

# Ground-Water Resources of LOGAN COUNTY

by  
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1983

1:62,500  
Scale in miles



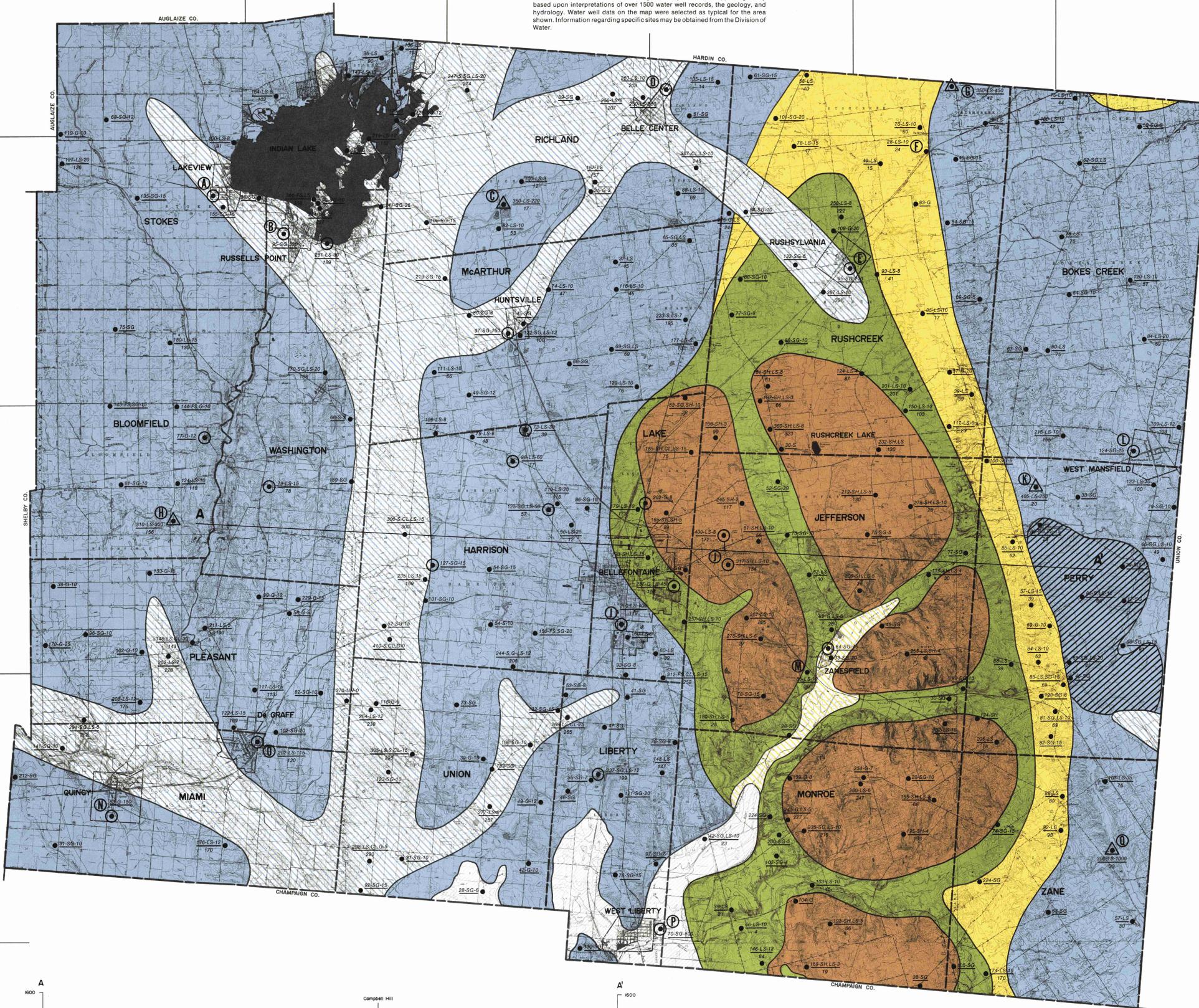
Index Map



Contour Interval: 10 feet



The Ground-water characteristics of Logan County have been mapped regionally based upon interpretations of over 1500 water well records, the geology, and hydrology. Water well data on the map were selected as typical for the area shown. Information regarding specific sites may be obtained from the Division of Water.



