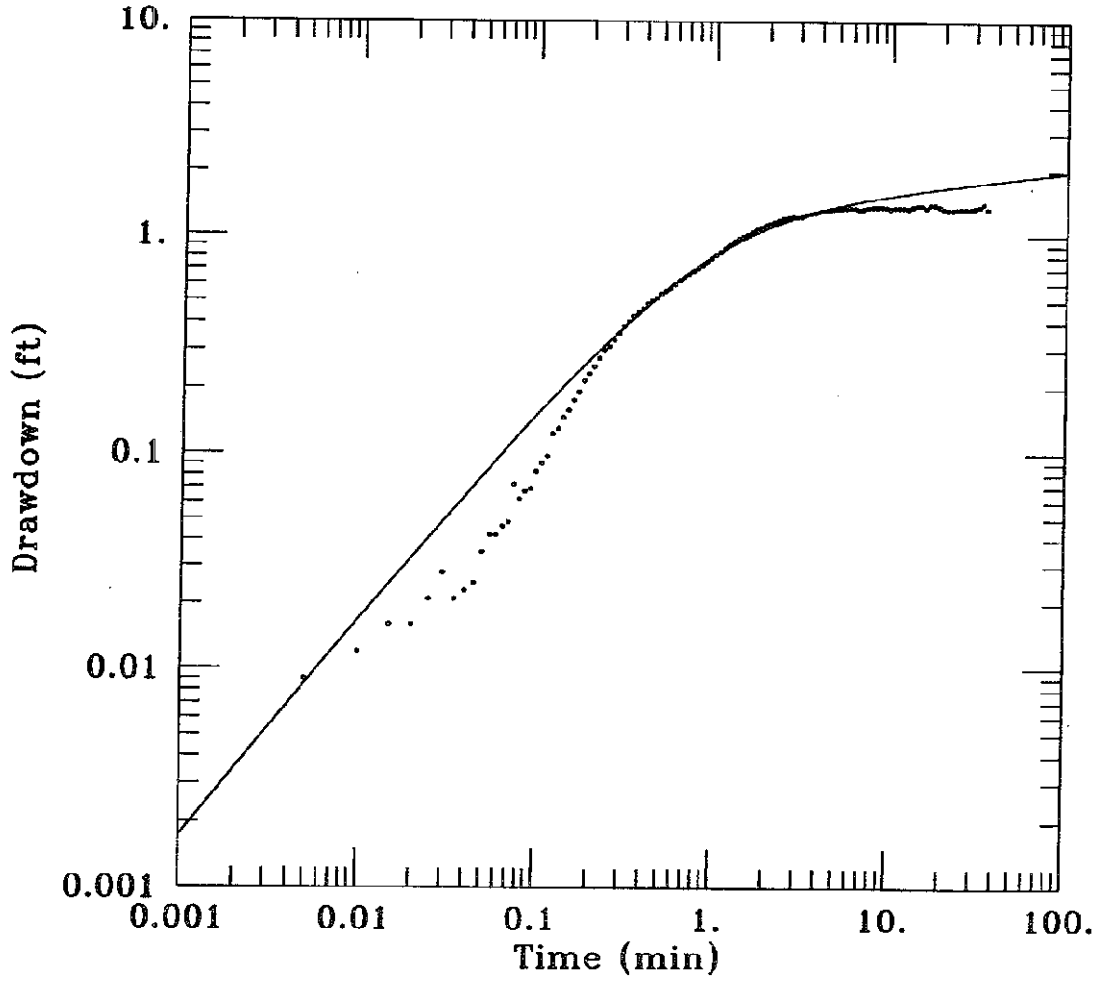
Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-62 Drawdown



DATA SET:
EP-62D.DAT
05/14/98

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Papadopulos-Cooper

PROJECT DATA:
test date: 5/1/98
test well: EP-62
obs. well: EP-62

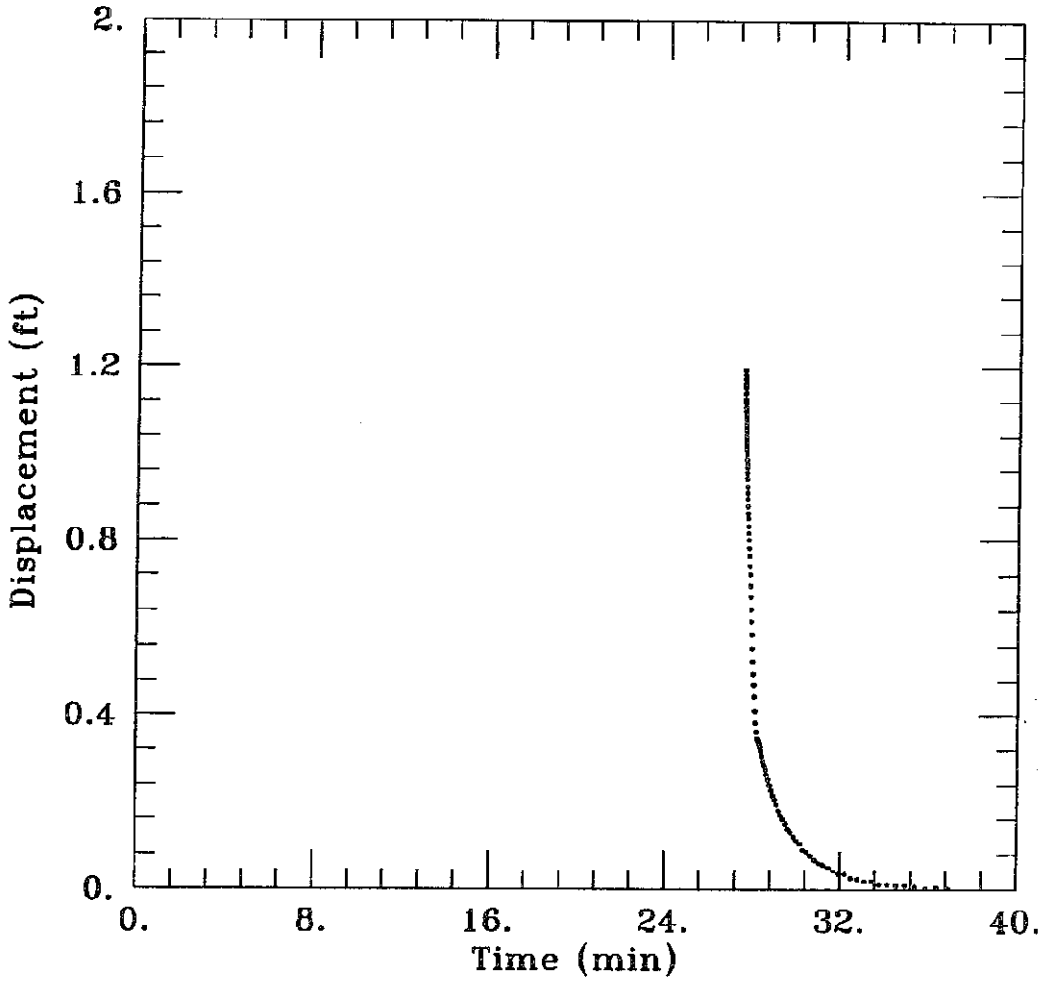
TEST DATA:
Q = 0.2674 ft^3/min
r = 0.4167 ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 9.5 ft

PARAMETER ESTIMATES:
T = 168.3 ft^2/day
S = 0.00282
a = 0.01

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



DATA SET:

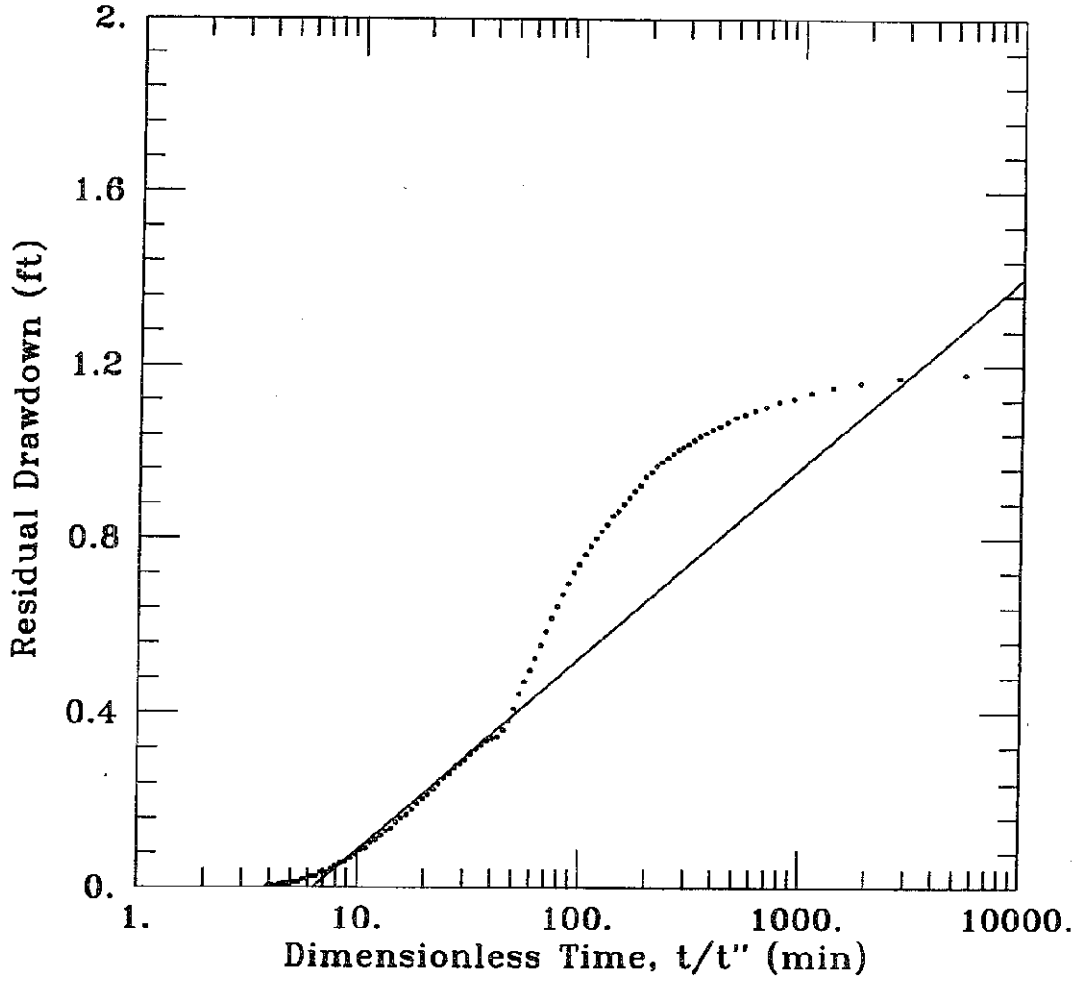
05/13/98

PROJECT DATA:
test date: 5/1/98
test well: EP-62
obs. well: EP-62

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-62 Recovery



DATA SET:
EP-62R.DAT
05/13/98

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Theis Recovery

PROJECT DATA:
test date: 5/1/98
test well: EP-62
obs. well: EP-62

TEST DATA:
Q = 0.2674 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 9.5 ft

PARAMETER ESTIMATES:
T = 161.3 ft^2/day
S' = 5.31

AQTESOLV

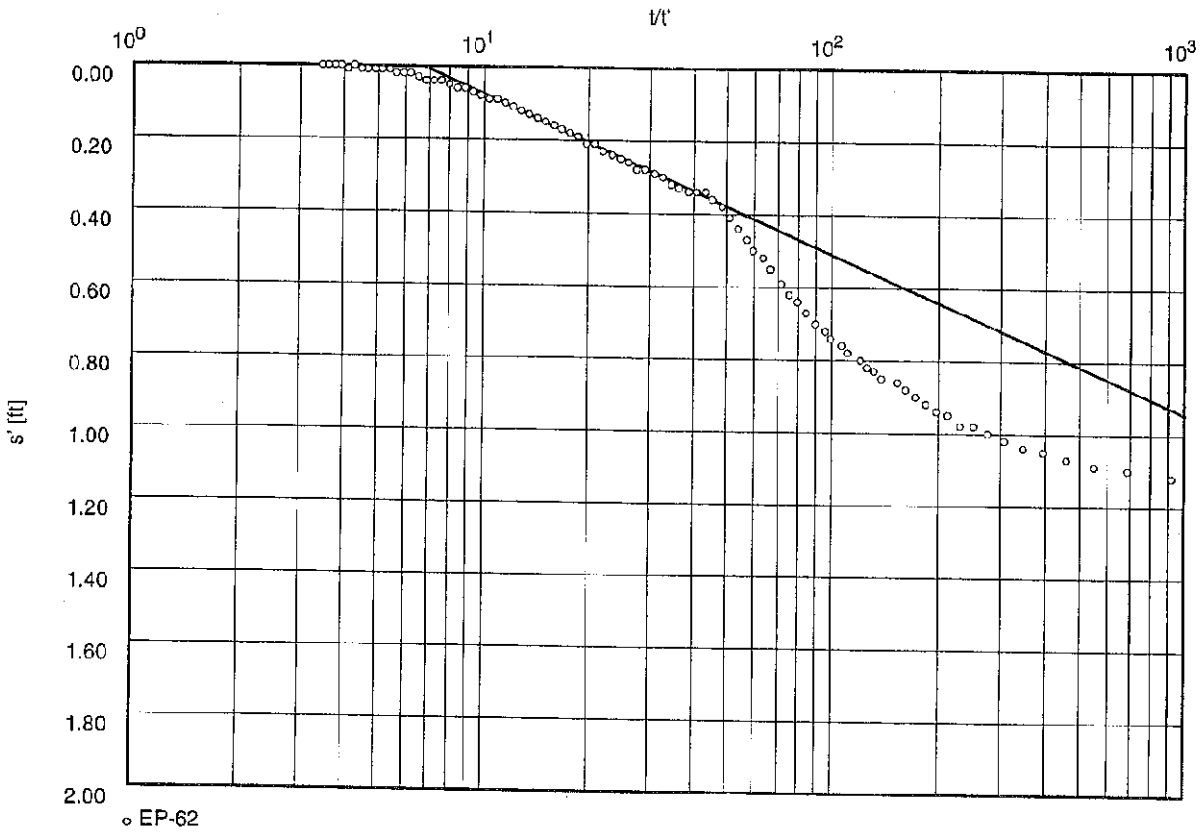
Waterloo Hydrogeologic
180 Columbia St. W.
Waterloo,Ontario,Canada
ph.(519)746-1798

Pumping test analysis
Recovery method after
THEIS & JACOB
Confined aquifer

Project: 0734 502.100

Evaluated by: MTB | Date: 13.05.1998

Pumping Test No. Recovery	Test conducted on: 5/1/98
EP-62	
Discharge 2.00 U.S.gal/min	
	Pumping test duration: 27.52 min



Transmissivity [ft²/min]: 1.12×10^{-1}

Hydraulic conductivity [ft/min]: 1.18×10^{-2}

Aquifer thickness [ft]: 9.50

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ph.(519)746-1798

Pumping test analysis
Recovery method after
THEIS & JACOB
Confined aquifer

Project: 0734 502.100

Evaluated by: MTB | Date: 13.05.1998

Pumping Test No. Recovery	Test conducted on: 5/1/98
EP-62	EP-62
Discharge 2.00 U.S.gal/min	Distance from the pumping well 0.17 ft
Static water level: 0.00 ft below datum	Pumping test duration: 27.52 min

	Time from end of pumping [min]	Water level [ft]	Residual drawdown [ft]
1	27.52	1.19	1.19
2	27.52	1.18	1.18
3	27.53	1.17	1.17
4	27.53	1.16	1.16
5	27.54	1.15	1.15
6	27.54	1.14	1.14
7	27.55	1.12	1.12
8	27.55	1.12	1.12
9	27.56	1.10	1.10
10	27.56	1.10	1.10
11	27.57	1.09	1.09
12	27.57	1.08	1.08
13	27.58	1.07	1.07
14	27.58	1.06	1.06
15	27.59	1.05	1.05
16	27.59	1.04	1.04
17	27.60	1.04	1.04
18	27.60	1.03	1.03
19	27.61	1.02	1.02
20	27.61	1.01	1.01
21	27.62	1.00	1.00
22	27.62	0.99	0.99
23	27.63	0.98	0.98
24	27.64	0.98	0.98
25	27.64	0.97	0.97
26	27.65	0.95	0.95
27	27.66	0.94	0.94
28	27.67	0.92	0.92
29	27.67	0.91	0.91
30	27.68	0.90	0.90
31	27.69	0.88	0.88
32	27.70	0.86	0.86
33	27.72	0.85	0.85
34	27.73	0.83	0.83
35	27.74	0.82	0.82
36	27.75	0.80	0.80
37	27.77	0.78	0.78
38	27.78	0.76	0.76
39	27.80	0.74	0.74
40	27.81	0.72	0.72
41	27.83	0.70	0.70
42	27.85	0.67	0.67
43	27.87	0.64	0.64
44	27.89	0.62	0.62
45	27.91	0.59	0.59
46	27.94	0.55	0.55
47	27.96	0.52	0.52
48	27.99	0.50	0.50
49	28.01	0.47	0.47
50	28.04	0.44	0.44

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Pumping test analysis
Recovery method after
THEIS & JACOB
Confined aquifer

Project: 0734 502.100

Evaluated by: MTB | Date: 13.05.1998

Pumping Test No. Recovery | Test conducted on: 5/1/98

EP-62 | EP-62

Discharge 2.00 U.S.gal/min | Distance from the pumping well 0.17 ft

Static water level: 0.00 ft below datum | Pumping test duration: 27.52 min

	Time from end of pumping [min]	Water level [ft]	Residual drawdown [ft]
51	28.07	0.41	0.41
52	28.10	0.38	0.38
53	28.14	0.36	0.36
54	28.17	0.34	0.34
55	28.21	0.34	0.34
56	28.25	0.34	0.34
57	28.30	0.33	0.33
58	28.34	0.32	0.32
59	28.39	0.30	0.30
60	28.44	0.29	0.29
61	28.50	0.28	0.28
62	28.56	0.28	0.28
63	28.62	0.26	0.26
64	28.68	0.25	0.25
65	28.75	0.24	0.24
66	28.83	0.23	0.23
67	28.91	0.21	0.21
68	28.99	0.21	0.21
69	29.08	0.19	0.19
70	29.17	0.18	0.18
71	29.27	0.17	0.17
72	29.37	0.16	0.16
73	29.48	0.15	0.15
74	29.60	0.14	0.14
75	29.73	0.13	0.13
76	29.86	0.12	0.12
77	30.00	0.11	0.11
78	30.15	0.10	0.10
79	30.30	0.09	0.09
80	30.47	0.09	0.09
81	30.65	0.08	0.08
82	30.83	0.07	0.07
83	31.03	0.06	0.06
84	31.24	0.06	0.06
85	31.46	0.05	0.05
86	31.70	0.04	0.04
87	31.95	0.04	0.04
88	32.21	0.04	0.04
89	32.49	0.03	0.03
90	32.79	0.02	0.02
91	33.10	0.02	0.02
92	33.43	0.02	0.02
93	33.78	0.01	0.01
94	34.16	0.01	0.01
95	34.55	0.01	0.01
96	34.97	0.01	0.01
97	35.41	0.01	0.01
98	35.88	0.00	0.00
99	36.38	0.01	0.01
100	36.91	0.00	0.00

Waterloo Hydrogeologic
180 Columbia St. W.
Waterloo,Ontario,Canada
ph.(519)746-1798

Pumping test analysis
Recovery method after
THEIS & JACOB
Confined aquifer

Project: 0734 502.100

Evaluated by: MTB | Date: 13.05.1998

Pumping Test No. Recovery | Test conducted on: 5/1/98

EP-62 | EP-62

Discharge 2.00 U.S.gal/min | Distance from the pumping well 0.17 ft

Static water level: 0.00 ft below datum | Pumping test duration: 27.52 min

	Time from end of pumping [min]	Water level [ft]	Residual drawdown [ft]
101	37.47	0.00	0.00
102	38.06	0.00	0.00
103	38.68	0.00	0.00

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>

A Q T E S O L V   R E S U L T S
Version 2.01

Developed by Glenn M. Duffield
(c) 1988-1995 Geraghty & Miller, Inc.

