

PUMPTEST DATA REDUCTION SUBMITTAL SHEET

NAME OF PUMPTST DATA TAPE: Alico C

METHOD OF COLLECTION:

1. INITIAL WATER LEVEL SET TO ZERO
2. INITIAL WATER LEVEL IS ACTUAL DEPTH TO WATER FROM TOP OF CASING

PLEASE ENTER NUMBER: 2

INSITU TRANSDUCER INFORMATION:

INPUT #	WELL NAME	WELL RADIUS	PUMPAGE QUANTITY	STATIC LEVEL	PLOTTING SCALING FACTOR(1.0)
1	1d	104	343	0	1.0
2	1d	104	↓	↓	↓
3	1s	104.5			
4	1s	104.5			
5	2d	195			
6	2d	195			
7	2s	199			
8	2s	199			
9	3d	47			
10					
11					
12					
13					
14					
15					
16					

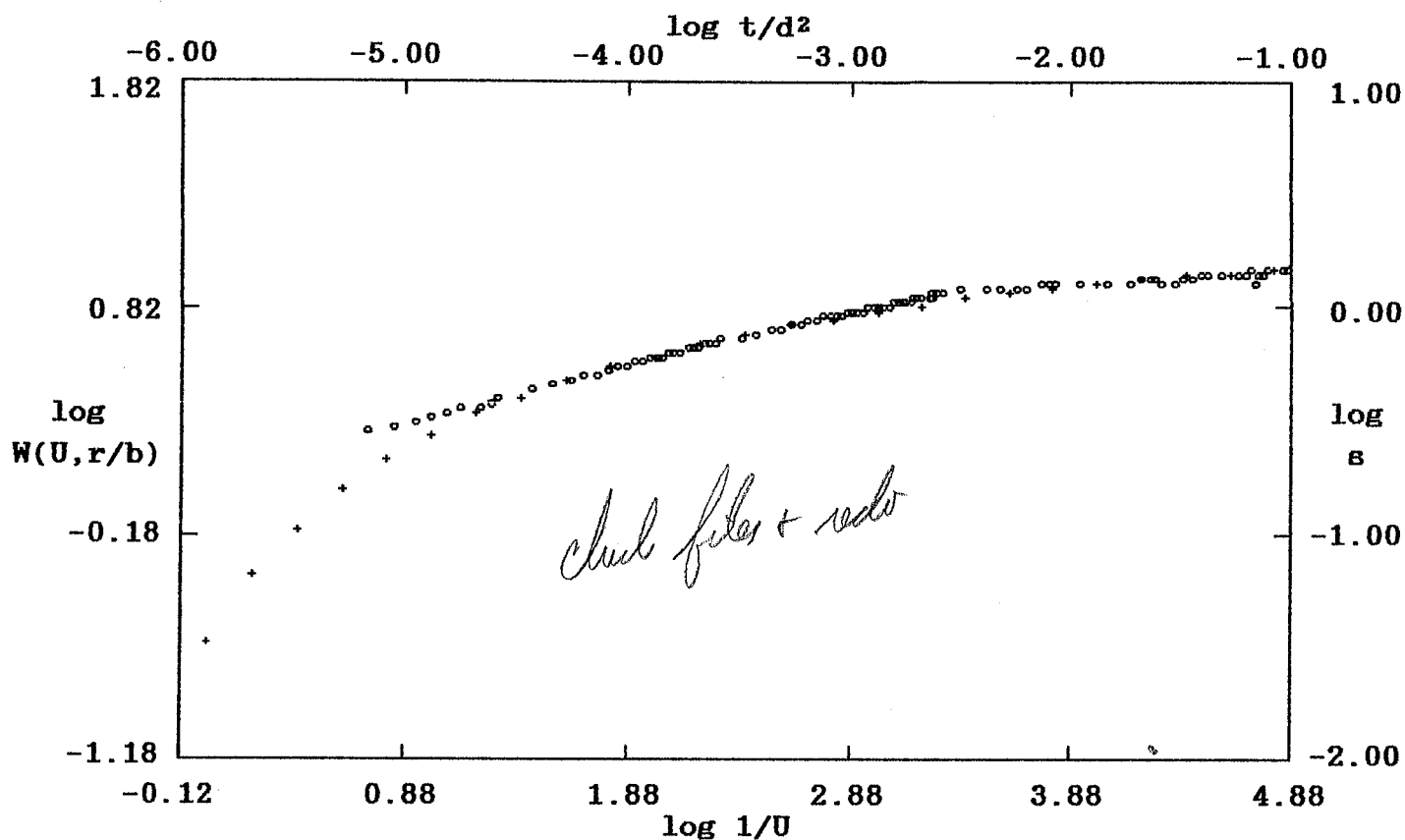
HERMIT INFORMATION:

Please check the run no(s) used.

