

MAIN MAP LEGEND

- Topography**
Surface contours and elevation in feet
- Geology**
Geological boundary
Glacial meltwater channel
Buried valley boundary
Thalweg of buried valley, defined, approximate

- QUATERNARY**
Qd Unconsolidated deposits
- CRETACEOUS**
Kwt Wapiti Formation
Kwc Horseshoe Canyon Formation
Kwp Bearpaw Formation
Kbr Belly River Formation
Kip Lias Park Formation

- Lithology**
Sand and gravel
Sand
Sandstone
Silt
Shale
Fractured rocks
Coal

- Hydrography**
Lake or slough, perennial
Stream, lake
Stream, perennial
Stream, intermittent
Surface water divide
Area of saturated soil, permanent

- Hydrogeology**
Spring, flow rate unknown
Spring, flow rate known in gpm
Spring information
Flow rate
Water table contour interval in feet
Nonsynclinal water level contour interval in feet and vertical component of groundwater movement

- Component of groundwater flow perpendicular to profile**
Out of profile (to recharge area)
Into profile (to discharge area)
Component of groundwater flow parallel to profile
Flow through unsaturated sediments
Groundwater divide
Boundary of area of pressure flow

- Groundwater Probability!**
Range of average expected yield of wells in gpm
Probable, estimated from quantitative information (pump tests, test wells, etc.)
Possible, estimated from qualitative information (flow logs, logs, etc.)

- Yield boundary**
Minimum depth of investigation for yield values on main map
1 The contour interval shown on the map is based on the best available data at the time of map compilation. It may differ from actual conditions. Yield boundaries shown are based on the best available data at the time of map compilation.

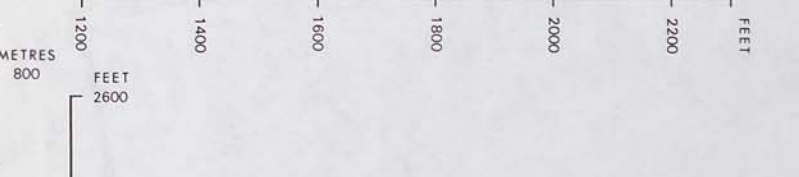
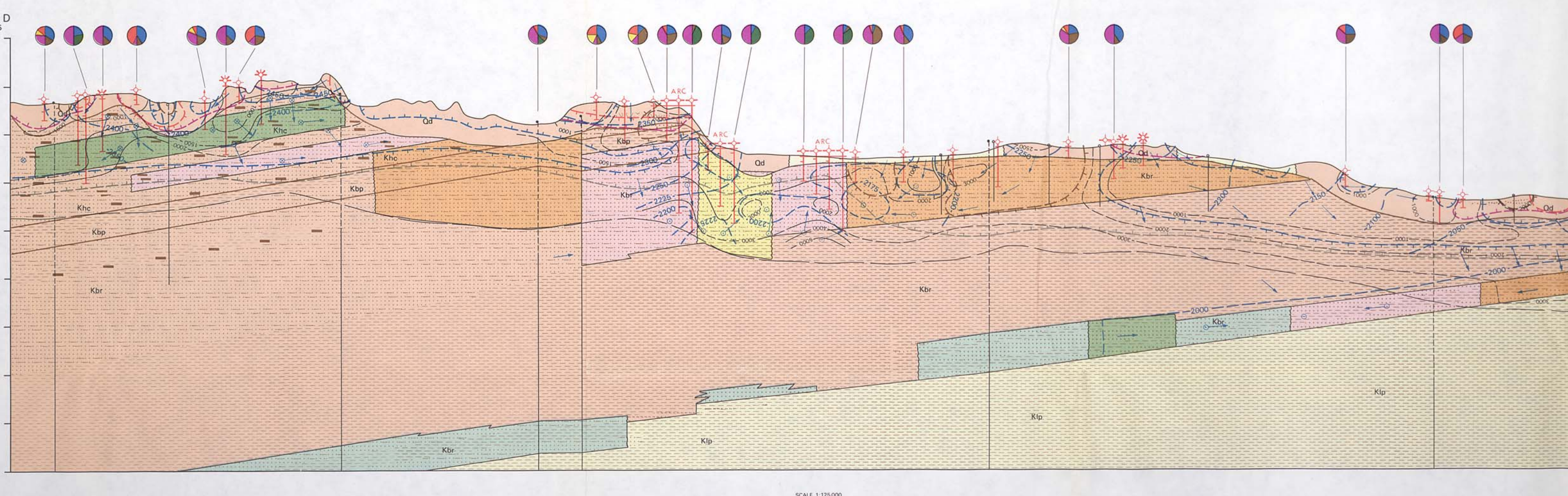
- Wells and Other Artificial Works**
Depth Scale
Water well, nonflowing
Water well, flowing
Water well, 20 year safe yield calculated from apparent transmissivity
Water well, 20 year safe yield calculated from a good test or a short pump test
Water well, 20 year safe yield calculated from a pump test of sufficient length to reflect representative conditions