05/14/98 14:40:5[illegible]

==
TEST DESCRIPTION

```
Data set........... EP-72D.DAT
Output file........ EP72D.OUT
Data set title..... EP-72 Drawdown
Company............ Hydrometrics, Inc.
Project............ 0734 502.100
Client............. ASARCO
Location........... El Paso
Test date.......... 4/29/98
Test well.......... EP-72
Obs. well.......... EP-72

Units of Measurement
   Length.......... ft
   Time............ min
   Pumping rate.... consistent

 ping Well Data
   Well No. 1
   Well identification.............. EP-72
   X location....................... 0
   Y location....................... 0
   Casing radius.................... 0.1667
   Wellbore radius.................. 0.4167
   Well penetration................. Full
   Number of pumping periods........ 1
   Period    Pumping  Rate
   ------    -------------
     1           0.2863

Observation Well/Piezometer Data
   Well identification.............. EP-72
   X location....................... 0.4167
   Y location....................... 0
   Distance from pumping well #1.... 0.4167
   Well penetration................. Full
   No. of observations.............. 295
```

==
ANALYTICAL METHOD

 padopulos-Cooper (Confined Aquifer)

==
RESULTS FROM VISUAL CURVE MATCHING

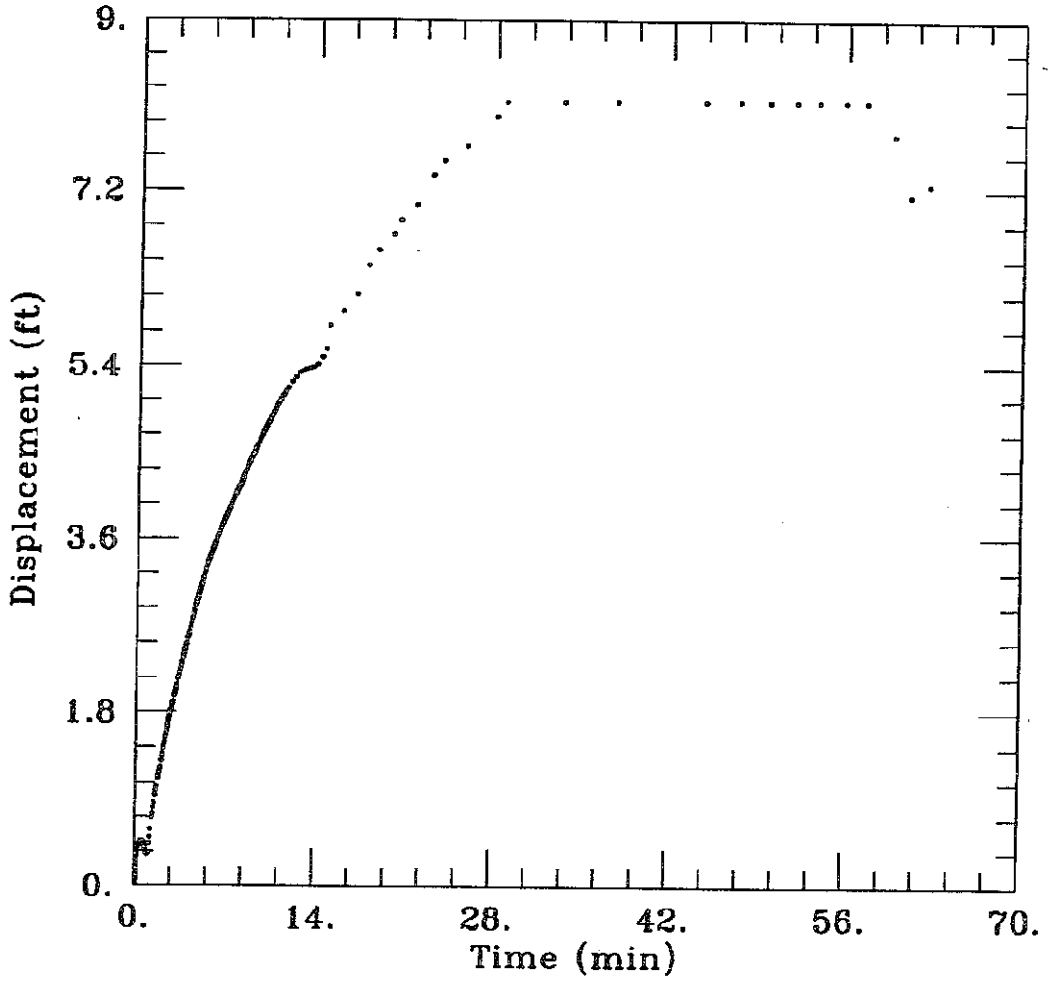
VISUAL MATCH PARAMETER ESTIMATES

		Estimate
T	=	3.0203E+001 ft^2/day
S	=	5.3978E-003
a	=	1.0000E-002

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



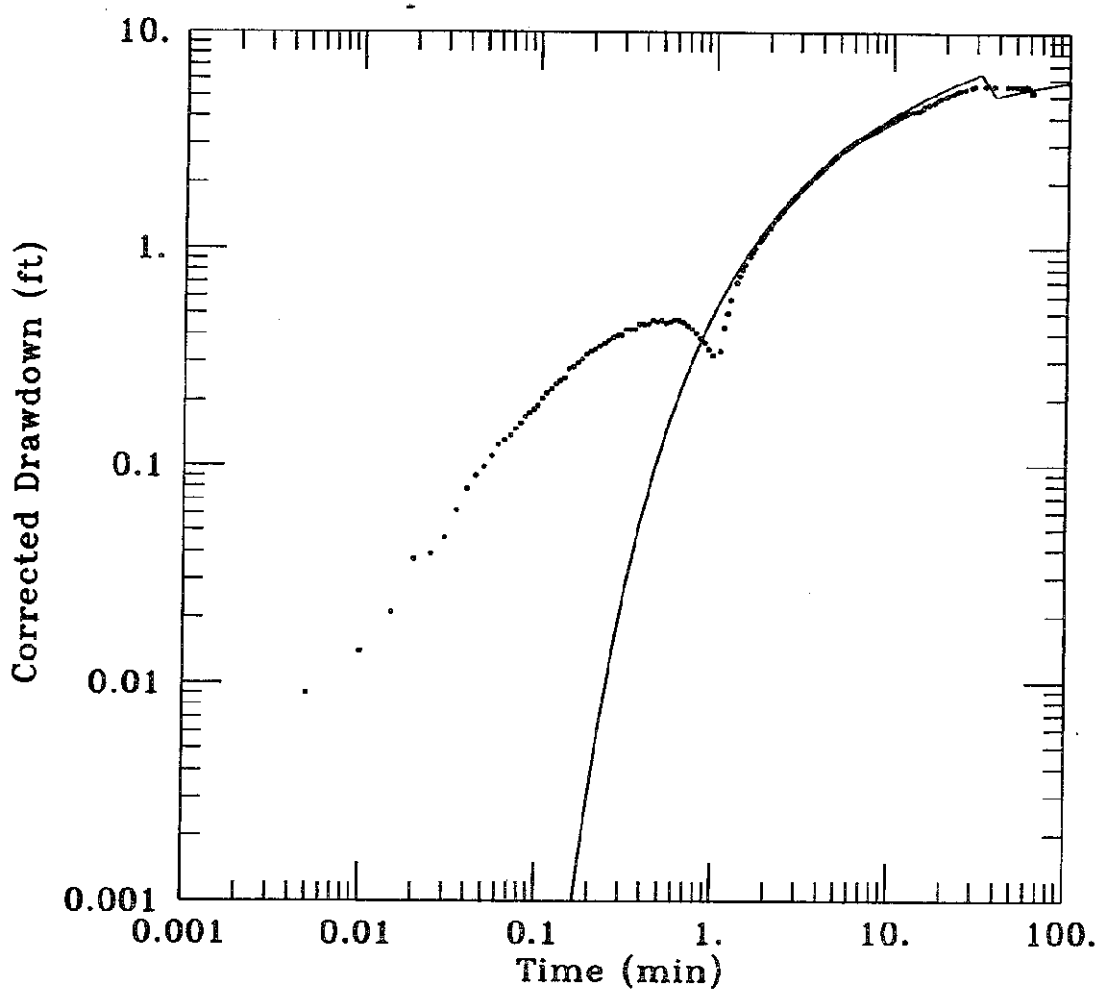
DATA SET:
EP-72D.DAT
05/14/98

PROJECT DATA:
test date: 4/29/98
test well: EP-72
obs. well: EP-72

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-72 Drawdown



DATA SET:
EP-72D.DAT
05/12/98

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Theis

PROJECT DATA:
test date: 4/29/98
test well: EP-72
obs. well: EP-72

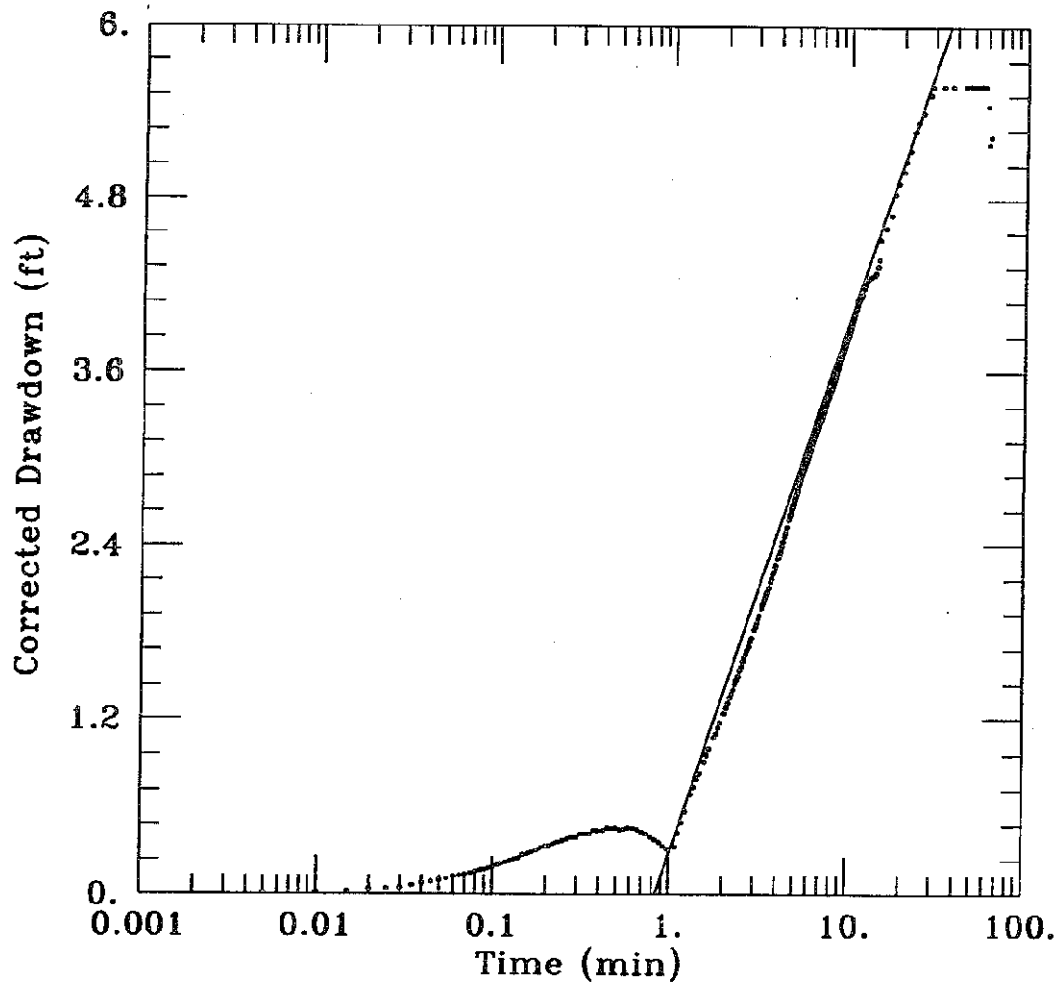
TEST DATA:
Q = 0.2863 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 13. ft

PARAMETER ESTIMATES:
T = 15.15 ft^2/day
S = 1.45

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-72 Drawdown



DATA SET:
EP-72D.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Cooper-Jacob

PROJECT DATA:
test date: 4/29/98
test well: EP-72
obs. well: EP-72

TEST DATA:
Q = 0.2863 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 13. ft

PARAMETER ESTIMATES:
T = 20.62 ft^2/day
S = 0.968

AQTESOLV

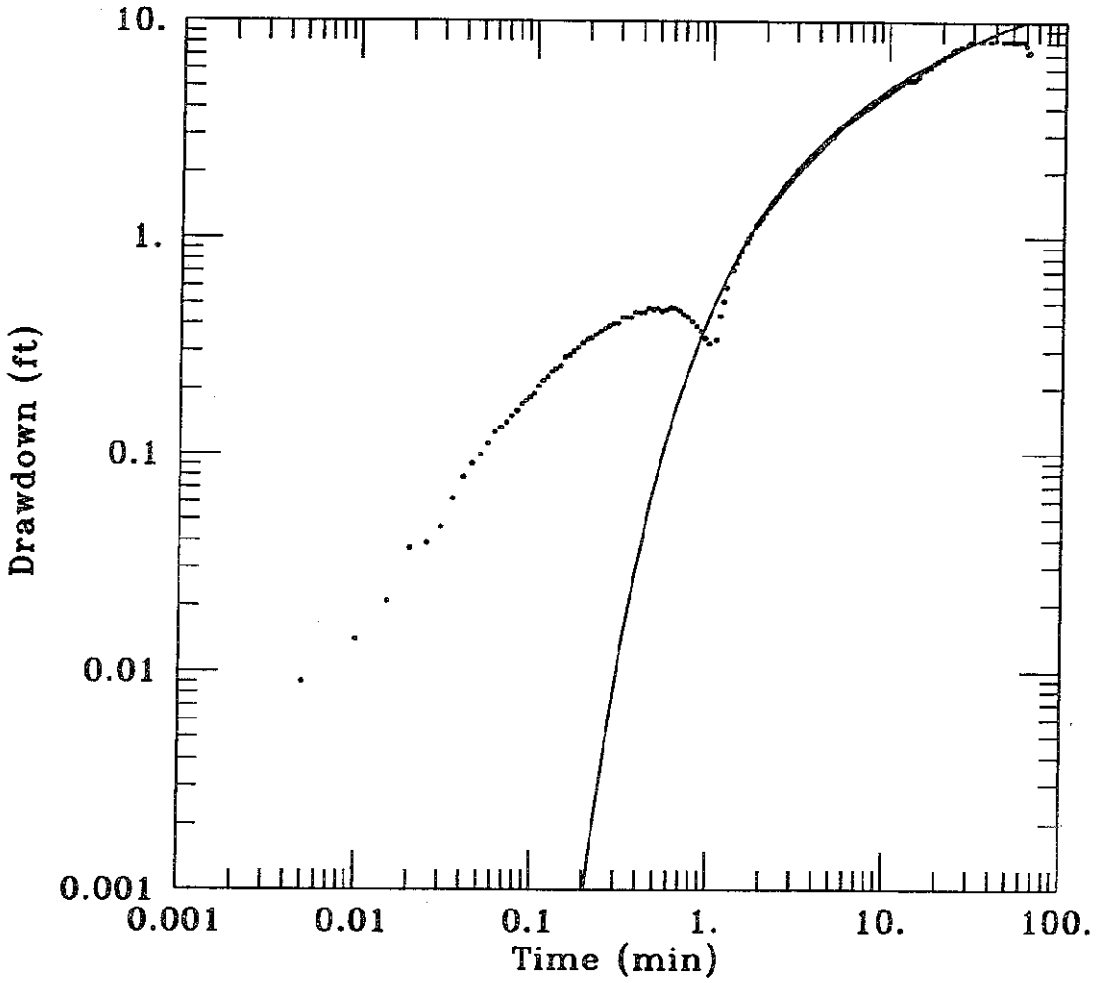
Client: **ASARCO**

Company: **Hydrometrics, Inc.**

Location: **El Paso**

Project: **0734 502.100**

EP-72 Drawdown



DATA SET:
EP-72D.DAT
05/12/98

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Neuman

PROJECT DATA:
test date: 4/29/98
test well: EP-72
obs. well: EP-72

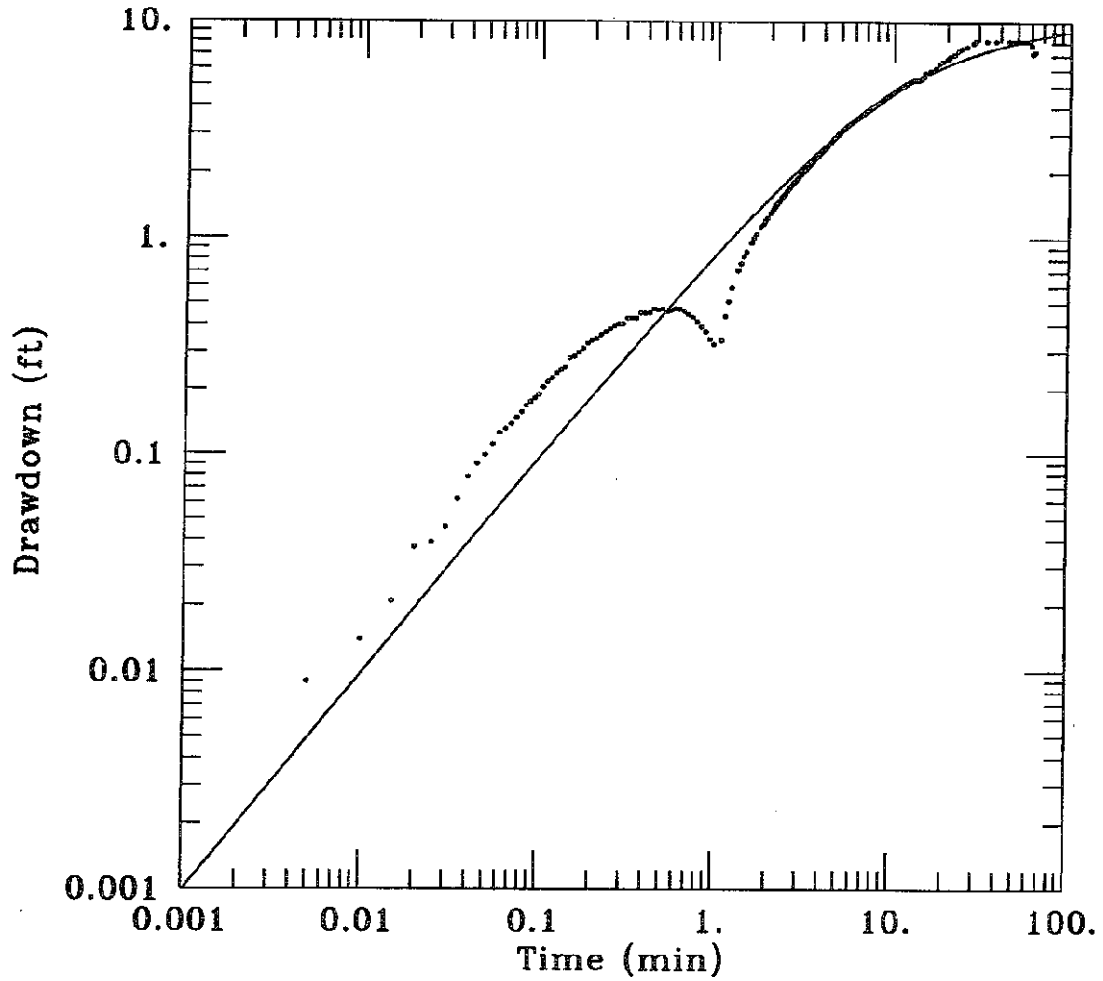
TEST DATA:
Q = 0.2863 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 13. ft

PARAMETER ESTIMATES:
T = 10.68 ft^2/day
S = 1.324
Sy = 0.1
β = 0.001

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-72 Drawdown



DATA SET:
EP-72D.DAT
05/14/98

AQUIFER MODEL:
Confined
SOLUTION METHOD:
Papadopulos-Cooper

PROJECT DATA:
test date: 4/29/98
test well: EP-72
obs. well: EP-72

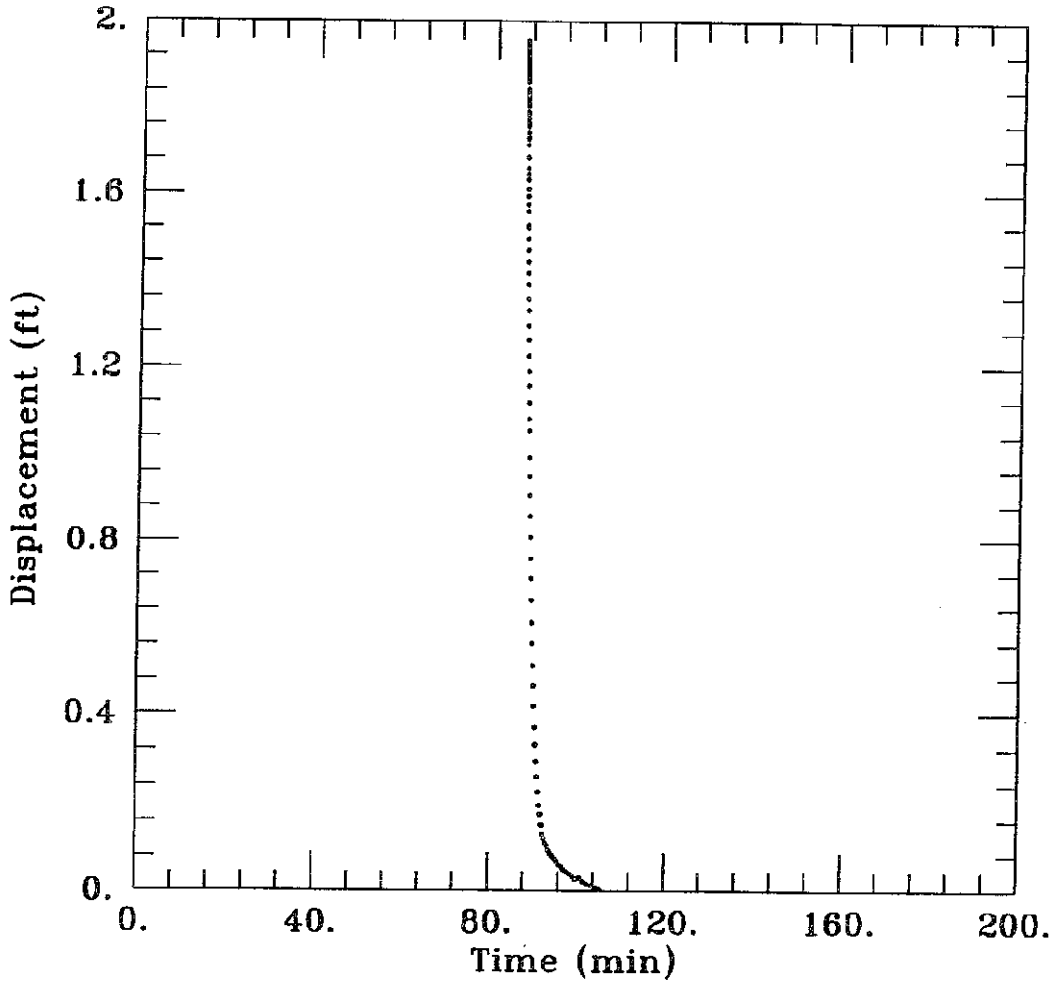
TEST DATA:
Q = 0.2863 ft^3/min
r = 0.4167 ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 13. ft

PARAMETER ESTIMATES:
T = 30.2 ft^2/day
S = 0.005398
a = 0.01

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



DATA SET:

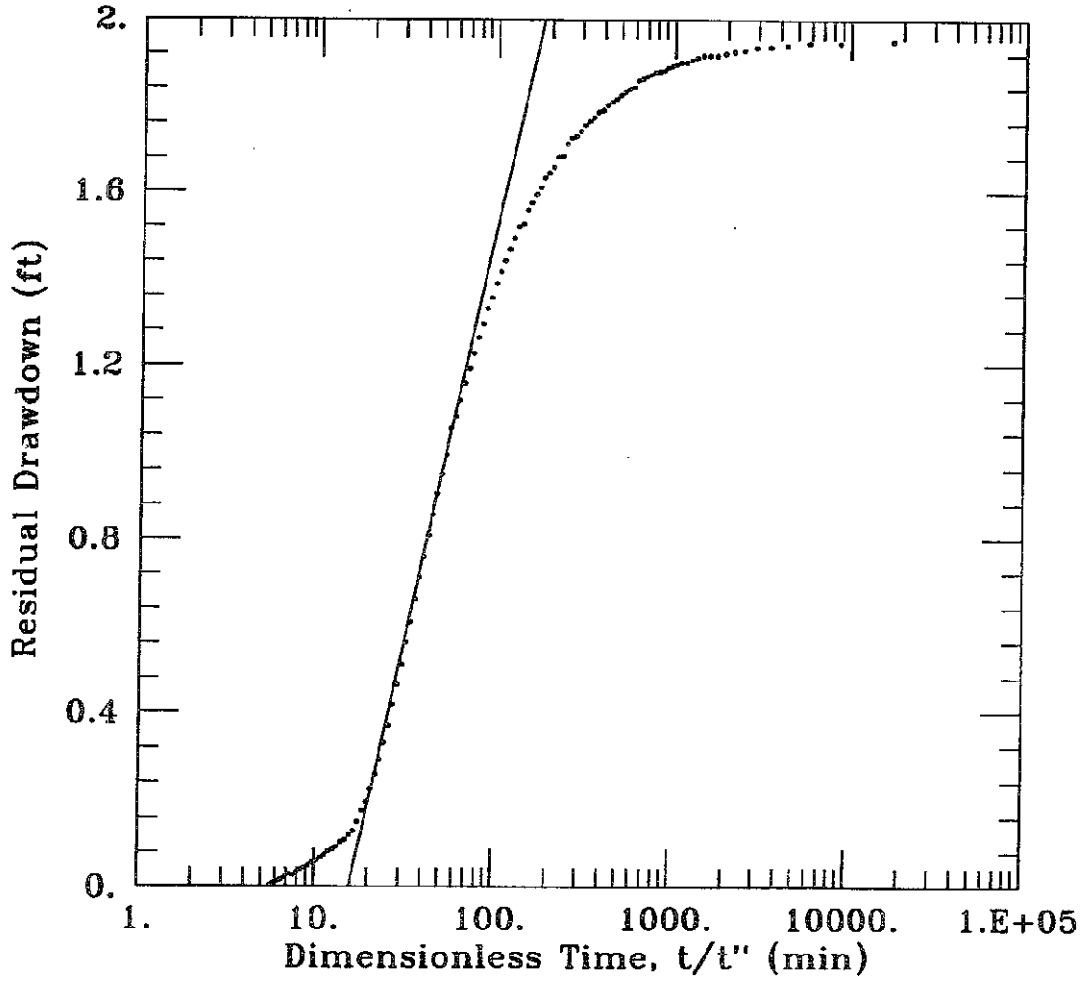
05/14/98

PROJECT DATA:
test date: 4/29/98
test well: EP-72
obs. well: EP-72

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-72 Recovery



DATA SET:
EP-72R.DAT
05/14/98

AQUIFER MODEL:
Confined
SOLUTION METHOD:
Theis Recovery

PROJECT DATA:
test date: 4/29/98
test well: EP-72
obs. well: EP-72

TEST DATA:
Q = 0.2863 ft^3/min
r = 0.4167 ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 13. ft