[illegible]

Alco ID

PUMP TEST DATA



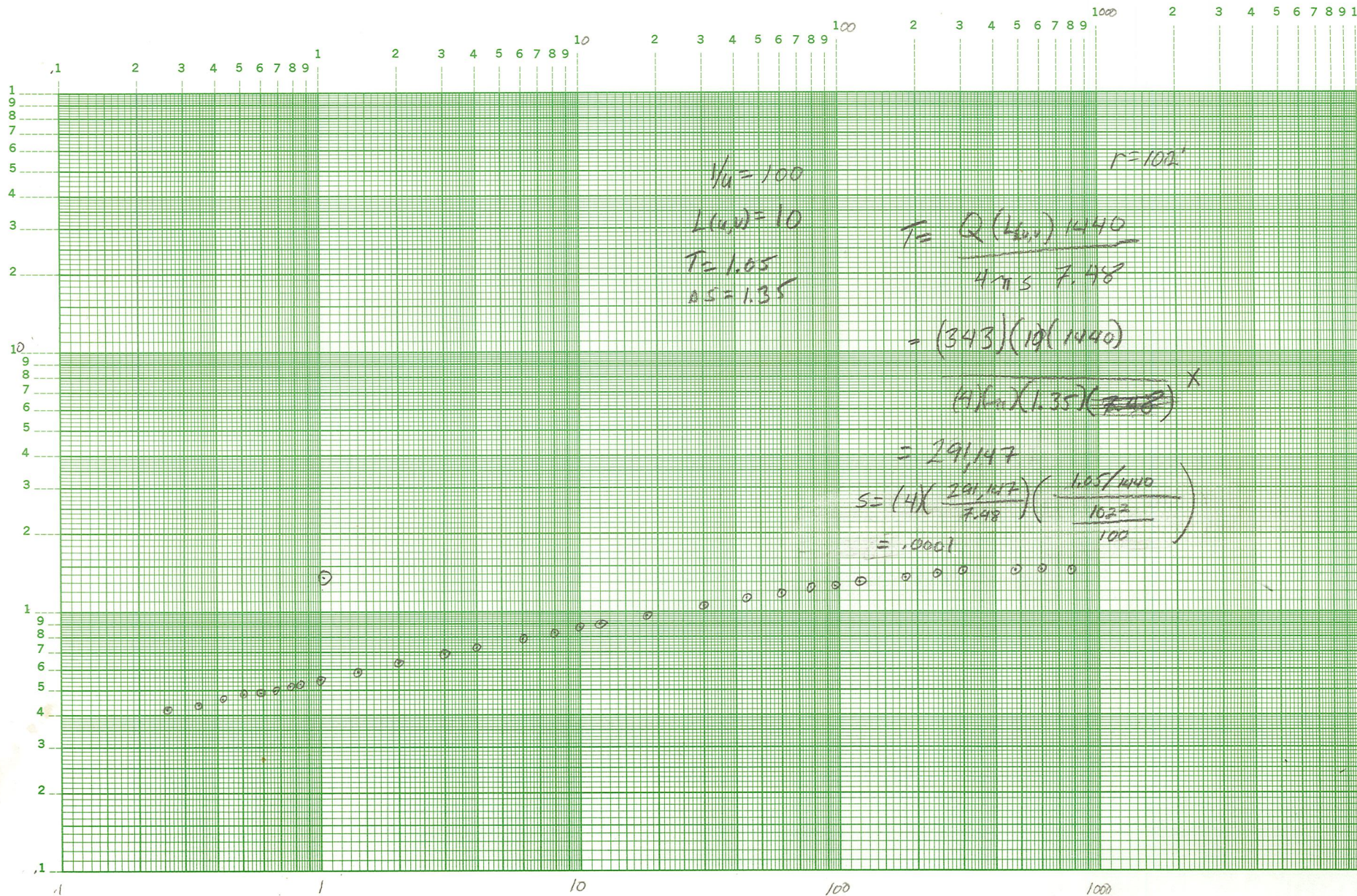
o - Data

+ - Type Curve

Confined Leaky: $r/B = 0.01$

SOLUTION

Transmissivity = $2.411E+01$ ft.²/min. 259,694 GPD/FT
Storativity = $1.271E-04$



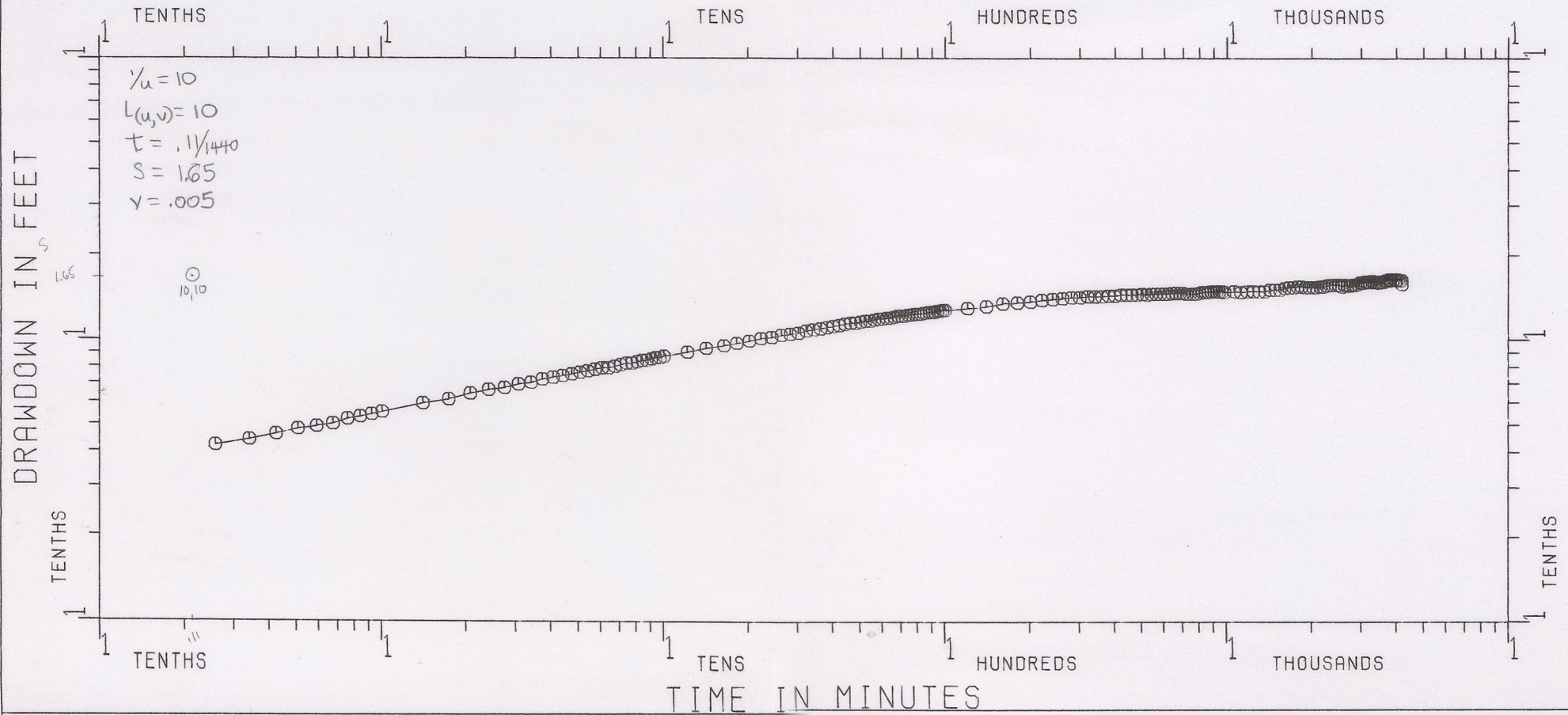
T

$$T = \frac{1440 \text{ Q Lu,v}}{4\pi s (7.48)} = \frac{1440(343)(10)}{4\pi (1.65)(7.48)} = \frac{31946 \text{ ft}^2/\text{day}}{238,211 \text{ gpd/ft}}$$

$$S = \frac{4T \frac{t}{r_2}}{\frac{1}{u}} = \frac{4(31846) \left(\frac{.11/4440}{1042} \right)}{10} = 8.997 \times 10^{-5}$$

$$K'_{b'} = 4T \frac{V^2}{r^2} = 4(31846) \left(\frac{0.0053}{1042} \right)^2 = 2.9 \times 10^{-6}$$

