

**2"** deep wells 340' Total Depth

300 ~~approx~~ cased depth

300' ~~approx~~ - 340' .20 slotted screen

**shallow well (6")** 10' Total depth

5' cased depth

5'-10' .20 slotted screen

Production Well 340' total

300 cased

40 screened (.20)

# OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER	FUNCTION	TRANSMISS	STORTIVITY	SPEC_LEAK
1	.169	.1013E+05	.2423E-04	.1400E-02
2	.561E-01	.1025E+05	.2427E-04	.3226E-03
3	.383E-02	.1026E+05	.2428E-04	.3372E-04
4	.371E-03	.1026E+05	.2428E-04	.4918E-06
5	.350E-03	.1026E+05	.2428E-04	.3709E-07
6	.347E-03	.1026E+05	.2428E-04	.1847E-08

TERMINATION DUE TO STEP SIZE CONVERGENCE

## FINAL RESULTS

ITER	FUNCTION	TRANSMISS	STORTIVITY	SPEC_LEAK
6	.347E-03	.1026E+05	.2428E-04	.1847E-08

## FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2
	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	.1026E+05	0.1025E+05	0.1027E+05
STORTIVITY	.2428E-04	0.0000	0.2931E-03
SPEC_LEAK	*****	0.0000	0.1147E-02

TO CONTINUE ENTER "RETURN"

Aliso D - well 10 (r=73')

$T = 76,745 \text{ gpd/ft}$

$S = 2.428 \times 10^{-5}$

$L = 1.847 \times 10^{-9}$

↳ very low - causing storage effect?

# OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER	FUNCTION	TRANSMISS	STORTIVITY	SPEC_LEAK
1	.567E-04	9554.	.1555E-03	.2572E-05
2	.567E-04	9554.	.1555E-03	.2478E-05
3	.566E-04	9554.	.1555E-03	.2408E-05
4	.566E-04	9554.	.1556E-03	.2356E-05
5	.566E-04	9554.	.1556E-03	.2318E-05
6	.566E-04	9554.	.1556E-03	.2292E-05
7	.566E-04	9554.	.1556E-03	.2276E-05
8	.565E-04	9554.	.1556E-03	.2267E-05

TERMINATION DUE TO PARAMETER CONVERGENCE

## FINAL RESULTS

ITER	FUNCTION	TRANSMISS	STORTIVITY	SPEC_LEAK
8	.565E-04	9554.	.1556E-03	.2267E-05

## FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2
	.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	9554.	9516.	9592.
STORTIVITY	.1556E-03	0.0000	0.1784E-02
SPEC_LEAK	.2265E-05	0.0000	0.6037E-02

TO CONTINUE ENTER "RETURN"

