

# Ground-Water Resources of Jackson and Vinton Counties

by Alfred C. Walker



Index Map

Scale in Miles 1:135,000

## LEGEND

AREAS IN WHICH YIELDS OF 5 TO 25 GALLONS PER MINUTE MAY BE DEVELOPED.



The Black Hand (or "Big Injun") sandstone is present at greatly varying depths, depending upon topography and structure. (Note contours on top of the Black Hand sandstone). Water is more highly mineralized in the east. Dependable long-term yields seldom exceed 25 gallons per minute.

Coarse-grained sandstones, which may be encountered at shallower depths, yield adequate farm and domestic supplies.



Silt, sand and locally fine gravel beneath 15 to 25 feet of clay. Properly developed wells in coarse material may yield as much as 25 gallons per minute.

AREAS IN WHICH YIELDS OF LESS THAN 3 GALLONS PER MINUTE MAY BE DEVELOPED.



Alluvium in stream valleys consists predominately of clay and sand. Limited yields, generally less than 3 gallons per minute, are available. Similar yields are available from the underlying bedrock.



Bedrock, consisting of layers of sandstone, shale, fireclay, coal and limestone. Average yield for drilled wells is around 2 gallons per minute.



Contours on the top of the Black Hand sandstone. Altitude in feet above mean sea level. (After Norris and Mayer, 1982).

## SYMBOLS

- Water Well
- ⊙ Industrial Well
- ⊕ Public Supply Well
- Ss - Sandstone
- Sh - Shale
- M - Mine opening
- S - Sand
- G - Gravel

275-SS,SH-0

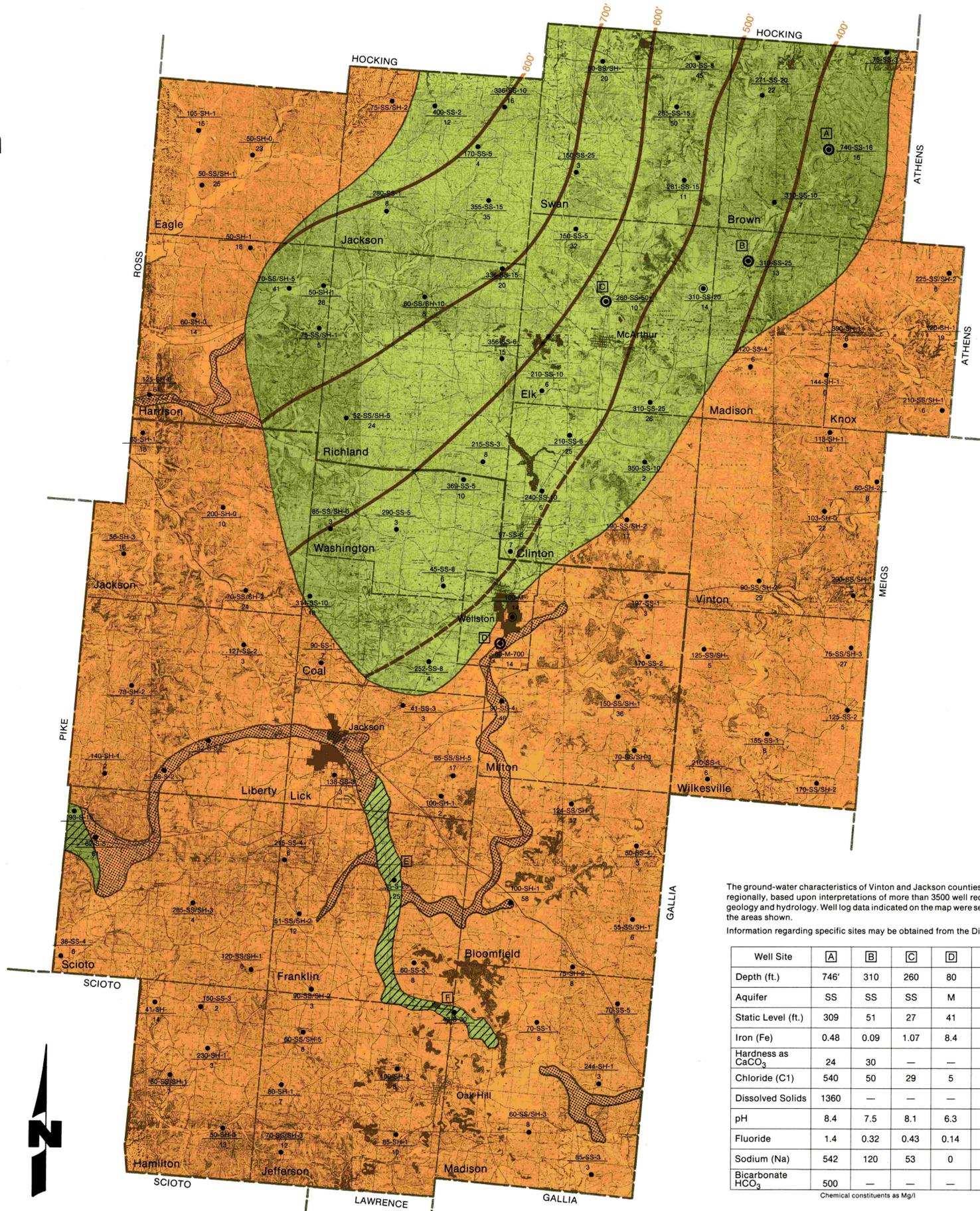
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Depth (ft) - Water-bearing formation-yield (gpm)  
Depth to bedrock (ft.)

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Richard F. Celeste, Governor • Lt. Gov. Myrl H. Shoemaker, Director



The ground-water characteristics of Vinton and Jackson counties have been mapped regionally, based upon interpretations of more than 3500 well records and the area's geology and hydrology. Well log data indicated on the map were selected as typical for the areas shown.

Information regarding specific sites may be obtained from the Division of Water.

Well Site	A	B	C	D	E	F
Depth (ft.)	746'	310	260	80	35	40
Aquifer	SS	SS	SS	M	S	S
Static Level (ft.)	309	51	27	41	10	15
Iron (Fe)	0.48	0.09	1.07	8.4	6.4	17.0
Hardness as CaCO <sub>3</sub>	24	30	—	—	196	146
Chloride (Cl)	540	50	29	5	49	10
Dissolved Solids	1360	—	—	—	405	288
pH	8.4	7.5	8.1	6.3	6.8	7.0
Fluoride	1.4	0.32	0.43	0.14	0.1	0.1
Sodium (Na)	542	120	53	0	—	—
Bicarbonate HCO <sub>3</sub>	500	—	—	—	150	168

Chemical constituents as Mg/l