0	124 41.6	F	Silty limestone, calcareous siltstone
102	OC-0021	44 30.2	124 22.6	OT	Siltstone, calcareous siltstone
103	6301-2	44 30.2	124 49.3	F	Silty limestone, calcareous siltstone
		44 30.6	124 49.4		
104	OC-0016	44 31.7	124 22.8		Clayey siltstone with diatoms
105	6212-6	44 32.4	124 24.5	F	Calcareous siltstone
106	6212-16	44 32.4	124 30.0	F	Calcareous siltstone, siltstone
107	6212-7	44 32.5	124 26.4	F	Siltstone, calcareous siltstone
108	OC-0036	44 33.5	125 14.5	AD	Friable fine sandstone
109	6212-2	44 34.7	124 23.7	F	Siltstone
110	OC-0025	44 34.7	124 27.5	G	Diatomaceous siltstone
111	6212-15	44 34.8	124 31.5	F	Siltstone
112	6212-4	44 35.3	124 27.2	F	Calcareous siltstone
113	OC-0001	44 37.2	124 26.4	F	Diatomaceous siltstone
114	OC-0035	44 37.5	124 26.7	G	Calcareous siltstone, siltstone pebbles
115	OC-0047	44 37.0	125 01.5	AD	Coal, clinker
		44 37.8	125 00.6		

TABLE 1. Rock Samples - Oregon Continental Terrace, Continued

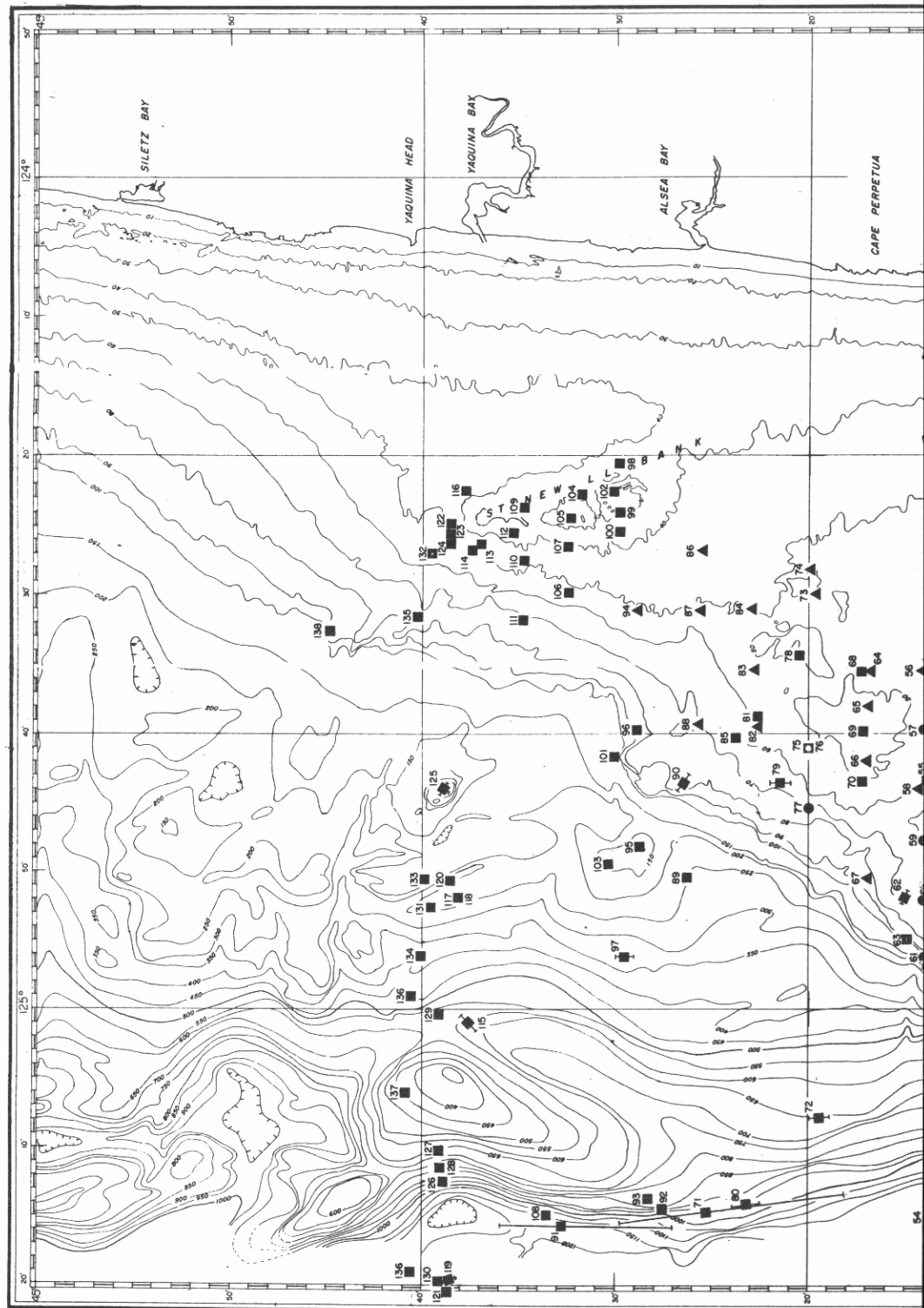
No.	OSU Sample No.	Latitude	Longitude	Type of Sampler	Rock Type
116	OC-0031	44 37.7	124 22.5	G	Siltstone
117	OC-0004	44 38.1	124 51.8	OT	Siltstone
118	OC-0042	44 38.1	124 51.8	AD	Clayey siltstone
119	OC-0040	44 38.3	125 19.3	AD	Silty mudstone
		44 38.8	125 19.5		
120	OC-0046	44 38.5	124 50.7	AD	Calcareous siltstone
121	OC-0045	44 38.6	124 20.1	AD	Friable sandstone
122	OC-0019	44 38.6	124 25.6		Diatomaceous siltstone, calcareous siltstone
123	OC-0009	44 38.6	124 25.7		Diatomaceous siltstone
124	OC-0010	44 38.6	124 26.2	F	Clayey siltstone with diatoms
125	OC-0007	44 38.8	124 43.5	F	Silty limestone
		44 39.0	124 44.0		
126	OC-0039	44 38.8	125 12.1	AD	Sandstone, siltstone
127	OC-0037	44 39.0	125 10.0	AD	Calcareous siltstone, clayey siltstone
128	OC-0041	44 39.0	125 11.0	AD	Clayey siltstone
129	OC-0008	44 39.1	125 00.5		Limestone
130	OC-0038	44 39.1	125 19.5	AD	Sandstone, clayey silt
131	OC-0006	44 39.6	124 52.6		Calcareous siltstone
132	OC-0020	44 39.7	124 27.0	F	Siltstone
133	OC-0003	44 39.9	124 50.3	F	Calcareous siltstone, silty limestone
134	OC-0013	44 40.0	124 56.0	F	Clinker
135	OC-0034	44 40.5	124 31.5	G	Diatomaceous siltstone
136	OC-0011	44 40.6	124 58.9	F	Coal
137	6305-3	44 41.0	125 06.0	P	Friable mudstone
138	OC-0044	44 44.8	124 32.3	F	Silty limestone

