

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LIST OF REPORTS PERTAINING TO GROUND WATER IN OREGON

Compiled by

B. L. Foxworthy

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Prepared in cooperation with the Oregon State Engineer
Not reviewed for conformance with the editorial standards
of the Geological Survey

Portland, Oregon

May 1962

Free of charge

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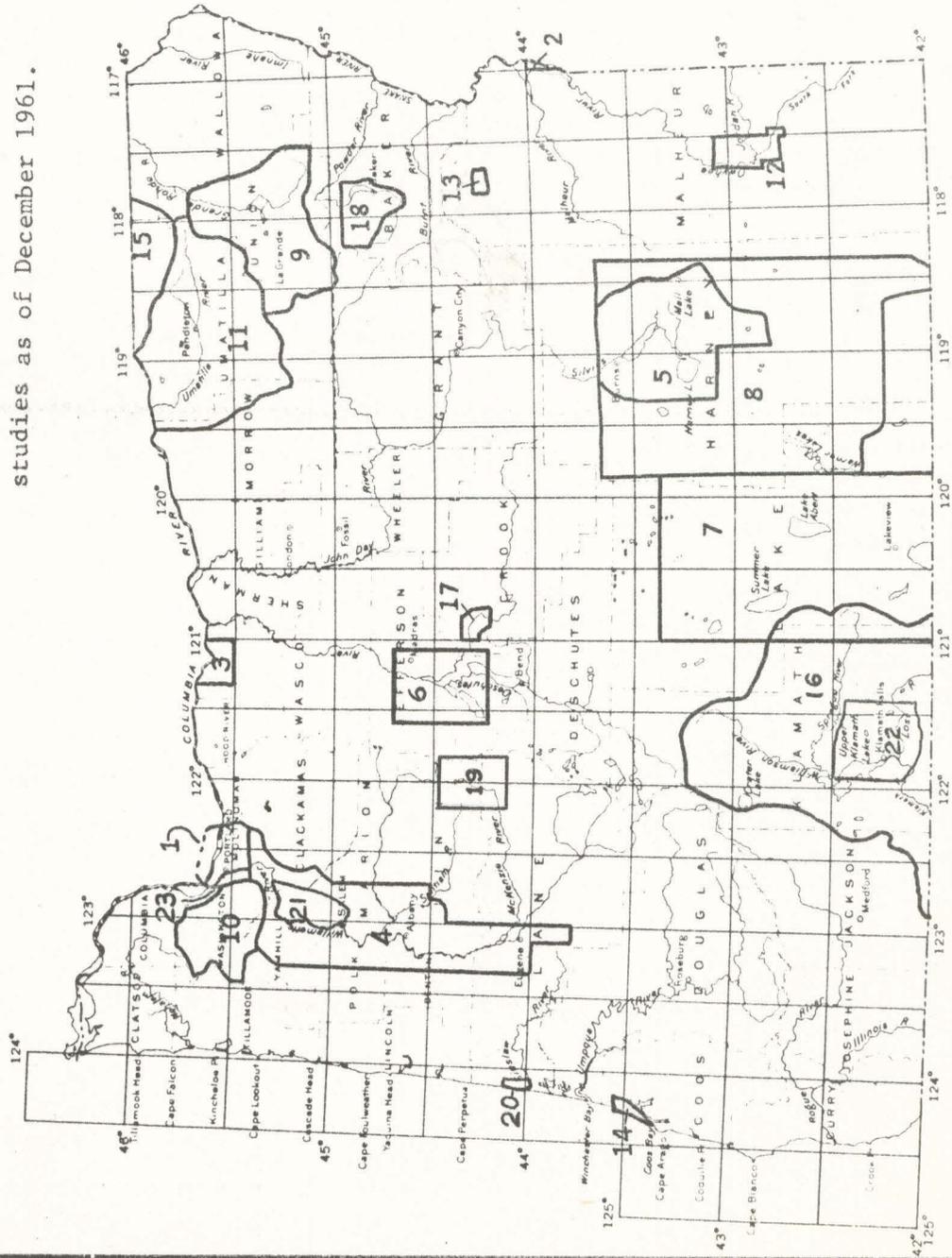
The following list represents a compilation of the published reports and the known open-file documents that deal primarily or largely with ground water. Reports on which work is now underway (1961) by the Ground Water Branch of the Geological Survey also are listed. This list was revised from a similar list compiled by R. C. Newcomb (1956).