PARAMETER ESTIMATES:
T = 40.14 ft^2/day
S' = 15.73

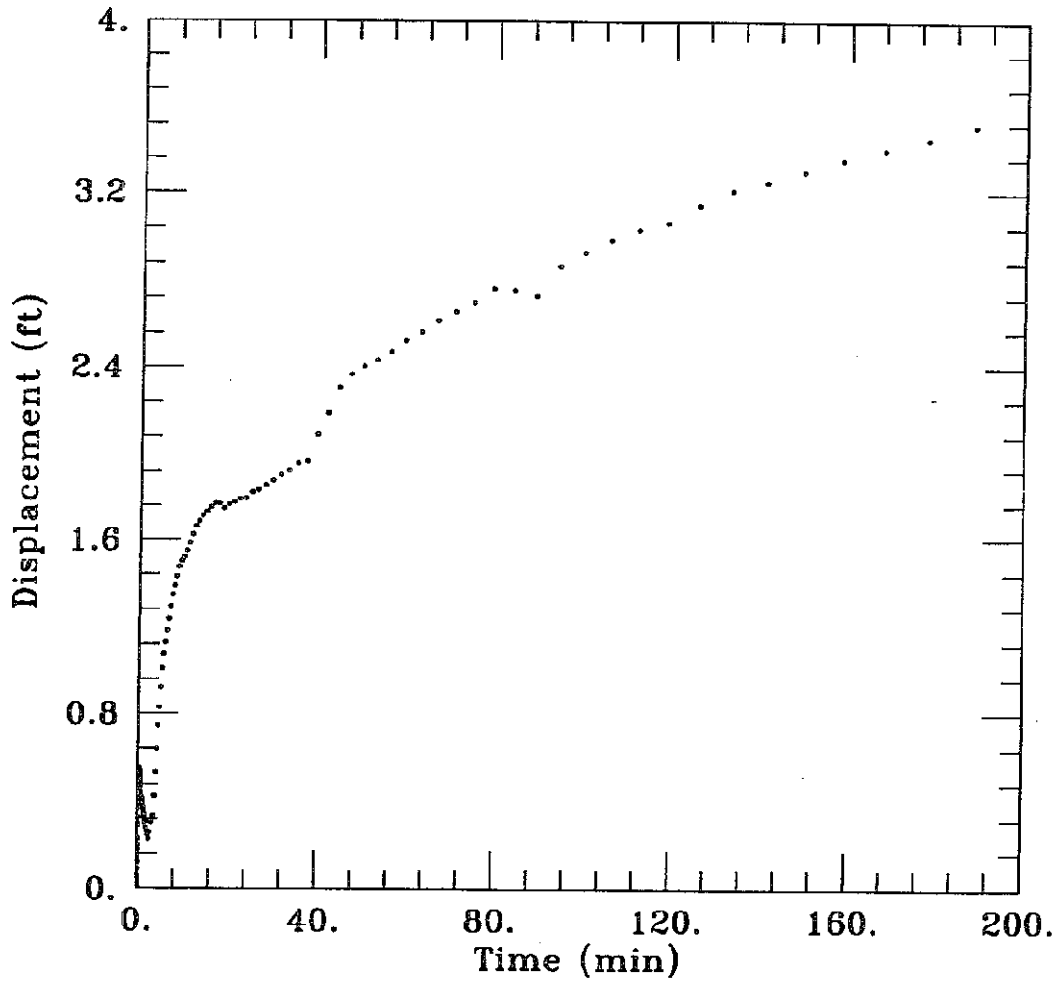
AQTESOLV

```
<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>:

                          A Q T E S O L V    R E S U L T S
                                   Version 2.01

                          Developed by Glenn M. Duffield
                       (c) 1988-1995  Geraghty & Miller, Inc.

05/12/98                                                                   14:24:3

==========================================================================================:
                                   TEST DESCRIPTION

Data set........... EP73D2.DAT
Output file........ EP73D.OUT
Data set title..... EP-73 DRAWDOWN
Company............ Hydrometrics, Inc.
Project............ 0734 502.100
Client............. ASARCO
Location........... El Paso
Test date.......... 4/29/98
Test well.......... EP-73
Obs. well.......... EP-73

Units of Measurement
   Length.......... ft
   Time............ min
   Pumping rate.... consistent

   ping Well Data
   Well No. 1
   Well identification.............. EP-73
   X location....................... 0
   Y location....................... 0
   Casing radius.................... 0.1667
   Wellbore radius.................. 0.1667
   Well penetration................. Full
   Number of pumping periods........ 1
   Period    Pumping  Rate
   ------    -------------
      1            0.2074

Observation Well/Piezometer Data
   Well identification.............. EP-73
   X location....................... 0.1667
   Y location....................... 0
   Distance from pumping well #1.... 0.1667
   Well penetration................. Full
   No. of observations.............. 147

Aquifer Data
   Saturated thickness.............. 12

  =======================================================================================:
                                  ANALYTICAL METHOD

Neuman (Unconfined Aquifer)
Fully Penetrating Wells
```

```
===========================================================================================
                    RESULTS FROM VISUAL CURVE MATCHING

SUAL MATCH PARAMETER ESTIMATES

          Estimate
   T  =   7.4359E+001 ft^2/day
   S  =   2.2278E-001
   Sy =   1.0000E-001
   B  =   1.0000E-003

Derived Parameters
   Kr     = 6.197          ft/day
   Kz/Kr  = 5.182

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
```

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



DATA SET:

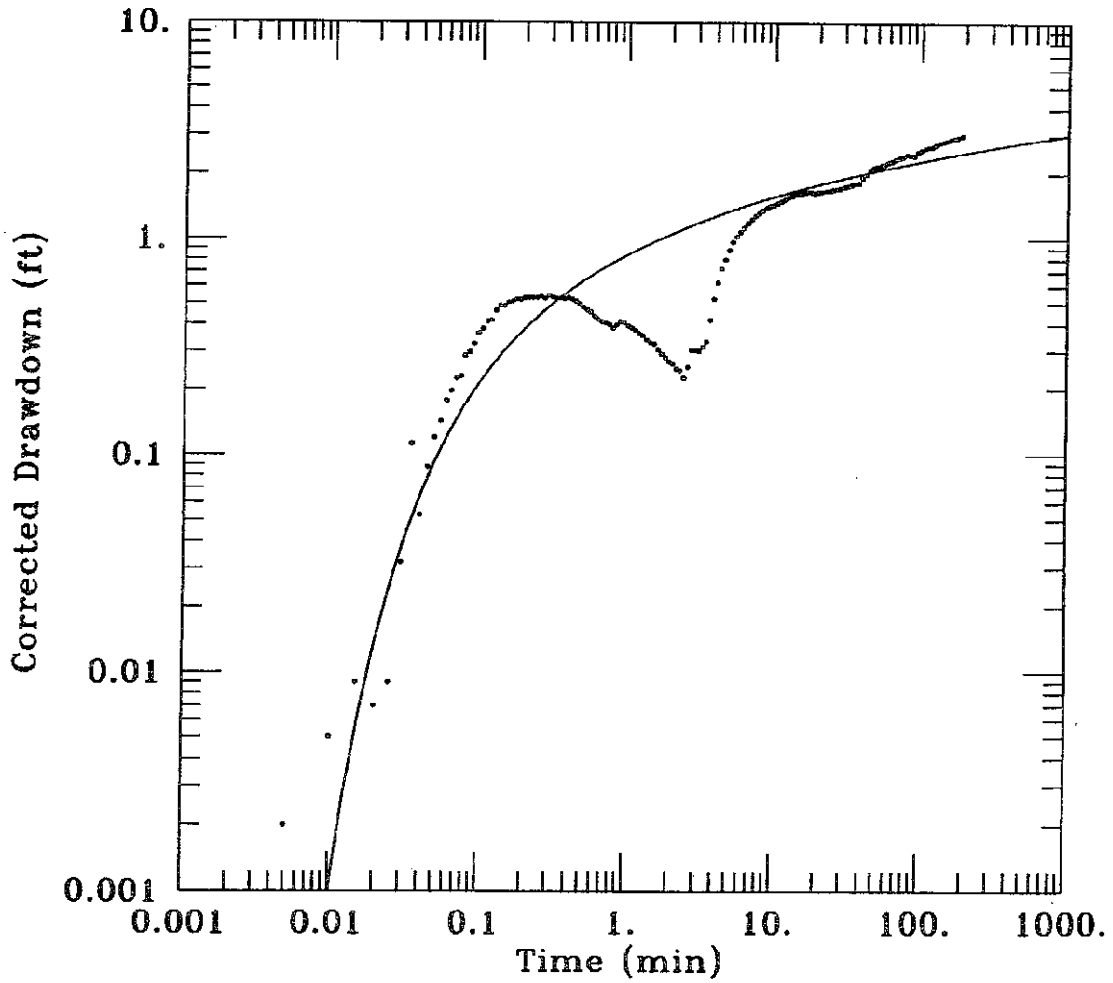
05/12/98

PROJECT DATA:
test date: 4/29/98
test well: EP-73
obs. well: EP-73

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-73 DRAWDOWN



DATA SET:
EP73D2.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Theis

PROJECT DATA:
test date: 4/29/98
test well: EP-73
obs. well: EP-73

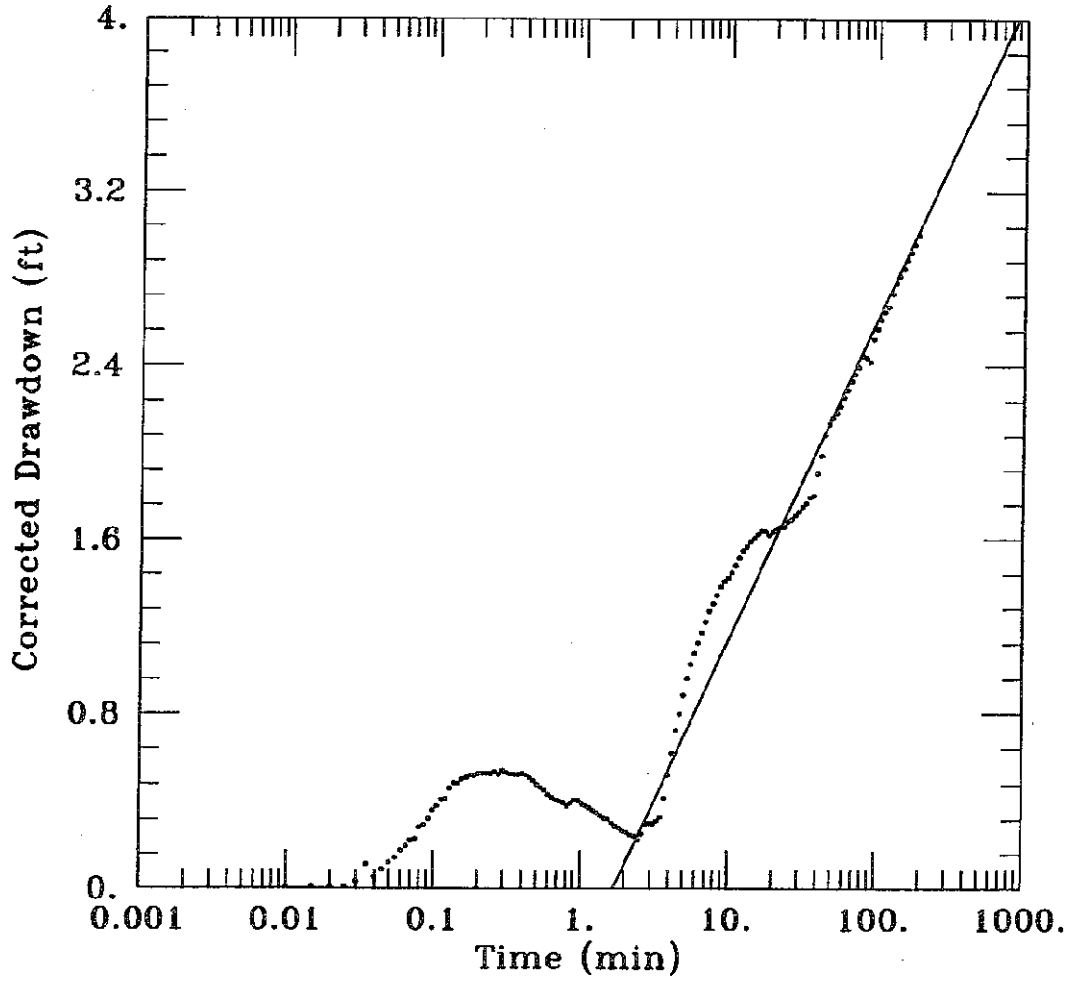
TEST DATA:
Q = 0.2074 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 12. ft

PARAMETER ESTIMATES:
T = 74.82 ft^2/day
S = 0.3127

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-73 DRAWDOWN



DATA SET:
EP73D2.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Cooper-Jacob

PROJECT DATA:
test date: 4/29/98
test well: EP-73
obs. well: EP-73

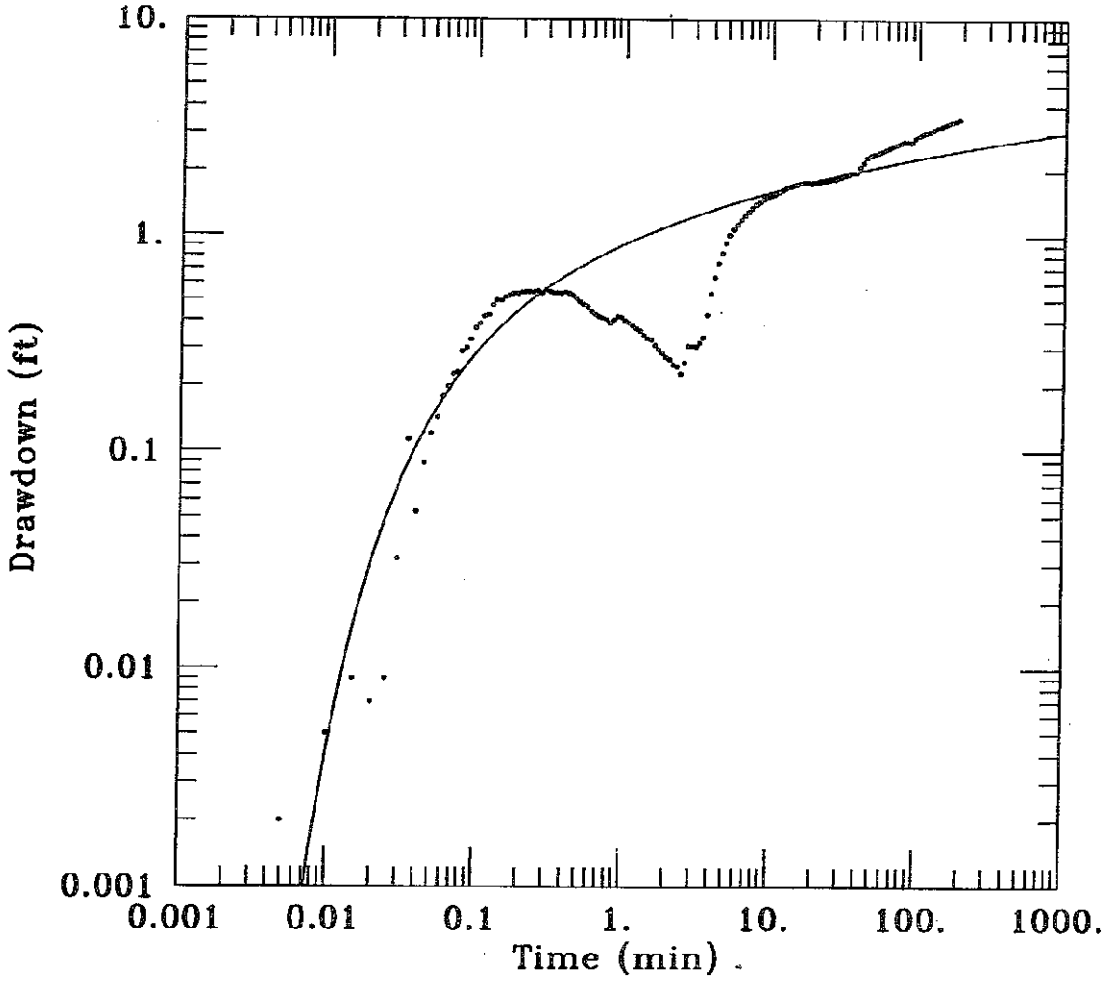
TEST DATA:
Q = 0.2074 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 12. ft

PARAMETER ESTIMATES:
T = 37.13 ft^2/day
S = 3.518

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-73 DRAWDOWN



DATA SET:
EP7302.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Neuman

PROJECT DATA:
test date: 4/29/98
test well: EP-73
obs. well: EP-73

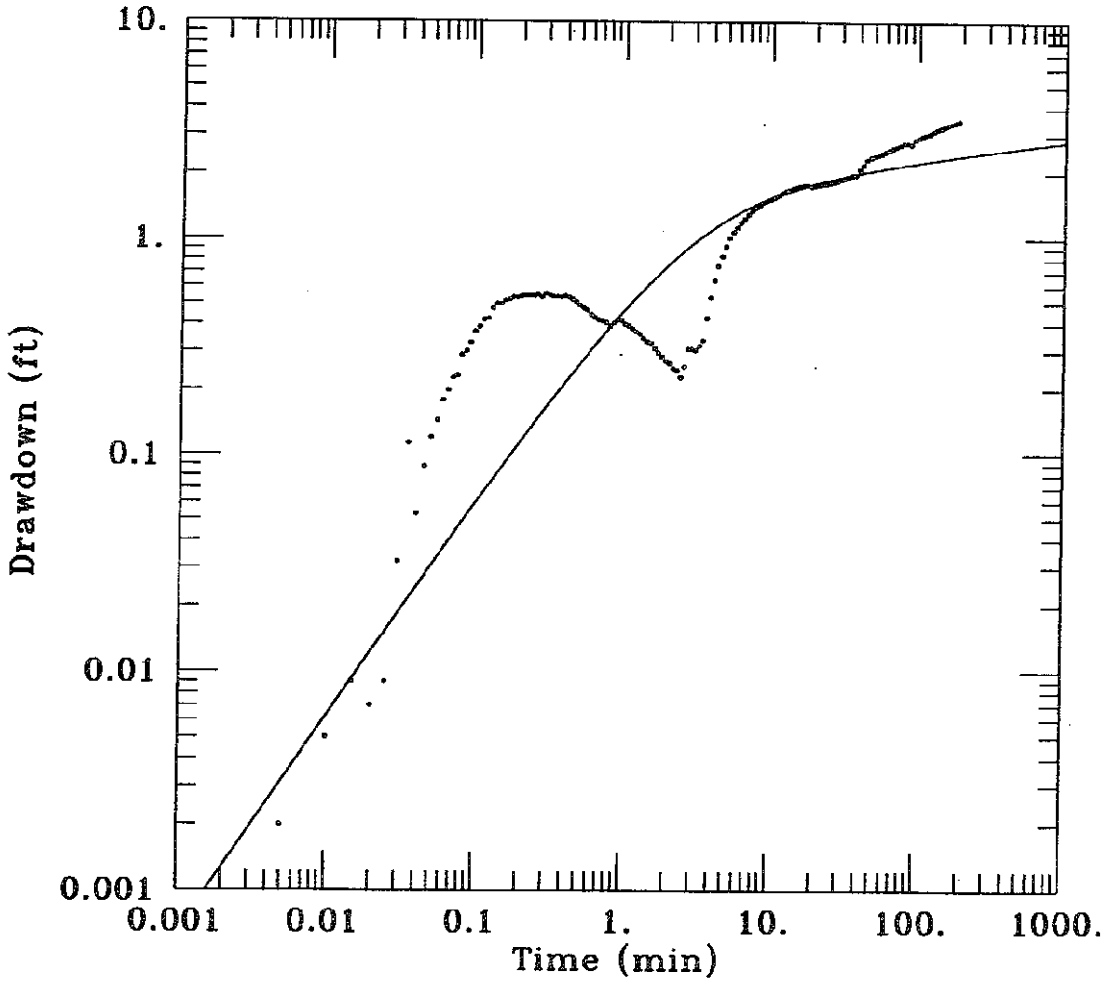
TEST DATA:
Q = 0.2074 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 12. ft