may represent calcareous concretions which have "weathered" from the less resistant siltstone or shale. The stiff gray clay (sample 54) may be shale in a stage of formation, or possibly is a submarine "weathering" product of a shale or mudstone. Several samples are believed to have been dropped from ships, and are thought not to have been in place at the time of collection, for example, the clinkers and coal of samples 93, 115, 134, 136.

In view of the current interest in the petroleum possibilities of the area off the coast of Oregon, these rock samples have been made available for examination at the Department of Oceanography on the campus of Oregon State University in Corvallis. Arrangements for such an examination may be made by contacting Dr. John V. Byrne at the Department of Oceanography.

Acknowledgements: The rocks were collected during the course of research carried out under contract with the Office of Naval Research, Contract Nonr 1286; (10) Project NR 083-102.

* * * * *



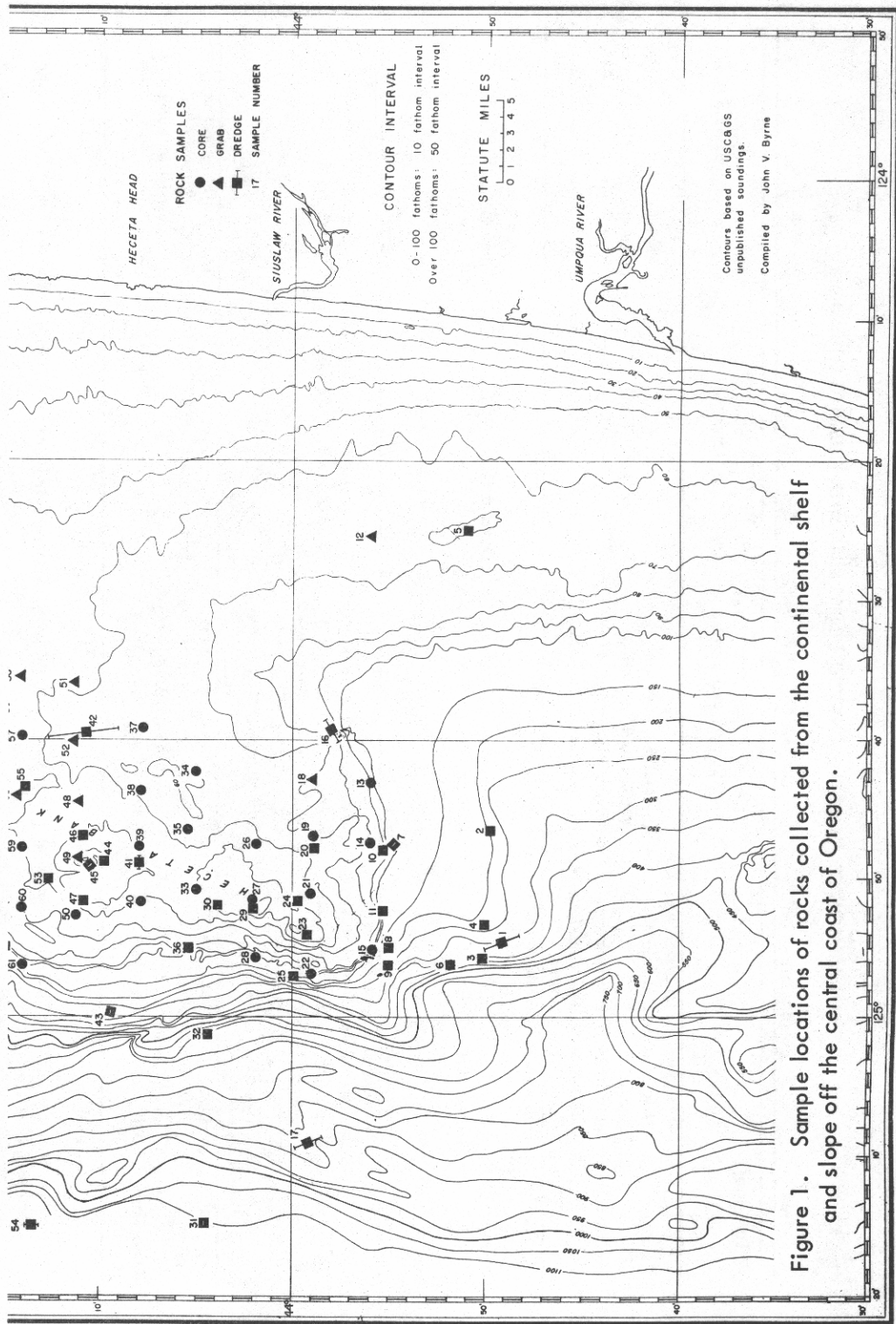


Figure 1. Sample locations of rocks collected from the continental shelf and slope off the central coast of Oregon.