Excluded from the list are many published and unpublished works that make only secondary reference to ground water, though they give some ground-water data as a minor part of their subject matter. Among such excluded works are topographic maps, reports on surface-water resources, reports on land- and mine-drainage situations, snow- and weather-data compilations, soil surveys, geologic reports, and many technical papers that deal mainly with subjects such as silviculture, farming, and engineering, but touch in part on ground-water occurrences.

Figure 1 shows the location and extent of the areas covered by completed reports that describe the ground-water conditions in specific areas. A number in parentheses, as (3), following the listed titles of an areal report refers to its designation on figure 1.

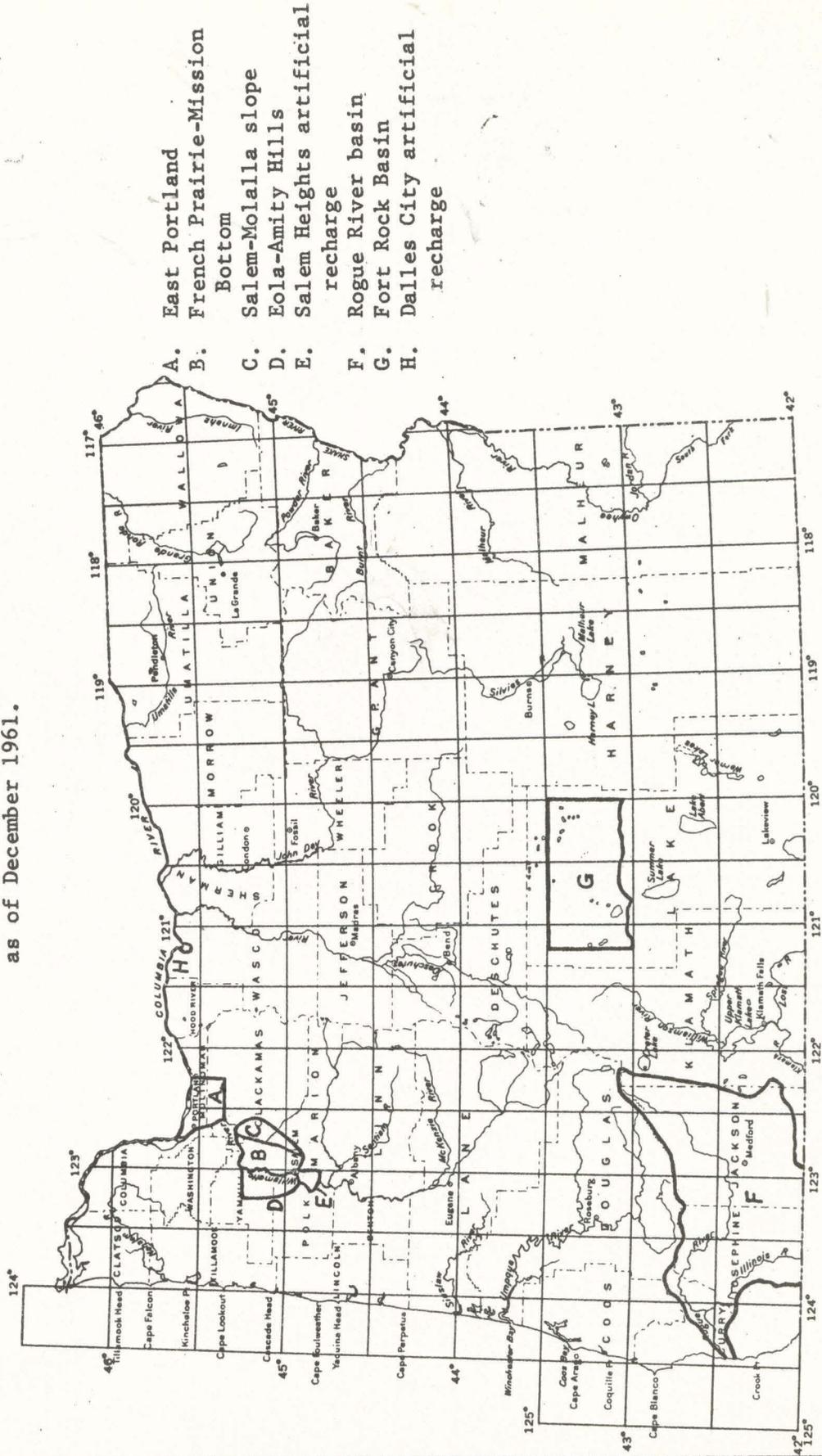
Areas in which ground-water studies are currently in progress are shown in figure 2.

