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Aquifer Test Results, RMC-Troutdale

TECHNICAL MEMORANDUM NO. GW-16

Reynolds Metals Company
TROUTDALE FACILITY

CH2MHILL

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Aquifer Test Results, RMC-Troutdale

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Introduction

An aquifer testing program was conducted at the Reynolds Metals Company (RMC) facility in Troutdale, Oregon, from January through September 1997. The program consisted of slug testing, short-term aquifer testing, and a long-term aquifer test.

The objectives of the aquifer testing program were as follows:

- To produce high-quality calibration/verification data to reduce uncertainty associated with groundwater flow and contaminant transport model results
- To obtain quantitative aquifer characteristic data to help evaluate and, if necessary, modify the existing conceptual groundwater flow model of the area
- To obtain ranges of hydraulic conductivity values for use in the groundwater flow model
- To provide data to evaluate how deep-, intermediate-, and shallow-zone water levels respond to pumping in the deepest portion of the system

Slug tests were conducted on 35 deep-, intermediate-, and shallow-zone monitoring wells. Short-term aquifer tests were conducted on 12 monitoring wells. A long-term aquifer test was conducted on Fairview Farms well No. 4. RMC production wells 3 and 7 were also tested and were run continuously prior to, during, and following the Fairview Farms test to provide plant water supply.

Refer to Table 1 for dates of the individual slug and short-term aquifer tests. Figure 1 shows the locations of all monitoring and production wells at the RMC site.

Table 1 Slug and Short-Term Aquifer Testing Dates			
Shallow Monitoring Wells			
Well #	**Well Location**	**Date of Slug Test**	**Date of Short-Term Aquifer Test**
MW27-045	Adjacent to Company Lake	2/12/97	NA
MW29-033	South of Dike	1/31/97	NA
MW30-030	Near Gresham Sand and Gravel	2/12/97	NA
MW31-034	Fairview Farms	2/4/97	NA
MW32-040	Bakehouse	2/6/97	NA
MW33-033	Scrap Yard	1/23/97	NA
MW34-038	East Potliner	3/7/97	NA
MW35-038	East Potliner	1/16/97	NA
MW37-030	South Wetlands	2/14/97	NA
MW38-035	Along Salmon Creek	2/13/97	3/5/97
MW20-026	North Landfill	NA	3/25/97
MW25-035	Scrap Yard	NA	3/17/97
Intermediate Monitoring Wells			
Well #	**Well Location**	**Date of Slug Test**	**Date of Short-Term Aquifer Test**
MW03-098	Perimeter	1/24/97	NA
MW06-094	South of Dike	2/3/97	4/8/97
MW08-127	Perimeter	2/11/97	NA
MW10-090	South of Dike	2/5/97	NA
MW12-092	Perimeter	1/29/97	NA
MW15-086	Perimeter	1/29/97	NA
MW21-063	North Landfill	2/10/97	NA
MW27-081	Adjacent to Company Lake	3/7/97	4/2/97
MW29-090	South of Dike	1/31/97	NA
MW30-100	Near Gresham Sand and Gravel	2/7/97	NA
MW31-095	Fairview Farms	2/3/97	NA
MW32-095	Bakehouse	2/6/97	4/14/97
MW33-095	Scrap Yard	2/4/97	NA
Deep Monitoring Wells			
Well #	**Well Location**	**Date of Slug Test**	**Date of Short-Term Aquifer Test**
MW03-175	Perimeter	1/24/97	2/26/97
MW06-176	South of Dike	2/3/97	4/10/97
MW08-169	Perimeter	2/11/97	3/31/97
MW10-165	South of Dike	2/5/97	3/20/97
MW12-184	Perimeter	1/27/97	NA
MW15-175	Perimeter	1/30/97	NA
MW21-176	North Landfill	2/11/97	NA
MW27-176	Adjacent to Company Lake	2/12/97	4/3/97
MW28-160	Bakehouse	2/14/97	NA
MW29-179	South of Dike	1/30/97	NA
MW32-165	Bakehouse	2/6/97	4/16/97
MW33-165	Scrap Yard	2/5/97	NA

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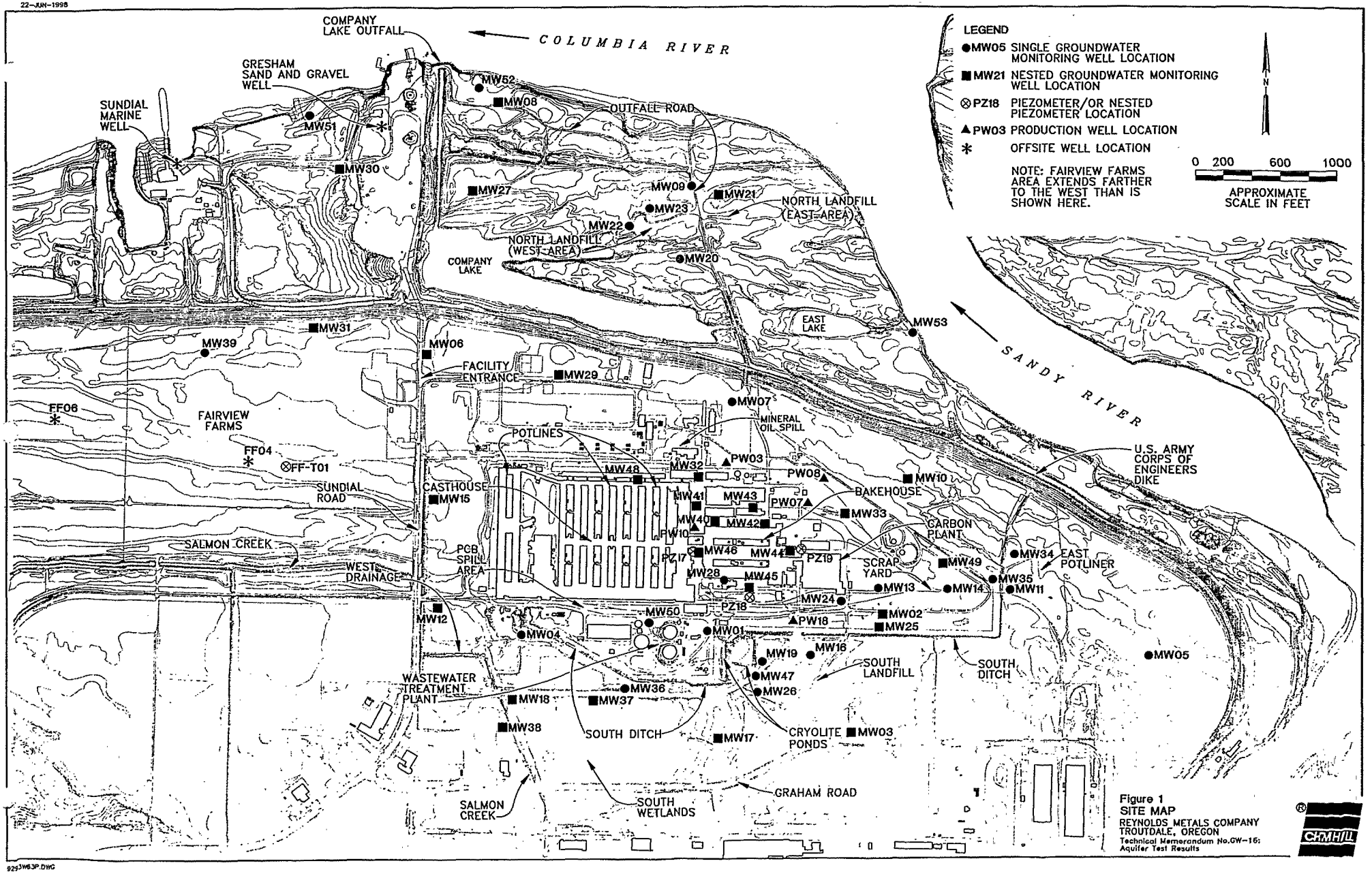

Figure 1
SITE MAP
REYNOLDS METALS COMPANY
TROUTDALE, OREGON
Technical Memorandum No.GW-16: Aquifer Test Results

CH2M HILL

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Test Methods

Slug Testing

Slug tests were conducted on 35 shallow-, intermediate-, and deep-zone monitoring wells across the RMC site from January through March 1997. Multiple slug tests (up to three) were conducted at each well to verify that the data were reproducible. Slug tests were conducted by filling the well casing with compressed nitrogen gas to displace water within the well casing. The nitrogen-packer method included the following general steps:

- A pressure-cap assembly was installed on the wellhead.
- Two pressure transducers were placed in the well, one above the water table to measure changes in air pressure in the well casing, and one below the water table to measure changes in the height of the water column.
- The air above the water column was then pressurized using nitrogen; this forced water in the well casing back into the formation through the screened interval.
- The water level in the well was held steady for up to 20 minutes so that the pressure pulse created by the displaced water could dissipate.
- The air pressure valve was then released, allowing the water level in the well casing to rise. The pressure transducer below the water table measured the water level changes as the water rose toward the static level.

Analysis of the slug test data was completed with AQTESOLV (Geraghty & Miller, 1997), an aquifer test analytical software package, using the Bower and Rice analysis option. Attachment A contains the data plots for the slug tests. The results are discussed later in this technical memorandum.

Short-Term Aquifer Testing

Twelve short-term aquifer tests were completed at the site from late February through mid-April 1997. Six deep, three intermediate, and three shallow monitoring wells were selected for testing. These monitoring wells were selected on the basis of their geographic coverage across the site. The short-term aquifer tests were intended to provide aquifer characteristic data and provide comparison and confirmational values for the slug test results. The tests also were intended to provide observations on the variability in the responses of shallow- and intermediate-depth wells to deep-zone pumping, as a way of helping to evaluate the anisotropic nature of the aquifer system.

The Columbia River stage was monitored continuously throughout the short- and long-term aquifer testing period to help evaluate the influence of river stage fluctuations on groundwater levels.

Prior to the start of each test, several nearby monitoring wells were selected as test observation wells. Geokon dataloggers were installed in the pumping and observation wells, and a minimum of 48 hours of background data were collected before each test was begun. These data were collected to determine barometric and river effects on water levels within monitoring wells. Either a Grundfos submersible pump or a centrifugal/suction pump was

used for the testing. The centrifugal pump was used for wells that, based on previous data, produced a high yield and little drawdown with a maximum lift of about 20 feet. For low-yielding wells with greater drawdowns, the Grundfos pump was used. After installation of the pump, a maximum pumping rate was determined through a short step-rate test lasting about 30 minutes. After the step test, the well was allowed to return to static conditions and background data were collected as discussed above.

The duration of the short-term tests was generally 5 to 8 hours. The length of each test was determined based on field measurements. Test-specific information such as the length of the test, pumping rates, and observation well networks are listed in Table 2. Water elevation data from the pumping wells were collected on a log scale time interval, and observation well water elevation data were collected at 5-minute intervals. At the completion of each test, dataloggers were reset and recovery data were then collected for a minimum of 10 hours.

All discharge water from the short-term aquifer tests was contained in a moveable onsite storage tank. This water was monitored with a field fluoride probe; once it was determined to meet disposal requirements, the water was discharged into the RMC treatment system and then into Company Lake. All the monitoring wells that were tested had previously been sampled and analyzed during the sitewide monitoring program. Therefore, the water quality from these wells was known and fluoride was the only constituent that required monitoring for disposal purposes.

At the completion of the short-term aquifer tests, time-drawdown and recovery data were analyzed using AQTESOLV aquifer test analytical software. Although groundwater is generally unconfined at the site, Theis (1935) and Cooper and Jacob (1946) confined solutions were used to analyze the short-term test data because early time data for confined and unconfined solutions are the same. Recovery analyses of the short-term aquifer tests were not completed because insufficient usable data were obtained to allow evaluation.

The aquifer test results are discussed later in this technical memorandum. Attachment B contains the data plots for the short-term test analysis.

Fairview Farms No. 4 Aquifer Test

A long-term aquifer test was conducted at the RMC facility during August and September 1997. A detailed description of this long-term test is presented in the *Proposed 1997 Groundwater Work Plan, Memorandum WP No. 36* (CH2M HILL, 1997). Production well 10 was initially planned to supply the plant's water demand during the testing period; however, because of concerns regarding equipment and sustainable yield, production wells 3 and 7 were used in combination instead. Also, the transient analysis that is described in the work plan was not completed, based on an initial review of the long-term testing results; the additional testing was thought to provide data of limited value and would be logistically difficult to acquire.

A long-term aquifer test was run with a combination of plant production wells and Fairview Farms Well No. 4 (FF04). Production wells 3 and 7 were turned on September 4, 1997. FF04 was turned on September 18 and run continuously until being turned off September 26. Production wells 3 and 7 were turned off September 26. Onsite production wells were pumped at a combined total of 1,600 gallons per minute (gpm). The FF04 was pumped at

Table 2
Short-Term Aquifer Test Information

Pumping Well	Aquifer Material Screened	Depth of Well Screens	Observation Monitoring Points	Pumping Rate (gpm)	Pumping Rate (ft^3/min)	Duration of Test (Pump On to Pump Off)
MW03-175	Sand	159-169	MW03-017, MW03-098, MW28-0160, MW17-28, MW16-014, Columbia River	24.45	3.27	300 Min
MW08-169	Gravel	160-170	MW08-027, MW08-127, MW27-045, MW27-176, MW30-030, MW30-100, Columbia River	5.23	0.7	373 Min
MW10-165	Gravel	155-165	MW10-023, MW10-090, MW33-033, MW33-095, MW33-165, MW35-038, Columbia River	19.21	2.57	380 Min
MW06-176	Sand	166-176	MW15-024, MW15-086, MW15-175, MW06-024, MW06-094, MW31-095, MW31-040, MW29-090, MW29-179, MW29-033, Columbia River			420 Min
MW27-176	Sand	166-176	MW08-027, MW08-127, MW08-169, MW27-045, MW27-081, MW31-100, MW31-030, Columbia River	12.1	1.62	300 Min
MW32-165	Sand	155-165	MW32-040, MW32-095, MW28-160, MW33-033, MW33-095, MW33-165, Columbia River			443 Min
MW27-081	Sand	69-79	MW08-027, MW08-127, MW08-169, MW27-045, MW27-176, MW30-100, MW30-030, Columbia River	26.82	3.59	395 Min
MW06-094	Sand	84-94	MW15-024, MW25-086, MW15-175, MW06-024, MW06-176, MW29,033, MW29-090, MW29-179, MW31-034, MW31-095, Columbia River	28.1	3.76	433 Min
MW32-095	Sand	85-95	MW32-040, MW32-165, MW28-160, MW33-033, MW33-095, MW33-165, Columbia River	26.38	3.53	420 Min
MW20-026	Sand	16-26	MW21-025, MW21-063, MW23-025, MW22-027, Columbia River			971 Min
MW38-035	Sand	30-35	MW38-007, MW18-016, MW18-031, Columbia River	1.49	0.2	453 Min
MW25-035	Sand	30-35	MW25-024, MW02-012, MW02-034, MW35-038, MW24-010, Columbia River			393 Min

about 950 gpm. Initially, the production wells were turned on and drawdown data were collected from several observation wells using Geokon dataloggers and hand measurements. Both wells were pumped continuously before FF04 was turned on and began providing plant water. Pumping these wells continuously allowed the aquifer system beneath the plant to stabilize before FF04 was started. Therefore, when FF04 was turned on, effects could be monitored without interference from the onsite production wells, and the supply of water would still be adequate to run plant systems. After the onsite production well pumping had stabilized, FF04 was turned on and another set of drawdown data was collected from the observation wells.

A network of observation wells equipped with Geokon dataloggers was established across the site to collect data during the long-term aquifer test. Upon completion of the test, a quality assurance/quality control (QA/QC) check was done on the electronic data collected from each monitoring location. Hydrographs were plotted for each monitoring location and then compared against hand measurements that were collected throughout the test. If discrepancies were observed in the data sets, adjustments were made to the electronic data. Data that were determined to be questionable and uncorrectable were not used for analysis purposes.

Time-drawdown and recovery data were analyzed using the AQTESOLV aquifer test analytical software package. The Theis (1935) and Cooper and Jacob (1946) confined, and Papadopulos and Cooper (1976) leaky solutions were used for analysis of the time-drawdown data. The Theis recovery (1935) solution was used to analyze recovery data. During analysis it was determined that early time data provided the best fit when performing Theis and Papadapulos and Cooper-type curve matching. It was also determined that, because of uncertainties in river effects, it was easier to correct early time data for river effects than late time data. This is because, over time, river efficiencies and lag times between the river and nearby monitoring wells change. River efficiencies and lag times are related to the river stage. Therefore, as the river stage changes, so do corresponding efficiencies and lag times. This makes it difficult to determine a single efficiency and lag time that will account for river influence over an extended period of time. If an inappropriate correction factor is used, additional error may be introduced into the data and cause increased variations. Because early time data were used for type curve matching, confined solutions were determined to be most appropriate for analysis, for the same reasons as stated for the short-term tests. Also, for previous aquifer testing done at the site, confined solutions were determined to provide the most appropriate values for aquifer parameter estimation. This earlier work is presented in the *Preliminary Conceptual Hydrogeologic Model, Volume 1 Technical Report* (CH2M HILL, 1996).

The Cooper and Jacob analysis method was not valid ($u < 0.01$) for analysis of many of the observation well data sets because of the large distances between the observation and pumping wells and/or the short duration of the usable data.

A more detailed discussion of the results from the Fairview Farms aquifer test is presented in the "Results" section of this technical memorandum. Attachment C contains the long-term test data plots.

Data Corrections

The Columbia River had a significant influence over groundwater levels in the sand units beneath the site. When river stage fluctuations influence groundwater levels during an aquifer test, a data correction process is usually performed to remove river effects. This correction process requires determining the river influence at each observation well location. The river efficiency, or tidal efficiency, and a river response time lag at each monitoring location are estimated from background data collected during nonpumping conditions. Once this is done, the river influence on an individual monitoring location can be removed. A detailed description of the correction process is presented in CH2M HILL (1996).

Barometric pressure data were also collected throughout the long-term aquifer test. It was determined that the overall effect on groundwater elevations from barometric influences was very small, compared with the effects from the river, and that barometric influences would not have a significant influence on the results of the analysis. Therefore, barometric pressure corrections were not made on the groundwater elevation data.

Results

Aquifer hydraulic parameters (transmissivity, storativity, and hydraulic conductivity) were estimated from a combination of the three types of aquifer tests (slug, short-term, and long-term) performed at the Troutdale site. The hydraulic parameter values from all of the test methods were evaluated based on professional judgment. The values judged to be most representative are listed in Table 3. Some locations were evaluated with more than one testing method. Parameter values for the slug and short-term tests are more specific to the lithology immediately surrounding the screened interval, while parameters calculated from the longer term test incorporate a larger area of the site. Parameter values were compared from differing zones vertically as well as in similar zones horizontally to help evaluate anisotropic conditions across the site.

Slug Test Results

Slug testing was completed at the RMC facility for the purpose of providing hydraulic conductivity (K) estimates for many of the intermediate- and deep-zone monitoring wells and a few of the newer shallow wells. Many of the shallow zone wells at the site were previously slug tested. The results of those tests are presented in CH2M HILL (1996). In general, the slug tests provided higher K estimates compared with the short-term and long-term aquifer test results. K values in the deep zone ranged from 3 to 215 (ft/day). Values from the intermediate zone ranged from 14 to 203 (ft/day). Values in the shallow sand zone ranged from 2 to 107 (ft/day). These data indicate that the deep, intermediate, and shallow zones beneath the site are heterogeneous and that they have spatially variable K values. A general trend observed in the slug testing results suggests that deep wells screened in, or very close to, the deep gravel layer produced lower K values than wells screened in the sands of the deep and intermediate zones.

Table 3
Aquifer Test Data Summary (Area Specific)

Well #	Well Type	Well Location	Test Type	Analysis Method	Transmissivity (ft^2/min)	Estimated Hydraulic Conductivity (cm/sec)	Estimated Hydraulic Conductivity (ft/day)	Storativity
MW01-019	Shallow (silt)	Along South Ditch	Slug Test	Bower and Rice	NA	7.1E-03	20	NA
MW28-160	Deep	Bakehouse	Slug Test	Bower and Rice	NA	0.06533	185	NA
MW32-165	Deep	Bakehouse	Slug Test	Bower and Rice	NA	0.06756	192	NA
MW32-165	Deep	Bakehouse	PW3&7/DL/Corrected	Confined Theis	**24.1700**	NA	NA	**0.187**
MW32-165	Deep	Bakehouse	FF04/Datalogger	Confined Theis	**25.5700**	NA	NA	**0.046**
MW28-160	Deep	Bakehouse	PW3&7 DL	Confined Theis	**31.4700**	NA	NA	**0.033**
MW32-165	Deep	Bakehouse	PW3&7/DL/Corrected	Papadopulos and Cooper	**22.0400**	NA	NA	**0.170**
MW32-165	Deep	Bakehouse	FF04/Datalogger	Papadopulos and Cooper	**28.6900**	NA	NA	**0.046**
MW28-160	Deep	Bakehouse	PW3&7 DL	Papadopulos and Cooper	**35.3500**	NA	NA	**0.033**
MW32-165	Deep	Bakehouse	FF04/Datalogger	Recovery Theis	**56.6500**	NA	NA	NA
MW32-095	Intermediate	Bakehouse	Slug Test	Bower and Rice	NA	0.07173	203.33	NA
MW32-095	Intermediate	Bakehouse	Short-Term Test	Confined Cooper and Jacob	**7.8250**	NA	NA	NA
MW32-095	Intermediate	Bakehouse	Short-Term Test	Confined Theis	**5.9230**	NA	NA	NA
MW32-095	Intermediate	Bakehouse	Short-Term Test	Confined Theis Recovery	**12.0800**	NA	NA	NA
MW32-040	Shallow (UGS)	Bakehouse	Slug Test	Bower and Rice	NA	0.00061	1.73	NA
MW11-017	Shallow (silt)	East Potliner	Slug Test	Bower and Rice	NA	7.1E-05	0.20	NA
MW05-025	Shallow (silt)	East Potliner	Slug Test	Bower and Rice	NA	7.1E-04	2.0	NA
MW34-038	Shallow (UGS)	East Potliner	Slug Test	Bower and Rice	NA	0.00091	2.59	NA
MW35-038	Shallow (UGS)	East Potliner	Slug Test	Bower and Rice	NA	0.03790	107.42	NA
FF04	Deep	Fairview Farms	FF04/Datalogger	Confined Cooper and Jacob	**6.4970**	NA	NA	NA
FF04	Deep	Fairview Farms	FF04/Datalogger	Confined Theis	**14.4400**	NA	NA	NA
FF06	Deep	Fairview Farms	FF04/Datalogger	Confined Theis	**27.5200**	NA	NA	**0.001**
FF04	Deep	Fairview Farms	FF04/Datalogger	Papadopulos and Cooper	**4.2600**	NA	NA	NA
FF06	Deep	Fairview Farms	FF04/Datalogger	Papadopulos and Cooper	**26.4900**	NA	NA	**0.001**
FF04	Deep	Fairview Farms	FF04/Datalogger	Recovery Theis	**37.4800**	NA	NA	NA

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Well #	Well Type	Well Location	Test Type	Analysis Method	Transmissivity (ft^2/min)	Estimated Hydraulic Conductivity (cm/sec)	Estimated Hydraulic Conductivity (ft/day)	Storativity
MW31-095	Intermediate	Fairview Farms	Slug Test	Bower and Rice	NA	0.04216	119.52	NA
FFT01	Intermediate	Fairview Farms	FF04/Datalogger	Confined Cooper and Jacob	**57.8700**	NA	NA	**0.004**
FFT01	Intermediate	Fairview Farms	FF04/Datalogger	Confined Theis	**48.4800**	NA	NA	**0.001**
FFT01	Intermediate	Fairview Farms	FF04/Datalogger	Papadopulos and Cooper	**45.4800**	NA	NA	**0.006**
FFT01	Intermediate	Fairview Farms	FF04/Datalogger	Recovery Theis	**38.1700**	NA	NA	NA
MW31-034	Shallow (UGS)	Fairview Farms	Slug Test	Bower and Rice	NA	0.00091	2.59	NA
MW27-176	Deep	North of Dike	Slug Test	Bower and Rice	NA	0.05186	147	NA
MW21-176	Deep	North of Dike	Slug Test	Bower and Rice	NA	0.04798	136	NA
MW08-169	Deep	North of Dike	Slug Test	Bower and Rice	NA	0.01428	40.48	NA
MW27-176	Deep	North of Dike	Short-Term Test	Confined Cooper and Jacob	**0.3490**	NA	NA	NA
MW08-169	Deep	North of Dike	Short-Term Test	Confined Cooper and Jacob	**0.0910**	NA	NA	NA
MW27-176	Deep	North of Dike	Short-Term Test	Confined Theis	**4.2340**	NA	NA	NA
MW21-176	Deep	North of Dike	PW3&7/Hand/Corrected	Confined Theis	**9.0110**	NA	NA	**0.004**
MW08-169	Deep	North of Dike	Short Term	Confined Theis	**0.1040**	NA	NA	NA
MW21-176	Deep	North of Dike	PW3&7/Hand/Corrected	Papadopulos and Cooper	**8.7990**	NA	NA	**0.004**
MW27-176	Deep	North of Dike	Short-Term Test	Recovery Theis	**2.1470**	NA	NA	NA
MW08-169	Deep	North of Dike	Short-Term Test	Recovery Theis	**0.0066**	NA	NA	NA
MW27-081	Intermediate	North of Dike	Slug Test	Bower and Rice	NA	0.05375	152.35	NA
MW30-100	Intermediate	North of Dike	Slug Test	Bower and Rice	NA	0.07600	215.42	NA
MW21-063	Intermediate	North of Dike	Slug Test	Bower and Rice	NA	0.06655	188.64	NA
MW27-081	Intermediate	North of Dike	Short-Term Test	Confined Cooper and Jacob	**5.4090**	NA	NA	NA
MW27-081	Intermediate	North of Dike	Short-Term Test	Confined Theis	**4.4440**	NA	NA	NA
MW27-081	Intermediate	North of Dike	Short-Term Test	Confined Theis Recovery	**12.1500**	NA	NA	NA
MW21-012	Shallow (silt)	North of Dike	Slug Test	Bower and Rice	NA	1.1E-02	30	NA
MW27-045	Shallow (UGS)	North of Dike	Slug Test	Bower and Rice	NA	0.00610	17.28	NA

Table 3
Aquifer Test Data Summary (Area Specific)

Well #	Well Type	Well Location	Test Type	Analysis Method	Transmissivity (ft^2/min)	Estimated Hydraulic Conductivity (cm/sec)	Estimated Hydraulic Conductivity (ft/day)	Storativity
MW30-030	Shallow (UGS)	North of Dike	Slug Test	Bower and Rice	NA	0.01890	53.57	NA
MW21-025	Shallow (UGS)	North of Dike	Slug Test	Bower and Rice	NA	3.4E-03	9.50	NA
MW09-030	Shallow (UGS)	North of Dike	Slug Test	Bower and Rice	NA	3.5E-02	100.00	NA
MW08-027	Shallow (UGS)	North of Dike	Slug Test	Bower and Rice	NA	1.7E-02	49.00	NA
MW29-179	Deep	North Perimeter	Slug Test	Bower and Rice	NA	0.00100	3.00	NA
MW10-165	Deep	North Perimeter	Slug Test	Bower and Rice	NA	0.02787	79	NA
MW06-176	Deep	North Perimeter	Slug Test	Bower and Rice	NA	0.04257	121	NA
MW10-165	Deep	North Perimeter	Short-Term Test	Confined Cooper and Jacob	**5.3440**	NA	NA	NA
MW10-165	Deep	North Perimeter	Short-Term Test	Confined Theis	**2.4600**	NA	NA	NA
MW06-176	Deep	North Perimeter	FF04/Datalogger	Confined Theis	**30.7800**	NA	NA	**0.002**
MW06-176	Deep	North Perimeter	FF04/Datalogger	Papadopulos and Cooper	**30.3100**	NA	NA	**0.002**
MW10-165	Deep	North Perimeter	Short-Term Test	Recovery Theis	**12.4800**	NA	NA	NA
MW06-176	Deep	North Perimeter	FF04/Datalogger	Recovery Theis	**44.2000**	NA	NA	NA
MW06-094	Intermediate	North Perimeter	Slug Test	Bower and Rice	NA	0.04227	119.81	NA
MW29-090	Intermediate	North Perimeter	Slug Test	Bower and Rice	NA	0.05852	165.89	NA
MW10-090	Intermediate	North Perimeter	Slug Test	Bower and Rice	NA	0.06015	170.50	NA
MW06-094	Intermediate	North Perimeter	Short-Term Test	Confined Cooper and Jacob	**3.0700**	NA	NA	NA
MW06-094	Intermediate	North Perimeter	Short-Term Test	Confined Theis	**3.6700**	NA	NA	NA
MW06-094	Intermediate	North Perimeter	Short-Term Test	Confined Theis Recovery	**15.2500**	NA	NA	NA
MW06-024	Shallow (silt)	North Perimeter	Slug Test	Bower and Rice	NA	1.5E-03	4.3	NA
MW10-023	Shallow (silt)	North Perimeter	Slug Test	Bower and Rice	NA	1.0E-03	2.9	NA
MW07-024	Shallow (silt)	North Perimeter	Slug Test	Bower and Rice	NA	1.6E-03	4.5	NA
MW29-033	Shallow (UGS)	North Perimeter	Slug Test	Bower and Rice	NA	0.00478	13.54	NA
MW03-175	Deep	South Perimeter	Slug Test	Bower and Rice	NA	0.06033	171	NA
MW03-175	Deep	South Perimeter	Short-Term Test	Confined Cooper and Jacob	4.6770	NA	NA	NA

Table 3
Aquifer Test Data Summary (Area Specific)

Well #	Well Type	Well Location	Test Type	Analysis Method	Transmissivity (ft^2/min)	Estimated Hydraulic Conductivity (cm/sec)	Estimated Hydraulic Conductivity (ft/day)	Storativity
MW03-175	Deep	South Perimeter	Short-Term Test	Confined Theis	7.9870	NA	NA	NA
MW03-175	Deep	South Perimeter	PW3&7 DL	Confined Theis	**36.2700**	NA	NA	**0.008**
MW03-175	Deep	South Perimeter	PW3&7 DL	Papadopulos and Cooper	**37.6200**	NA	NA	**0.009**
MW03-175	Deep	South Perimeter	Short-Term Test	Recovery Theis	42.1600	NA	NA	NA
MW03-098	Intermediate	South Perimeter	Slug Test	Bower and Rice	NA	0.05730	162.43	NA
MW03-017	Shallow (silt)	South Perimeter	Slug Test	Bower and Rice	NA	6.1E-04	1.7	NA
MW15-175	Deep	West Perimeter	Slug Test	Bower and Rice	NA	0.01372	39	NA
MW12-184	Deep	West Perimeter	Slug Test	Bower and Rice	NA	0.02347	67	NA
MW12-184	Deep	West Perimeter	FF04/Hand	Confined Theis	**19.8400**	NA	NA	**0.003**
MW15-175	Deep	West Perimeter	FF04/Datalogger	Confined Theis	**31.2200**	NA	NA	**0.003**
MW12-184	Deep	West Perimeter	FF04/Hand	Papadopulos and Cooper	**17.4000**	NA	NA	**0.003**
MW15-175	Deep	West Perimeter	FF04/Datalogger	Papadopulos and Cooper	**31.0500**	NA	NA	**0.003**
MW15-175	Deep	West Perimeter	FF04/Datalogger	Recovery Theis	**34.3800**	NA	NA	NA
MW12-184	Deep	West Perimeter	FF04/Hand	Recovery Theis	**39.0800**	NA	NA	NA
MW12-092	Intermediate	West Perimeter	Slug Test	Bower and Rice	NA	0.03912	110.88	NA
MW15-086	Intermediate	West Perimeter	Slug Test	Bower and Rice	NA	0.05852	165.89	NA
MW15-024	Shallow (silt)	West Perimeter	Slug Test	Bower and Rice	NA	4.2E-06	0.01	NA
MW12-021	Shallow (silt)	West Perimeter	Slug Test	Bower and Rice	NA	1.0E-04	0.29	NA
MW38-035	Shallow (UGS)	West Perimeter	Slug Test	Bower and Rice	NA	0.00091	2.59	NA
MW38-035	Shallow (UGS)	West Perimeter	Short-Term Test	Confined Cooper and Jacob	**0.0236**	NA	NA	NA
MW38-035	Shallow (UGS)	West Perimeter	Short-Term Test	Confined Theis	**0.0520**	NA	NA	NA
MW38-035	Shallow (UGS)	West Perimeter	Short-Term Test	Confined Theis Recovery	**0.0825**	NA	NA	NA
MW04-019	Shallow (silt)	South Wetlands	Slug Test	Bower and Rice	NA	2.3E-05	0.06	NA
MW18-016	Shallow (silt)	South Wetlands	Slug Test	Bower and Rice	NA	2.0E-04	0.56	NA
MW17-028	Shallow (silt)	South Wetlands	Slug Test	Bower and Rice	NA	5.0E-04	1.4	NA

Table 3
Aquifer Test Data Summary (Area Specific)

Well #	Well Type	Well Location	Test Type	Analysis Method	Transmissivity (ft^2/min)	Estimated Hydraulic Conductivity (cm/sec)	Estimated Hydraulic Conductivity (ft/day)	Storativity
MW17-016	Shallow (silt)	South Wetlands	Slug Test	Bower and Rice	NA	1.9E-03	5.3	NA
MW18-031	Shallow (UGS)	South Wetlands	Slug Test	Bower and Rice	NA	1.6E-04	0.45	NA
MW37-030	Shallow (UGS)	South Wetlands	Slug Test	Bower and Rice	NA	0.00234	6.62	NA
MW33-165	Deep	Scrap Yard	Slug Test	Bower and Rice	NA	0.04440	126	NA
PW07	Deep	Scrap Yard	PW3&7 Hand	Confined Cooper and Jacob	**1.6770**	NA	NA	NA
PW03	Deep	Scrap Yard	PW3&7 Hand	Confined Cooper and Jacob	**2.2750**	NA	NA	NA
PW07	Deep	Scrap Yard	PW3&7 Hand	Confined Theis	**21.6100**	NA	NA	NA
MW33-165	Deep	Scrap Yard	PW3&7 DL	Confined Theis	**45.7800**	NA	NA	0.007
PW03	Deep	Scrap Yard	PW3&7 Hand	Confined Theis	**46.2300**	NA	NA	NA
PW07	Deep	Scrap Yard	PW3&7 Hand	Papadopulos and Cooper	**2.7690**	NA	NA	NA
PW03	Deep	Scrap Yard	PW3&7 Hand	Papadopulos and Cooper	**2.9590**	NA	NA	NA
MW33-165	Deep	Scrap Yard	PW3&7 DL	Papadopulos and Cooper	**44.6700**	NA	NA	0.005
MW33-095	Intermediate	Scrap Yard	Slug Test	Bower and Rice	NA	0.05527	156.67	NA
MW02-024	Shallow (silt)	Scrap Yard	Slug Test	Bower and Rice	NA	4.5E-04	1.3	NA
MW25-035	Shallow (UGS)	Scrap Yard	Slug Test	Bower and Rice	NA	1.3E-05	0.04	NA
MW33-033	Shallow (UGS)	Scrap Yard	Slug Test	Bower and Rice	NA	0.01605	45.50	NA

Short-Term Aquifer Test Results

Twelve short-term aquifer tests were completed at the RMC site. Eight of the 12 tests were analyzed for the purpose of meeting data requirements not filled by the slug testing or long-term aquifer test. These requirements consisted of filling in geographic data gaps at the site. Some areas lack site-specific aquifer parameter data, and the short-term tests were completed to fill these data needs. The short-term tests were expected to produce parameters more specific to the zones directly surrounding the wells and provide more specific vertical information concerning the interaction between the deep, intermediate, and shallow zones. These tests were not intended to provide broader scale parameters than those obtained from the long-term aquifer test. In general, the short-term aquifer tests produced K and S values that were less than values obtained from the slug and long-term aquifer tests. None of the short-term aquifer tests was able to stress the aquifer enough to induce any noticeable response in any of the surrounding observation wells.

Long-Term Aquifer Test Results

Results from the long-term aquifer test provide aquifer parameters representative of a larger volume of the aquifer than the slug or short-term aquifer tests. During analysis of time-drawdown data, it was observed that transmissivity values from the deep zone of the aquifer were less than the values obtained from the intermediate and shallow wells. This is most likely a result of the anisotropy of the aquifer material. The screened intervals from the pumping wells are located in the deep zone of the aquifer (>200 feet in depth). When these wells are pumped, the overlying lower conductivity material within the aquifer mutes the response observed in the shallower monitoring wells. This causes a reduction in observed drawdown in the shallow monitoring wells and produces an apparent transmissivity that is larger than would be seen if there were no interference from lower K material. Because of this effect, K and S values for the shallow and intermediate wells estimated from the long-term test are probably not representative of the actual aquifer characteristics at that horizon. Therefore, aquifer hydraulic parameter estimates for the shallow and intermediate wells were based on the slug tests, short-term aquifer tests, and previous tests run at the site.

Area-Specific Aquifer Parameters

The three types of aquifer tests conducted across the site provide an overall site characterization and focused, area-specific information for the area north of the dike, the scrap yard, the bakehouse, the east potliner area, Fairview Farms, south wetlands, and the site perimeter. Aquifer parameter values for site-specific areas of the RMC site are presented in Table 3. Values are divided by area and the type of test. The following section describes important observations pertaining to the estimated aquifer parameters presented. More detailed evaluation of these values and site-specific areas will be completed as necessary for future analyses.

Values of Interest

Well locations of interest include MW27-176 (short-term test) and MW08-169 (short-term test) north of the dike and MW29-179 (slug test) along the north perimeter. All produced test results significantly lower than most deep wells across the site. Recovery data from MW32-165 (long-term test) produced values slightly higher than most other deep-zone

wells. Intermediate well location MW06-094 (short-term test) along the north perimeter produced a very low T estimate compared with other intermediate well locations. Within the shallow upper gray sand, well location MW38-035 (short-term, slug) produced high and low estimates, depending on which test was evaluated. The short-term test produced a very low T value and the slug test produced a high K value, compared with similar zone wells across the site. MW25-035 (slug) scrap yard and MW18-031 (slug) south wetlands gave very low values for K. Within the shallow silt, wells MW21-012 (slug) north of dike and MW01-019 (slug) produced high K values from the analyzed slug test data.

References

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_____. June 5, 1997. *Memorandum WP No. 36: Proposed 1997 Groundwater Work Plan.*

Cooper, H.H. and C.E. Jacob. 1946. "A Generalized Graphical Method for Evaluating Formation Constants and Summarizing Well Field History." *American Geophysical Union Transcripts*, vol. 27, pp. 526-534.

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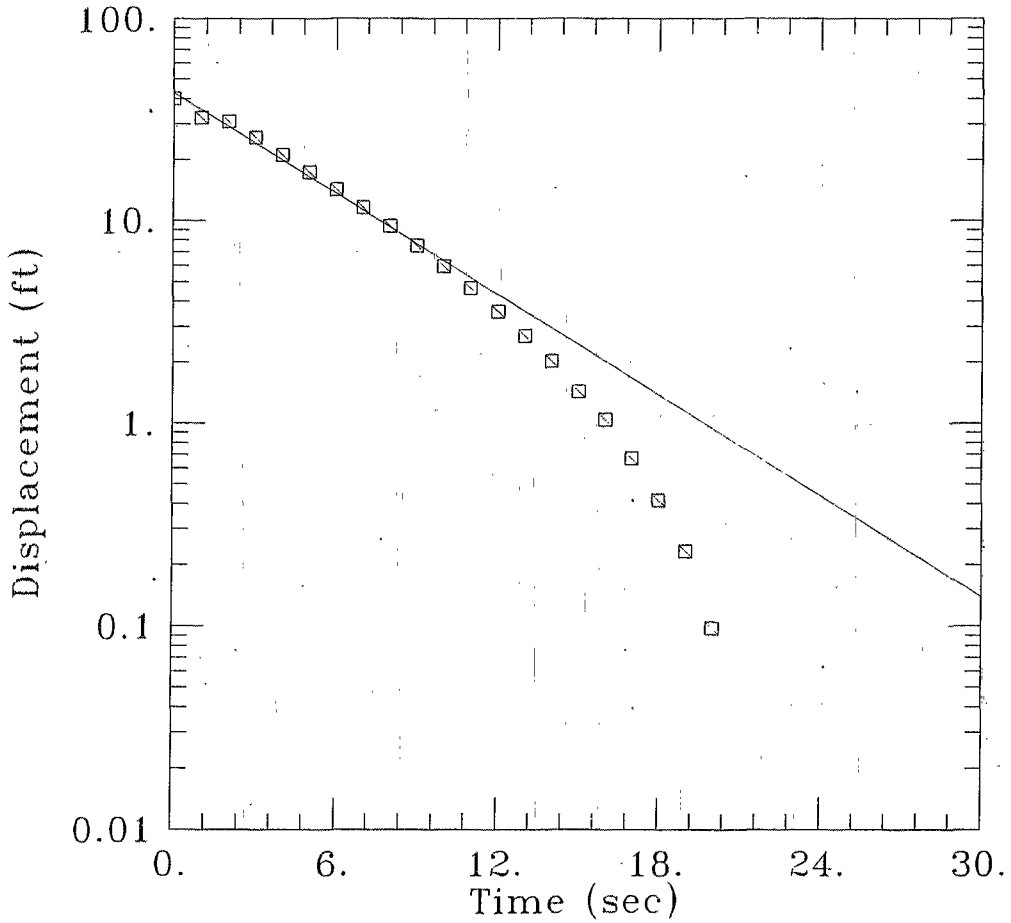
Papadopulos and Cooper. 1973. "Drawdown in a Well of Large Diameter." *Water Resources Research*, vol. 3, pp. 241-244.

Theis, C.V. 1935. "The Relation Between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well Using Groundwater Storage." *American Geophysical Union Transcripts*, vol. 16, pp. 519-524.