PARAMETER ESTIMATES:
T = 74.36 ft^2/day
S = 0.2228
Sy = 0.1
β = 0.001

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-73 DRAWDOWN



DATA SET:
EP73D2.DAT
05/13/98

AQUIFER MODEL:
Confined
SOLUTION METHOD:
Papadopulos-Cooper

PROJECT DATA:
test date: 4/29/98
test well: EP-73
obs. well: EP-73

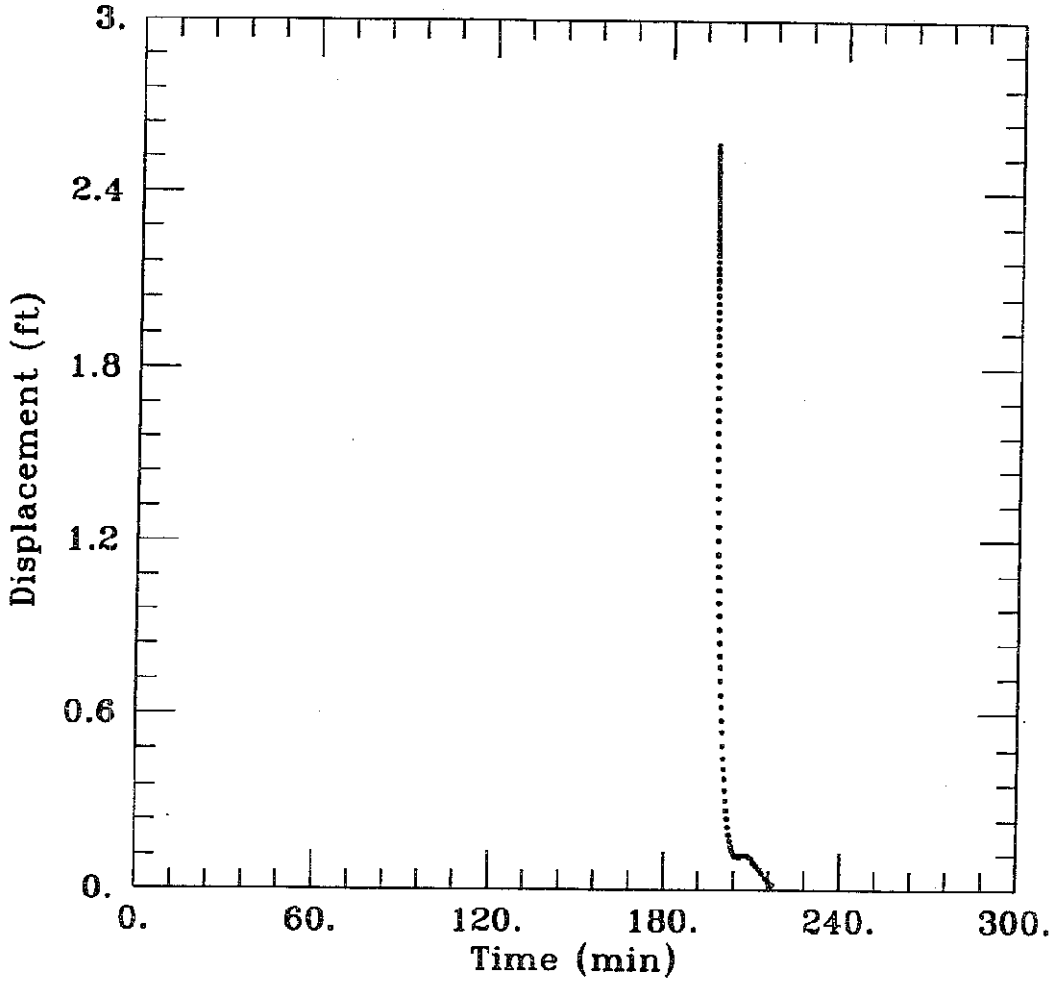
TEST DATA:
Q = 0.2074 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 12. ft

PARAMETER ESTIMATES:
T = 101.2 ft^2/day
S = 0.0377
a = 0.01

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



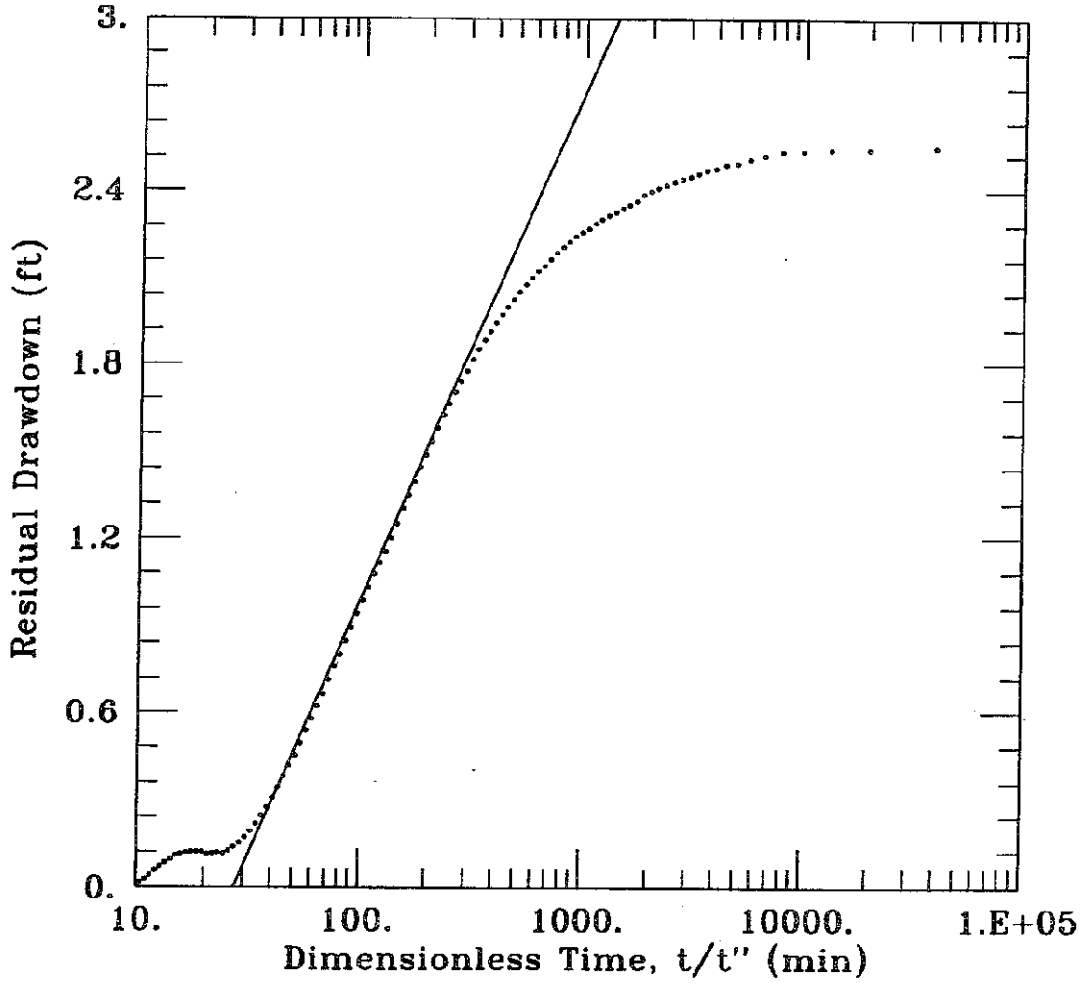
DATA SET:
EP-73R.DAT
05/14/98

PROJECT DATA:
test date: 4/29/98
test well: EP-73
obs. well: EP-73

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-73 Recovery



DATA SET:
EP-73R.DAT
05/14/98

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Theis Recovery

PROJECT DATA:
test date: 4/29/98
test well: EP-73
obs. well: EP-73

TEST DATA:
Q = 0.2074 ft^3/min
r = 0.4167 ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 12. ft

PARAMETER ESTIMATES:
T = 31.07 ft^2/day
S' = 27.49

AQTESOLV

```
<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

                    A Q T E S O L V   R E S U L T S
                              Version 2.01

                     Developed by Glenn M. Duffield
                (c) 1988-1995  Geraghty & Miller, Inc.

05/12/98                                                                14:50:45

================================================================================
                              TEST DESCRIPTION

Data set........... EP-77D2.DAT
Output file........ EP77D.OUT
Data set title..... EP-77 Drawdown
Company............ Hydrometrics, Inc.
Project............ 0734 502.100
Client............. ASARCO
Location........... El Paso
Test date.......... 4/29/98
Test well.......... EP-77
Obs. well.......... EP-77

Units of Measurement
   Length.......... ft
   Time............ min
   Pumping rate.... consistent

   ping Well Data
   Well No. 1
   Well identification.............. EP-77
   X location....................... 0
   Y location....................... 0
   Casing radius.................... 0.1667
   Wellbore radius.................. 0.1667
   Well penetration................. Full
   Number of pumping periods........ 1
   Period    Pumping  Rate
   ------    -------------
      1             0.4455

Observation Well/Piezometer Data
   Well identification.............. EP-77
   X location....................... 0.1667
   Y location....................... 0
   Distance from pumping well #1.... 0.1667
   Well penetration................. Full
   No. of observations.............. 94

Aquifer Data
   Saturated thickness.............. 16

================================================================================
                              ANALYTICAL METHOD

Neuman (Unconfined Aquifer)
Fully Penetrating Wells
```

RESULTS FROM VISUAL CURVE MATCHING

SUAL MATCH PARAMETER ESTIMATES

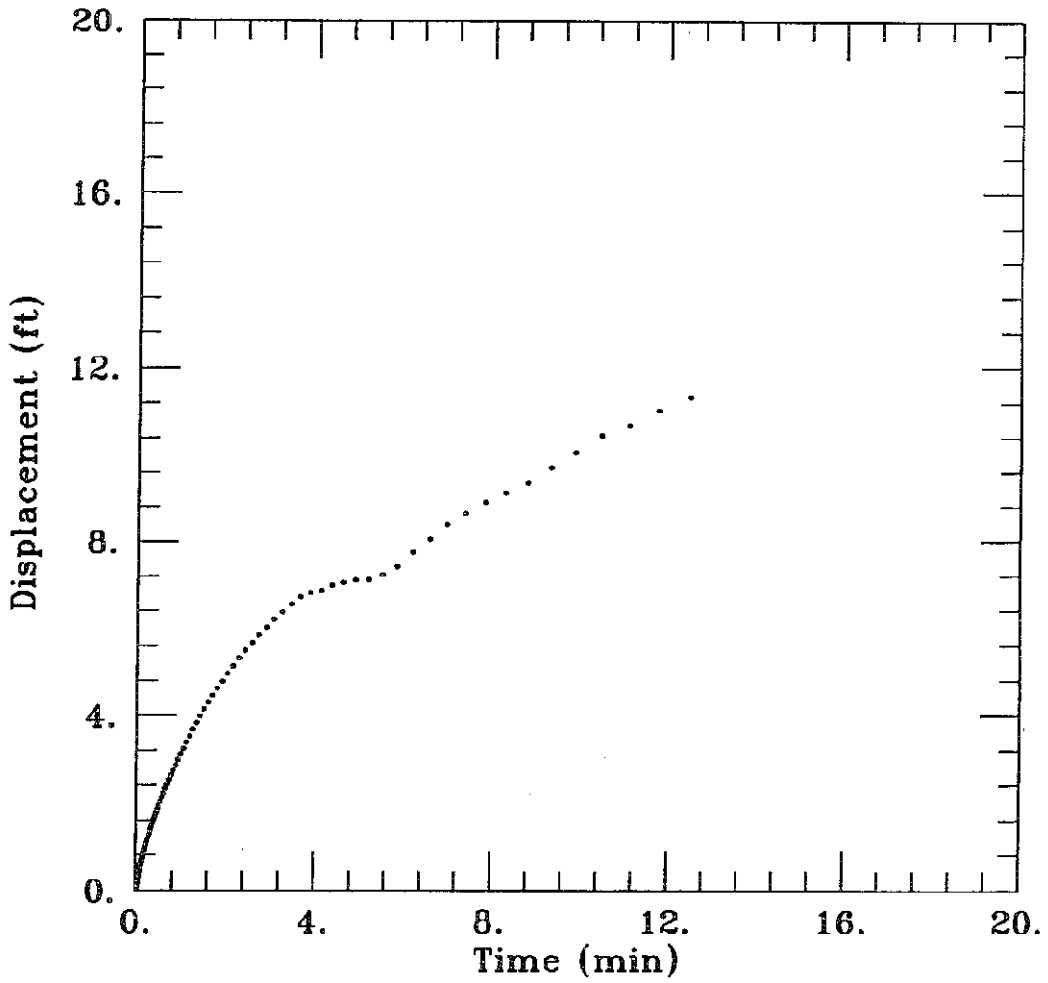
	Estimate	
T =	2.3999E+001	ft^2/day
S =	3.1600E-001	
Sy =	1.0000E-001	
B =	1.0000E-003	

Derived Parameters

Kr	= 1.5	ft/day
Kz/Kr	= 9.212	

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



DATA SET:

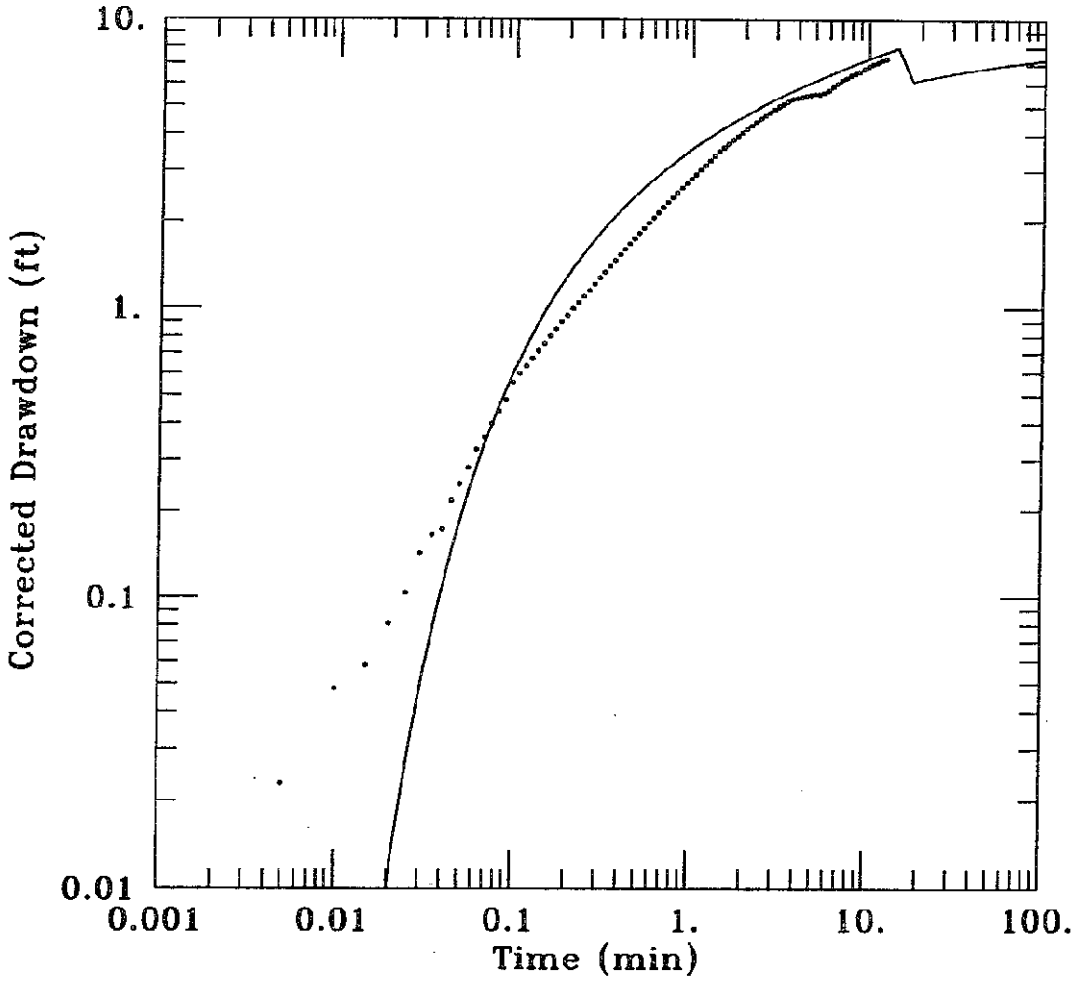
05/12/98

PROJECT DATA:
test date: 4/29/98
test well: EP-77
obs. well: EP-77

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-77 Drawdown



DATA SET:
EP-77D2.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Theis

PROJECT DATA:
test date: 4/29/98
test well: EP-77
obs. well: EP-77

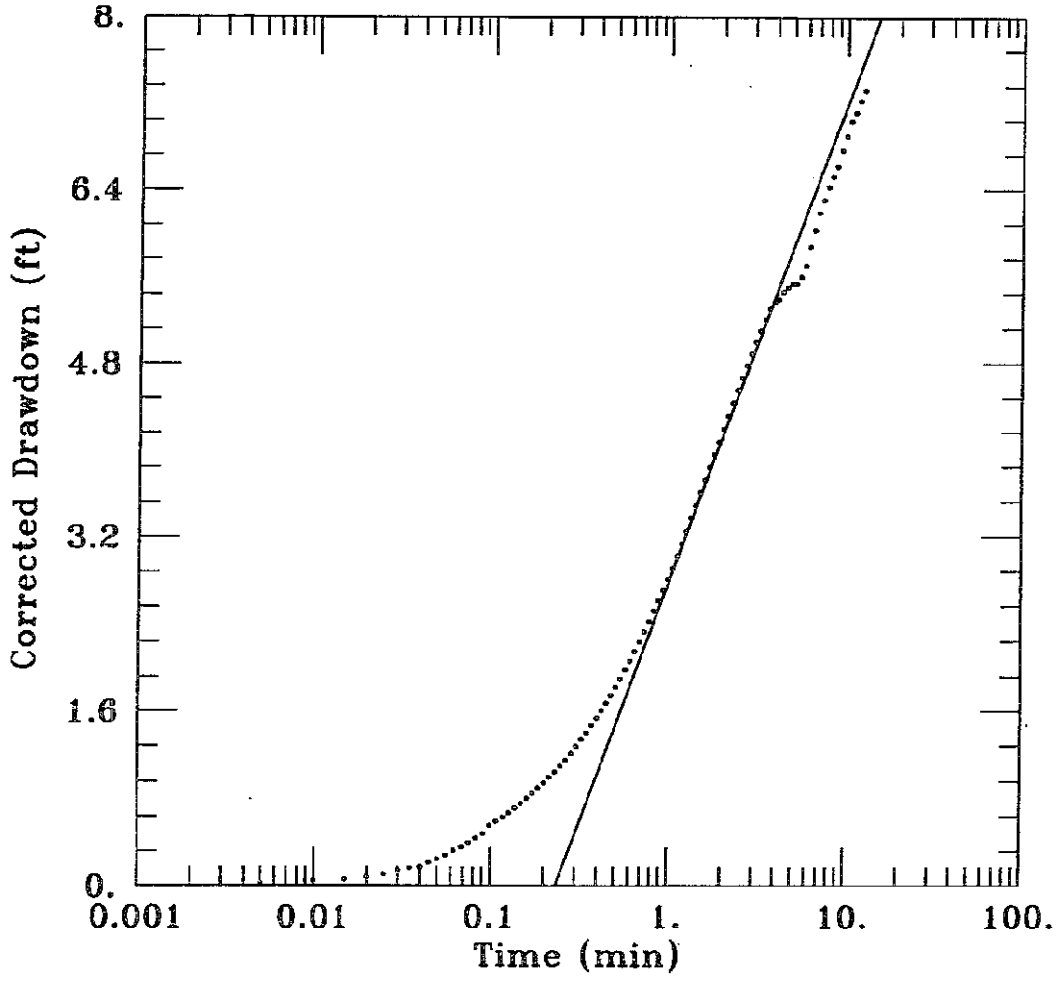
TEST DATA:
Q = 0.4455 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 16. ft

PARAMETER ESTIMATES:
T = 30.35 ft^2/day
S = 0.2191

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-77 Drawdown



DATA SET:
EP-77D2.DAT
05/12/98

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

PROJECT DATA:
test date: 4/29/98
test well: EP-77
obs. well: EP-77

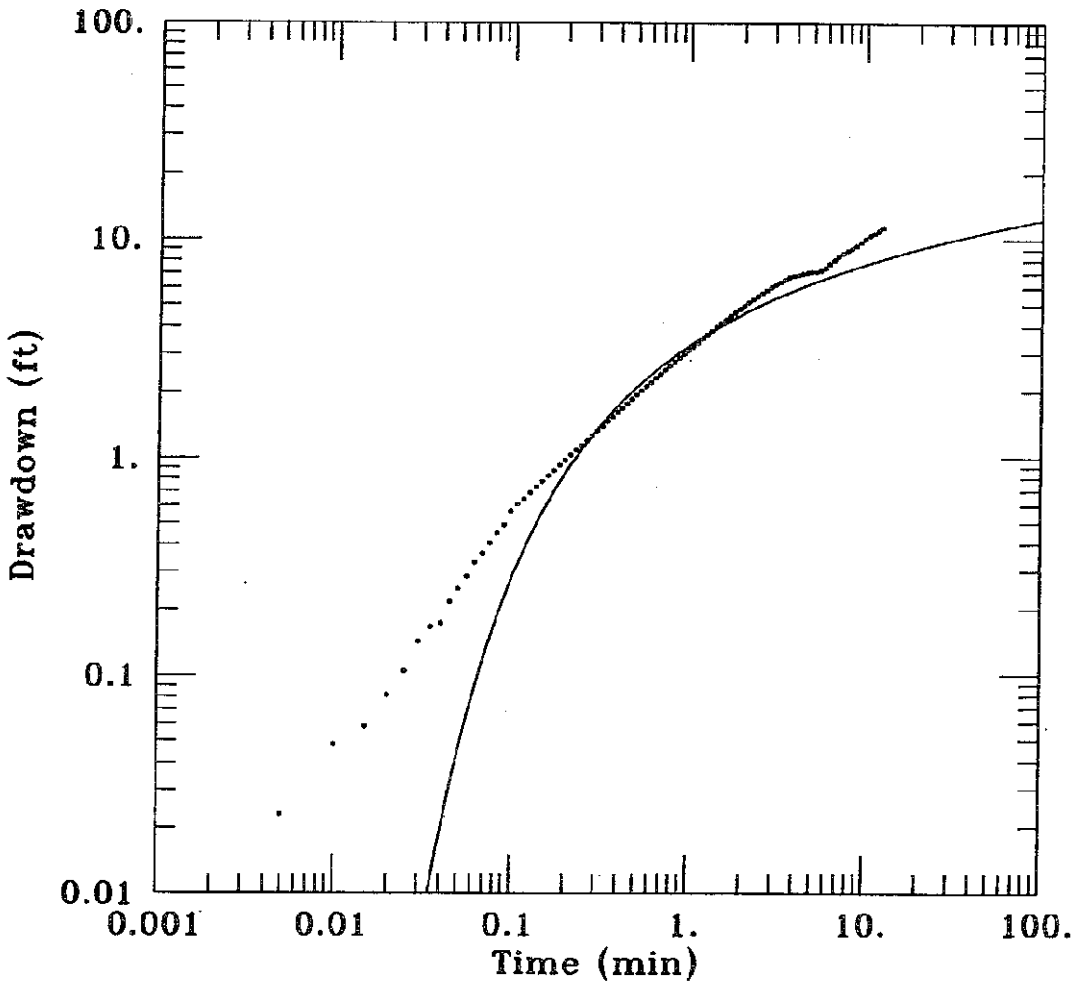
TEST DATA:
Q = 0.4455 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 16. ft

