ADMINISTRATIVE RECORD

1533662 - R8 SEMS

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SEMS 1533662

FILE PLAN 18.32

M E M O R A N D U M

TO: Marc Herman/EPA

FROM: Al Eddebbarh/CH2M HILL
Gary Hermann/CH2M HILL

DATE: December 2, 1991

SUBJECT: Lowry Landfill OUs 1 and 6 Groundwater Modeling-Related Coalition's Submittals to EPA

PROJECT: DEN68021.AR.EA

Enclosed are documents, drawings, and computers discs, related to groundwater modeling, we received from the Coalition's consultant on behalf of EPA. The following lists the items received to date from the Coalition's consultant and the date the items were received:

- Standard input files for the Modflow groundwater flow model. Those file were received on October 21, 1991. A copy of those files comprise disk A.

- Standard input files for the MT3D groundwater transport model. Those files were received on October 31, 1991. A copy of those files comprise disk B.

- Copies of two overheads describing (1) modeled transmissivities and (2) the method used to calculate general head boundary conductance. These were received on November 7, 1991.

- Copies of overhead of the model domain grid, stream locations, the model layers, and the source configuration. Those copies were received from the Coalition's consultant at one of the working session.

Other information regarding input to both the flow and transport models could be extracted from the input files. If you need additional information or have any questions, please call.

Initial Versus Final Parameter Estimates

Transmissivity (ft^2/day)	Initial	Final
Layer 1 (weathered DAWSON)	0.5 - 5.0 - 15	0.5 - 5.0 - 15 Avc ≈ 0.83
Layer 2 (unweathered Dawson)	0.05 - 7	0.25 - 7 Avc 3.03
Layer 3 (Seperation Layer)	0.0015 - 4	0.015 - 4
Layer 4 (DENVER)	0.15 - 3	0.5 - 3
Layer 5 (Lignite)	0.2 - 2	0.5 - 2
Layer 6 (Lower DEN)	120	120
Layer 7 (Arapahoe)	125	125

Vertical Conductance (day^{-1})	Initial	Final
Layer 1 - Layer 2	$1x10^{-7}$ - $5x10^{-7}$ - $1x10^{-4}$	$1x10^{-6}$ - $5x10^{-6}$ - $1x10^{-3}$
Layer 2 - Layer 3	$2x10^{-7}$ - $7x10^{-7}$ - $1x10^{-3}$	$1x10^{-6}$ - $3.5x10^{-6}$ - $5x10^{-3}$
Layer 3 - Layer 4	$2x10^{-7}$ - $5x10^{-7}$ - $1x10^{-5}$	$2x10^{-7}$ - $5x10^{-7}$ - $5x10^{-6}$
Layer 4 - Layer 5	$1x10^{-6}$ - $1x10^{-5}$	$5x10^{-7}$ - $5x10^{-6}$
Layer 5 - Layer 6	$8x10^{-4}$	$1.6x10^{-7}$ $.32 \times 10^{-7}$
Layer 6 - Layer 7	$8x10^{-6}$	$1.28x10^{-8}$