OBSERVATION WELL: 1D

$$R=104.3 \quad Q=343.0$$


ALICO SITE C PUMP TEST DRAWDO

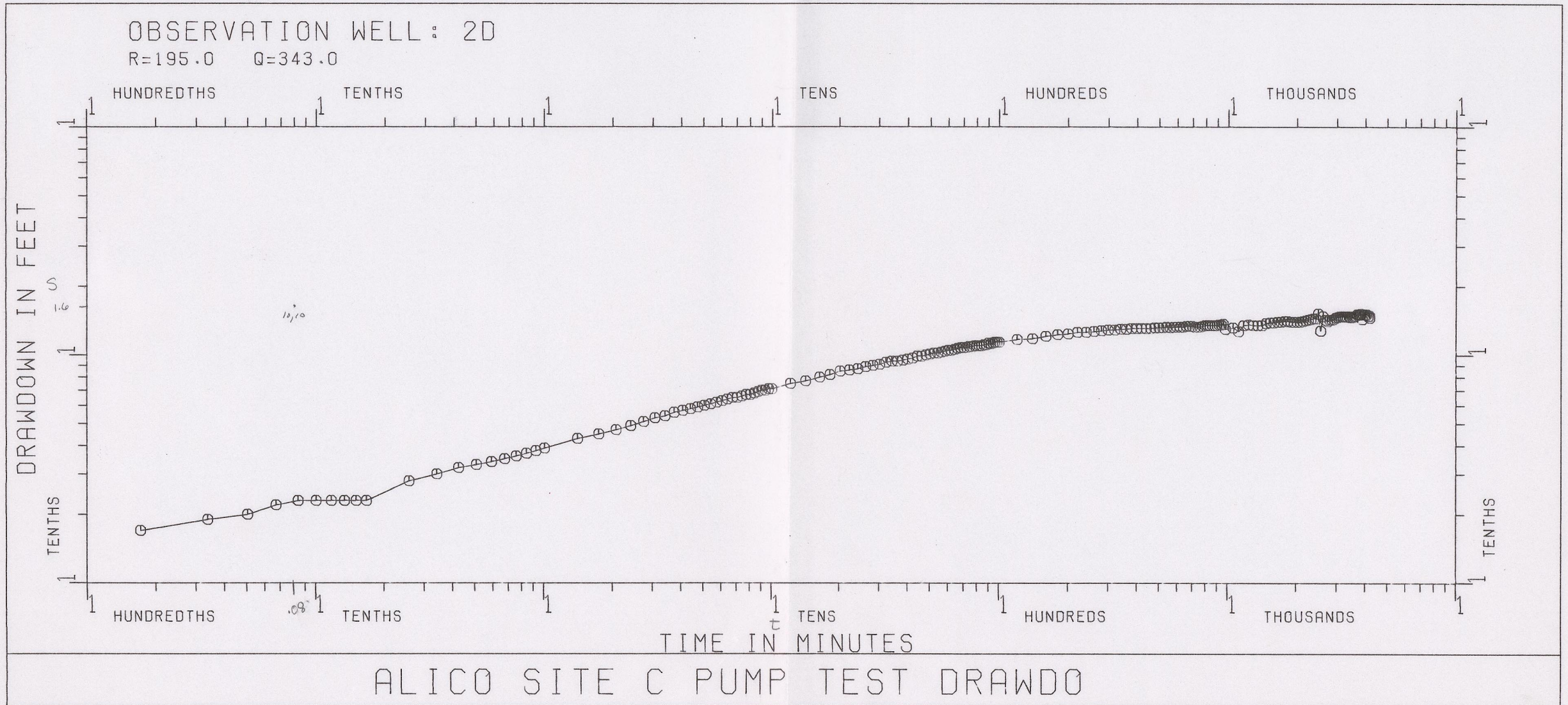
$$\begin{aligned} \sqrt{v}/u &= 4.0 \\ v &= .0005 \\ 1/u &= 10 \\ L_{uv} &= 10 \end{aligned}$$

$$\begin{aligned} t &= .08/1440 \\ S &= 1.6 \end{aligned}$$

$$\begin{aligned} T &= \frac{1440 Q L_{uv}}{4\pi S (7.48)} = \frac{1440(343)(10)}{4\pi (1.6)(7.48)} = 32842 \text{ ft}^3/\text{day} \\ &= 245,655 \text{ gpd}/\text{ft} \end{aligned}$$

$$S = \frac{4T \sqrt{r_2}}{u} = \frac{4(32842)(\sqrt{.08/1440}/1952)}{10} = .000019$$

$$K'/b' = 4T \sqrt{r_2} = 4(32842)(\sqrt{.00052}/1952) = 8.6 \times 10^{-7}$$



OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER FUNCTION TRANSMISS
1 .557E-03 .331E+05

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER FUNCTION TRANSMISS
1 .557E-03 .331E+05

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2	3
	1.000	.0000	.0000

DO YOU WANT A SENSITIVITY ANALYSIS ? (Y/N)

SENSITIVITY ANALYSIS

TWO STANDARD DEVIATION CONFIDENCE INTERVALS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
TRANSMISS	.331E+05	0.0000	0.116E+06

TO CONTINUE ENTER "RETURN"

OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER FUNCTION STORTIVITY
1 .685E-01 .9000E-04
3 .534E-03 .4673E-03

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER FUNCTION STORTIVITY
3 .534E-03 .4692E-03

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2	3
	1.000	.0000	.0000

DO YOU WANT A SENSITIVITY ANALYSIS ? (Y/N)

SENSITIVITY ANALYSIS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
STORTIVITY	.4692E-03	0.0000	0.4685E-02

TWO STANDARD DEVIATION CONFIDENCE INTERVALS

AlhcoC 10

$T = 247,962 \text{ gpd/ft}$

$S = 4.692E^{-4}$

$K/b' = ?$

OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER FUNCTION TRANSMISS
 1 .411 .2457E+06
 4 .832E-01 .7504E+05
 5 .472E-01 .3668E+05
 7 .709E-02 .4853E+05
 9 .668E-02 .4683E+05

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER FUNCTION TRANSMISS
 9 .668E-02 .4726E+05

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2	3
	.0000	1.000	.0000

DO YOU WANT A SENSITIVITY ANALYSIS ? (Y/N)

SENSITIVITY ANALYSIS

TWO STANDARD DEVIATION CONFIDENCE INTERVALS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
TRANSMISS	.4726E+05	0.0000	0.1620E+06

TO CONTINUE ENTER "RETURN"

OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER FUNCTION STORTIVITY
 1 .666E-02 .1900E-04
 3 .646E-02 .2160E-04

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER FUNCTION STORTIVITY
 3 .646E-02 .2159E-04

