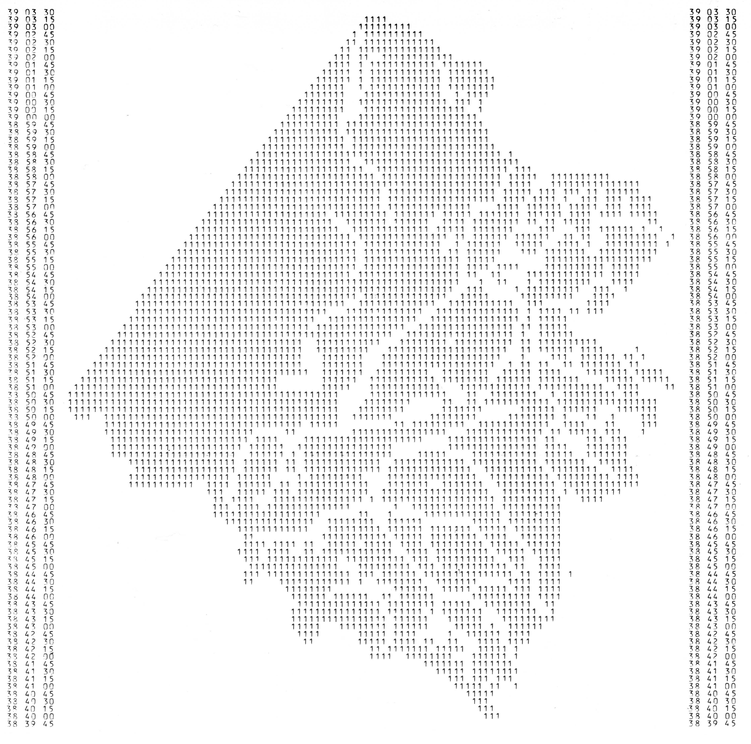
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN FILE REPORT 79-525
JOHNSTON AND VAN DRIEL—EVALUATION OF POTENTIAL YIELD
OF WATER WELLS IN BEDROCK AQUIFERS, FAIRFAX CO.,VA.
SHEET 2 OF 2



INFERRED OCCURRENCE OF UNFRACTURED
("TIGHT") ROCK BASED ON BEDROCK TOPOGRAPHY

Map ratings:

Bedrock "highs" and "ridge lines" on bedrock surface	blank
All other areas	1

Source of data: Base of saprolite map of Fairfax County by Froelich and Heironimous (1977)

LITHOLOGY

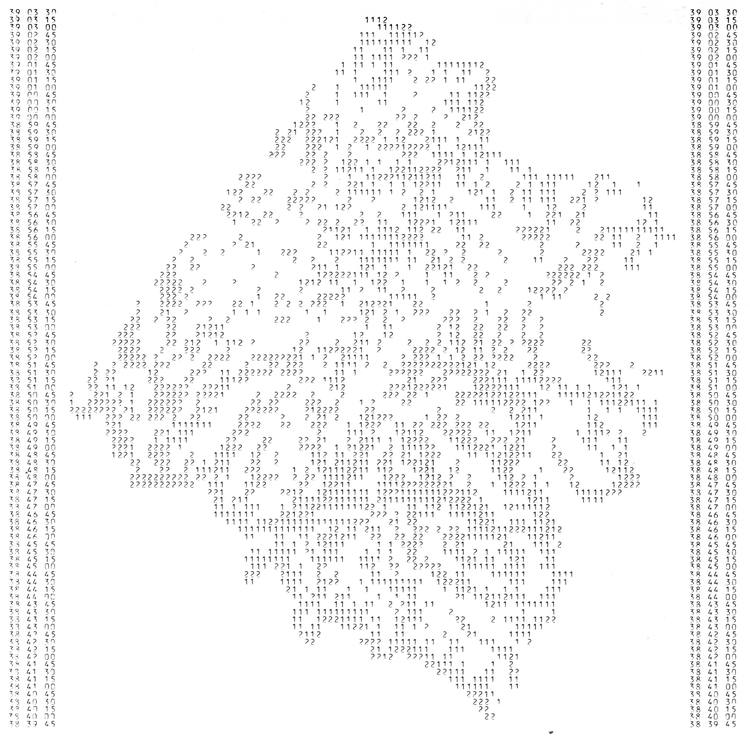
Map ratings:	
Siltstone	8
Sandstone	7
Schist (in sheared zones near contact with massive rock types)	5
Schist-all other areas	3
Phyllite, Gneiss, Metagraywacke Conglomerate, Granite	2
Greenstone	1
Diabase & Hornfels	blank