*Alio D - well 20 (r=197')*

*T = 71,745*

*S = 1.556 x 10<sup>-4</sup>*

*L = 2.267 x 10<sup>-6</sup>*

OPTIMIZATION BY LEVENBERG-MARQUARDT MINIMIZATION ALGORITHM

ITER	FUNCTION	TRANSMISS	STORTIVTY	SPEC_LEAK
1	.634E-02	6014.	.4469E-03	.1934E-02
3	.634E-02	6013.	.4469E-03	.1937E-02

TERMINATION DUE TO PARAMETER CONVERGENCE

FINAL RESULTS

ITER	FUNCTION	TRANSMISS	STORTIVTY	SPEC_LEAK
5	.634E-02	6013.	.4469E-03	.1937E-02

FRACTIONAL COMPONENTS OF FUNCTION VALUE

WELL #	1	2
	.5723	.4277

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

Alio D - both wells

$$T = 44,977 \text{ gpd/ft}$$

$$S = 4.469 \times 10^{-4}$$

$$\frac{K}{b} = 1.937 \times 10^{-2}$$

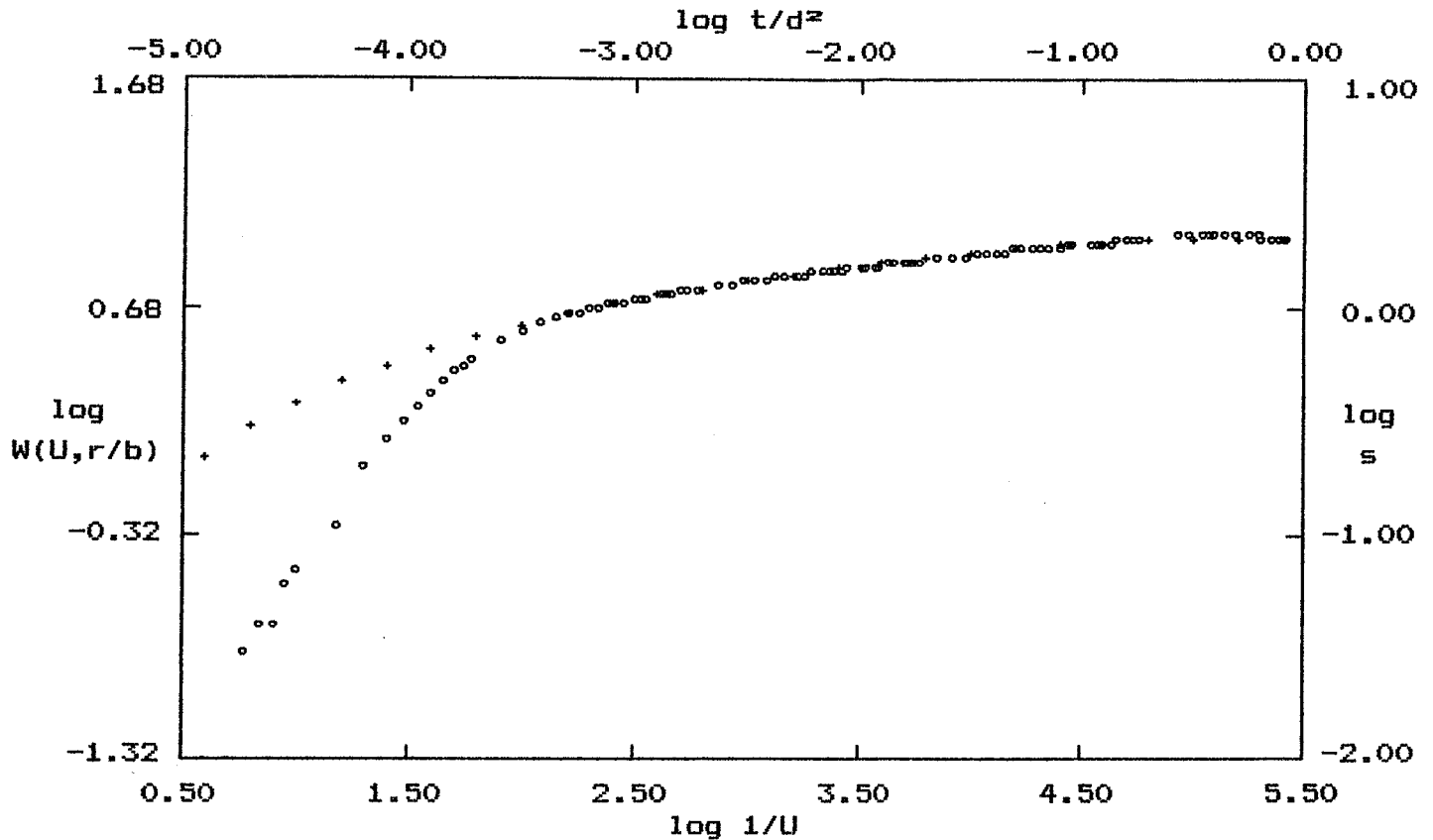
SENSITIVITY ANALYSIS

TWO STANDARD DEVIATION CONFIDENCE INTERVALS

PARAMETER	VALUE	LOWER LIMIT	UPPER LIMIT
TRANSMISS	6013.	5938.	6088.
STORTIVTY	.4469E-03	0.0000	0.3013E-02
SPEC_LEAK	.1938E-02	0.0000	0.1710E-01

TO CONTINUE ENTER "RETURN"

# PUMP TEST DATA



o - Data

+ - Type Curve

Confined Leaky:  $r/B = 0.01$

## SOLUTION

Transmissivity =  $5.754E+00$  ft.<sup>2</sup>/min.