PARAMETER ESTIMATES:
T = 26.64 ft^2/day
S = 0.3507

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-77 Drawdown



DATA SET:
EP-77D2.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Neuman

PROJECT DATA:
test date: 4/29/98
test well: EP-77
obs. well: EP-77

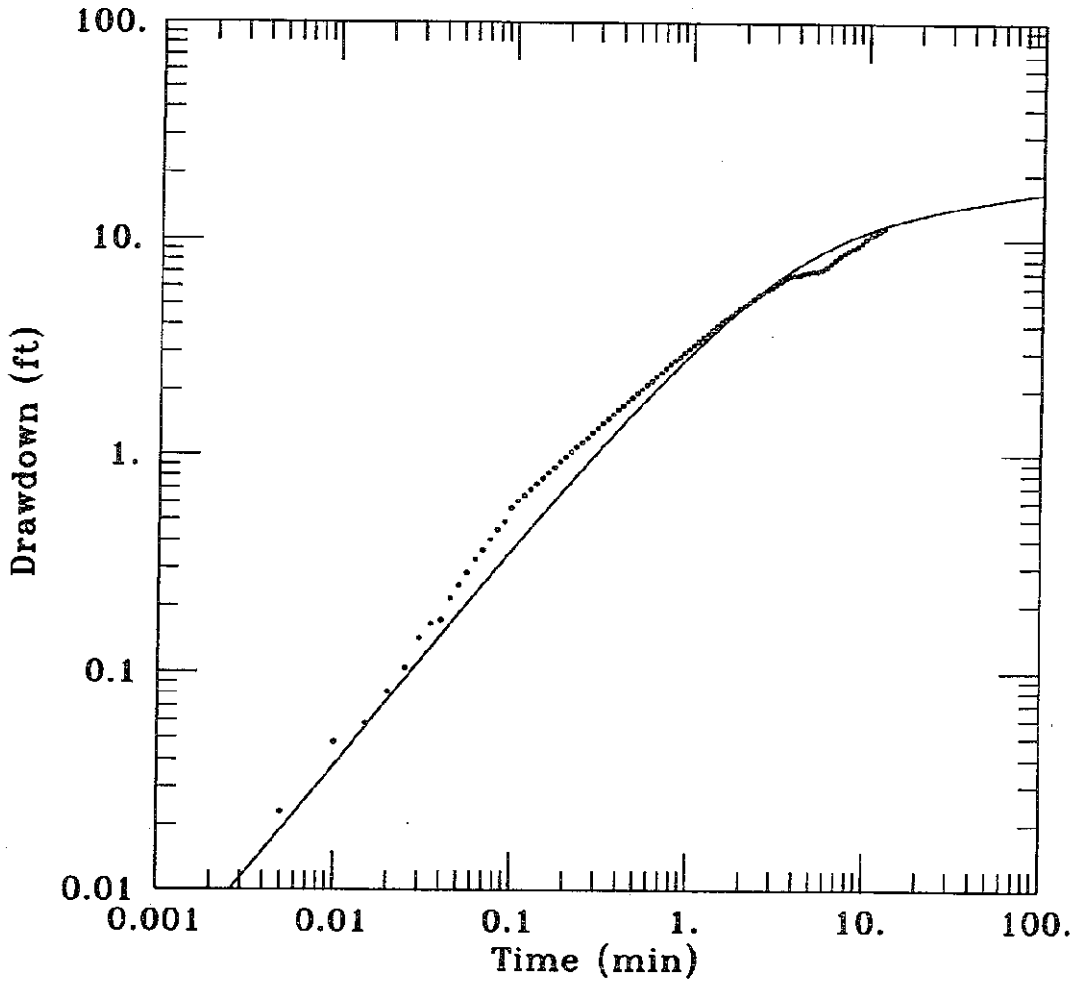
TEST DATA:
Q = 0.4455 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 16. ft

PARAMETER ESTIMATES:
T = 24. ft^2/day
S = 0.316
Sy = 0.1
β = 0.001

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-77 Drawdown



DATA SET:
EP-77D2.DAT
05/13/98

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Papadopulos-Cooper

PROJECT DATA:
test date: 4/29/98
test well: EP-77
obs. well: EP-77

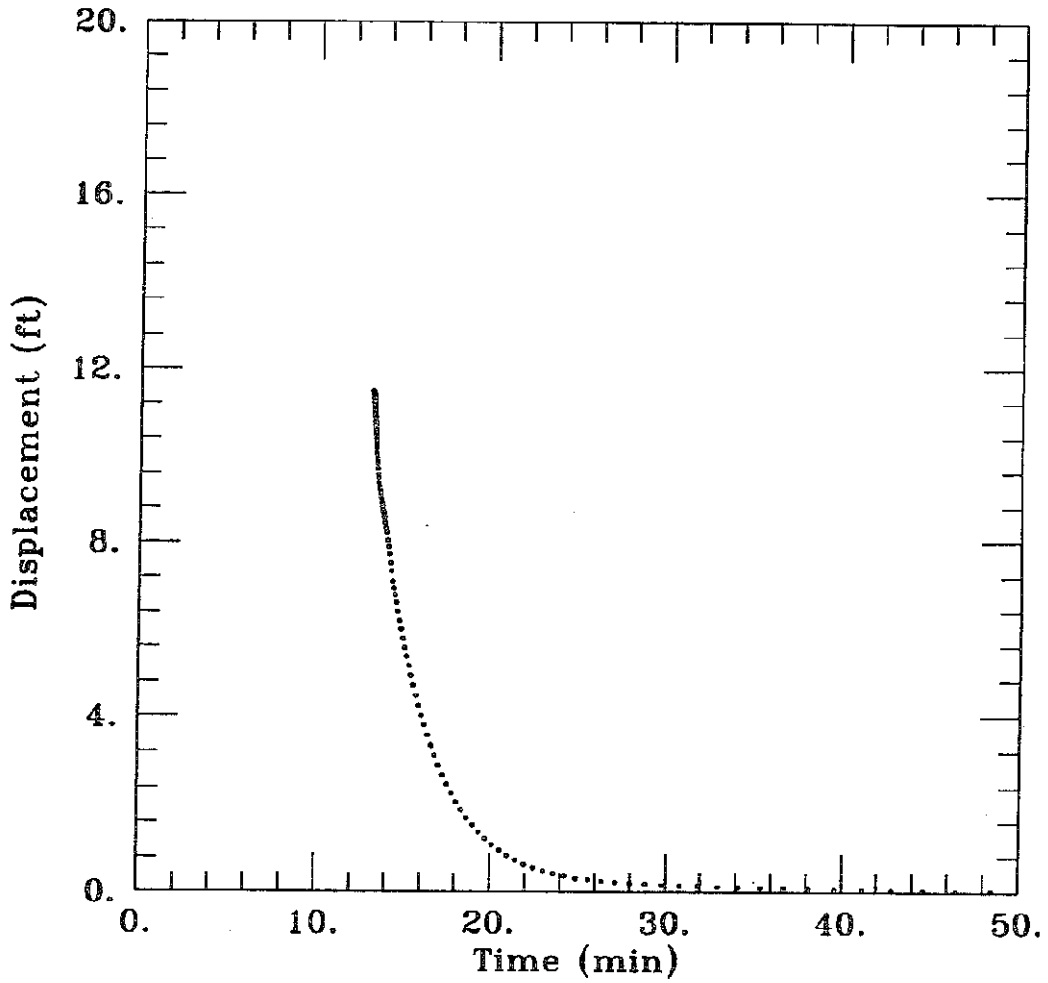
TEST DATA:
Q = 0.4455 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 16. ft

PARAMETER ESTIMATES:
T = 29.00 ft^2/day
S = 0.01342
a = 0.01

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



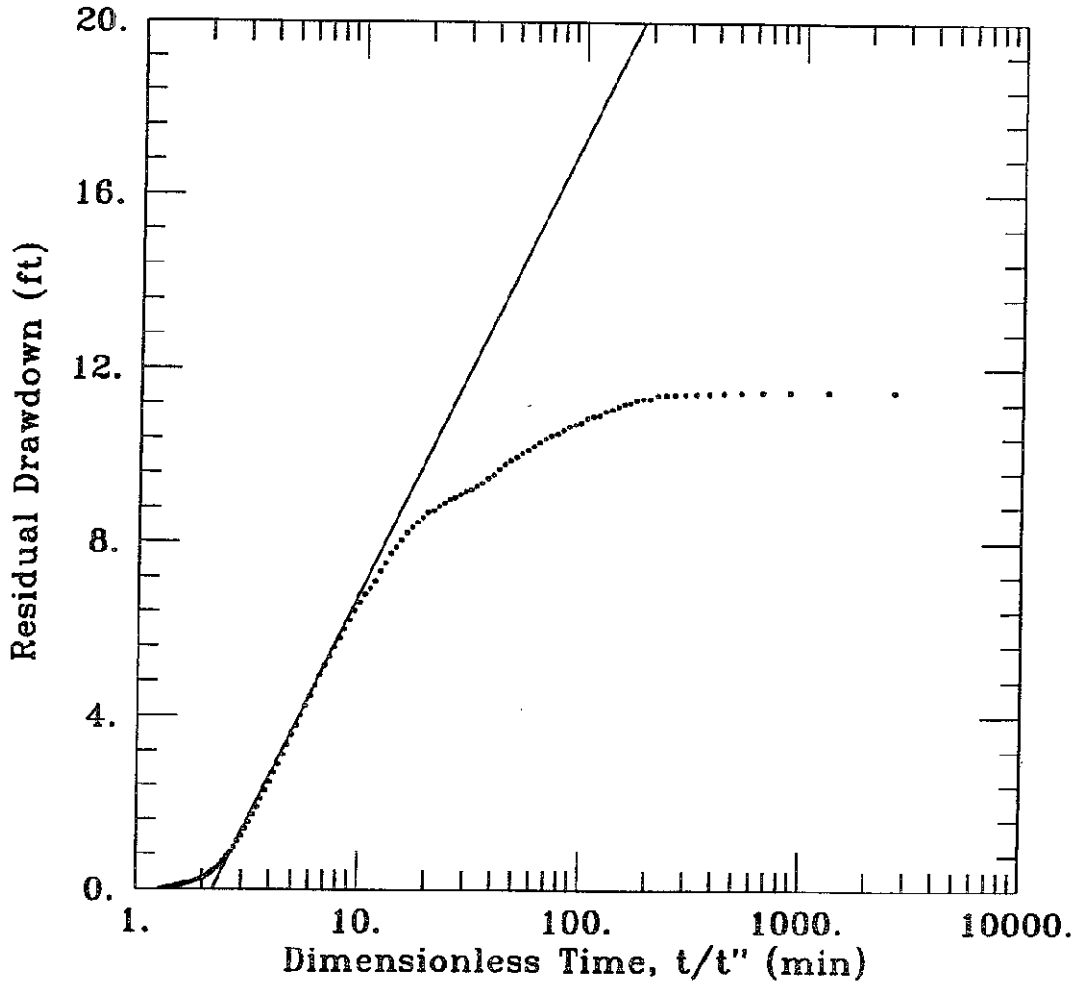
DATA SET:
EP-73R.DAT
05/14/98

PROJECT DATA:
test date: 4/29/98
test well: EP-77
obs. well: EP-77

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-77 Recovery



DATA SET:
EP-77R.DAT
05/14/98

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Theis Recovery

PROJECT DATA:
test date: 4/29/98
test well: EP-77
obs. well: EP-77

TEST DATA:
Q = 0.4455 ft^3/min
r = 0.4167 ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 16. ft

PARAMETER ESTIMATES:
T = 11.26 ft^2/day
S' = 2.225

AQTESOLV

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>

A Q T E S O L V   R E S U L T S

Version 2.01

Developed by Glenn M. Duffield
(c) 1988-1995 Geraghty & Miller, Inc.

05/14/98 09:48:4

TEST DESCRIPTION

Data set........... EP-85D.DAT
Output file........ EP85D.OUT
Data set title..... EP-85 Drawdown 2
Company............ Hydrometrics, Inc.
Project............ 0734 502.100
Client............. ASARCO
Location........... El Paso
Test date.......... 5/1/98
Test well.......... EP-85
Obs. well.......... EP-85

Units of Measurement
Length.......... ft
Time............ min
Pumping rate.... consistent

mping Well Data
Well No. 1
Well identification.............. EP-85
X location....................... 0
Y location....................... 0
Casing radius.................... 0.1667
Wellbore radius.................. 0.4167
Well penetration................. Full
Number of pumping periods........ 1

Period	Pumping Rate
1	1.715

Observation Well/Piezometer Data
Well identification.............. EP-85
X location....................... 0.4167
Y location....................... 0
Distance from pumping well #1.... 0.4167
Well penetration................. Full
No. of observations.............. 131

ANALYTICAL METHOD

padopulos-Cooper (Confined Aquifer)

RESULTS FROM VISUAL CURVE MATCHING

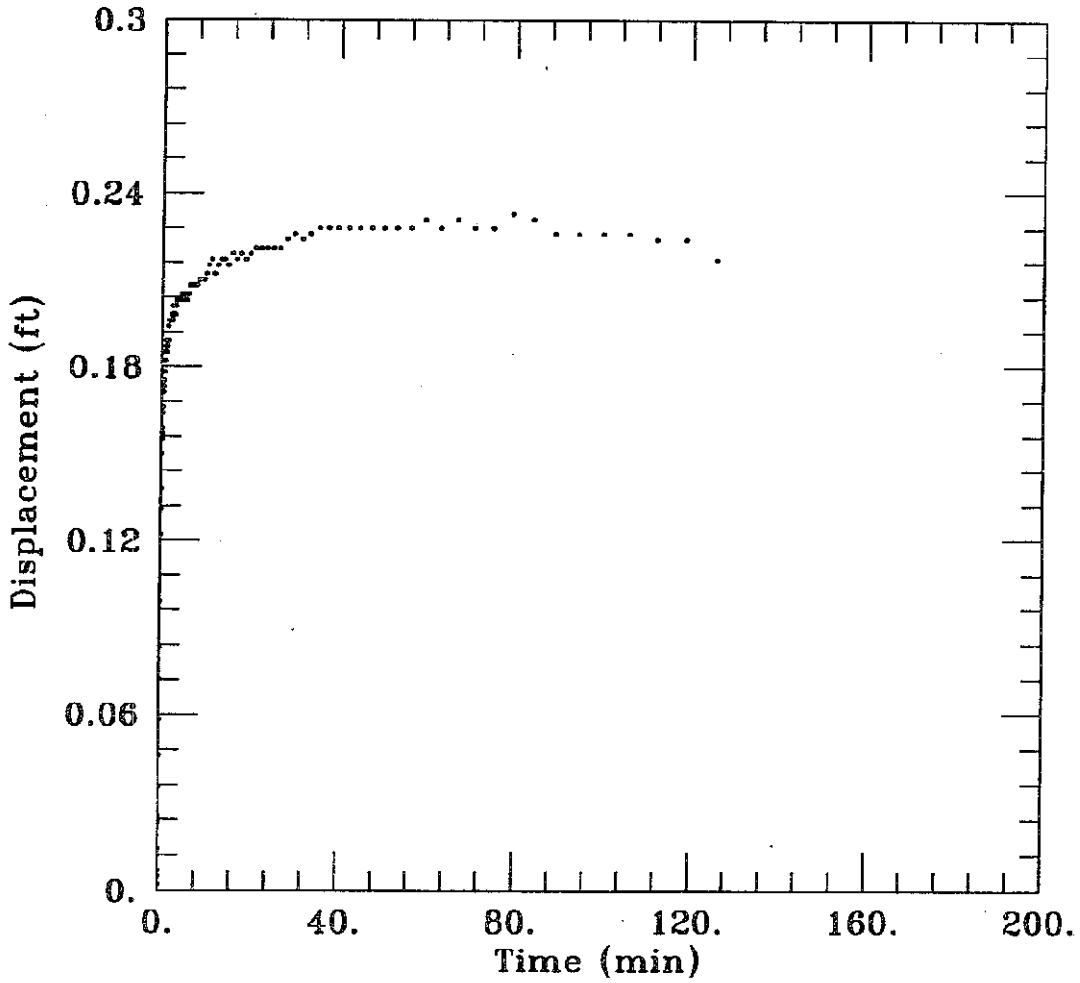
VISUAL MATCH PARAMETER ESTIMATES

		Estimate
T	=	8.4985E+003 ft^2/day
S	=	1.0204E-002
a	=	1.0000E-002

<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



DATA SET:

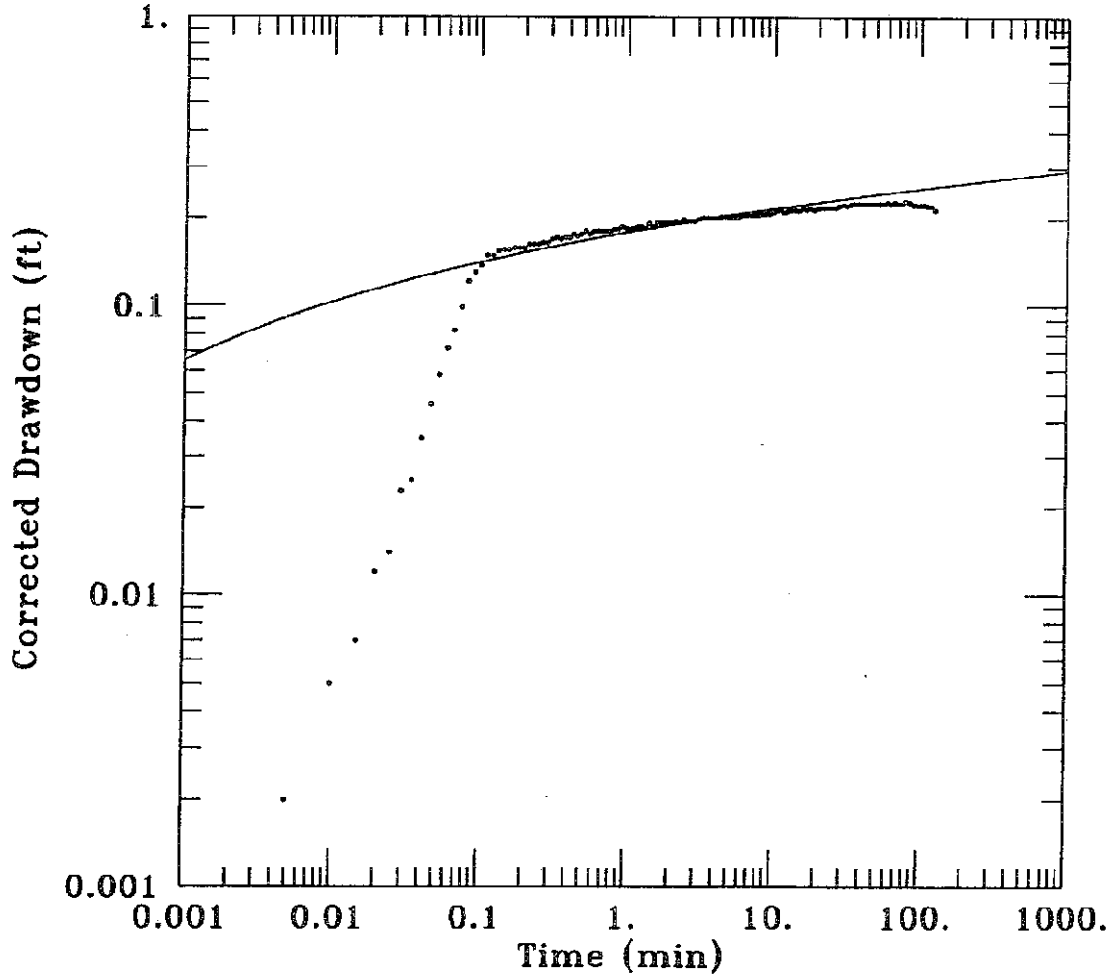
05/12/98

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85 pumping well

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 1



DATA SET:
EP-85D.DAT
05/12/98

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Theis

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

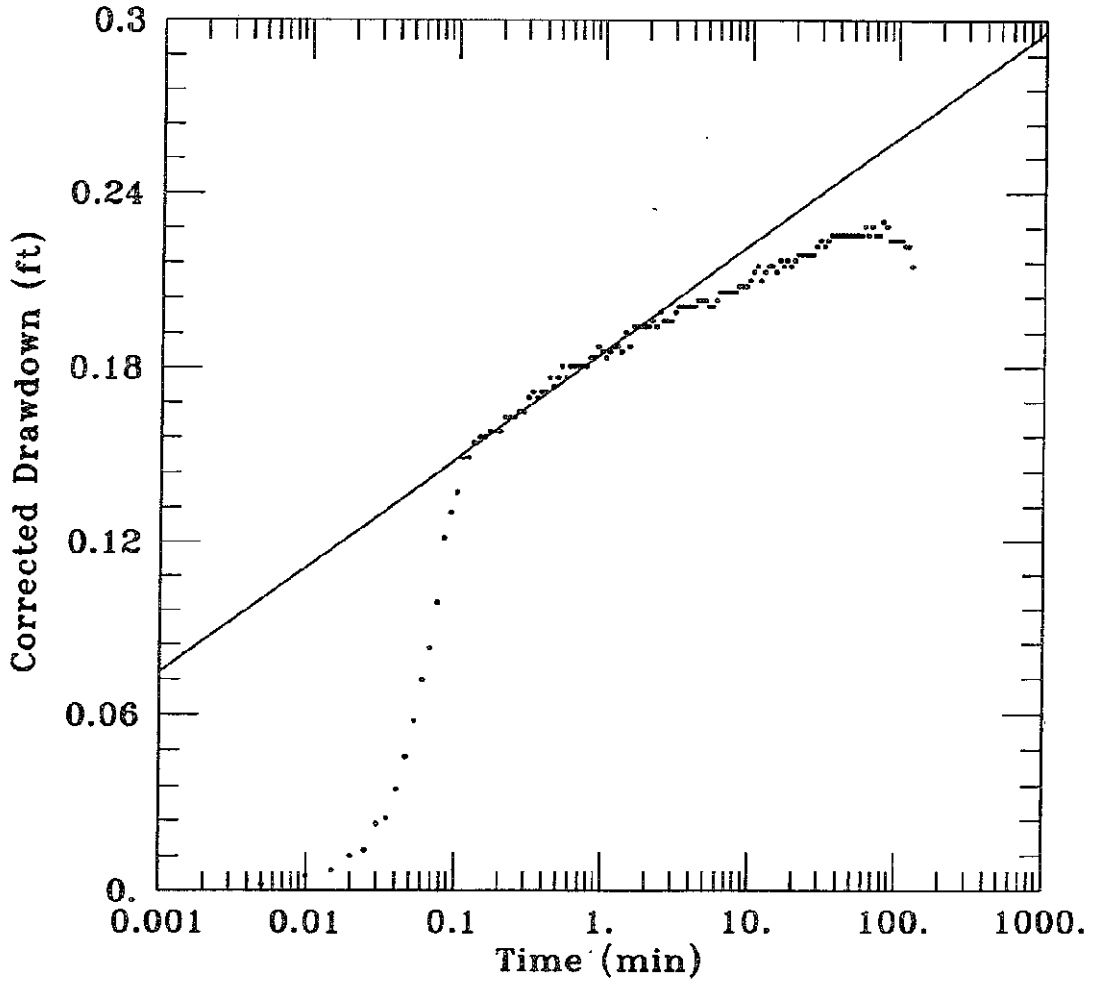
TEST DATA:
Q = 0.6797 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 4732.1 ft^2/day
S = 0.005087

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 1



DATA SET:
EP-85D.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Cooper-Jacob

