TECHNICAL NOTES

USDA-Natural Resources Conservation Service
Boise, Idaho

ENGINEERING TECHNICAL NOTE NO. 10 September 22, 1961

HYDROLOGY
Tabulation of Idaho Stream Flow Data
Preparation of Frequency Curves

The attached material was prepared for field use by Bob Wagoner and Evan Merrell. The tabulation is up to date as of 1/1/61.

The example was prepared from the data Part 13 – Snake River (3) Henry Fork to American Falls, Column (1) number 106. L. Blackfoot R (Henry). Points 1 and 2 were established and a line extended through them for watershed yields. Points 3 and 4 were established and a line extended through them for peak flow.

Peaks and yields may be determined by this method for all conservation operations except where this conflicts with service policy or requirements.

Most of the recorded stream gaging stations of the State are listed with their drainage areas, peak recorded flows and dates of records. The exceptions are noted on the cover sheet of the tabulations.

In addition, frequency curves have been computed for the streams which have long enough records, and values are tabulated for plotting the curves on Hazen logarithmic probability paper. The 50% chance (or 2 yr.) values are given directly for water yield in acre feet per square mile (AFM) and for peak flow in cubic feet per second per square mile (CSM). The ratio of the 1% chance value to the 50% chance value is also tabulated. This ratio at once indicates the magnitude of the 1% chance event and the regularity of the stream's behavior.

/s/ Meader H. Wilkins
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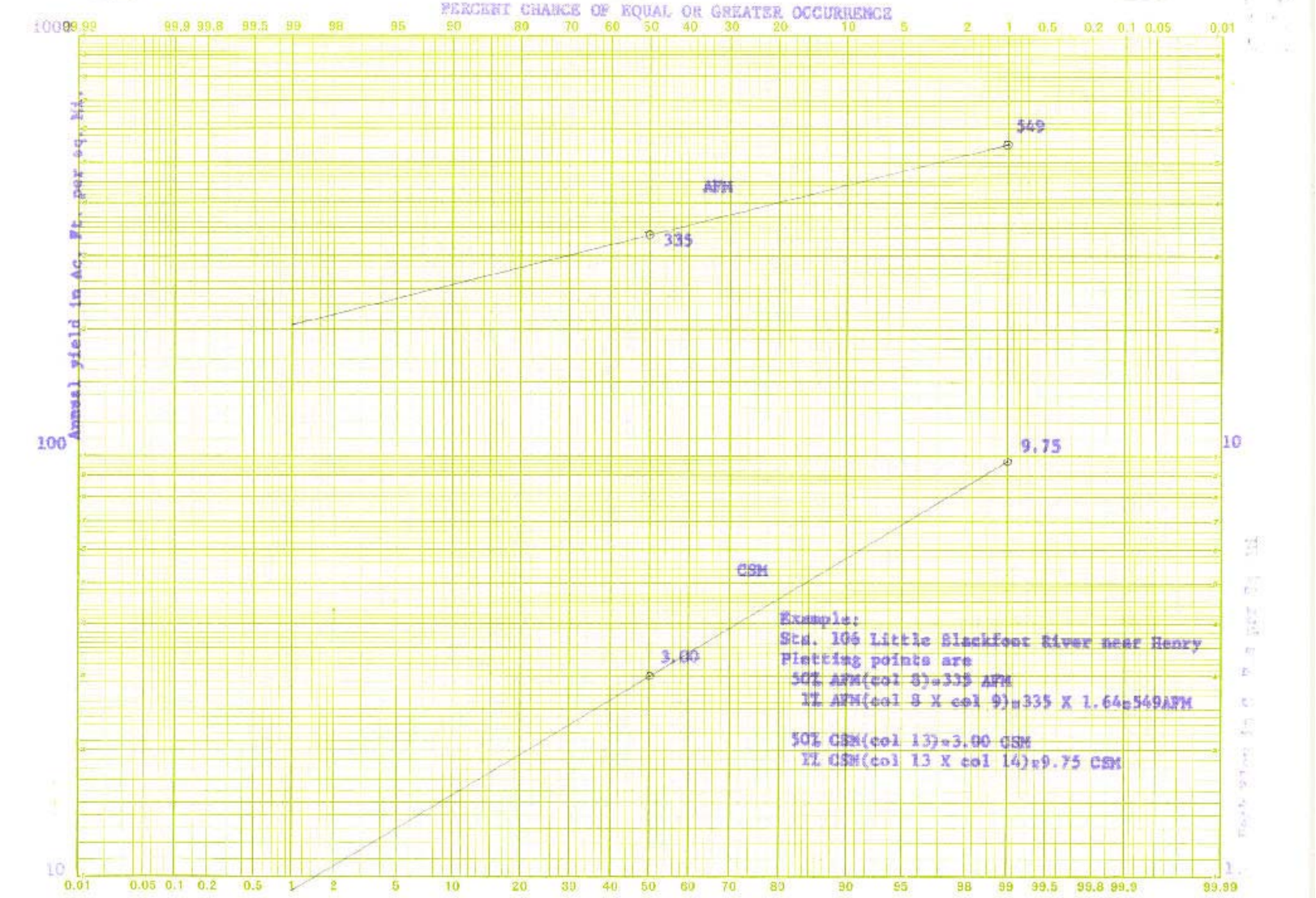
NO. 3228. LOGARITHMIC PROBABILITY. DESIGNED BY HAZEN, WHIPPLE & FULLER.
KEUFFEL & ESSER CO.
PERCENT CHANCE OF EQUAL OR GREATER OCCURRENCE
99.99 99.9 99.8 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01
Annual yield in Ac. Ft. per sq. Mi.
100
10
1
549
AFM
335
9.75
CSM
3.00
Example:
Sta. 106 Little Blackfoot River near Henry
Plotting points are
50% AFM(col 8)=335 AFM
1% AFM(col 8 X col 9)=335 X 1.64=549AFM
50% CSM(col 13)=3.00 CSM
1% CSM(col 13 X col 14)=9.75 CSM
0.01 0.05 0.1 0.2 0.5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.5 99.8 99.9 99.99