- Adjacent wells**
Test well with more than one piezometer in a single borehole or with groundwater data collected from several depths during drilling
Observation well with automatic recorder
Mean annual water level fluctuation in feet
Year of commencement of observations
Year of record averaged for mean annual water level fluctuation figure

- Location of Alberta Research Council test wells**
Oil well
Structure testhole
Exploratory hole for coal
Depth of exploratory well
Line of hydrogeological profile

- Hydrochemistry**
Calcium
Sulfate + bicarbonate
Sulfate
Magnesium
Chloride
Sulfate + chloride
Sulfate + magnesium
Sulfate + calcium
Sulfate + magnesium + calcium
Sulfate + calcium + magnesium + potassium

- CONVERSION TABLE**
LOGARITHMIC SCALE
FEET METRES
GALLONS PER MINUTE LITRES PER SECOND
GALLONS PER HOUR LITRES PER HOUR
GALLONS PER DAY LITRES PER DAY
GALLONS PER YEAR LITRES PER YEAR

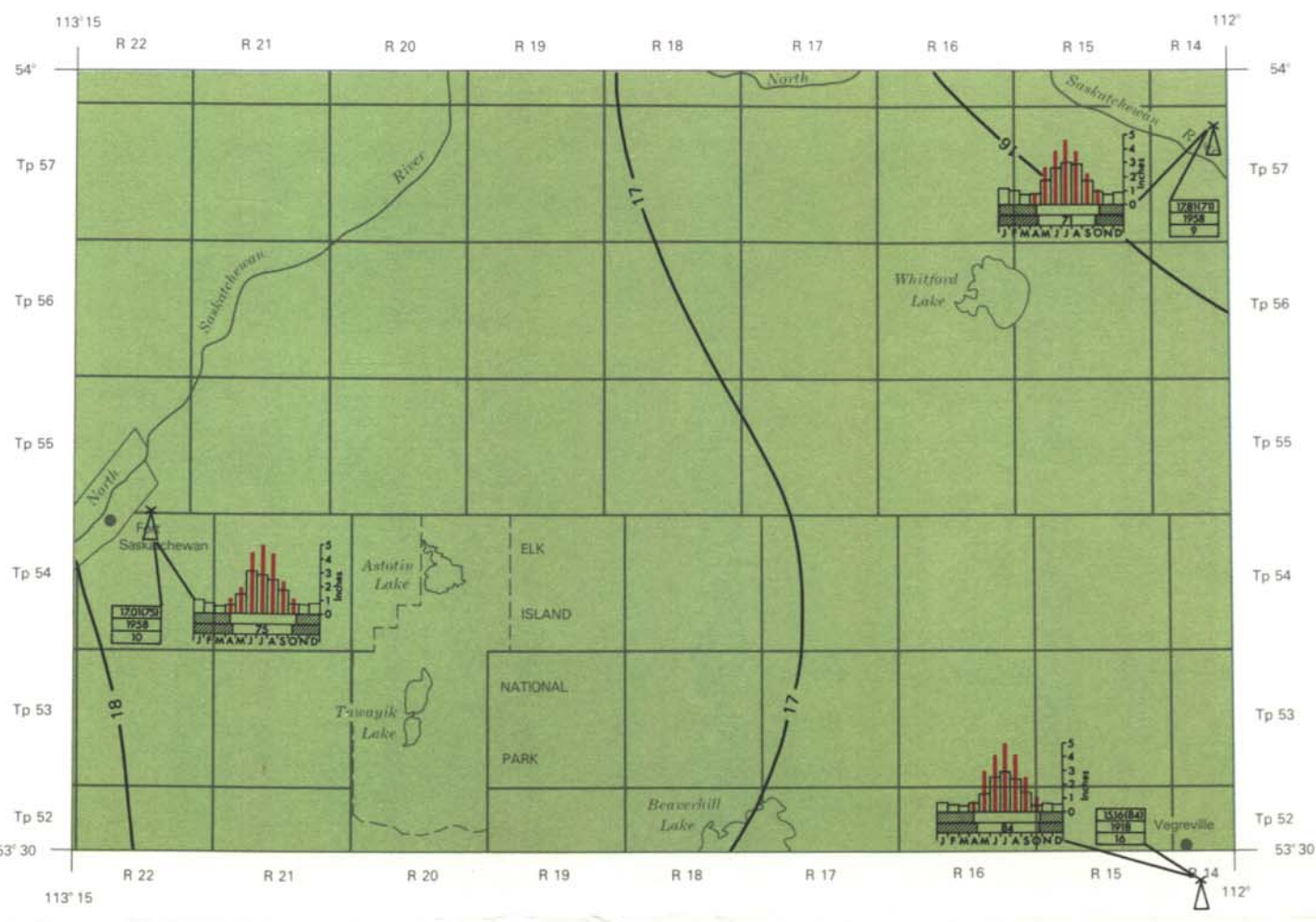


HYDROGEOLOGICAL MAP
EDMONTON AREA
(Northeast Segment)
ALBERTA
NTS 83H-NE

All elevations in feet above mean sea level.
Vertical exaggeration of the hydrogeological profiles is approximately 50X.
An expanded legend and explanatory notes for use with this hydrogeological map are available from the Alberta Research Council, Edmonton, Alberta, Canada.
Map to accompany Report 76-1.
Hydrogeology by R. Swan, 1975, based on data collected in 1974 and 1975.
Drafted by R. Swanson.
Edited by A. Campbell.



METEOROLOGY



LEGEND

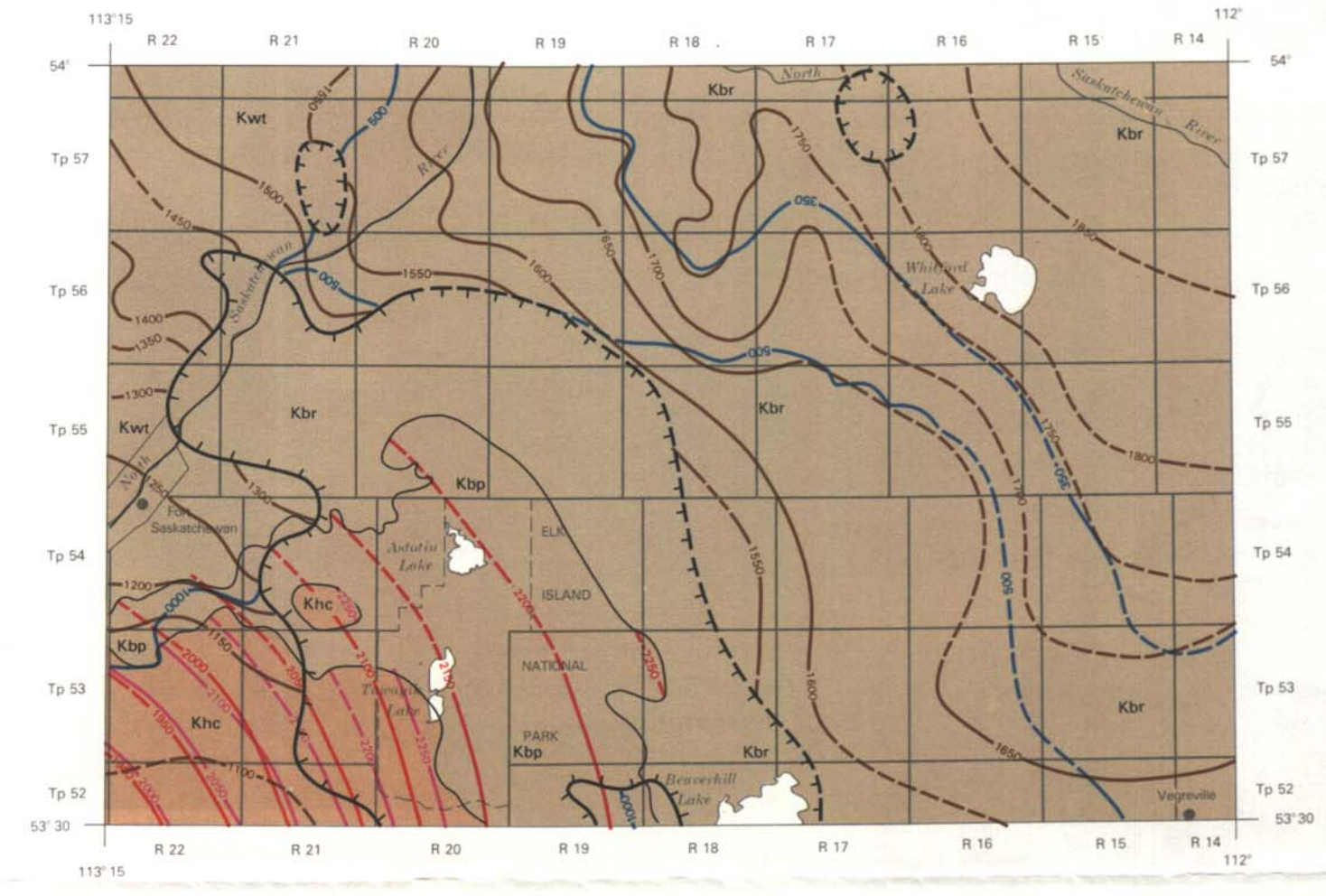
Isohyet, mean annual precipitation in inches 12