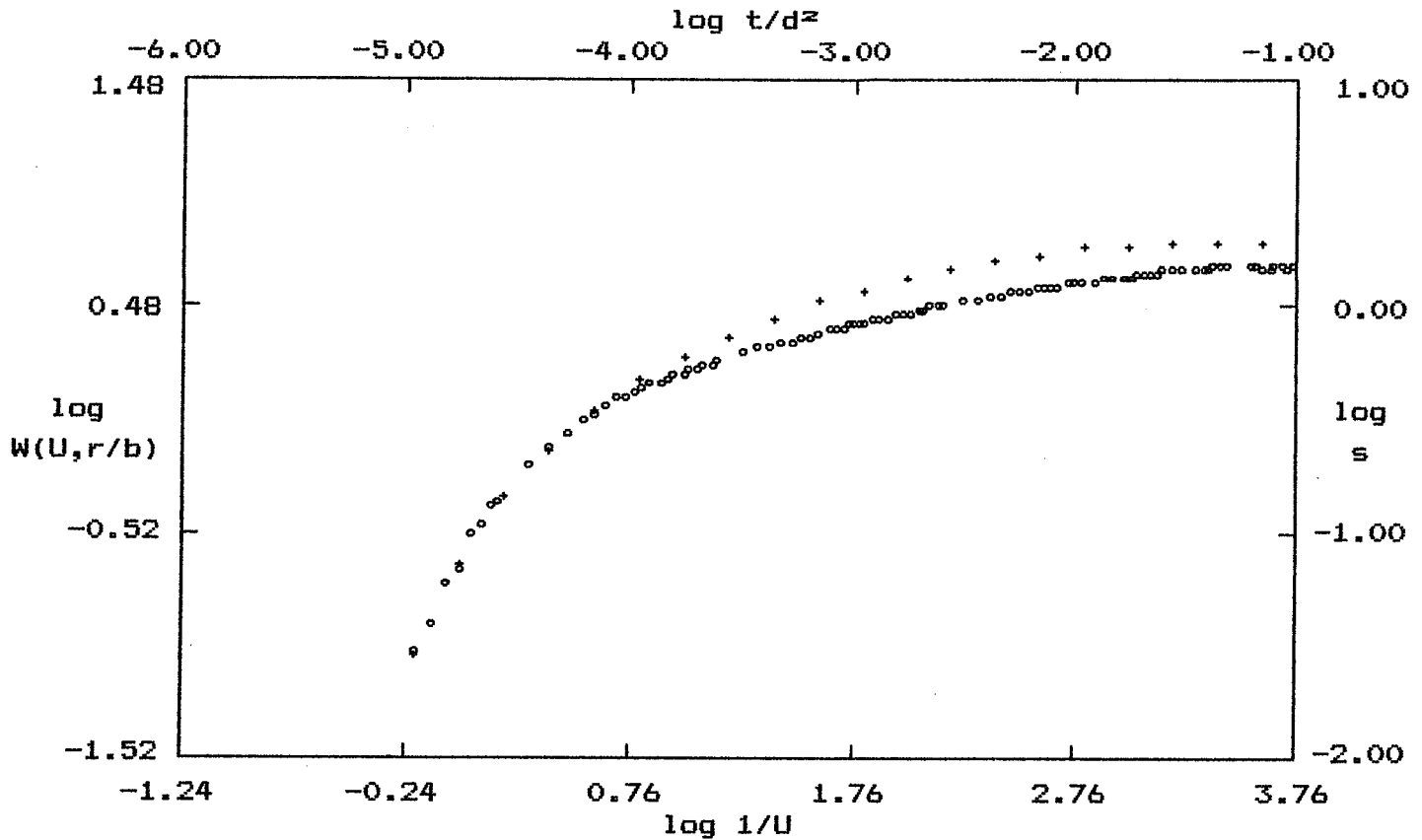
Storativity =  $7.278E-05$

61,977 gpd/ft

Alico D 10

no early time match due to casing  
storage effect

# PUMP TEST DATA



o - Data

+ - Type Curve

