WRSIC ABSTRACT

Title: PRELIMINARY MACHINE READABLE DATA SET FOR THREE DIMENSIONAL DIGITAL MODEL OF THE RED RIVER AND MADISON LIMESTONE AQUIFERS.

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Month and year: June, 1980

80 Character machine readable records: 573

Illustrations: 0

Tables: 0

References: 0

Method of release: Open file report number 80-756

Descriptors: *Simulation Model, *Hydrogeology, *Montana, Aquifer testing, North Dakota, Potential water supply, South Dakota, Wyoming.

Identifiers: *Madison Limestone, Northern Great Plains, Paleozoic age, Digital Model.

Abstract: The digital model of the Red River and Madison aquifers in parts of Montana, North and South Dakota, and Wyoming consists of a machine readable data set with an array size of 21 by 26 nodes that reflects the fresh water potentiometric surface, temperature adjusted transmissivity distribution, and permeability of confining beds. The rectangular finite difference grid used for this model is orientated northwest to southeast with a variable grid spacing. Using the grid spacing given in the input data set and the following locations of selected nodes, the grid may be reconstructed by the user.

Node	Decimal Degrees Latitude	Longitude
1,1	49.60	114.75
17,1	41.16	109.25
20,22	41.13	96.00
7,25	48.80	96.40

Leakage between the aquifers, flux into and out of the aquifers, and interaction with the overlying Lower Cretaceous units are also simulated. The model assumes constant water density conditions; therefore, water quality data sets are not given.

This preliminary data set is formatted for input to the three dimensional digital simulation model developed by P. C. Trescott and released as U.S. Geological Survey open-file report 75-438. As supplied, the data set provides the inital hydrological conditions as a starting point for computer predictions of the effect of stress upon the Ordovician Red River and Mississippian Madison aquifers within the 300,000 square mile modeled area.

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**FOR W&C IMPERMEABLE ** SALT BEDS ADDED***TK1=2TK2 ************FOR T1 AND T2 TH
    ANISOTROPY EXP. XFACTOR=.25X YFACTOR=4.    4/2/80
       21         26         3         99         519
         MASS                                     ITKR
       1          1        .001         5
   168960     168960        2.0      0.1 12                           32 MILES
                                                                            00
                                                                            00
                                                                            00