Mean annual precipitation:
15-20 inches

Meteorological station

Precipitation data:
Mean annual precipitation in inches (percent non-fall)
Year of commencement of observations
Number of years of record used to calculate mean annual precipitation figure
Mean monthly potential evapotranspiration
Mean monthly precipitation
Period when surface is usually snow covered
Period with mean daily temperature below freezing
Figure indicates percentage of mean annual precipitation falling as rain
Source of data: Longley, R. W. (1968): Climatic maps for Alberta, University of Alberta, 8 pages.

GEOLOGY

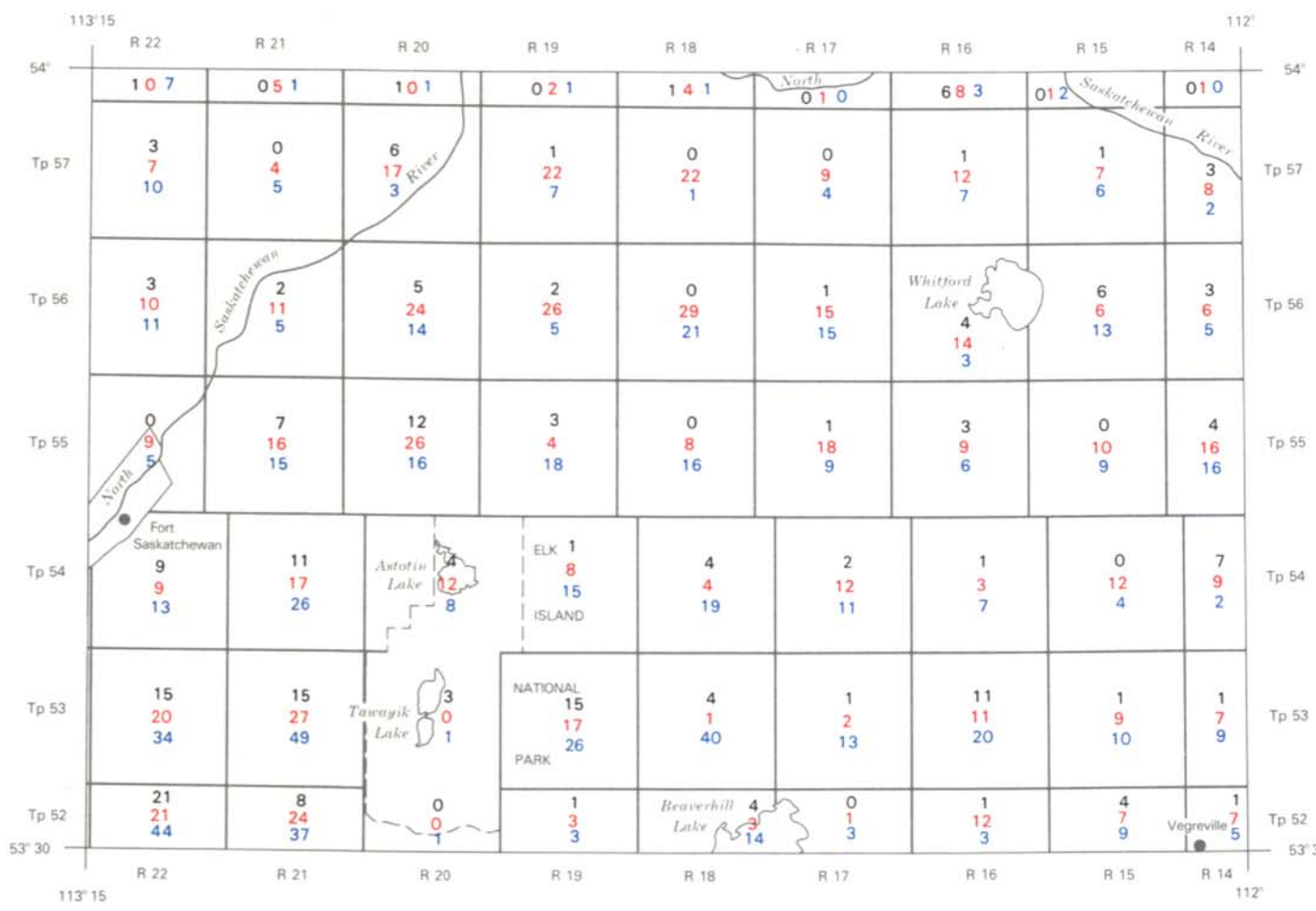


LEGEND

Kw1 Wapiti Formation: sandstone, mudstone, bentonitic, coal beds