ATTACHMENT A

Slug Test Data Plots

CH2MHILL
MW10-165
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW101652.DAT
02/10/97

AQUIFER MODEL:
Unconfined

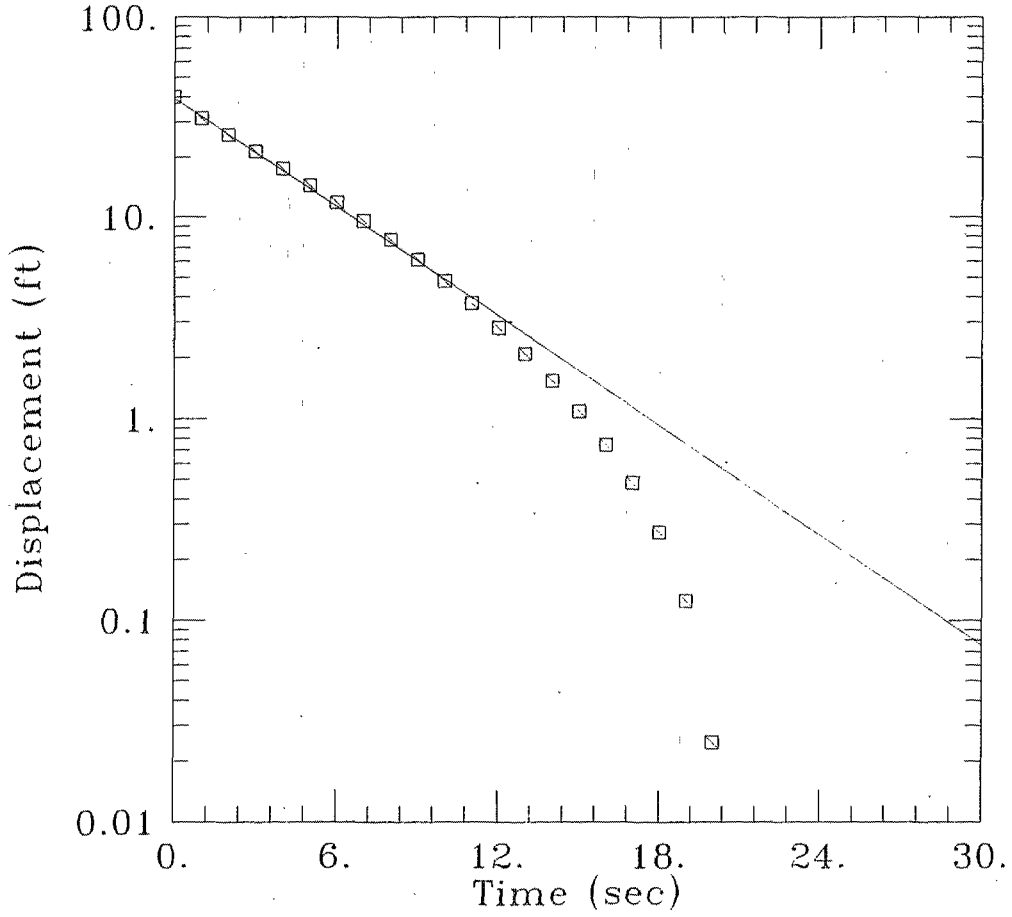
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.99 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 155.9 ft
H = 154.9 ft

PARAMETER ESTIMATES:
K = 0.0008558 ft/sec
y0 = 42.73 ft

AQTESOLV

CH2MHILL
MW10-165
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW101653.DAT
02/10/97

AQUIFER MODEL:
Unconfined

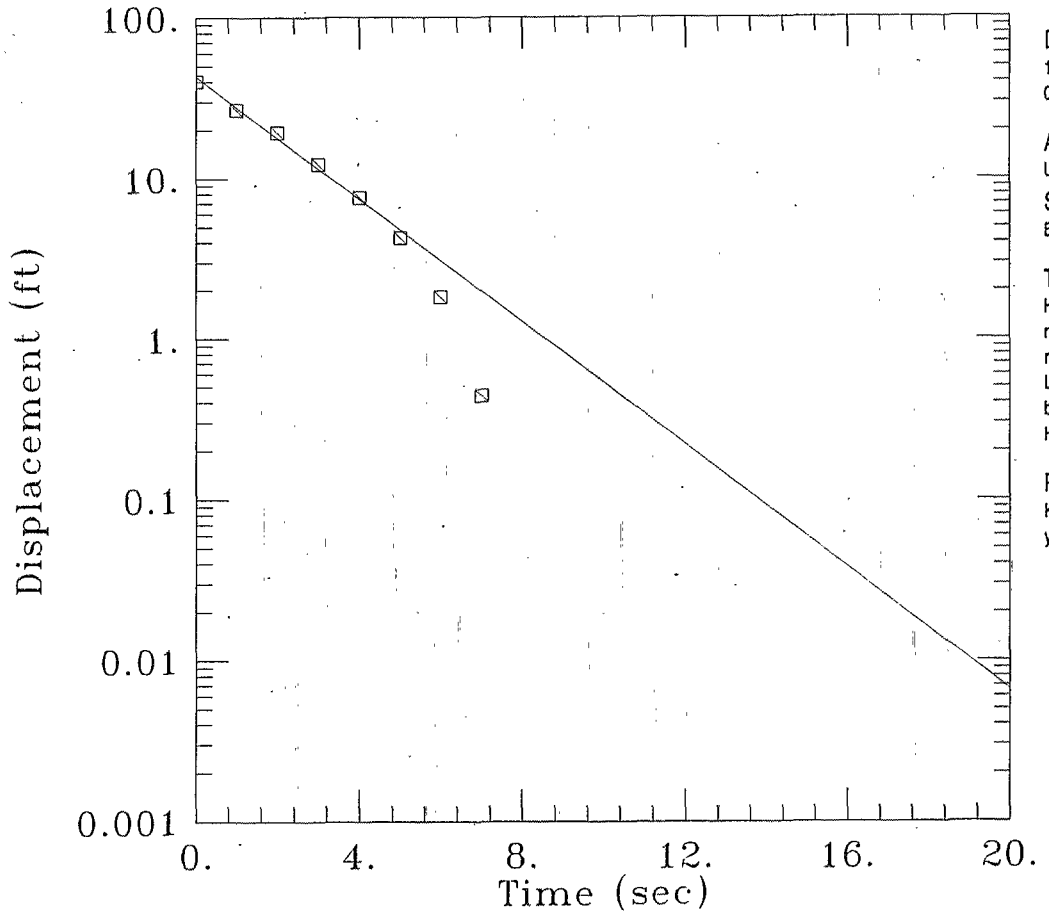
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.96 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 155.9 ft
H = 154.9 ft

PARAMETER ESTIMATES:
K = 0.000935 ft/sec
y0 = 39.37 ft

AQTESOLV

CH2MHILL
MW15-086
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
150862.DAT
02/17/97

AQUIFER MODEL:
Unconfined

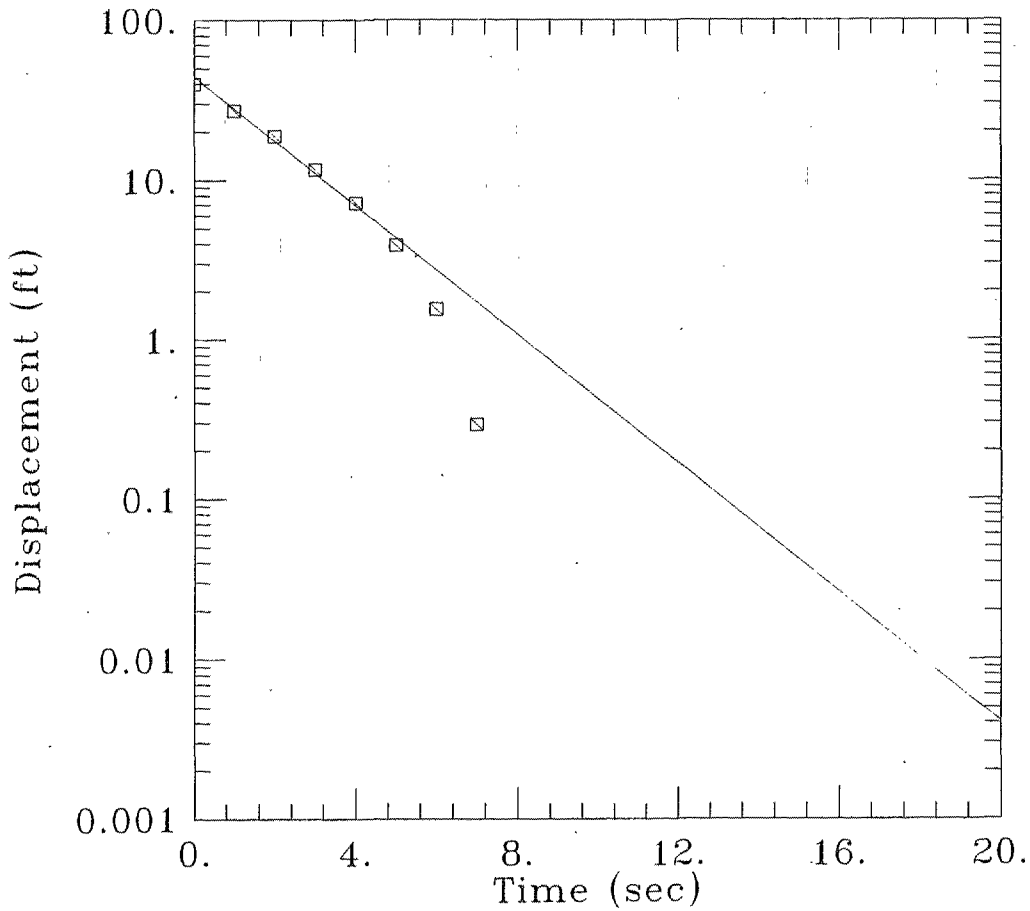
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 80.67 ft
H = 79.67 ft

PARAMETER ESTIMATES:
K = 0.001823 ft/sec
y0 = 43.01 ft

AQTESOLV

CH2MHILL
MW15-086
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
150863.DAT
02/17/97

AQUIFER MODEL:
Unconfined

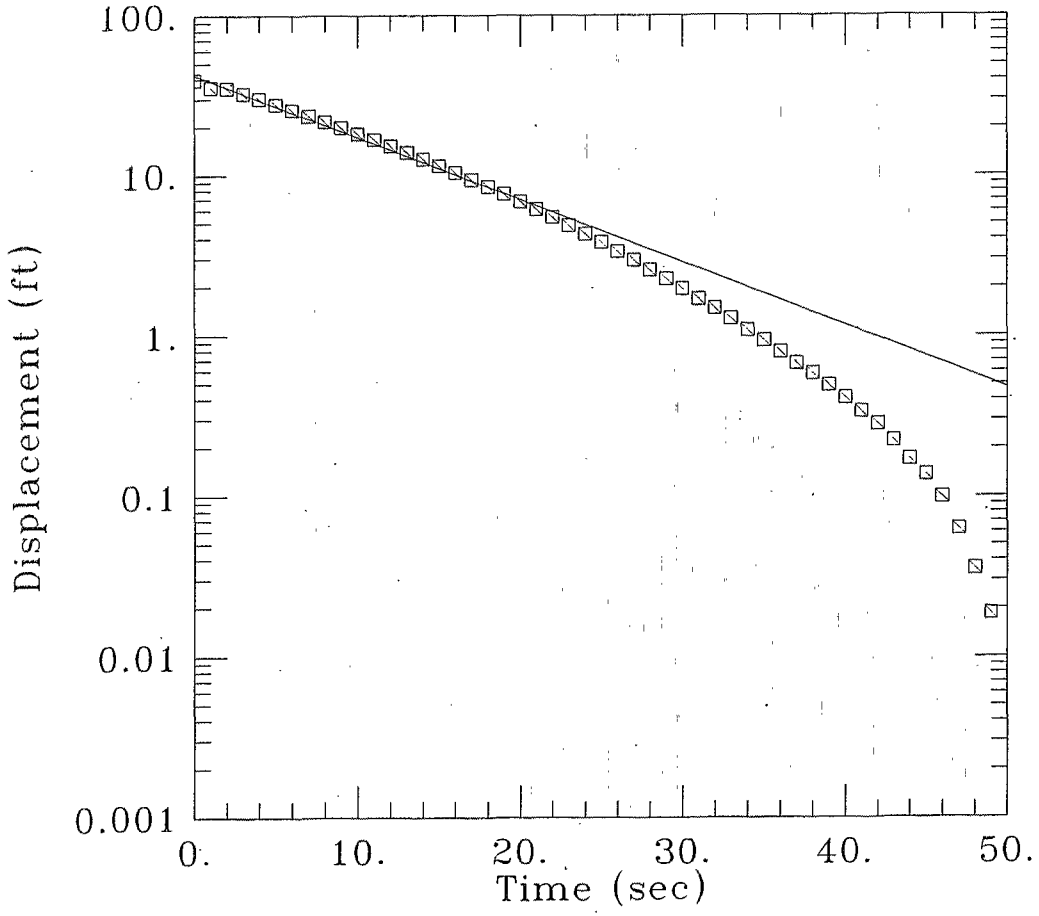
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.7 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 80.67 ft
H = 79.67 ft

PARAMETER ESTIMATES:
K = 0.001928 ft/sec
y0 = 44.46 ft

AQTESOLV

CH2MHILL
MW15-175
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
151751.DAT
02/17/97

AQUIFER MODEL:
Unconfined

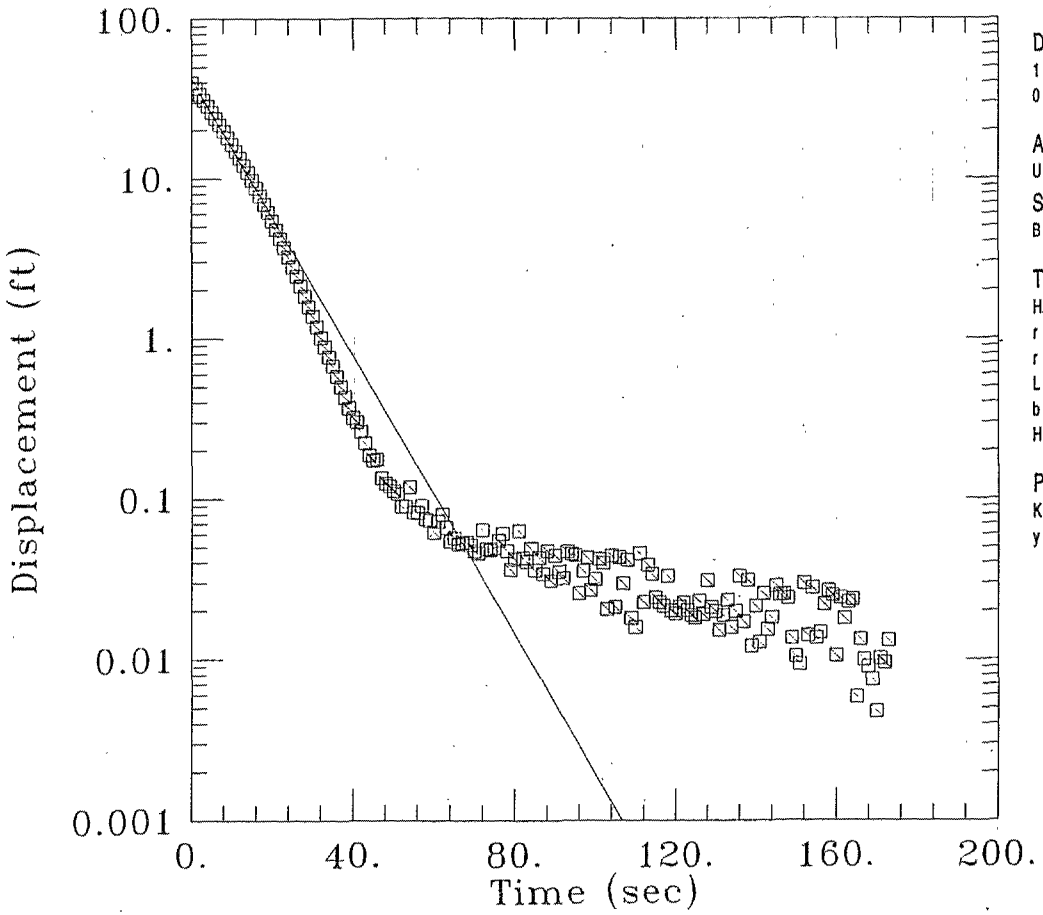
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.5 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 169. ft
H = 168.2 ft

PARAMETER ESTIMATES:
K = 0.0004122 ft/sec
y0 = 42.51 ft

AQTESOLV

CH2MHILL
MW15-175
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
151752.DAT
02/17/97

AQUIFER MODEL:
Unconfined

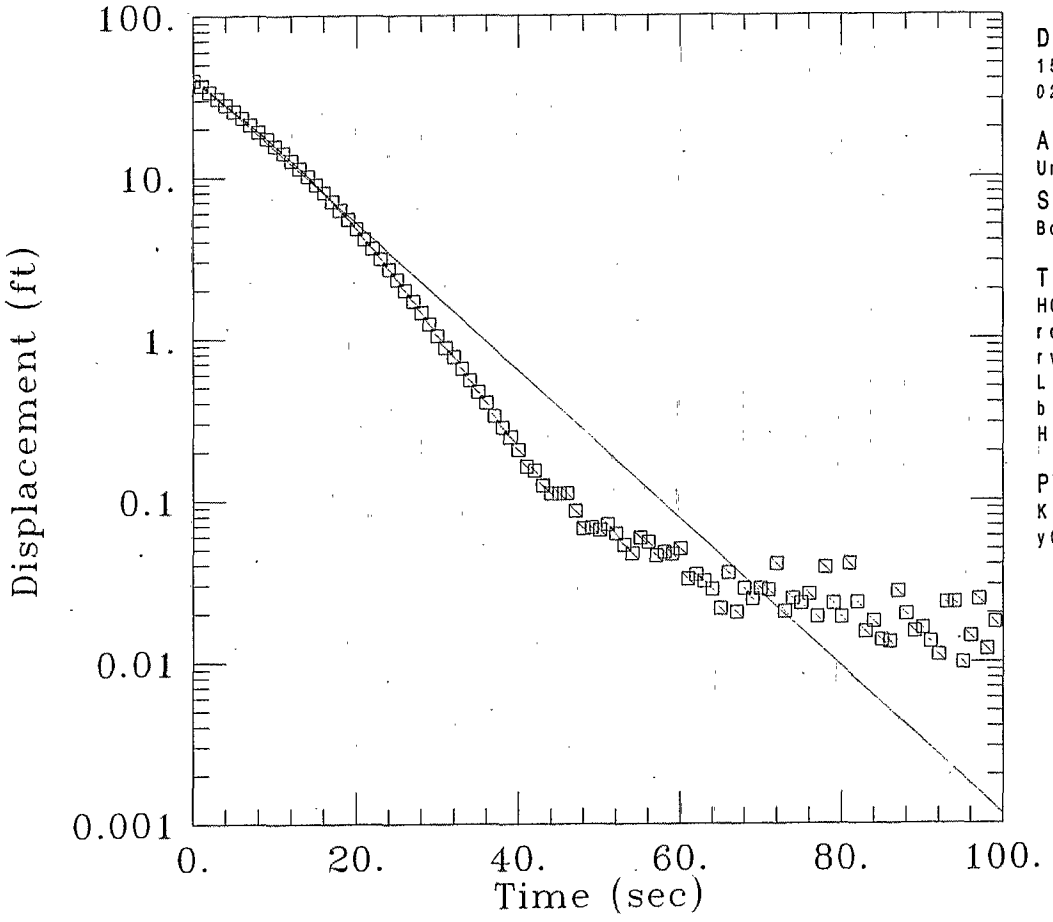
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 169. ft
H = 168.2 ft

PARAMETER ESTIMATES:
K = 0.000457 ft/sec
y0 = 42.24 ft

AQTESOLV

CH2MHILL
MW15-175
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
151753.DAT
02/19/97

AQUIFER MODEL:
Unconfined

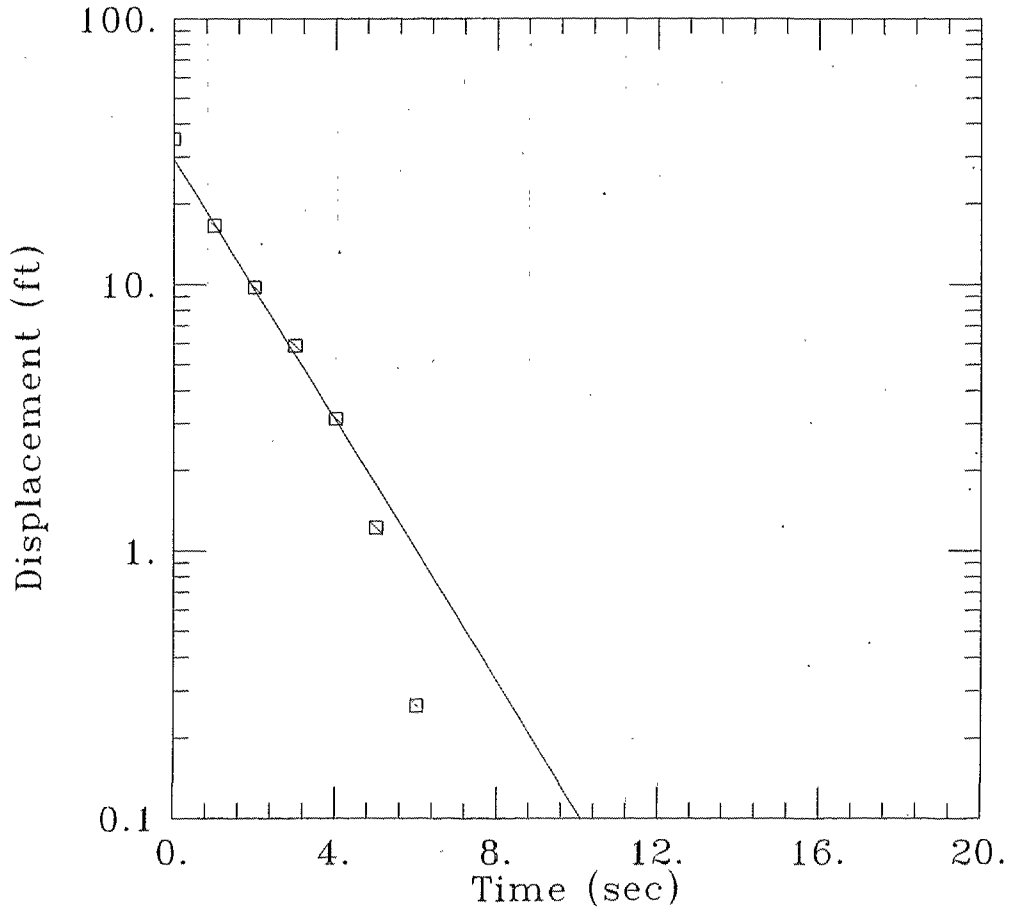
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 169. ft
H = 168.2 ft

PARAMETER ESTIMATES:
K = 0.000482 ft/sec
y0 = 42.62 ft

AQTESOLV

CH2MHILL
MW21-063
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW210631.DAT
02/13/97

AQUIFER MODEL:
Unconfined

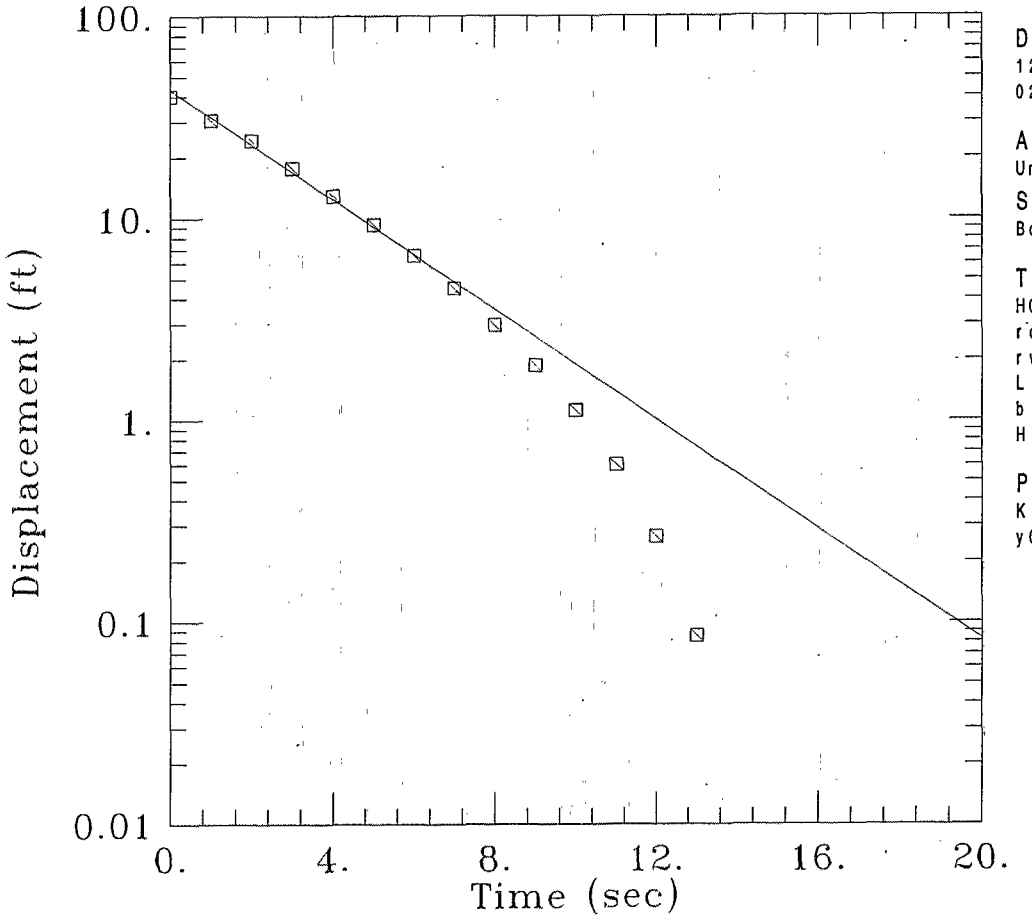
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 35.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 57.53 ft
H = 55.53 ft

PARAMETER ESTIMATES:
K = 0.002156 ft/sec
y0 = 29.43 ft

AQTESOLV

CH2MHILL
MW12-092
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
120922.DAT
02/17/97

AQUIFER MODEL:
Unconfined

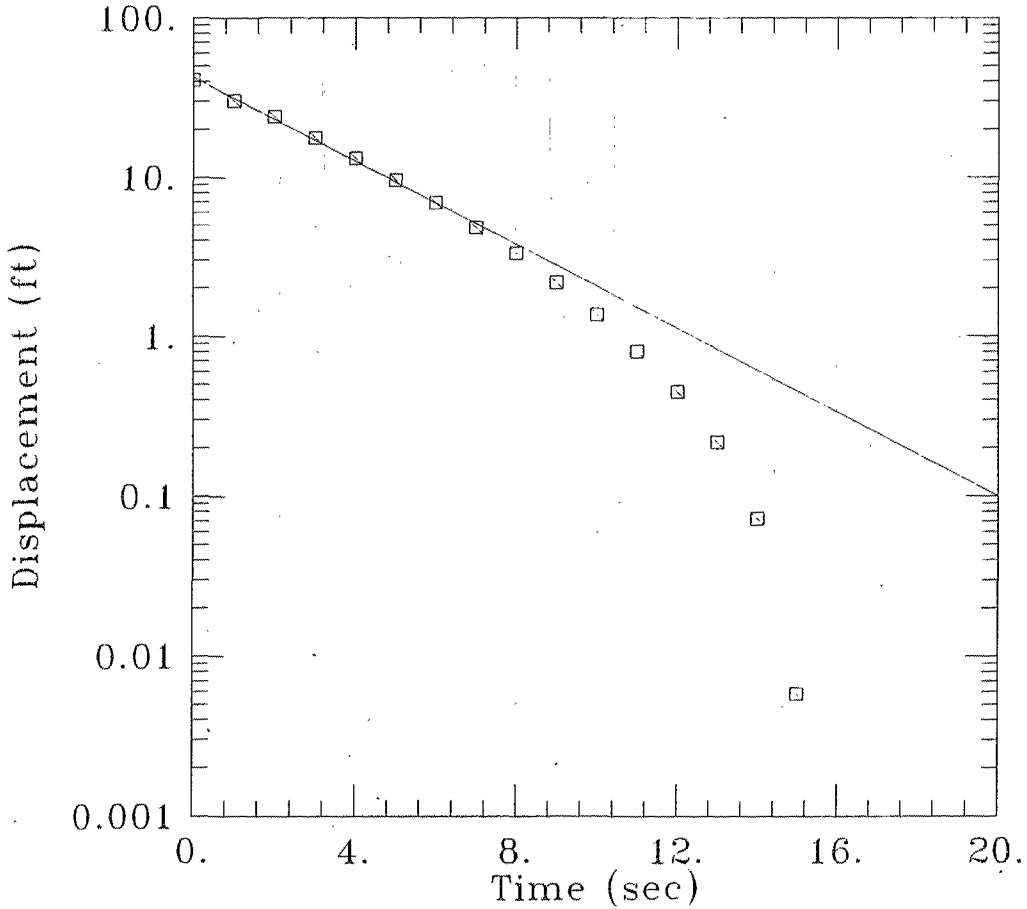
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 86.71 ft
H = 84.71 ft

PARAMETER ESTIMATES:
K = 0.001266 ft/sec
y0 = 43.27 ft

AQTESOLV

CH2MHILL
MW12-092
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
120923.DAT
02/17/97

AQUIFER MODEL:
Unconfined

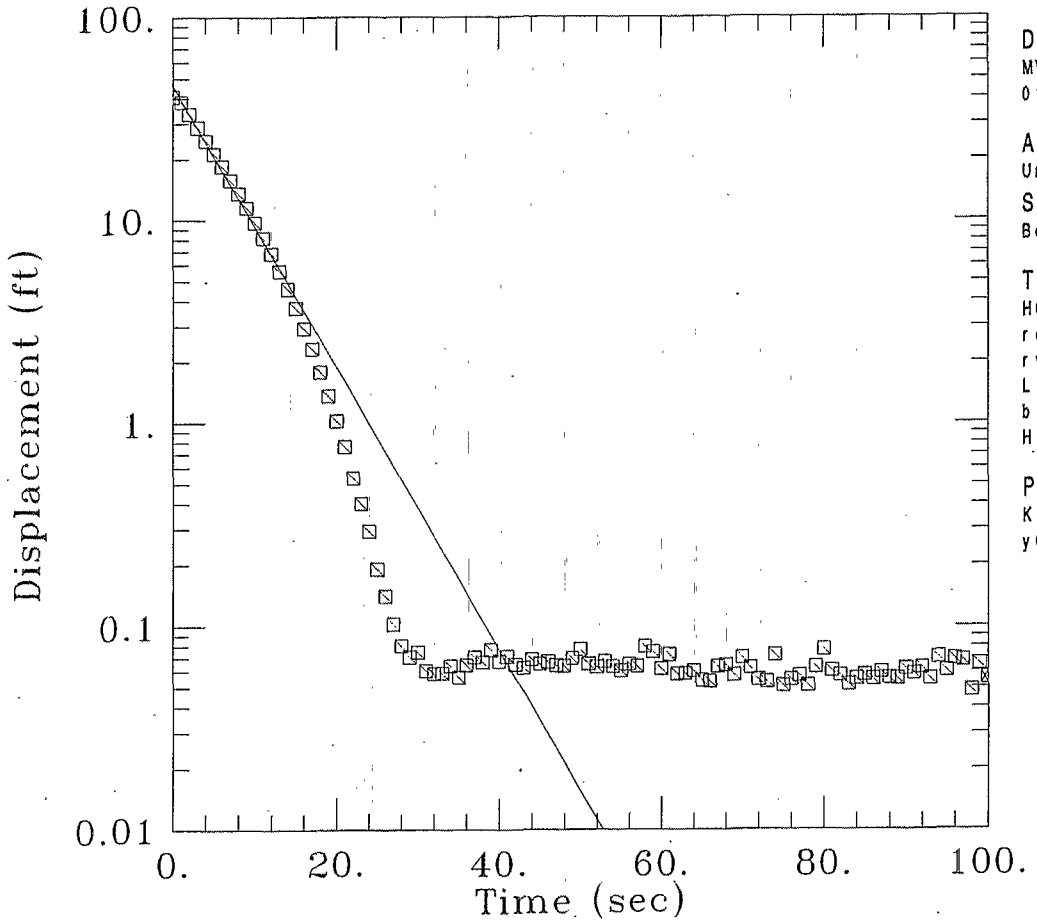
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 86.71 ft
H = 84.71 ft

PARAMETER ESTIMATES:
K = 0.001222 ft/sec
y0 = 42.42 ft

AQTESOLV

CH2MHILL
MW12-184
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW121841.DAT
01/29/97

AQUIFER MODEL:
Unconfined

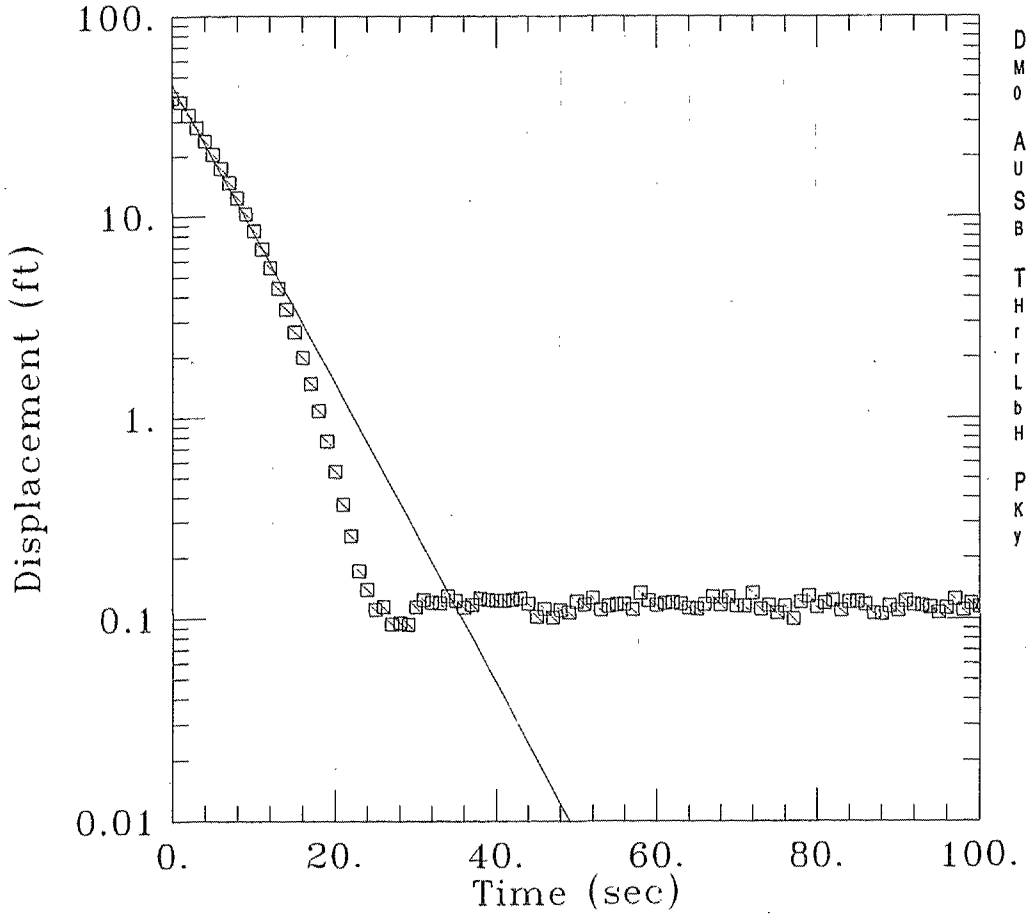
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.7 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 179.2 ft
H = 178.7 ft

PARAMETER ESTIMATES:
K = 0.000757 ft/sec
y0 = 46.25 ft

AQTESOLV

CH2MHILL
MW12-184
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW121842.DAT
01/29/97

AQUIFER MODEL:
Unconfined

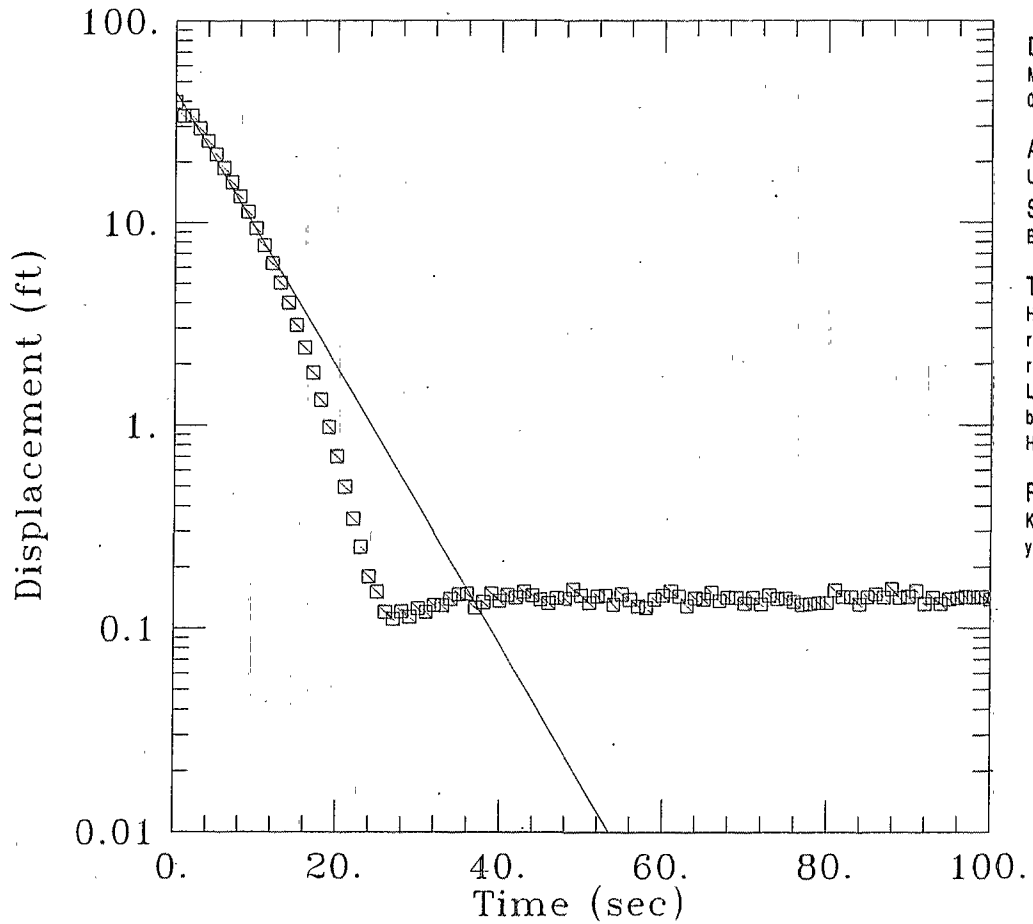
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 179.2 ft
H = 178.7 ft

PARAMETER ESTIMATES:
K = 0.0008114 ft/sec
y0 = 45.84 ft

AQTESOLV

CH2MHILL
MW12-184
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW121843.DAT
01/29/97

AQUIFER MODEL:
Unconfined

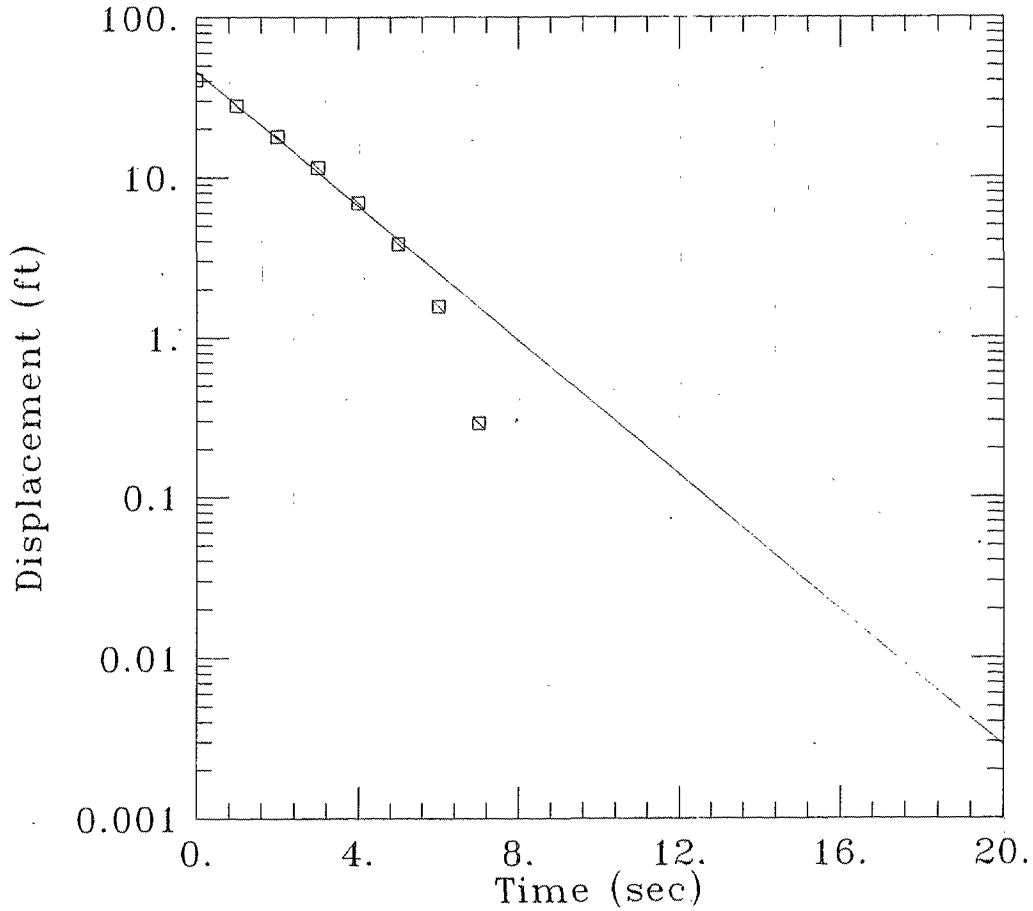
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.7 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 179.2 ft
H = 178.7 ft

PARAMETER ESTIMATES:
K = 0.0007436 ft/sec
y0 = 44.58 ft

AQTESOLV

CH2MHILL
MW15-086
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
150861.DAT
02/17/97

AQUIFER MODEL:
Unconfined

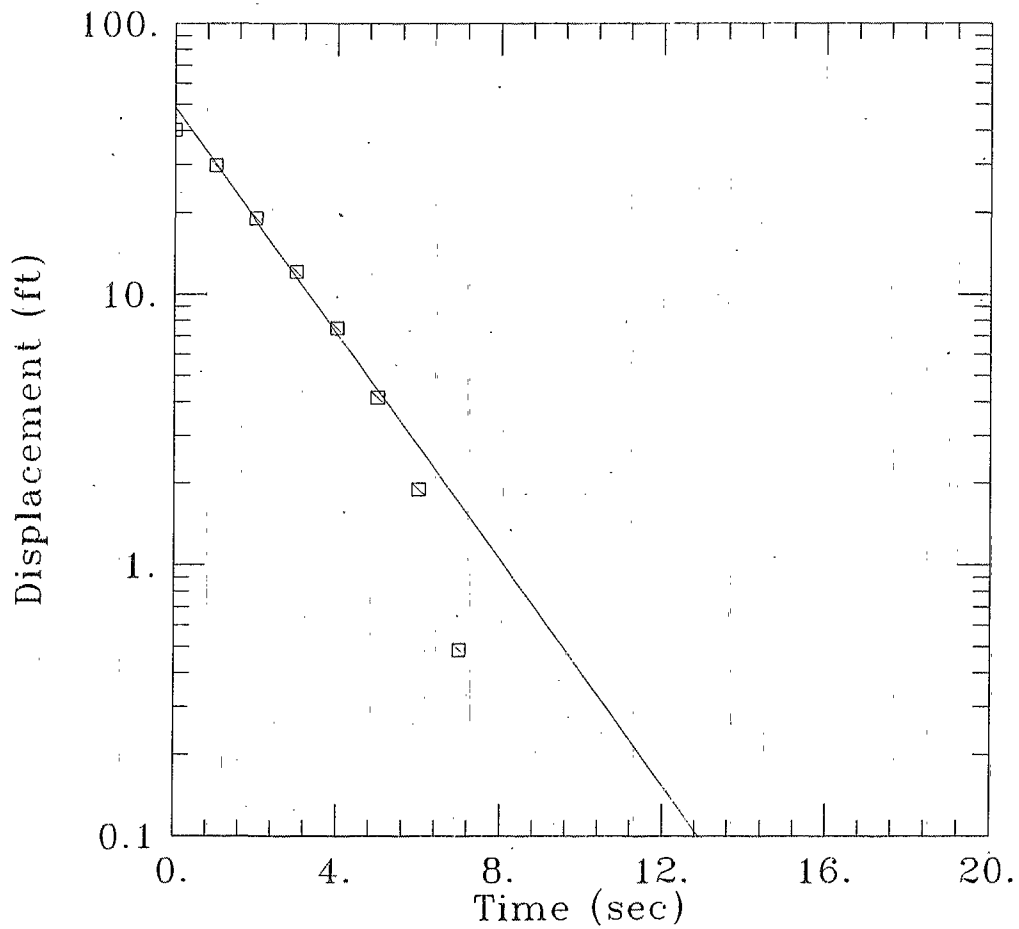
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.4 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 80.67 ft
H = 79.67 ft

PARAMETER ESTIMATES:
K = 0.00201 ft/sec
y0 = 46.05 ft

AQTESOLV

CH2MHILL
MW03-098
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW030981.DAT
01/29/97

AQUIFER MODEL:
Unconfined

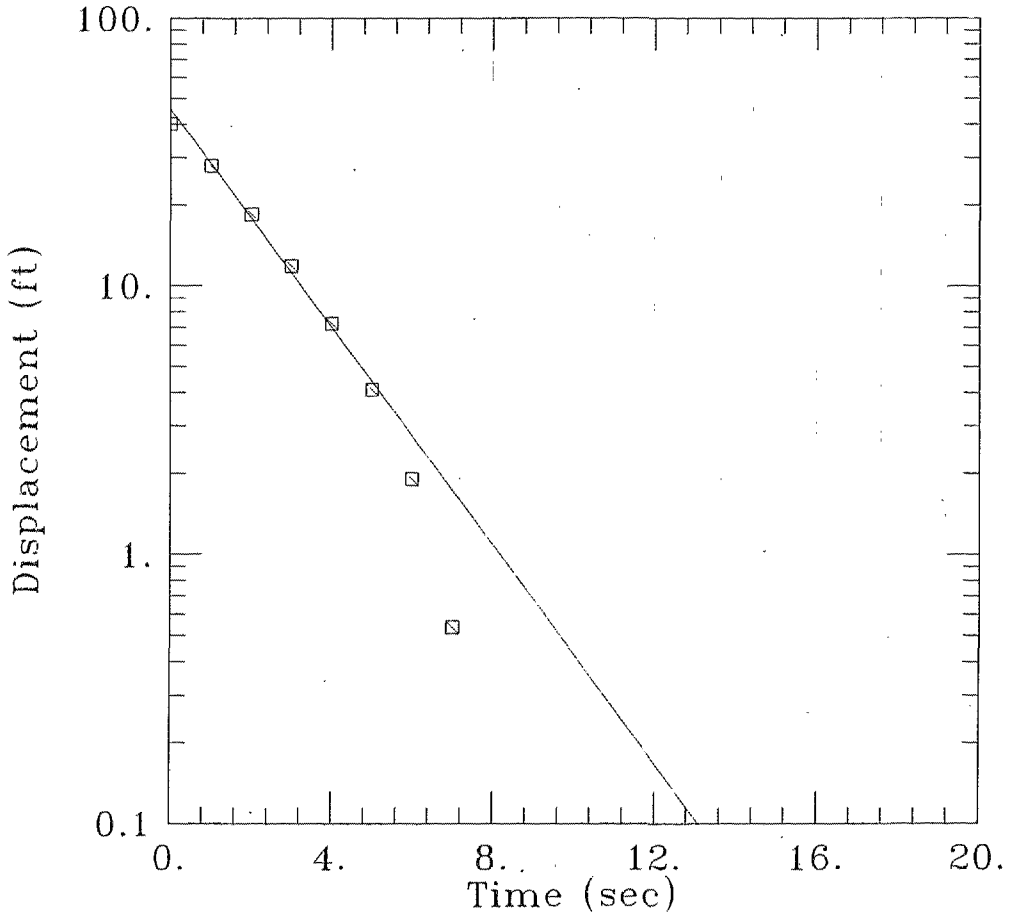
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 87.11 ft
H = 85.11 ft

PARAMETER ESTIMATES:
K = 0.001941 ft/sec
y0 = 48.8 ft

AQTESOLV

CH2MHILL
MW03-098
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW030982.DAT
01/29/97

AQUIFER MODEL:
Unconfined

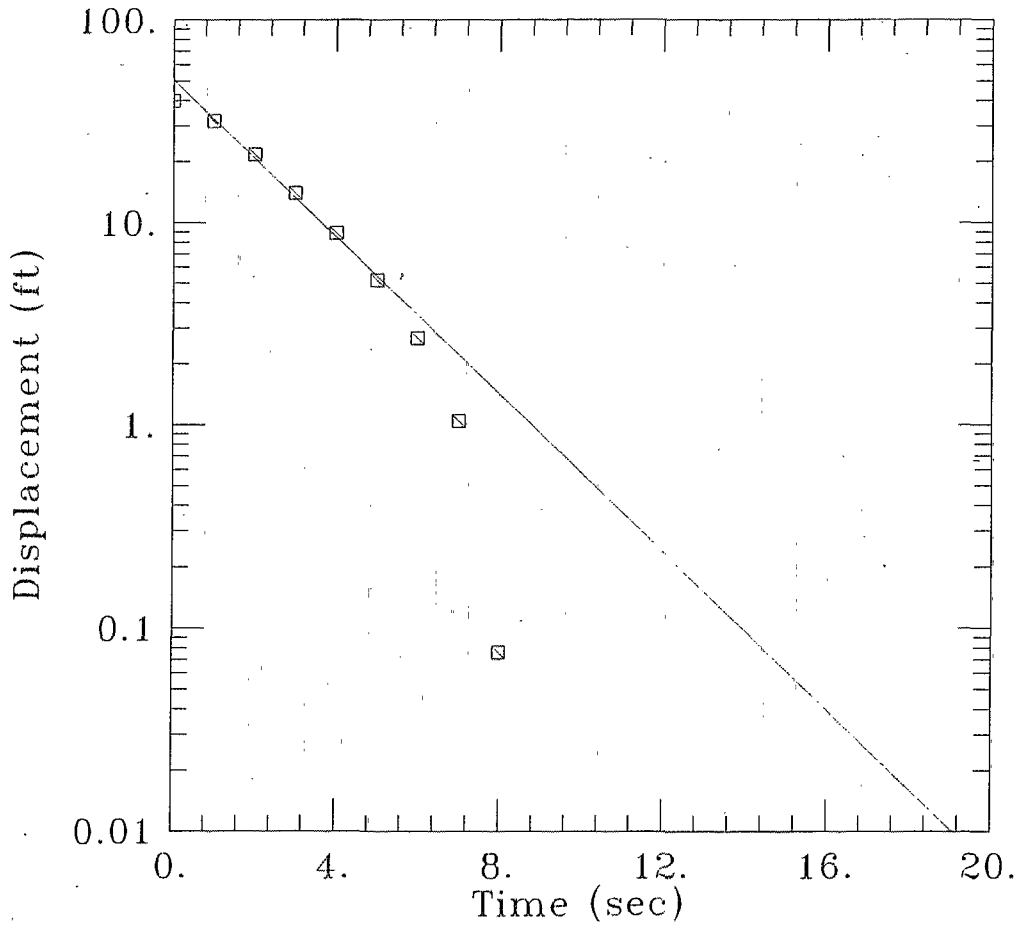
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 87.11 ft
H = 85.11 ft