COMPARISON OF THREE CURRENT WILDERNESS BILLS WITH EXISTING SITUATION

Item	Existing Situation*	Dingell Bill (H. R. 9162)	Saylor Bill (H. R. 9070)	S. 4
Length of Bill		15 pages and 5 lines	15 pages	21 pages and 3 lines
Title	1-National Forest Wilderness, Wild, Canoe and Primitive Areas. 2-National Park System. 3-National Wildlife Refuge and Game Range System.	To establish National Wilderness Preservation System, etc.	Same as H. R. 9162	Same as H. R. 9162
Purpose	1-To secure benefits of enduring resource of wilderness. 2-To conserve and enjoy scenery, natural and historical objects unimpaired. 3-To protect & manage wildlife resources.	To secure benefits of enduring resource of wilderness.	Same as H. R. 9162	Same as H. R. 9162
Definition of Wilderness	1-"Tract of land established under regulation U-1 (or U-2) in which the primitive environment has been preserved." (F.S. Manual) 2-None 3-None	Area "untrammelled by man" where man is visitor only. 5,000 acres or more undeveloped federal land retaining primeval character.	Same as H. R. 9162	Same as H. R. 9162
Extent of System in Wilderness Administration	1-N.F. wilderness-type areas - 14.7 million acres. 2-N.P. System - 22 million A. 3-N.W.R. System-25 million A.	8.6 million acres at outset. Potentially over 60 million acres with additions by Acts of Congress.	Same as H. R. 9162	14.7 million acres at outset. Potentially over 60 million acres unless vetoed by Congress.

*Numbers used under "Existing Situation" indicate: 1-on national forest units; 2-on national park units; 3-on national wildlife refuge and game range units.

Item	Existing Situation	Dingell Bill (H.R. 9162)	Saylor Bill (H. R. 9070)	S. 4	(Page 2)
Commercial Forest Land Included	1-4.7 million acres, 32% (U.S.D.A., 2/23/61) 2-Unknown 3-Unknown	2.9 million acres on national forests at outset. Potentially 4.7 million acres in national forests and unknown amount in national parks and wildlife refuges with additions by Acts of Congress.	Same as H. R. 9162	4.7 million acres or 32% of national forest wilderness-type areas (U.S.D.A.-2/23/61). Unknown amount in national parks and wildlife refuges.	
Percentage of System In West	1-94% in 11 Western States 2-About 90% 3-Same	About 90%	Same as H. R. 9162	Same as H. R. 9162	
Addition or Deletion	1-By Executive order of Chief of Forest Service or Secretary of Agriculture. 2-By proclamation of President or Act of Congress. Total elimination by Act of Congress. 3-Same	By Act of Congress	By Act of Congress	By Executive Branch recommendation and failure of Congress to veto.	
Review Period	1-Indefinite for primitive areas. 2-No review period for parks. 3-No review period for refuges or ranges.	10 years for primitive parks and national parks and wildlife units	Total of 5 years for primitive areas and national parks and wildlife units.	10 years for primitive areas and national park and wildlife units.	
Criteria for Recommended Inclusions	1-"forest officers will analyze all public values of the land and determine the highest public value." (F.S.Manual) 2-Meet national park standards. 3-Meet national wildlife refuge and national game range standards.	Primitive areas- "Suitability for preservation as wilderness." National Park-"Roadless portions of" suitable "for preservation as wilderness." Wilderness refuge-"portions of" suitable "for preservation as wilderness."	Primitive areas-"Suitability for preservation." National Park-"5,000 or more contiguous acres" without roads suitable "for continued preservation as wilderness." Wildlife refuge-5,000 or more contiguous acres without roads or "roadless islands within" suitable "for	Primitive areas-included at the outset. Possible deletion after review of "portions not predominantly of wilderness value." National Park-"5,000 acres or more without roads" which Secretary recommends not needed "for roads, motor trails, buildings, accommodations for visitors, and	

Item	Existing Situation	Dingell Bill (H. R. 9162)	Saylor Bill (H. R. 9070)	S. 4	(Page 3)
Criteria, continued			continued preservation as wilderness."	administrative installations. "Wilderness Refuge--"Such portions" as Secretary "may recommend."	
Status of Primitive Areas During Review Period	1-Continue to be administered by the Secretary of Agriculture as primitive areas.	"Continue to be administered by the Secretary of Agriculture as primitive areas" during 10-year review period or until Congress has acted.	"Continue to be administered by the Secretary of Agriculture as on the date of this Act until Congress has acted on or has determined otherwise."	Primitive areas included in system at outset.	
Status of Primitive Areas Not Included After Review Period	1-Become unreserved national forest land.	Not clear	Remain primitive areas until Congress acts on.	When no recommendation for continued inclusion of an area in system has become effective within 14 years, area "shall cease to be a part of the wilderness system."	
Roads	1-No roads permitted in national forest primitive, wilderness, wild or canoe areas except for ingress to or egress from privately owned property. 2-Roads permitted in national parks to meet minimum requirements of administration. Some 90% of system without roads and policy to keep it that way. 3-Roads permitted in wildlife refuge units to meet minimum requirements of administration. In practice, held to minimum.	"No permanent road." "No temporary road...except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act...subject to existing private rights."	"No permanent road...nor any temporary road...in excess of minimum required for the administration of the area for the purposes of this Act...subject to any existing private rights."	Same as H. R. 9070	

- 1-Not permitted in national forest wilderness-type areas.
- 2-Permitted only in roaded portions of national park system. No off-highway use.
- 3-Permitted only in roaded portions of national wildlife refuge system.