Khc Horseshoe Canyon Formation: sandstone, bentonitic mudstone, shales, ironstone beds, coal
Kbp Bearpaw Formation: shale, sandstone, thin ironstone and bentonite beds
Kbr Belly River Formation: sandstone, siltstone, mudstone, ironstone beds

Rock unit boundary: defined, approximate
Structure contour on top of Bearpaw Formation
Structure contour on top of Belly River sandstone
Structure contour on top of basal Belly River sandstone
Depth to top of basal Belly River sandstone
Boundary of area within which basal Belly River sandstone is absent or poorly developed

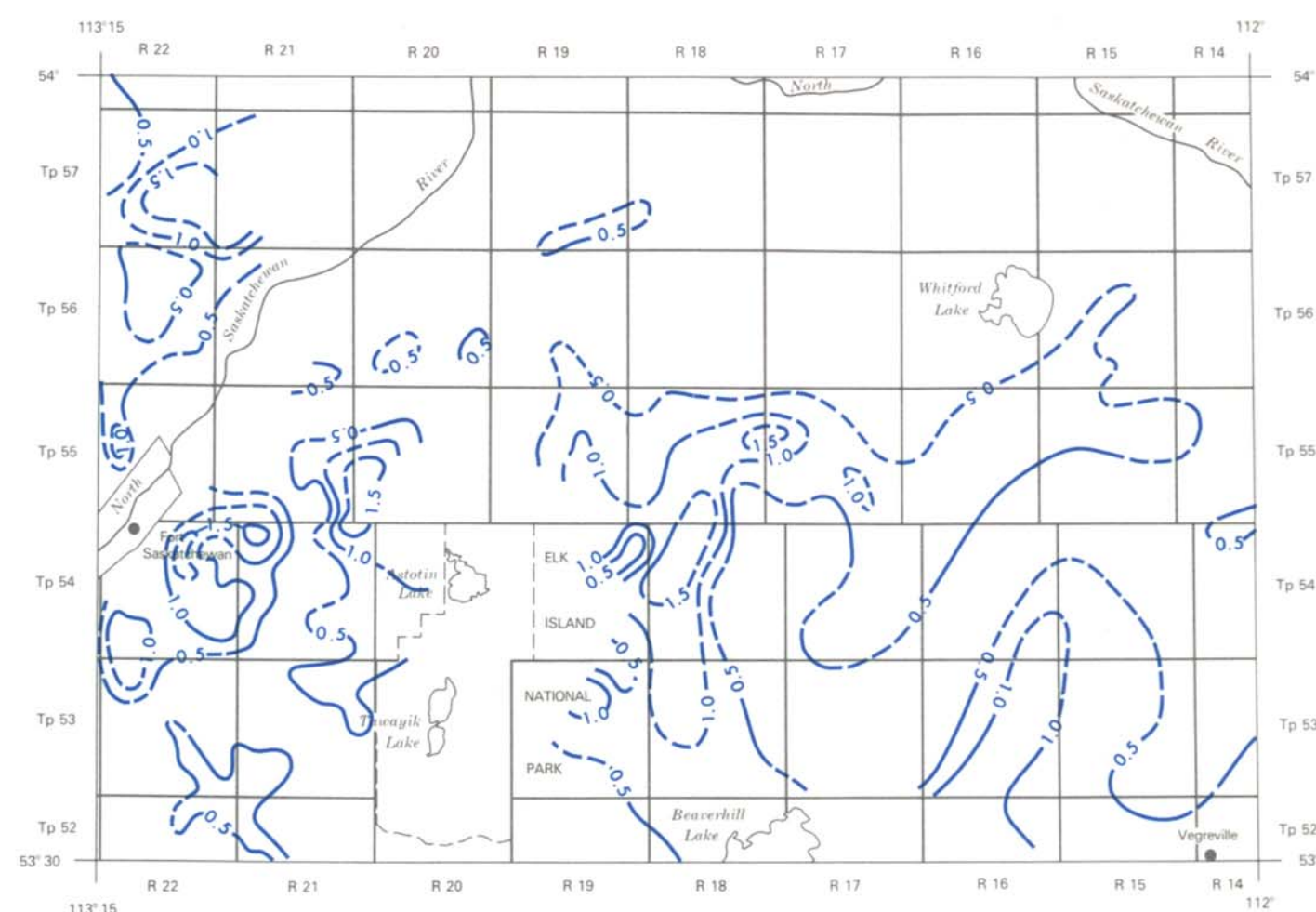
DATA DENSITY



LEGEND

Number of data points used in each township and range in determining:
Yield values and apparent transmissivities 3
Water levels in drift 4
Water levels in bedrock 3