Figure 1.-- Map of Oregon showing areas of completed areal ground-water studies as of December 1961.



Numbers shown on map
refer to reports listed
in the appendix

Figure 2.--Map of Oregon showing areas of current areal ground-water studies as of December 1961.



- A. East Portland
- B. French Prairie-Mission Bottom
- C. Salem-Molalla slope
- D. Eola-Amity Hills
- E. Salem Heights artificial recharge
- F. Rogue River basin
- G. Fort Rock Basin
- H. Dalles City artificial recharge



U. S. Geological Survey Circulars--Continued

Circular
No.

398 MacKichan, K. A., 1957, Estimated use of water in the
United States, 1955: 18 p., 6 figs.

U. S. Geological Survey Geologic Atlas

Folio
No.

103 Lindgren, Waldemar, and Drake, N. F., 1904, Descrip- (2)
tion of the Nampa quadrangle, Idaho-Oregon:
5 p., 2 maps.

U. S. Geological Survey Professional Papers

Prof. Paper
No.

424-C Foxworthy, B. L., 1961, Deformed basaltic caprock as an
aquifer in Cow Valley, Oregon: Short paper, art.
203, 2 p., 1 fig.

424-B Hampton, E. R., 1961, Ground water from coastal dune and
beach sands: Short paper, art. 85, p. 204-205, 1 fig.

Newcomb, R. C., 1961, Structural barrier reservoirs of
ground water in the Columbia River Basalt: Short
paper, art. 88, p. 213-215, 1 fig.

383-A Newcomb, R. C., Storage of ground water behind subsurface
dams in the Columbia River Basalt, Washington, Oregon,
and Idaho: 15 p., 12 figs.

U. S. Geological Survey Water-Supply Papers

W.S.P.
No.

149 Darton, N. H., 1905, Preliminary list of deep borings
in the United States, 2nd ed.: p. 110.

120 Fuller, M. L., 1905, Bibliographic review and index of
papers relating to underground waters, 1879-1904:
128 p.

163 Fuller, M. L., Clapp, F. G., and Johnson, B. L., 1906,
Bibliographic review and index of water literature
published in the United States in 1905: 130 p.

1475-E Newcomb, R. C., 1961, Ground water in the western part of (12)
Cow Creek and Soldier Creek grazing units, Malheur
County, Oregon: p. 159-172, figs. 26-27.

659-B Piper, A. M., 1932, Geology and ground-water resources (3)
of The Dalles region, Oregon: p. 107-189, 9 pls.

890 _____, 1942, Ground-water resources of the Willamette (4)
Valley, Oregon: (Prepared in cooperation with
the Oregon Agr. Expt. Sta.), 194 p., 10 pls.

841 Piper, A. M., Robinson, T. W., and Park, C. F., Jr., (5)
1939, Geology and ground-water resources of the
Harney Basin, Oregon, with a statement on pre-
cipitation and tree growth by L. T. Jessup: (Pre-
pared in cooperation with the Oregon Agr. Expt. Sta.),
189 p., 20 pls.

U. S. Geological Survey Water-Supply Papers--Continued

W.S.P.
No.

- 78 Russell, I. C., 1903, Preliminary report on artesian basins in southwestern Idaho and southeastern Oregon: 53 p., 2 pls.
- 597-D Stearns, H. T., 1928, Geology and water resources of the upper McKenzie Valley, Oregon: p. 171-188, 3 pls. (19)
- 637-D _____, 1930, Geology and water resources of the middle Deschutes River basin, Oregon: p. 125-220, 9 pls. (6)
- 679-B Stearns, N. D., Stearns, H. T., and Waring, G. A., 1937, Thermal springs in the United States: p. 170-178. (7)
- 220 Waring, G. A., 1908, Geology and water resources of a portion of south-central Oregon: 86 p., 10 pls. (7)
- 231 _____, 1909, Geology and water resources of the Harney Basin region, Oregon: 93 p., 5 pls. (8)
- 992 Waring, G. A., and Meinzer, O. E., 1947, Bibliography and index of publications relating to ground water prepared by the Geological Survey and cooperating agencies: 412 p.

U. S. Geological Survey Water-Supply Papers--Continued

W.S.P.
No.