PARAMETER ESTIMATES:
K = 0.001888 ft/sec
y0 = 45.45 ft

AQTESOLV

CH2MHILL
MW03-098
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW030983.DAT
01/29/97

AQUIFER MODEL:
Unconfined

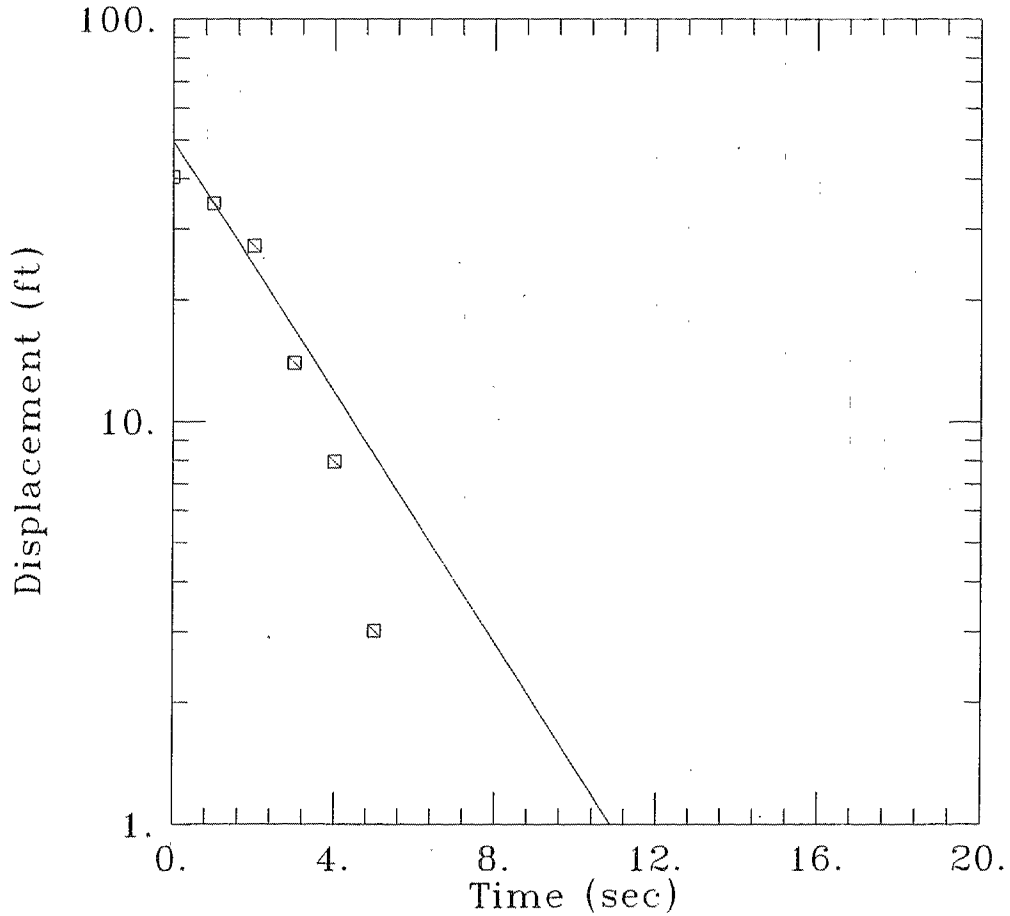
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 87.11 ft
H = 85.11 ft

PARAMETER ESTIMATES:
K = 0.001806 ft/sec
y0 = 50.72 ft

AQTESOLV

CH2MHILL
MW03-175
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW031751.DAT
01/29/97

AQUIFER MODEL:
Unconfined

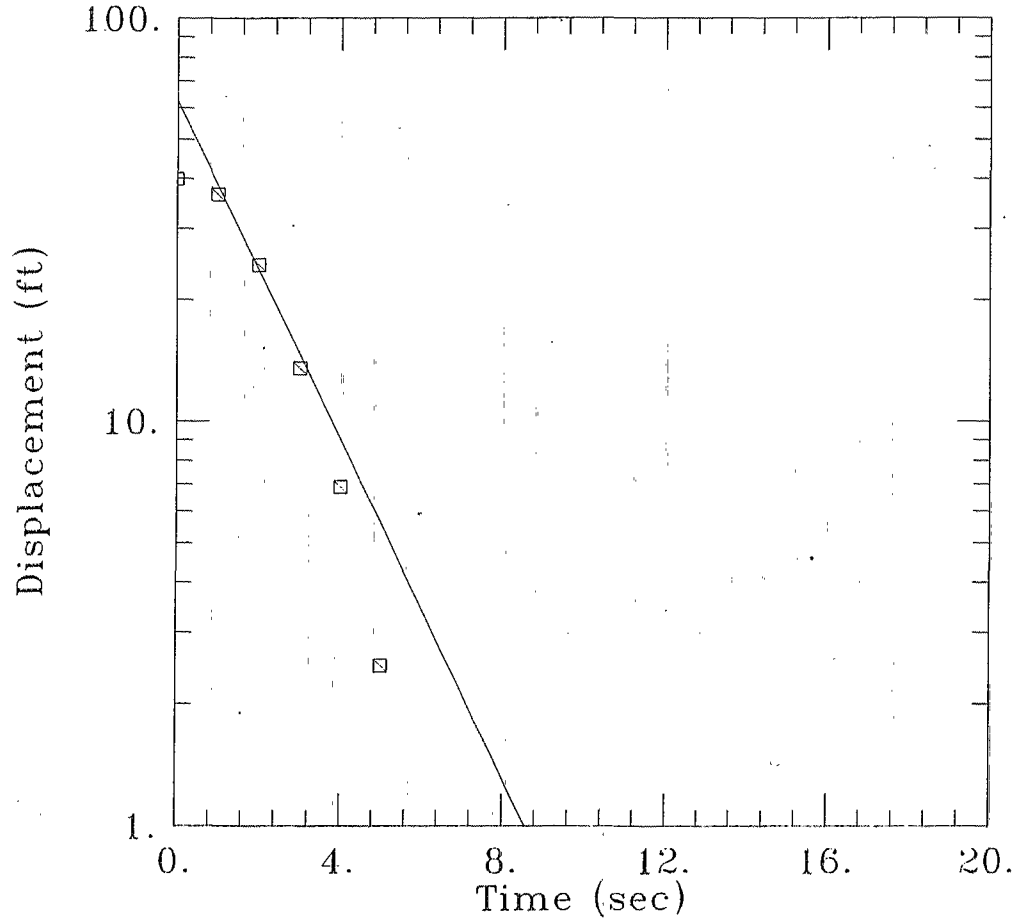
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 162.7 ft
H = 162.2 ft

PARAMETER ESTIMATES:
K = 0.001681 ft/sec
y0 = 49.58 ft

AQTESOLV

CH2MHILL
MW03-175
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW031752.DAT
01/29/97

AQUIFER MODEL:
Unconfined

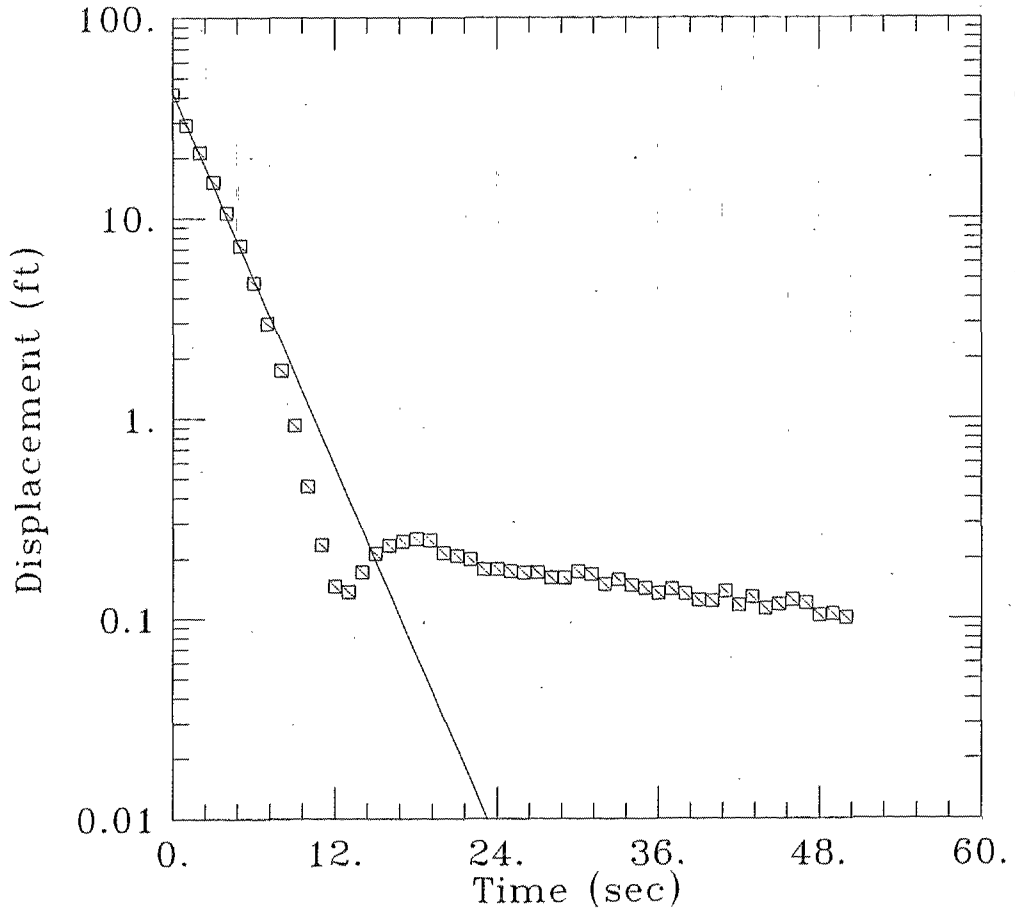
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.8 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 162.7 ft
H = 162.2 ft

PARAMETER ESTIMATES:
K = 0.00226 ft/sec
y0 = 62.19 ft

AQTESOLV

CH2MHILL
MW06-094
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW060941.DAT
02/10/97

AQUIFER MODEL:
Unconfined

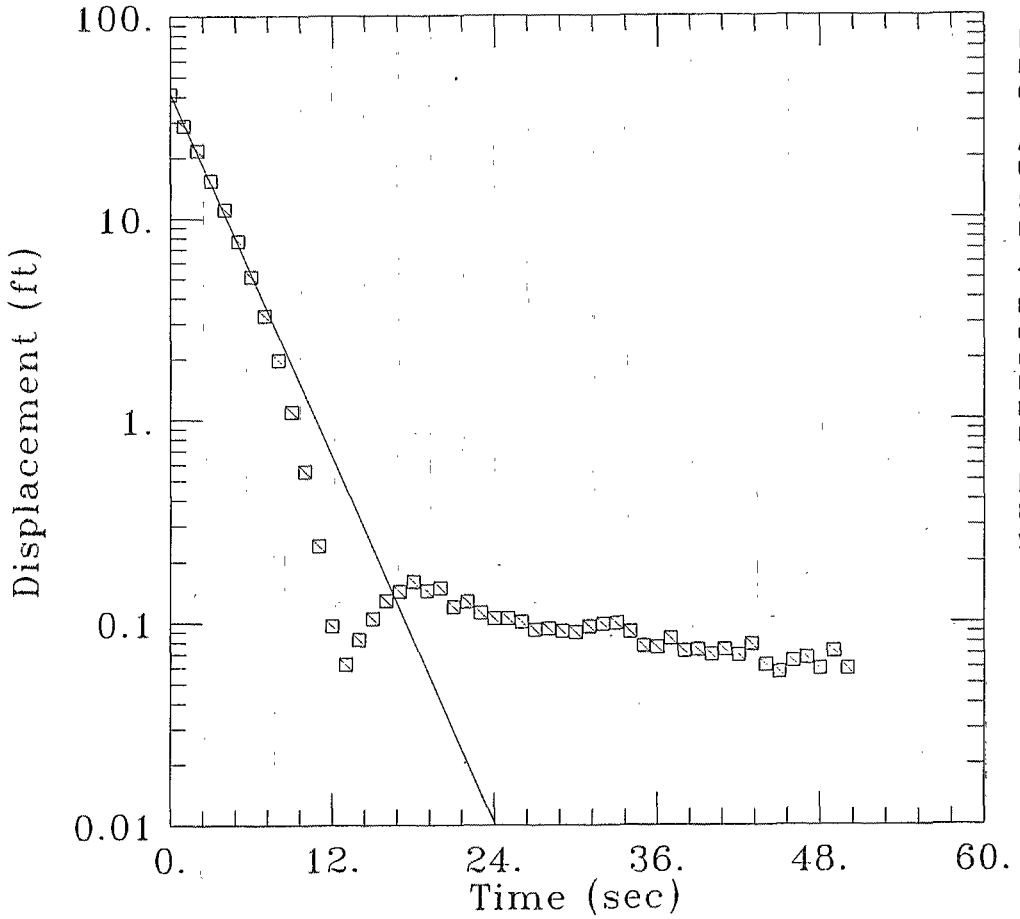
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 41.5 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 89.72 ft
H = 87.72 ft

PARAMETER ESTIMATES:
K = 0.001455 ft/sec
y0 = 42.5 ft

AQTESOLV

CH2MHILL
MW06-094
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW060942.DAT
02/10/97

AQUIFER MODEL:
Unconfined

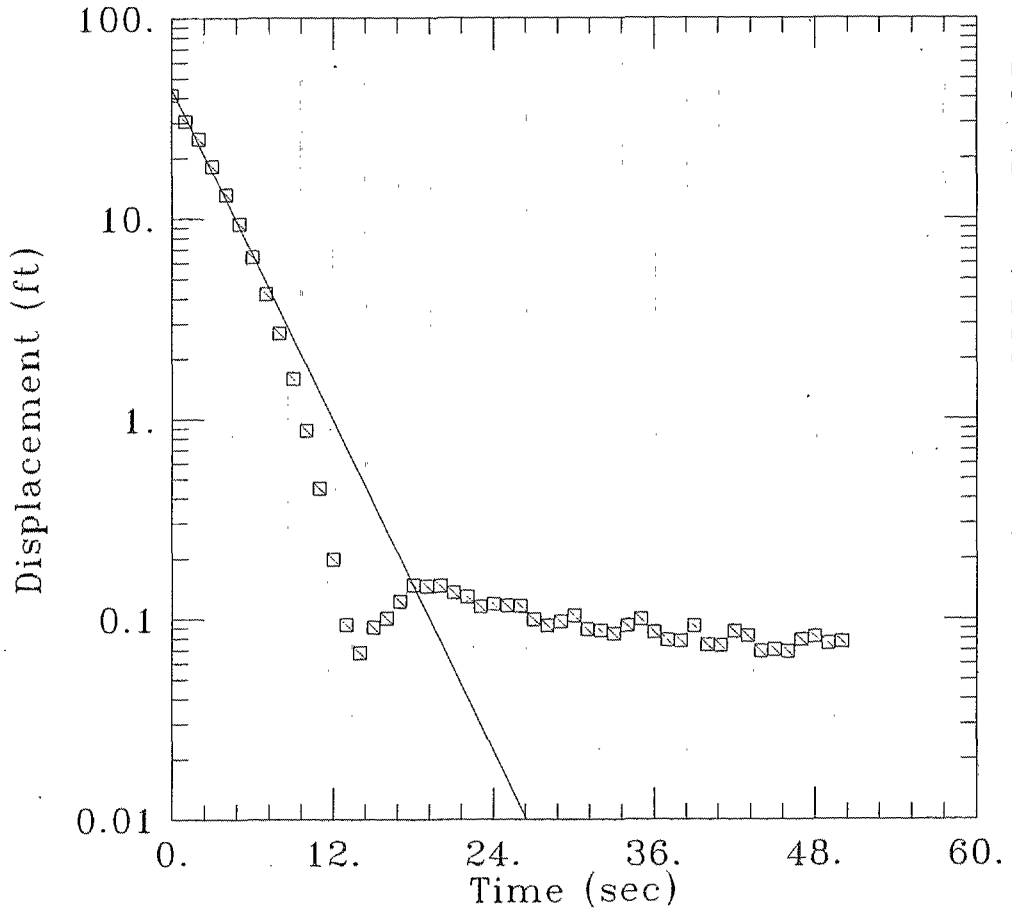
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 41.2 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 89.72 ft
H = 87.72 ft

PARAMETER ESTIMATES:
K = 0.001405 ft/sec
y0 = 41.89 ft

AQTESOLV

CH2MHILL
MW06-094
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW060943.DAT
02/10/97

AQUIFER MODEL:
Unconfined

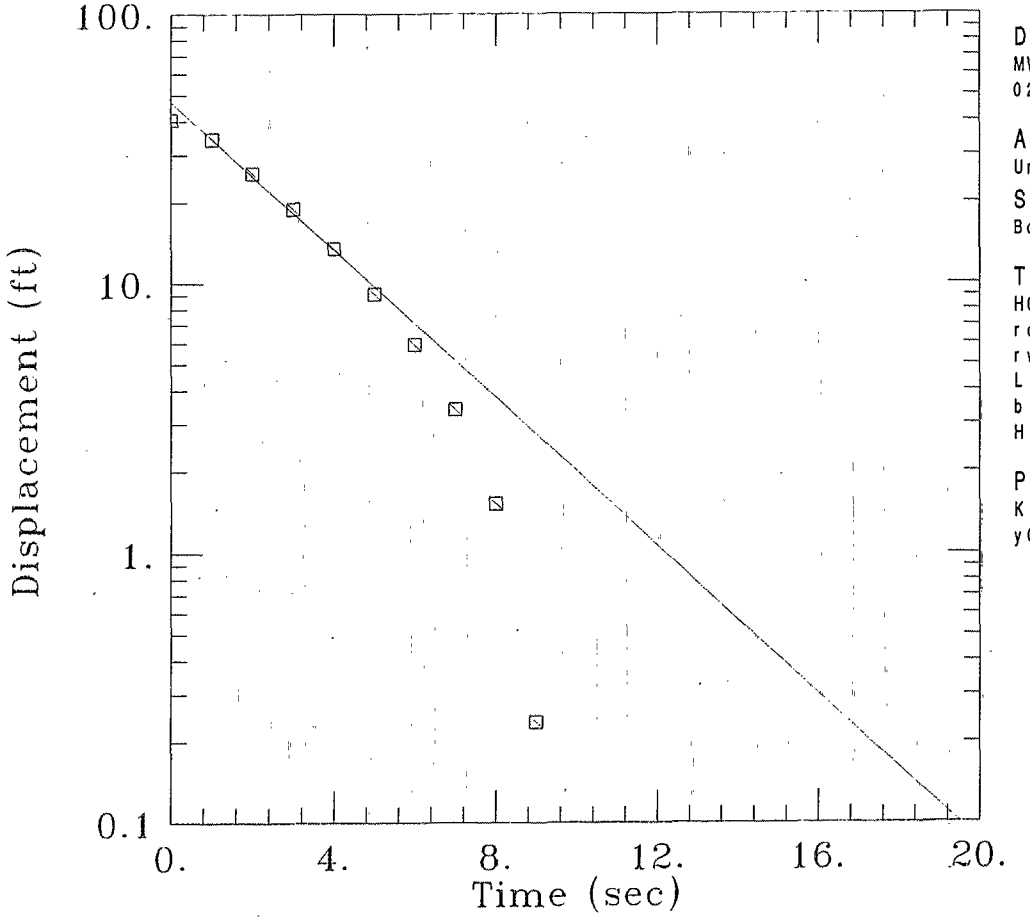
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 41.5 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 89.72 ft
H = 87.72 ft

PARAMETER ESTIMATES:
K = 0.001286 ft/sec
y0 = 44.22 ft

AQTESOLV

CH2MHILL
MW06-176
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW061761.DAT
02/10/97

AQUIFER MODEL:
Unconfined

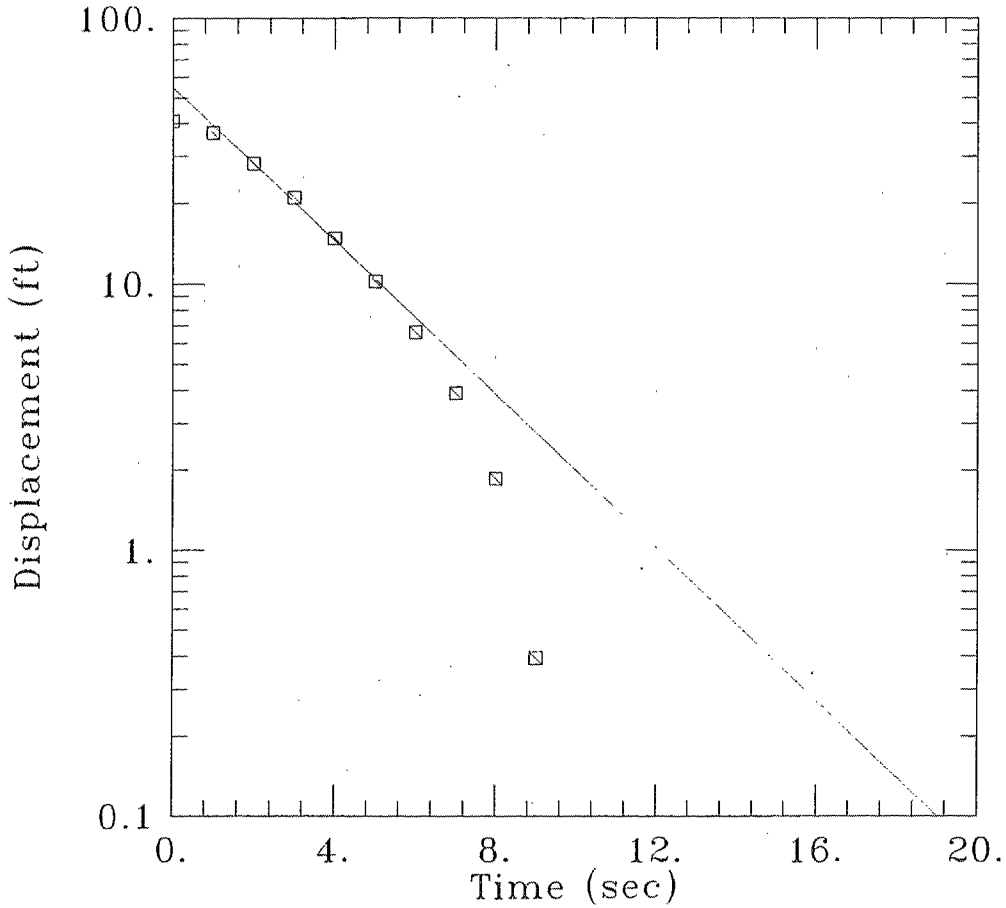
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.5 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 171.9 ft
H = 169.9 ft

PARAMETER ESTIMATES:
K = 0.001378 ft/sec
y0 = 47.23 ft

AQTESOLV

CH2MHILL
MW06-176
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW061762.DAT
02/10/97

AQUIFER MODEL:
Unconfined

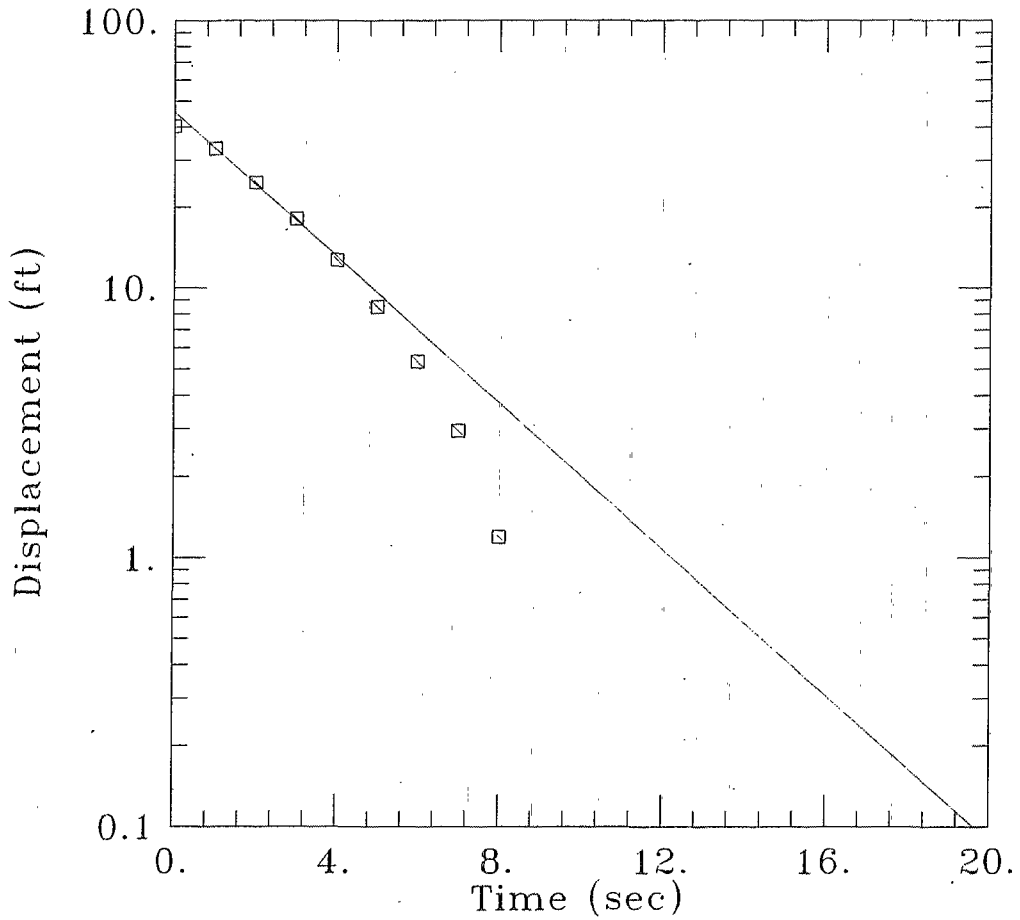
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 171.9 ft
H = 169.9 ft

PARAMETER ESTIMATES:
K = 0.001447 ft/sec
y0 = 54.93 ft

AQTESOLV

CH2MHILL
MW06-176
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW061763.DAT
02/10/97

AQUIFER MODEL:
Unconfined

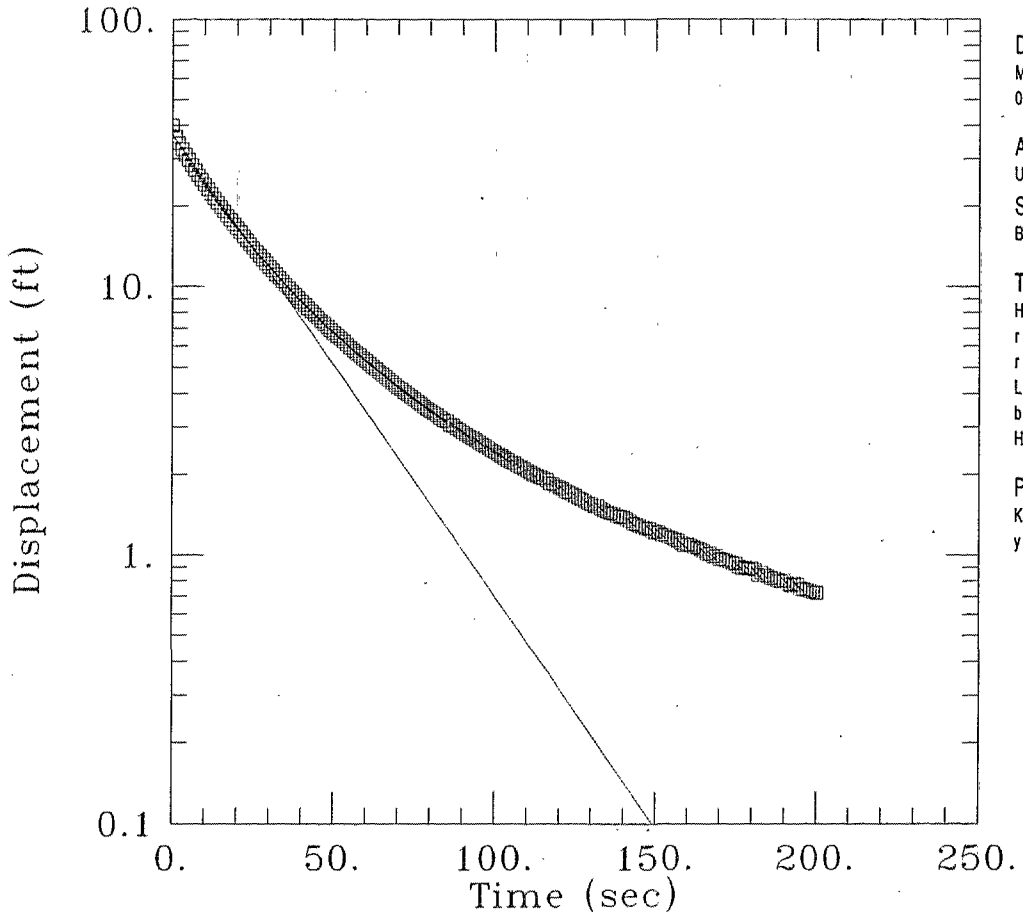
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 171.9 ft
H = 169.9 ft

PARAMETER ESTIMATES:
K = 0.001361 ft/sec
y0 = 45.48 ft

AQTESOLV

CH2MHILL
MW08-127
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW081271
02/13/97

AQUIFER MODEL:
Unconfined

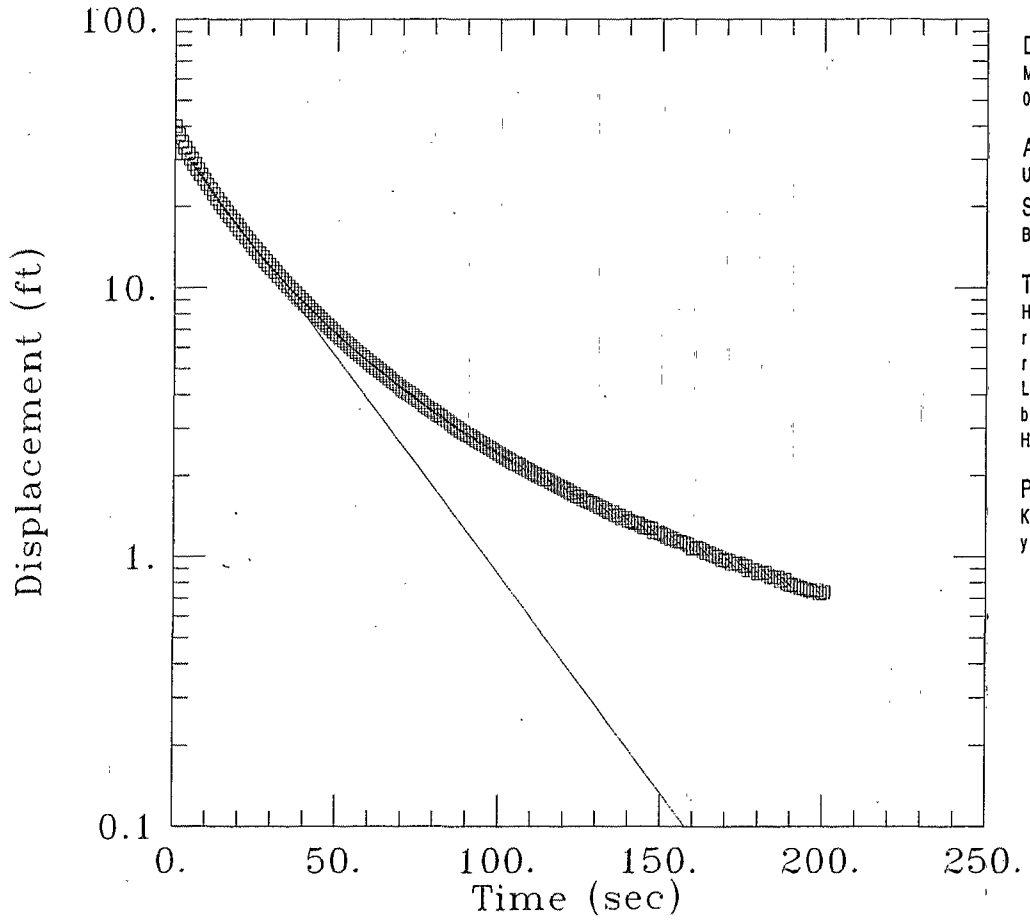
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.96 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 121. ft
H = 119. ft

PARAMETER ESTIMATES:
K = 0.0001665 ft/sec
y0 = 36.95 ft

AQTESOLV

CH2MHILL
MW08-127
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW081272
02/13/97

AQUIFER MODEL:
Unconfined

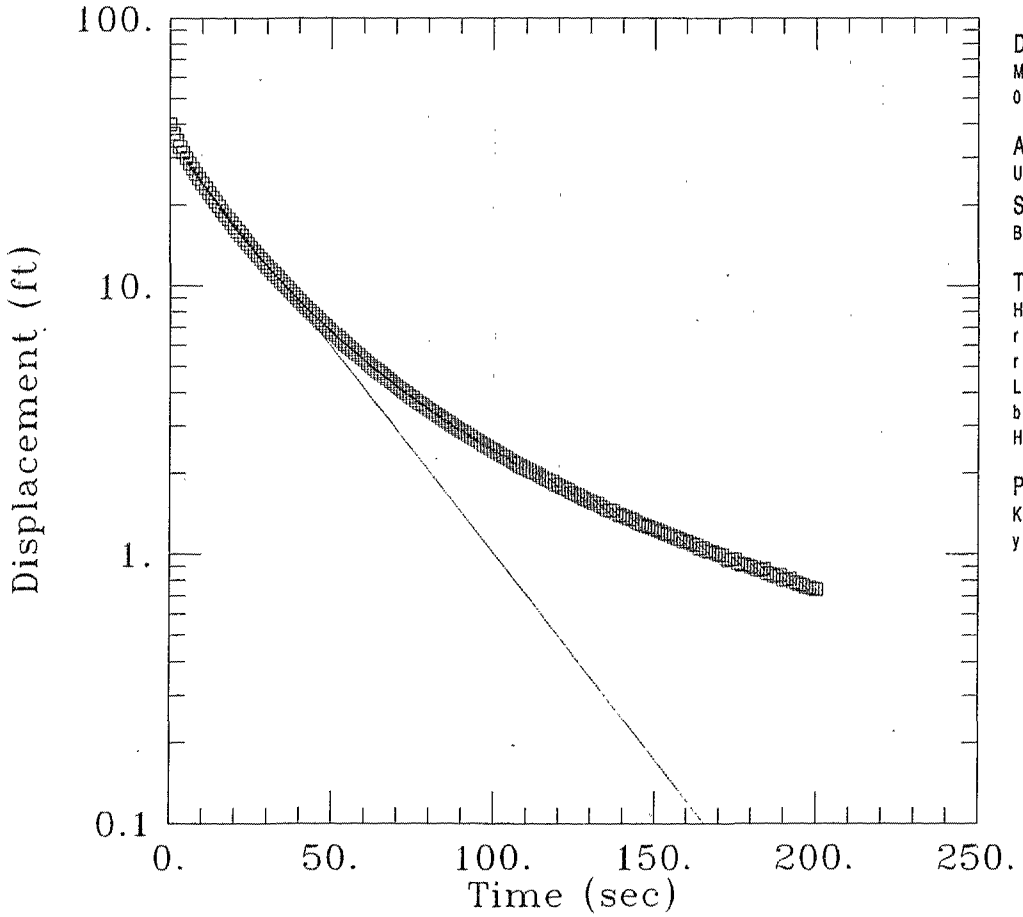
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 121. ft
H = 119. ft

PARAMETER ESTIMATES:
K = 0.000156 ft/sec
y0 = 34.96 ft

AQTESOLV

CH2MHILL
MW08-127
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW081273.DAT
02/13/97

AQUIFER MODEL:
Unconfined

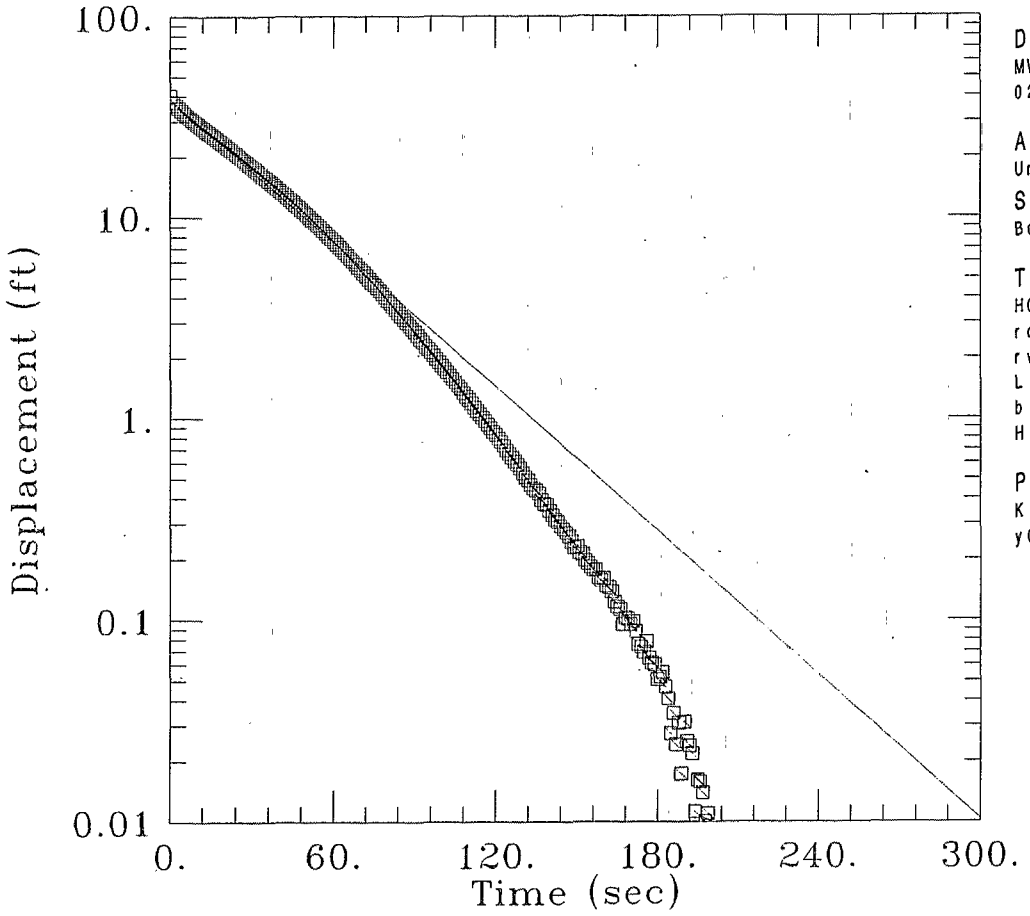
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 121. ft
H = 119. ft

PARAMETER ESTIMATES:
K = 0.0001481 ft/sec
y0 = 34.26 ft

AQTESOLV

CH2MHILL
MW08-169
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW081691.DAT
02/13/97

AQUIFER MODEL:
Unconfined

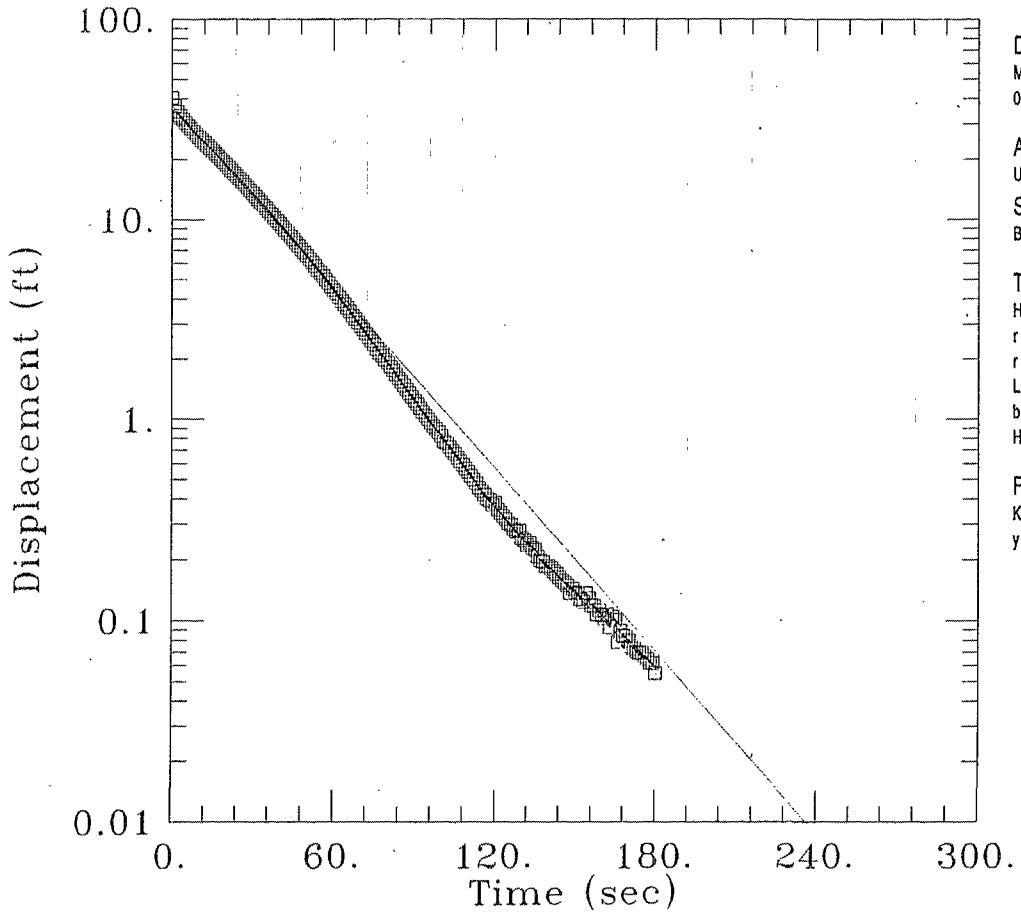
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 161.3 ft
H = 159.8 ft

PARAMETER ESTIMATES:
K = 0.0001208 ft/sec
y0 = 38.79 ft

AQTESOLV

CH2MHILL
MW08-169
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW081692.DAT
02/13/97

AQUIFER MODEL:
Unconfined

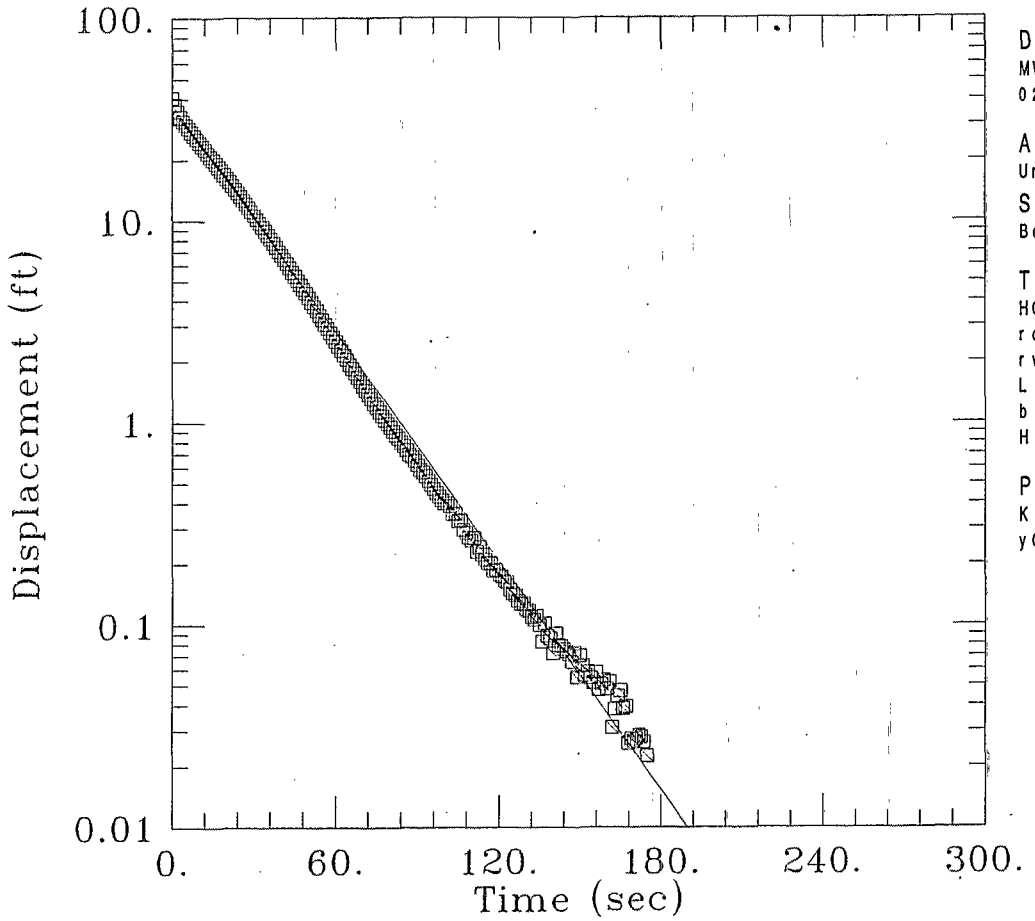
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.52 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 161.3 ft
H = 159.8 ft