       1          1          1
     0.0        0.0        0.0        0.0        0.0        0.0        0.0        0.
     0.0        0.0        0.0        0.0        0.0        0.0        0.0        0.
     0.0        0.0        0.0        0.0        0.0        0.0        0.0        0.
     0.0        0.0
     0.0        0.0        0.0        0.0        0.0     3200.0     3200.0     3200.
  3000.0     2800.0     2250.0     2530.0     2530.0     2350.0     2250.0     1900.
  1700.0     1500.0     1250.0     1100.0     1000.0      950.0      900.0      800.
   712.0        0.0
     0.0        0.0        0.0        0.0     3400.0     3400.0     3400.0     3400.
  3300.0     3300.0     3000.0     3050.0     2800.0     2450.0     2350.0     2300.
  2000.0     1800.0     1750.0     1650.0     1250.0     1000.0      900.0      800.
   712.0        0.0
     0.0        0.0        0.0        0.0        0.0     3400.0     3400.0     3620.
  3550.0     3520.0     3500.0     3300.0     3050.0     3100.0     2500.0     2650.
  2300.0     2250.0     1900.0     1800.0     1650.0     1250.0     1000.0     1000.
  1000.0        0.0
     0.0        0.0        0.0        0.0        0.0        0.0     3800.0     3650.
  3550.0     3520.0     3600.0     3450.0     3400.0     3350.0     3250.0     2950.
  2600.0     2400.0     2250.0     1900.0     1800.0     1650.0     1500.0     1250.
  1250.0        0.0
     0.0        0.0        0.0        0.0     3880.0     3850.0     3650.0     3500.
  3550.0     3520.0     3600.0     3650.0     3600.0     3350.0     3300.0     3250.
  2950.0     2400.0     2100.0     2000.0     1900.0     1800.0     1650.0     1500.
     0.0        0.0
     0.0     3900.0     3880.0     3880.0     3800.0     3850.0     3550.0     3500.
  3500.0     3450.0     3500.0     3700.0     3300.0     3650.0     3200.0     3500.
  3000.0     2600.0     2400.0     1900.0     1900.0     1800.0     1600.0        0.
     0.0        0.0
     0.0     3800.0     3800.0     3800.0     3800.0     3800.0     3550.0     3500.
  3550.0     3550.0     3500.0     3400.0     3400.0     3400.0     3700.0     3300.
  2850.0     2580.0     2300.0     2100.0     1900.0     1800.0     1700.0        0.
     0.0        0.0
     0.0     3800.0     3800.0     3800.0     3800.0     3800.0     3700.0     3650.
  3600.0     3550.0     3550.0     3450.0     3200.0     3250.0     3000.0     2850.
  2600.0     2450.0     2160.0     2000.0     1900.0     1800.0     1700.0        0.
     0.0        0.0
     0.0     3900.0     3900.0     4000.0     4100.0     3900.0     4100.0     3750.
  3650.0     3600.0     3500.0     3500.0     3350.0     2850.0     2750.0     2650.
  2350.0     2100.0     2000.0     2590.0     1900.0     1800.0     1700.0        0.
     0.0        0.0
     0.0     3900.0     4000.0     4200.0     4300.0     4100.0     4100.0     3750.
  3650.0     3600.0     3450.0     3350.0     3000.0     2650.0     2550.0     2450.
 •2100.0     2000.0     1560.0     1500.0     1500.0     1500.0        0.0        0.
     0.0        0.0
3    0.0     3900.0     4100.0     4400.0     4300.0     4200.0     4100.0     3800.
  3700.0     3650.0     3600.0     3300.0     2850.0     2800.0     2600.0     2450.
  2100.0     2000.0     2000.0     1740.0     1700.0        0.0        0.0        0.
     0.0        0.0
     0.0     3800.0        0.0        0.0     4100.0     4100.0        0.0        0.
     0.0     3750.0     5000.0     5000.0     2900.0     2650.0     2550.0     2400.
  2100.0     2000.0     2000.0     2000.0     2000.0        0.0        0.0        0.
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     0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0   3150.0   2900.0   2700.0   2500.
  2250.0   2100.0   2000.0   2000.0      0.0      0.0      0.0      0.
     0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0   3000.0   2700.0   2500.0      0.
  2250.0   2100.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0   2750.0   2600.0   2400.0   2250.
     0.0   2100.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0      0.0   2650.0   2500.0   2300.
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0      0.0      0.0      0.0   2500.
  2400.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.
     0.0      0.0
      10        1        1
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0
     0.0    310.0    310.0    320.0    320.0    320.0    330.0    340.0
   330.0    320.0    310.0    300.0    270.0    265.0    260.0    230.0
   200.0    190.0      0.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0
     0.0    340.0    340.0    335.0    350.0    360.0    360.0    350.
   335.0    335.0    340.0    300.0    270.0    265.0    260.0    230.
   200.0    190.0    175.0      0.0      0.0      0.0      0.0      0.0
     0.0      0.0
     0.0    340.0    360.0    370.0    380.0    390.0    380.0    365.0
   347.0    347.0    350.0    330.0    305.0    295.0    262.0    230.0
   200.0    190.0    175.0    165.0      0.0      0.0      0.0      0.0
     0.0      0.0
     0.0      0.0    360.0    370.0    380.0    400.0    375.0    365.0
   347.0    347.0    352.5    347.5    330.0    330.0    277.0    265.0
   210.0    190.0    175.0    165.0      0.0      0.0      0.0      0.0
     0.0      0.0
     0.0    360.0    360.0    370.0    390.0    410.0    380.0    360.0