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2	3
	.0000	1.000	.0000

DO YOU WANT A SENSITIVITY ANALYSIS ? (Y/N)

SENSITIVITY ANALYSIS

TWO STANDARD DEVIATION CONFIDENCE INTERVALS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
STORTIVITY	.2159E-04	0.0000	0.0000

Alex C. 2D

$T = 353,505 \text{ gpd/ft}$

$S = 2.159 \times 10^{-5}$

$k/b' = ?$

OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER FUNCTION TRANSMISS
 1 .401 .2807E+06
 4 .891E-01 .9316E+05
 5 .577E-01 .4563E+05
 7 .127E-01 .6092E+05
 9 .122E-01 .5857E+05

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER FUNCTION TRANSMISS
 9 .122E-01 .5920E+05

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2	3
	.0000	.0000	1.000

DO YOU WANT A SENSITIVITY ANALYSIS ? (Y/N)

SENSITIVITY ANALYSIS

TWO STANDARD DEVIATION CONFIDENCE INTERVALS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
TRANSMISS	.5920E+05	0.0000	0.2010E+06

TO CONTINUE ENTER "RETURN"

OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER FUNCTION STORTIVITY
 1 .122E-01 .6250E-04
 3 .119E-01 .7457E-04

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER FUNCTION STORTIVITY
 3 .119E-01 .7444E-04

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2	3
	.0000	.0000	1.000

DO YOU WANT A SENSITIVITY ANALYSIS ? (Y/N)

SENSITIVITY ANALYSIS

TWO STANDARD DEVIATION CONFIDENCE INTERVALS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
STORTIVITY	.7444E-04	0.0000	0.1268E-02

Aliso C 3D

$T = 442,816 \text{ gpd/ft}$

$S = 7.444 \times 10^{-5}$

$K'/b = ?$

OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER FUNCTION TRANSMISS
 1 .883E-01 .4654E+05
 3 .765E-01 .4088E+05
 5 .751E-01 .4240E+05

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER FUNCTION TRANSMISS
 5 .751E-01 .4205E+05

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL # 1 2 3
 .6705E-01 .5317 .4012

DO YOU WANT A SENSITIVITY ANALYSIS ? (Y/N)

SENSITIVITY ANALYSIS

TWO STANDARD DEVIATION CONFIDENCE INTERVALS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
TRANSMISS	.4205E+05	0.0000	0.1033E+06

TO CONTINUE ENTER "RETURN"

Alvio C all wells

T = 314,534 gpd/ft

S = 1.678 x 10⁻⁴

K_w = ?

OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER FUNCTION STORTIVTY
 1 .751E-01 .1884E-03
 3 .745E-01 .1678E-03

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER FUNCTION STORTIVTY
 3 .745E-01 .1678E-03

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL # 1 2 3
 .5300E-01 .4448 .5022

DO YOU WANT A SENSITIVITY ANALYSIS ? (Y/N)

SENSITIVITY ANALYSIS

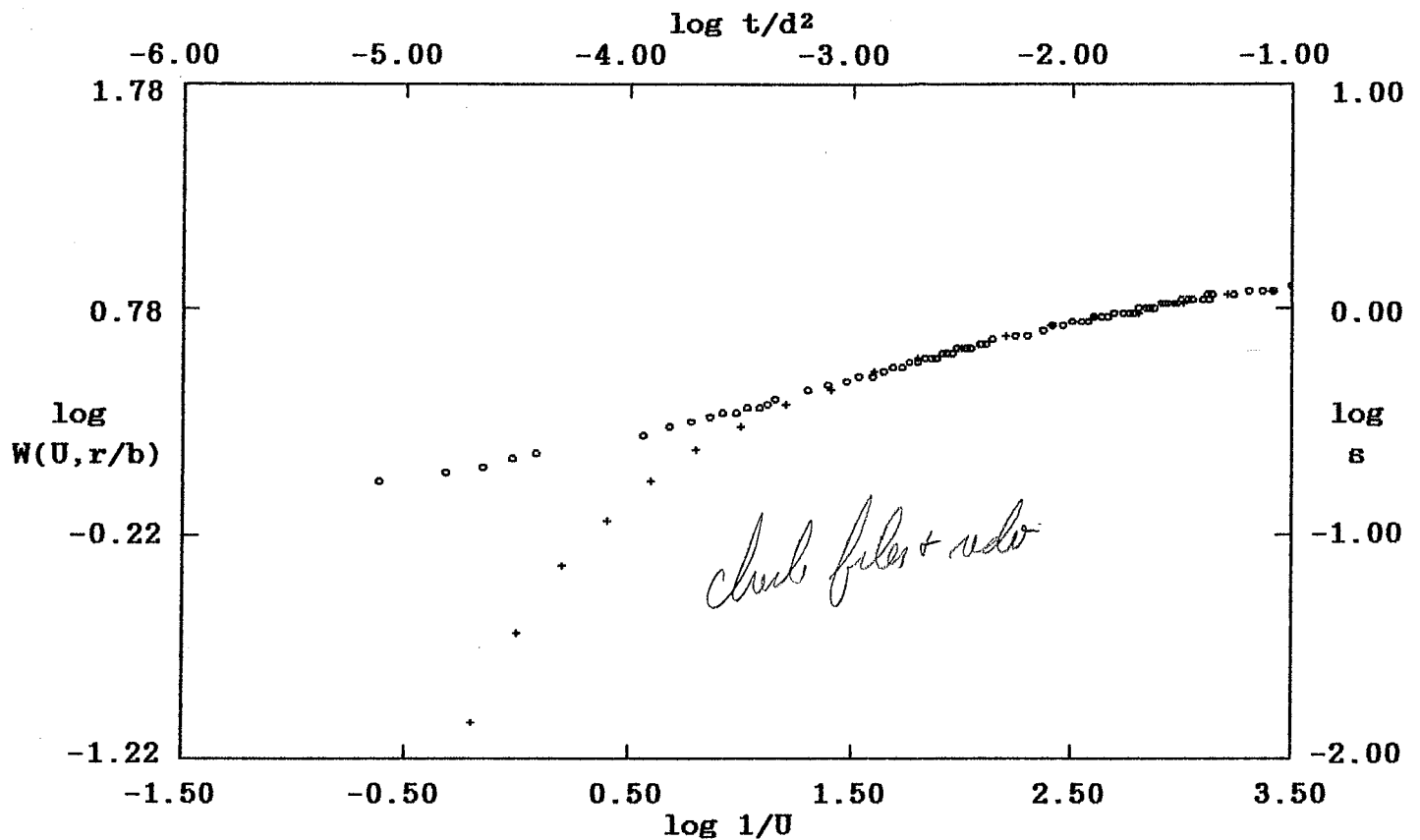
TWO STANDARD DEVIATION CONFIDENCE INTERVALS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
STORTIVTY	.1678E-03	0.0000	0.1268E-02