PARAMETER ESTIMATES:
K = 0.0001532 ft/sec
y0 = 37..07 ft

AQTESOLV

CH2MHILL
MW08-169
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW081693.DAT
02/13/97

AQUIFER MODEL:
Unconfined

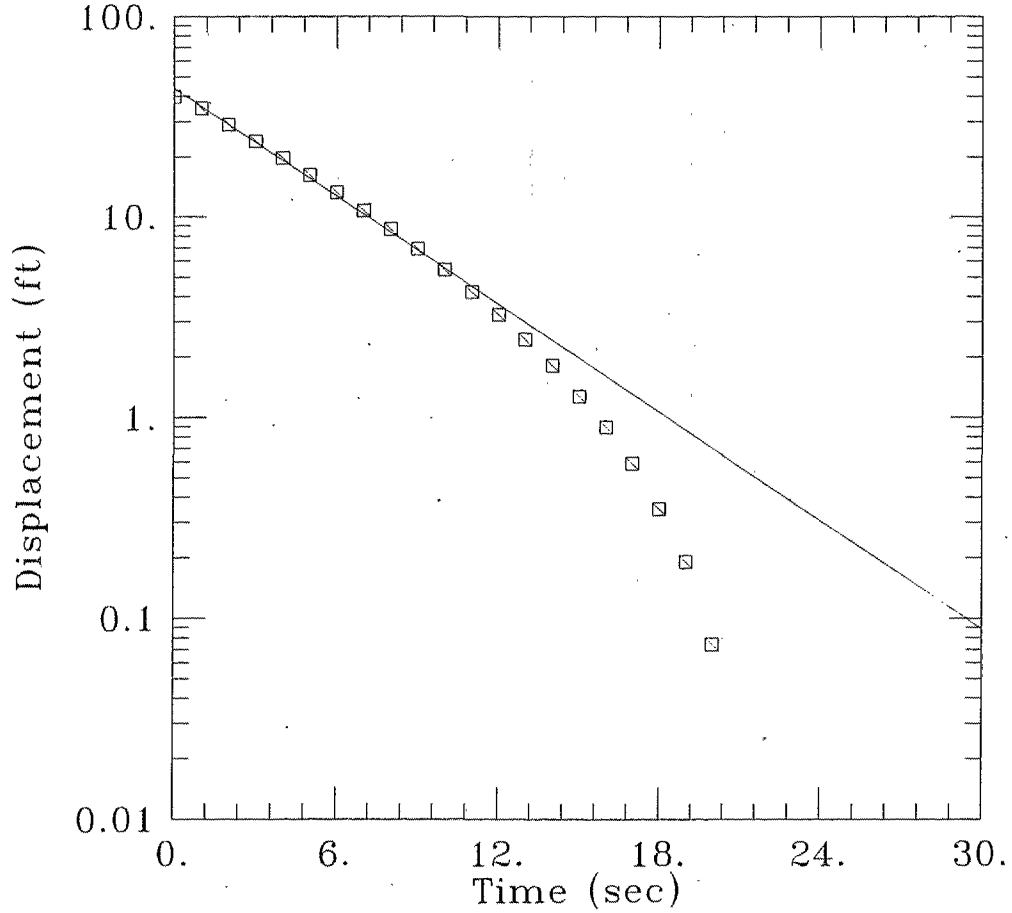
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.61 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 161.3 ft
H = 159.8 ft

PARAMETER ESTIMATES:
K = 0.000191 ft/sec
y0 = 37.87 ft

AQTESOLV

CH2MHILL
MW10-165
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW101651.DAT
02/10/97

AQUIFER MODEL:
Unconfined

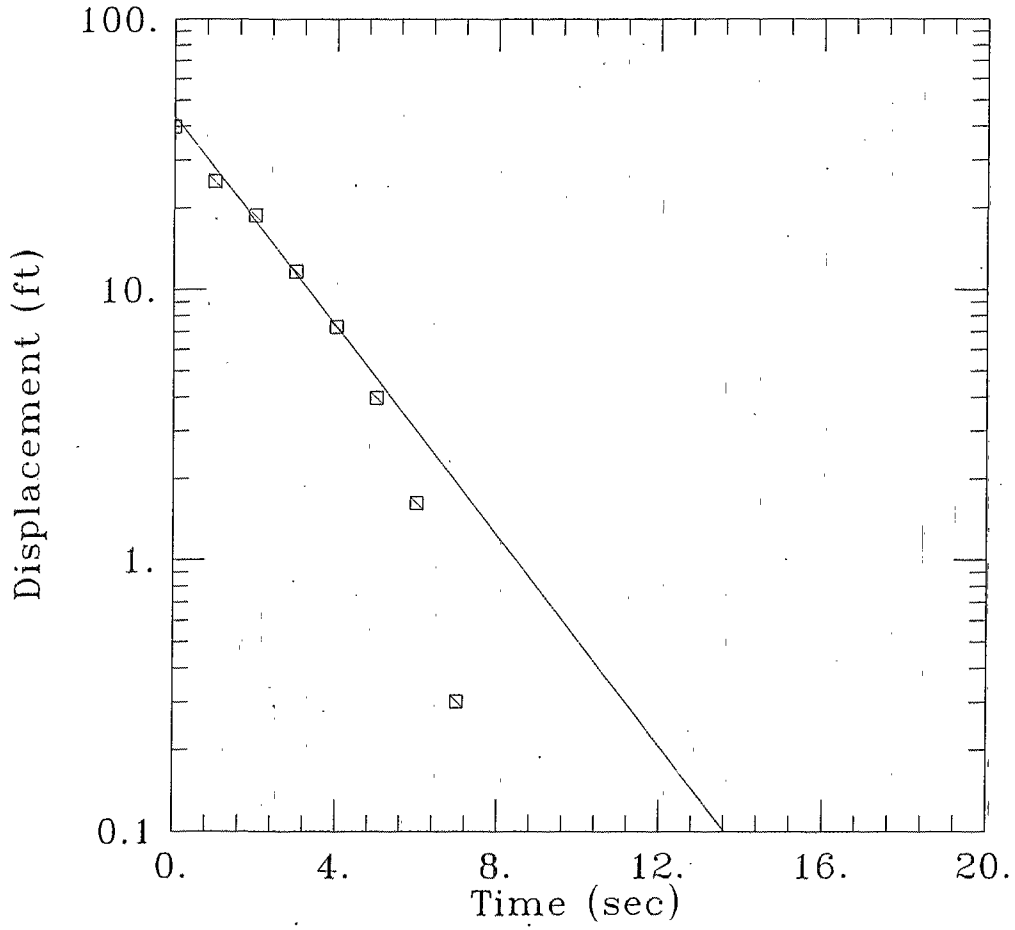
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.95 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 155.9 ft
H = 154.9 ft

PARAMETER ESTIMATES:
K = 0.0009276 ft/sec
y0 = 43.98 ft

AQTESOLV

CH2MHILL
MW10-090
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW100901.DAT
02/10/97

AQUIFER MODEL:
Unconfined

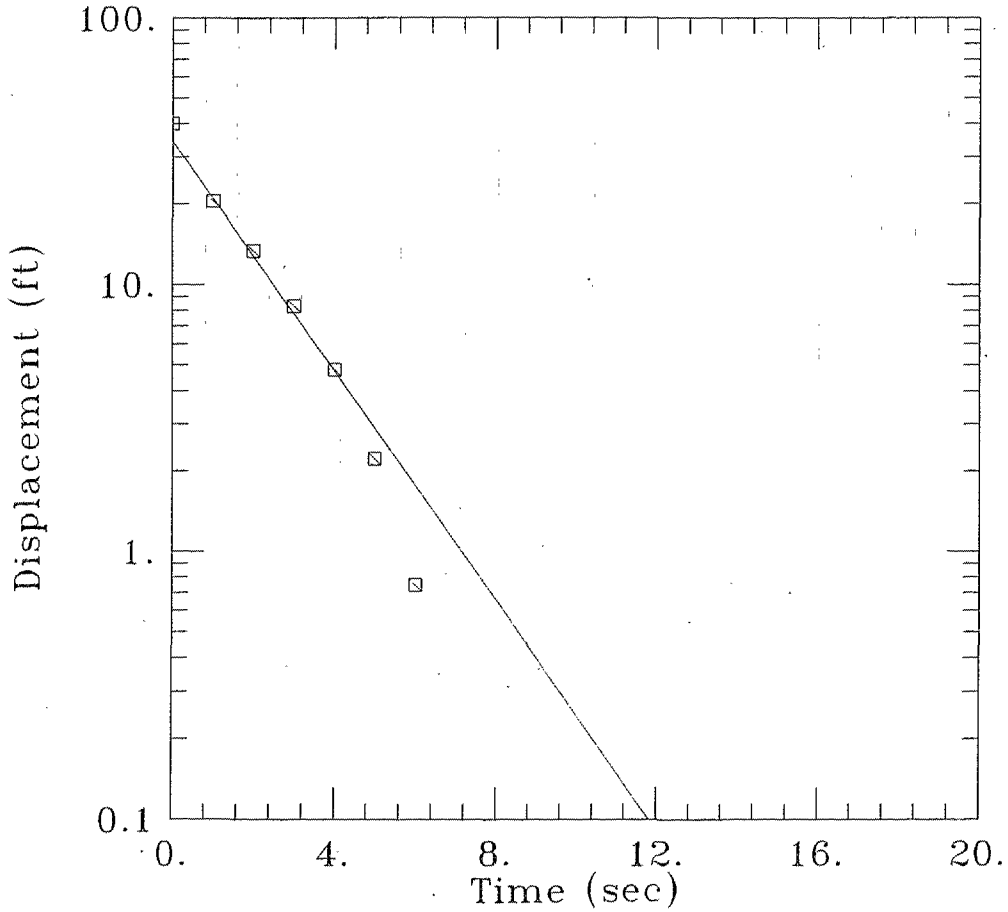
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 81.21 ft
H = 80.21 ft

PARAMETER ESTIMATES:
K = 0.001854 ft/sec
y0 = 43.75 ft

AQTESOLV

CH2MHILL
MW10-090
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW100902.DAT
02/10/97

AQUIFER MODEL:
Unconfined

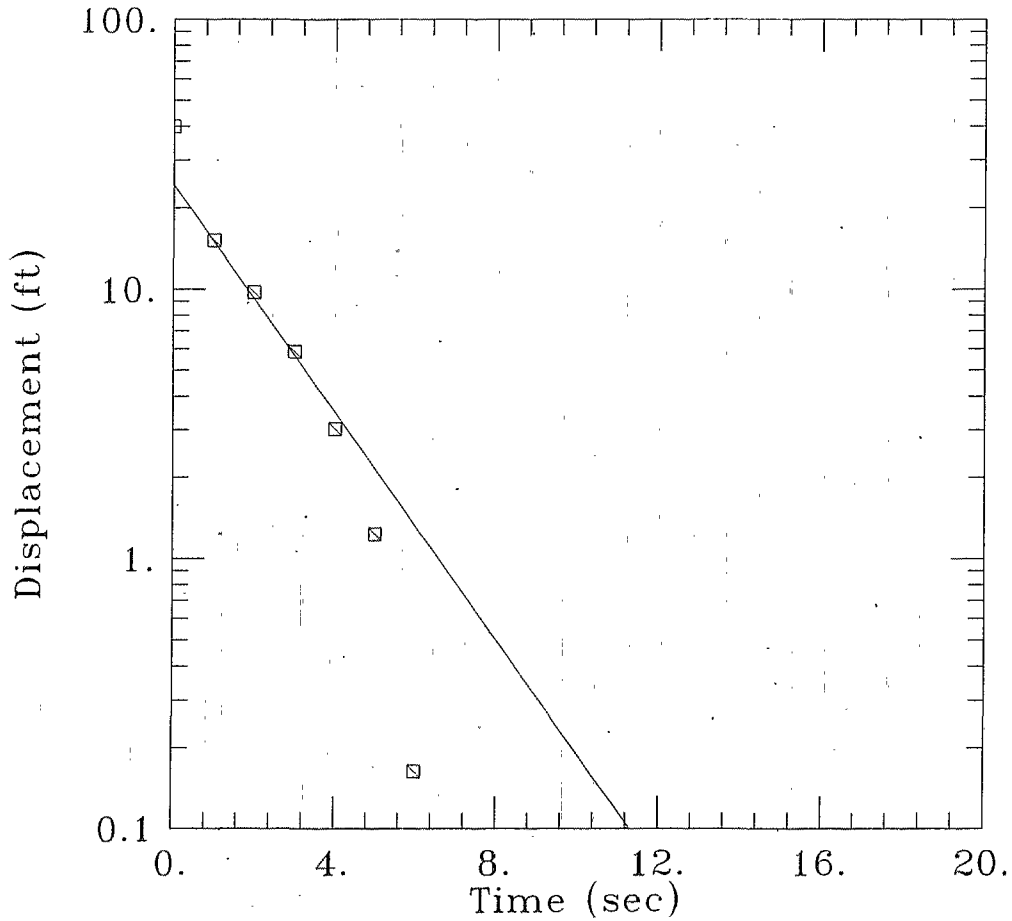
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 81.21 ft
H = 80.21 ft

PARAMETER ESTIMATES:
K = 0.002052 ft/sec
y0 = 34.29 ft

AQTESOLV

CH2MHILL
MW10-090
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW100903.DAT
02/10/97

AQUIFER MODEL:
Unconfined

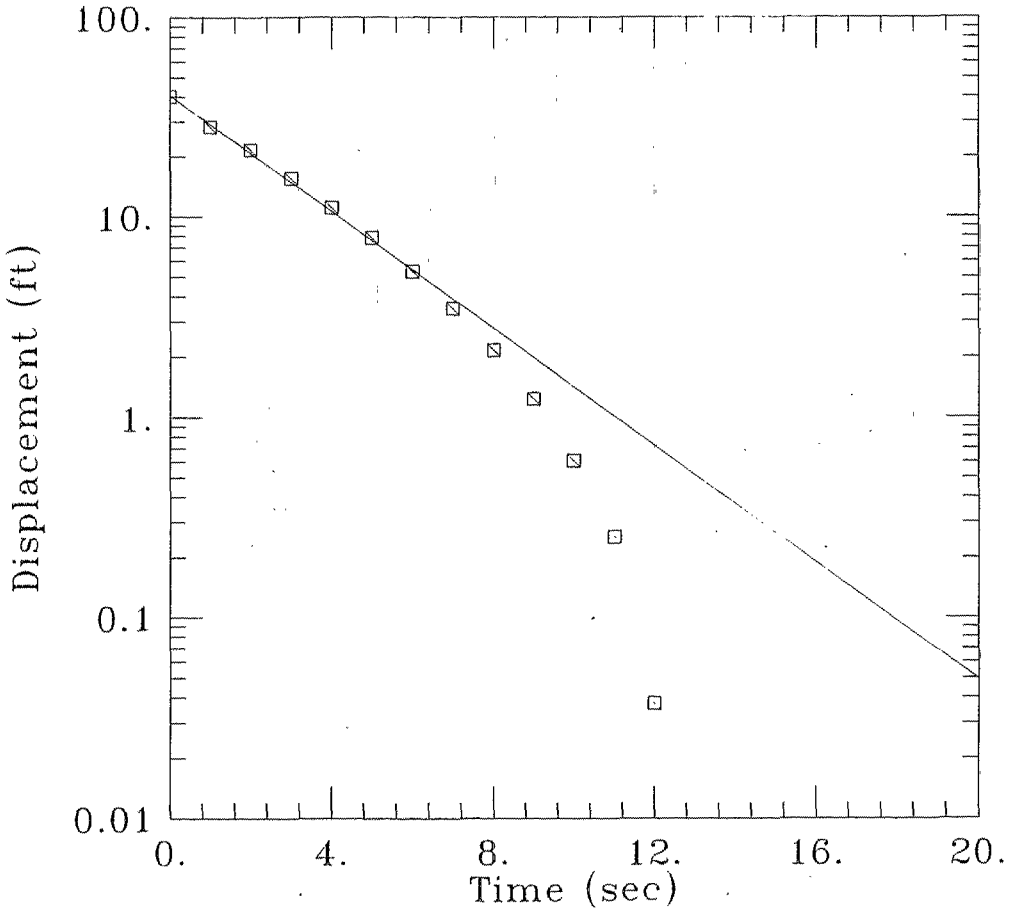
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 81.21 ft
H = 80.21 ft

PARAMETER ESTIMATES:
K = 0.002018 ft/sec
y0 = 24.38 ft

AQTESOLV

CH2MHILL
MW12-092
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
120921.DAT
02/17/97

AQUIFER MODEL:
Unconfined

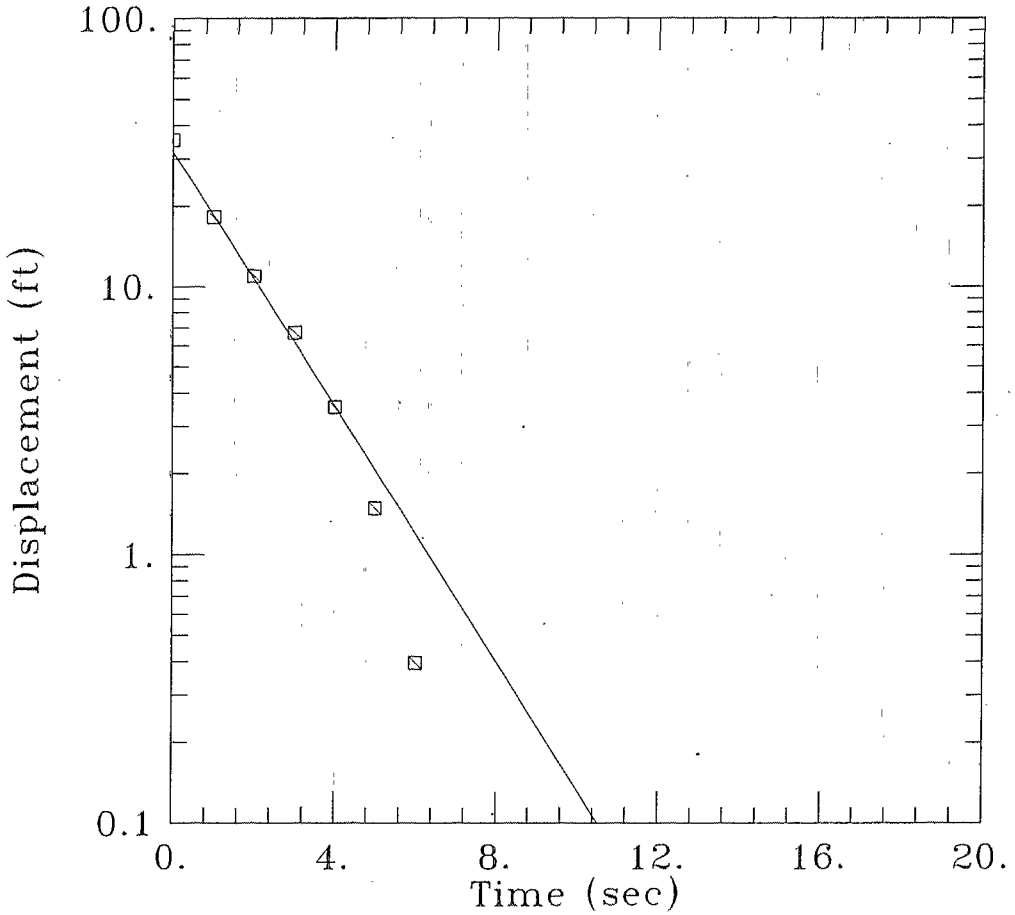
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.2 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 86.71 ft
H = 84.71 ft

PARAMETER ESTIMATES:
K = 0.001358 ft/sec
y0 = 40.81 ft

AQTESOLV

CH2MHILL
MW21-063
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW210633.DAT
02/13/97

AQUIFER MODEL:
Unconfined

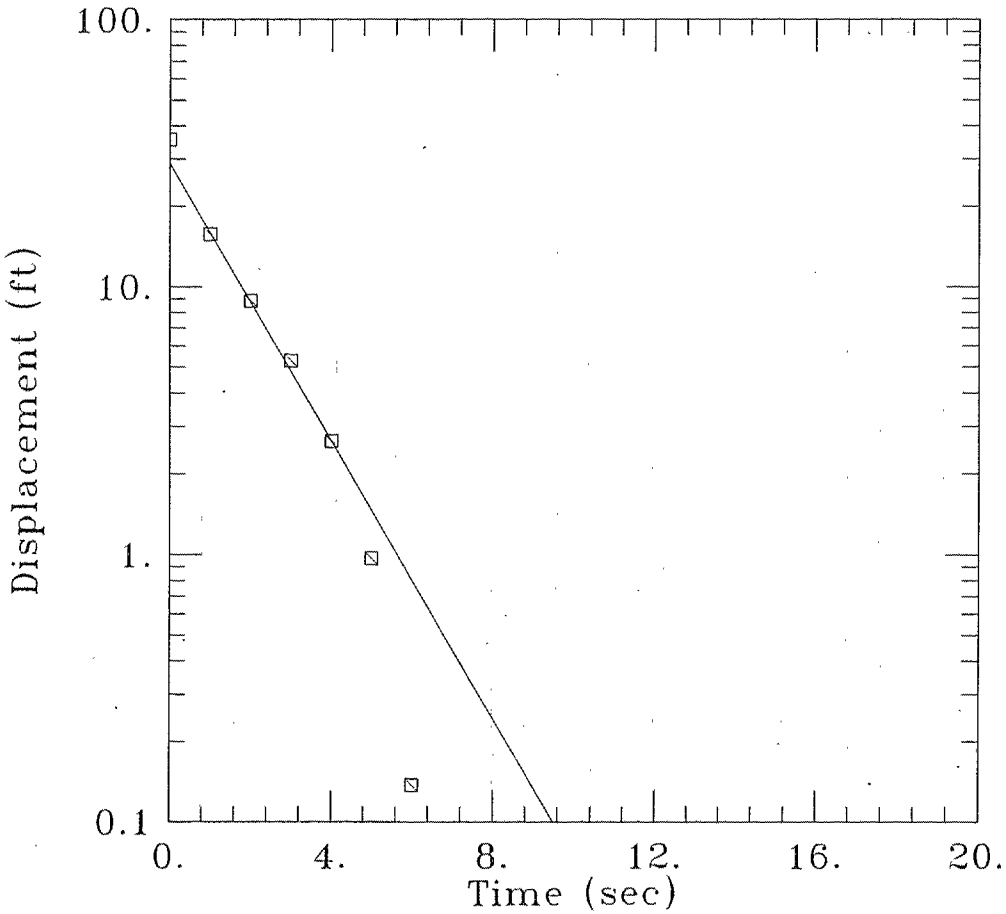
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 35.4 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 57.53 ft
H = 55.53 ft

PARAMETER ESTIMATES:
K = 0.002098 ft/sec
y0 = 31.91 ft

AQTESOLV

CH2MHILL
MW21-063
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW210632.DAT
02/13/97

AQUIFER MODEL:
Unconfined

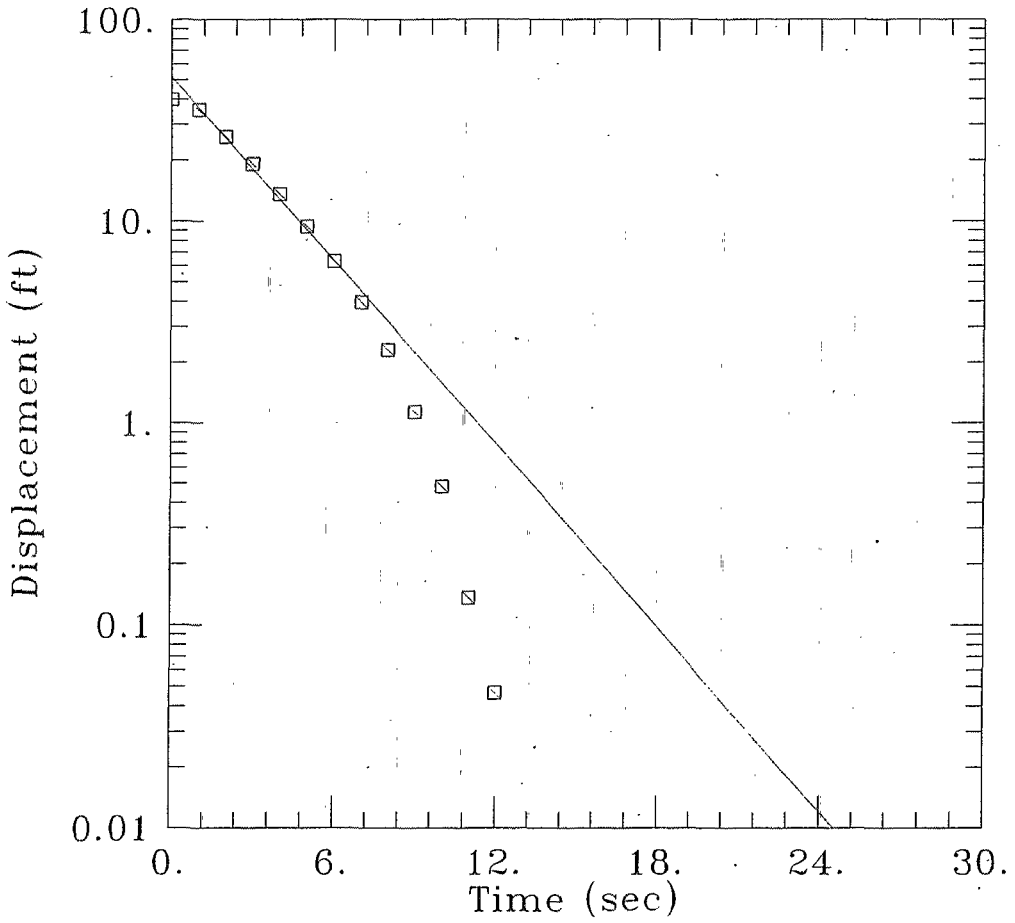
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 35.5 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 57.53 ft
H = 55.53 ft

PARAMETER ESTIMATES:
K = 0.002286 ft/sec
y0 = 28.88 ft

AQTESOLV

CH2MHILL
MW21-176
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW211761.DAT
02/13/97

AQUIFER MODEL:
Unconfined

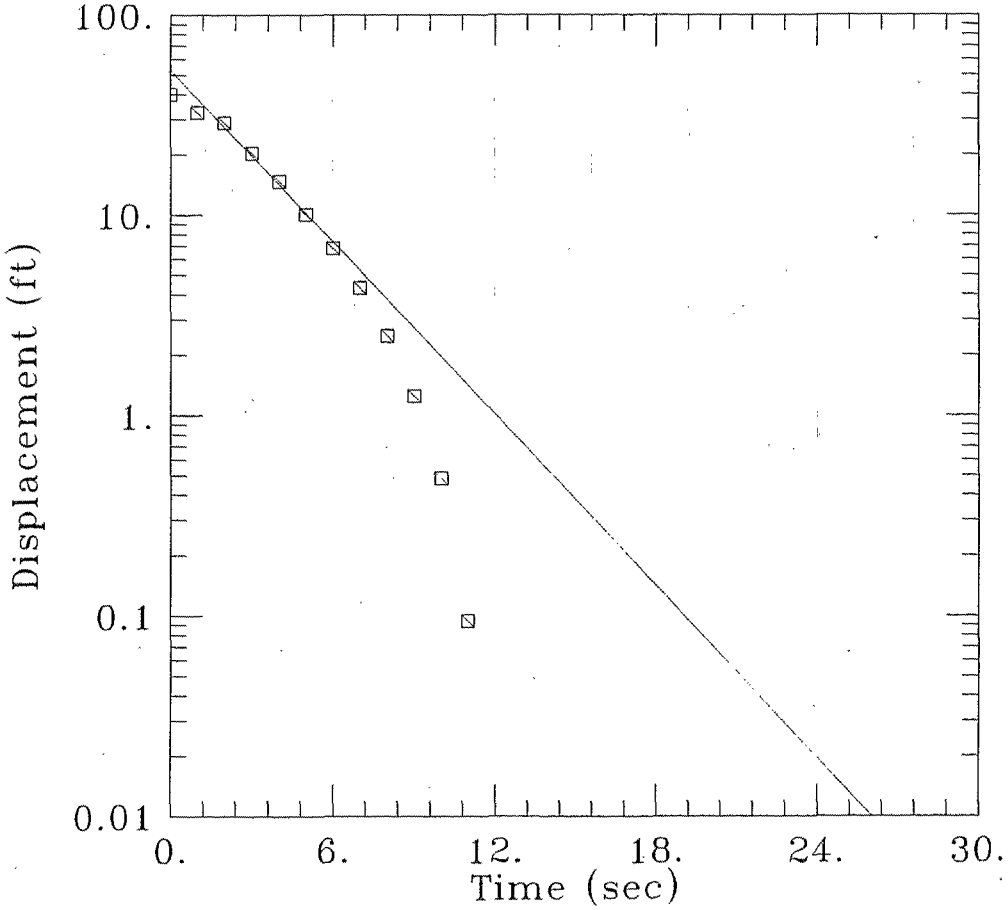
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.98 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 168. ft
H = 167. ft

PARAMETER ESTIMATES:
K = 0.001575 ft/sec
y0 = 51.57 ft

AQTESOLV

CH2MHILL
MW21-176
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW211762.DAT
02/13/97

AQUIFER MODEL:
Unconfined

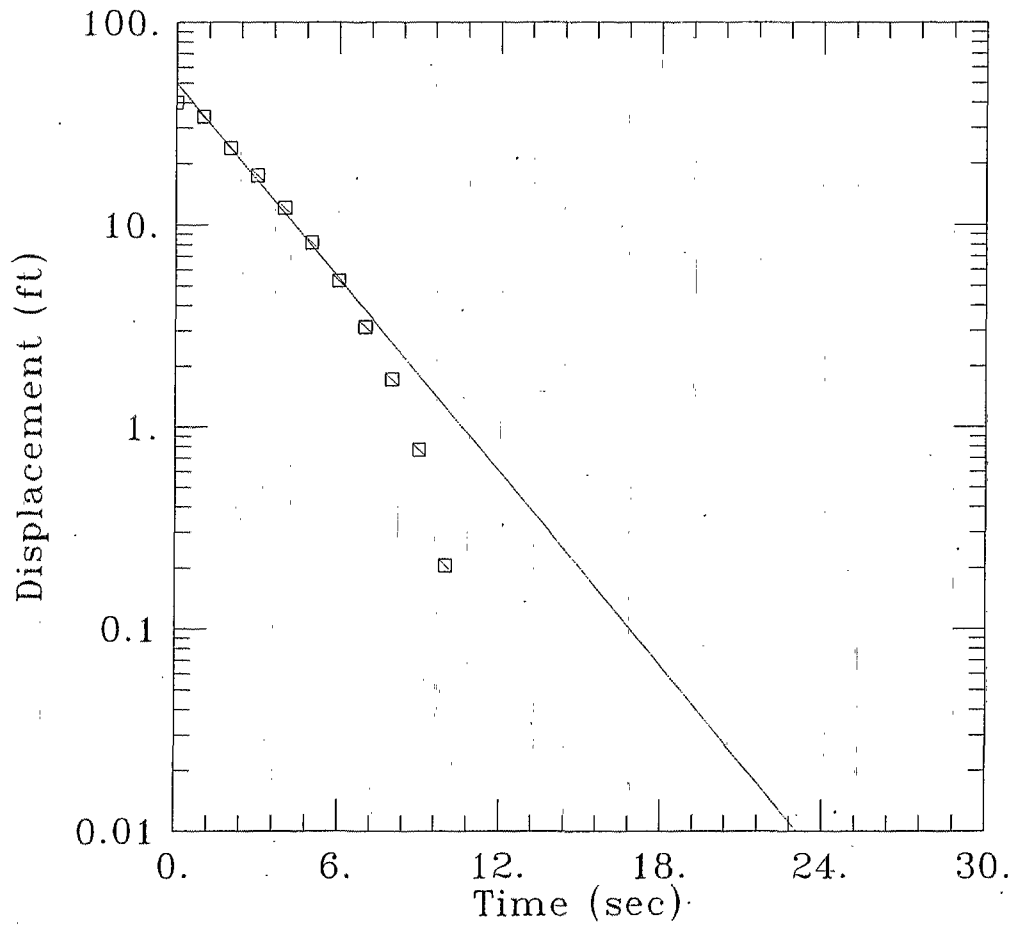
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 168. ft
H = 167. ft

PARAMETER ESTIMATES:
K = 0.001489 ft/sec
y0 = 53.23 ft

AQTESOLV

CH2MHILL
MW21-176
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW211763.DAT
02/13/97

AQUIFER MODEL:
Unconfined

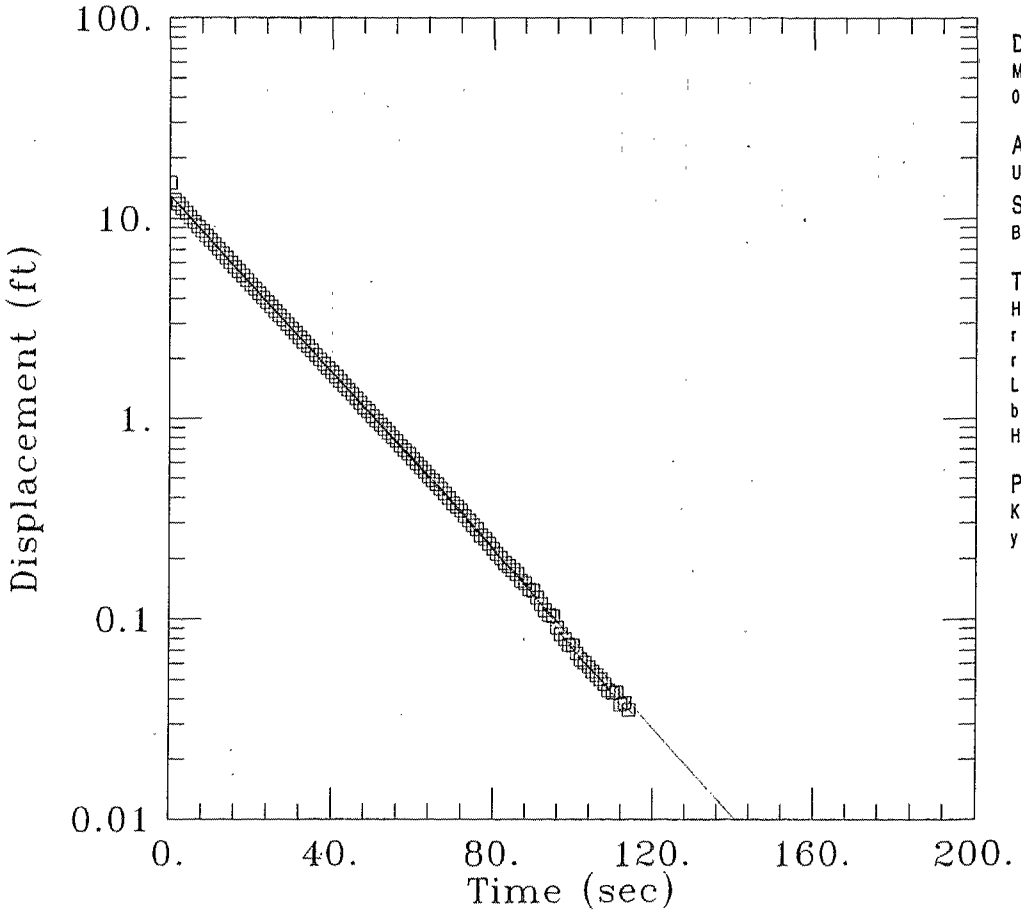
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.06 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 168. ft
H = 167. ft

PARAMETER ESTIMATES:
K = 0.001667 ft/sec
y0 = 49.86 ft

AQTESOLV

CH2MHILL
MW27-045
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW270451.DAT
02/13/97

AQUIFER MODEL:
Unconfined

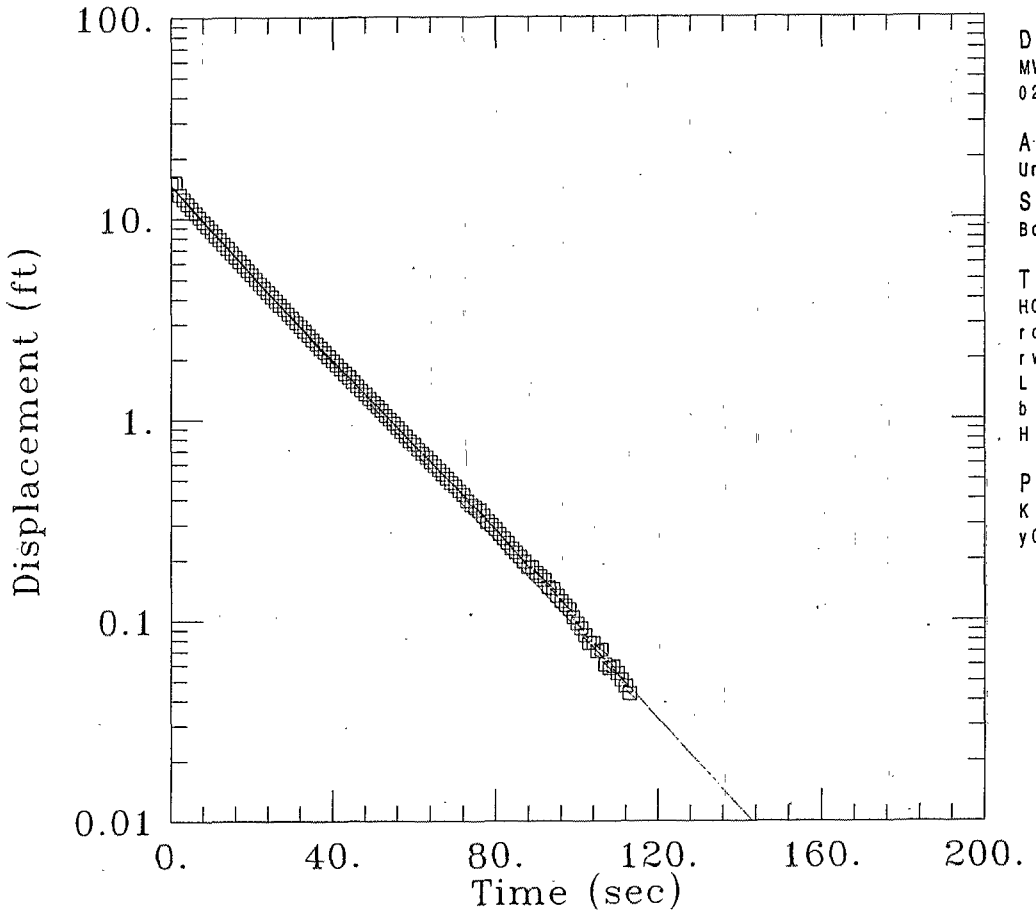
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15.03 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 66.93 ft
H = 65.43 ft

PARAMETER ESTIMATES:
K = 0.0002022 ft/sec
y0 = 13.04 ft

AQTESOLV

CH2MHILL
MW27-045
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW270452.DAT
02/13/97

AQUIFER MODEL:
Unconfined

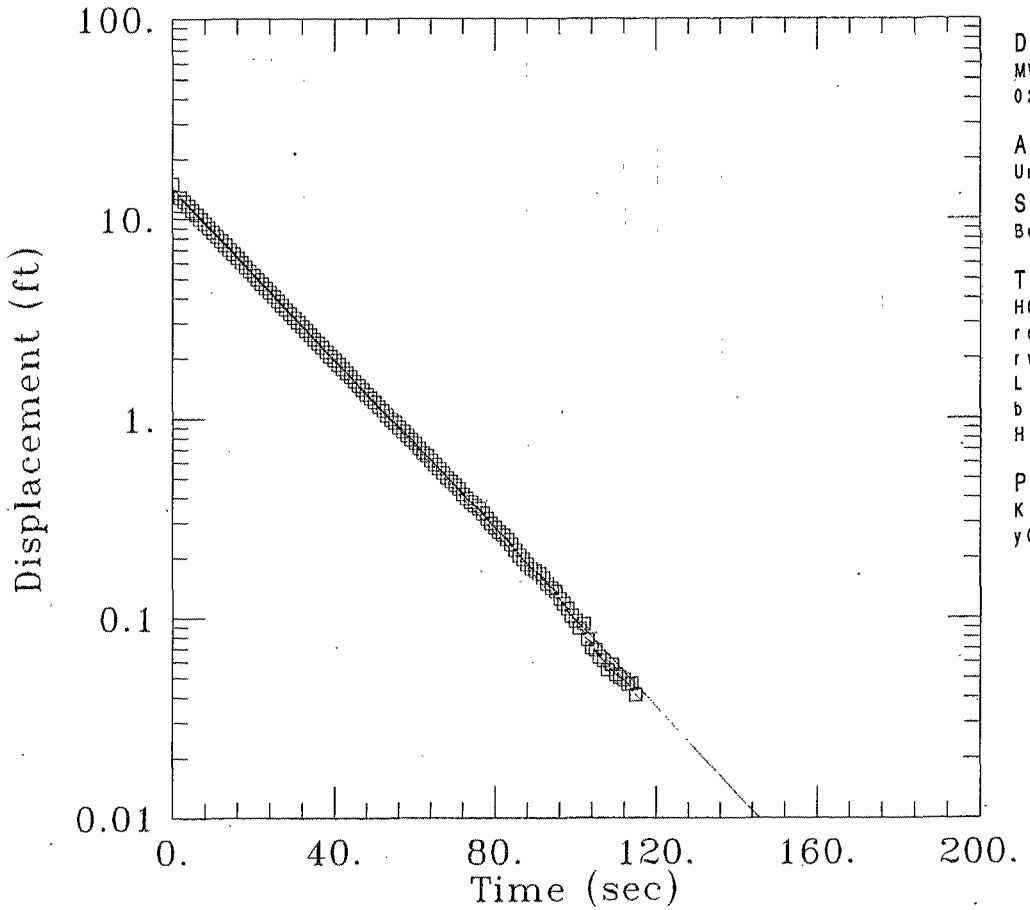
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 14.97 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 66.93 ft
H = 65.43 ft

PARAMETER ESTIMATES:
K = 0.000202 ft/sec
y0 = 14.7 ft

AQTESOLV

CH2MHILL
MW27-045
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW270453.DAT
02/13/97

AQUIFER MODEL:
Unconfined

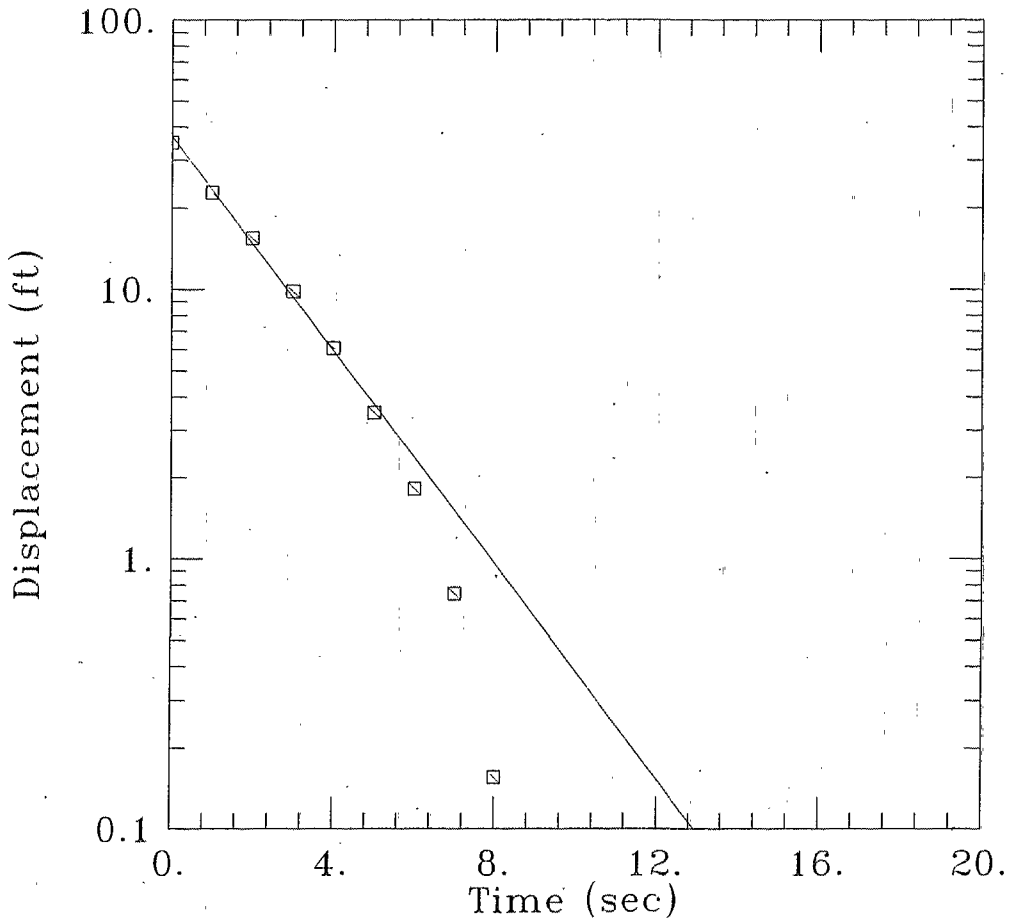
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 66.93 ft
H = 65.43 ft

PARAMETER ESTIMATES:
K = 0.0001978 ft/sec
y0 = 14.42 ft

AQTESOLV

CH2MHILL
MW27-081
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW270811.DAT
03/09/97