   350.0    352.5    362.5    357.5    350.0    337.0    320.0    267.0
   250.0    200.0    200.0    175.0      0.0      0.0      0.0      0.0
     0.0      0.0
     0.0    360.0    360.0    400.0    446.0    340.0    362.0    337.0
   365.0    357.0    357.0    350.0    345.0    345.0    312.0    260.0
   235.0    210.0    190.0    160.0    140.0      0.0      0.0      0.0
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     0.0       0.0
     0.0       0.0       0.0     360.0     446.0     416.0     360.0     345.0
   370.0     365.0     362.5     352.5     345.0     317.0     295.0     267.0
   245.0     210.0     190.0     160.0     140.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0     400.0     400.0     400.0     387.0     380.0
   367.5     365.5     357.5     352.5     345.5     305.0     267.5     247.5
   225.0     200.0     185.0     160.0     135.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0     430.0     378.0
   372.5     365.0     357.5     352.5     340.0     300.0     275.0     252.5
   225.0     200.0     175.0     160.0     145.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0     410.0     370.0
   365.0     360.0     370.0     340.0     315.0     275.0     265.0     265.0
   233.0     205.0     185.0     175.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0     600.0     370.0
   355.0     365.0     365.0     350.0     310.0     275.0     255.0     245.0
   230.0     225.0     205.0     190.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0     450.0     370.0
   390.0     385.0     465.0     365.0     305.0     285.0     255.0     265.0
   240.0     230.0     220.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0     550.0     370.0
   375.0     395.0     550.0     370.0     335.0     305.0     280.0     265.0
   260.0     245.0     230.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0     570.0     370.0
   375.0     375.0     395.0     360.0     325.0     310.0     280.0     265.0
   225.0     220.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0     560.0     450.0
   395.0     360.0     355.0     330.0     325.0     300.0     265.0     245.0
     0.0     200.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0     450.0
   390.0     360.0     350.0       0.0       0.0     280.0     255.0     225.0
   215.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
     0.0       0.0
       1         1         1
  3200.0    3100.0    3000.0    2500.0    2430.0    2370.0    2310.0     2250.
  2100.0    2000.0    1875.0    1750.0    1625.0    1475.0    1250.0     1000.
   900.0     800.0     780.0     770.0     760.0     750.0     730.0      720.
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710.0 710.0
3300.0 3300.0 3300.0 3285.0 3400.0 3350.0 3250.0 2600.
2425.0 2250.0 2200.0 2150.0 2100.0 1900.0 1700.0 1525.
1250.0 1125.0 1000.0 800.0 780.0 770.0 760.0 720.
720.0 710.0
3250.0 3250.0 3250.0 3400.0 3600.0 3500.0 2900.0 2600.
2400.0 2500.0 2500.0 2100.0 1700.0 1660.0 1760.0 1720.
1660.0 1525.0 1300.0 1000.0 800.0 780.0 760.0 740.
720.0 720.0
4000.0 3800.0 3800.0 3800.0 3900.0 3800.0 3700.0 3450.
3300.0 3250.0 3200.0 3100.0 2900.0 2350.0 1875.0 1800.
1750.0 1575.0 1350.0 1500.0 1000.0 800.0 780.0 760.
740.0 720.0
4075.0 3800.0 3800.0 3800.0 4200.0 4070.0 3200.0 3300.
3200.0 2900.0 2500.0 1925.0 2000.0 2000.0 1900.0 1850.
1800.0 1740.0 1525.0 1350.0 1200.0 1000.0 800.0 700.
600.0 500.0
5000.0 4000.0 5100.0 5000.0 4950.0 4400.0 3200.0 2850.
2901.0 2463.0 2000.0 1885.0 1875.0 1800.0 1750.0 1750.
1800.0 1800.0 1740.0 1525.0 1400.0 1175.0 900.0 800.
700.0 600.0
5500.0 5000.0 4450.0 4400.0 4450.0 3575.0 2898.0 2876.0
2891.0 2311.0 1834.0 1773.0 1712.0 1891.0 1650.0 1625.
1625.0 1750.0 1750.0 1625.0 1550.0 1000.0 900.0 800.
700.0 600.0
6000.0 5500.0 5000.0 4400.0 4250.0 3425.0 1964.0 2409.0
2469.0 2057.0 2099.0 1937.0 1939.0 1941.0 1916.0 1892.0
1650.0 1600.0 1600.0 1600.0 1530.0 1490.0 1000.0 800.
700.0 600.0
6100.0 6000.0 5000.0 4500.0 4400.0 4400.0 1955.0 2330.0
2084.0 2047.0 1901.0 2198.0 2070.0 2092.0 2000.0 1880.0
1780.0 1650.0 1675.0 1600.0 1530.0 1120.0 1010.0 800.
700.0 600.0
6175.0 6100.0 5000.0 5000.0 4250.0 4500.0 6339.0 2312.0
1601.0 2332.0 1961.0 2475.0 2063.0 2070.0 2050.0 1990.0
1860.0 1800.0 1740.0 1650.0 1530.0 1300.0 990.0 800.
700.0 600.0
6250.0 6175.0 6000.0 5000.0 4400.0 5000.0 4667.0 2446.0
2571.0 1790.0 2179.0 2076.0 2118.0 2167.0 2050.0 2100.
2000.0 1950.0 1850.0 1800.0 2000.0 1500.0 1000.0 800.
700.0 600.0
6375.0 6250.0 6100.0 5700.0 4400.0 4490.0 5217.0 3382.0
2929.0 2748.0 3592.0 2099.0 2299.0 2100.0 2250.0 2200.
2150.0 2100.0 1900.0 1500.0 1500.0 1350.0 1050.0 800.
700.0 600.0
6450.0 6375.0 6100.0 5700.0 5500.0 5500.0 4905.0 3000.0
3296.0 3378.0 4900.0 3222.0 2619.0 2300.0 2300.0 2175.
2075.0 2000.0 1600.0 1450.0 1330.0 1280.0 1150.0 800.
700.0 600.0
6500.0 6400.0 6300.0 6200.0 6100.0 6000.0 4377.0 3000.0
2396.0 3696.0 3800.0 3800.0 2782.0 2130.0 2000.0 1840.0
1790.0 1745.0 1550.0 1340.0 1340.0 1260.0 1090.0 1000.
800.0 700.0
6550.0 6500.0 6400.0 6300.0 6200.0 5800.0 4548.0 3191.0
3135.0 3509.0 3360.0 3312.0 2530.0 2120.0 2025.0 1790.0
1725.0 1720.0 1535.0 1335.0 1450.0 1820.0 1300.0 1300.0
1000.0 900.0
6900.0 6800.0 6600.0 6500.0 6300.0 6050.0 5800.0 3714.0
5406.0 3383.0 2811.0 2476.0 2516.0 2145.0 2090.0 1980.0
1740.0 1605.0 1570.0 1330.0 1430.0 1605.0 1660.0 1300.
1250.0 1000.0