"No use of motor vehicles motorized equipment or motor boats, or landing of aircraft nor other form of mechanical transport, and no structure or installation...except as necessary to meet minimum requirements for administration."

No "use of motor vehicles motorized equipment or motor boats, or landing of aircraft, nor any other mechanical transport or delivery of persons or supplies... nor any structure or installation in excess of the minimum required, etc."

Same as H. R. 9070

Motor
Transporta-
tion and
Mechanized
Equipment

- 1-Permitted where established on national forest wilderness-type areas.
- 2-Landing of aircraft prohibited. Motorboats by permission of park superintendent.
- 3-Not permitted unless compatible with refuge and range objectives.

"May be permitted to continue subject to such restrictions as the Secretary...deems desirable."

Same as H. R. 9162

"Shall be permitted to continue subject to such regulations as the appropriate Secretary finds necessary."

Established
Use of
Aircraft or
Motorboats

- 1-Protection measures permitted by administrative discretion on national forest wilderness type areas.
- 2-Protection measures permitted when considered necessary on park units.
- 3-Protection measures permitted as necessary to wildlife protection and management.

"Such measures may be taken as may be necessary in the control of fire, insects and diseases, subject to such conditions as the appropriate Secretary deems desirable."

Same as H. R. 9162

"Such measures may be taken as are necessary in the control of fire, insects, and diseases, subject to such regulations as the appropriate Secretary finds necessary."

Protection
Against
Fire, Insects
and
Diseases

Item	Existing Situation	Dingell Bill (H. R. 9162)	Saylor Bill (H. R. 9070)	S. 4 (Page 5)
Commercial Timber Harvesting	1-None except In Boundary Waters Canoe Area under special Act of Congress. 2-None in national park units. 3-Permitted as tool in wildlife management	None except in Boundary Waters Canoe Area	None except in Boundary Waters Canoe Area	None except in Boundary Waters Canoe Area.
Grazing of Livestock	1-Regulations permit on national forest wilderness-type areas. Often excluded. 2-Generally excluded on national parks. Some grazing on monuments. 3-Permitted as tool in wildlife management.	Where established on national forest areas, "shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture."	Same as H. R. 9162	Where established on national forest and public domain areas, "shall be permitted to continue subject to such regulations as are deemed necessary by the Secretary."
Mining and Mineral Leasing	1-Mineral Leasing and mining laws continue in force on national forest wilderness-type areas. 2-Mining excluded from national parks with few exceptions. 3-Mining permitted when compatible with wildlife management.	Existing laws pertaining to mineral leasing and mining extended to December 31, 1973 on areas in system. After that date no patents shall issue "except for valid claims filed on or before December 31, 1973."	Prospecting for minerals can continue within national forest areas if "compatible with the preservation of the wilderness environment. "Periodic mineral surveys by Geological Survey and Bureau of Mines on national forest areas. No provision for development and mining of minerals.	Within national forest and public domain areas included in system, "President may, within a specific area and in accordance with such regulations as he may deem desirable, authorize prospecting and mining."
Water and Power Projects	1-Permitted according to withdrawals by Federal Power Commission (private projects) or B.L.M. (Public projects). 2-Not permitted in national park units. 3-Generally not permitted	Within national forest areas in system, "President may, within a specific area and in accordance with such regulations as he may deem desirable, authorize prospecting for water resources, the	Same as H. R. 9162	Within national forest and public domain areas included in system, "President may, within a specific area and in accordance with such regulations as he may deem desirable, authorize...

Item	Existing Situation	Dingell Bill (H. R. 9162)	Saylor Bill (H. R. 9070)	S. 4	(Page 6)
Water & Power Projects, Cont.	in national wildlife refuges and game ranges.	establishment and maintenance of reservoirs, water conservation works, power projects, transmission lines, and other facilities needed in the public interest, including the road construction and maintenance essential to development and use thereof..."		establishment and maintenance of reservoirs, water conservation works, transmission lines, and other facilities needed in the public interest including the road construction and maintenance essential to development and use thereof...."	
Commercial Services	1-Permitted when compatible with wilderness administration. 2-Permitted when compatible with national park objectives. 3-Permitted when compatible with wildlife management goal.	"May be performed...to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas."	Same as H. R. 9162	Same as H. R. 9162	
Hunting and Fishing	1-Permitted on national forest wilderness-type areas. 2-Fishing permitted on most park units. Hunting not permitted. 3-Hunting permitted on national game ranges, not on wildlife refuges. Fishing permitted on both.	"Secretary of Agriculture shall...permit hunting and fishing...to the extent that it is not incompatible with wilderness preservation" and without affecting jurisdiction of States.	Same as H. R. 9162	Not clear. Nothing in Act to affect jurisdiction or responsibilities of States with respect to wildlife and fish in the national forests."	