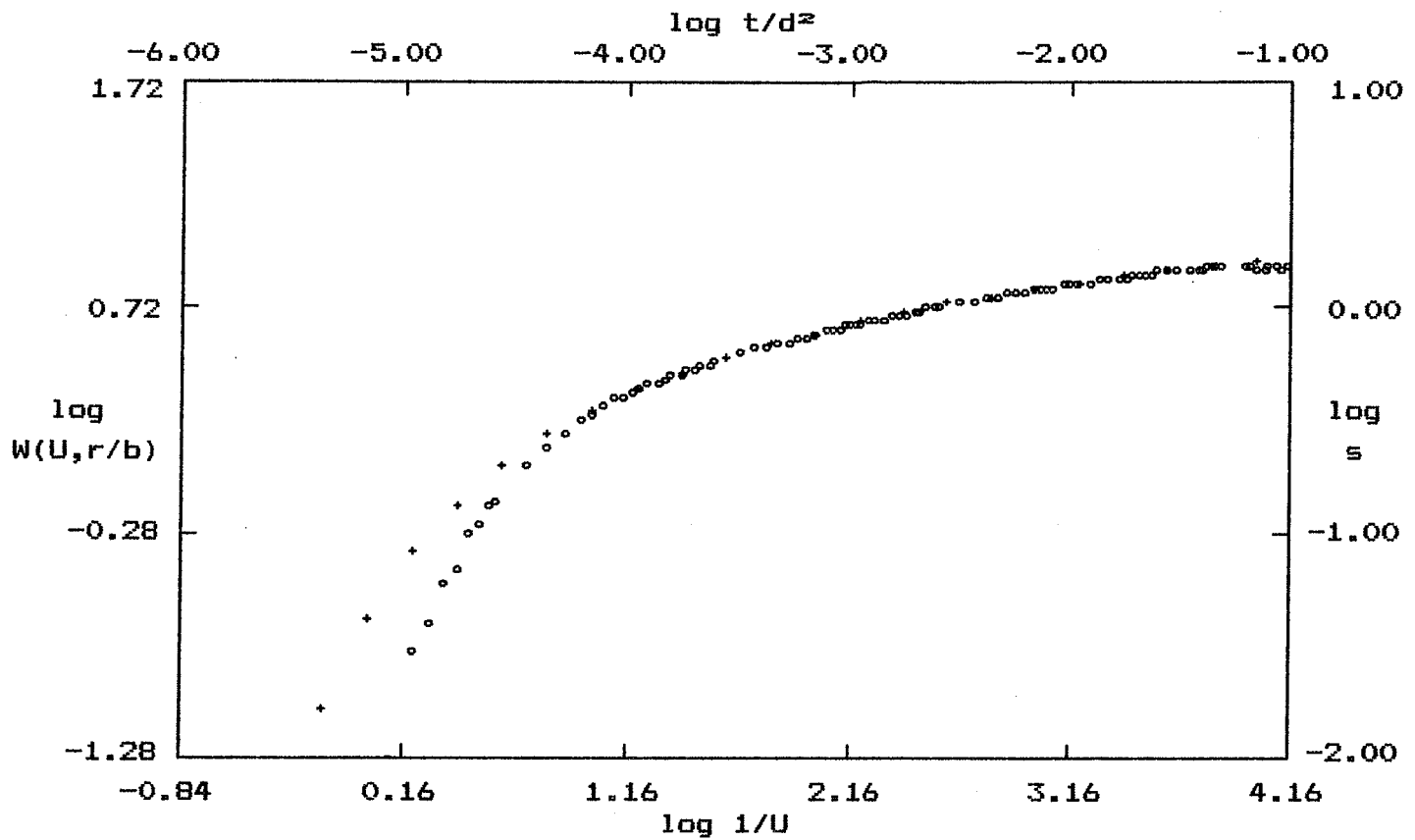
Confined Leaky:  $r/B = 0.06$

## SOLUTION

Transmissivity =  $3.630E+00$  ft.<sup>2</sup>/min. = 39,099 gpd/ft  
 Storativity =  $2.523E-04$