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

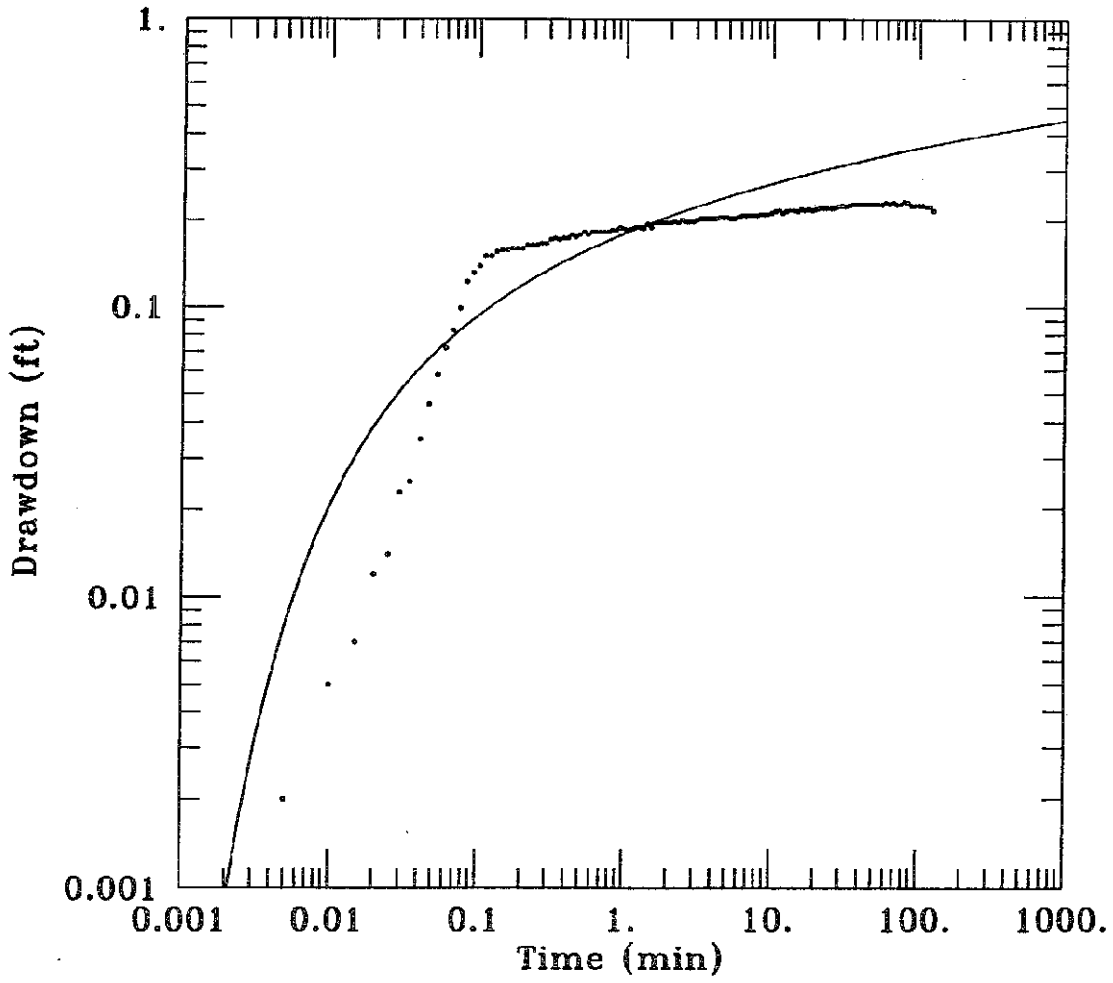
TEST DATA:
Q = 0.6797 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 4859.3 ft^2/day
S = 0.002613

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 1



DATA SET:
EP-85D.DAT
05/12/98

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Neuman

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

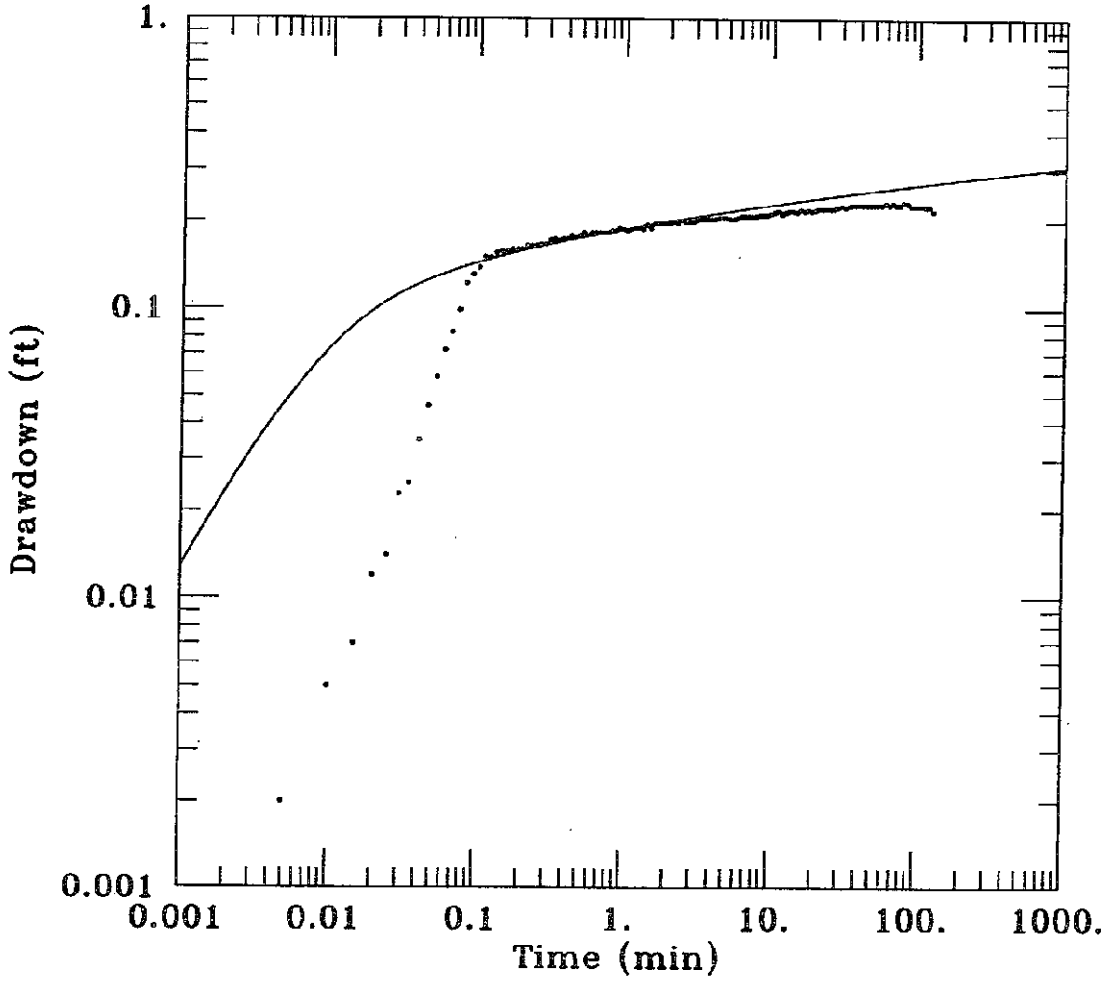
TEST DATA:
Q = 0.6797 ft^3/min
r = 0.1667 ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 1994.6 ft^2/day
S = 1.027
Sy = 0.1
β = 0.001

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 1



DATA SET:
EP-85D.DAT
05/14/98

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Papadopulos-Cooper

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

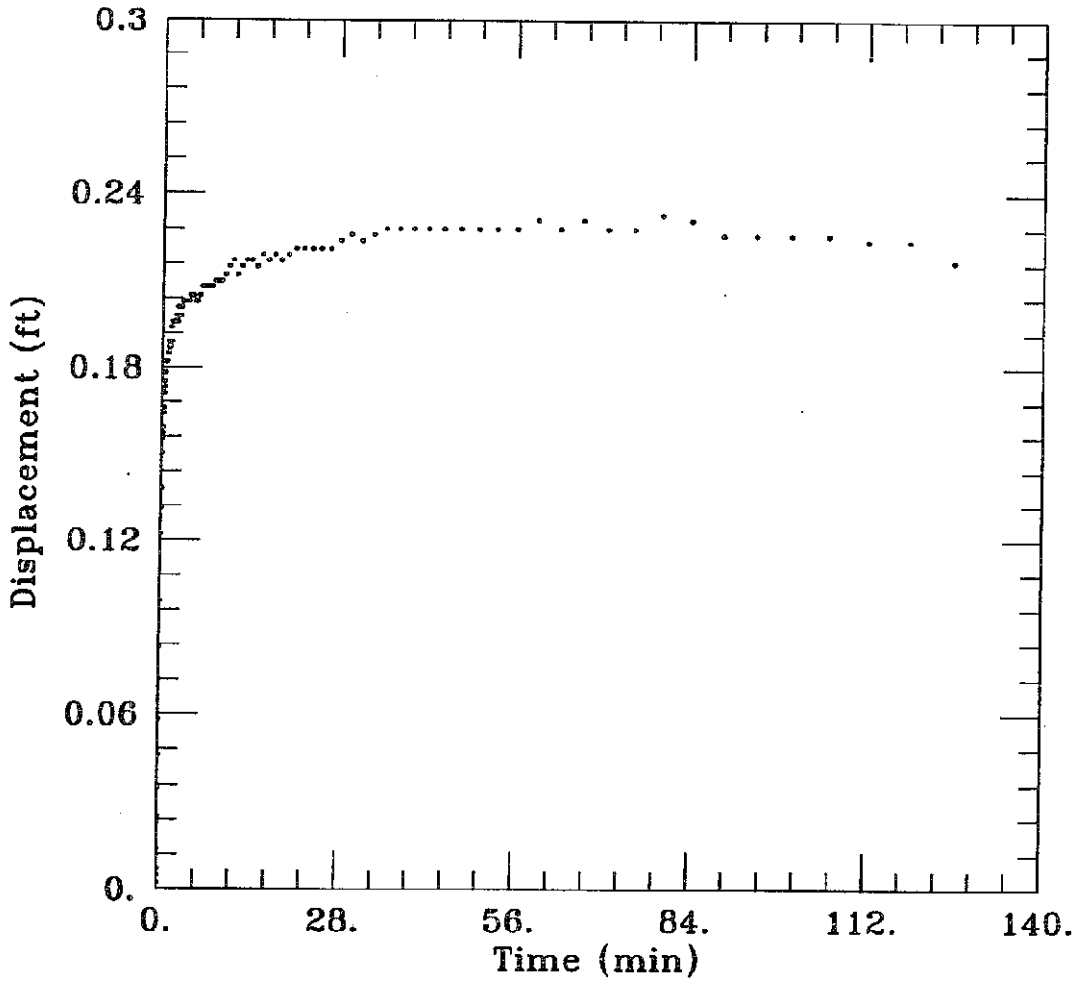
TEST DATA:
Q = 0.6797 ft^3/min
r = 0.4167 ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 4471.4 ft^2/day
S = 0.0008387
a = 0.01

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



DATA SET:
EP-85D2.DAT
05/14/98

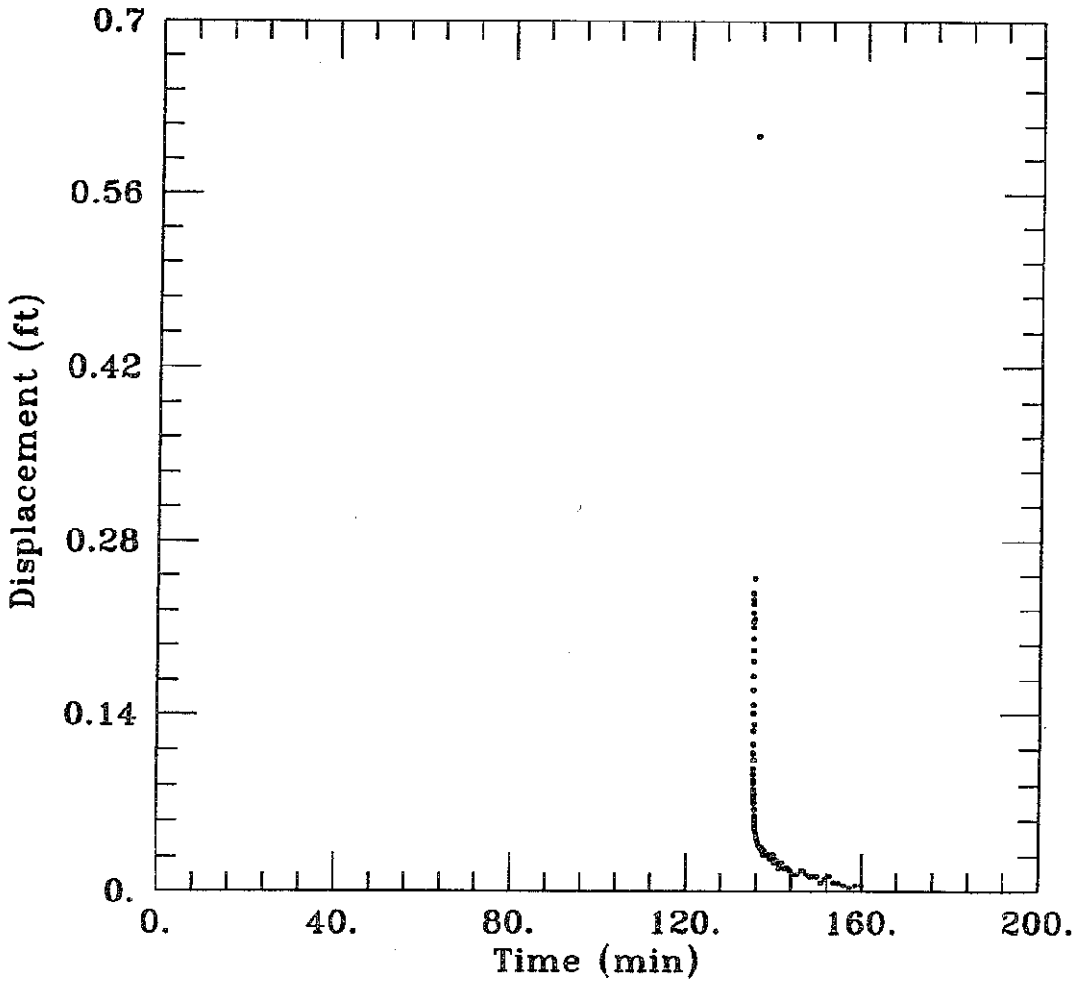
PROJECT DATA:
test date: 5/1/98
test well: EP-85
obs. well: EP-85

Second Test

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



DATA SET:
EP-85D.DAT
05/14/98

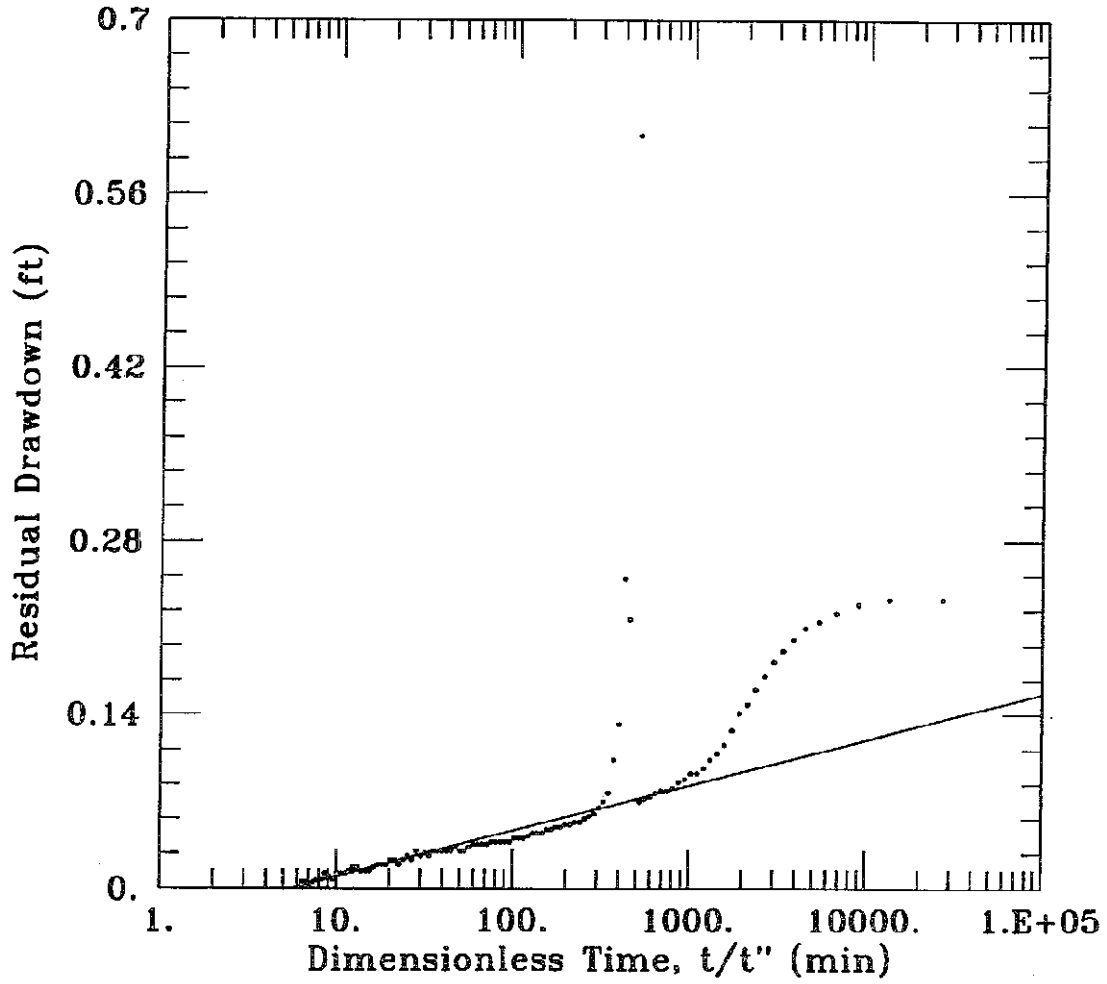
PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

Recovery Data

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Recovery 1



DATA SET:
EP-85R.DAT
05/14/98

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Theis Recovery

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

TEST DATA:
Q = 0.6797 ft^3/min
r = 0.4167 ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 4881. ft^2/day
S = 5.49

AQTESOLV

```
<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

                    A Q T E S O L V   R E S U L T S
                              Version 2.01

                    Developed by Glenn M. Duffield
               (c) 1988-1995  Geraghty & Miller, Inc.

05/12/98                                                                      15:29:44

======================================================================================
                              TEST DESCRIPTION

Data set........... EP-85OD.DAT
Output file........ EP85OD.OUT
Data set title..... EP-85 Drawdown 1 Observation Well 1
Company............ Hydrometrics, Inc.
Project............ 0734 502.100
Client............. ASARCO
Location........... El Paso
Test date.......... 4/30/98
Test well.......... EP-85
Obs. well.......... EP-85

Units of Measurement
   Length.......... ft
   Time............ min
   Pumping rate.... consistent

   ping Well Data
   Well No. 1
   Well identification.............. EP-85
   X location....................... 0
   Y location....................... 0
   Casing radius.................... 0.1667
   Wellbore radius.................. 0.1667
   Well penetration................. Full
   Number of pumping periods........ 1
   Period    Pumping  Rate
   ------    -------------
     1            0.6797

Observation Well/Piezometer Data
   Well identification.............. EP-85 obs 1
   X location....................... 10
   Y location....................... 0
   Distance from pumping well #1.... 10
   Well penetration................. Full
   No. of observations.............. 118

Aquifer Data
   Saturated thickness.............. 10.4

 =====================================================================================
                              ANALYTICAL METHOD

Neuman (Unconfined Aquifer)
Fully Penetrating Wells
```

RESULTS FROM VISUAL CURVE MATCHING

SUAL MATCH PARAMETER ESTIMATES

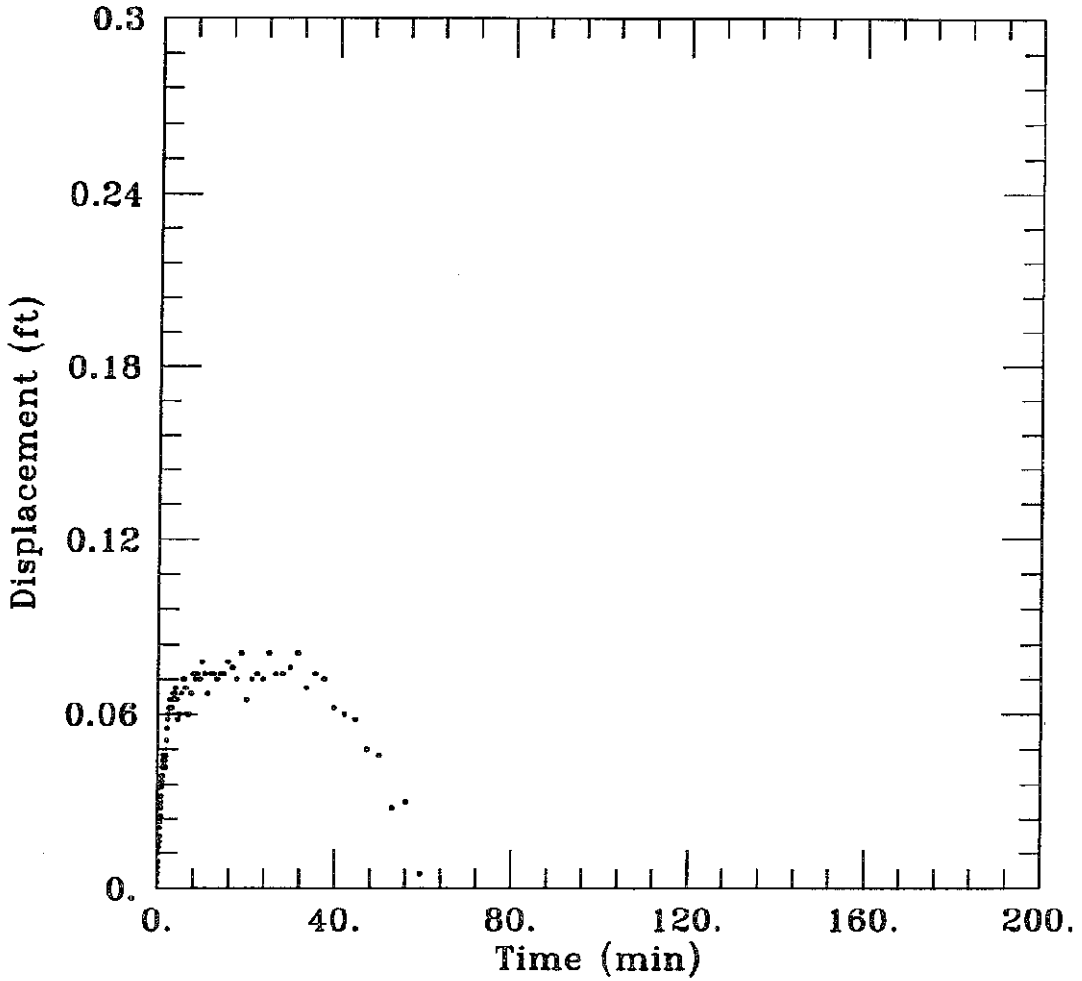
		Estimate	
T	=	1.6263E+003	ft^2/day
S	=	1.1103E-002	
Sy	=	1.0000E-001	
B	=	1.0000E-001	

