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RESULTS FROM STATISTICAL CURVE MATCHING

STATISTICAL MATCH PARAMETER ESTIMATES

Estimate Std. Error
 K = 7.0024E-002 +/- 1.2944E-003 ft/day
 y0 = 1.2951E+000 +/- 7.6517E-003 ft

ANALYSIS OF MODEL RESIDUALS

residual = observed - calculated
 weighted residual = residual * weight

Weighted Residual Statistics:

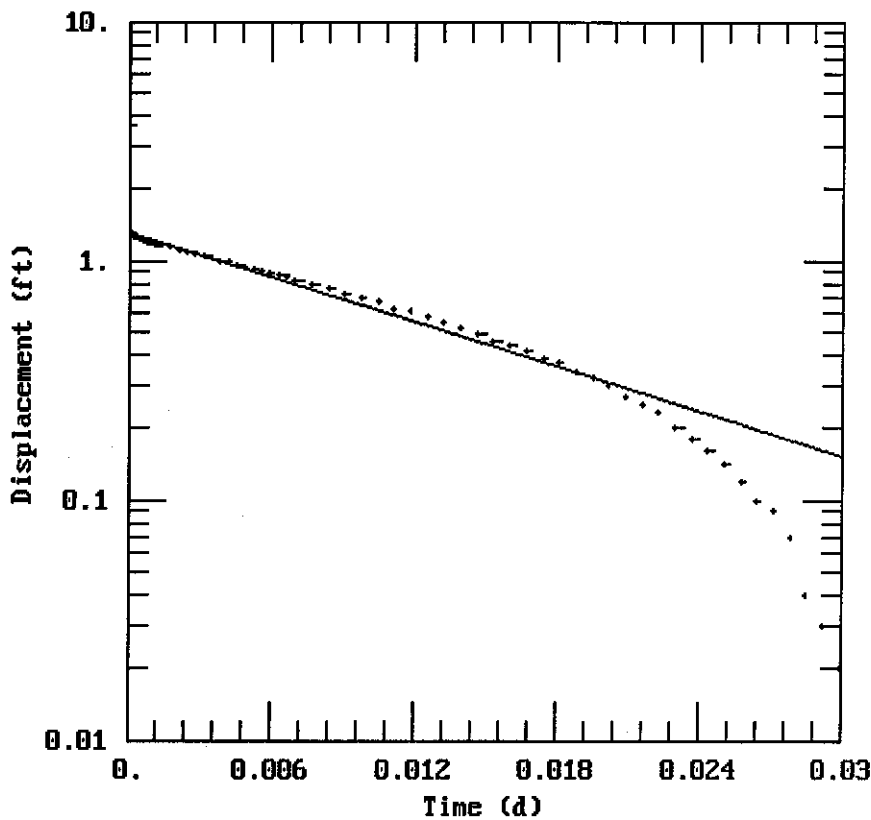
Number of residuals..... 83
 Number of estimated parameters.... 2
 Degrees of freedom..... 81
 Residual mean..... -0.005607
 Residual standard deviation..... 0.04383
 Residual variance..... 0.001921

Model Residuals:

Time	Observed	Calculated	Residual	Weight
8.1E-005	1.3	1.2876	0.012359	1
9.3E-005	1.3	1.2865	0.013468	1
0.000104	1.29	1.2855	0.0044831	1
0.000116	1.28	1.2844	-0.0044102	1
0.000127	1.28	1.2834	-0.0033966	1
0.000139	1.28	1.2823	-0.0022917	1
0.00015	1.28	1.2813	-0.0012797	1
0.000162	1.27	1.2802	-0.010177	1
0.000174	1.27	1.2791	-0.0090745	1
0.000185	1.27	1.2781	-0.0080651	1
0.000197	1.27	1.277	-0.0069648	1
0.000208	1.27	1.276	-0.005957	1
0.00022	1.26	1.2749	-0.014859	1
0.000231	1.26	1.2739	-0.013852	1
0.000289	1.26	1.2686	-0.0085606	1