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   7075.0    7050.0    7000.0    7000.0    6950.0    6975.0    7000.0    6000.
   5000.0    4500.0    4000.0    3133.0    2780.0    2140.0    2110.0    1970.0
   1820.0    1570.0    1570.0    1346.0    1440.0    1550.0    1500.0    1300.
   1250.0    1200.0
   7100.0    7075.0    7050.0    7050.0    7000.0    6000.0    5000.0    4500.
   4250.0    4000.0    3500.0    3000.0    2400.0    2200.0    2100.0    1900.
   1750.0    1600.0    1450.0    1400.0    1220.0    1160.0    1300.0    1250.
   1200.0    1200.0
   7125.0    7100.0    7075.0    7050.0    7000.0    6000.0    5000.0    4500.
   4250.0    4000.0    3500.0    3000.0    2400.0    2200.0    2100.0    1900.
   1750.0    1500.0    1400.0    1350.0    1300.0    1250.0    1200.0    1200.
   1200.0    1200.0
   7200.0    7175.0    7100.0    7090.0    7080.0    7050.0    7000.0    6000.
   5000.0    4500.0    4250.0    3500.0    3000.0    2400.0    2100.0    1900.
   1750.0    1500.0    1400.0    1260.0    1230.0    1200.0    1200.0    1200.
   1200.0    1200.0
   7200.0    7175.0    7150.0    7125.0    7100.0    7090.0    7050.0    7000.
   6000.0    5000.0    4500.0    4250.0    3500.0    3000.0    2100.0    1900.
   1750.0    1500.0    1400.0    1300.0    1200.0    1200.0    1200.0    1200.
   1200.0    1200.0
        1         1
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0  -1   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0  -1   0
  0   0   0   0   0   0  -1   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0  -1   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0  -1  -1   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0  -1   0   0
  0  -1  -1   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0  -1   0   0   0
  0   0  -1   0  -1  -1   0   0   0   0   0   0   0   0   0   0   0   0   0
  0  -1  -1   0   0   0
  0   0   0   0   0  -1   0   0   0   0   0   0   0   0   0   0   0   0   0
  0  -1  -1   0   0   0
  0   0   0   0   0  -1  -1   0   0   0   0   0   0   0   0   0   0   0   0
  0  -1   0   0   0   0
  0  -1  -1  -1   0  -1  -1   0   0   0   0   0   0   0   0   0   0   0   0
 -1   0   0   0   0   0
  0   0   0   0   0  -1   0   0   0   0  -1  -1   0   0   0   0   0   0   0  -1
 -1   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0  -1
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0  -1   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
```