1300 U.S. Geol. Survey, 1954, The industrial utility of public water supplies in the United States, 1952, Part 2, States west of the Mississippi: p. 327-336 (also published in U.S. Geol. Survey Circ. 232, p. 60-71).

Measurements of water level and artesian pressure in the State of Oregon are given in the following water-supply papers ("Water levels and artesian pressures in observation wells in the United States, Part 5, Northwestern States"); the year of measurement is in parentheses:

777 (to 1935)	940 (1941)	1100 (1947)	1269 (1953)
817 (1936)	948 (1942)	1130 (1948)	1325 (1954)
840 (1937)	990 (1943)	1160 (1949)	1408 (1955)
845 (1938)	1020 (1944)	1169 (1950)	
886 (1939)	1027 (1945)	1195 (1951)	
910 (1940)	1075 (1946)	1225 (1952)	

Measurements of the flow of ground water from some prominent springs are published in the water-supply papers containing stream-discharge records.

Reports in Preparation as Water-Supply Papers

W.S.F.
No.

- 1619-0 Brown, S. G., Occurrence and use of ground water in (23)
the west-side business district of Portland,
Oregon: (Prepared in cooperation with the Oregon
State Engineer.)
- 1619-D Brown, S. G., and Newcomb, R. C., Ground-water resources (14)
of the coastal dune-sand area north of Coos
Bay, Oregon:
- 1619-M _____, Ground-water resources of Cow Valley, Malheur (13)
County, Oregon: (Prepared in cooperation with
the Oregon State Engineer.)
- 1539-K Hampton, E. R., Ground water in the coastal dune area (20)
near Florence, Oregon: (Prepared in cooperation
with the city of Florence.)
- 1597 Hampton, E. R., and Brown, S. G., Geology and ground- (9)
water resources of the upper Grande Ronde River
basin, Union County, Oregon: (Prepared in co-
operation with the Oregon State Engineer.)
- _____ Hart, D. H., and Newcomb, R. C., Ground water of the (10)
Tualatin Valley, Oregon: (Prepared in coopera-
tion with the Oregon State Engineer.)

Reports in Preparation as Water-Supply Papers--Continued

W.S.P.
No.

- (15) 1620 Hogenson, G. M., Geology and ground-water resources (11)
of the Umatilla River Basin area, Oregon:
- 1649 Phillips, K. N., Newcomb, R. C., and Swenson, H. A.,
Water for Oregon:
- (14) 1619-P Robinson, J. W., and Price, Don., Ground water in the (17)
Prineville area, Crook County, Oregon: (Pre-
pared in cooperation with the Oregon State
Engineer.)

Publications of the State of Oregon and Other Agencies

- (10) Oregon Bur. Municipal Research and Service, 1954, Water-supply
sources and water use in 187 Oregon cities: Rept. prepared
for Oregon Water Resources Comm., 31 p.
- Oregon State Engineer Biennial reports for the years 1905-06,
1907-08, 1909-10, 1915-16, 1920-22, 1936-38, and others.
(Contain some information on location, history, water
levels in, and use of wells and springs.)
- (11) Peterson, N. V., 1959, Lake County's new continuous geyser: The
Ore-Bin, v. 21, no. 9, p. 83-88.
- Piper, A. M., 1935, Ground-water resources of the Willamette (4)
Valley, Oreg.: Oregon Agr. Expt. Sta. dupl. rept., 3 p.
(Later included in WSP 890.)

Publications of the State of Oregon and Other Agencies--Continued

Piper, A. M., and others, 1935, Ground water in the Walla Walla Basin, Oreg.-Wash.: U. S. Supreme Court, transcript of October term, 1935, in equity, no. 11, p. 72-142, 12 pls.

Piper, A. M., 1937, The ground-water problem in Oregon: Oregon Agr. Expt. Sta. Circ. 124, 20 p.

Price, Don, 1961, Records of wells, water levels, and chemical quality of ground water in the French Prairie-Mission Bottom area, northern Willamette Valley, Oregon: Oregon Ground-Water Rept. no. 1, 314 p., 10 figs. (Prepared in cooperation with the U. S. Geological Survey.) (21)

Wagner, N. S., 1949, Ground-water studies in Umatilla and Morrow Counties: Oregon Dept. Geology and Mineral Industries Bull. 41, 100 p., map.