Derived Parameters

Kr	=	156.4	ft/day
Kz/Kr	=	0.1082	

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



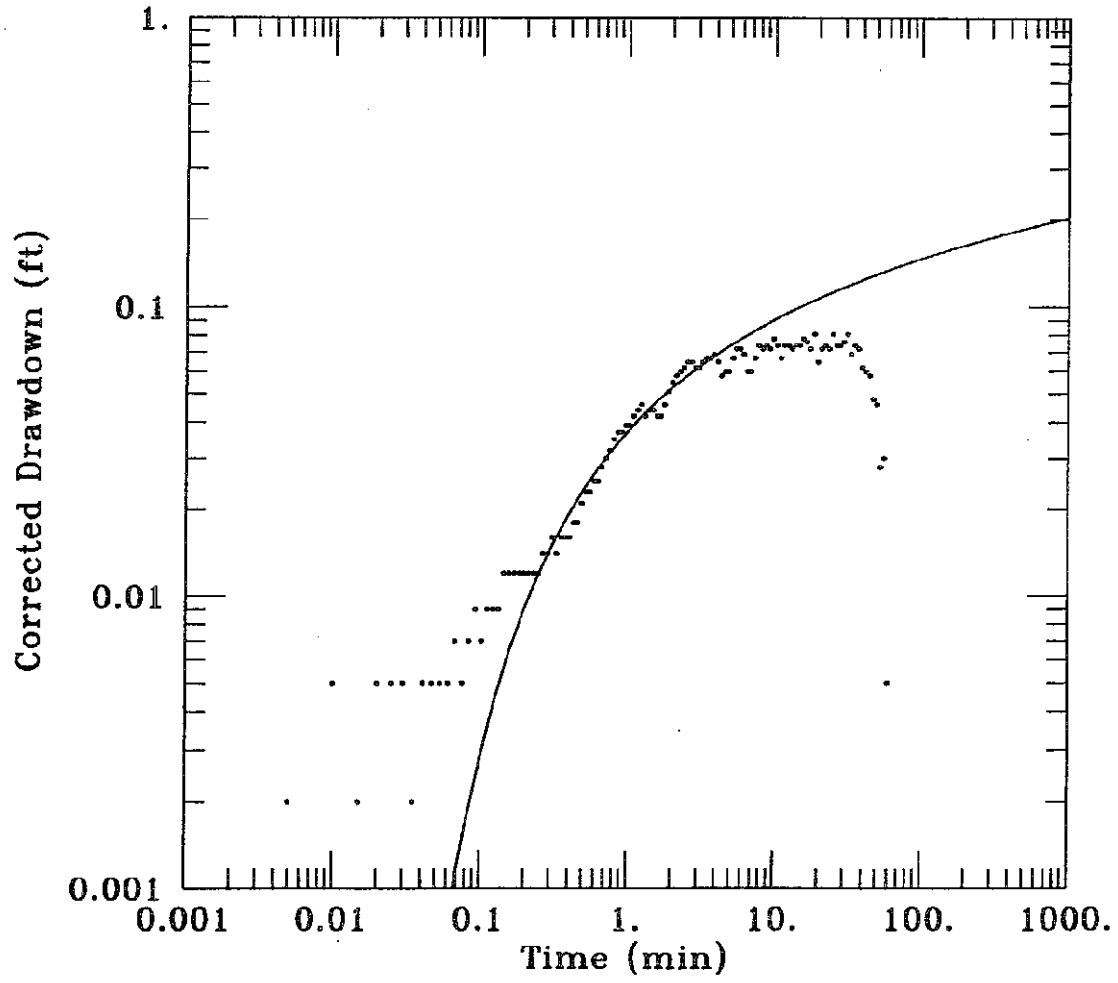
DATA SET:
EP-850D.DAT
05/12/98

PROJECT DATA:
test date: 4/30/98 Test 1
test well: EP-85
obs. well: EP-85 obs #1

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 1 Observation Well 1



DATA SET:
EP-850D.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Theis

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

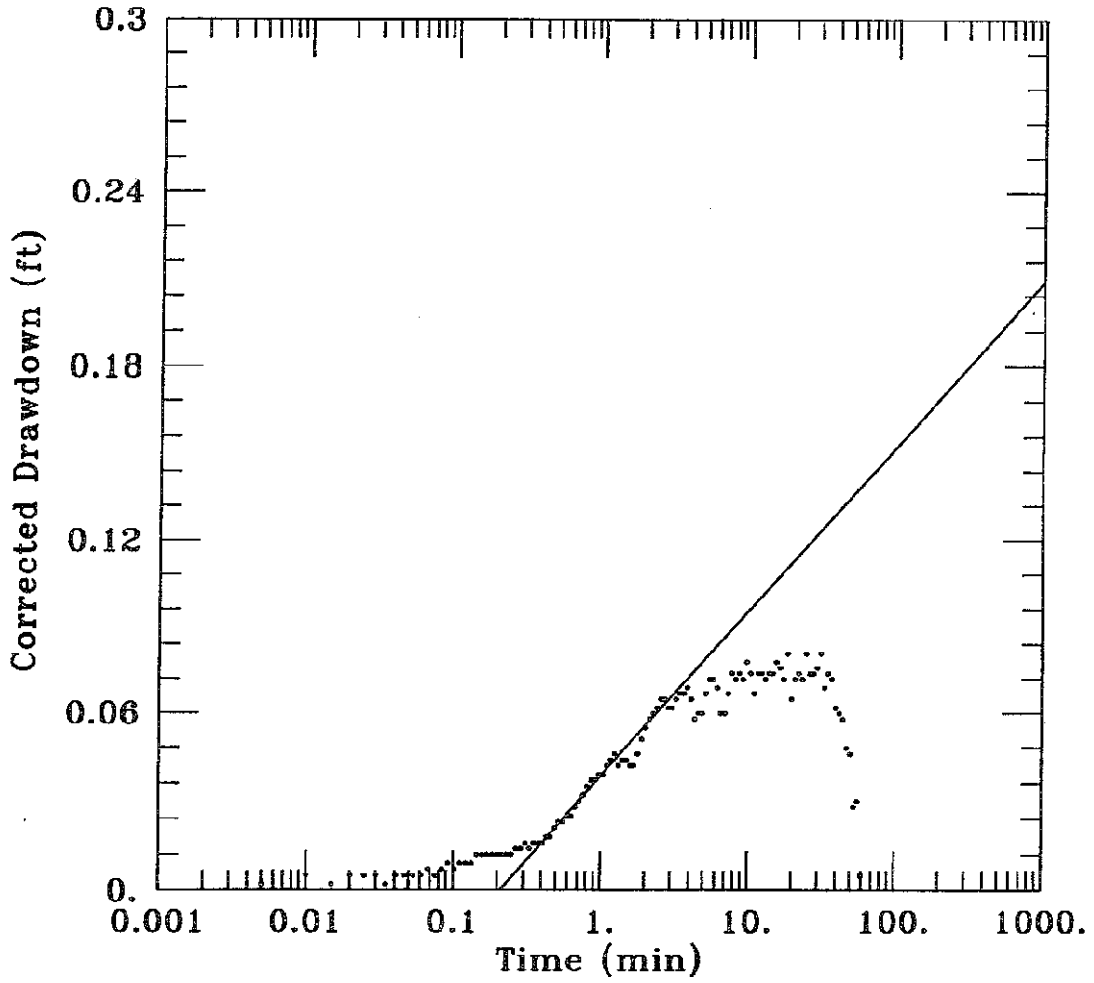
TEST DATA:
Q = 0.6797 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 3186.4 ft^2/day
S = 0.0125

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 1 Observation Well 1



DATA SET:
EP-850D.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Cooper-Jacob

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

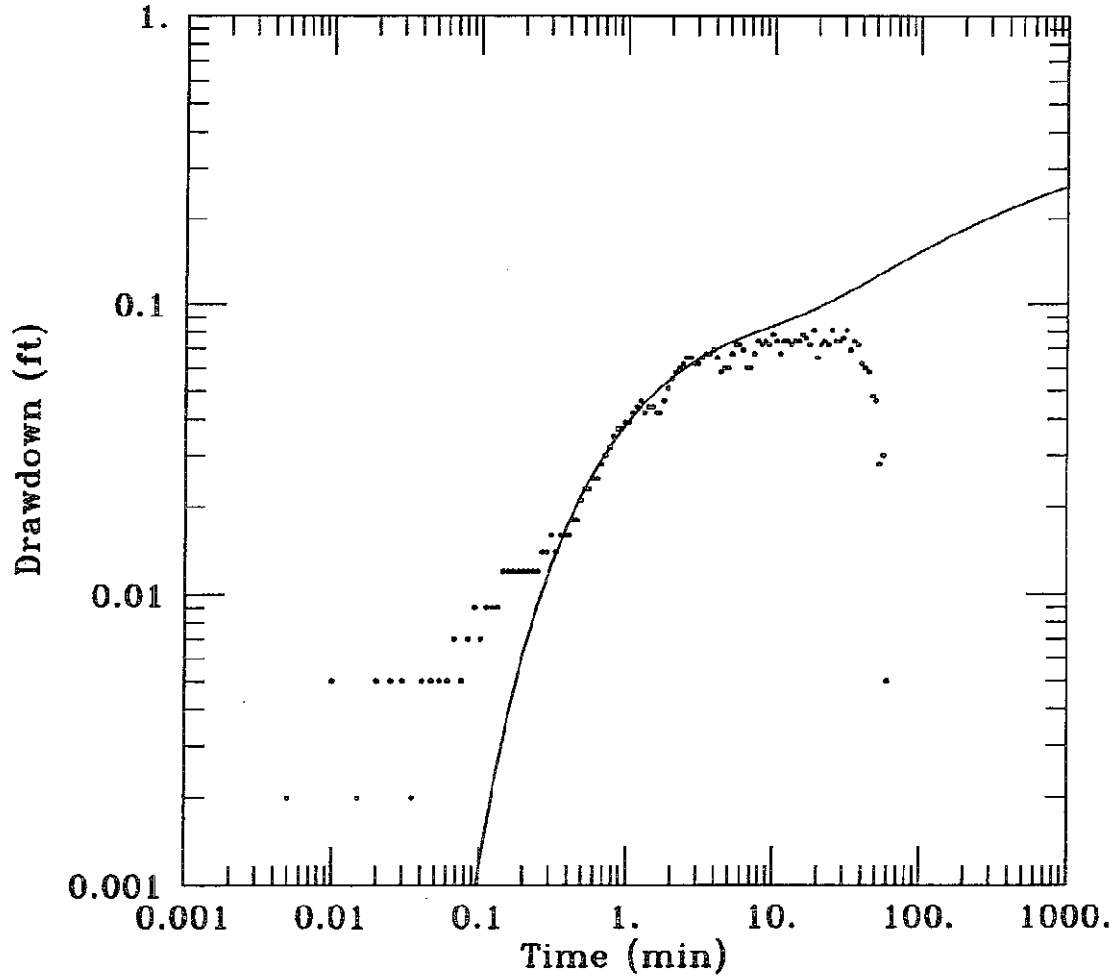
TEST DATA:
Q = 0.6797 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 3158.5 ft^2/day
S = 0.01035

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 1 Observation Well 1



DATA SET:
EP-850D.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Neuman

PROJECT DATA:
test date: 4/30/98
test well: EP-85
obs. well: EP-85

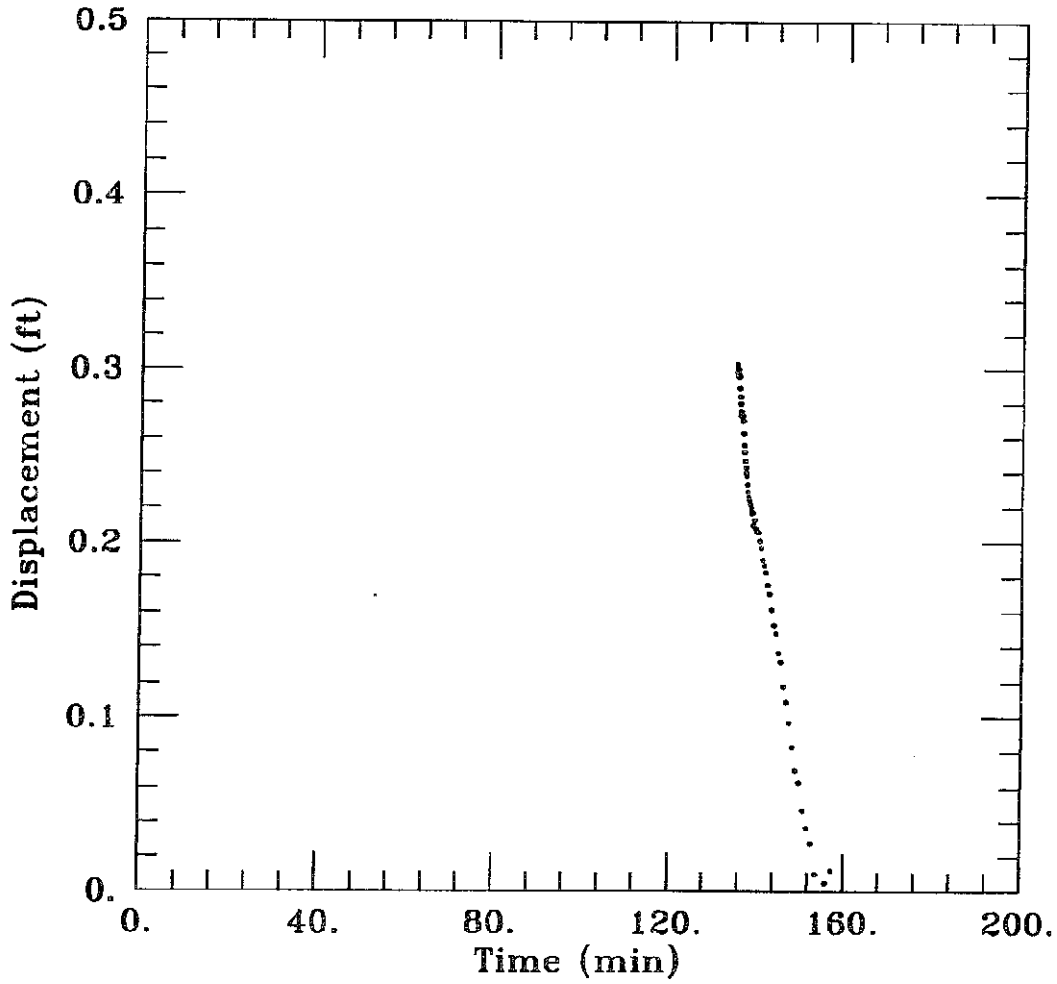
TEST DATA:
Q = 0.6797 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 1626.3 ft^2/day
S = 0.0111
Sy = 0.1
β = 0.1

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



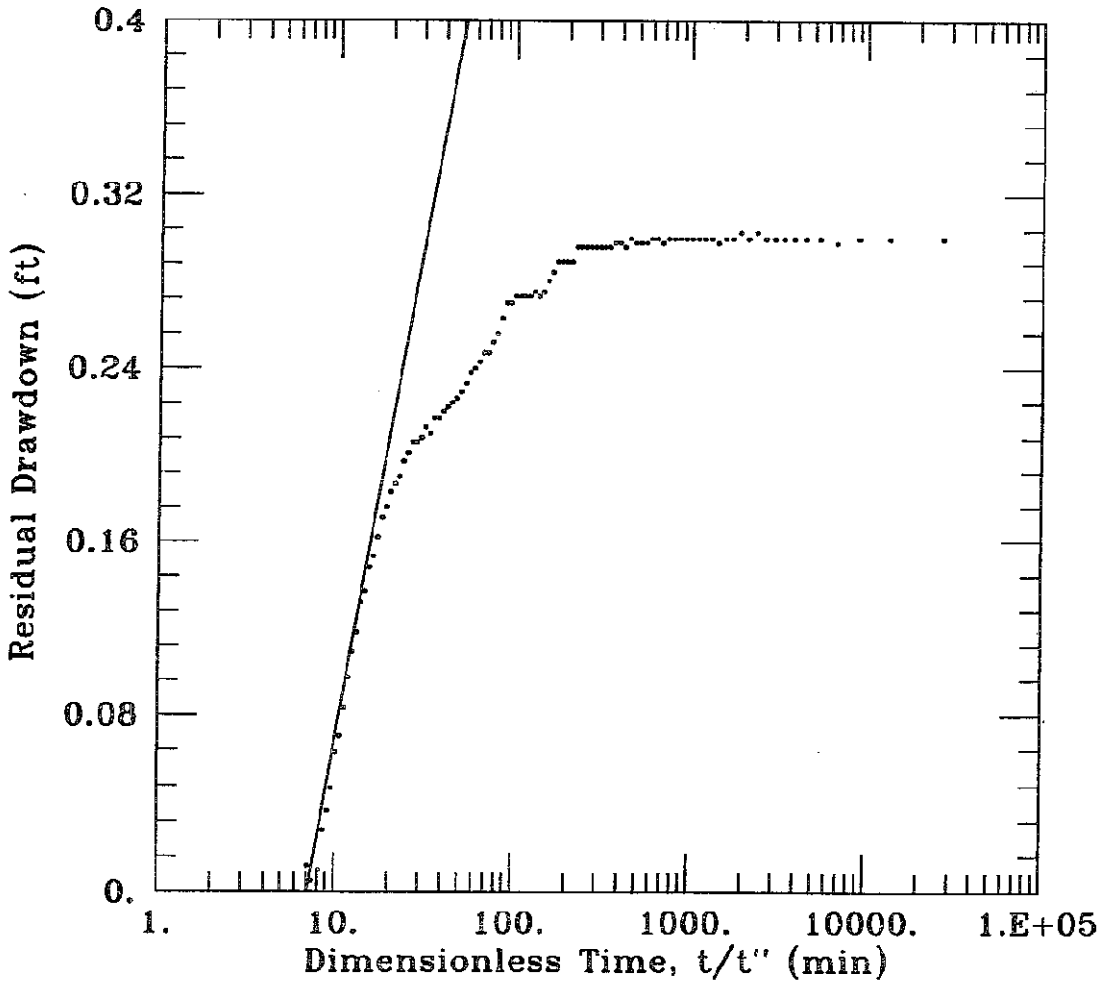
DATA SET:
EP-77R.DAT
05/14/98

PROJECT DATA:
test date: 4/29/98
test well: EP-85
obs. well: EP-85 obs 1

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Observation 1 Recovery 1



DATA SET:
EP-850R.DAT
05/14/98

AQUIFER MODEL:
Confined
SOLUTION METHOD:
Theis Recovery

PROJECT DATA:
test date: 4/29/98
test well: EP-85
obs. well: EP-85 obs 1

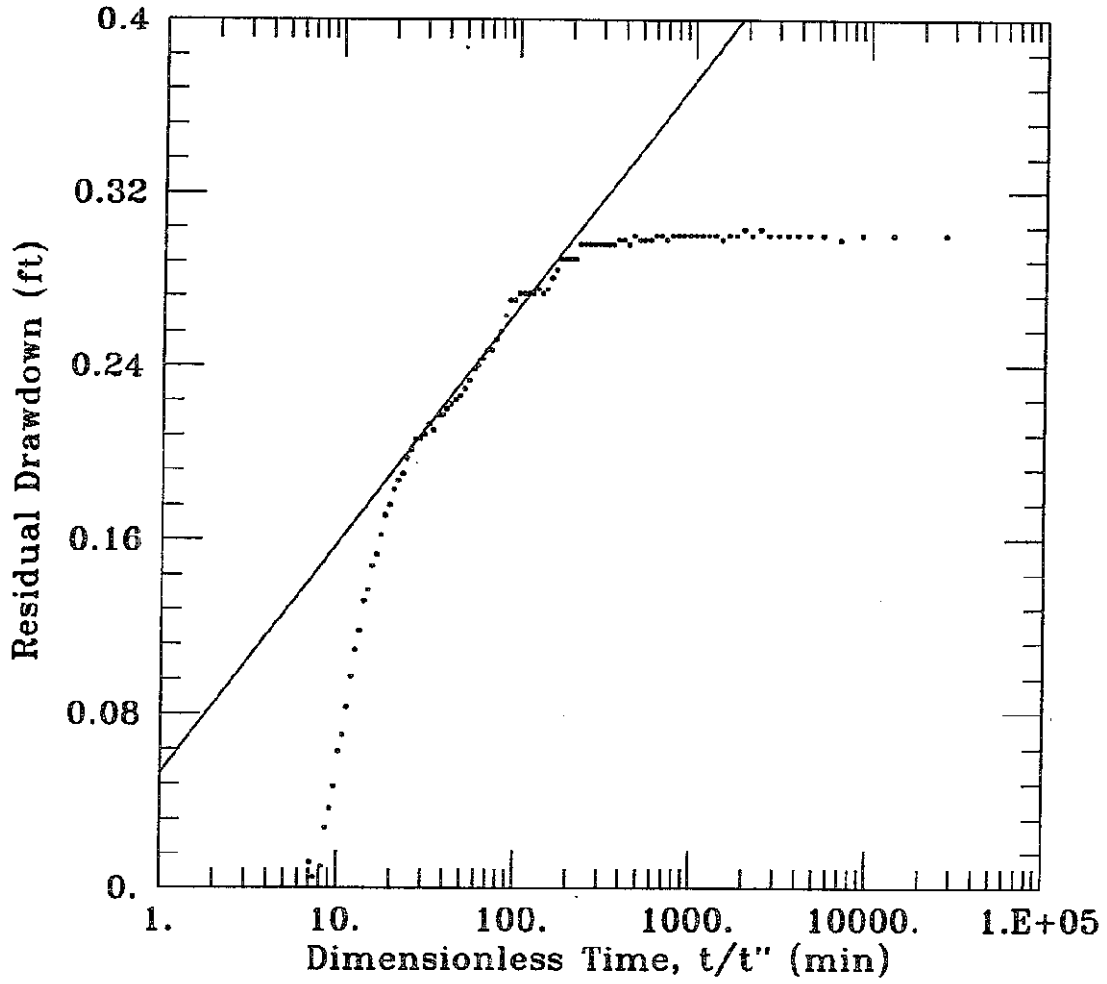
TEST DATA:
Q = 0.6797 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 386.4 ft^2/day
S' = 7.075

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Observation 1 Recovery 1



DATA SET:
EP-850R.DAT
05/14/98

AQUIFER MODEL:
Confined
SOLUTION METHOD:
Theis Recovery

PROJECT DATA:
test date: 4/29/98
test well: EP-85
obs. well: EP-85 obs 1

TEST DATA:
Q = 0.6797 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 1688.2 ft^2/day
S' = 0.3174

AQTESOLV

```
<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>

                    A Q T E S O L V   R E S U L T S
                             Version 2.01

                    Developed by Glenn M. Duffield
               (c) 1988-1995  Geraghty & Miller, Inc.

05/12/98                                                          15:58:5

================================================================================
                            TEST DESCRIPTION

Data set........... EP-85O2D.DAT
Output file........ EP85OD2.OUT
Data set title..... EP-85 Drawdown 2 Observation Well 1
Company............ Hydrometrics, Inc.
Project............ 0734 502.100
Client............. ASARCO
Location........... El Paso
Test date.......... 5/1/98
Test well.......... EP-85
Obs. well.......... EP-85

Units of Measurement
   Length.......... ft
   Time............ min
   Pumping rate.... consistent

  mping Well Data
   Well No. 1
   Well identification.............. EP-85
   X location....................... 0
   Y location....................... 0
   Casing radius.................... 0.1667
   Wellbore radius.................. 0.1667
   Well penetration................. Full
   Number of pumping periods........ 1
   Period     Pumping  Rate
   ------     -------------
      1             1.715

Observation Well/Piezometer Data
   Well identification.............. EP-85 obs 1
   X location....................... 10
   Y location....................... 0
   Distance from pumping well #1.... 10
   Well penetration................. Full
   No. of observations.............. 105

Aquifer Data
   Saturated thickness.............. 10.4

  ==============================================================================
                            ANALYTICAL METHOD

Neuman (Unconfined Aquifer)
Fully Penetrating Wells
```