Item	Existing Situation	Dingell Bill (H. R. 9162)	Saylor Bill (H. R. 9070)	S. 4	(Page 7)
Surrounded Non-Federal Land	1-Can be exchanged or purchased when funds authorized. 2-Same 3-Same	Where its land is completely surrounded by lands in system, State shall be given either (1) such rights as may be necessary to assure adequate access..or(2)..lands in the same State, not exceeding the value of the surrounded land in exchange. "Where privately owned lands (or) mining claims..are wholly within a wilderness area.. Secretary of Agriculture shall, by reasonable regulations consistent with preservation of the area of wilderness, permit ingress and egress by means... customarily enjoyed." Secretary of Agriculture is authorized to acquire private land within the perimeter of any area if (1) the owner concurs or (2) if acquisition is authorized by Congress.	Same as H.R. 9162 (No provision in any of bills for lands in exchange for lands as provided for surrounded State lands.)	For surrounded State land, same as H.R. 9162. For privately-owned land "with-in any portion of...system under his jurisdiction" Secretary of Interior and Agriculture subject to approval of funds by Congress, "are each authorized to acquire as part of the wilderness system." Does not confer right of condemnation or impair "customary" access rights.	
Public Hearings	1-Held by Forest Service in local areas on proposals to reclassify primitive areas. 2-Held by House and Senate Interior Committees on national park legislative	Prior to submitting any recommendations to President on suitability of any area for preservation as wilderness, Secretaries of Agriculture and Interior shall give appropriate public notice and hold public hearing or hearings convenient	Same as H. R. 9162	Same as H.R. 9162 except that 10 federal agencies concerned are listed and "it shall be the responsibility of each named federal agency to submit its independent views concerning the designation of an area as 'wilderness'	

Item	Existing Situation	Dingell Bill (H. R. 9162)	Saylor Bill (H. R. 9070)	S. 4	(Page 8)
Public Hearings, Cont.	proposals. 3-Held by House and Senate Interior Committeees on national wildlife refuge legislative proposals.	to area affected and invite views on proposed action by Governor of State, governing board of each county or borough (Alaska) and federal departments and agencies concerned. Such views included with recommendations to Congress.		giving an analysis of the comparative values that may be involved as between wilderness and that type of development or uses for which the federal agency has administrative responsibility."	
Land Use Commission	1-None 2-None 3-None	None provided.	None provided.		Presidential Land Use Commission established for "any State having more than 90 per centum of its total land area owned by the federal government on January 1, 1961 (Alaska). Commission "shall make recommendations to the appropriate Secretary as to how the federally owned land can best be utilized, developed, protected, and preserved." Such recommendations to accompany any recommendations to Congress.
Periodic Review	1-Periodic reviews of all resource values permitted by law in areas administered for wilderness, but not conducted in practice. 2-Same 3-Same	None provided.	None provided except for "planned, recurring" survey of mineral values by Geological Survey and Bureau of Mines. Results to be available to public and submitted to Congress.		

Compiled by:

H. R. Glascock, Jr.
Western Forestry and Conservation Association
712 U.S. National Bank Building
Portland, Oregon 97204

December 30, 1963

None provided.

MAP OF STATE OFFSHORE LAND OFFERED FOR OIL AND GAS LEASING

OREGON

AREA OF MAP

EXPLANATION

- 3-mile limit (State-Federal boundary)
- 102 Federal lease block
- X=954,560 Y=649,440 Oregon Lambert grid co-ordinates
- Parcel No.
- State land offered for lease
- Acreage of parcel

Map Details:

- Scale:** 0 to 40,000 FEET
- North Arrow:** N
- Grid Coordinates:**
 - X: 954,560, 965,240, 974,000, 984,560, 994,120, 1,002,080
 - Y: 506,880, 522,720, 554,400, 570,240, 586,080, 601,920, 617,760, 633,600, 649,440, 665,280, 681,120, 696,960, 712,800, 728,640, 744,480, 760,320, 776,160, 792,000, 807,840, 823,680, 839,520, 855,360, 871,200, 887,040, 902,880, 918,720, 934,560, 950,400, 966,240, 982,080, 997,920, 1,013,760, 1,029,600, 1,045,440, 1,061,280, 1,077,120, 1,092,960, 1,108,800, 1,124,640, 1,140,480, 1,156,320, 1,172,160, 1,188,000, 1,203,840, 1,219,680, 1,235,520, 1,251,360, 1,267,200, 1,283,040, 1,298,880, 1,314,720, 1,330,560, 1,346,400, 1,362,240, 1,378,080, 1,393,920, 1,409,760, 1,425,600, 1,441,440, 1,457,280, 1,473,120, 1,488,960, 1,504,800, 1,520,640, 1,536,480, 1,552,320, 1,568,160, 1,584,000, 1,599,840, 1,615,680, 1,631,520, 1,647,360, 1,663,200, 1,679,040, 1,694,880, 1,710,720, 1,726,560, 1,742,400, 1,758,240, 1,774,080, 1,789,920, 1,805,760, 1,821,600, 1,837,440, 1,853,280, 1,869,120, 1,884,960, 1,900,800, 1,916,640, 1,932,480, 1,948,320, 1,964,160, 1,979,920, 1,995,760, 2,011,600, 2,027,440, 2,043,280, 2,059,120, 2,074,960, 2,090,800, 2,106,640, 2,122,480, 2,138,320, 2,154,160, 2,169,920, 2,185,760, 2,201,600, 2,217,440, 2,233,280, 2,249,120, 2,264,960, 2,280,800, 2,296,640, 2,312,480, 2,328,320, 2,344,160, 2,359,920, 2,375,760, 2,391,600, 2,407,440, 2,423,280, 2,439,120, 2,454,960, 2,470,800, 2,486,640, 2,502,480, 2,518,320, 2,534,160, 2,549,920, 2,565,760, 2,581,600, 2,597,440, 2,613,280, 2,629,120, 2,644,960, 2,660,800, 2,676,640, 2,692,480, 2,708,320, 2,724,160, 2,739,920, 2,755,760, 2,771,600, 2,787,440, 2,803,280, 2,819,120, 2,834,960, 2,850,800, 2,866,640, 2,882,480, 2,898,320, 2,914,160, 2,929,920, 2,945,760, 2,961,600, 2,977,440, 2,993,280, 3,009,120, 3,024,960, 3,040,800, 3,056,640, 3,072,480, 3,088,320, 3,104,160, 3,119,920, 3,135,760, 3,151,600, 3,167,440, 3,183,280, 3,199,120, 3,214,960, 3,230,800, 3,246,640, 3,262,480, 3,278,320, 3,294,160, 3,309,920, 3,325,760, 3,341,600, 3,357,440, 3,373,280, 3,389,120, 3,404,960, 3,420,800, 3,436,640, 3,452,480, 3,468,320, 3,484,160, 3,499,920, 3,515,760, 3,531,600, 3,547,440, 3,563,280, 3,579,120, 3,594,960, 3,610,800, 3,626,640, 3,642,480, 3,658,320, 3,674,160, 3,689,920, 3,705,760, 3,721,600, 3,737,440, 3,753,280, 3,769,120, 3,784,960, 3,800,800, 3,816,640, 3,832,480, 3,848,320, 3,864,160, 3,879,920, 3,895,760, 3,911,600, 3,927,440, 3,943,280, 3,959,120, 3,974,960, 3,990,800, 4,006,640, 4,022,480, 4,038,320, 4,054,160, 4,069,920, 4,085,760, 4,101,600, 4,117,440, 4,133,280, 4,149,120, 4,164,960, 4,180,800, 4,196,640, 4,212,480, 4,228,320, 4,244,160, 4,259,920, 4,275,760, 4,291,600, 4,307,440, 4,323,280, 4,339,120, 4,354,960, 4,370,800, 4,386,640, 4,402,480, 4,418,320, 4,434,160, 4,449,920, 4,465,760, 4,481,600, 4,497,440, 4,513,280, 4,529,120, 4,544,960, 4,560,800, 4,576,640, 4,592,480, 4,608,320, 4,624,160, 4,639,920, 4,655,760, 4,671,600, 4,687,440, 4,703,280, 4,719,120, 4,734,960, 4,750,800, 4,766,640, 4,782,480, 4,798,320, 4,814,160, 4,829,920, 4,845,760, 4,861,600, 4,877,440, 4,893,280, 4,909,120, 4,924,960, 4,940,800, 4,956,640, 4,972,480, 4,988,320, 5,004,160, 5,019,920, 5,035,760, 5,051,600, 5,067,440, 5,083,280, 5,099,120, 5,114,960, 5,130,800, 5,146,640, 5,162,480, 5,178,320, 5,194,160, 5,209,920, 5,225,760, 5,241,600, 5,257,440, 5,273,280, 5,289,120, 5,304,960, 5,320,800, 5,336,640, 5,352,480, 5,368,320, 5,384,160, 5,399,920, 5,415,760, 5,431,600, 5,447,440, 5,463,280, 5,479,120, 5,494,960, 5,510,800, 5,526,640, 5,542,480, 5,558,320, 5,574,160, 5,589,920, 5,605,760, 5,621,600, 5,637,440, 5,653,280, 5,669,120, 5,684,960, 5,700,800, 5,716,640, 5,732,480, 5,748,320, 5,764,160, 5,779,920, 5,795,760, 5,811,600, 5,827,440, 5,843,280, 5,859,120,

$$\begin{array}{r} 124^{\circ}15' \\ + \quad 43^{\circ}00' \\ \hline \end{array}$$

OFFSHORE AREA SELECTED FOR LEASING

The State Land Board announced on May 24, 1964, that 16 parcels of tide and submerged land between Reedsport and Bandon, totalling 136,300 acres, would be offered for oil and gas leasing in October (see map). Bottom lands at the mouth of the Umpqua River and in Coos Bay will be open to oil and gas leasing, but no drilling will be allowed on either parcel. It will be necessary to slant-drill wells from adjacent shoreland in order to explore for oil beneath the embayments.

Oregon law requires that a public hearing be held before any offshore leases are granted so that it can be definitely determined that leasing would be in the best interest of the State. The specific date for the hearing, which will probably be some time in July, will be announced by the Land Board.

* * * * *

SEISMOGRAPH INSTALLED AT OMSI

The Oregon Museum of Science and Industry has recently completed installation of a seismograph given it by the U.S. Coast and Geodetic Survey. Installation was performed by two seismologists from Oregon State University. The delicate sensing mechanism which detects the faint tremors of the earth generated by earthquakes, storms at sea, and other vibrations, including man-made ones, is mounted on top of a 48-foot concrete column under the museum. The recording part of the machine is on display in the Industrial Wing of the building, where a visible record is traced on a revolving drum which must be changed daily.

* * * * *

NORTHEAST OREGON GROUND-WATER REPORTS PUBLISHED

Two Water-Supply Papers recently issued by the U.S. Geological Survey describe the geology and the ground-water potential of large areas in north-eastern Oregon. Water-Supply Paper 1597, "Geology and ground-water resources of the upper Grande Ronde River basin, Union County," by E. R. Hampton and S. G. Brown, covers most of Union County. Water-Supply Paper 1620, "Geology and ground water of the Umatilla River basin, Oregon," by G. M. Hogenson, covers large parts of Umatilla and Morrow Counties. Geologic maps and well records are supplied with each paper. Both reports are for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402. The price has not yet been announced.

* * * * *

PENDING MINING LEGISLATION

H.R. 10892 - Federal Purchase Program for Domestic Manganese - Clark, (Pa.). Committee on Interior and Insular Affairs. Would direct the Secretary of the Interior to make a survey of the domestic manganese mining industry and determine the price required to be paid to domestic producers in order to achieve maximum production of manganese from mines in the United States and thereby diminish or eliminate reliance on supplies from foreign sources.

Would also direct the Secretary to establish a program for the purchase and resale of domestic produced manganese. Purchases would be at the price or prices determined by the Secretary. Sales would be at public auction in accordance with regulations established by the Secretary.