*Alicia D 02*  
*early match*

# PUMP TEST DATA



o - Data

+ - Type Curve

Confined Leaky:  $r/B = 0.01$

## SOLUTION

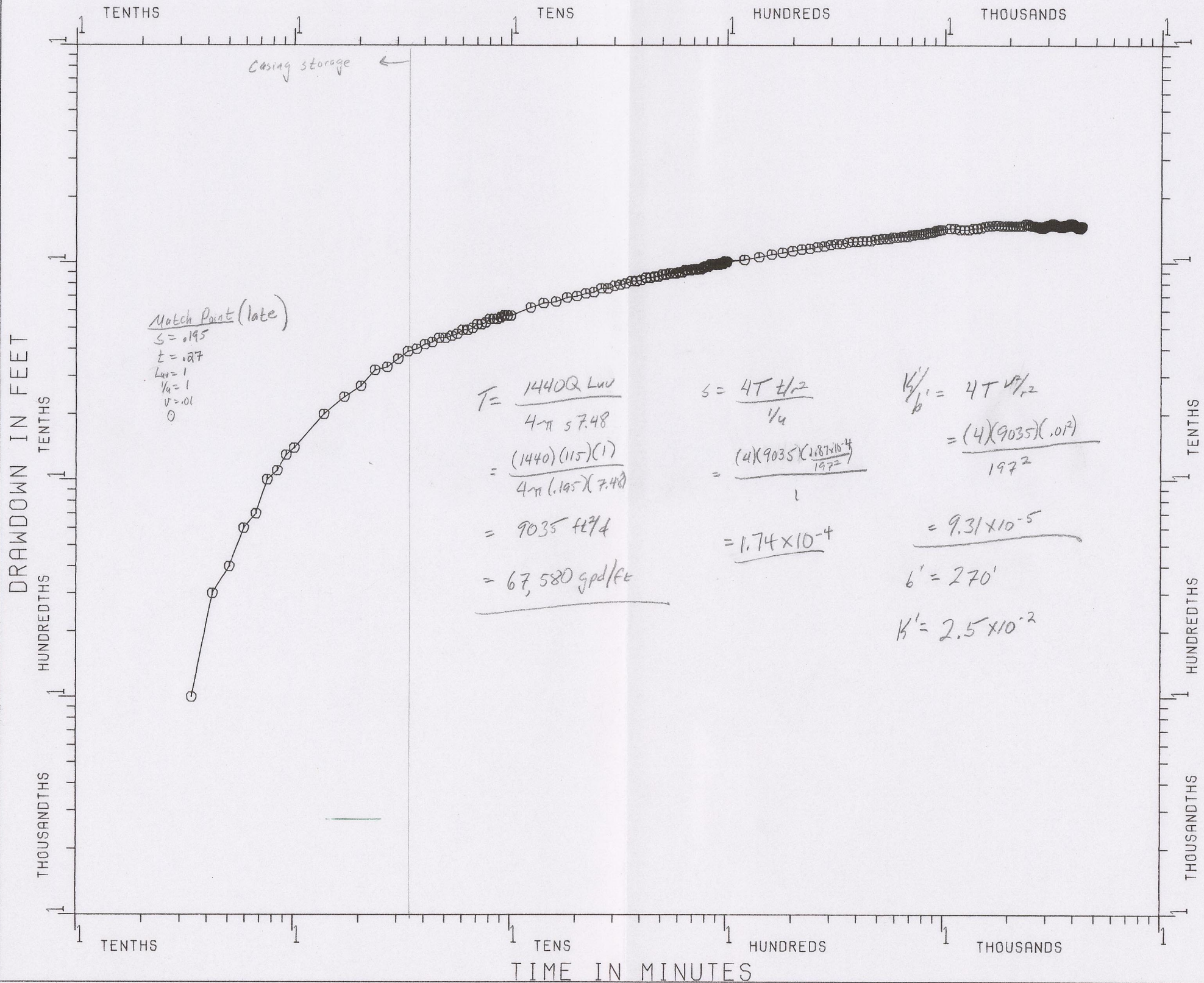
Transmissivity =  $6.309E+00$  ft.<sup>2</sup>/min. = 67,956 gpd/ft  
 Storativity =  $1.746E-04$