0.000347	1.25	1.2633	-0.013291	1
0.000405	1.24	1.258	-0.018043	1
0.000463	1.23	1.2528	-0.022817	1
0.000521	1.23	1.2476	-0.017612	1
0.000579	1.22	1.2424	-0.022429	1
0.000637	1.22	1.2373	-0.017268	1
0.000694	1.21	1.2322	-0.022217	1
0.000752	1.2	1.2271	-0.027098	1
0.00081	1.2	1.222	-0.022	1
0.000868	1.2	1.2169	-0.016924	1
0.000926	1.2	1.2119	-0.011868	1
0.000984	1.19	1.2068	-0.016834	1
0.001042	1.19	1.2018	-0.011821	1
0.0011	1.18	1.1968	-0.016828	1
0.001157	1.18	1.1919	-0.011942	1
0.001215	1.17	1.187	-0.01699	1
0.001273	1.17	1.1821	-0.012059	1
0.001331	1.16	1.1771	-0.017149	1
0.001389	1.16	1.1723	-0.012259	1
0.001736	1.14	1.1434	-0.0034237	1
0.002083	1.11	1.1153	-0.005298	1
0.002431	1.09	1.0878	0.0022138	1
0.002778	1.06	1.061	-0.0010291	1
0.003125	1.05	1.0349	0.01507	1
0.003472	1.03	1.0095	0.020527	1
0.003819	1	0.98464	0.015358	1
0.004167	0.99	0.96035	0.029646	1
0.004514	0.96	0.93673	0.023269	1
0.004861	0.94	0.91369	0.02631	1
0.005208	0.92	0.89121	0.028785	1
0.005556	0.91	0.86923	0.040769	1
0.005903	0.89	0.84785	0.04215	1
0.00625	0.87	0.82699	0.043006	1
0.006597	0.85	0.80665	0.043348	1
0.006944	0.83	0.78681	0.04319	1
0.007639	0.79	0.74853	0.041475	1
0.008333	0.77	0.71215	0.057846	1
0.009028	0.73	0.6775	0.052498	1
0.009722	0.7	0.64458	0.055419	1
0.010417	0.67	0.61322	0.056783	1
0.011111	0.63	0.58342	0.04658	1
0.011806	0.61	0.55503	0.054968	1
0.0125	0.58	0.52806	0.051937	1
0.013194	0.55	0.5024	0.047596	1
0.013889	0.52	0.47796	0.042042	1
0.014583	0.49	0.45473	0.035267	1

SLUG TEST FOR WELL KRRENC



DATA SET:
KRRENC.DAT
02/08/97

AQUIFER MODEL:
Confined
SOLUTION METHOD:
Bower-Rice

TEST DATA:
H₀ = 3.67 ft
r_c = 0.0833 ft
r_w = 0.25 ft
L = 10. ft
b = 10. ft
H = 10. ft

PARAMETER ESTIMATES:
K = 0.07002 ft/day
y₀ = 1.295 ft

KRRENC SLUG TEST DATA

ELAPSED TIME (MIN)	HERMIT VALUE (FT)	ELAPSED TIME	DRAWDOWN (FT)	WEIGHT
0.000000	19.95	0.000000	-0.84	1
0.003300	18.56	0.000002	0.55	1
0.006600	18.59	0.000005	0.52	1
0.009900	18.90	0.000007	0.21	1
0.013300	18.53	0.000009	0.58	1
0.016600	17.79	0.000012	1.32	1
0.020000	17.34	0.000014	1.77	1
0.023300	18.03	0.000016	1.08	1
0.026600	17.50	0.000018	1.61	1
0.030000	17.26	0.000021	1.85	1
0.033300	17.76	0.000023	1.35	1
0.050000	17.66	0.000035	1.45	1
0.066600	17.76	0.000046	1.35	1
0.083300	17.91	0.000058	1.20	1
0.100000	17.85	0.000069	1.26	1
0.116600	17.81	0.000081	1.30	1
0.133300	17.81	0.000093	1.30	1
0.150000	17.82	0.000104	1.29	1
0.166600	17.83	0.000116	1.28	1
0.183300	17.83	0.000127	1.28	1
0.200000	17.83	0.000139	1.28	1
0.216600	17.83	0.000150	1.28	1
0.233300	17.84	0.000162	1.27	1
0.250000	17.84	0.000174	1.27	1
0.266600	17.84	0.000185	1.27	1
0.283300	17.84	0.000197	1.27	1
0.300000	17.84	0.000208	1.27	1
0.316600	17.85	0.000220	1.26	1
0.333300	17.85	0.000231	1.26	1
0.416700	17.85	0.000289	1.26	1
0.500000	17.86	0.000347	1.25	1
0.583300	17.87	0.000405	1.24	1
0.666700	17.88	0.000463	1.23	1
0.750000	17.88	0.000521	1.23	1
0.833300	17.89	0.000579	1.22	1
0.916700	17.89	0.000637	1.22	1
1.000000	17.90	0.000694	1.21	1
1.083300	17.91	0.000752	1.20	1
1.166700	17.91	0.000810	1.20	1
1.250000	17.91	0.000868	1.20	1