AQUIFER MODEL:
Unconfined

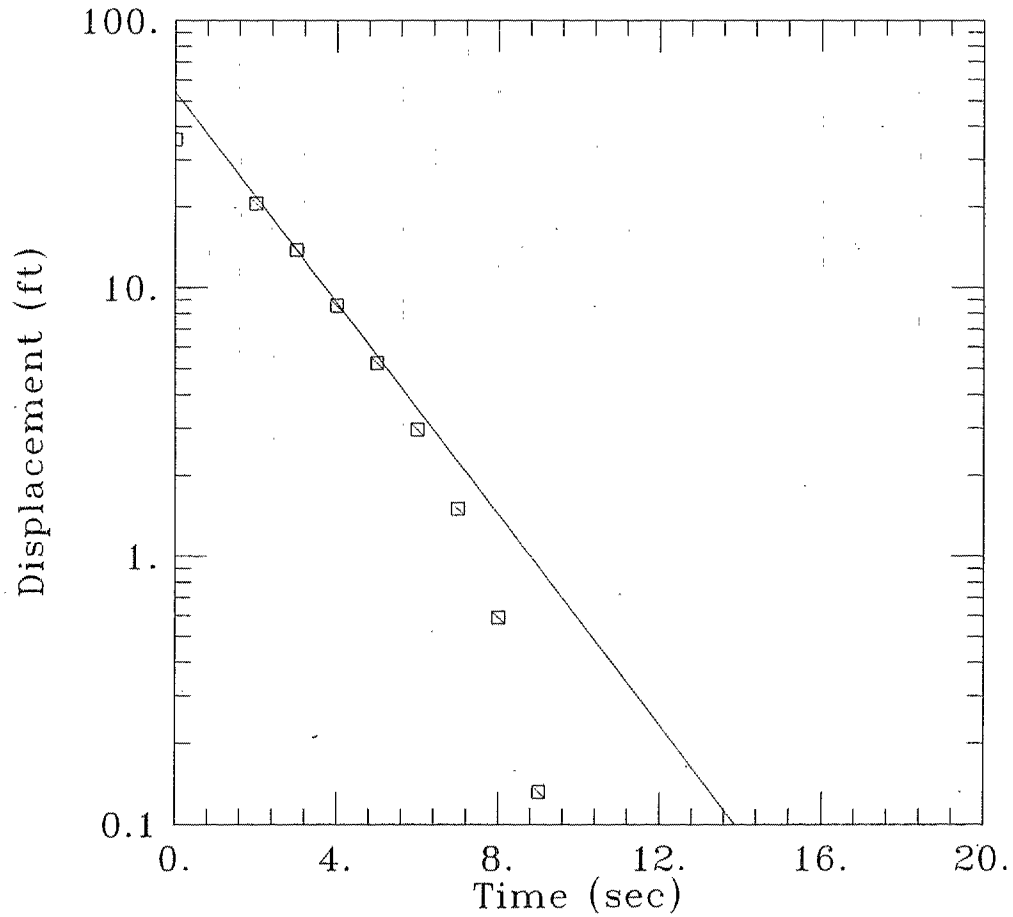
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 34.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 65.89 ft
H = 64.39 ft

PARAMETER ESTIMATES:
K = 0.001807 ft/sec
y0 = 36.81 ft

AQTESOLV

CH2MHILL
MW27-081
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW270812.DAT
03/09/97

AQUIFER MODEL:
Unconfined

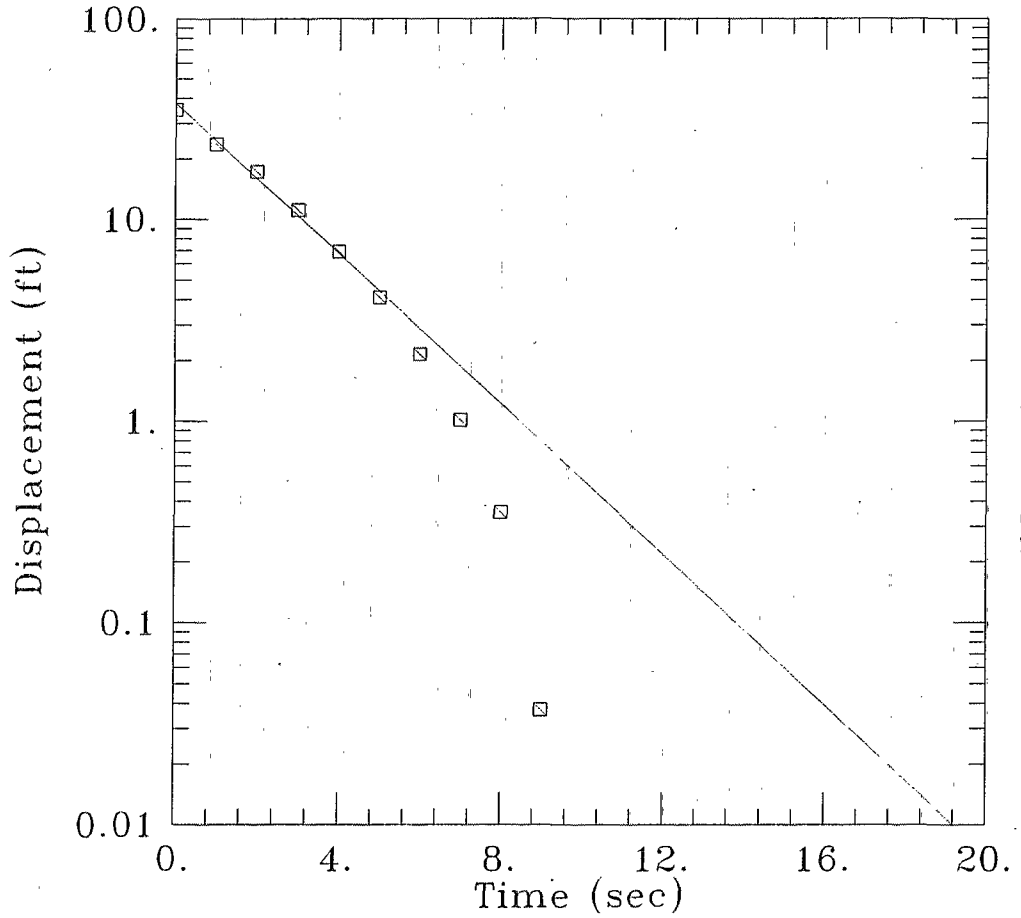
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 35.8 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 65.89 ft
H = 64.39 ft

PARAMETER ESTIMATES:
K = 0.001794 ft/sec
y0 = 53.91 ft

AQTESOLV

CH2MHILL
MW27-081
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW270813.DAT
03/09/97

AQUIFER MODEL:
Unconfined

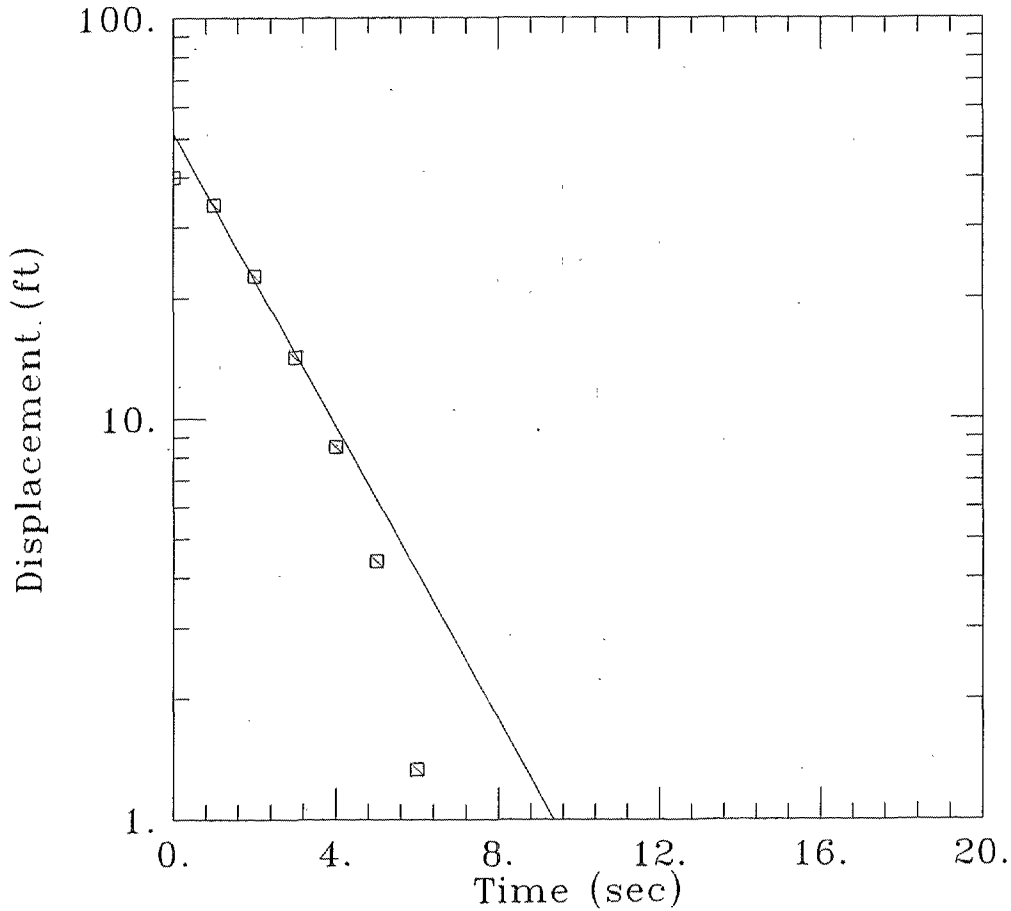
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 35.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 65.89 ft
H = 64.39 ft

PARAMETER ESTIMATES:
K = 0.001696 ft/sec
y0 = 37.58 ft

AQTESOLV

CH2MHILL
MW27-176
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW271761.DAT
02/13/97

AQUIFER MODEL:
Unconfined

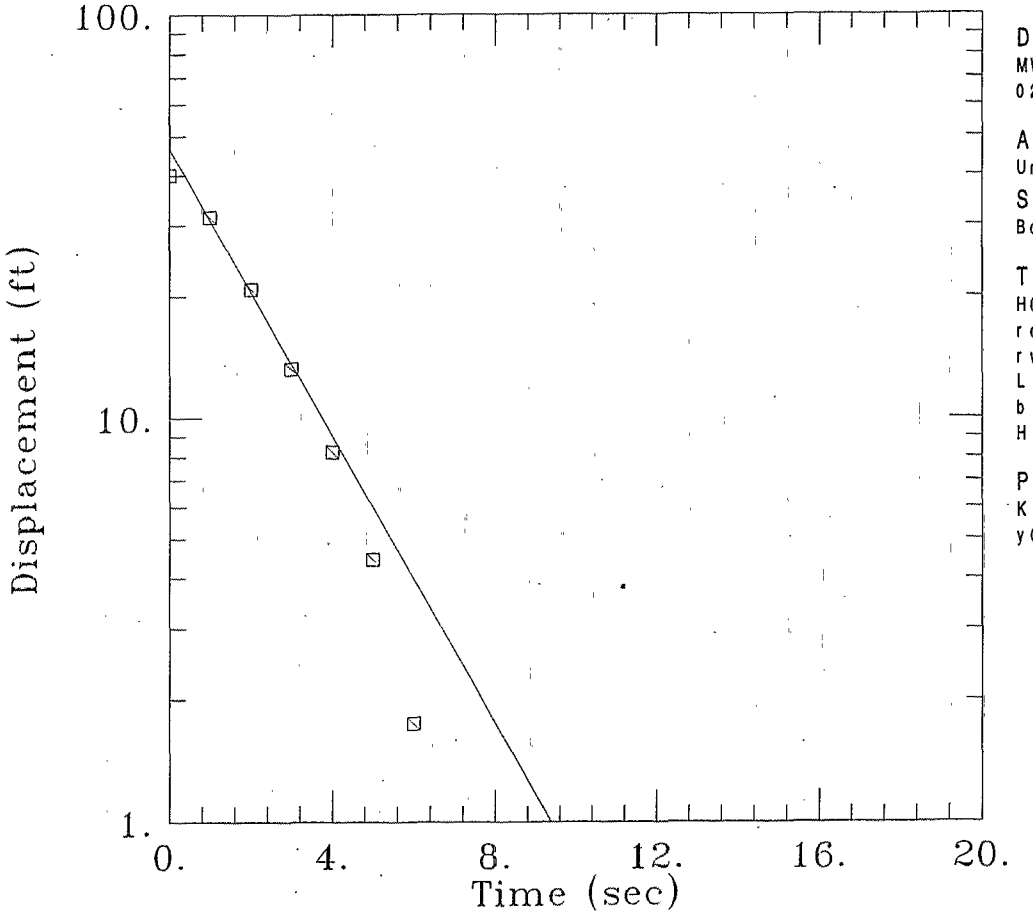
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.01 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 162.3 ft
H = 159.8 ft

PARAMETER ESTIMATES:
K = 0.001802 ft/sec
y0 = 51.49 ft

AQTESOLV

CH2MHILL
MW27-176
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW271762.DAT
02/13/97

AQUIFER MODEL:
Unconfined

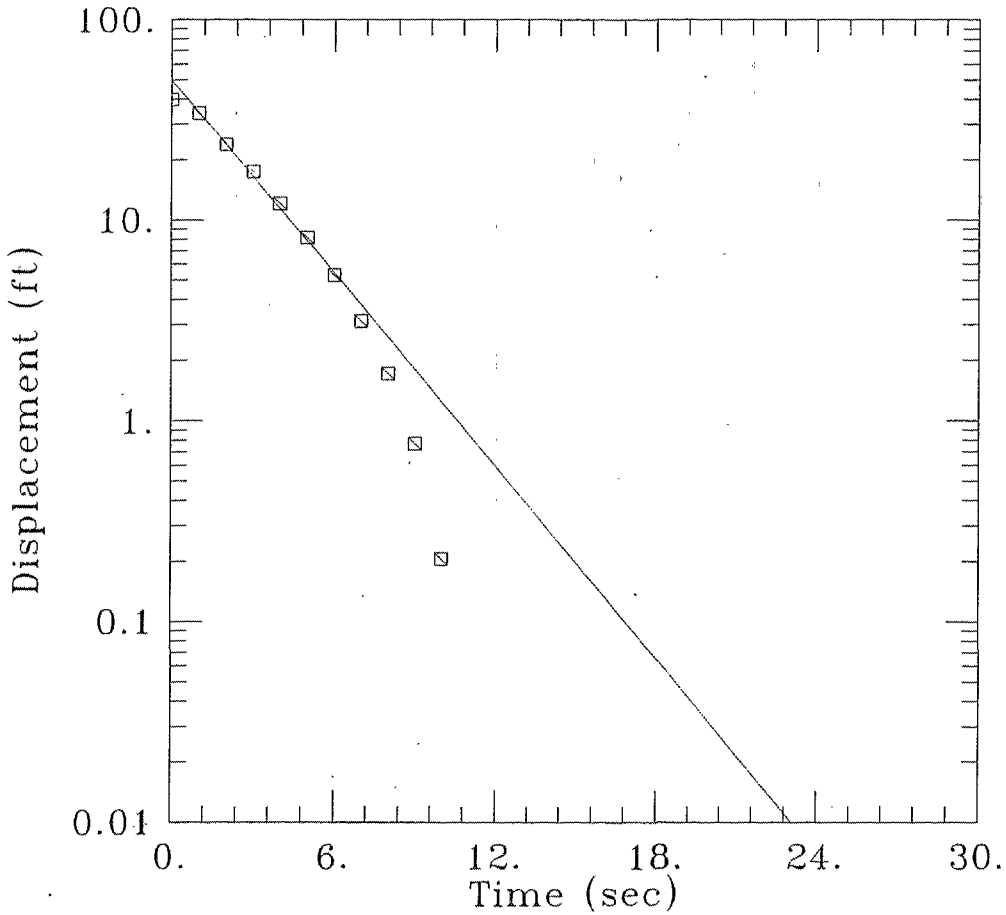
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.02 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 162.3 ft
H = 159.8 ft

PARAMETER ESTIMATES:
K = 0.001756 ft/sec
y0 = 46.56 ft

AQTESOLV

CH2MHILL
MW21-176
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW211763.DAT
02/13/97

AQUIFER MODEL:
Unconfined

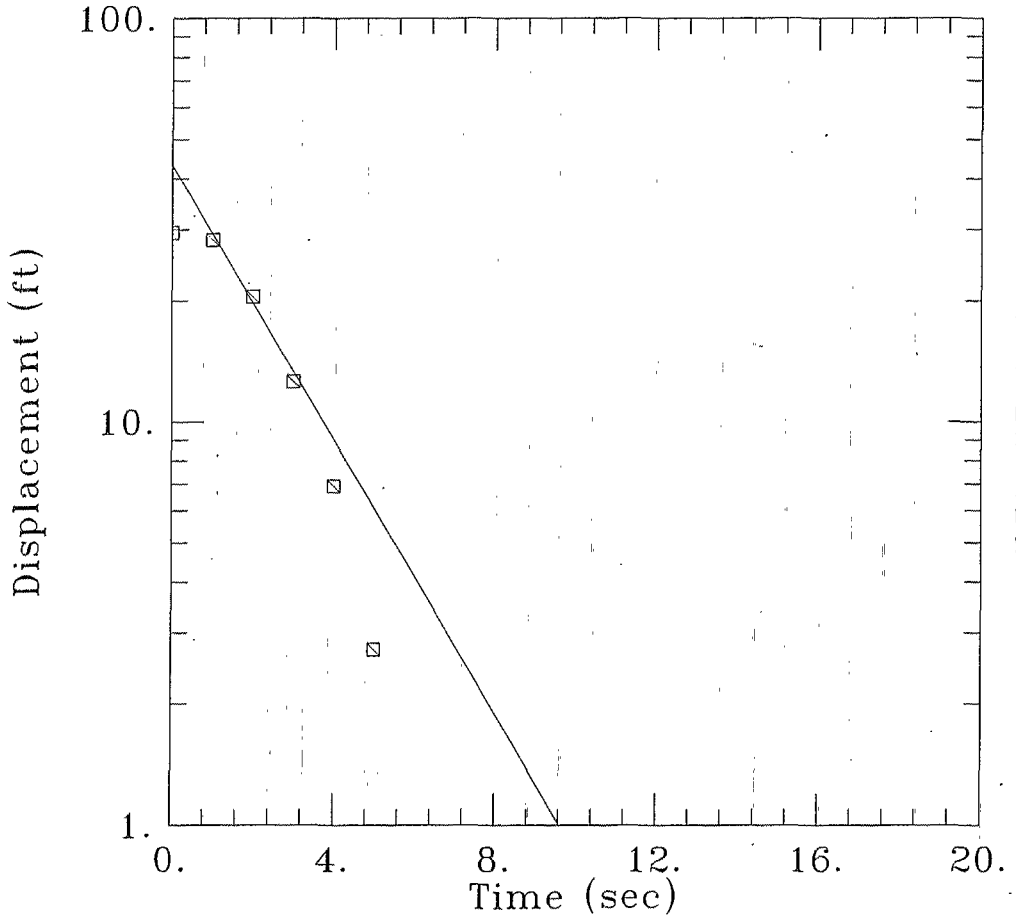
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.06 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 168. ft
H = 167. ft

PARAMETER ESTIMATES:
K = 0.001667 ft/sec
y0 = 49.86 ft

AQTESOLV

CH2MHILL
MW28-160
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW281601.DAT
02/18/97

AQUIFER MODEL:
Unconfined

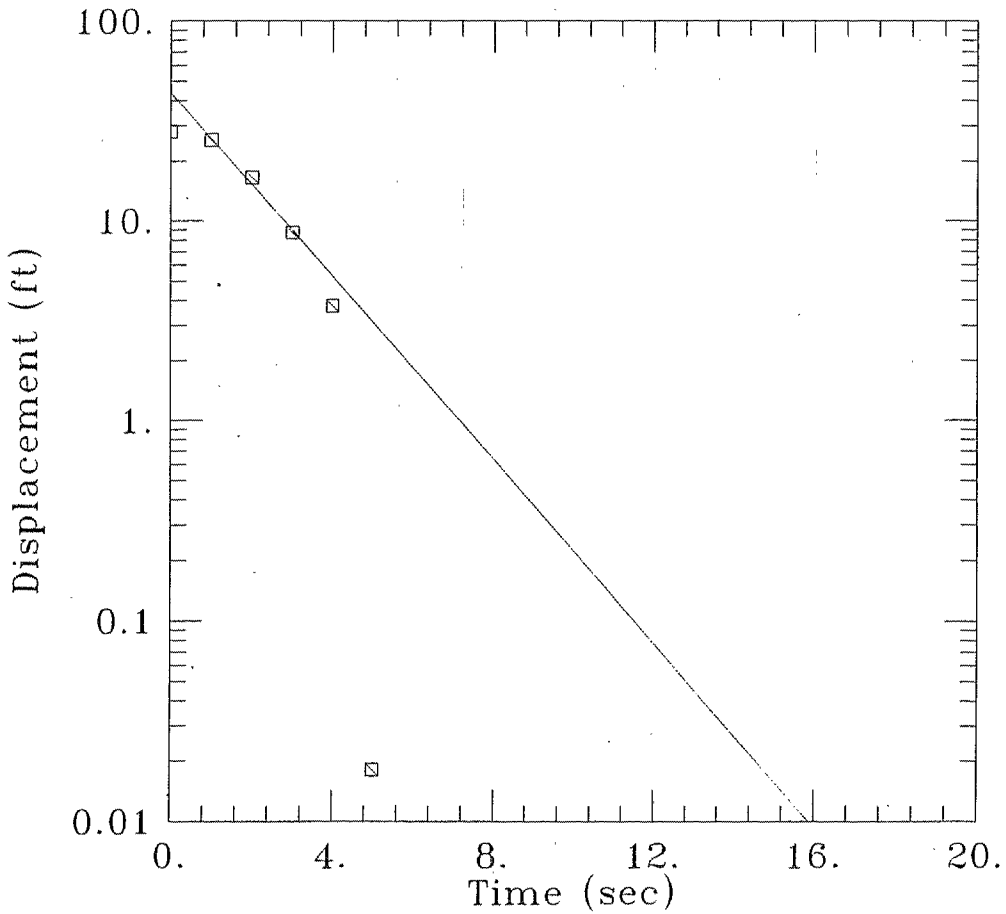
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 29.45 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 148. ft
H = 147. ft

PARAMETER ESTIMATES:
K = 0.001745 ft/sec
y0 = 43.17 ft

AQTESOLV

CH2MHILL
MW28-160
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW281602.DAT
02/18/97

AQUIFER MODEL:
Unconfined

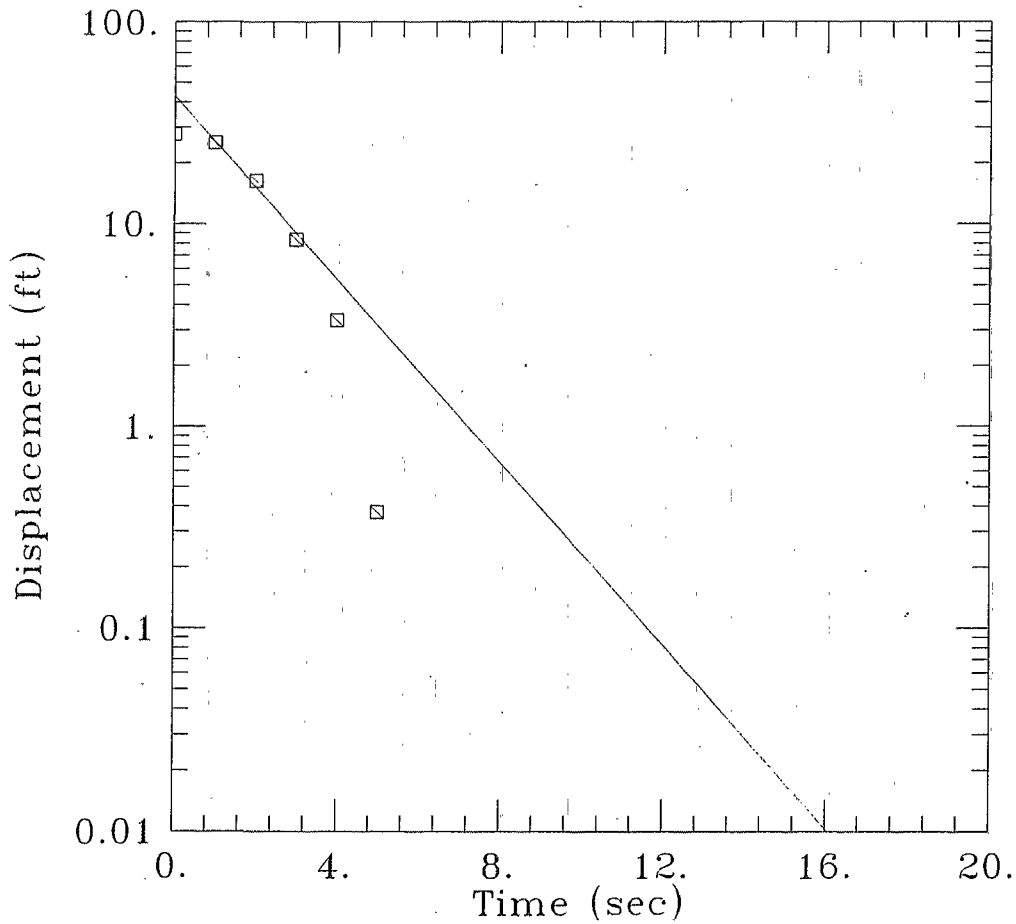
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 28.13 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 148. ft
H = 147. ft

PARAMETER ESTIMATES:
K = 0.002356 ft/sec
y0 = 43.87 ft

AQTESOLV

CH2MHILL
MW28-160
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW281603.DAT
02/18/97.

AQUIFER MODEL:
Unconfined

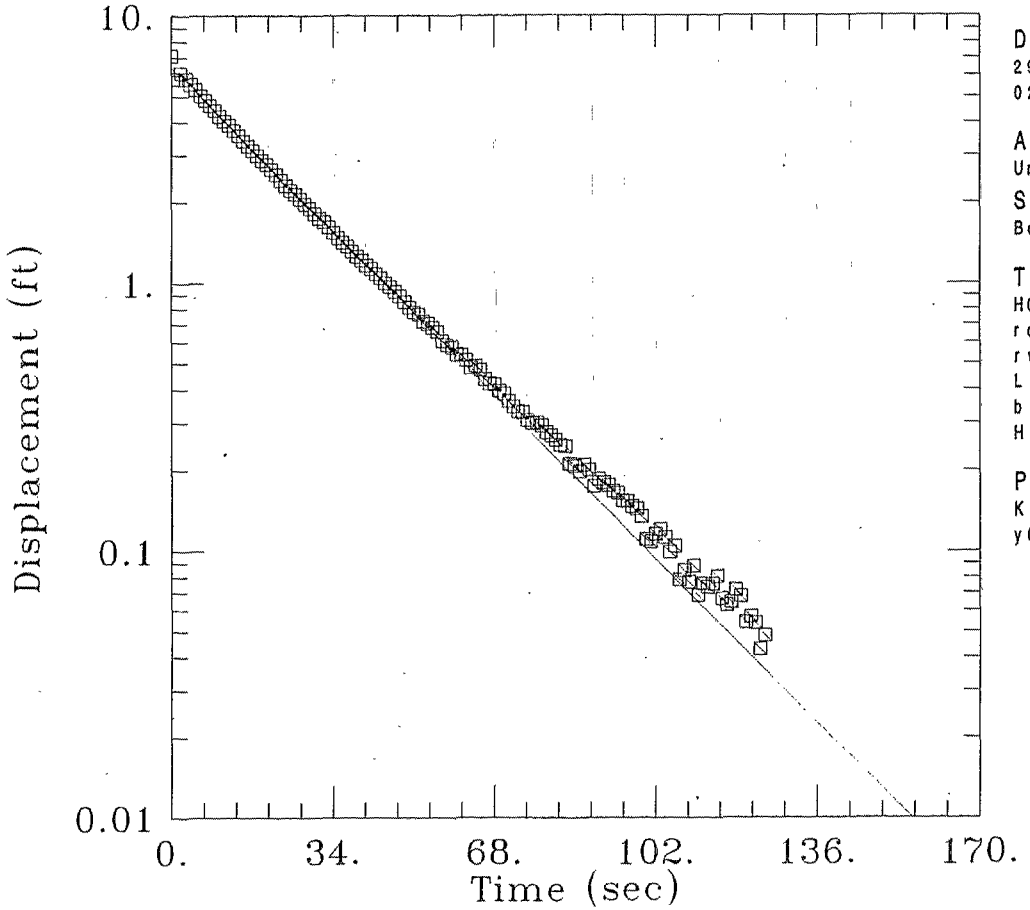
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 27.7 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 148. ft
H = 147. ft

PARAMETER ESTIMATES:
K = 0.002322 ft/sec
y0 = 42.78 ft

AQTESOLV

CH2MHILL
MW29-033
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
290331.DAT
02/04/97

AQUIFER MODEL:
Unconfined

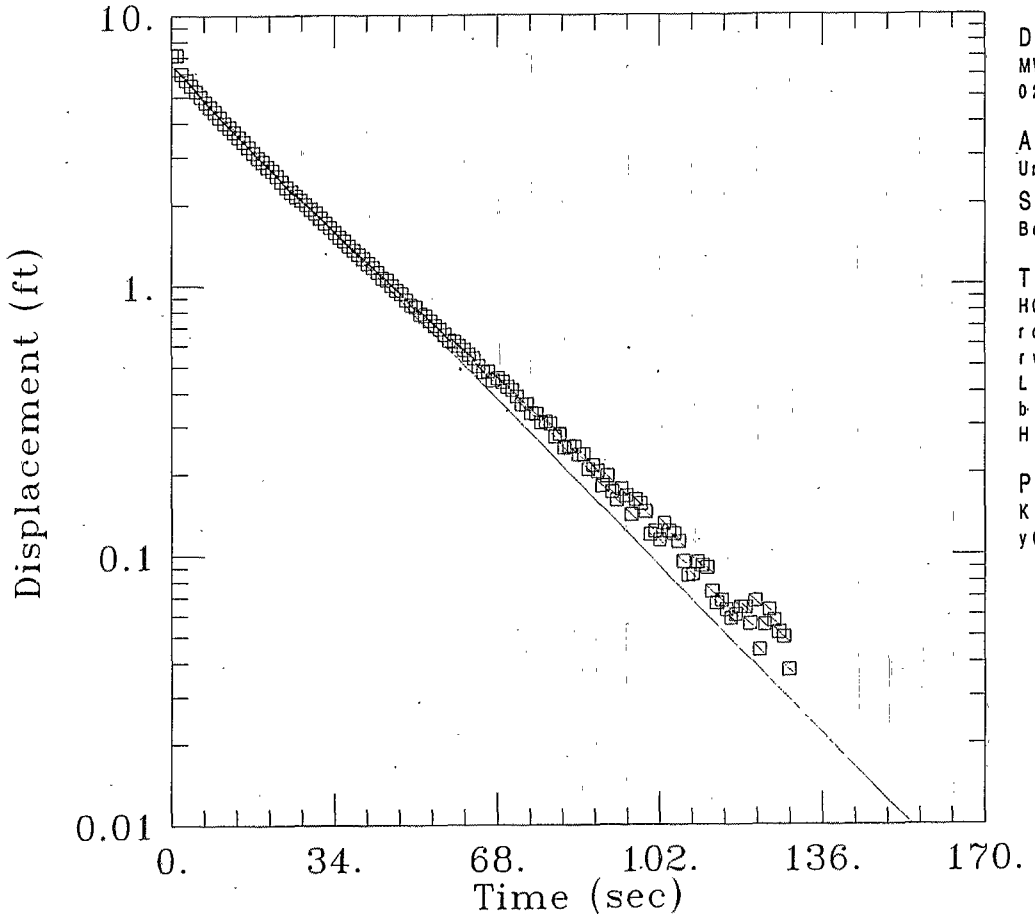
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 7.09 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 22.78 ft
H = 22.28 ft

PARAMETER ESTIMATES:
K = 0.0001456 ft/sec
y0 = 6.412 ft

AQTESOLV

CH2MHILL
MW29-033
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW290332.DAT
02/04/97

AQUIFER MODEL:
Unconfined

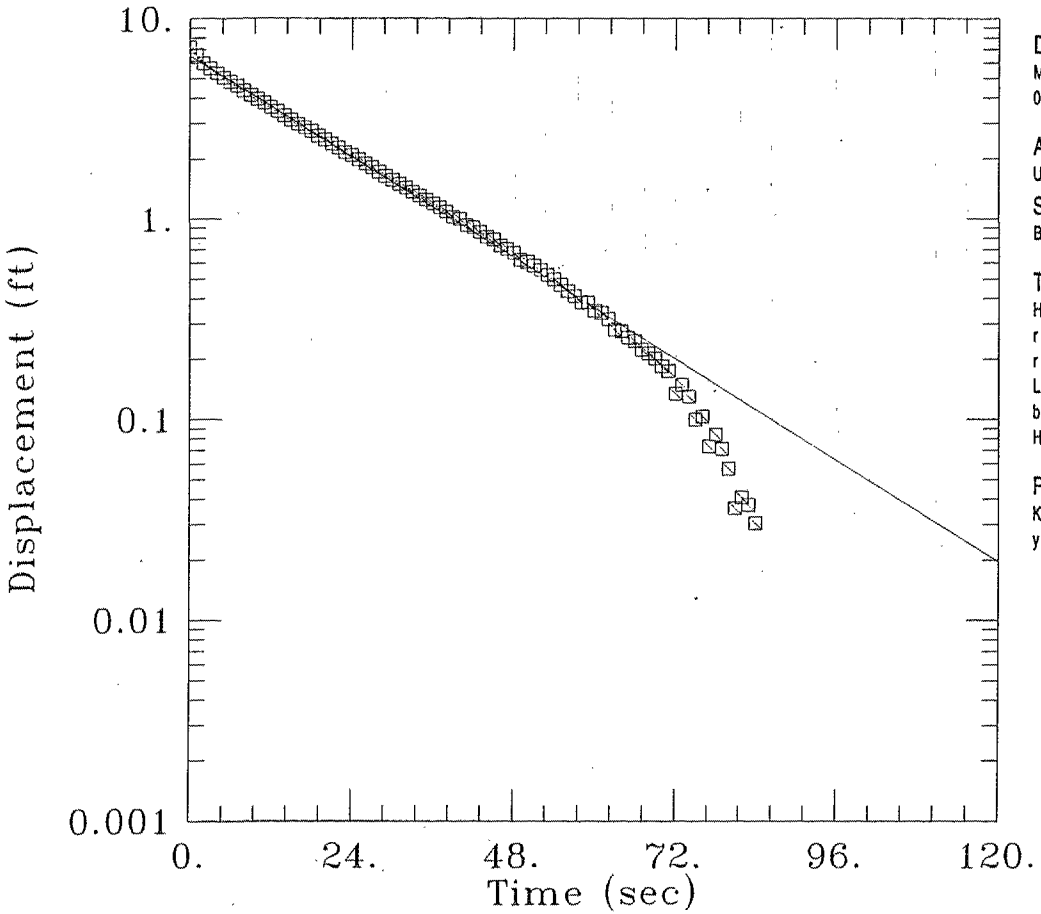
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 7.12 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 22.78 ft
H = 22.28 ft

PARAMETER ESTIMATES:
K = 0.0001472 ft/sec
y0 = 6.561 ft

AQTESOLV

CH2MHILL
MW29-033
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW290333.DAT
02/04/97

AQUIFER MODEL:
Unconfined

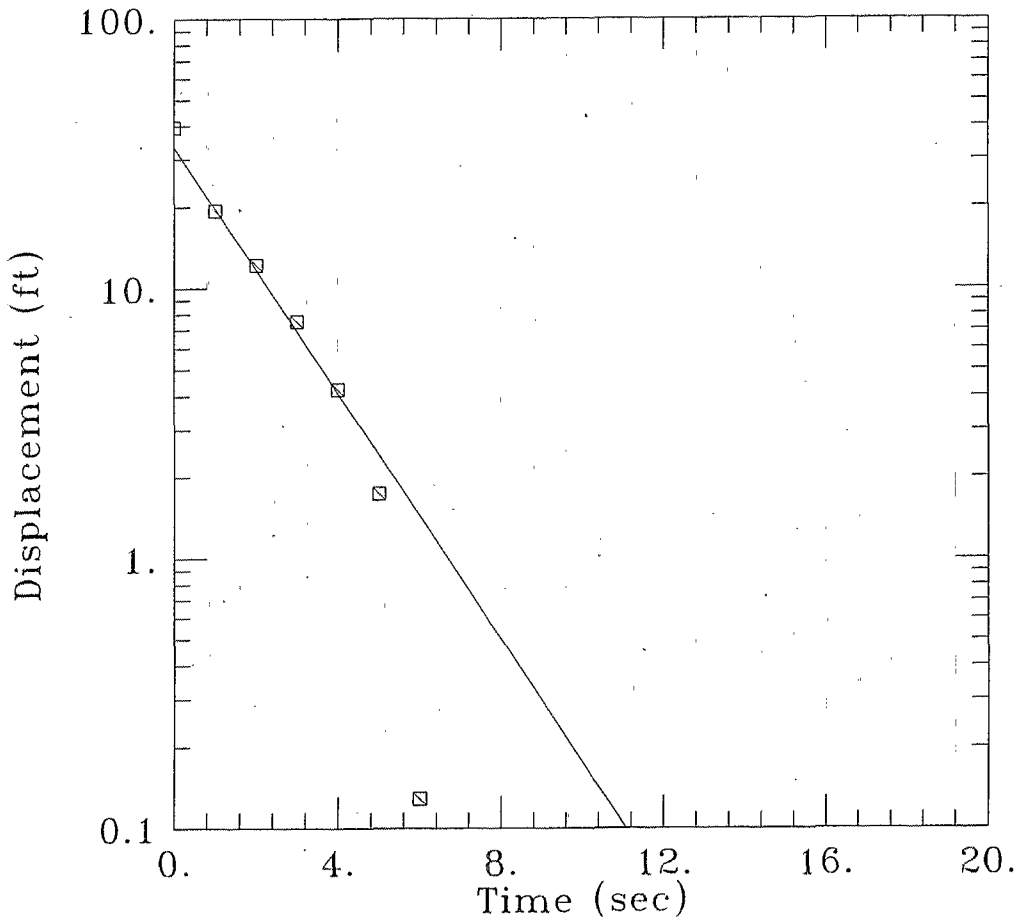
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 7.21 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 22.78 ft
H = 22.28 ft

PARAMETER ESTIMATES:
K = 0.00017 ft/sec
y0 = 6.553 ft

AQTESOLV

CH2MHILL
MW29-90
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW290901.DAT
02/04/97

AQUIFER MODEL:
Unconfined

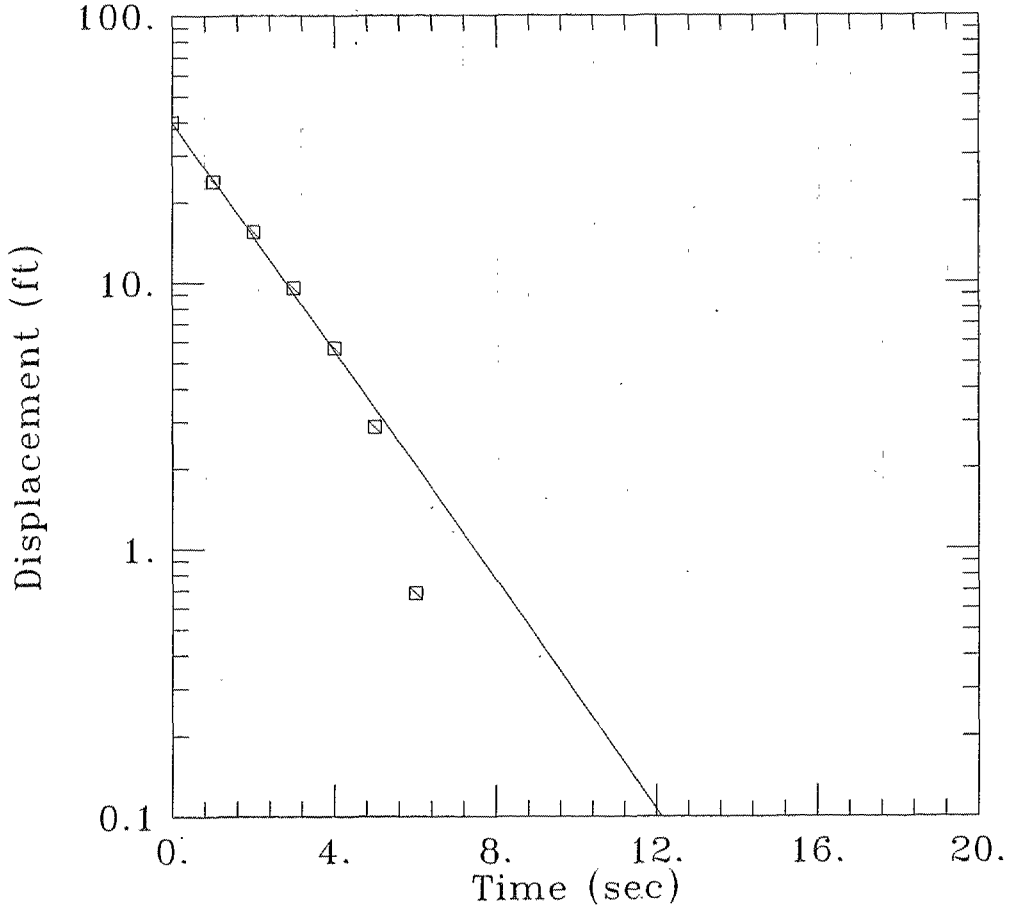
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.5 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 79.13 ft
H = 78.13 ft

PARAMETER ESTIMATES:
K = 0.002171 ft/sec
y0 = 33.38 ft

AQTESOLV

CH2MHILL
MW29-090
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW290902.DAT
02/04/97

AQUIFER MODEL:
Unconfined

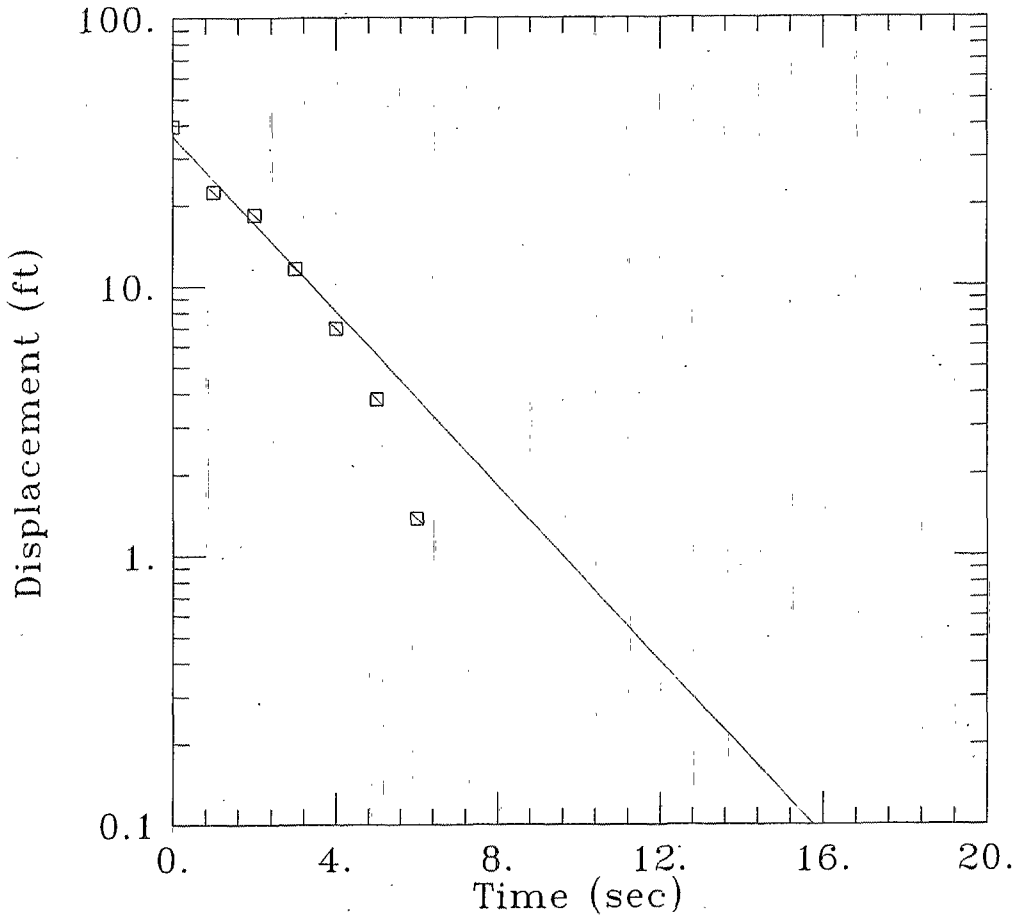
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 79.13 ft
H = 78.13 ft

PARAMETER ESTIMATES:
K = 0.002043 ft/sec
y0 = 39.91 ft

AQTESOLV

CH2MHILL
MW29-090
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW290903.DAT
02/04/97

AQUIFER MODEL:
Unconfined

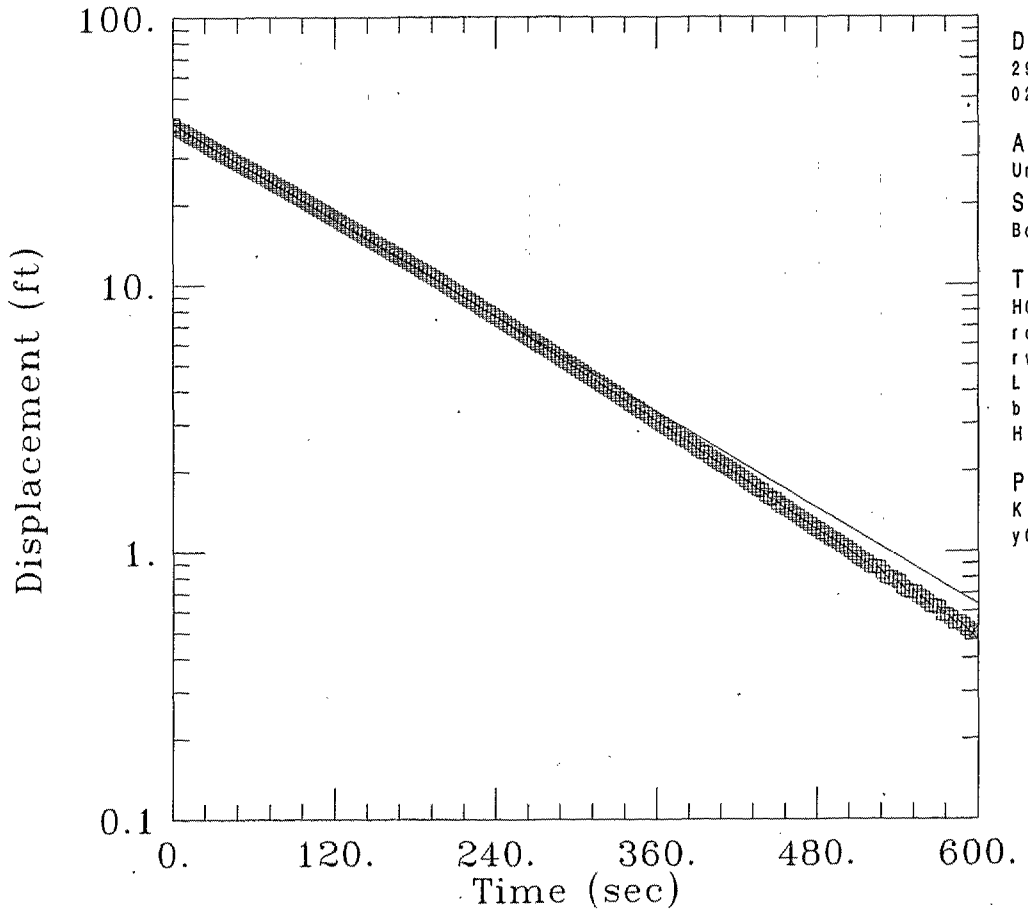
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.5 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 79.13 ft
H = 78.13 ft