```
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
        1              1
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0   -1   -1    0    0    0    0   -1    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0   -1   -1   -1    0    0   -1    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0   -1   -1   -1    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0    0   -1   -1    0   -1    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0   -1    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0   -1   -1    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0    0    0   -1    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0    0    0   -1   -1   -1    0    0    0    0    0    0    0    0    0    0    0    0    0
  -1    0    0    0    0    0
   0    0    0    0    0    0   -1    0    0    0    0    0    0    0    0    0    0    0    0
  -1    0    0    0    0    0
   0    0    0    0    0    0   -1    0    0    0    0    0    0    0    0    0    0    0    0   -1
   0    0    0    0    0    0
   0    0    0    0    0    0   -1    0    0    0    0    0    0    0    0    0    0    0    0   -1
   0    0    0    0    0    0
   0    0    0    0    0    0   -1    0    0    0   -1   -1    0    0    0    0    0    0   -1
   0    0    0    0    0    0
   0    0    0    0    0    0    0    0    0    0   -1    0    0    0    0    0    0   -1    0
   0    0    0    0    0    0
   0    0    0    0    0    0    0    0    0    0   -1    0    0    0    0    0    0   -1    0
   0    0    0    0    0    0
   0    0    0    0    0    0   -1   -1    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0    0    0    0    0    0    0    0   -1    0    0    0    0    0   -1    0   -1    0    0
   0    0    0    0    0    0
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
       -1              0
    1.E-4              1             .25       4
   0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0    0
   0    0    0    0    0    0
   0    0    0    0    0  100  260  429  421  588  571  571  781  90910911354135415221563121
1071  824  737  519  208    0
   0    0    0    0   25  104  526  526  471  571  571  806  887111114811667195720651979153
13571118  985  593  313    0
   0    0    0    0    0  104  316  210  352  571  6451111129616001875208321742083193517 1
171412941053  741  208    0
   0    0    0    0    0    0  235  592  658  786  96813041630217423862500250019351714171
14121211  815  417  104    0
   0    0    0    0  148  296  235  571  82110481129163019572500273827172083171416431 29
1105  667  208   50    0    0
   0  100  130  261  326  395  395  645  8331083121018752083250027172407185716451250 95
 778  547  300    0    0    0
```