KRRENC SLUG TEST DATA

ELAPSED TIME (MIN)	HERMIT VALUE (FT)	ELAPSED TIME	DRAWDOWN (FT)	WEIGHT
1.333300	17.91	0.000926	1.20	1
1.416600	17.92	0.000984	1.19	1
1.500000	17.92	0.001042	1.19	1
1.583300	17.93	0.001100	1.18	1
1.666700	17.93	0.001157	1.18	1
1.750000	17.94	0.001215	1.17	1
1.833300	17.94	0.001273	1.17	1
1.916700	17.95	0.001331	1.16	1
2.000000	17.95	0.001389	1.16	1
2.500000	17.97	0.001736	1.14	1
3.000000	18.00	0.002083	1.11	1
3.500000	18.02	0.002431	1.09	1
4.000000	18.05	0.002778	1.06	1
4.500000	18.06	0.003125	1.05	1
5.000000	18.08	0.003472	1.03	1
5.500000	18.11	0.003819	1.00	1
6.000000	18.12	0.004167	0.99	1
6.500000	18.15	0.004514	0.96	1
7.000000	18.17	0.004861	0.94	1
7.500000	18.19	0.005208	0.92	1
8.000000	18.20	0.005556	0.91	1
8.500000	18.22	0.005903	0.89	1
9.000000	18.24	0.006250	0.87	1
9.500000	18.26	0.006597	0.85	1
10.000000	18.28	0.006944	0.83	1
11.000000	18.32	0.007639	0.79	1
12.000000	18.34	0.008333	0.77	1
13.000000	18.38	0.009028	0.73	1
14.000000	18.41	0.009722	0.70	1
15.000000	18.44	0.010417	0.67	1
16.000000	18.48	0.011111	0.63	1
17.000000	18.50	0.011806	0.61	1
18.000000	18.53	0.012500	0.58	1
19.000000	18.56	0.013194	0.55	1
20.000000	18.59	0.013889	0.52	1
21.000000	18.62	0.014583	0.49	1
22.000000	18.65	0.015278	0.46	1
23.000000	18.67	0.015972	0.44	1
24.000000	18.69	0.016667	0.42	1
25.000000	18.72	0.017361	0.39	1

KRRENC SLUG TEST DATA

ELAPSED TIME (MIN)	HERMIT VALUE (FT)	ELAPSED TIME	DRAWDOWN (FT)	WEIGHT
26.000000	18.74	0.018056	0.37	1
27.000000	18.77	0.018750	0.34	1
28.000000	18.79	0.019444	0.32	1
29.000000	18.81	0.020139	0.30	1
30.000000	18.84	0.020833	0.27	1
31.000000	18.86	0.021528	0.25	1
32.000000	18.88	0.022222	0.23	1
33.000000	18.91	0.022917	0.20	1
34.000000	18.93	0.023611	0.18	1
35.000000	18.95	0.024306	0.16	1
36.000000	18.97	0.025000	0.14	1
37.000000	18.99	0.025694	0.12	1
38.000000	19.01	0.026389	0.10	1
39.000000	19.02	0.027083	0.09	1
40.000000	19.04	0.027778	0.07	1
41.000000	19.07	0.028472	0.04	1
42.000000	19.08	0.029167	0.03	1
43.000000	19.09	0.029861	0.02	1
44.000000	19.11	0.030556	0.00	1

END

KRRENC SLUG TEST DATA

ELAPSED TIME (MIN)	HERMIT VALUE (FT)	ELAPSED TIME	DRAWDOWN (FT)	WEIGHT
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TD = 50 ft

CD = 40 ft

DTW = (6.99 - 4.68) = 2.31 ft below land surface.