Sources of data:

(1) Lithologic units based on bedrock map of Fairfax County by Drake and Froelich (1977)

(2) Delineation of sheared zone based on planar and linear features map by Froelich (1978)

(3) Relation of lithology to well yields based on probable well yield map by Johnston (1978)



INFERRED OCCURRENCE OF FRACTURE ZONES
BASED ON SATELLITE IMAGERY

Map ratings:

Depressed linear features	2
No linear features	1
Positive linear features	blank

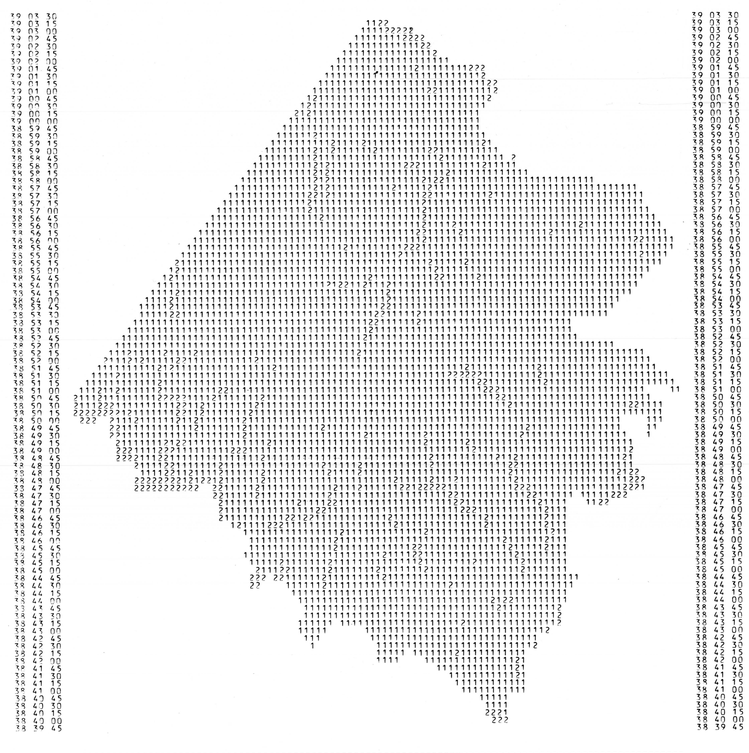
Source of data:
Landsat imagery alignments of Fairfax County by Iwahashi and Heironimus (1978)

THICKNESS OF OVERBURDEN

Map ratings:

Greater than 50 ft.	2
Less than 50 ft.	1

Source of data: Thickness of overburden map of Fairfax County by Froelich and Heironimous (1977)



OCCURRENCE OF ALLUVIUM

Map ratings:

Alluvium	2
All other unconsolidated deposits	1

Source of data: Surface materials map of Fairfax County by Langer (1978)

TOPOGRAPHIC SETTING

Map ratings:

Valley bottoms	2
Sloping valley sides	1
Uplands	blank

Source of data: Landforms map of Fairfax County by Rogers (1977)

0 1 2 3 4 5 MILES
0 1 2 3 4 5 KILOMETERS

EVALUATION OF POTENTIAL YIELD OF WATER WELLS IN BEDROCK AQUIFERS OF FAIRFAX COUNTY, VIRGINIA

DIGITIZED SOURCE MAPS USED TO GENERATE COMPUTER COMPOSITE MAP

By
Richard H. Johnston and J. Nicholas Van Driel

1979

U.S. Geological Survey
OPEN FILE MAP
This map is preliminary and has not been edited for conformity with Geological Survey standards or nomenclature.