```
  0 156 261 424 435 471 588 789 92910001290150020003000271720971857147111143 84
595 521 300   0   0   0
  0 444 652 896 737 522 706112910481210141715832189250020832090177614711043 92
741 417 100   0   0   0
  0 741117616131059 706100010001129129012861429194423962083185714711043 808 74
521 100  25   0   0   0
  0 417 696 824105911291296 96812901000105914291613169318551412126 3 889 815 74
208  25   0   0   0   0
  0 300 208 208 519 765 645 161 645 696 667 97814931567144711961158 521 469 46
100   0   0   0   0   0
  0  25   0   0 185  69   0   0   0  50 104 444 941142911051105 741 417 300 30
 50   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0 222 696 469 417 313 300 100  5
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0  52 208 250   0  50  50 . 0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0  25  75 100 100   0 100   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0  25  25  50   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0 100 100   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
    1.E-3           1                   .25         4
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0  98  87  77  74  62  48  50  64  40  42  59 113 121  96 851  90  73   0
  0   0   0   0   0   0
  0 109  97  85  82  69  53  55  71  44  47  66 126 134 106  95 100  81  22
  0   0   0   0   0   0
  0 121 121 121 121 107  54  52  51  89  91 132 140 149 118 105 111  90  24  2
  0   0   0   0   0   0
  0   0 121 121 121 140  64  85  59  66  91 149 171 163 165 123 123 100  27  2
  0   0   0   0   0   0
  0 115 115 115  82  79  79 107 106 131 136 153 207 218 227 165 114  73  71  3
  0   0   0   0   0   0
  0  88  88  88  63  90 115 124 124 129 133 133 155 223 120 109  72  35  46  4
 46   0   0   0   0   0
  0   0   0  73  82  82  72  87  94  91 122 116 126 157 150 118 100  68  38  4
 40   0   0   0   0   0
  0   0   0  38  30  44  30  95  99  99 112 119 118 133 105 103  68  59  31  3
 11   0   0   0   0   0
  0   0   0   0   0   0  52  73  77  83  99 108 112 116  91  91  59  84  61  3
  4   0   0   0   0   0
  0   0   0   0   0   0  64  64  63  52  49  74  75 104  77  49  49  27  48  1
  0   0   0   0   0   0
  0   0   0   0   0   0  46  54  54  35  61  39  69  62  61  43  29  20  31  3
  0   0   0   0   0   0
  0   0   0   0   0   0  31  46  46  46  46  22  61  56  33  32  20  35   8
  0   0   0   0   0   0
  0   0   0   0   0   0  23  31  29  30  35   0  24  19  46  37  38  15   4
  0   0   0   0   0   0
  0   0   0   0   0   0  23  21  21  23  35  31  07  27  28  31  15  15   0
  0   0   0   0   0   0
  0   0   0   0   0   0  17  12  15  15  31   8   8  21  23  23   0   0   0
  0   0   0   0   0   0
```

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```
  0   0   0   0   0   0   0   1   1  15   2   0   0  12  15   2   2   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
   1.E-1          1                   1           1
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0  98  87  77  74  62  48  50  64  40  42  59 113 121  96 851  90  73   0
  0   0   0   0   0   0
  0 109  97  85  82  69  53  55  71  44  47  66 126 134 106  95 100  81  22
  0   0   0   0   0   0
  0 121 121 121 121 107  54  52  51  89  91 132 140 149 118 105 111  90  24   2
  0   0   0   0   0   0
  0   0 121 121 121 140  64  85  59  66  91 149 171 163 165 123 123 100  27   2
  0   0   0   0   0   0
  0 115 115 115  82  79  79 107 106 131 136 153 207 218 227 165 114  73  71   3
  0   0   0   0   0   0
  0  88  88  88  63  90 115 124 124 129 133 133 155 223 120 109  72  35  46   4
 46   0   0   0   0   0
  0   0   0  73  82  82  72  87  94  91 122 116 126 157 150 118 100  68  38   4
 40   0   0   0   0   0
  0   0   0  38  30  44  30  95  99  99 112 119 118 133 105 103  68  59  31   3
 11   0   0   0   0   0
  0   0   0   0   0   0  52  73  77  83  99 108 112 116  91  91  59  84  61   3
  4   0   0   0   0   0
  0   0   0   0   0   0  64  64  63  52  49  74  75 104  77  49  49  27  48   1
  0   0   0   0   0   0
  0   0   0   0   0   0  46  54  54  35  61  39  69  62  61  43  29  20  31   3
  0   0   0   0   0   0
  0   0   0   0   0   0  31  46  46  46  46  22  61  56  33  32  20  35   8
  0   0   0   0   0   0
  0   0   0   0   0   0  23  31  29  30  35  00  24  19  46  37  38  15   4
  0   0   0   0   0   0