_____, 1959, Natural sources of carbon dioxide in Oregon: The Oregon Bin, v. 21, no. 11, p. 103-113.

Whistler, J. T., and Lewis, J. H., 1916, The Malheur and Owyhee Projects--irrigation and drainage: (A cooperative study by the U. S. Bur. of Reclamation and the Office of the Oregon State Engineer. Contains some records of borings and water levels.)

Journal Articles

- Newcomb, R. C., 1958, Ringold Formation of Pleistocene age in type locality, the White Bluffs, Washington: Am. Jour. Sci., v. 256, p. 328-340.
- _____, 1958, Yonna Formation of the Klamath River basin, Oregon: Northwest Sci., v. 32, no. 2, p. 41-48.
- _____, 1959, Some preliminary notes on the ground water of the Columbia River Basalt: Northwest Sci., v. 33, no. 1, p. 1-18.
- Waring, G. A., 1936, Two thermal springs in Idaho and Oregon: Geol. Soc. America Proc. (1935), p. 115-116. (Abs.)

Open-File Reports

- Brown, S. G., 1955, Occurrence of ground water in the Columbia River Basalt near Pilot Rock, Oregon: U. S. Geol. Survey typewritten rept. (Prepared in cooperation with the Oregon State Engineer), 9 p., 5 pls.
- _____, 1957, Occurrence of ground water near Ana Springs, Summer Lake basin, Lake County, Oregon: U. S. Geol. Survey typewritten rept. (Prepared in cooperation with the Oregon State Engineer), 28 p., 11 pls.
- Hart, Donald H., 1954, List of ground-water sources in Oregon known to yield mineralized water (over 1,000 ppm dissolved solids or 60 percent sodium): U. S. Geol. Survey, typewritten rept. (Prepared in cooperation with the Oregon State Engineer), 14 p.

Open-File Reports--Continued

- Hart, Donald H., 1958, Artificial recharge to ground water in Oregon and Washington: U. S. Geol. Survey dupl. rept., 55 p., 12 pls.
- Hogenson, G. M., 1953, Geology of the Boardman Bombing Range Reservation, Boardman, Oregon: U. S. Geol. Survey typewritten rept. (Prepared in cooperation with the U. S. Army Engineers), 5 p., 1 pl.
- Meyers, J. D., and Newcomb, R. C., 1952, Geology and ground-water resources of the Swan Lake-Yonna Valleys area, Klamath County, Oregon: U. S. Geol. Survey dupl. rept. (Prepared in cooperation with the Oregon State Engineer), 151 p., 10 pls. (22)
- Newcomb, R. C., 1951, The ground-water situation in Oregon: U. S. Geol. Survey dupl. rept. (Prepared in cooperation with the Oregon State Engineer), 19 p., 1 pl.
- _____, 1951, Preliminary report on the ground-water resources of the Walla Walla Basin, Washington-Oregon: U. S. Geol. Survey dupl. rept. (Prepared in cooperation with the Oregon State Engineer and Washington Dept. Conserv. and Devel.), 203 p., 9 pls. (15)
- _____, 1953, Ground water available for irrigation in the Fort Rock Basin, northern Lake County, Oreg.: U. S. Geol. Survey typewritten rept. (Prepared in cooperation with the Oregon State Engineer), 5 p.

Open-File Reports--Continued

- Newcomb, R. C., 1959, Ground water of the Columbia Basin: U. S. Geol. Survey dupl. rept., 7 p.
- Newcomb, R. C., and Hart, D. H., 1958, Preliminary report on (16) the ground-water resources of the Klamath River basin, Oregon: U. S. Geol. Survey dupl. rept. (Prepared in cooperation with the Oregon State Engineer, Calif. Div. of Water Resources, and U. S. Bur. Reclamation), 248 p., 10 pls.
- Piper, A. M., and others, 1937, Water resources and watershed protection problems of Oregon municipalities: Oregon Plan. Board Rept., Portland, Oregon, 26 p.
- Robinson, J. W., 1944, A canvass of public water supplies of the principal communities in Oregon: U. S. Geol. Survey typewritten rept. (Prepared in cooperation with the Oregon State Engineer.)
- Trauger, F. D., 1948, Preliminary report of ground-water occurrence near Beaverton, Washington County, Oregon: U. S. Geol. Survey typewritten rept. (Prepared in cooperation with the Oregon State Engineer), 26 p., 5 pls.
- _____, 1950, Ground-water resources of Baker Valley, Baker (18) County, Oreg.: U. S. Geol. Survey dupl. rept. (Prepared in cooperation with the Oregon State Engineer), 100 p., 15 pls.