*Alice D. 20*  
*late match*



## OBSERVATION WELL: 2D

R=197.0 Q=115.0



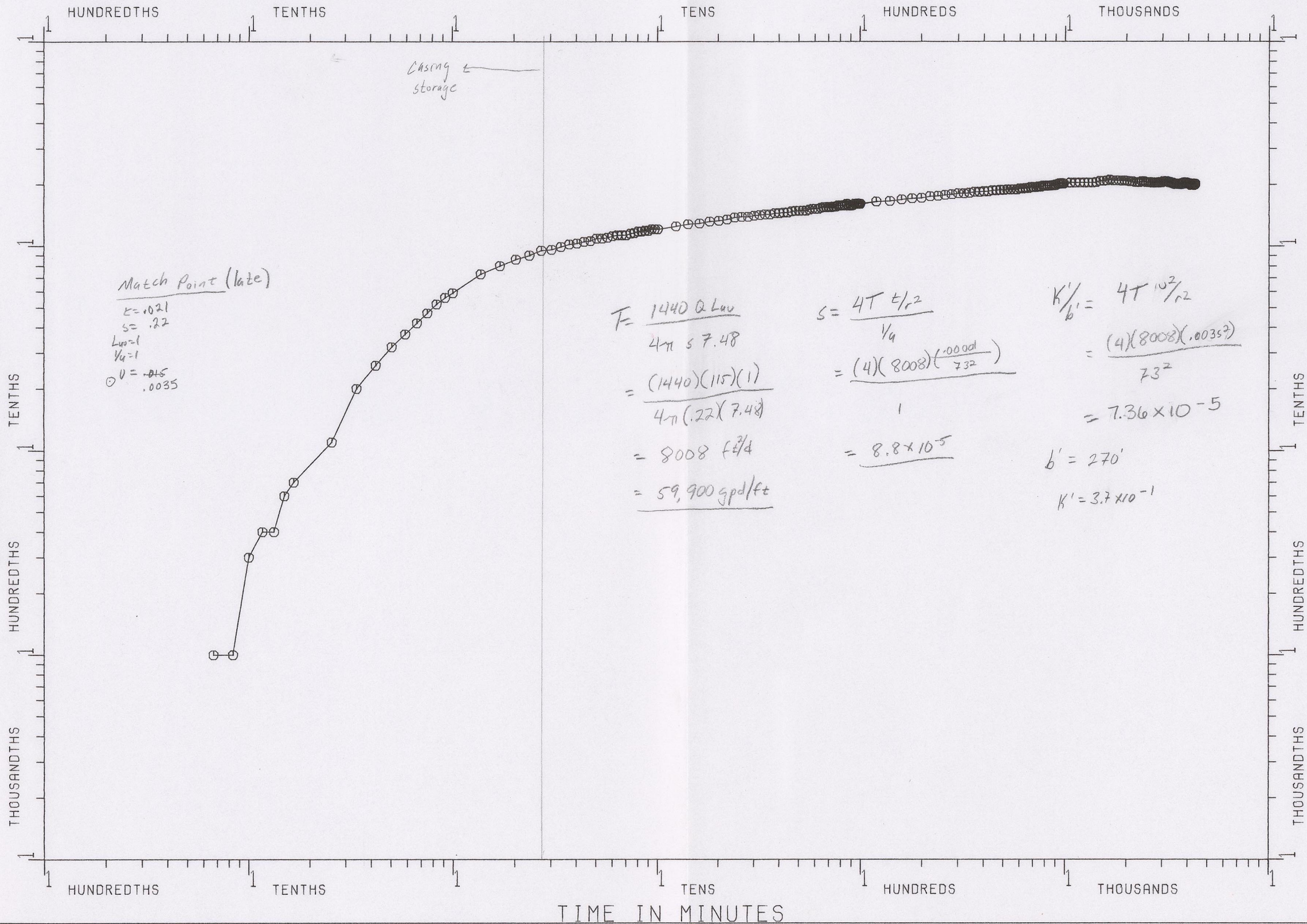
ALICO D DRAWDOWN



## OBSERVATION WELL: 1D

R= 73.0 Q=115.0