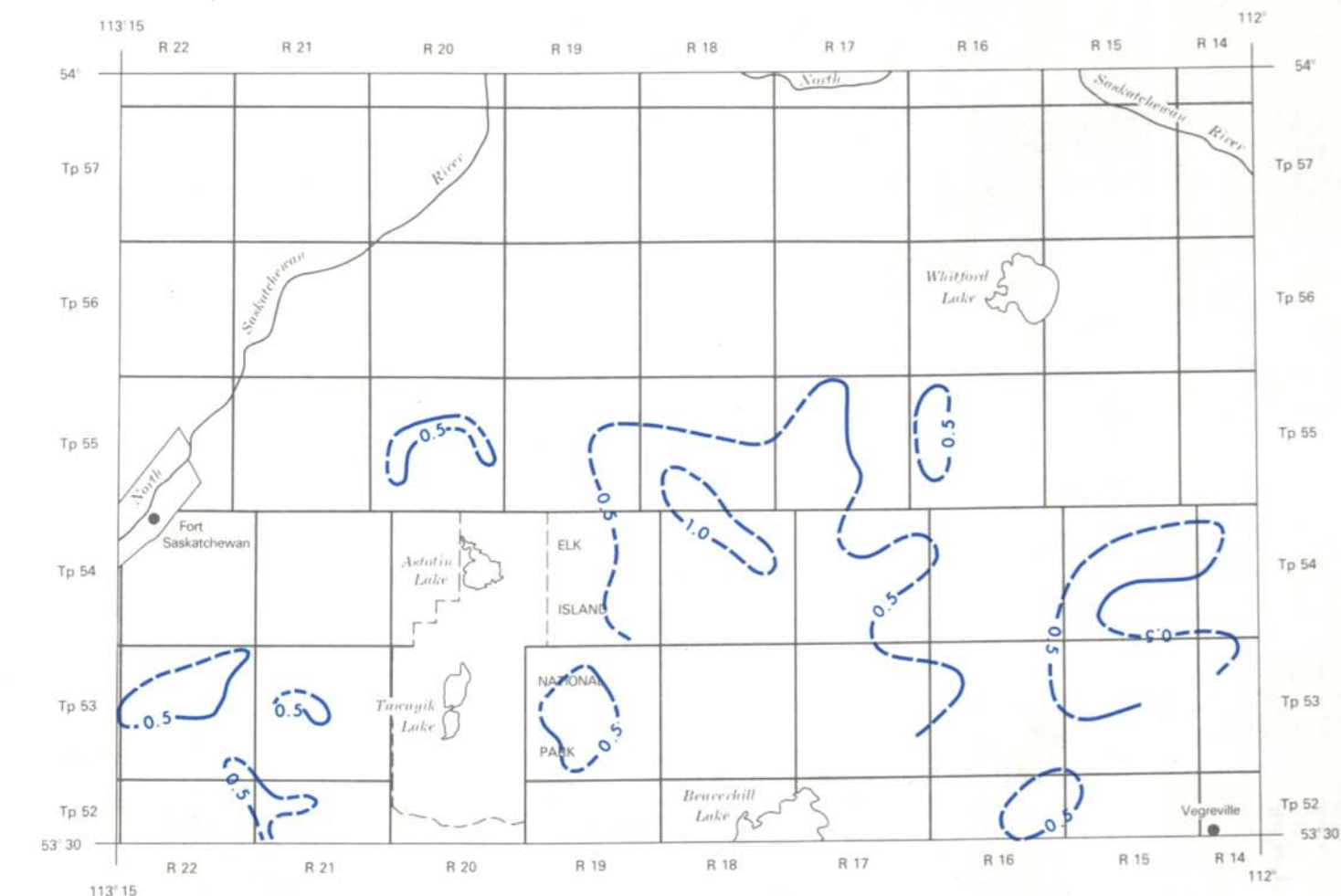
FLUORIDE CONTENT: BEDROCK



LEGEND

Fluoride content in parts per million:
defined 10
approximate

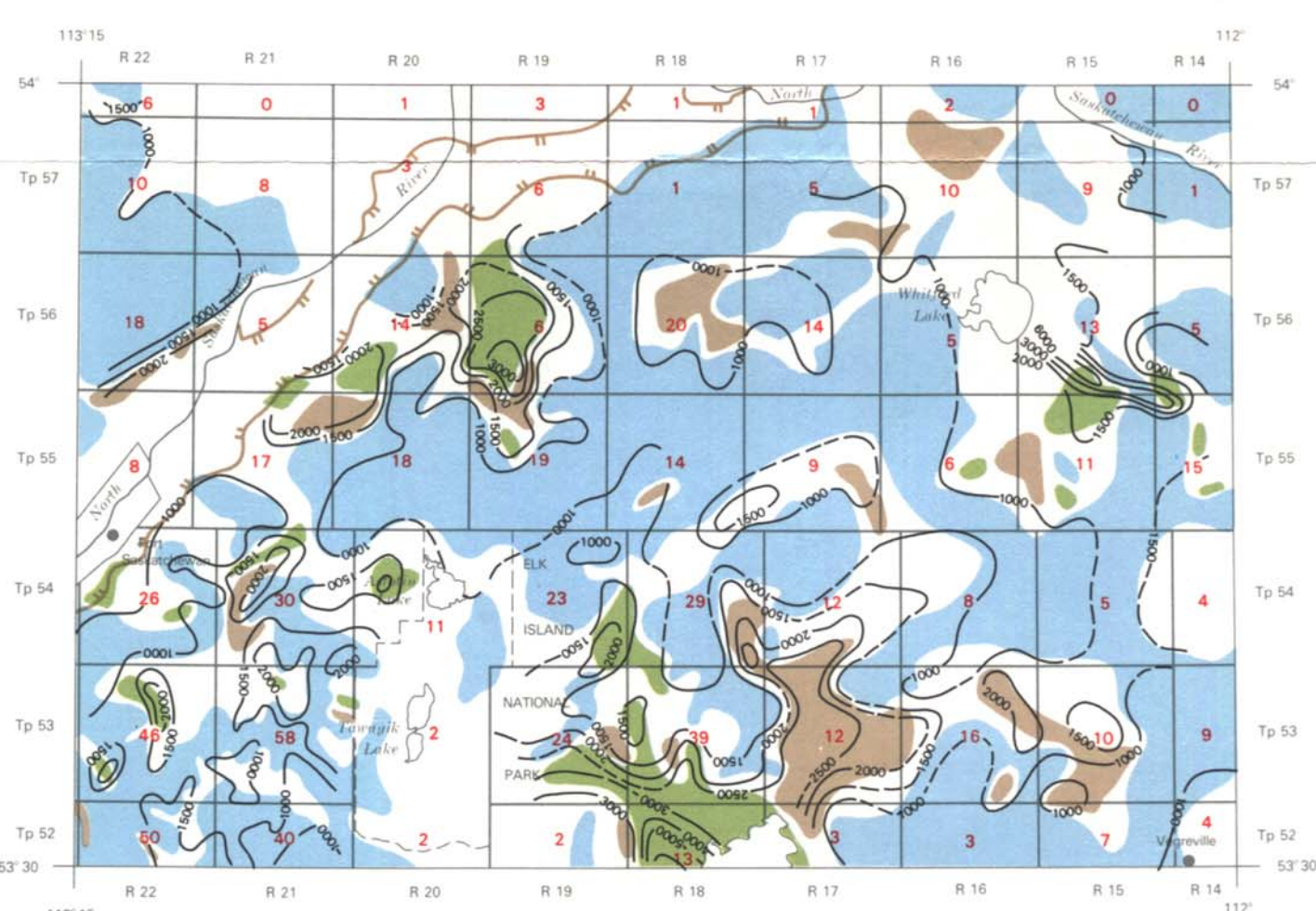
FLUORIDE CONTENT: DRIFT



LEGEND

Fluoride content in parts per million:
defined 10
approximate

HYDROCHEMISTRY: BEDROCK



LEGEND

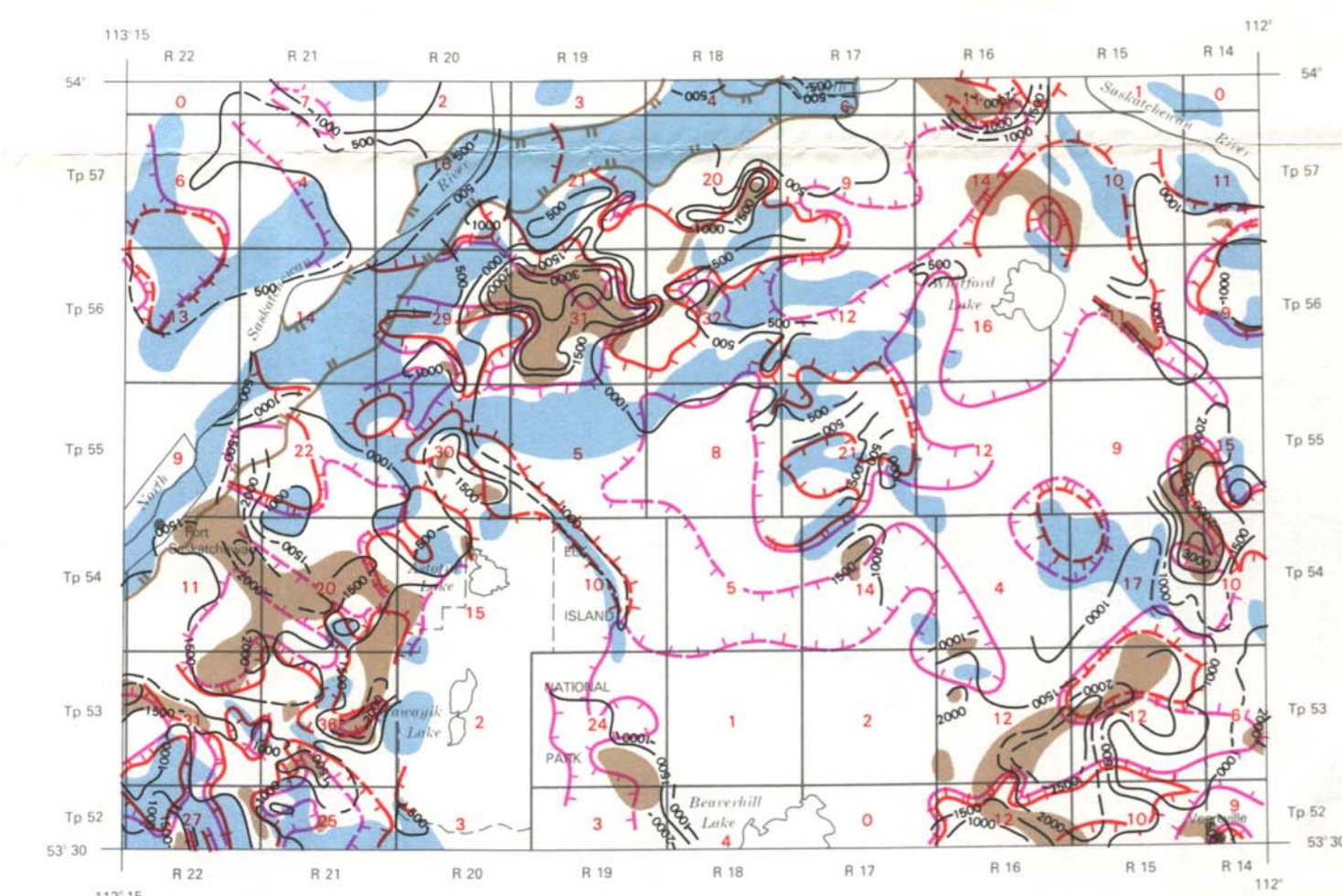
Number of data points used in each township and range 3

Total dissolved solids in parts per million:
defined 1000
approximate

Carbonate + bicarbonate constituting over 60 percent of total anions*
Sulfate constituting over 60 percent of total anions*
Chloride constituting over 60 percent of total anions*

Buried valley boundary

HYDROCHEMISTRY: DRIFT



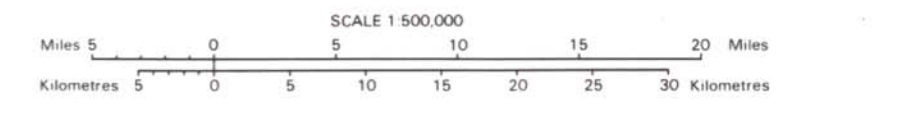
LEGEND

Number of data points used in each township and range 3

Total dissolved solids in parts per million:
defined 1000
approximate

Carbonate + bicarbonate constituting over 60 percent of total anions*
Sulfate constituting over 60 percent of total anions*
Isogram along which calcium + magnesium constitute 60 percent of total cations; teeth indicate direction of lesser calcium + magnesium content:
Isogram along which sodium + potassium constitute 60 percent of total cations; teeth indicate direction of lesser sodium + potassium content:
Buried valley boundary

* Determined on equivalents per million basis



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