Procedure for Developing General Head Boundaries

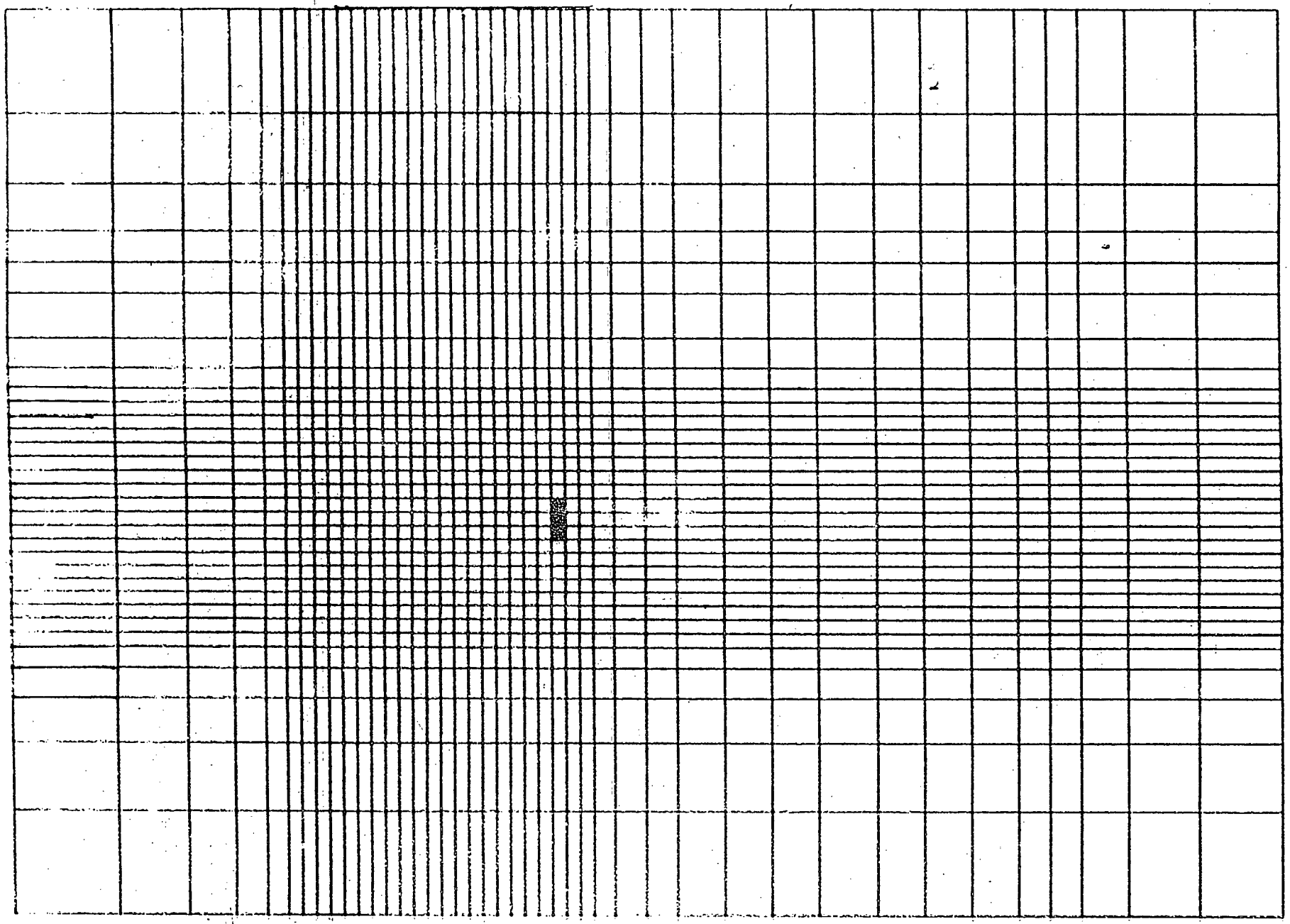
1. $C = \frac{TW}{L}$ ← GHB Length

   T = Estimated transmissivity