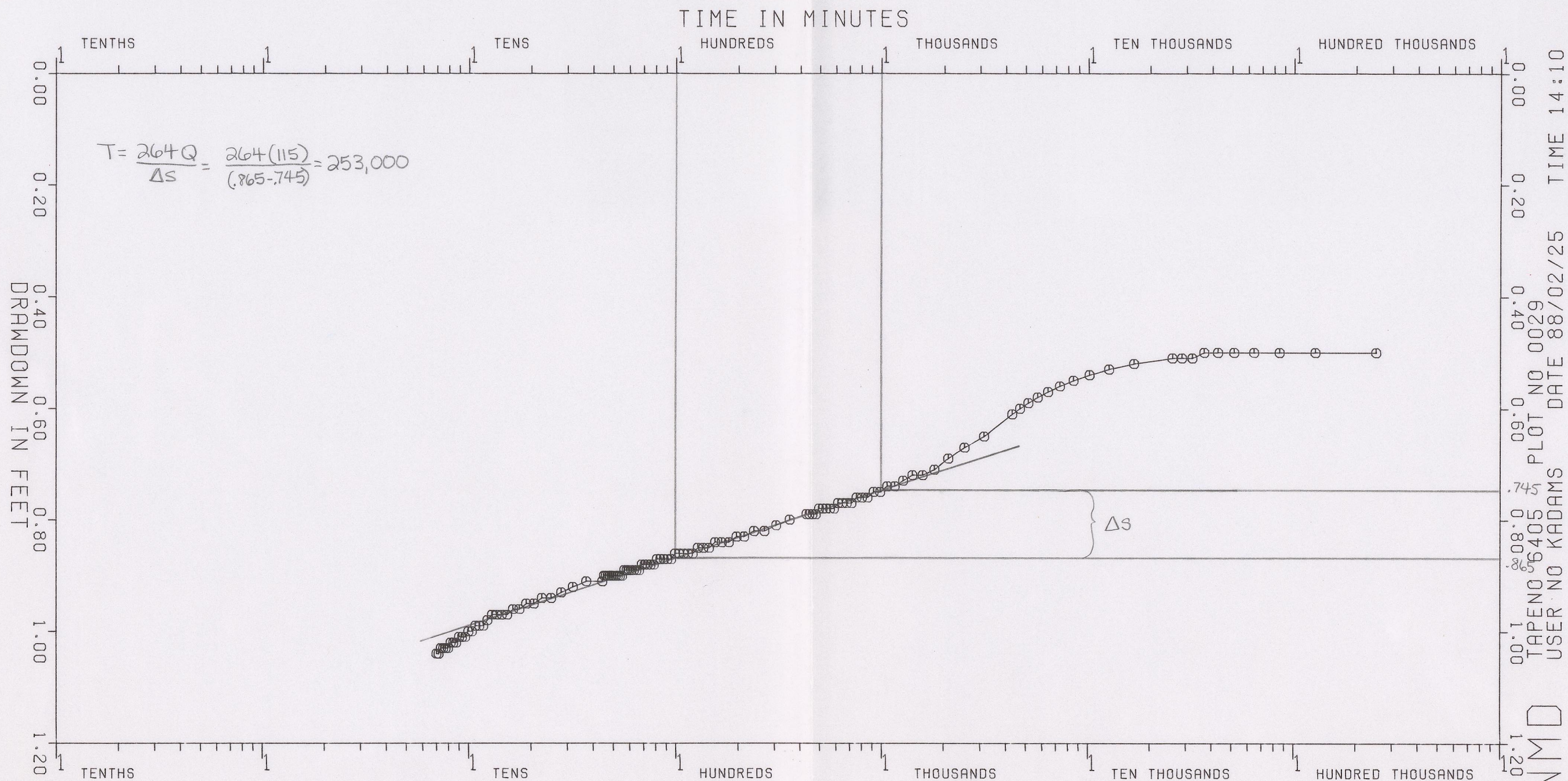
DRAWDOWN IN FEET



ALICO D DRAWDOWN



R= 73.0      Q=115.0



Technical drawing of a mechanical part, showing a cross-section with dimensions 1.20 and 1.20.