AREAS IN WHICH YIELDS OF 100 TO 500, OR MORE, GALLONS PER MINUTE MAY BE DEVELOPED:

- Principal aquifer is the limestone bedrock. Yields of 500, or more, gallons per minute may be developed at depths ranging from 120 to 285 feet. Farm and domestic supplies of 10 to 15 gallons per minute are usually encountered at depths of less than 125 feet. However, lenses of sand and gravel interbedded with clay till may serve as source supply at depths ranging from 25 to 75 feet.
- Flowing wells noted.
- Properly constructed, large diameter, screened wells near the Mad River have proven yields in excess of 500 gallons per minute from relatively thick permeable deposits of sand and gravel at depths of less than 100 feet.
- Exceptionally thick deposits of fine sand, silt, and clay interbedded with lenses of permeable sand and gravel partially filling buried valleys. Greater yields than domestic supplies of 5 to 15 gallons per minute may be anticipated. Properly screened wells yield as much as 500 gpm at depths of about 100 feet although glacial deposits are more than 300 feet thick.

AREAS IN WHICH YIELDS OF 25 TO 100 GALLONS PER MINUTE MAY BE DEVELOPED:

- Limestone/dolomite aquifer yields as much as 100 gallons per minute at depths of less than 250 feet. Shallow wells less than 100 feet are often drilled to secure sulfur free water from sand, gravel, and limestone.
- Properly developed screened wells developed in the sand and gravel deposits beneath the headwaters of the Mad River yield more than 50 gallons per minute at depths of as much as 80 feet.

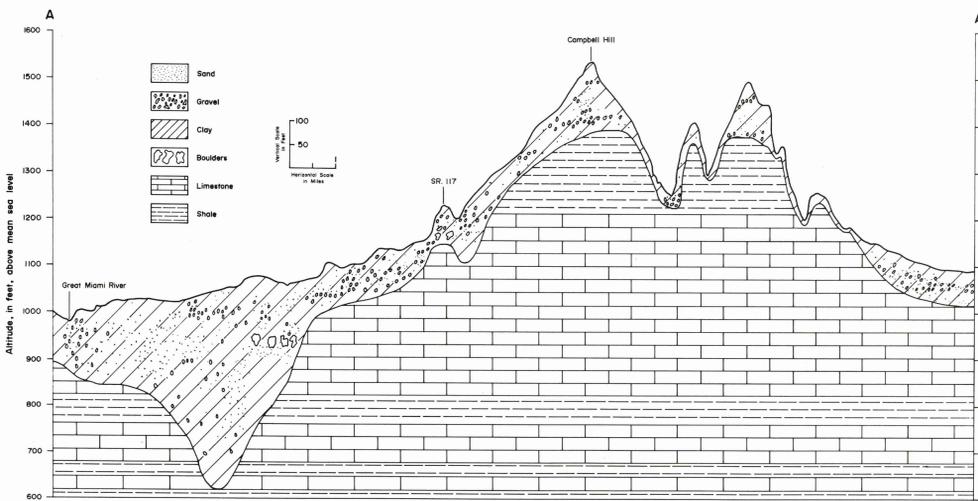
AREAS IN WHICH YIELDS OF 10 TO 20 GALLONS PER MINUTE MAY BE DEVELOPED:

- Wells are developed in limestone bedrock at depths usually greater than 125 feet. Domestic supplies are often developed in surficial glacial deposits at depths of less than 90 feet.

AREAS IN WHICH YIELDS OF 3 TO 8 GALLONS PER MINUTE MAY BE DEVELOPED:

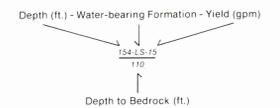
- Thin layers of sand and gravel interbedded in thick layers of clayey till and overlying thick non-water-bearing shale bedrock yield satisfactory domestic supplies. Wells developed at depths greater than 200 feet encounter limestone but presence of hydrogen sulfide noted in bedrock wells.

- FORMATIONS**
- CL Clay
  - S Sand
  - SH Shale
  - UN Clay, Sand, Gravel, Silt
  - G Gravel
  - FS Fine Sand
  - LS Limestone
- Well Symbols**
- Domestic Well
  - ⊙ Public or Industrial Well
  - ⊕ Well Site-Chemical Analysis
  - ⚠ Test Well



Well Site	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Depth (ft.)	285	95	350	258	95	Spring	350	310	200	400	405	109	33	83	202	70	300
Pump Level	-	-	90	-	-	-	150	154	-	-	235	-	-	-	-	-	170
Hardness as CaCO <sub>3</sub>	487	350	469	469	770	397	350	440	444	312	370	636	310	340	349	399	360
Iron	9	1.9	83	11	6	57	23	1.4	49	2.7	78	4.2	0.0	1.4	1.09	0.9	5
Dissolved Solids	502	487	1049	440	377	540	435	470	427	996	329	100	539	46	18	25	74
Sulfates	77	64	100	111	440	92	65	120	80	-	100	539	46	18	25	74	27
Aquifer	LS	SG	LS	LS	SG	LS	LS	LS	LS	LS	LS	LS	SG	SG	LS	SG	LS

Chemical Constituents as mg/l.



**ODNR**  
OHIO DEPARTMENT OF  
NATURAL RESOURCES

Cartography: Douglas E. Keen  
Published, 1983