RESULTS FROM VISUAL CURVE MATCHING

VISUAL MATCH PARAMETER ESTIMATES

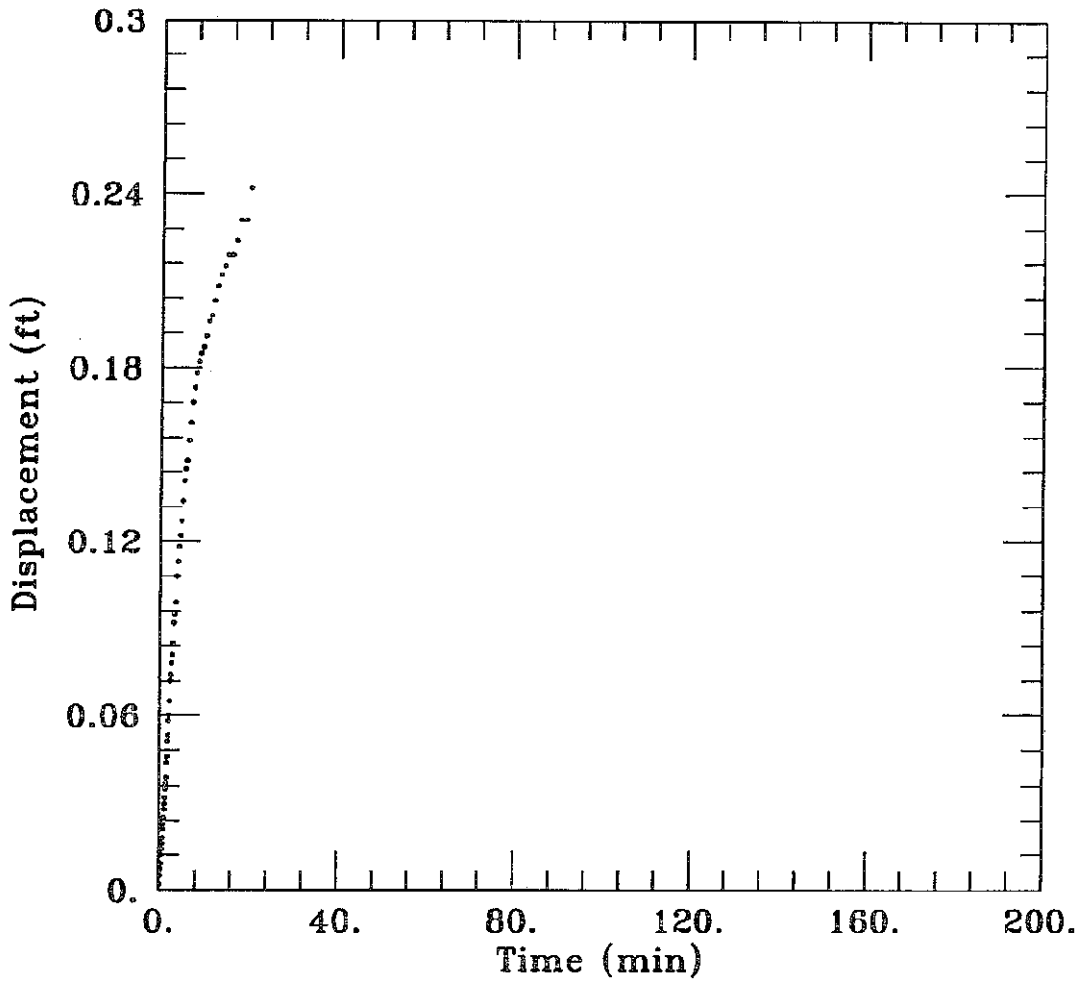
		Estimate	
T	=	1.5911E+003	ft^2/day
S	=	4.3735E-002	
Sy	=	1.0000E-001	
B	=	3.0000E-002	

Derived Parameters

Kr	= 153	ft/day
Kz/Kr	= 0.03245	

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



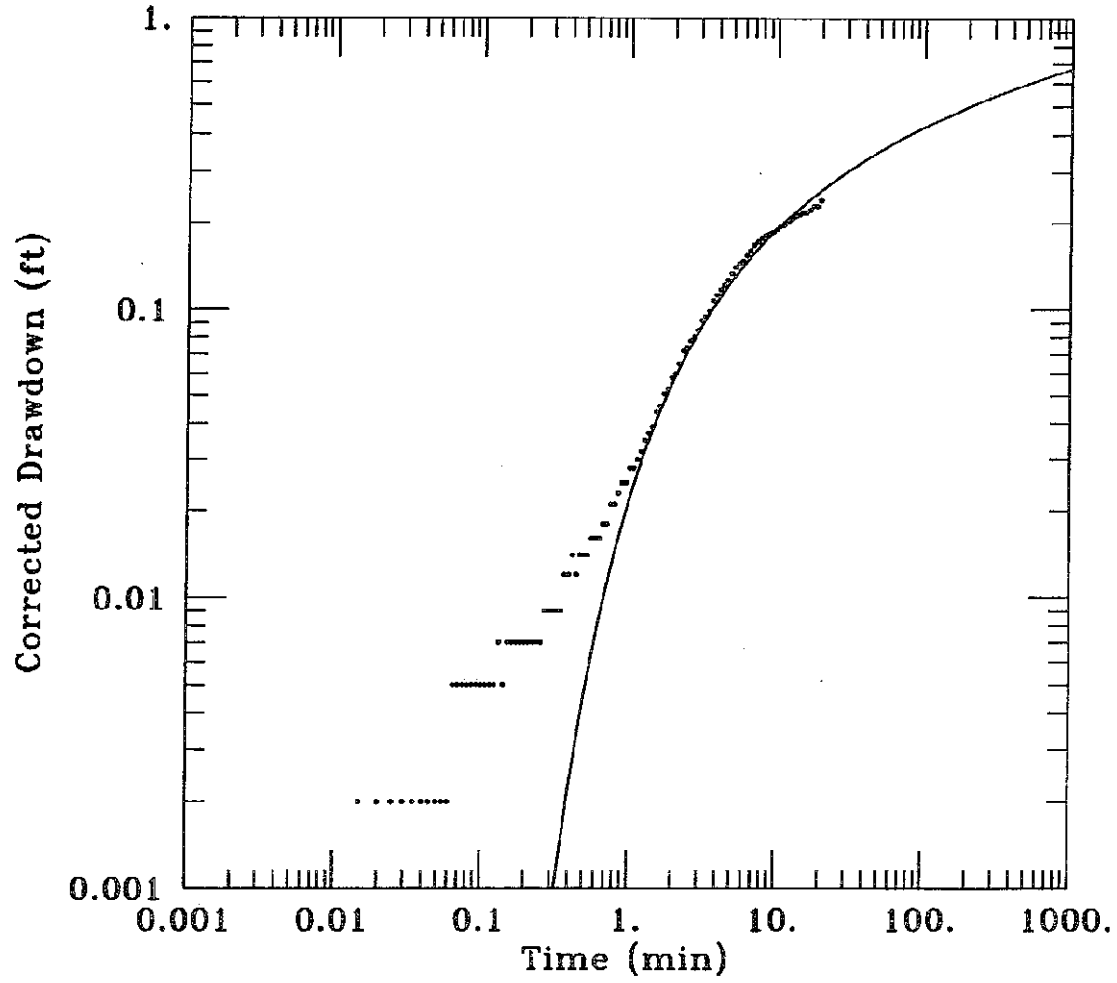
DATA SET:
EP-850D.DAT
05/12/98

PROJECT DATA:
test date: 5/1/98 Test 2
test well: EP-85
obs. well: EP-85 obs #1

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 2 Observation Well 1



DATA SET:
EP-8502D.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Theis

PROJECT DATA:
test date: 5/1/98
test well: EP-85
obs. well: EP-85

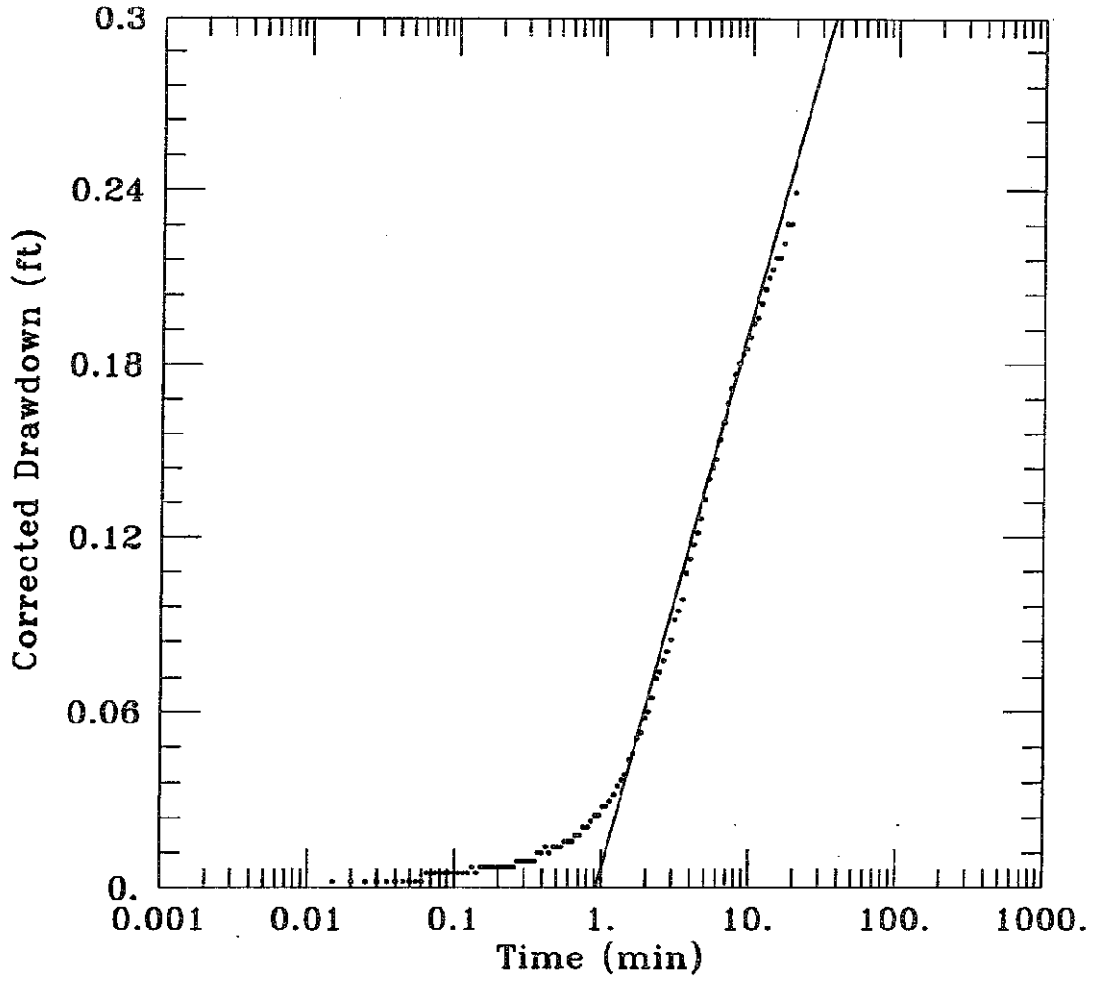
TEST DATA:
Q = 1.715 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 1840.2 ft^2/day
S = 0.05353

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 2 Observation Well 1



DATA SET:
EP-8502D.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Cooper-Jacob

PROJECT DATA:
test date: 5/1/98
test well: EP-85
obs. well: EP-85

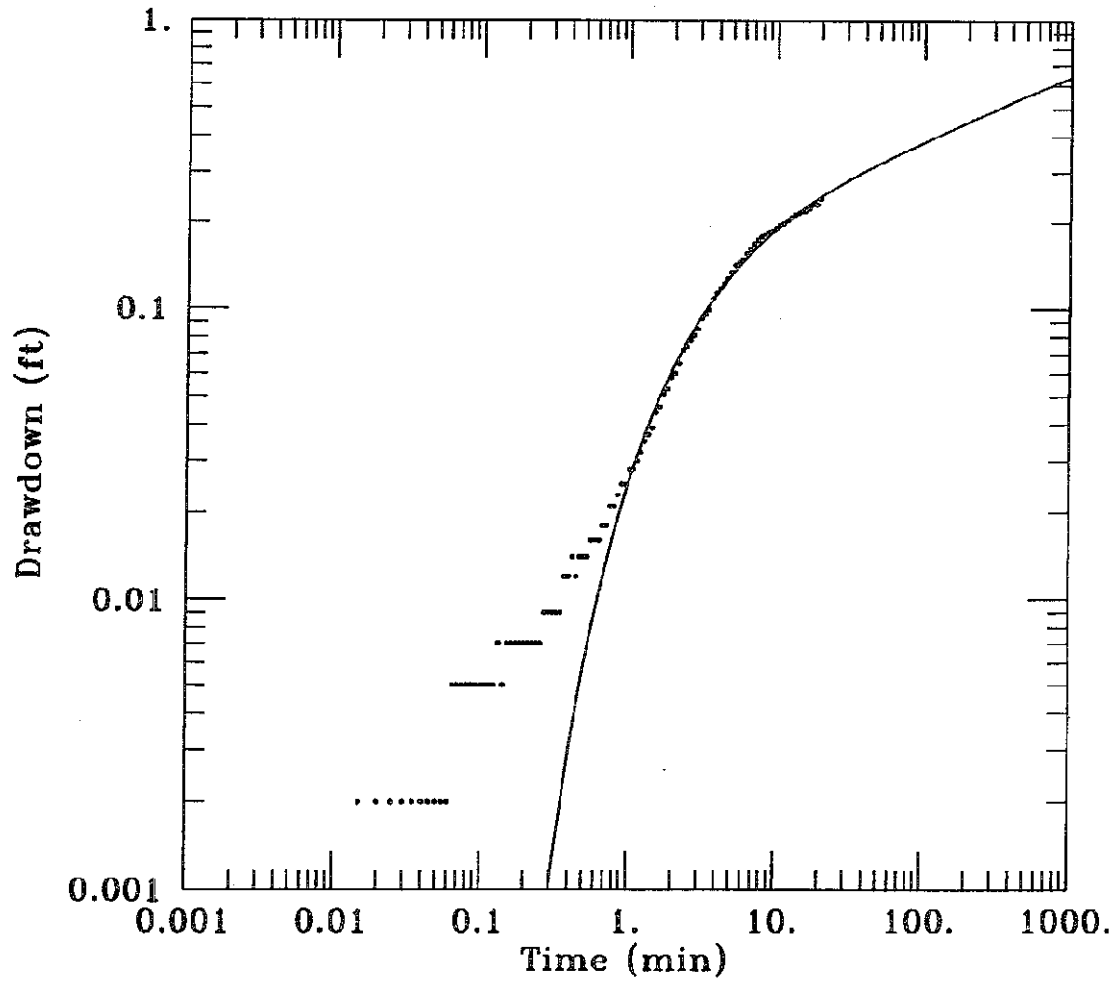
TEST DATA:
Q = 1.715 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 2417.4 ft^2/day
S = 0.03477

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 2 Observation Well 1



DATA SET:
EP-8502D.DAT
05/12/98

AQUIFER MODEL:
Unconfined
SOLUTION METHOD:
Neuman

PROJECT DATA:
test date: 5/1/98
test well: EP-85
obs. well: EP-85

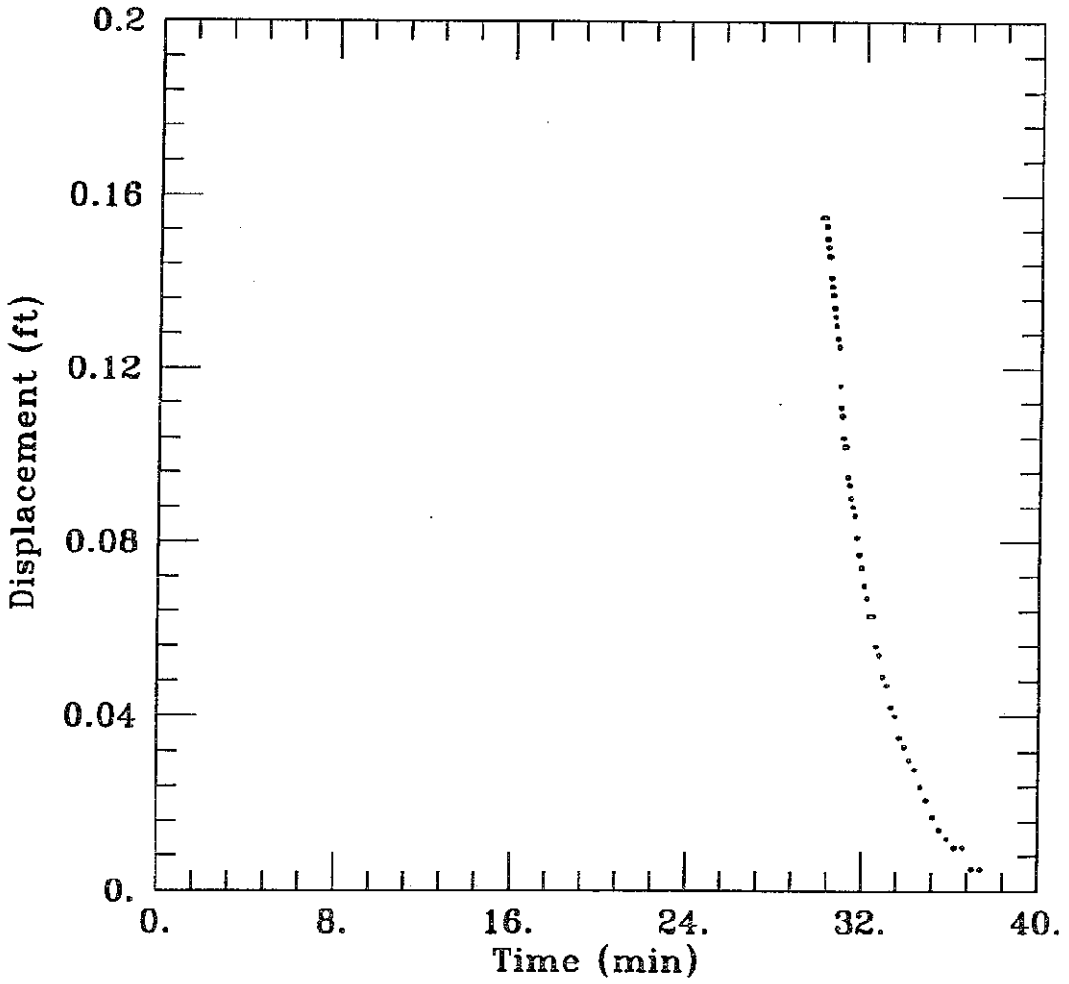
TEST DATA:
Q = 1.715 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.1667 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 1591.1 ft^2/day
S = 0.04373
Sy = 0.1
β = 0.03

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

Displacement vs. Time



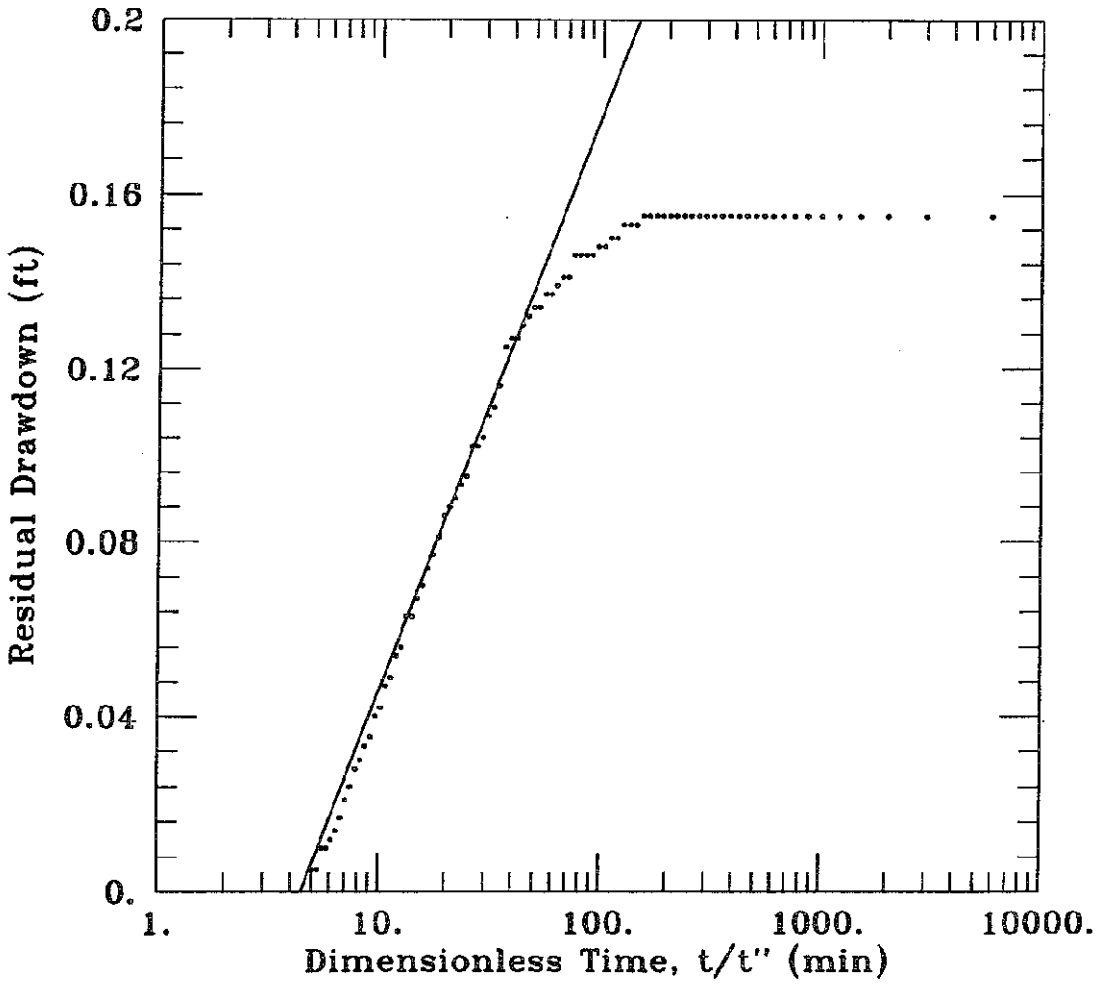
DATA SET:
EP-850D.DAT
05/14/98

PROJECT DATA:
test date: 5/1/98
test well: EP-85
obs. well: EP-85.Obs 1

AQTESOLV

Client: **ASARCO**	Company: **Hydrometrics, Inc.**
Location: **El Paso**	Project: **0734 502.100**

EP-85 Drawdown 2 Observation Well 1



DATA SET:
EP-850R2.DAT
05/14/98

AQUIFER MODEL:
Confined

SOLUTION METHOD:
Theis Recovery

PROJECT DATA:
test date: 5/1/98
test well: EP-85
obs. well: EP-85 Obs 1

TEST DATA:
Q = 1.715 ft^3/min
r = 10. ft
r_c = 0.1667 ft
r_w = 0.4167 ft
b = 10.4 ft

PARAMETER ESTIMATES:
T = 3432.7 ft^2/day
S' = 4.471

AQTESOLV