2.31

Rc = 1 in = 0.0833 ft

Rw = 3 in = 0.250 ft

screen length = 10 ft

saturated thickness = H = 10 ft

Static height of water in well = Lw = 10ft

Calculations for volume of slug

Rs = 0.6 in = 0.05 ft

Ls = 10.2 ft = length of slug

Vs = $3.14 * Rs^2 * Ls$

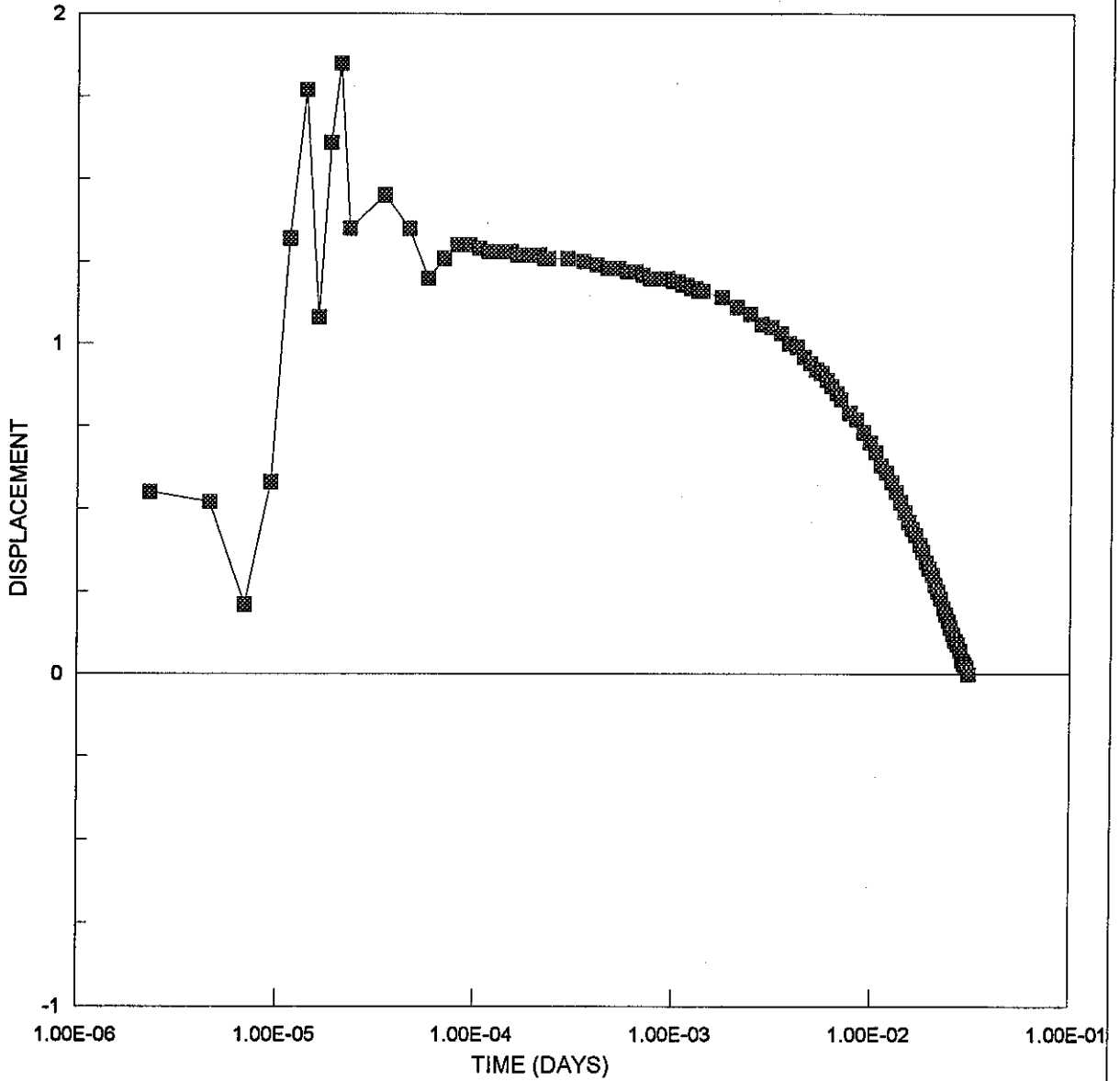
Vs = 0.08007

Calculations for H0

H0 = $Vs / (3.14 * Rc^2)$

Ho = 3.67

KRRENC SLUG TEST



■ DISPLACEMENT