Open-File Reports--Continued

- Trauger, F. D., 1950, Basic ground-water data in Lake County, Oregon: U.S. Geol. Survey dupl. rept. (Prepared in cooperation with the Oregon State Engineer), 287 p., 26 pls.
- Upson, J. E., 1940, Kah-Ne-Ta Spring and adjacent hot springs, Wasco County, Oregon: U.S. Geol. Survey dupl. rept. (Prepared in cooperation with the Oregon Agr. Expt. Sta.), 16 p., 1 map.
- Watkins, F. A., Jr., 1953, Construction of Parshall Flumes on spring branches of the Walla Walla River near Milton-Freewater, Oregon: U.S. Geol. Survey dupl. rept. (Prepared in cooperation with the Oregon State Engineer), 7 p., 28 pls.
- Young, R. A., 1961, Hydrogeologic evaluation of the streamflow records in the Rogue River basin, Oregon: U.S. Geol. Survey dupl. rept., 111 p., 2 pls., 53 figs.

Reports in Review for Publication by the Geological Survey

- Foxworthy, B. L., and Bryant, C. T., On artificial recharge through a well tapping basalt aquifers at The Dalles, Oregon. (Prepared in cooperation with Dalles City.)
- Hampton, E. R., On the geology and ground water of the Fort Rock Basin, Lake County, Oregon. (Prepared in cooperation with the Oregon State Engineer.)
- Hogenson, G. M., On ground water of the East Portland area, Oregon. (Prepared in cooperation with the Oregon State Engineer.)
- Newcomb, R. C., On ground water in subareas of the Snake River basin in Oregon.
- Young, R. A., On ground-water resources of the Rogue River basin, Oregon.



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

FEB 19 1969

Memorandum

To: Director, Geological Survey
From: Chief, Conservation Division
Subject: Review of withdrawals, Deschutes Basin, Oregon

A recently completed report, Review of waterpower classifications and withdrawals, Deschutes River basin, Oregon, by J. L. Colbert and L. L. Young, and a draft of a Geological Survey release placing it in the open file are transmitted herewith for your approval.

This report has been reviewed by all offices of the Branch of Waterpower Classification, by the Portland, Oregon, office of the Water Resources Division, by interested Federal, State, and county agencies in Oregon, and by the local private utility companies. Many of the reviewers submitted suggestions for improving the report and these improvements have been made. The Federal, State, and county reviewers all requested copies of the completed report, many of them stating that it would be helpful in their own studies within the basin. It seems appropriate, therefore, that the report be placed in the open file.

Russell H. Wayland
Chief, Conservation Division

Enclosures

*Approved
Baker
2/26/69*

Doolittle Int. 5508

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
Washington, D.C. 20242

GEOLOGICAL SURVEY

For Release

MARCH 15, 1969

The Geological Survey is releasing in open files the following report.

Review of waterpower classifications and withdrawals

Deschutes River basin, Oregon, by J. L. Colbert, and L. L. Young.

Copies are available for consultation at the following places:

Geological Survey Library, 1033 General Services Building, Washington, D.C. 20242; Department of the Interior Library, 1002 N. E. Holladay, Portland, Oregon 97208; Central Public Library, 801 S.W. 10th Ave., Portland, Oregon 97205; and Geological Survey offices, Rm. 204, 830 N.E. Holladay St., Portland, Oregon 97208.