TO CONTINUE ENTER "RETURN"

AlcoC 3D

PUMP TEST DATA



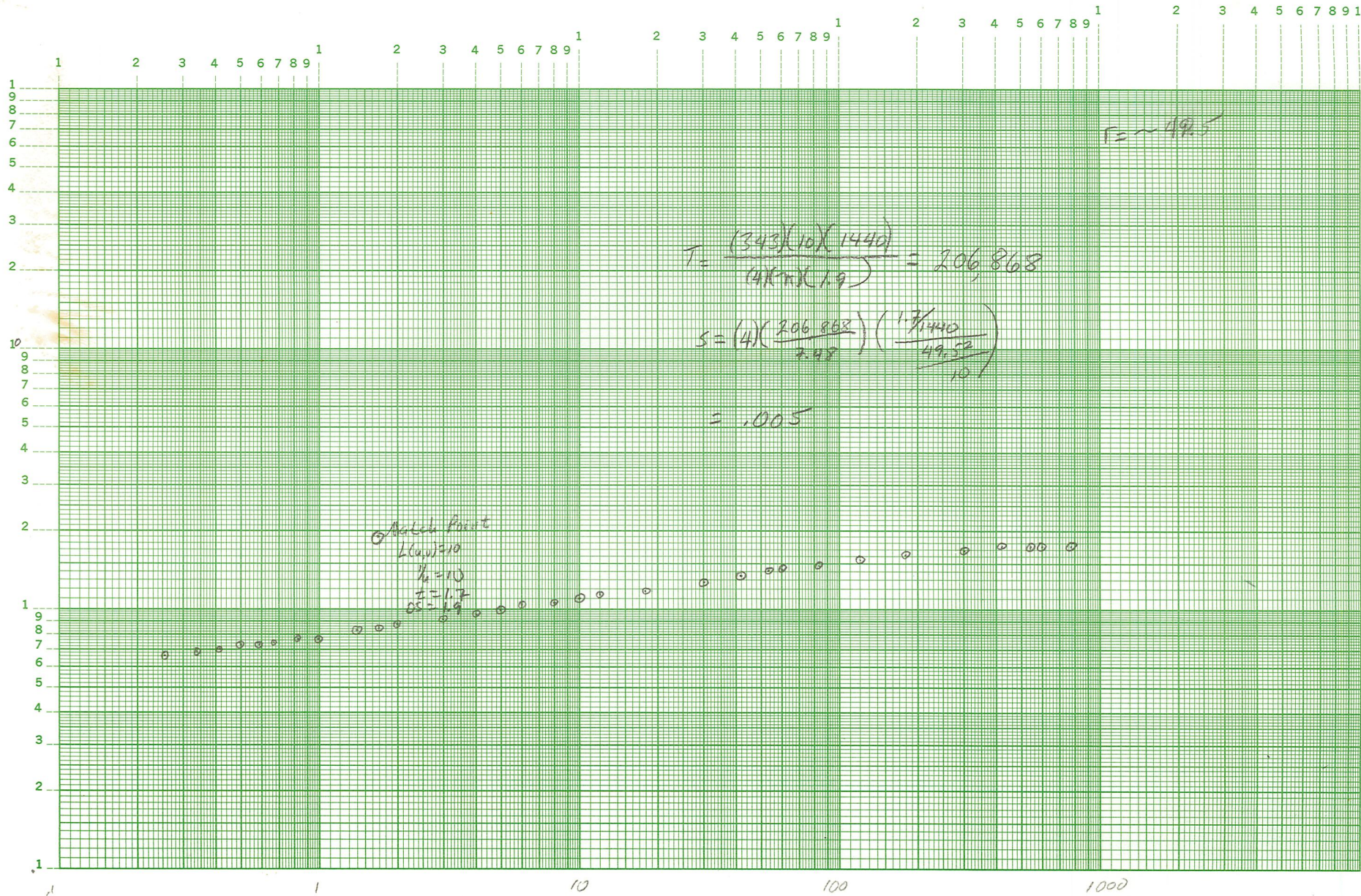
o - Data

+ - Type Curve

Confined Leaky: $r/B = \text{Theis}$

SOLUTION

Transmissivity = $2.199\text{E}+01$ ft.²/min. 236,859 GPD/FT
Storativity = $2.781\text{E}-03$