S. 2764 - Amend Mining Laws--Validity of Claims - Cannon (Nev.) and Goldwater (Ariz.). Committee on Interior and Insular Affairs. Would provide that a "valuable mineral deposit" within the meaning of the mining laws can be proved by establishing that such deposit was marketable at the time application for patent was made. It would apply only to claims located prior to July 23, 1955, the date of enactment of Public Law 167, which removed common varieties of several minerals, including sand and gravel, from the purview of the mining laws.

S. 2765 - Amend Mining Laws--Sand and Gravel - Cannon (Nev.), Goldwater (Ariz.) and Mechem (N.M.). Committee on Interior and Insular Affairs. Would provide that deposits of sand and gravel which can be mined, processed and marketed for use as high-grade construction aggregates are locatable under the mining laws.

H.R. 8305 - Notification of Public Land Actions - Aspinall (Colo.) Leg. Bull. 64-3, p. 3. In Senate Interior Committee following House passage April 6.

Would provide that until June 30, 1968, the Secretary of the Interior may not effect a withdrawal, reservation, restriction, or change in use designation or classification involving more than 2,560 acres of public lands until after the expiration of 60 days from the date upon which detailed information concerning the proposed action is submitted to Congress. Similar notice would be required before the Secretary of Agriculture could effect any formal classification or designation of national forest lands involving 5,000 acres or more. (American Mining Congress Legislative Bull. No. 64-4, April 30, 1964)

* * * * *

ASTORIA FORMATION WORK PUBLISHED BY SURVEY

An important contribution to Oregon geology recently issued by the U. S. Geological Survey is Professional Paper 419, "Miocene marine mollusks from the Astoria Formation in Oregon," by Ellen James Moore. In this comprehensive work, Mrs. Moore has brought together all available information on the geology and paleontology of the Miocene Astoria Formation. She has restudied old fossil collections of early workers and has added new material she obtained from dredgings in Coos Bay, where Miocene rocks were not previously known. The 109-page publication has an additional 32 pages of photographs of fossils. It also includes columnar sections of the Newport area and a check list of fossils from 187 localities along the coast between the Astoria area and Coos Bay. The report may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington D. C., 20402. The price is \$2.75.

Recommended as a supplement to Professional Paper 419 is the report by Betty Rae Dodds, "The relocation of geologic locales in Astoria, Oregon," which was published in the July 1963 ORE BIN after Mrs. Moore's report had gone to press.

* * * * *

BOHEMIA DISTRICT MINES TO BE DIAMOND DRILLED

Federal Resources Corp. of Salt Lake City has entered into an agreement with Lane Minerals, Inc., of Cottage Grove to explore mines and prospects located on a total of 156 patented and unpatented mining claims in the Bohemia mining district southeast of Cottage Grove in southern Lane County. The district has been a sporadic producer of gold, silver, copper, lead, and zinc since it was discovered in 1858.

Heavy snows in the hills in the Bohemia district will delay any serious work until at least June 1, when surface and underground exploration, including diamond drilling and tunneling, will get under way. Mines involved in the program are the Champion, Evening Star, Musick, and numerous other smaller mines and prospects.

Strengthening prices for silver, copper, lead, and zinc are furnishing the incentive for the exploration program by Federal Resources. The company has been a major uranium producer in the Southwest and has recently diversified into the production of other metals.

* * * * *

AMERICAN MINING CONGRESS CONVENTION

Portland, Oregon

September 13 - 16, 1964

BARTER FOR CHROME ORE AND FERROCHROMIUM

The Department of Agriculture has invited U. S. firms to submit barter offers for metallurgical-grade chrome ore mined in and exported from Turkey, and high- and low-carbon ferrochromium produced in the United States from chrome ore or concentrates produced in Turkey. Deadline for submission of offers is April 6.

The project will provide for exchange of about 100,000 long dry tons of metallurgical-grade chrome ore from Turkey and about 7,500 short tons each of high- and low-carbon ferrochromium for equivalent value of Commodity Credit Corporation-owned agricultural commodities specified in the invitation for export to Finland, Yugoslavia, Poland, and Israel. Subject to prior CCC approval, commodities may be shipped to other countries under conditions also outlined in the invitation. (AMC News Bulletin No. 64-7, March 26, 1964)

* * * * *

ASH GROVE LIME & PORTLAND CEMENT CO. PLANT OPENS

The world's newest and most fully automated lime plant went into production in Portland on April 29. Ash Grove Lime & Portland Cement Co. of Kansas City, Missouri, built the \$3 million plant which uses high-calcium limestone imported from Texada Island, British Columbia. One of the unusual features of the plant is the vertical axis rotary hearth, which is used instead of the normal horizontally revolving kiln. Uniform quality is obtained by automatic controls which adjust the speed of rotation, depth of the bed, and heat from the gas burners.

Burned lime has been used by man since early historical times. Today lime is utilized in metallurgical processes, water treatment, wood pulp production, leather manufacture, paint production, and numerous other applications.

* * * * *

NOTICE: The List of Available Publications shown on the inside back cover of the April to June issues of The ORE BIN has been out-moded. For the current list of Short Papers, please refer to the outside back cover. Bull. 50 is out of print; Bull. 52 is available at \$3.50; Bull. 53, Third Supplement to the Bibliography, is \$1.50; Bull. 54, Thirteenth Biennial Report, is free; and Bull. 55, Quicksilver in Oregon, \$3.50.

AVAILABLE PUBLICATIONS

(Please include remittance with order. Postage free. A complete list of publications will be mailed upon request.)