PARAMETER ESTIMATES:
K = 0.001549 ft/sec
y0 = 36.26 ft

AQTESOLV

CH2MHILL
MW29-179
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
291791A.DAT
02/18/97

AQUIFER MODEL:
Unconfined

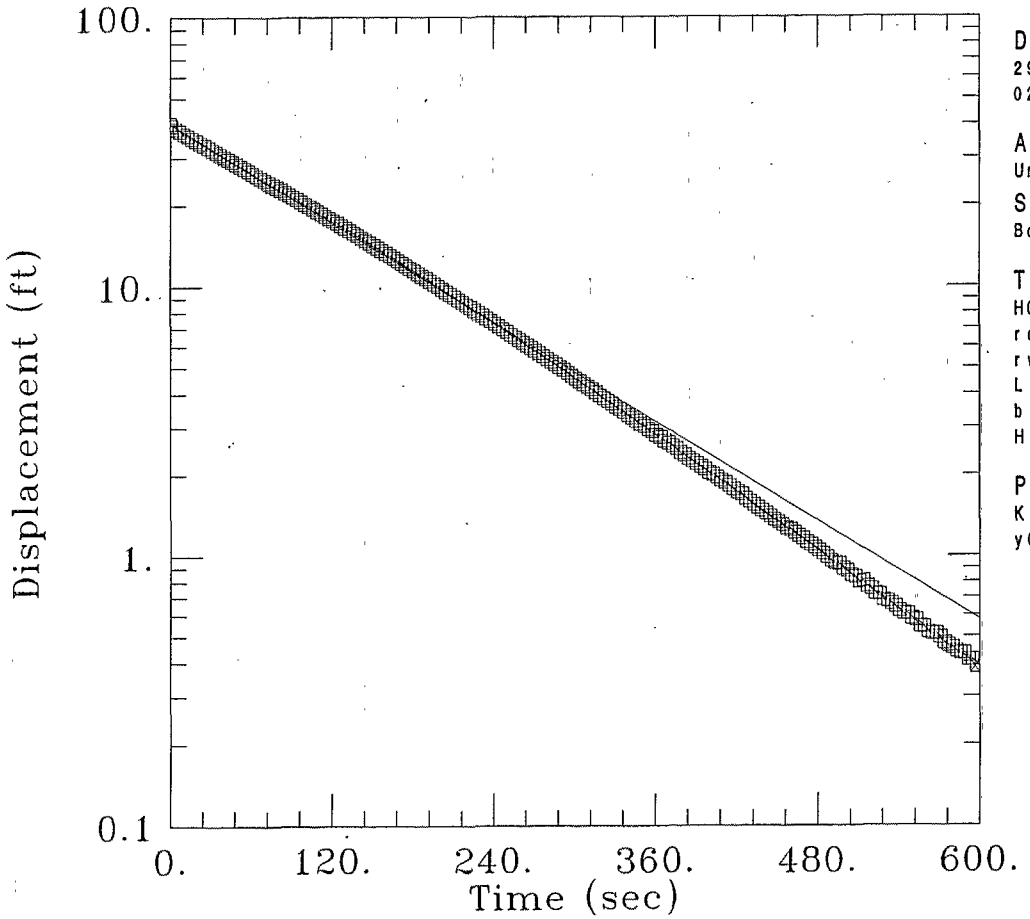
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 168.3 ft
H = 164.3 ft

PARAMETER ESTIMATES:
K = 2.901E-05 ft/sec
y0 = 40.21 ft

AQTESOLV

CH2MHILL
MW29-179
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
291792B.DAT
02/18/97

AQUIFER MODEL:
Unconfined

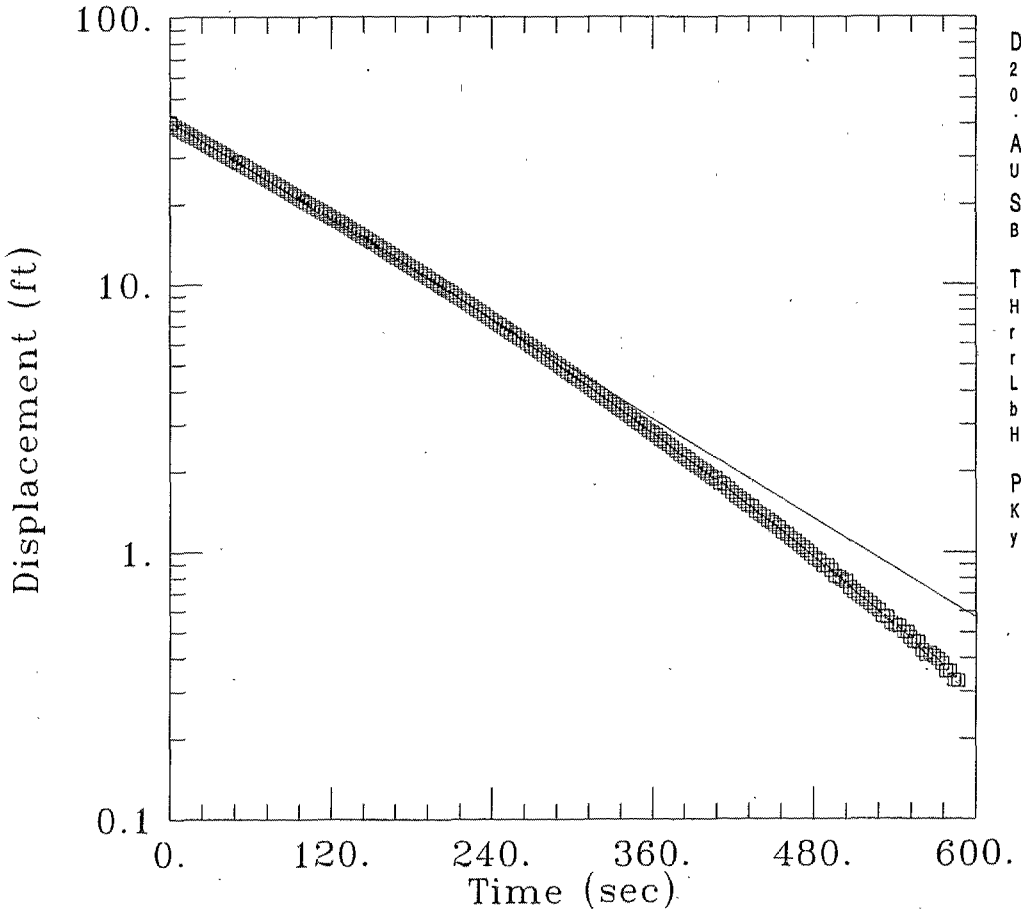
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 168.3 ft
H = 164.3 ft

PARAMETER ESTIMATES:
K = 2.97E-05 ft/sec
y0 = 40.33 ft

AQTESOLV

CH2MHILL
MW29-179
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
291793C.DAT
02/18/97

AQUIFER MODEL:
Unconfined

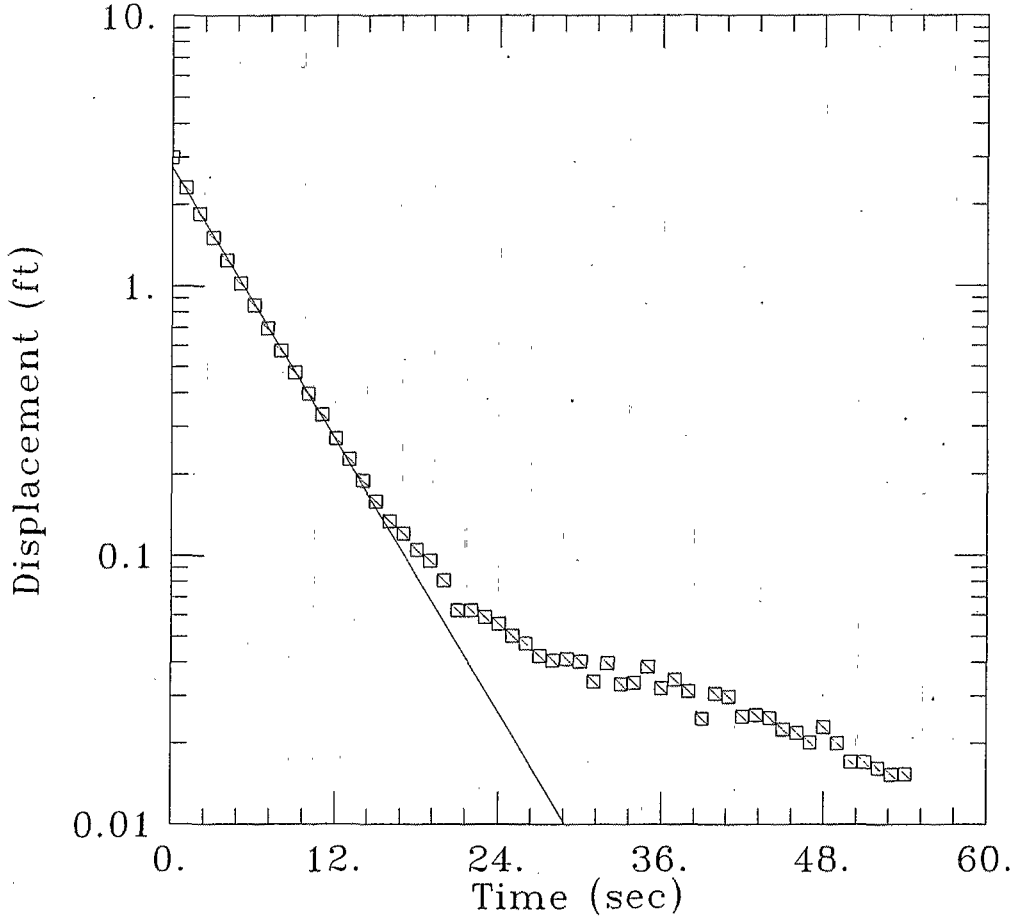
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 168.3 ft
H = 164.3 ft

PARAMETER ESTIMATES:
K = 2.993E-05 ft/sec
y0 = 41.11 ft

AQTESOLV

CH2MHILL
MW30-030
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW300301.DAT
02/13/97

AQUIFER MODEL:
Unconfined

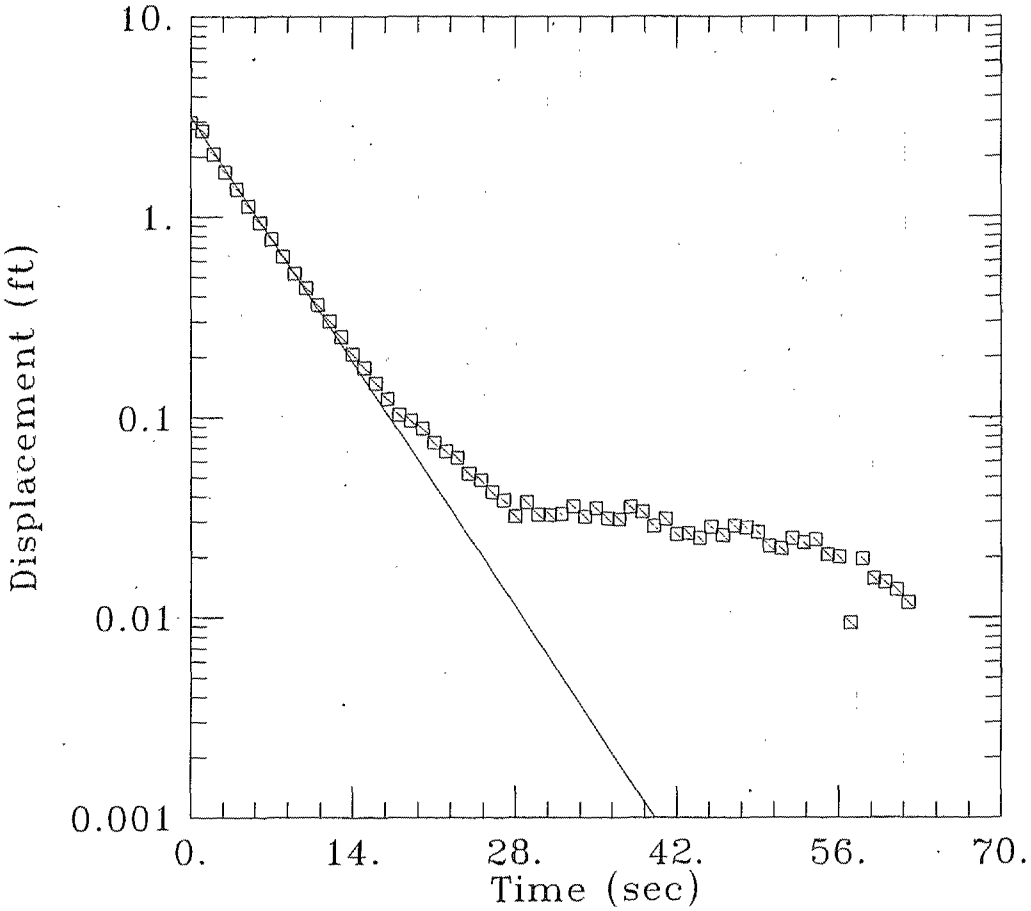
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 3. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 14. ft
H = 13.5 ft

PARAMETER ESTIMATES:
K = 0.0006141 ft/sec
y0 = 2.752 ft

AQTESOLV

CH2MHILL
MW30-030
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW300302.DAT
02/13/97

AQUIFER MODEL:
Unconfined

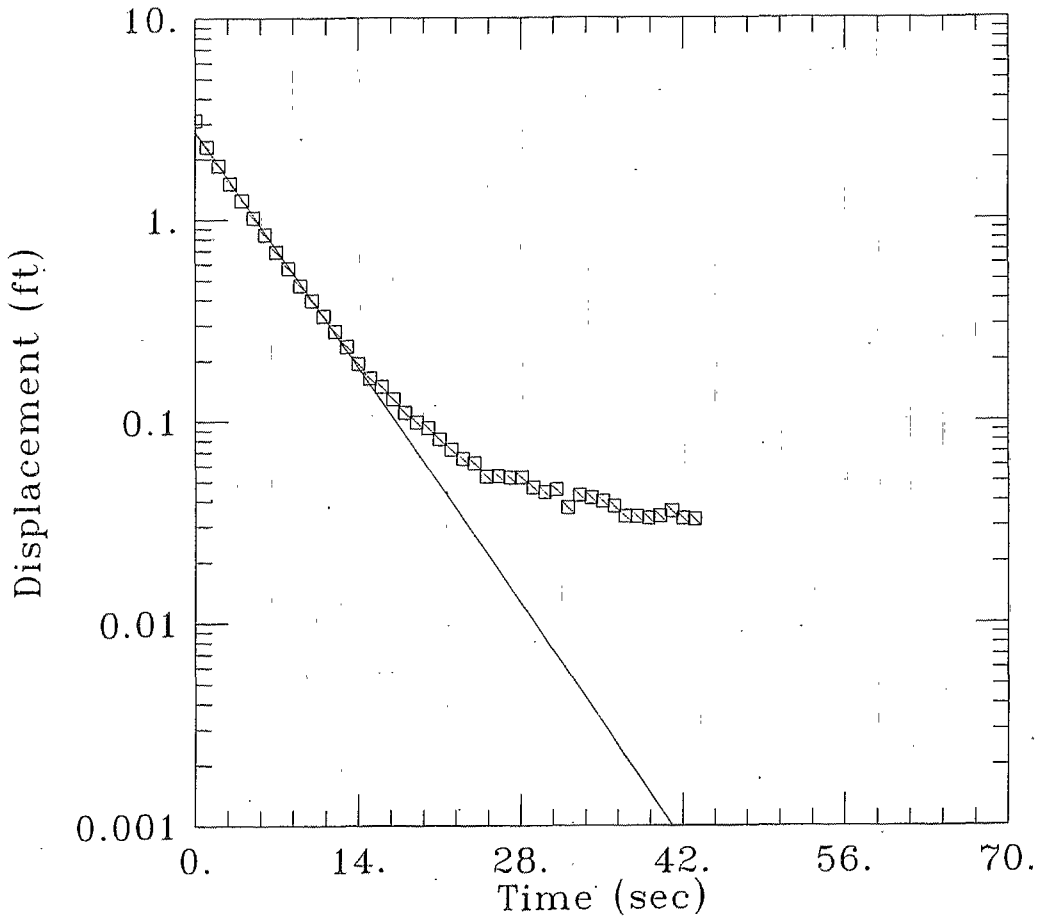
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 2.96 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 14. ft
H = 13.5 ft

PARAMETER ESTIMATES:
K = 0.0006355 ft/sec
y0 = 3.157 ft

AQTESOLV

CH2MHILL
MW03-030
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW300303.DAT
02/13/97

AQUIFER MODEL:
Unconfined

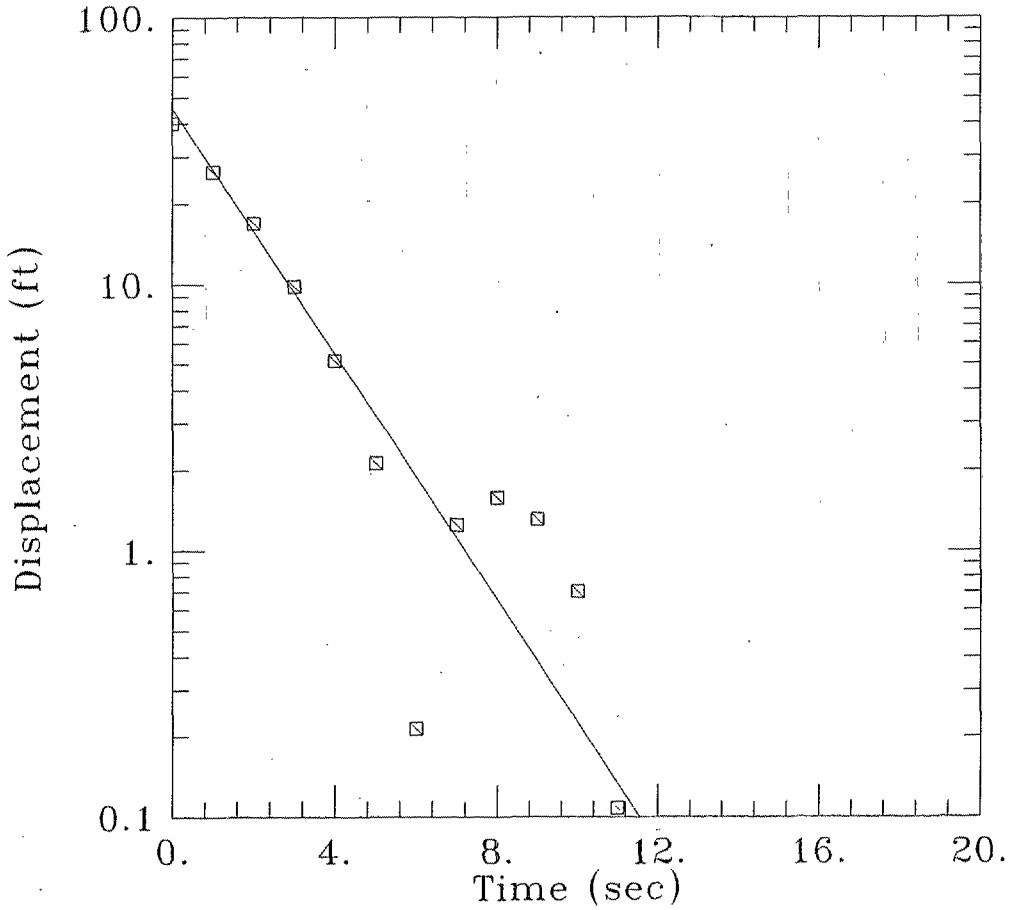
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 3.11 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 14. ft
H = 13.5 ft

PARAMETER ESTIMATES:
K = 0.0006076 ft/sec
y0 = 2.722 ft

AQTESOLV

CH2MHILL
MW30-100
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
301001.DAT
02/19/97

AQUIFER MODEL:
Unconfined

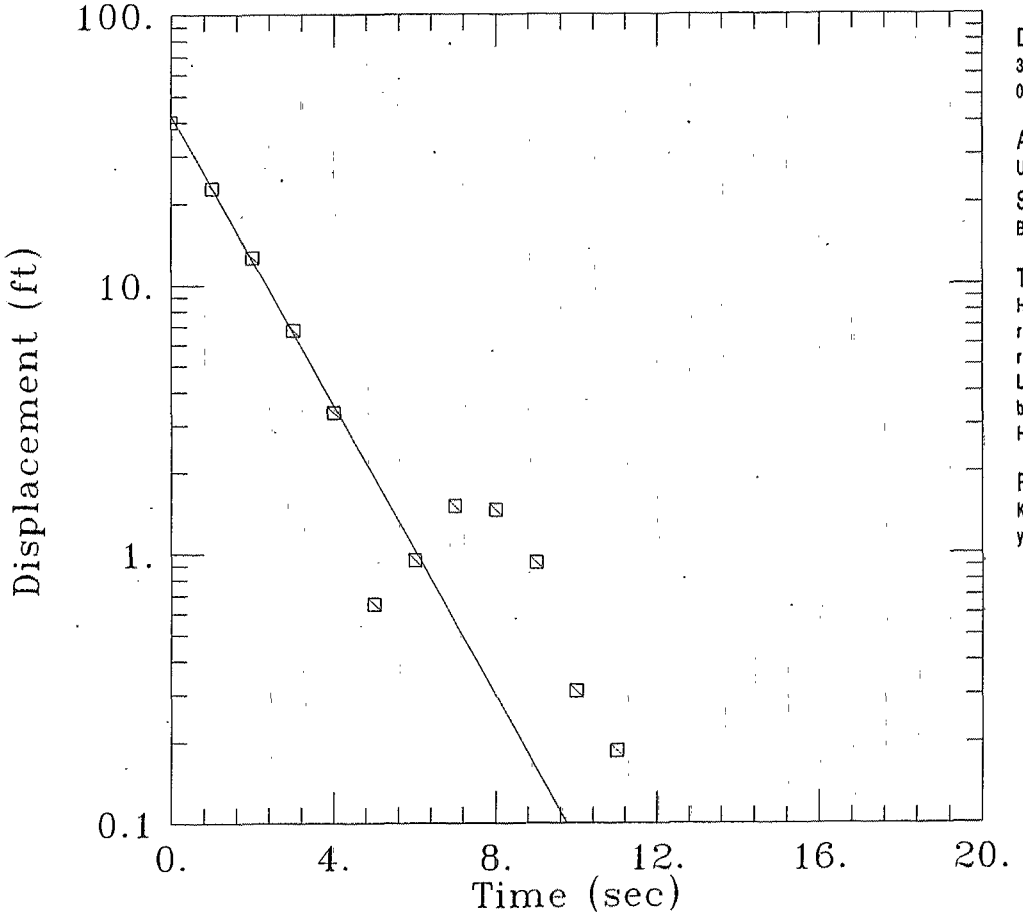
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 86.13 ft
H = 85.13 ft

PARAMETER ESTIMATES:
K = 0.002221 ft/sec
y0 = 45.83 ft

AQTESOLV

CH2MHILL
MW30-100
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
301002.DAT
02/19/97

AQUIFER MODEL:
Unconfined

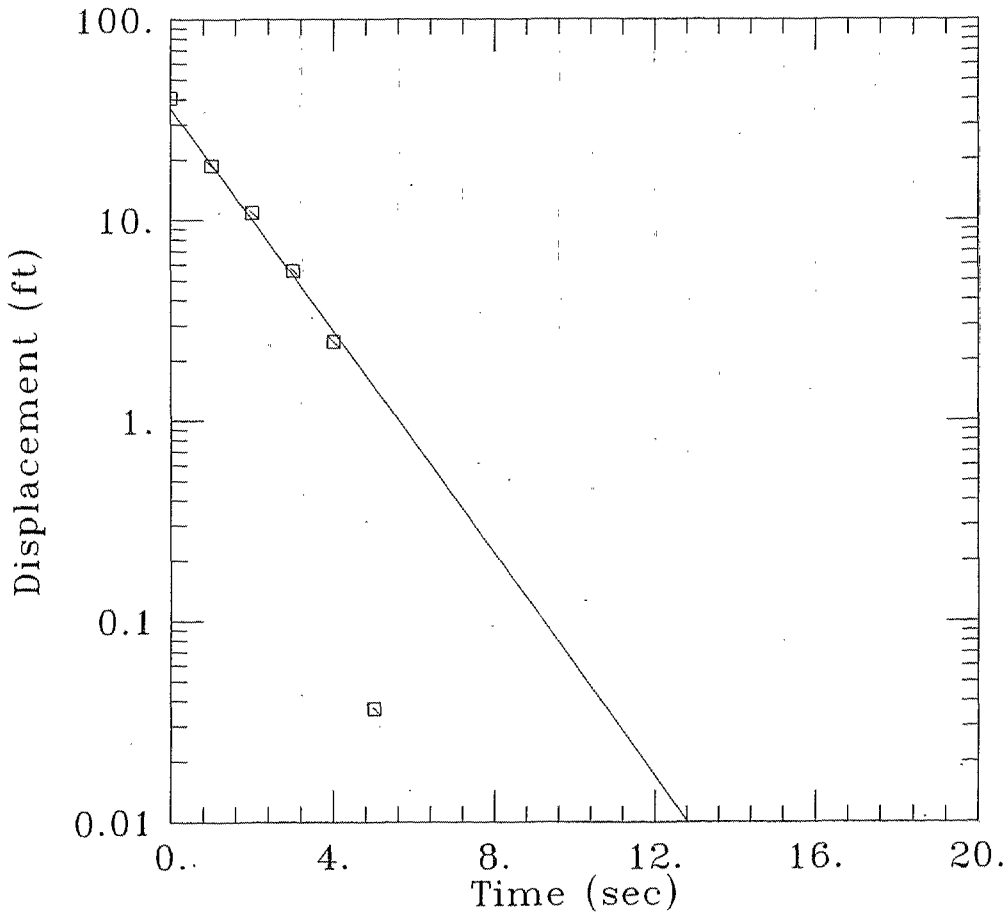
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 86.13 ft
H = 85.13 ft

PARAMETER ESTIMATES:
K = 0.002593 ft/sec
y0 = 42.57 ft

AQTESOLV

CH2MHILL
MW30-100
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
301003.DAT
02/19/97

AQUIFER MODEL:
Unconfined

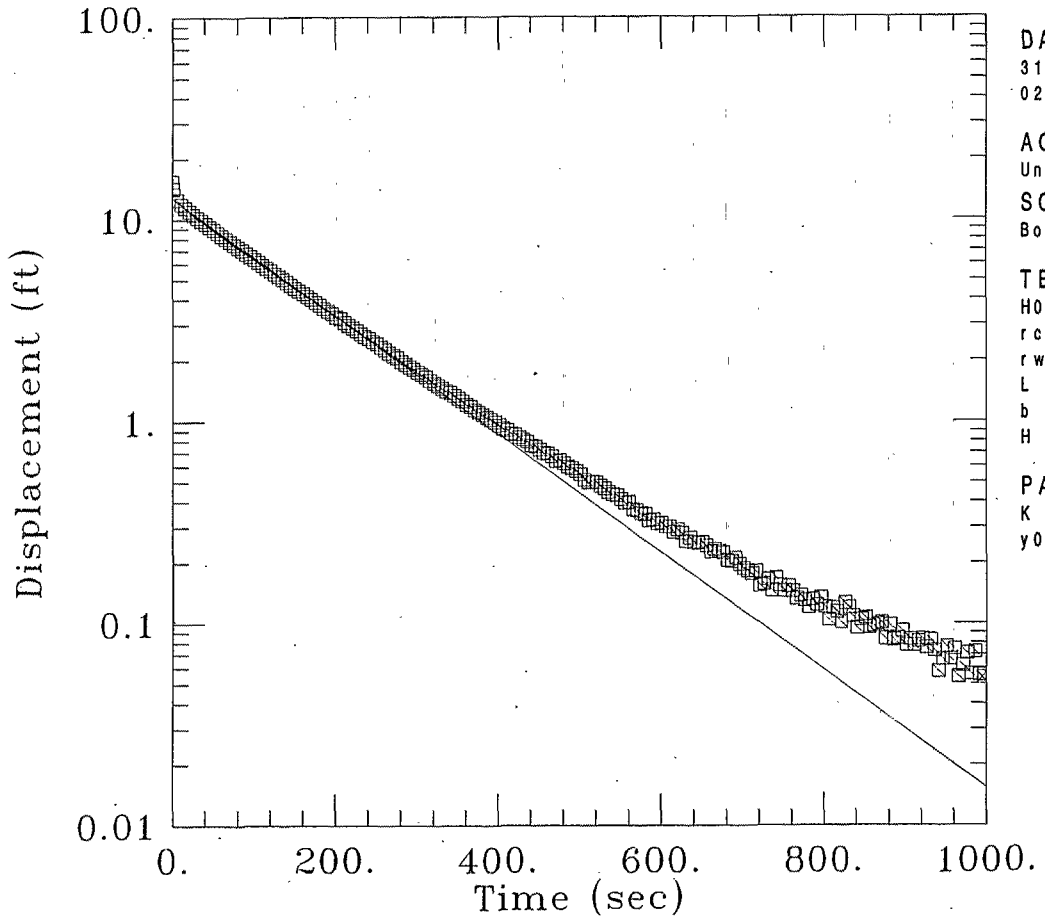
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.6 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 86.13 ft
H = 85.13 ft

PARAMETER ESTIMATES:
K = 0.002671 ft/sec
y0 = 35.96 ft

AQTESOLV

CH2MHILL
MW31-034
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
310341A.DAT
02/18/97

AQUIFER MODEL:
Unconfined

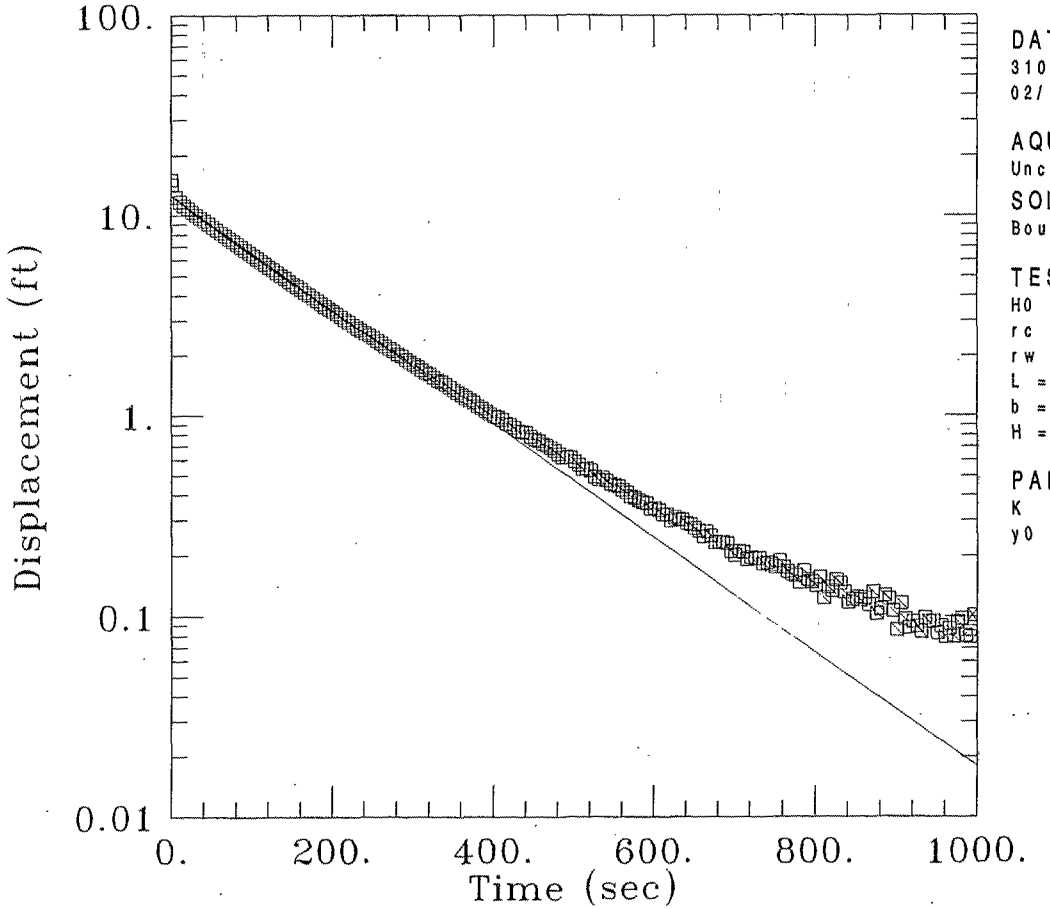
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15.5 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 28.7 ft
H = 28.7 ft

PARAMETER ESTIMATES:
K = 2.643E-05 ft/sec
y0 = 12.75 ft

AQTESOLV

CH2MHILL
MW31-034
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
310342B.DAT
02/18/97

AQUIFER MODEL:
Unconfined

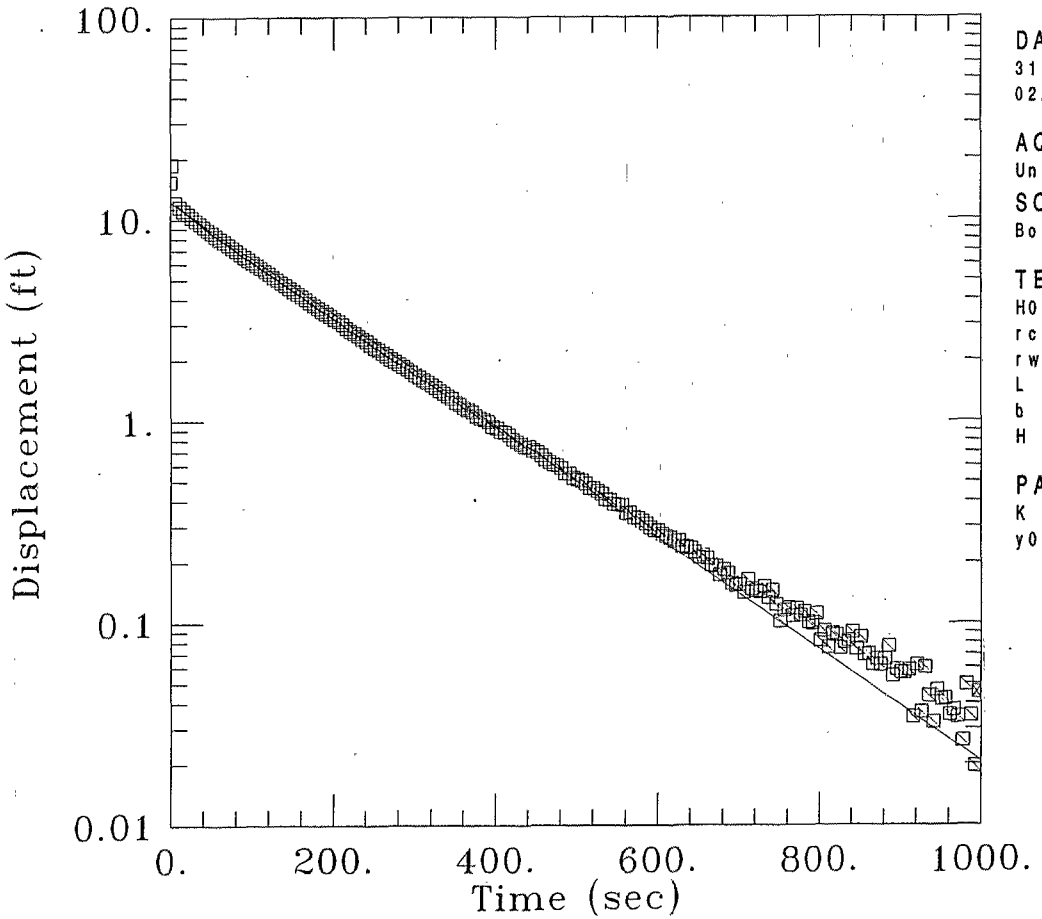
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 28.7 ft
H = 28.7 ft

PARAMETER ESTIMATES:
K = 2.574E-05 ft/sec
y0 = 12.5 ft

AQTESOLV

CH2MHILL
MW31-034
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
310343C.DAT
02/18/97

AQUIFER MODEL:
Unconfined

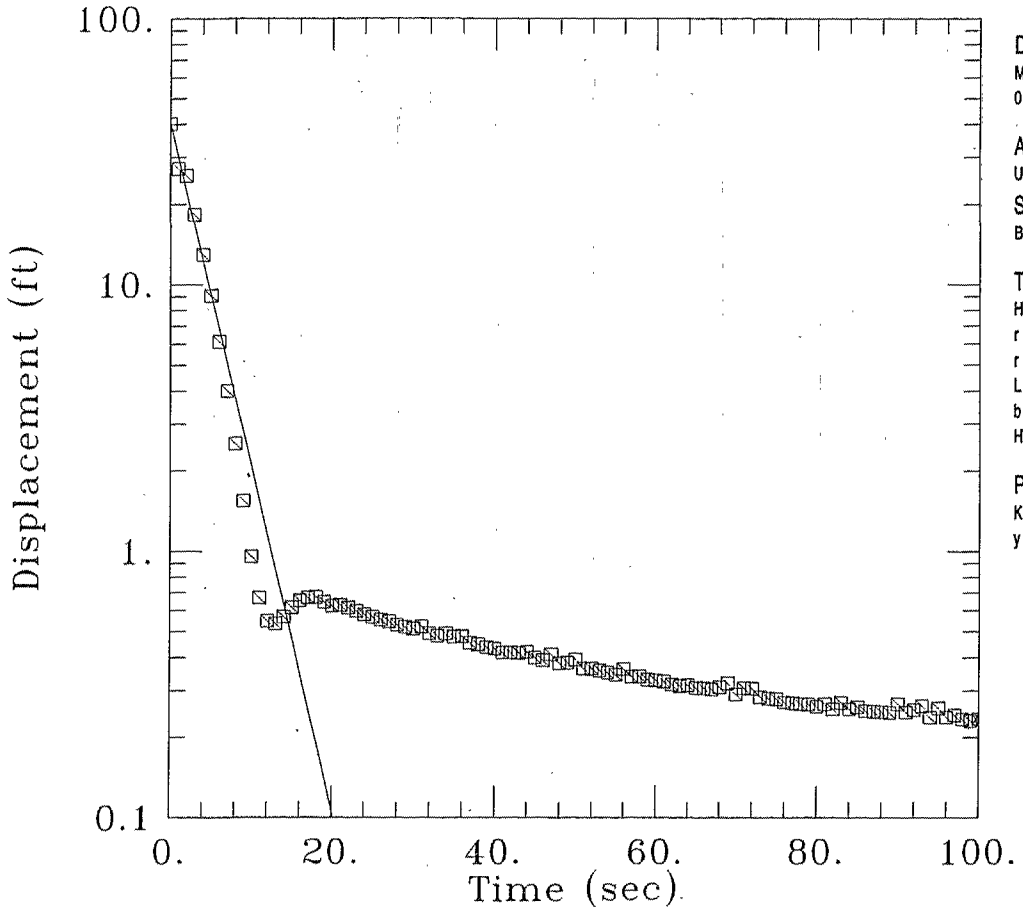
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 28.7 ft
H = 28.7 ft

PARAMETER ESTIMATES:
K = 2.513E-05 ft/sec
y0 = 12.26 ft

AQTESOLV

CH2MHILL
MW31-095
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW310951.DAT
02/10/97

AQUIFER MODEL:
Unconfined

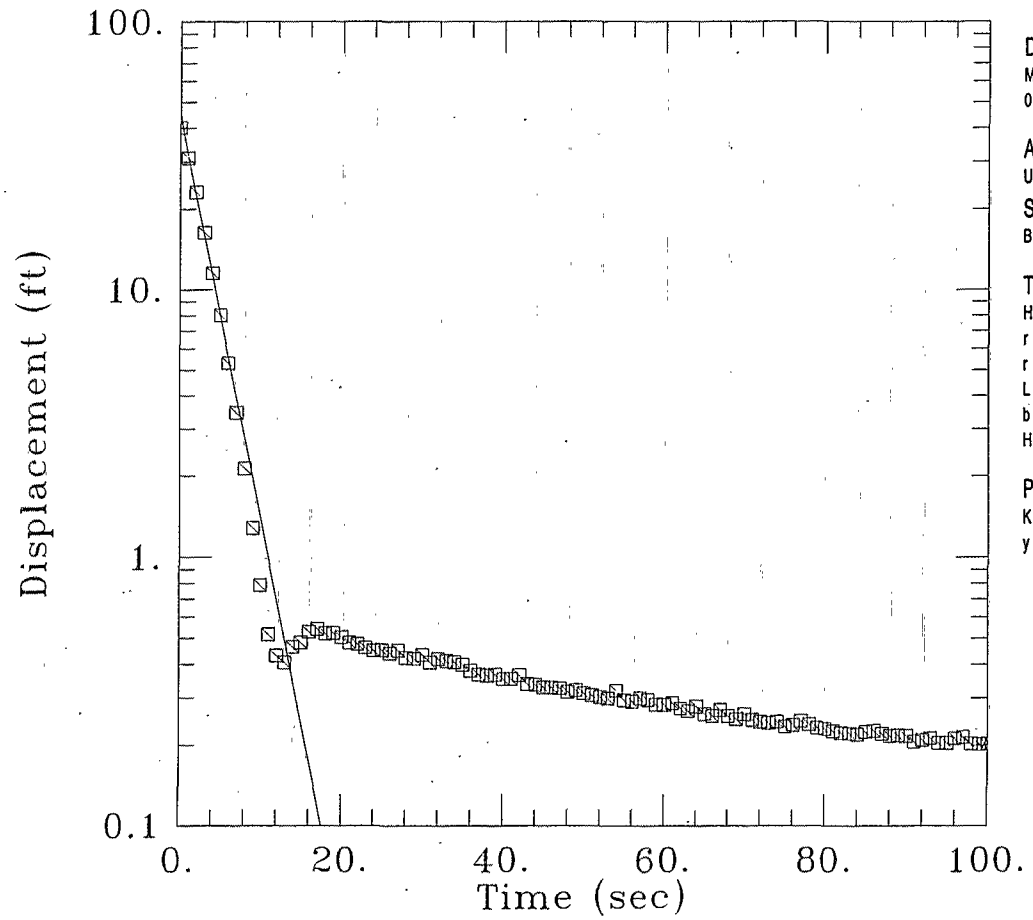
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.2 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 92.26 ft
H = 91.26 ft

PARAMETER ESTIMATES:
K = 0.001253 ft/sec
y0 = 40.49 ft

AQTESOLV

CH2MHILL
MW31-095
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW310952.DAT
02/10/97

AQUIFER MODEL:
Unconfined

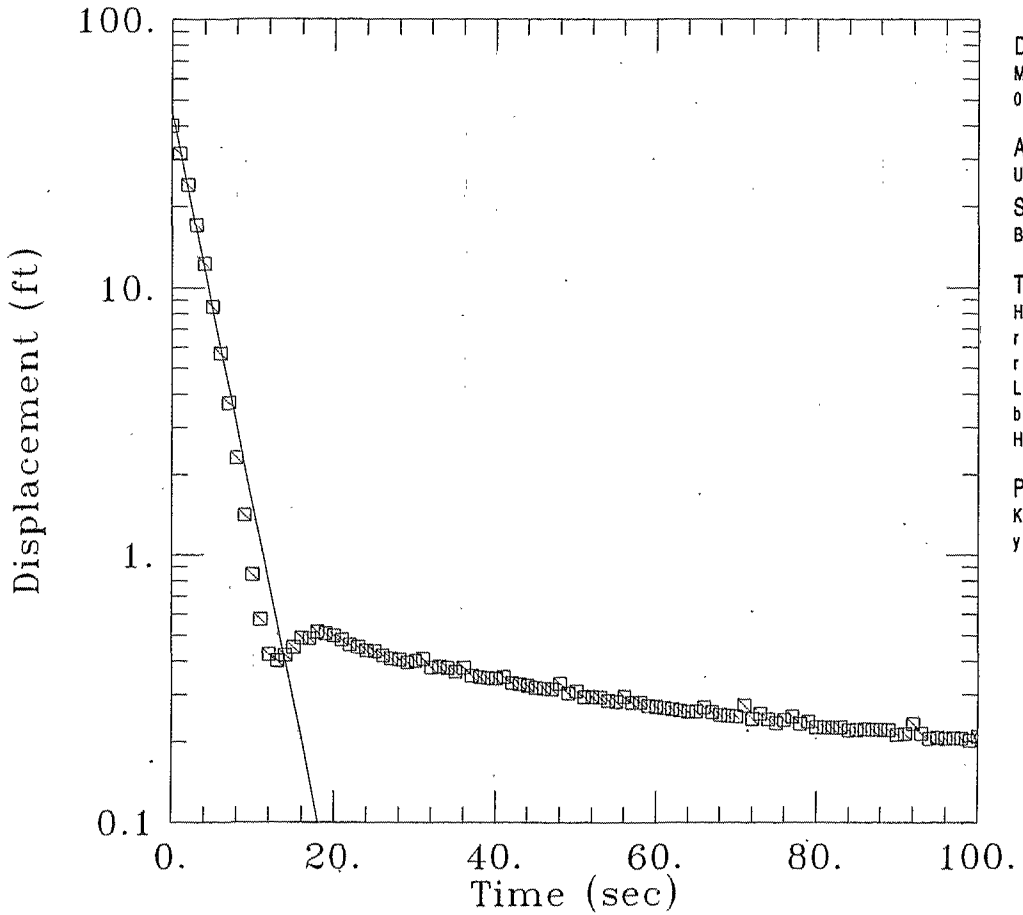
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.2 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 92.26 ft
H = 91.26 ft