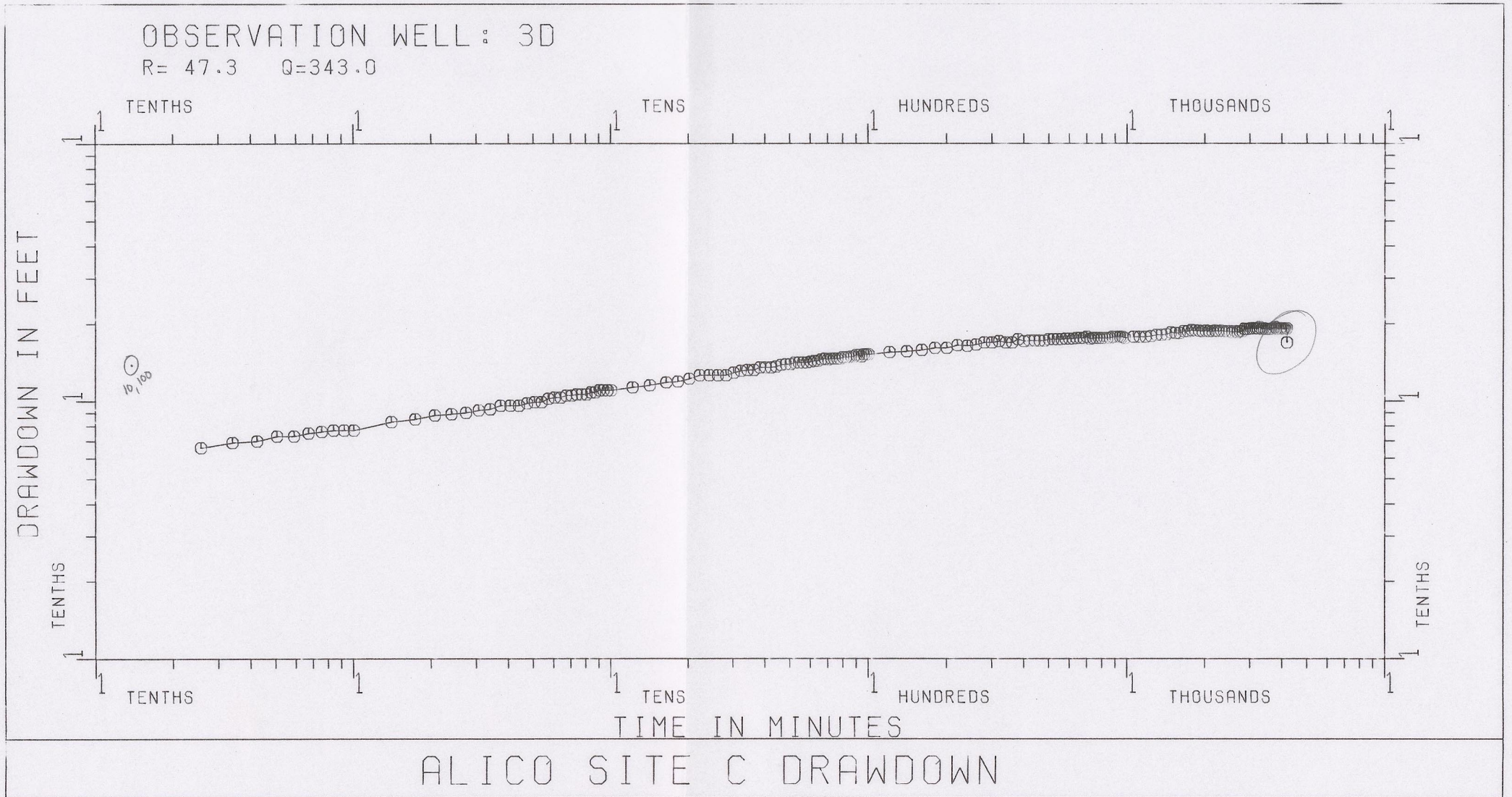
T

WMD

TAPEN0 6057 PLOT NO 0022
USER NO KADAMS

DATE 88/03/07

TIME 20:15

Match
Point $t = .14$ $S = 1.4$ $L_{uv} = 10$ $\frac{1}{u} = 100$ $v = .0005$

Theo

$$T = \frac{1440 Q L_{uv}}{4\pi s (7.48)}$$

$$= \frac{1440 (343) (10)}{4\pi (1.4) (7.48)}$$

$$= 37533 \text{ ft}^2/\text{day}$$