   $W = \sqrt{L \times D}$ ← Cell Row Width
   ↖ Cell Column Width

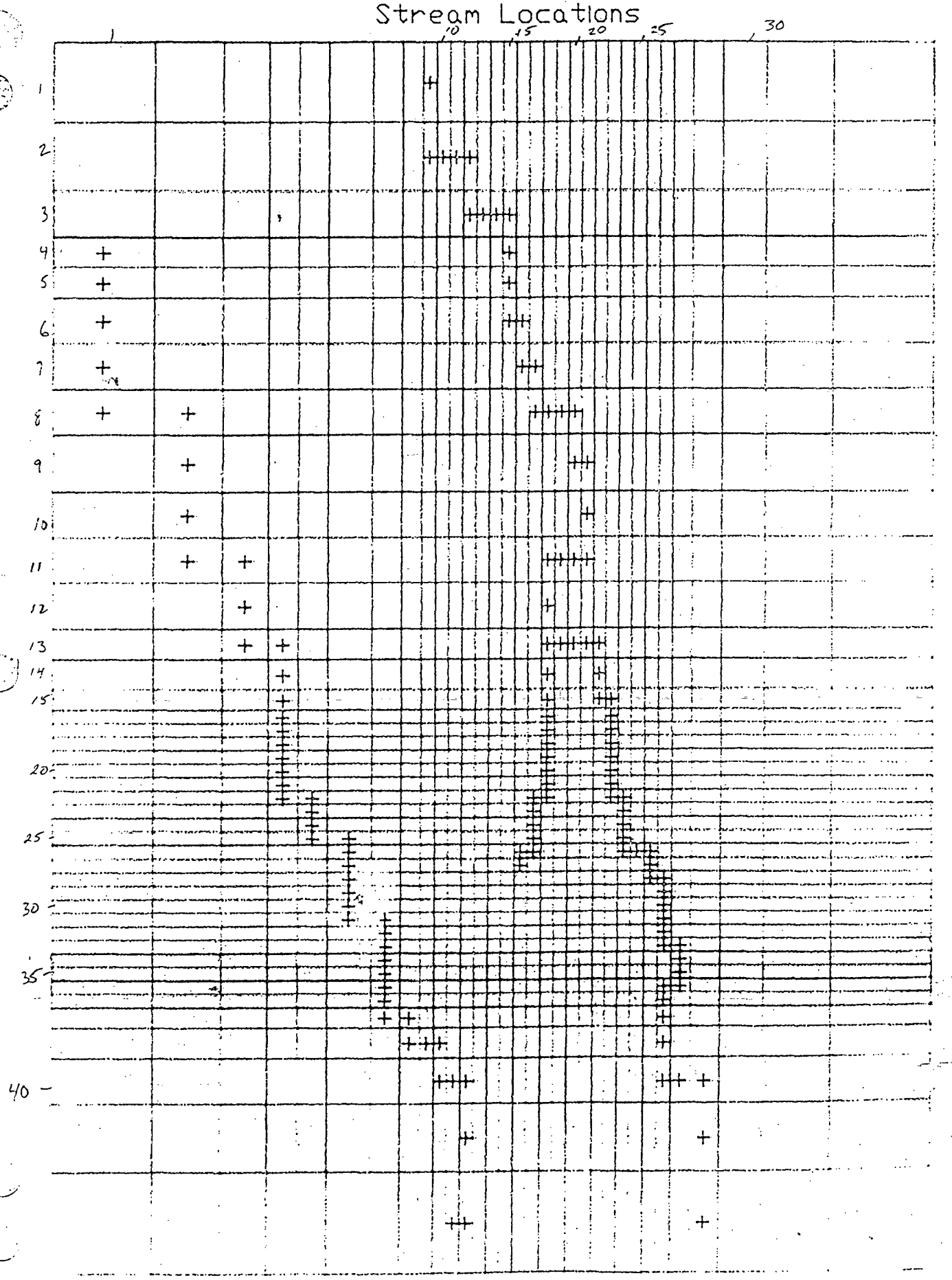
   L = ~~0.1~~ 1000 Feet
   ↖ GHB Length