BULLETINS

2. Progress report on Coos Bay coal field, 1938: F. W. Libbey	0.15
8. Feasibility of steel plant in lower Columbia River area, rev., 1940: R.M. Miller	0.40
14. Oregon metal mines handbooks: by the staff	
C. Vol. II, Section I, Josephine County, 1952 (2d ed.)	1.25
D. Northwestern Oregon, 1951	1.25
26. Soil: Its origin, destruction, preservation, 1944: W. H. Twenhofel	0.45
27. Geology and coal resources of Coos Bay quadrangle, 1944: Allen & Baldwin	1.00
33. Bibliography (first supplement) of geology and mineral resources of Oregon,	
1947: J. E. Allen	1.00
34. Mines and prospects of Mt. Reuben mining district, Josephine County, Oregon,	
1947: E. A. Youngberg	0.50
36. (1st vol.) Five papers on Western Oregon Tertiary foraminifera, 1947:	
Cushman, Stewart, and Stewart	1.00
(2nd vol.) Two papers on Western Oregon and Washington Tertiary foraminifera,	
1949: Cushman, Stewart, and Stewart; and one paper on mollusca and	
microfauna, Wildcat coast section, Humboldt County, Calif., 1949:	
Stewart and Stewart	1.25
37. Geology of the Albany quadrangle, Oregon, 1953: Ira S. Allison	0.75
40. Preliminary description, geology of the Kerby quadrangle, Oregon, 1949:	
Wells, Hotz, and Cater	0.85
41. Ground-water studies, Umatilla and Morrow counties, 1949: Norman S. Wagner	1.25
44. Bibliography (2nd supplement) of geology and mineral resources of Oregon,	
1953: M. L. Steere	1.00
45. Ninth biennial report of the Department, 1952-54	Free
46. Ferruginous bauxite deposits, Salem Hills, Marion County, Oregon, 1956:	
R. E. Corcoran and F. W. Libbey	1.25
47. Tenth biennial report of the Department, 1954-56	Free
49. Lode mines, central Granite Mining District, Grant County, Oregon, 1959:	
Geo. S. Koch, Jr.	1.00
50. Field guidebook - geologic trips along Oregon highways, 1959: Prepared	
under direction of W. D. Wilkinson	1.50
51. Twelfth biennial report of the Department, 1958-60	Free
52. Chromite in Southwestern Oregon, 1961: Len Ramp	In press

SHORT PAPERS

2. Industrial aluminum, a brief survey, 1940: Leslie L. Motz	0.10
4. Flotation of Oregon limestone, 1940: J. B. Clemmer & B. H. Clemmons	0.10
7. Geologic history of the Portland area, 1942: Ray C. Treasher	0.25
12. Prelim. report, high-alumina iron ores, Washington County, Oregon, 1944:	
Libbey, Lowry, and Mason	0.15
13. Antimony in Oregon, 1944: Norman S. Wagner	0.25
14. Notes on building-block materials of eastern Oregon, 1946: Norman S. Wagner	0.15
17. Sodium salts of Lake County, Oregon, 1947: Ira S. Allison and Ralph S. Mason	0.15
18. Radioactive minerals the prospectors should know (2d rev.), 1955:	
White and Schafer	0.30
19. Brick and tile industry in Oregon, 1949: J. E. Allen and R. S. Mason	0.20
20. Glazes from Oregon volcanic glass, 1950: Charles W. F. Jacobs	0.20
21. Lightweight aggregate industry in Oregon, 1951: Ralph S. Mason	0.25
22. Prelim. report on tungsten in Oregon, 1951: H. D. Wolfe & D. J. White	0.35

(Continued on back cover)

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 Department of Geology & Mineral Industries
 1069 State Office Bldg., Portland, Oregon 97201
 POSTMASTER: Return Requested

The Ore Bin



Available Publications, Continued:

SHORT PAPERS

2. Industrial aluminum, a brief survey, 1940: Leslie L. Motz	0.10
13. Antimony in Oregon, 1944, Norman S. Wagner	0.25
17. Sodium salts of Lake County, Oregon, 1947: Ira S. Allison & Ralph S. Mason	0.15
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21. Lightweight aggregate industry in Oregon, 1951: Ralph S. Mason	0.25
22. Prelim. report on tungsten in Oregon, 1951: H.D. Wolfe & D.J. White	0.35
23. Oregon King Mine, Jefferson County, 1962: F.W. Libbey & R.E. Corcoran	1.00

MISCELLANEOUS PAPERS

2. Key to Oregon mineral deposits map, 1951: Ralph S. Mason	0.15
3. Facts about fossils (reprints), 1953	0.35
4. Rules and regulations for conservation of oil and natural gas (revised 1962)	1.00
5. Oregon's gold placers (reprints), 1954	0.25
6. Oil and gas exploration in Oregon, 1954: R. E. Stewart	1.00
6. (Supplement) Oil and gas exploration in Oregon, 1960: V.C. Newton, Jr.	0.35
7. Bibliography of theses on Oregon geology, 1959: H. G. Schlicker	0.50
8. Available well records of oil & gas exploration in Oregon, rev. 1963: Newton	0.50
9. Petroleum exploration in Oregon (reprints): 1962	1.00

MISCELLANEOUS PUBLICATIONS

Oregon mineral deposits map (22 x 34 inches) rev., 1958	0.30
Oregon quicksilver localities map (22 x 34 inches) 1946	0.30
Landforms of Oregon: a physiographic sketch (17 x 22 inches) 1941	0.25
Index to topographic mapping in Oregon, 1961	Free
Index to published geologic mapping in Oregon, 1960	Free
Geologic time chart for Oregon, 1961	Free
Geology of Portland, Oregon & adjacent areas, 1963: U.S.G.S. Bulletin 1119	2.00

OIL and GAS INVESTIGATIONS SERIES

1. Petroleum Geology of the Western Snake River Basin, Oregon-Idaho, 1963: V. C. Newton, Jr., and R. E. Corcoran	2.50
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