$$= 280,749 \text{ gpd/ft}$$

$$S = \frac{4T}{r^2}$$

 $\frac{1}{u}$

$$= \frac{4(37533)}{100} \left(\frac{.14}{47.3} \right)^2$$

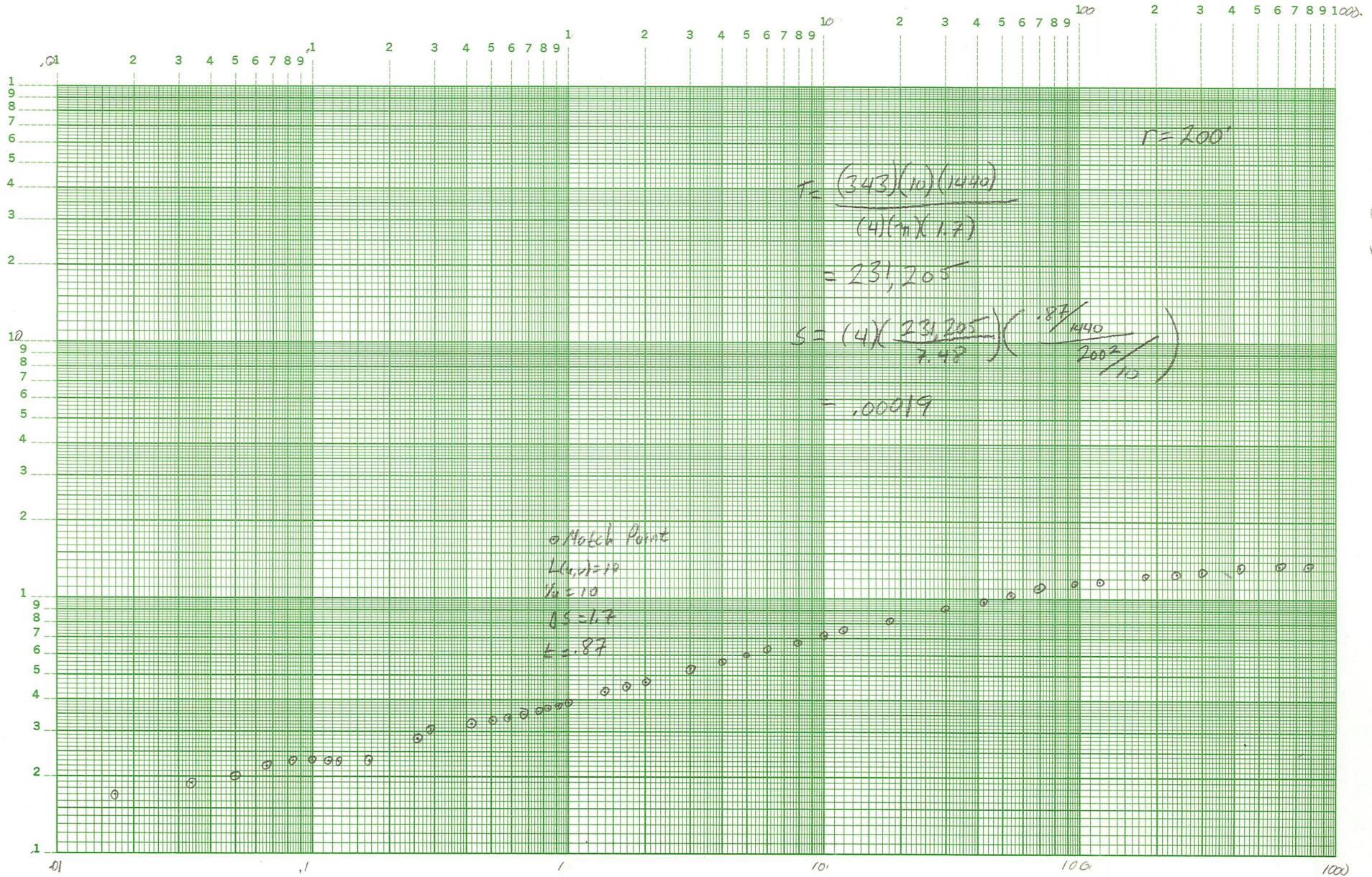
$$= 6.52 \times 10^{-5}$$

$$K/b' = 4T \frac{v^2}{r^2}$$

$$= 4(37533) \frac{.0005^2}{47.3^2}$$

$$= 1.68 \times 10^{-5}$$

OK



2D