  0   0   0   0   0   0  23  21  21  23  35  31  07  27  28  31  15  15   0
  0   0   0   0   0   0
  0   0   0   0   0   0  17  12  15  15  31   8   8  21  23  23   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   1   1  15   2   0   0  12  15   2   2   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  .6E-13          1
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   1   1   1   1   1   1   1   1   1   1   1   1   2   2
  2   2   2   4   8   0   0
  0   0   0   0   0   1   2   2   2   2   1   2   0   0   0   0   0   0   0   0
  2   1   3  20   0   0
  0   0   0   0   0   3   4   2   2   2   2   2   0   0   0   0   0   0   0   0
```

```
  2   4   6  24   0   0
  0   0   0   0   0   0  10   8   3   2   2   3   0   0   0   0   0   1   1   1
  1   1   8   6   6   0
  0   0   0   0   8   9   0  14   8   5   3   3   3   0   0   0   0   1   1
  2   1   7   0   0   0
  0   1   2   3   5   8  14  31  16   6   5   4   3   2   0   0   1   1   2   2
  2   2   7   0   0   0
  0   1   2   3   4   7  11  12  12  11   6   6   3   3   2   1   1   2   2   2
  3   5   0   0   0   0
  0   2   3   2   5   5  11  15  12  10   9   7   4   2   2   2   2   2   2   2
  5   0   0   0   0   0
  0   4   3  10  10   8   0  20  21  15   9   7   6   4   2   2   3   3   5   1
 21   0   0   0   6   0
  0   7  10  16  11  10   09999  63  47  43  11  16  12   4   3   4   4  12   2
 21   0   0   0   0   0
  0  10  10  72  12   0   0999999999999  24  21   9   6   5   5   6  10  21   2
  0   0   0   0   0   0
  0  21   0   0   0   0   0   0   09999   0   0  11   9   5  10   9  21  21
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0  30  15   7   5   7  21  21
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   09999  21  21   0  21  21   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0999999999999999   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0999999999999   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
    .3E-14          1
  0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0
  0   0   0   0   0   0
  099999999 134  48  37 2419999  40  40  30  39  44  62  75  93 106 106   0
  0   0   0   0   0   0
  0999999999999 483  80  60  24  30  29  30  42   0   0   0  67  73  73 101
  0   0   0   0   0   0
  0   0   0   0  34  87  60  88  59  43  34   0   0   0   0   0   0  55  73   8
  0   0   0   0   0   0
  0   0   0   0   8  23  59 105  60  45  42   0   0   0   0   0  30  27  32   3
  0   0   0   0   0   0
  0  11  12  13  35  14  10  19  30  65   0   0   0   0   0   0   0  28  29   3
  0   0   0   0   0   0
  0  20  22  33  93  78  32  21  24  21  22   0   0   0   0   0   0  28  82   5
 29   0   0   0   0   0
  0   0   0  25  28  21  31  31  23  24  20   0   0   0   0   0  13  20  44   7
 81   0   0   0   0   0
  0   0   0  15  16  13  15  37  22  26  25   0   0   0   0  14  16  34  38  10
9999   0   0   0   0   0
  0   0   0   0   0   0   0  55  21  19  23   0   0   0  14  15  18  28  37  13
9999   0   0   0   0   0
  0   0   0   0   0   0   0  22  18  16  15   0   0  20  19  18  25  31  61999
  0   0   0   0   0   0
  0   0   0   0   0   0   0  21  17  14   9   0  20  21  22  23  27  42 242999
  0   0   0   0   0   0
  0   0   0   0   0   0   0  21  17  13   0   0  17  21  22  23  32 2019999
```

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```
0  0  0  0  0  0
0  0  0  0  0  0  14  16  20  14   0   0  12  19  20  25  3799999999
0  0  0  0  0  0
0  0  0  0  0  0  26  21  15  17   0   0  14  16  18  20  469999   0
0  0  0  0  0  0
0  0  0  0  0  09999  18  15  10  10  14  16  77  22  42   0   0   0
0  0  0  0  0  0
0  0  0  0  0  0   0  17  19  10  10   0   0  559999  289999   0   0
0  0  0  0  0  0
0  0  0  0  0  0   0   0   0   0   0   0   0   0   0   0   0   0   0
0  0  0  0  0  0
0  0  0  0  0  0   0   0   0   0   0   0   0   0   0   0   0   0   0
0  0  0  0  0  0
0  0  0  0  0  0   0   0   0   0   0   0   0   0   0   0   0   0   0
0  0  0  0  0  0
0  0  0  0  0  0   0   0   0   0   0   0   0   0   0   0   0   0   0
0  0  0  0  0  0
 168960
 16896.      1
     10     25     15     10     10     10     10      1
     10     10     10     10     10     10     10      1
     10     15     20     35     10
      1
      1      0      0      1      1      1     24
```

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