X X X X

COMPOSITION OF MINERAL WATERS FROM THE ASHLAND DISTRICT

Constituent	Chemical Symbol	"Ashland Lithia"	"New Lithia"	Hear "Ashland Lithia"	Artesian Well	"Ashland Sulphur"	"White Sulphur"	"Berkeley Sulphur"	"Shepard Sulphur"	"Peat Marsh Sulphur"
Chlorine	Cl	28.84	21.90	25.62	8.08	12.48	31.30	13.00	15.43	15.43
Bromine	Br	.02	.02	trace	.01	3.89	2.89	.05	.02	1.66
Sulphuric acid radical	SO ₄							4.26	7.59	
Hydrogen sulphide	H ₂ S							.10		
Carbonic acid radical	CO ₃	30.14	44.64	38.41	61.83	23.87	7.28	33.94	48.57	43.11
Bicarbonate acid radical	HCO ₃		.00		.01		5.84	.05	.01	
Nitric acid radical	NO ₃	.00	.00		.00				Trace	
Nitrous acid radical	NO ₂	.00	.00		.00					
Phosphoric acid radical	PO ₄	.00	.00		.00					
Arsenic acid radical	AsO ₄		Trace							
Boric acid radical	B ₄ O ₇		2.87	Trace	.96		None	2.10	.95	.95
Metaboric acid radical	BO ₂	2.66	22.93	23.93	24.99	9.95	11.17	22.61	7.91	17.62
Sodium	Na	30.73	1.17	2.91	.41	24.05	28.54	.24	.40	.95
Potassium	K	1.64	.09	.01	.03					
Lithium	Li	.12	.05	.01	.09					
Ammonium	NH ₄		.05	.01	.09					
Calcium	Ca	4.73	3.05	3.02	2.08	2.71	.64	1.53	8.37	5.44
Barium	Ba		.02		.01					
Magnesium	Mg	2.28	2.58	1.82	.83	2.24	.28	.38	8.18	1.66
Iron	Fe		.09		.00			.81	.23	
Manganese oxide	Mn ₂ O ₃		.01		.01					
Iron oxide	Fe ₂ O ₃			.11	.02	None	None	1.48	.09	.95
Alumina	Al ₂ O ₃	1.52	.05					.10		
Titanium oxide	TiO ₂				.50	*20.81	12.01	18.73	1.86	12.83
Silica	SiO ₂	.81	.73		.14			.62	.37	
Oxygen	O									
Salinity, parts per million		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
		3275.	9567.	9153.	6941.	262.	410.	361.	2826.	292.

*Reported as SiO₃.

Save!

COMPARISON OF ASHLAND AND OTHER MINERAL WATERS

Constituent	Symbol	"Ashland Lithia"	Stanslawawa Gallata	Old Lithia	White Rock Lithia, Wis	New Lithia	Hathorn, Saratoga, N.Y.	Near Ashland Lithia	Congress, Saratoga, N.Y.	Artesian Well	Blue Lick, Kentucky
Chlorine	Cl	28.84	34.60	22.08	36.06	21.70	42.42	25.62	42.00	8.08	54.31
Bromine	Br	.02	.02	.02	None	.02	.16		1.13	.01	.25
Iodine	I		.82		None	trace	.02		.02		trace
Sulphuric acid radical	SO ₄	30.14	19.96		3.29		19.28	3.38	.08		3.77
Carbonic acid radical	CO ₃								18.59		4.56
Bicarbonic acid radical	HCO ₃			44.81	29.18	44.64		38.41		61.83	.02
Nitric acid radical	NO ₃			.00	.97	.00				.01	trace
Nitrous acid radical	NO ₂			.00	trace	.00					trace
Phosphoric acid radical	PO ₄			.00	none	.00					trace
Arsenic acid radical	AsO ₄				none	trace					
Metaboric acid radical	BO ₂			2.66	none	2.87					trace
Sodium	Na	30.73	37.29	22.63	18.88	22.93	27.29	23.93	27.62	24.99	30.12
Potassium	K	1.64	.53	.83	.25	1.17	.68	2.91	.78	.41	.90
Lithium	Li	.12	.01	.07	1.05	.09	.16	.01	.08	.03	.02
Ammonium	NH ₄			.01	trace	.05				.09	.01
Calcium	Ca	4.73	3.64	3.23	6.72	3.05	5.69	3.02	6.03	2.08	3.80
Strontium	Sr		1.44				trace		trace		
Barium	Ba		.82	.02		.02	.12		trace	.01	
Magnesium	Mg	2.28		3.09	3.12	2.58	3.92	1.82	3.41	.83	1.98
Iron	Fe		.01	.09	none	.09				.00	
Manganese oxide	Mn ₂ O ₃		.17	.00		.01	.07		.03	.01	.05
Iron Oxide	Fe ₂ O ₃	1.52		.00	.05	.05	.02	.11	trace	.02	.02
Alumina	Al ₂ O ₃		.69	.81	1.03	.73	.17	.83	.14	.50	.20
Silica	SiO ₂									.14	
Oxygen	O										
Salinity, parts per million		100.00 8275.	100.00 7639.	100.00 10972.	100.00 1204.	100.00 9567.	100.00 15238.	100.00 9153.	100.00 1200.	100.00 6941.	100.00 9022.