PARAMETER ESTIMATES:
K = 0.001468 ft/sec
y0 = 44.87 ft

AQTESOLV

CH2MHILL
MW31-095
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW310953.DAT
02/10/97

AQUIFER MODEL:
Unconfined

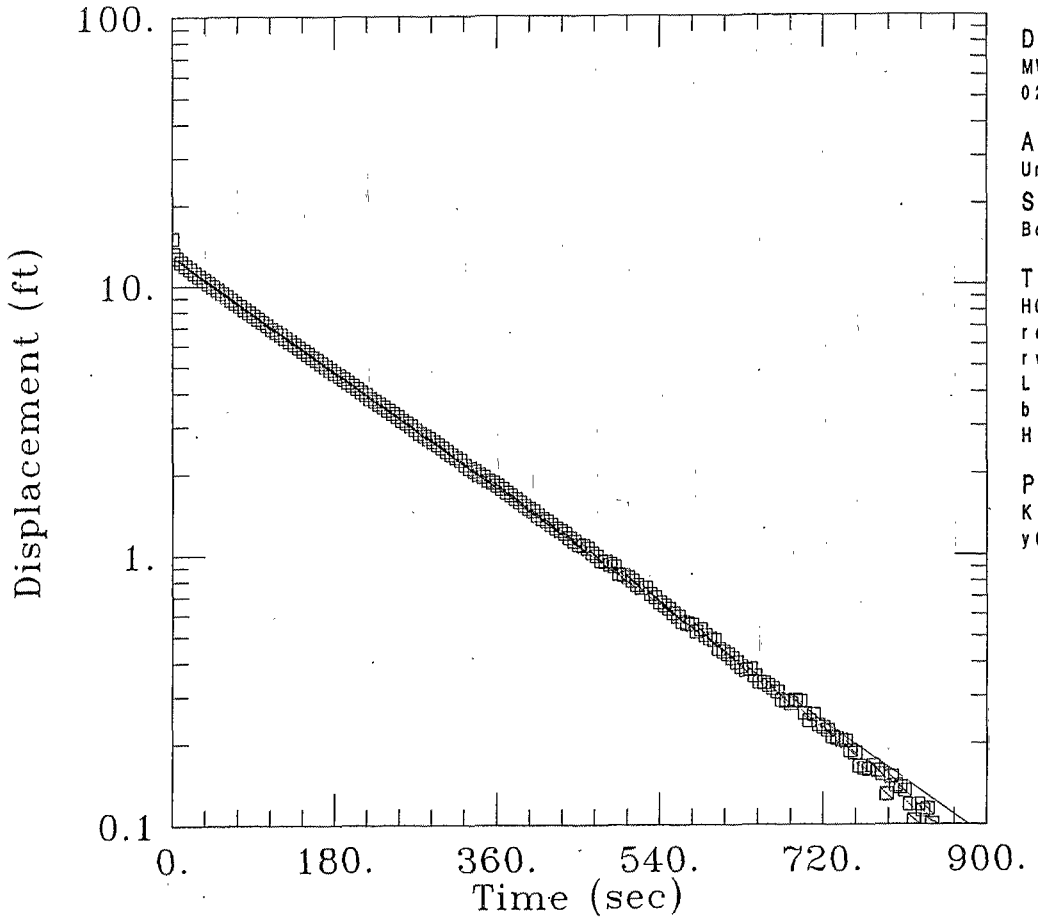
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 92.26 ft
H = 91.26 ft

PARAMETER ESTIMATES:
K = 0.00143 ft/sec
y0 = 45.56 ft

AQTESOLV

CH2MHILL
MW32-040
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW320401.DAT
02/10/97

AQUIFER MODEL:
Unconfined

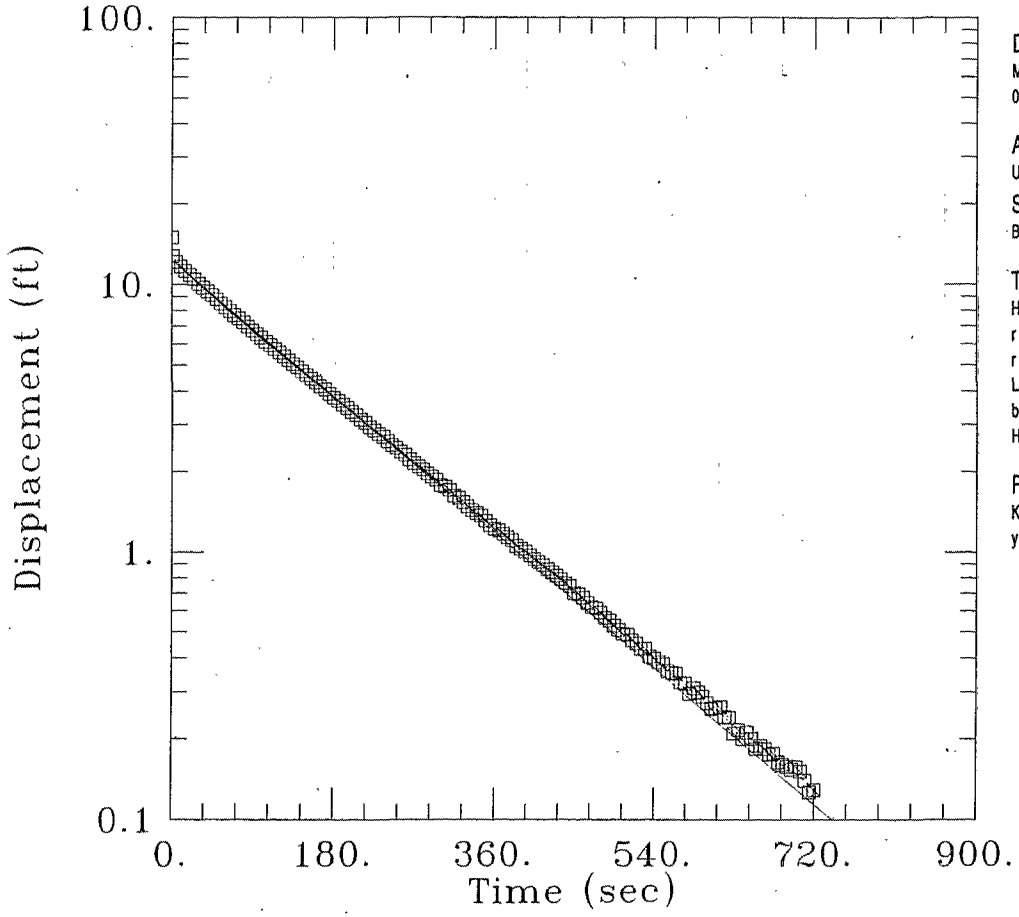
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15.04 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 31.28 ft
H = 30.28 ft

PARAMETER ESTIMATES:
K = 1.989E-05 ft/sec
y0 = 12.86 ft

AQTESOLV

CH2MHILL
MW32-040
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW320402.DAT
02/10/97

AQUIFER MODEL:
Unconfined

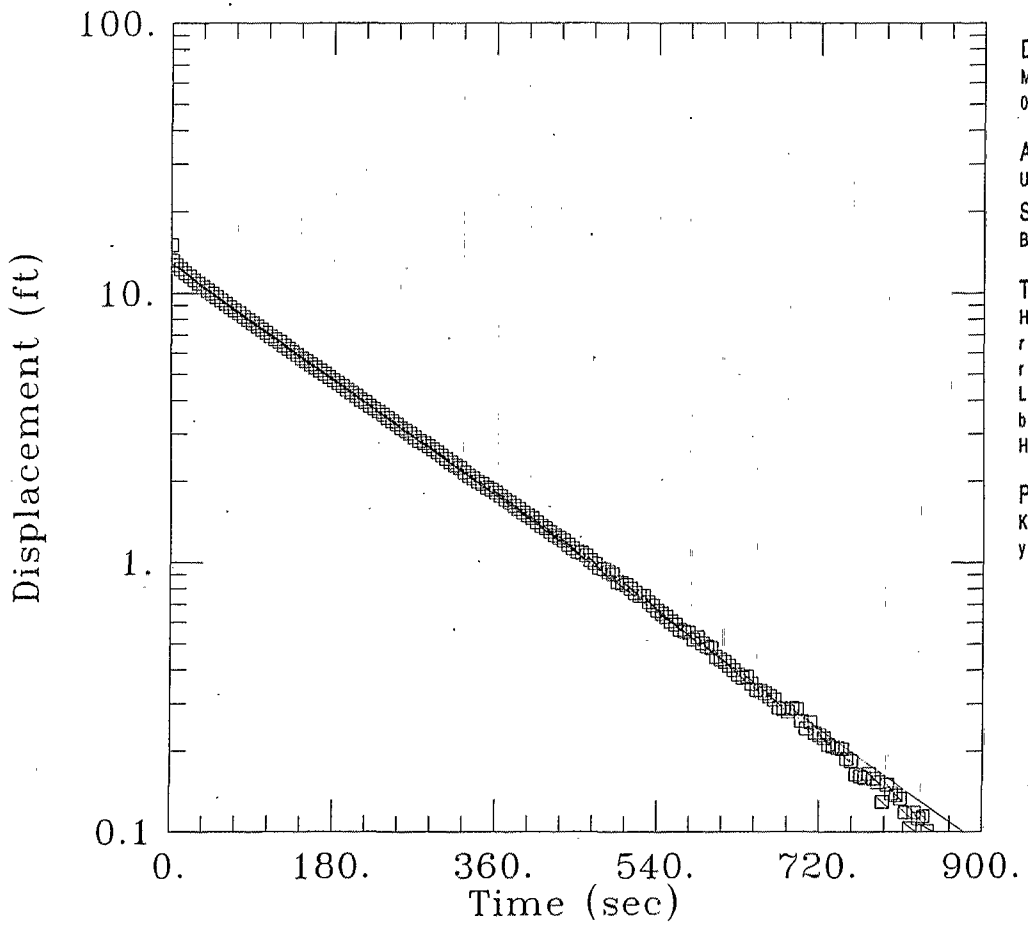
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 14.97 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 31.28 ft
H = 30.28 ft

PARAMETER ESTIMATES:
K = 2.34E-05 ft/sec
y0 = 12.3 ft

AQTESOLV

CH2MHILL
MW32-040
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW320401.DAT
02/10/97

AQUIFER MODEL:
Unconfined

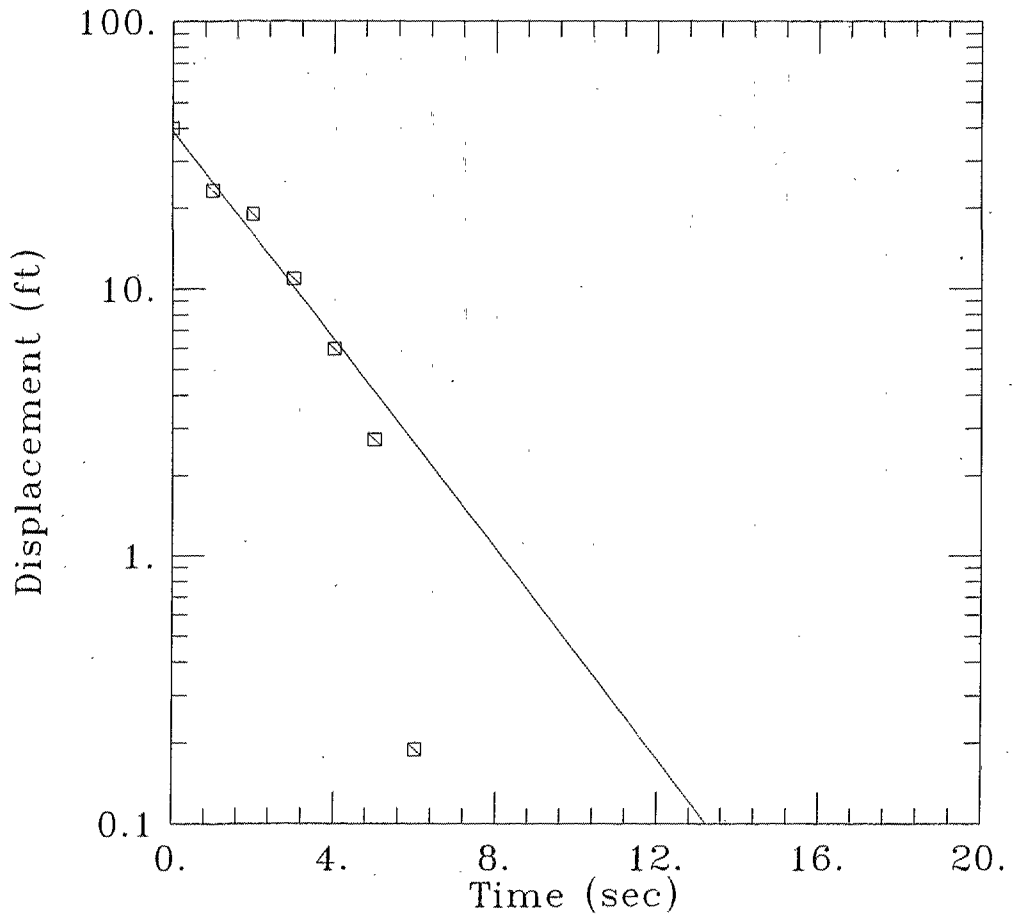
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15.04 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 31.28 ft
H = 30.28 ft

PARAMETER ESTIMATES:
K = 1.989E-05 ft/sec
y0 = 12.86 ft

AQTESOLV

CH2MHILL
MW32-095
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW320951.DAT
02/10/97

AQUIFER MODEL:
Unconfined

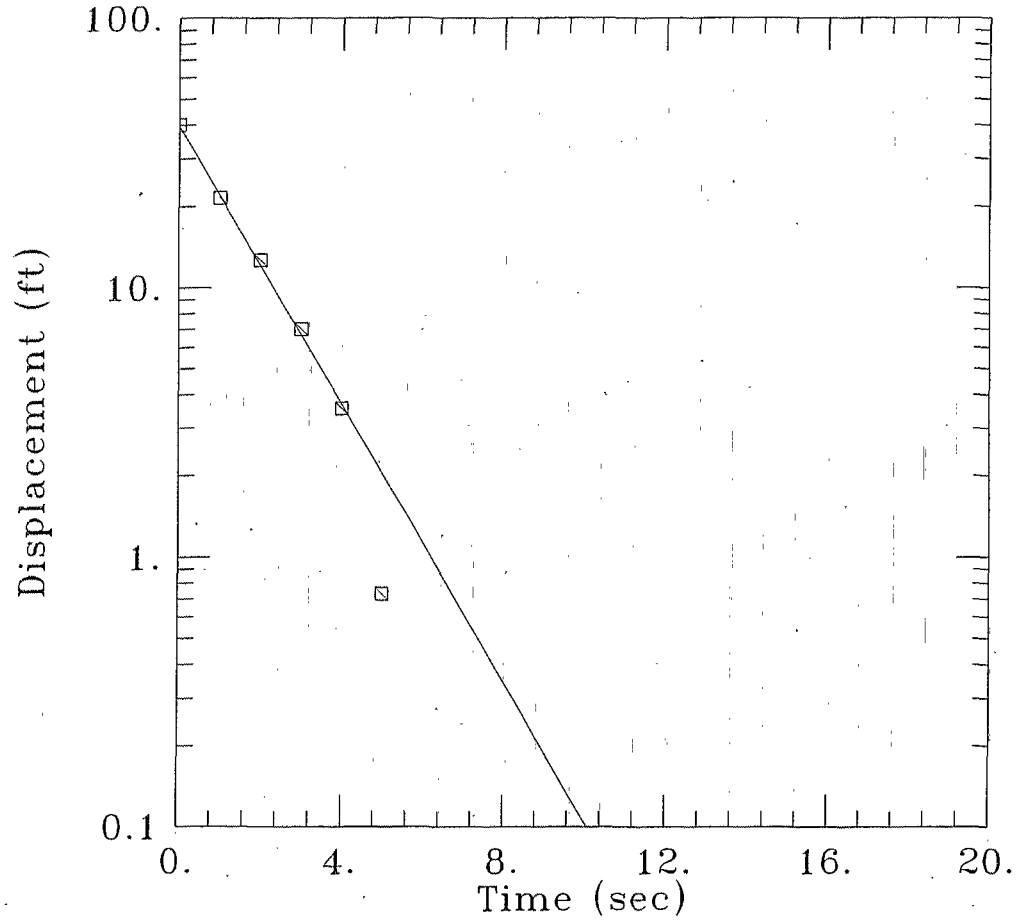
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.05 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 85.37 ft
H = 84.87 ft

PARAMETER ESTIMATES:
K = 0.001956 ft/sec
y0 = 39.25 ft

AQTESOLV

CH2MHILL
MW32-095
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW320952.DAT
02/10/97

AQUIFER MODEL:
Unconfined

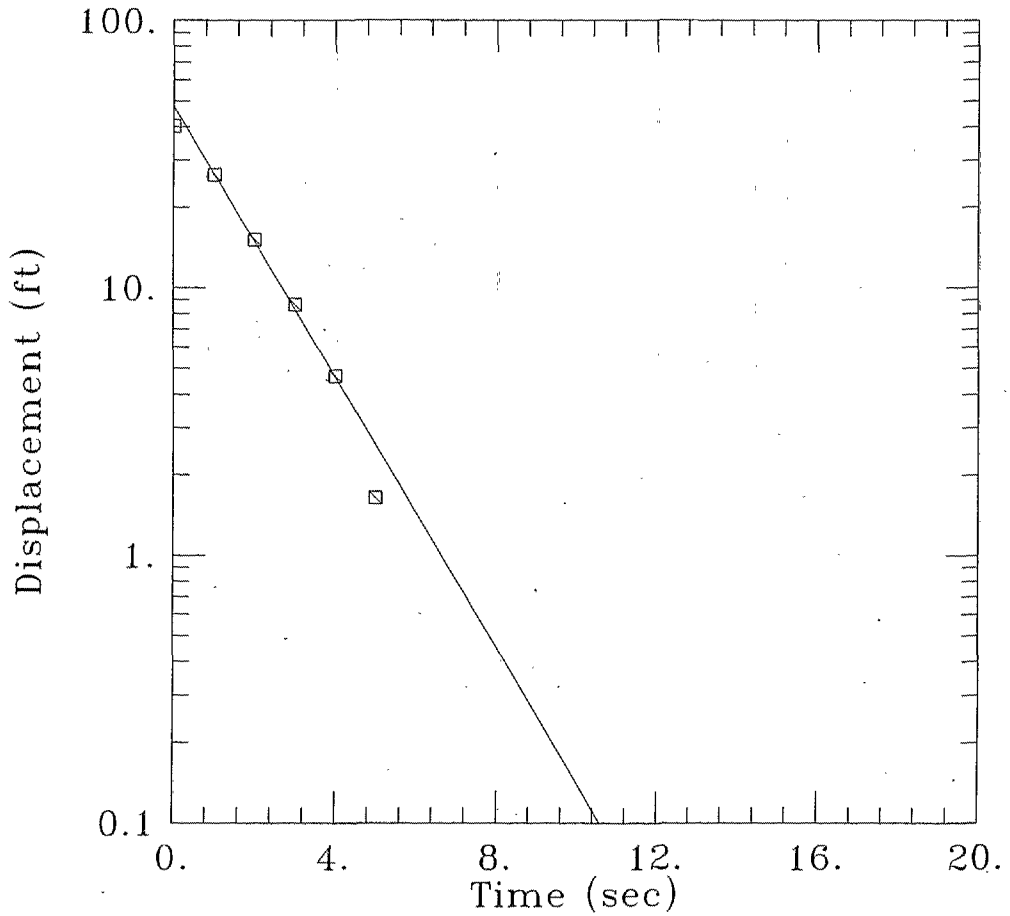
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 85.37 ft
H = 84.87 ft

PARAMETER ESTIMATES:
K = 0.002571 ft/sec
y0 = 39.49 ft

AQTESOLV

CH2MHILL
MW32-095
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW320953.DAT
02/10/97

AQUIFER MODEL:
Unconfined

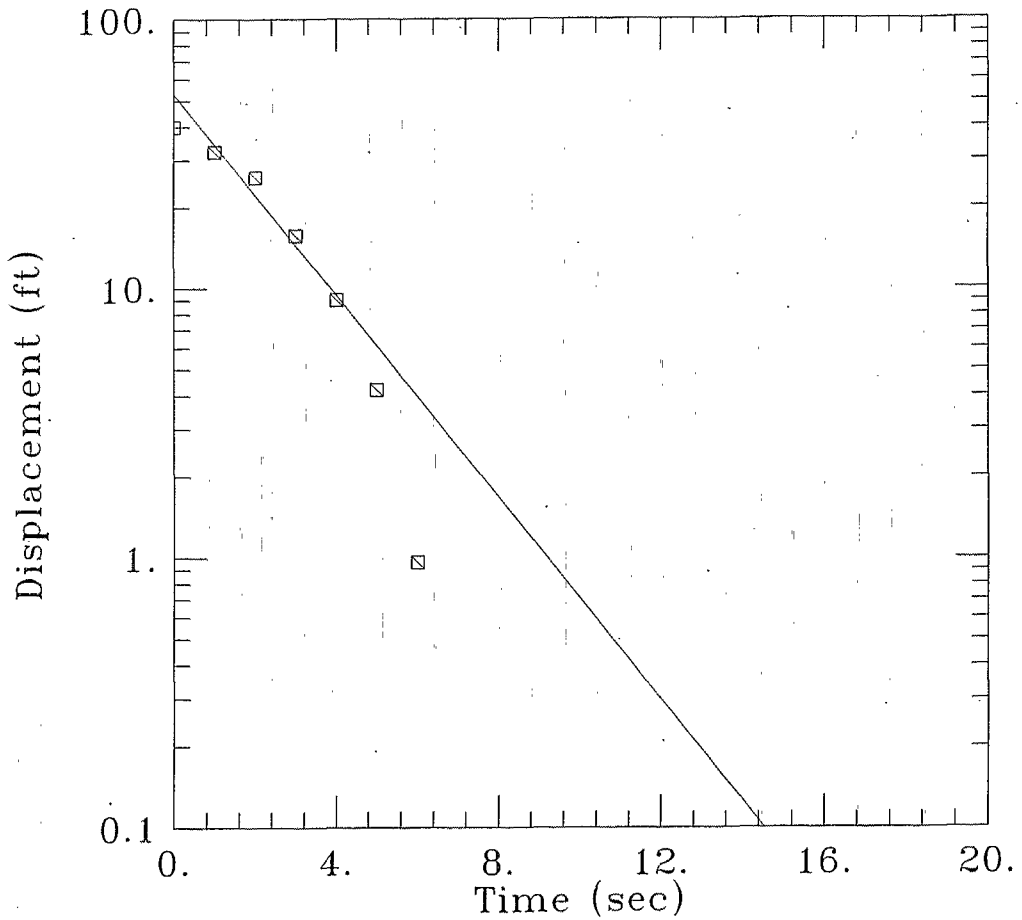
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.2 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 85.37 ft
H = 84.87 ft

PARAMETER ESTIMATES:
K = 0.002525 ft/sec
y0 = 47.6 ft

AQTESOLV

CH2MHILL
MW32-165
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW321651.DAT
02/10/97

AQUIFER MODEL:
Unconfined

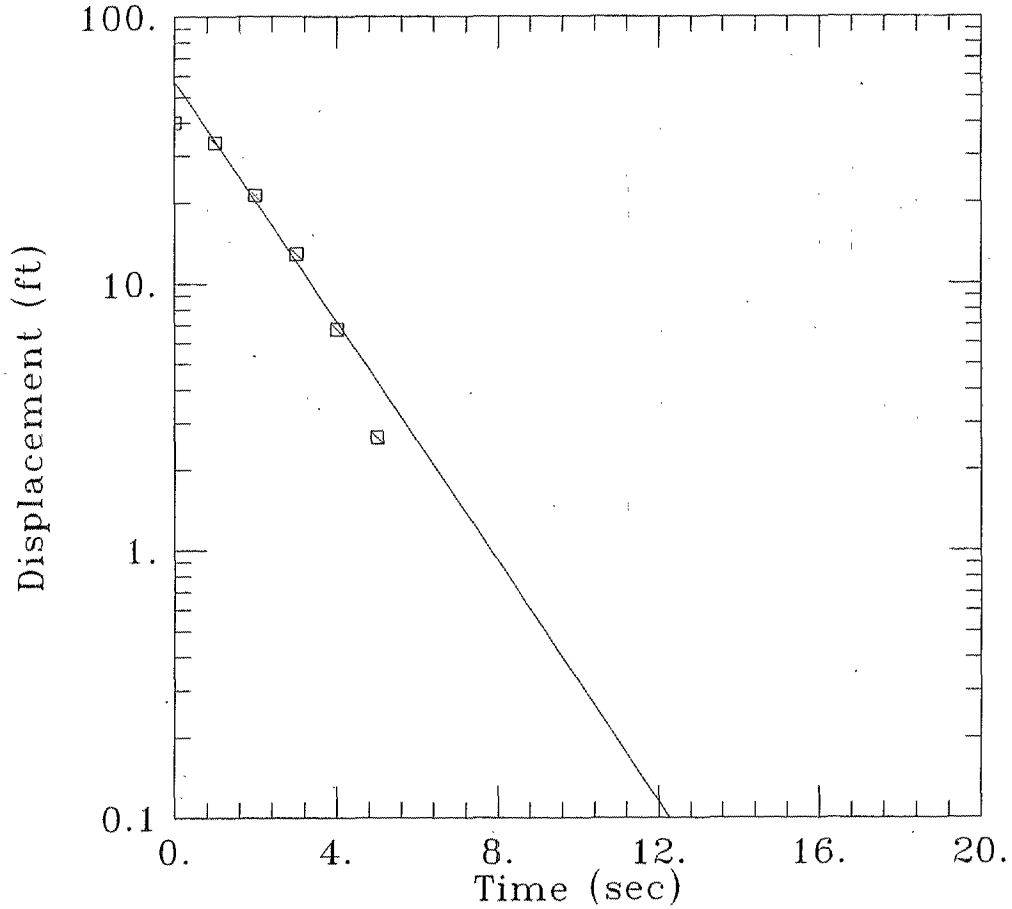
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.94 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 155.3 ft
H = 154.8 ft

PARAMETER ESTIMATES:
K = 0.002009 ft/sec
y0 = 52.82 ft

AQTESOLV

CH2MHILL
MW32-165
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW321652.DAT
02/10/97

AQUIFER MODEL:
Unconfined

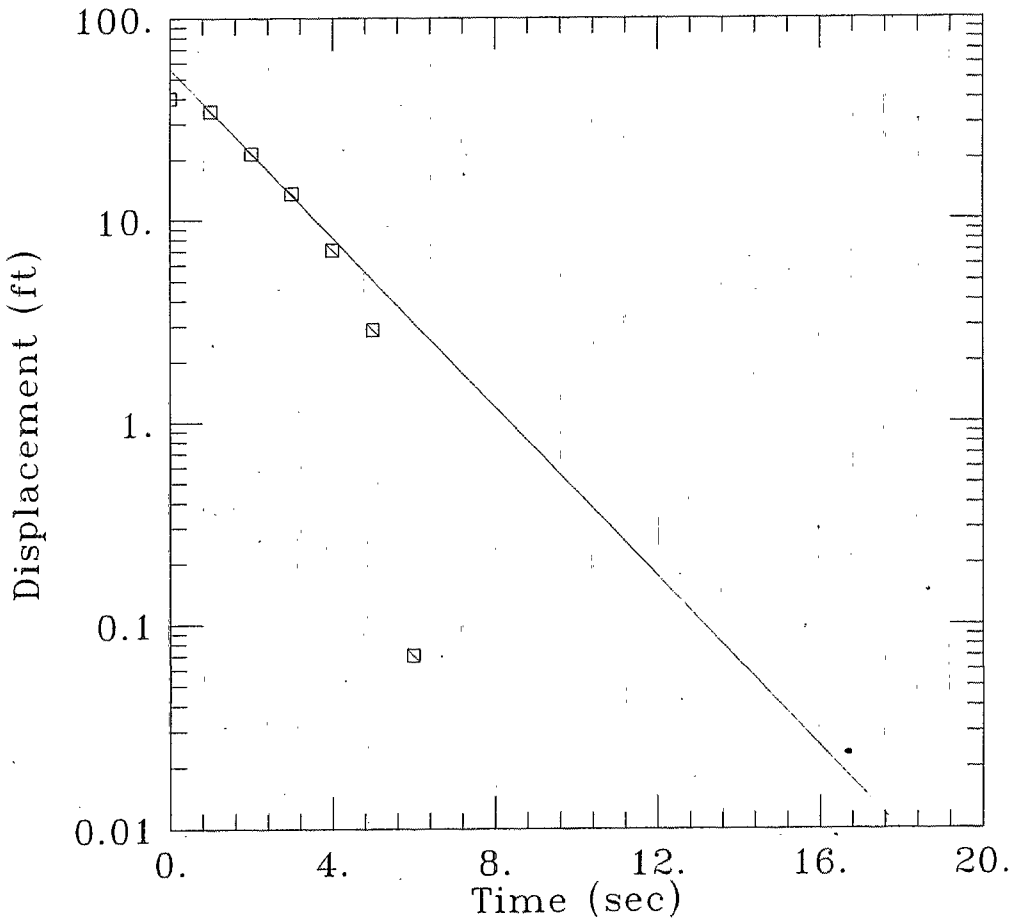
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.01 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 155.3 ft
H = 154.8 ft

PARAMETER ESTIMATES:
K = 0.002411 ft/sec
y0 = 57.3 ft

AQTESOLV

CH2MHILL
MW32-165
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW321653.DAT
02/10/97

AQUIFER MODEL:
Unconfined

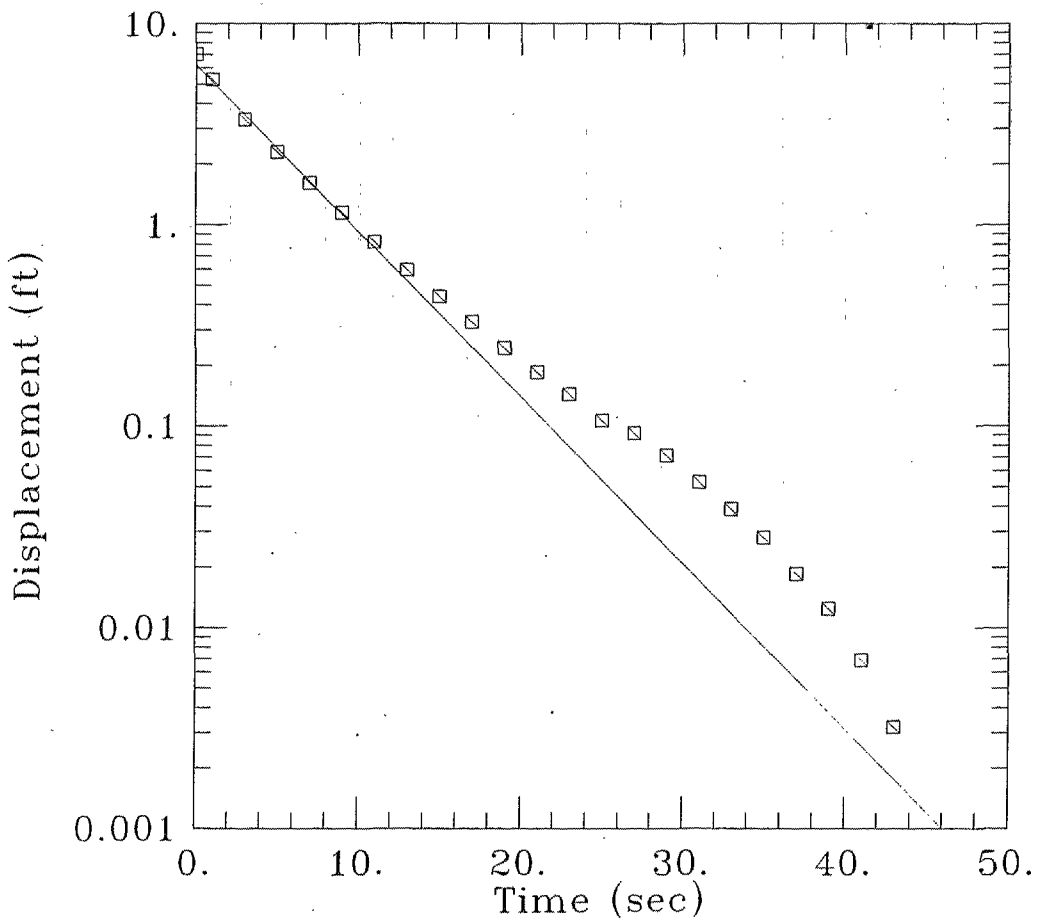
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40.07 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 155.3 ft
H = 154.8 ft

PARAMETER ESTIMATES:
K = 0.002243 ft/sec
y0 = 56.08 ft

AQTESOLV

CH2MHILL
MW33-033
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW330331.DAT
01/29/97

AQUIFER MODEL:
Unconfined

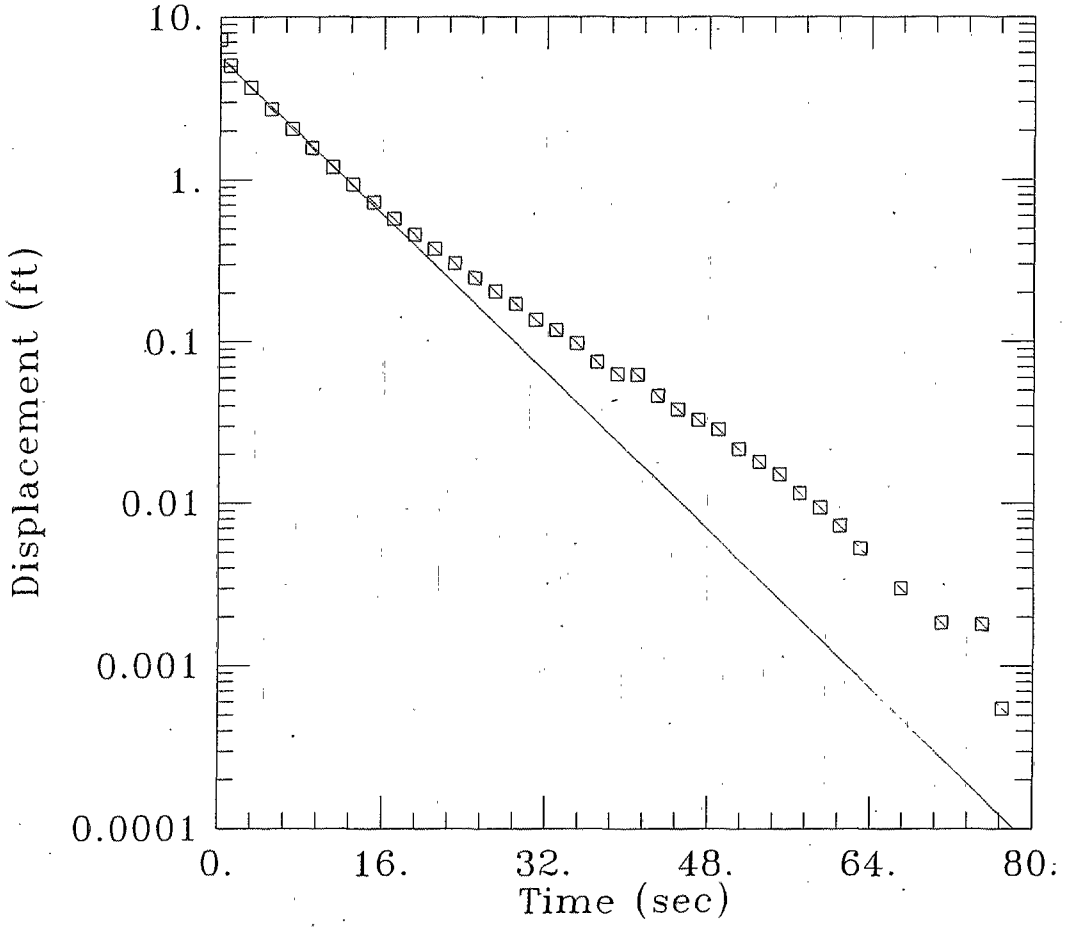
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 7.03 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 21.03 ft
H = 20.53 ft

PARAMETER ESTIMATES:
K = 0.0006554 ft/sec
y0 = 6.201 ft

AQTESOLV

CH2MHILL
MW33-033
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW330332.DAT
01/29/97

AQUIFER MODEL:
Unconfined

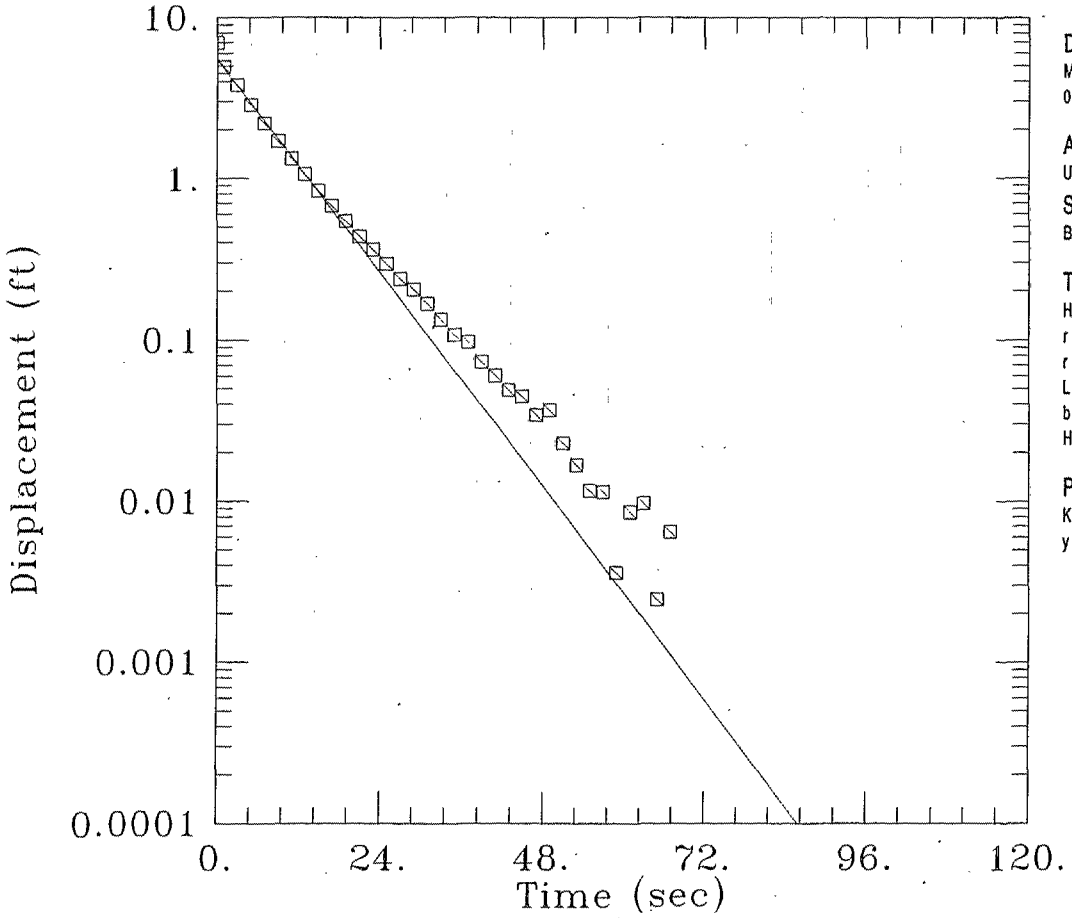
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 7.27 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 21.03 ft
H = 20.53 ft

PARAMETER ESTIMATES:
K = 0.0004834 ft/sec
y0 = 5.674 ft

AQTESOLV

CH2MHILL
MW33-033
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW330333.DAT
01/29/97

AQUIFER MODEL:
Unconfined

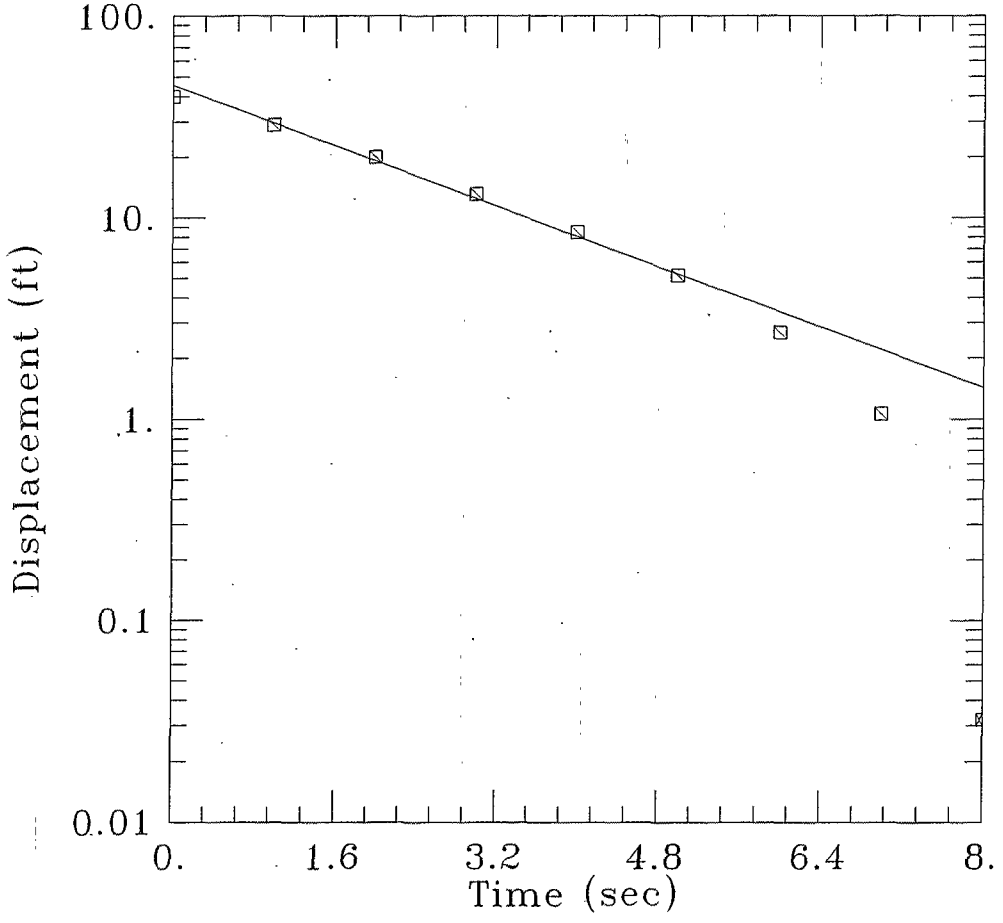
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 6.98 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 21.03 ft
H = 20.53 ft

PARAMETER ESTIMATES:
K = 0.0004386 ft/sec
y0 = 5.516 ft

AQTESOLV

CH2MHILL
MW33-095
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
33095A.DAT
02/19/97

AQUIFER MODEL:
Unconfined

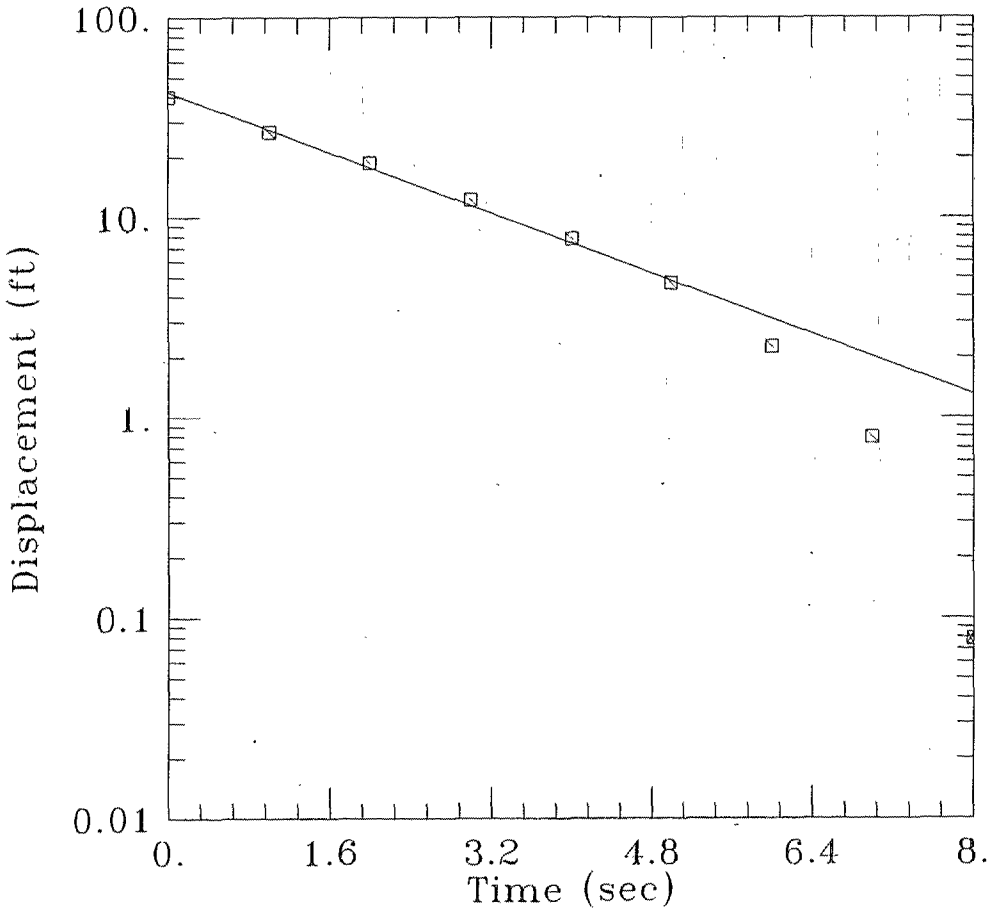
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 39.9 ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 85.69 ft
H = 85.19 ft