2. H_o is specified from initial potentiometric surfaces



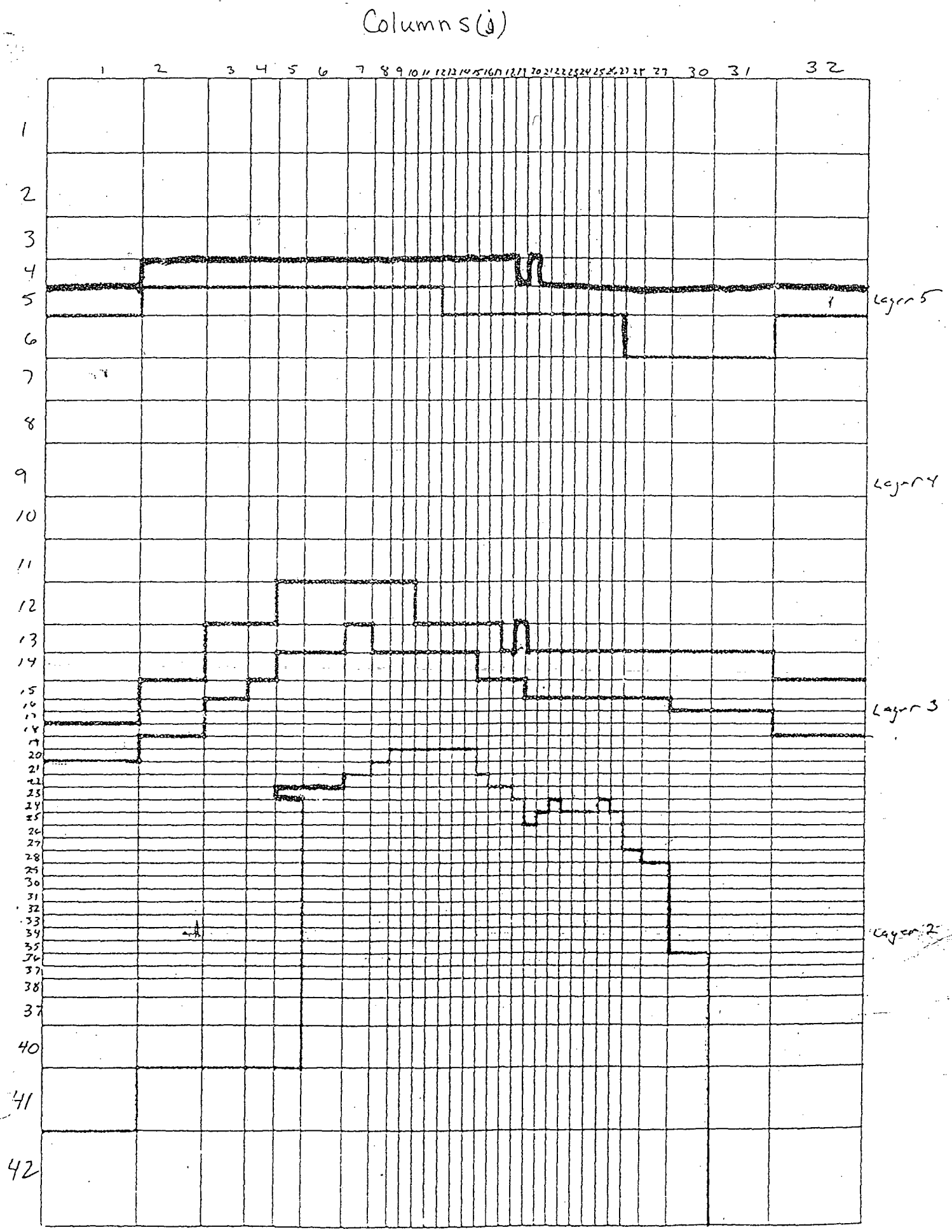
= cells have T=300ft²/d

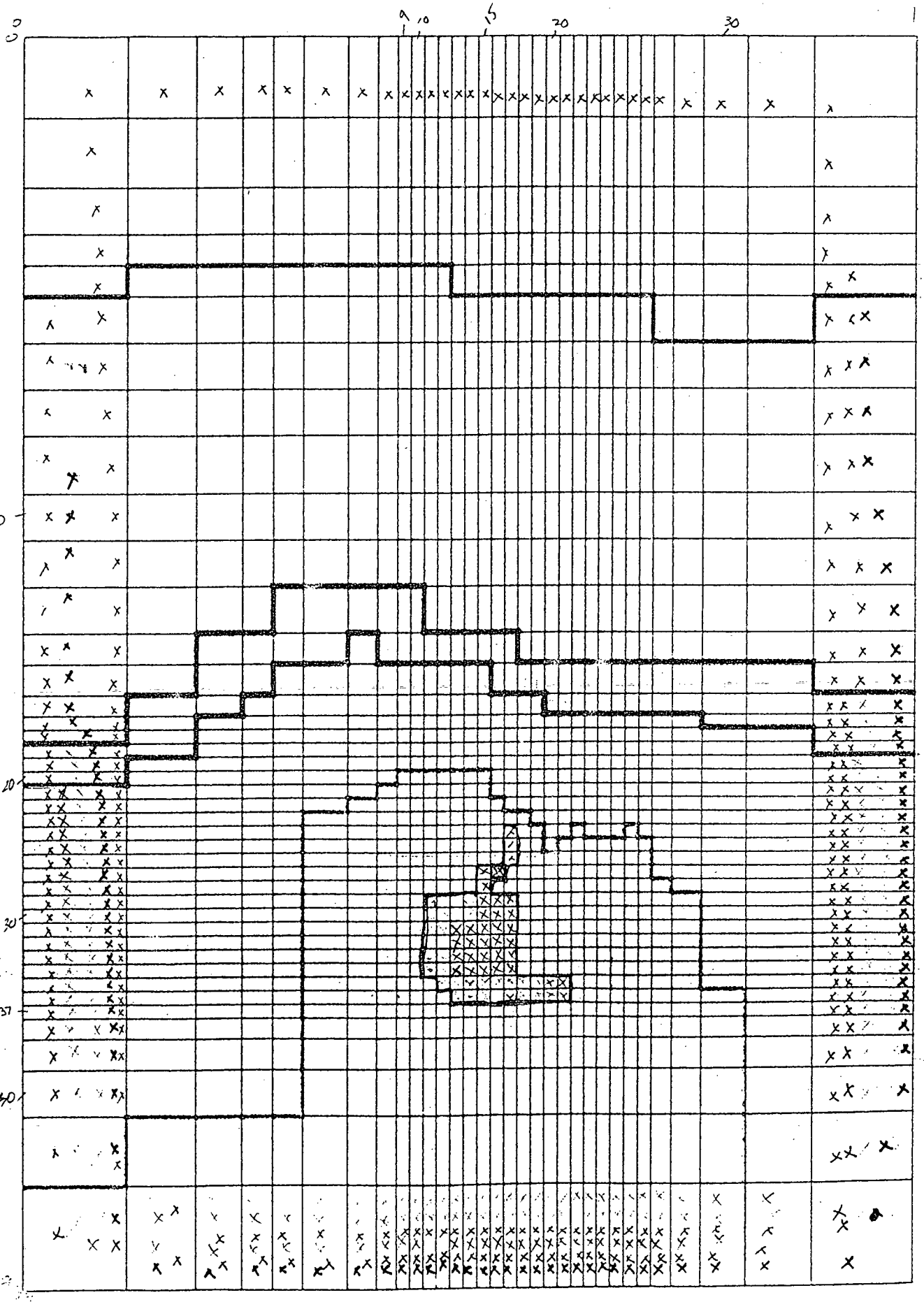
Stream Locations



Lowry Grid

↑N



Layer 4
Layer 5
Layer 6 = Layer 7

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