PARAMETER ESTIMATES:
K = 0.001876 ft/sec
y0 = 45.6 ft

AQTESOLV

CH2MHILL
MW33-095
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
33095B.DAT
02/19/97

AQUIFER MODEL:
Unconfined

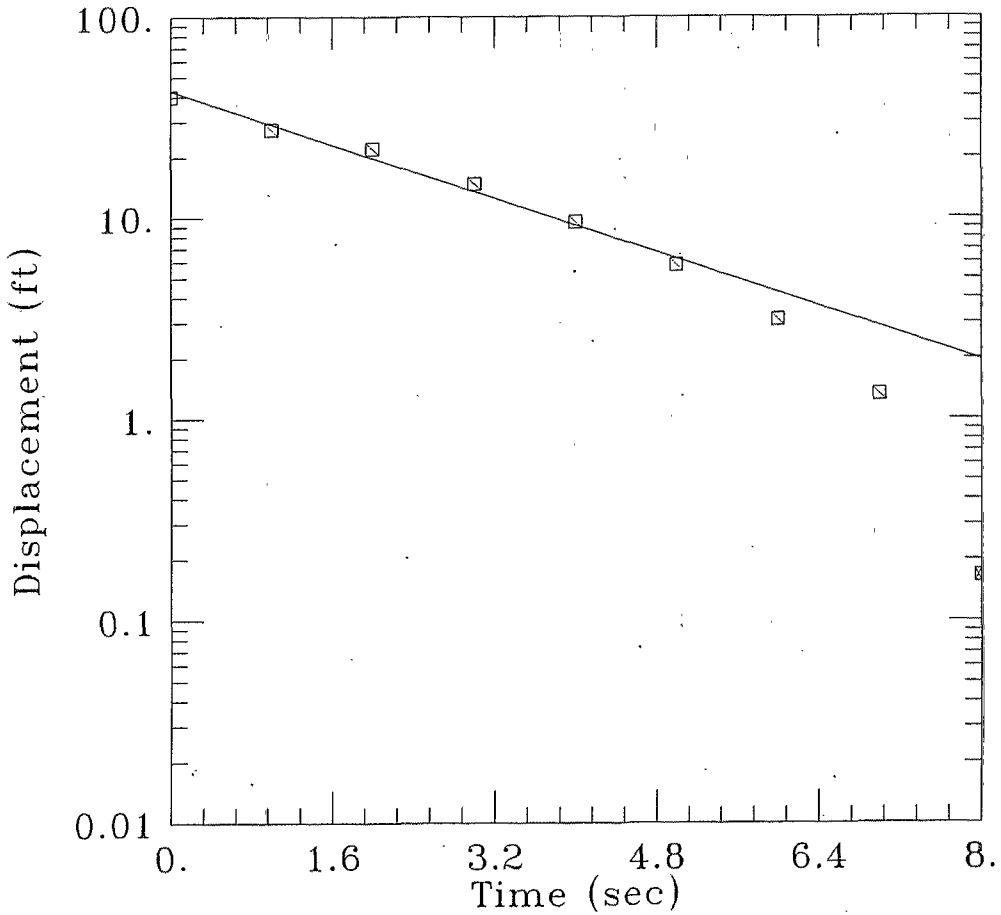
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 85.69 ft
H = 85.19 ft

PARAMETER ESTIMATES:
K = 0.001887 ft/sec
y0 = 42.45 ft

AQTESOLV

CH2MHILL
MW33-095
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
33095C.DAT
02/19/97

AQUIFER MODEL:
Unconfined

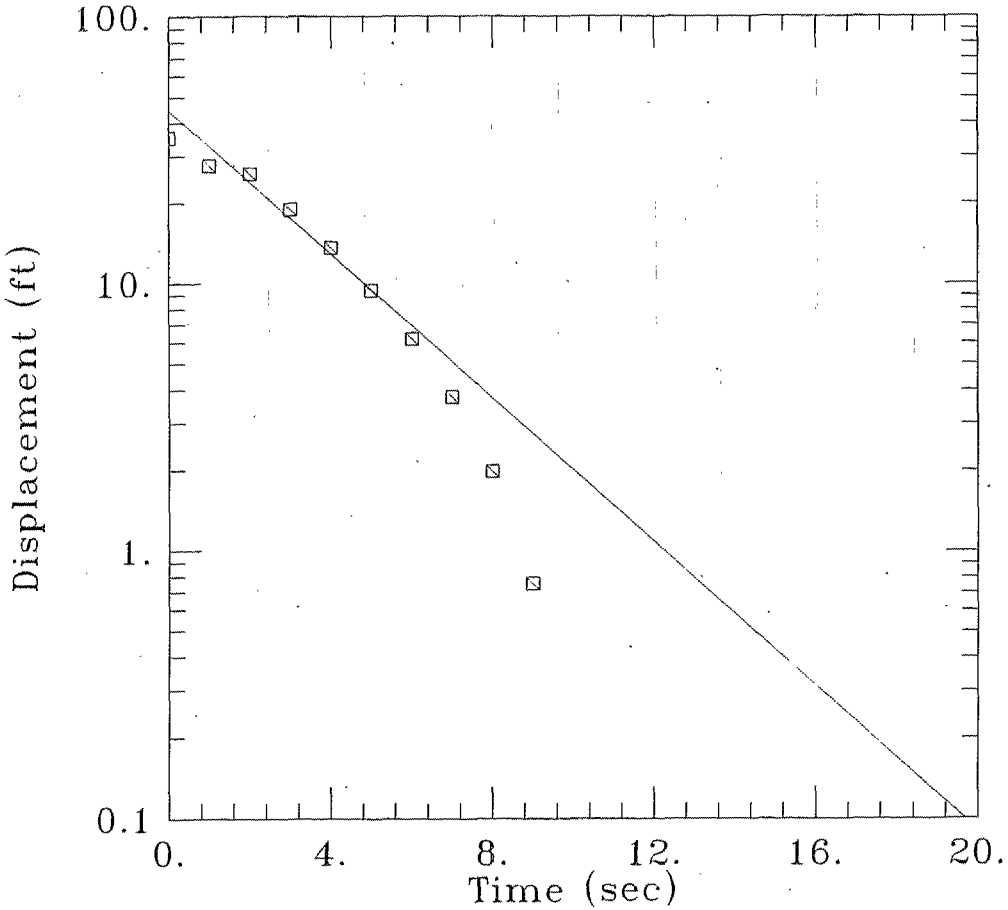
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 40. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 85.69 ft
H = 85.19 ft

PARAMETER ESTIMATES:
K = 0.001668 ft/sec
y0 = 42.72 ft

AQTESOLV

CH2MHILL
MW33-165
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW331651.DAT
02/10/97

AQUIFER MODEL:
Unconfined

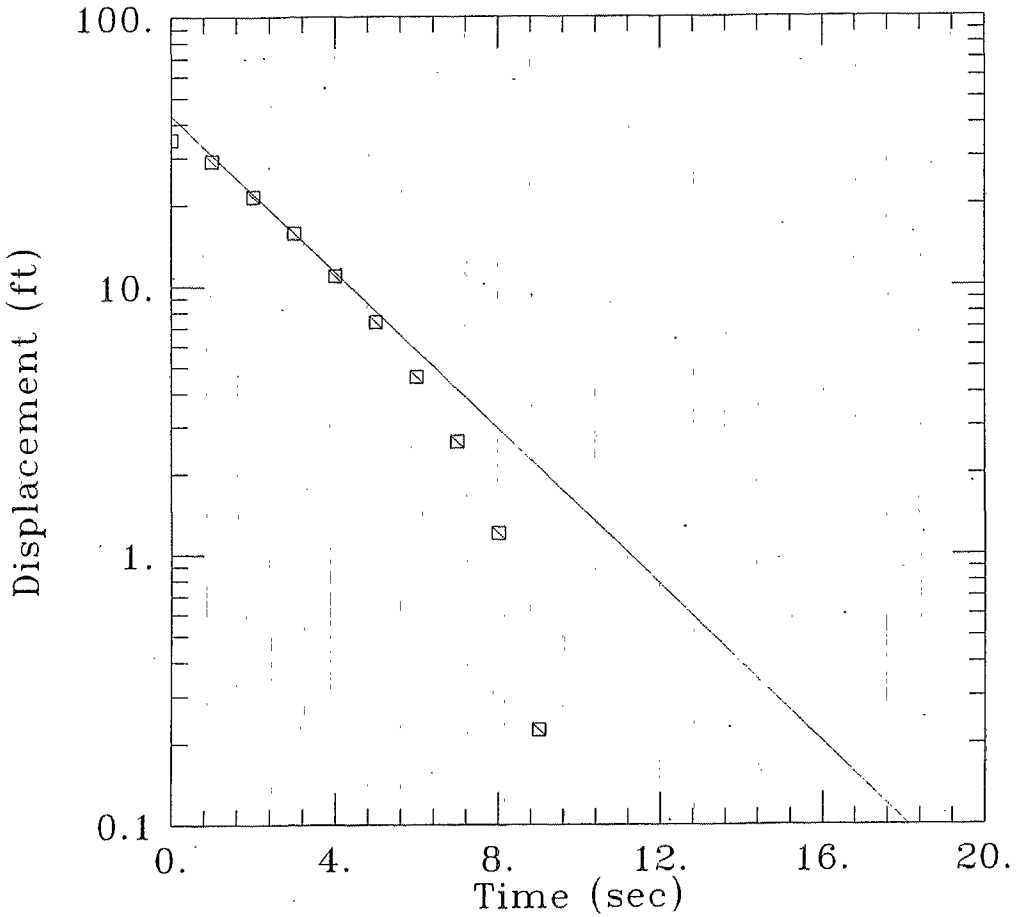
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 35.2 ft
rc = 0.167 ft.
rw = 0.5 ft
L = 10. ft
b = 155.2 ft
H = 154.7 ft

PARAMETER ESTIMATES:
K = 0.001444 ft/sec
y0 = 44.63 ft

AQTESOLV

CH2MHILL
MW33-165
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW331652.DAT
02/10/97

AQUIFER MODEL:
Unconfined

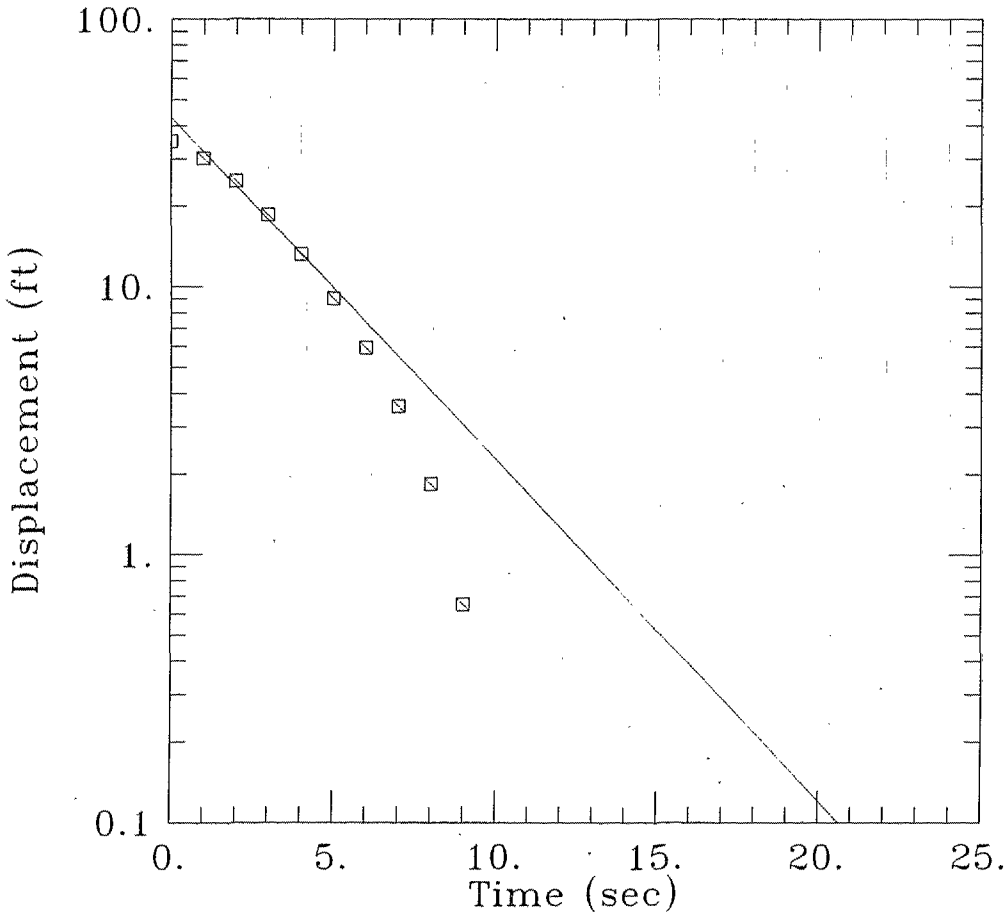
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 35. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 155.2 ft
H = 154.7 ft

PARAMETER ESTIMATES:
K = 0.001559 ft/sec
y0 = 42.97 ft

AQTESOLV

CH2MHILL
MW33-165
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW331653.DAT
02/10/97

AQUIFER MODEL:
Unconfined

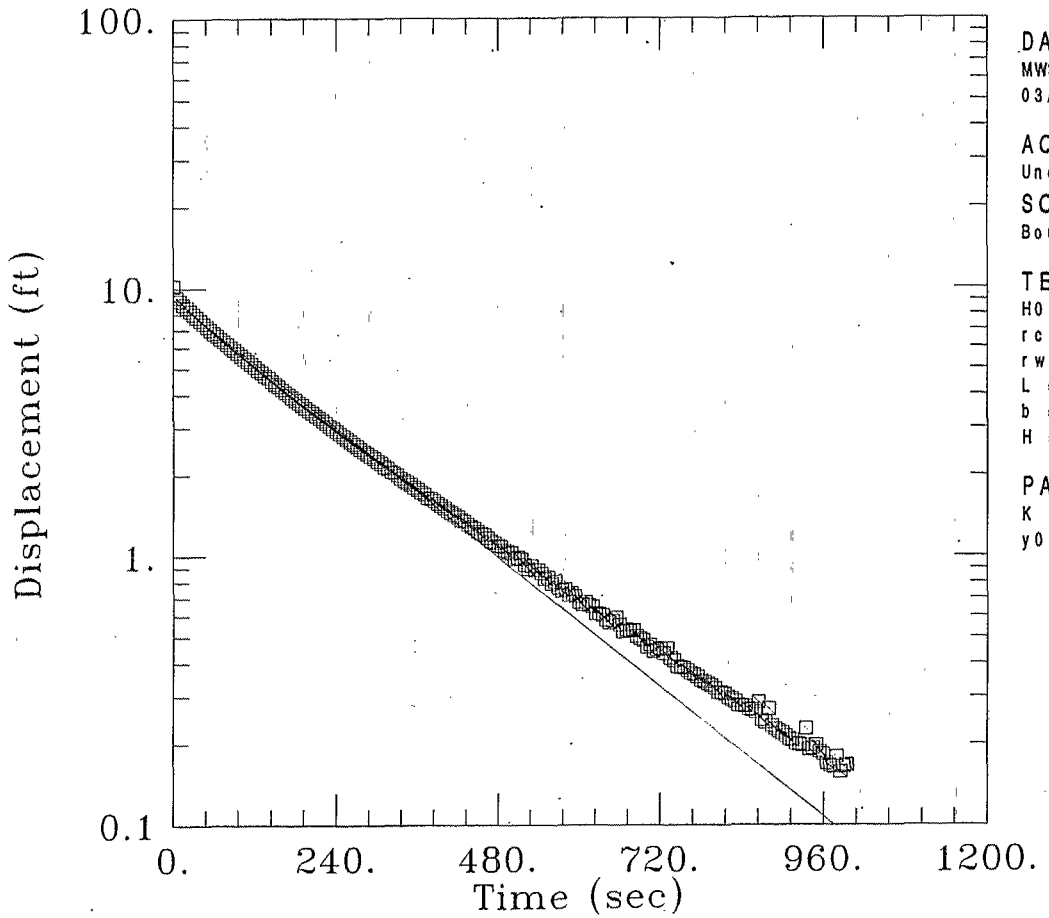
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 35. ft
rc = 0.167 ft
rw = 0.5 ft
L = 10. ft
b = 155.2 ft
H = 154.7 ft

PARAMETER ESTIMATES:
K = 0.001369 ft/sec
y0 = 42.97 ft

AQTESOLV

CH2MHILL
MW34-038
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW340381.DAT
03/09/97

AQUIFER MODEL:
Unconfined

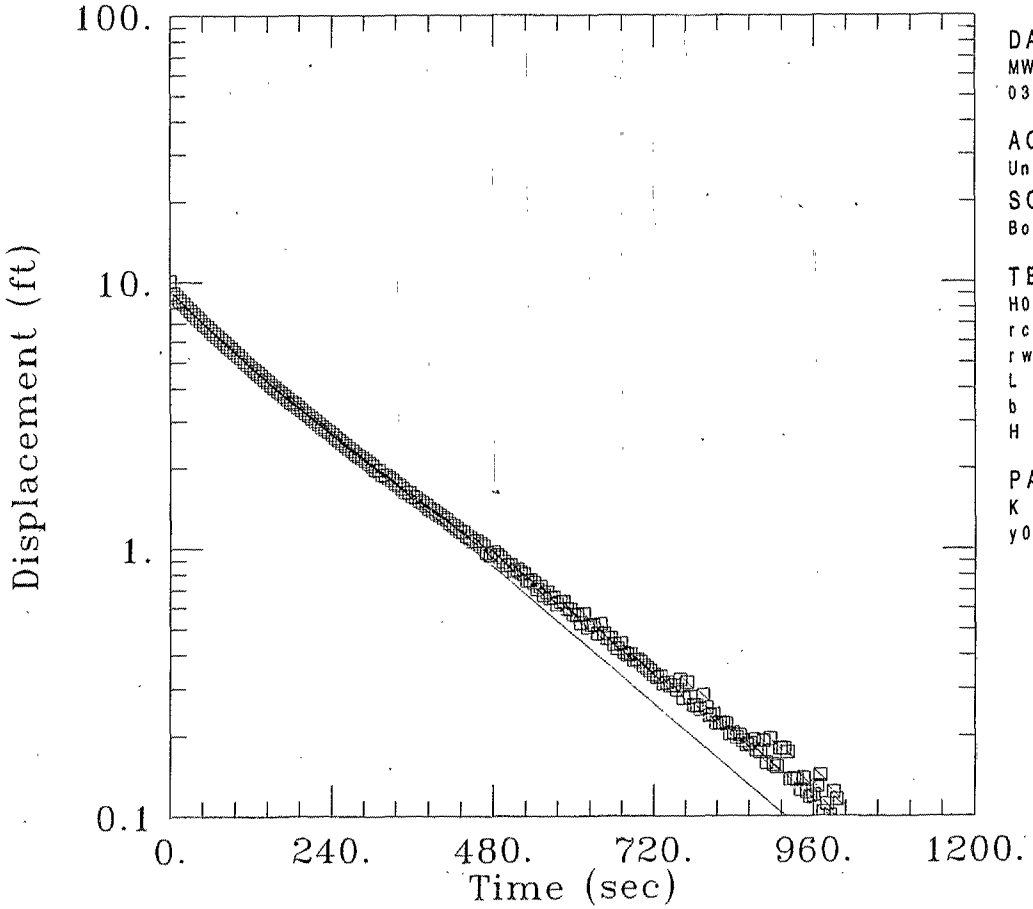
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 10.2 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 23.45 ft
H = 22.95 ft

PARAMETER ESTIMATES:
K = 2.699E-05 ft/sec
y0 = 9.111 ft

AQTESOLV

CH2MHILL
MW34-038
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW340382.DAT
03/09/97

AQUIFER MODEL:
Unconfined

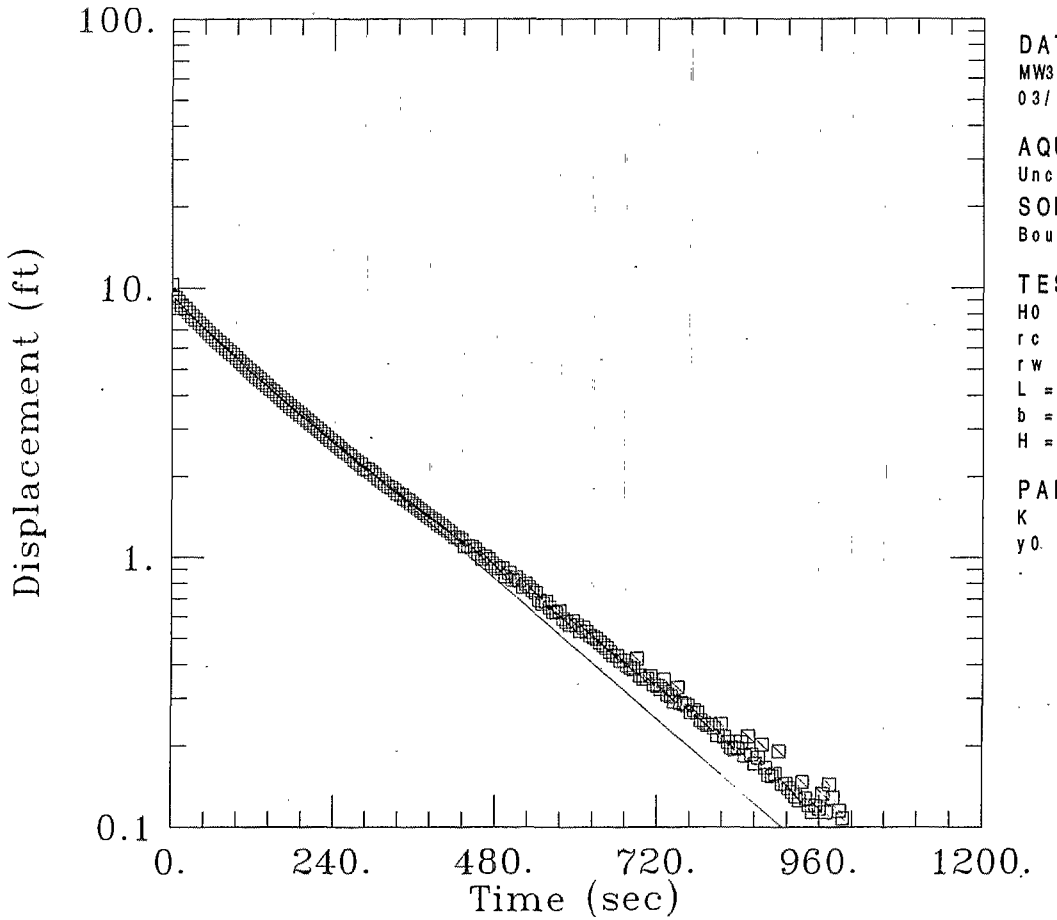
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 10.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 23.45 ft
H = 22.95 ft

PARAMETER ESTIMATES:
K = 2.855E-05 ft/sec
y0 = 8.914 ft

AQTESOLV

CH2MHILL
MW34-038
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW340383.DAT
03/09/97

AQUIFER MODEL:
Unconfined

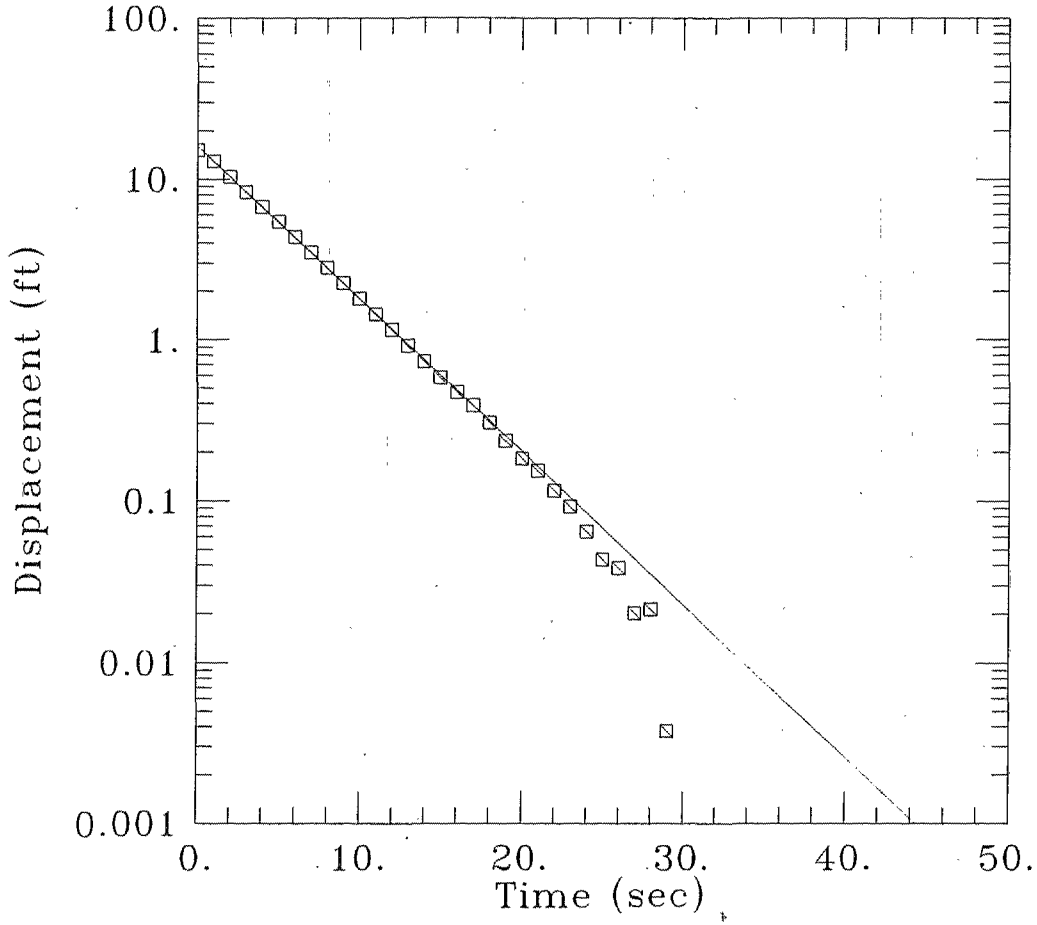
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 10.3 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 23.45 ft
H = 22.95 ft

PARAMETER ESTIMATES:
K = 2.907E-05 ft/sec
y0 = 9.026 ft

AQTESOLV

CH2MHILL
MW35-038
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW350381.DAT
01/30/97

AQUIFER MODEL:
Unconfined

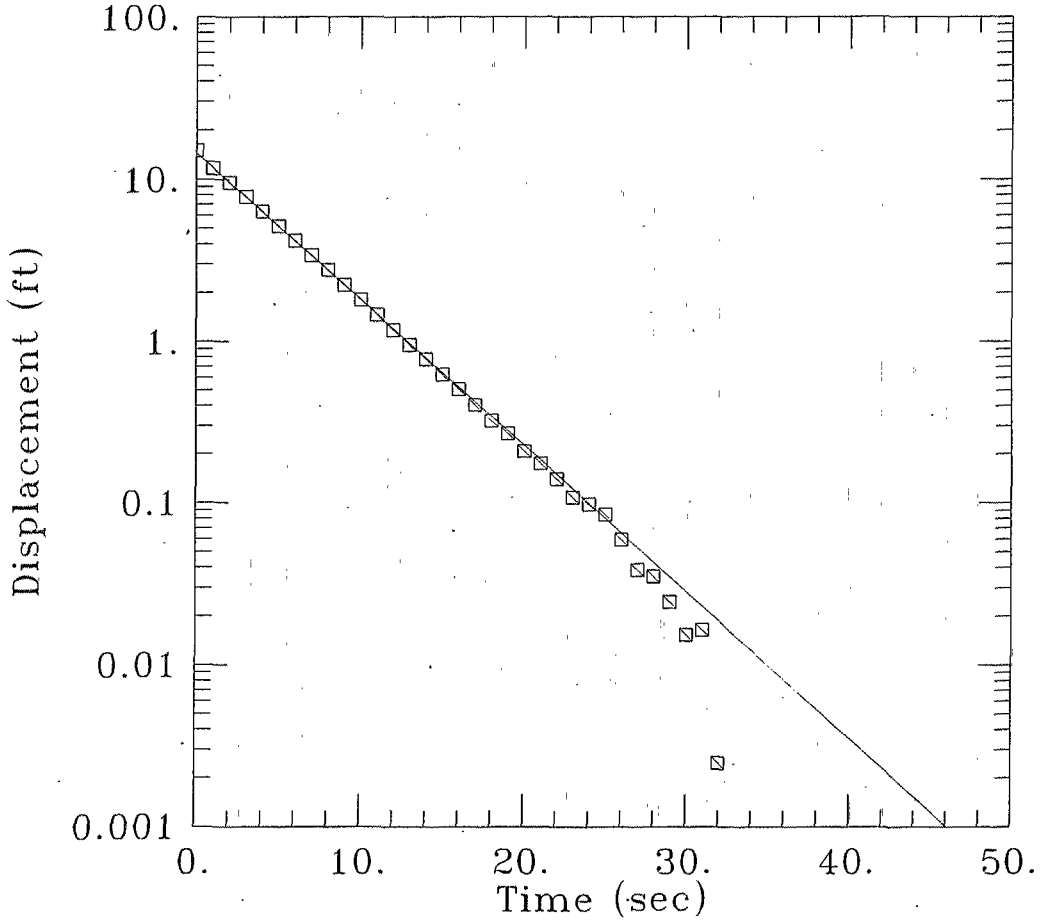
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 25.77 ft
H = 25.27 ft

PARAMETER ESTIMATES:
K = 0.001295 ft/sec
y0 = 16.05 ft

AQTESOLV

CH2MHILL
MW35-038
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW350382.DAT
01/30/97

AQUIFER MODEL:
Unconfined

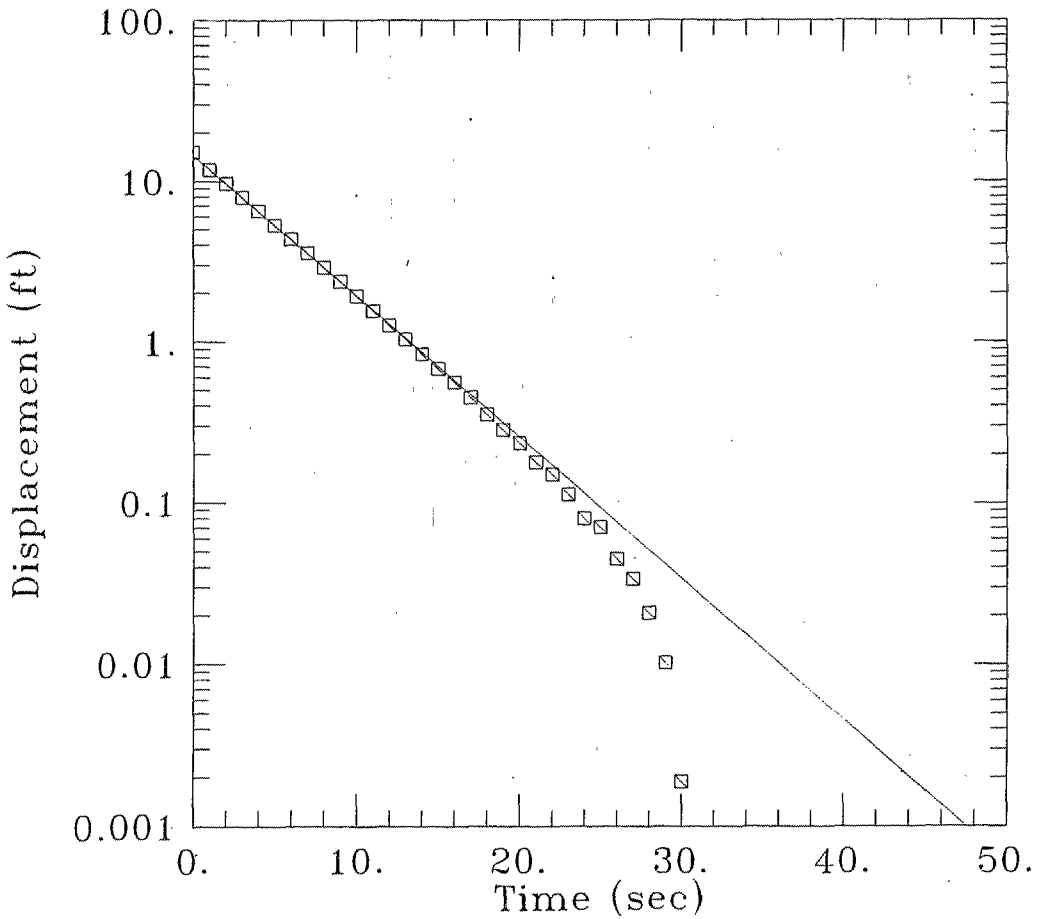
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15. ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 25.77 ft
H = 25.27 ft

PARAMETER ESTIMATES:
K = 0.001232 ft/sec
y0 = 14.45 ft

AQTESOLV

CH2MHILL
MW35-038
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW35038.DAT
01/30/97

AQUIFER MODEL:
Unconfined

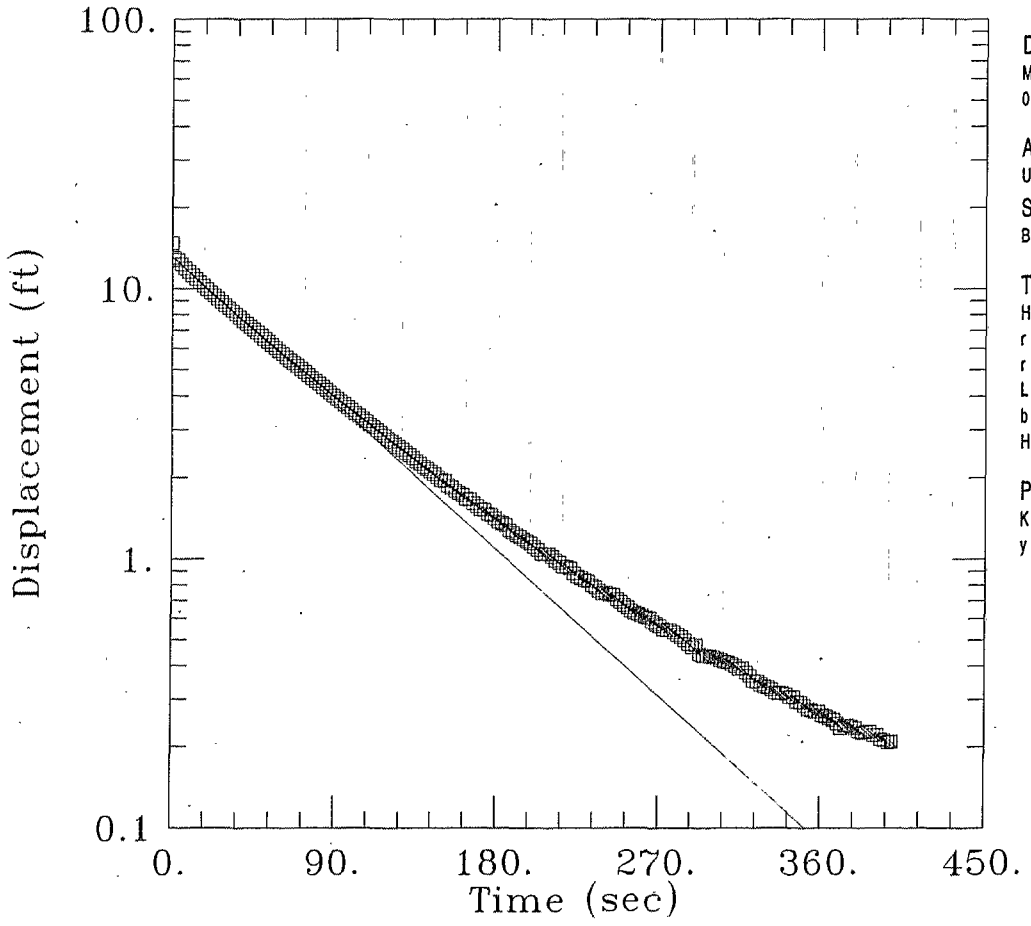
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 15.11 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 25.77 ft
H = 25.27 ft

PARAMETER ESTIMATES:
K = 0.001195 ft/sec
y0 = 14.49 ft

AQTESOLV

CH2MHILL
MW37-030
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW370301.DAT
02/18/97

AQUIFER MODEL:
Unconfined

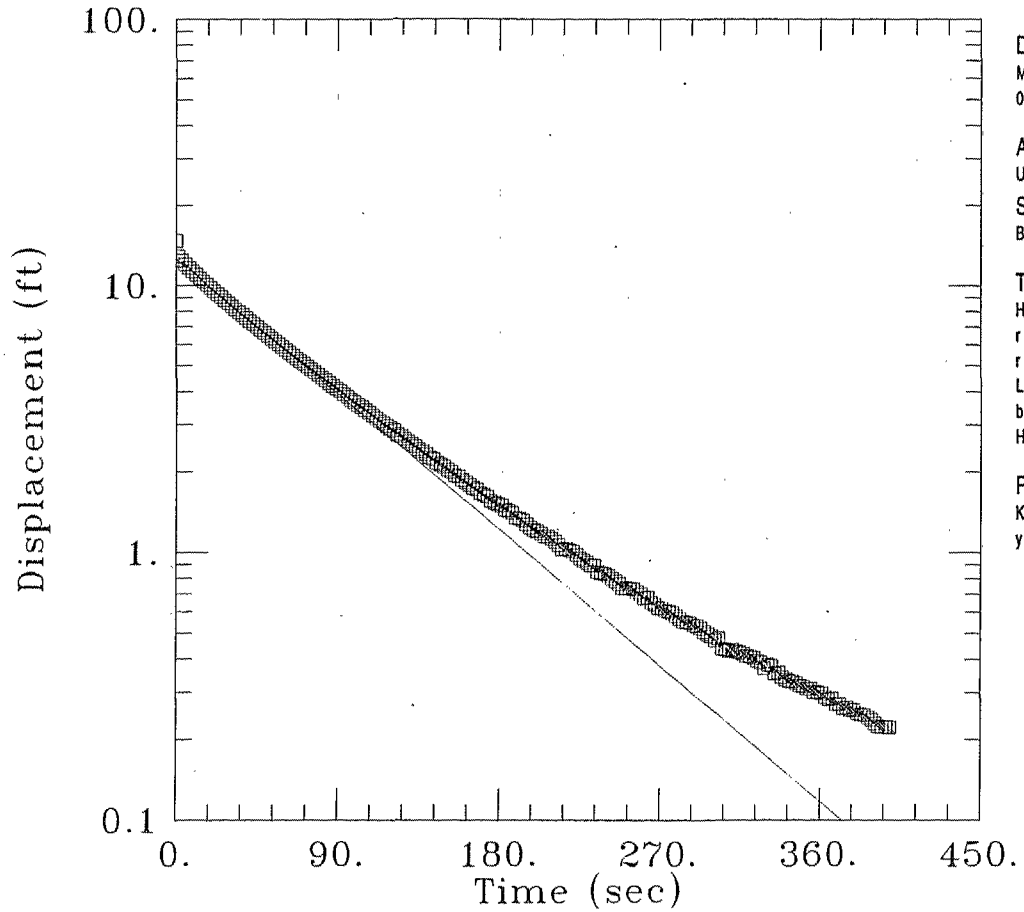
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 14.75 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 25.2 ft
H = 24.7 ft

PARAMETER ESTIMATES:
K = 8.191E-05 ft/sec
y0 = 13.07 ft

AQTESOLV

CH2MHILL
MW37-030
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW370302.DAT
02/18/97

AQUIFER MODEL:
Unconfined

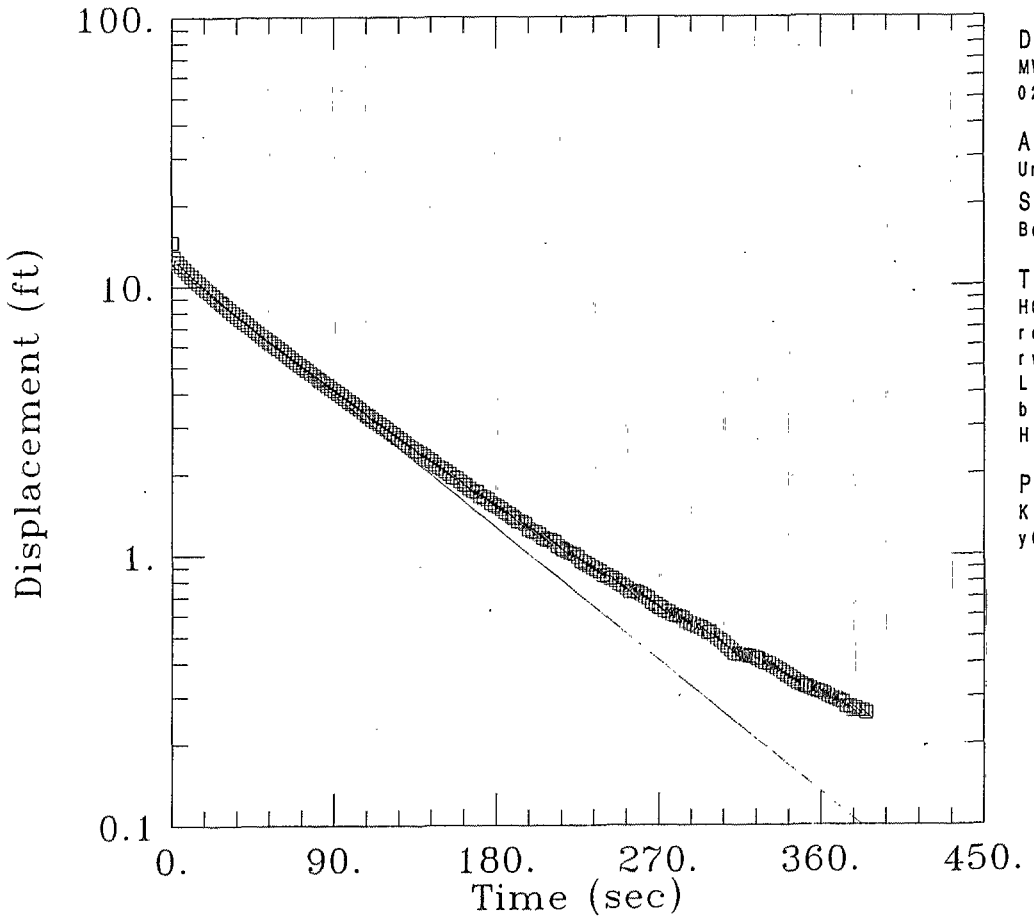
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 14.73 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 25.2 ft
H = 24.7 ft

PARAMETER ESTIMATES:
K = 7.667E-05 ft/sec
y0 = 12.59 ft

AQTESOLV

CH2MHILL
MW37-030
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW370303.DAT
02/18/97

AQUIFER MODEL:
Unconfined

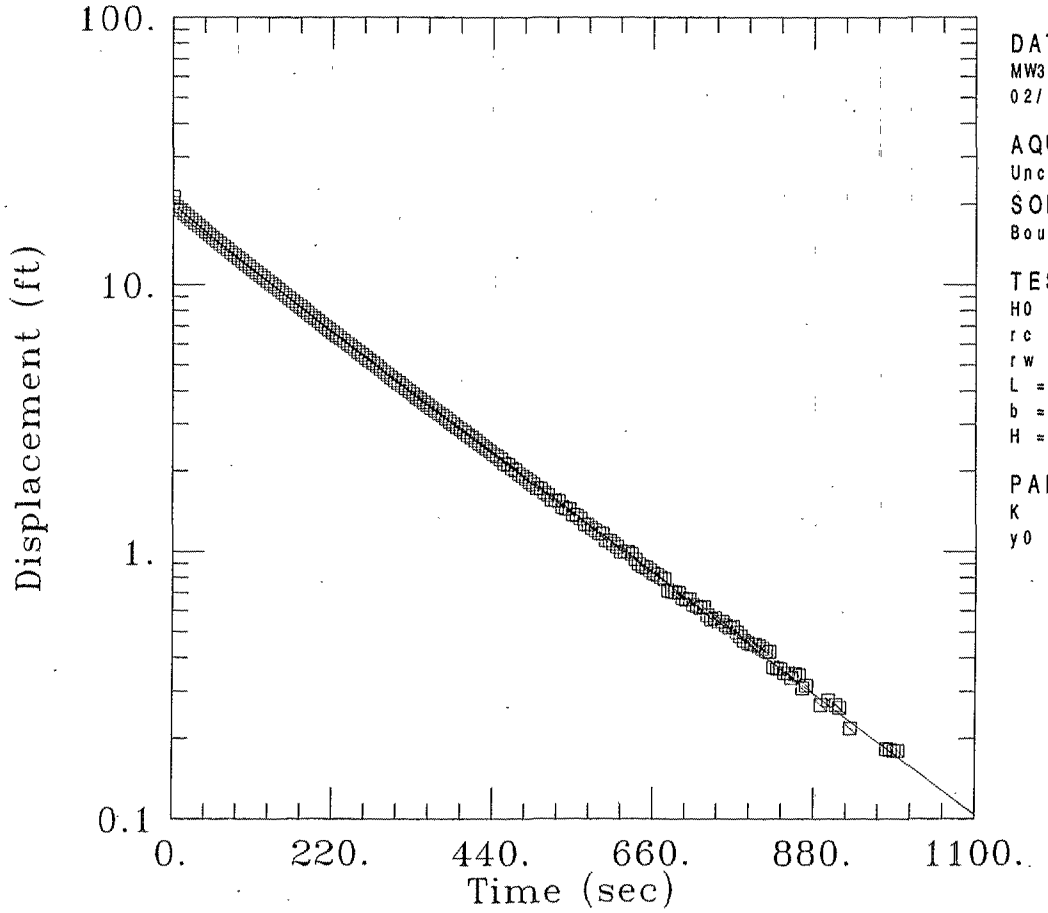
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 14.58 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 25.2 ft
H = 24.7 ft

PARAMETER ESTIMATES:
K = 7.412E-05 ft/sec
y0 = 12.12 ft

AQTESOLV

CH2MHILL
MW38-035
Test # 1
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW380351.DAT
02/18/97

AQUIFER MODEL:
Unconfined

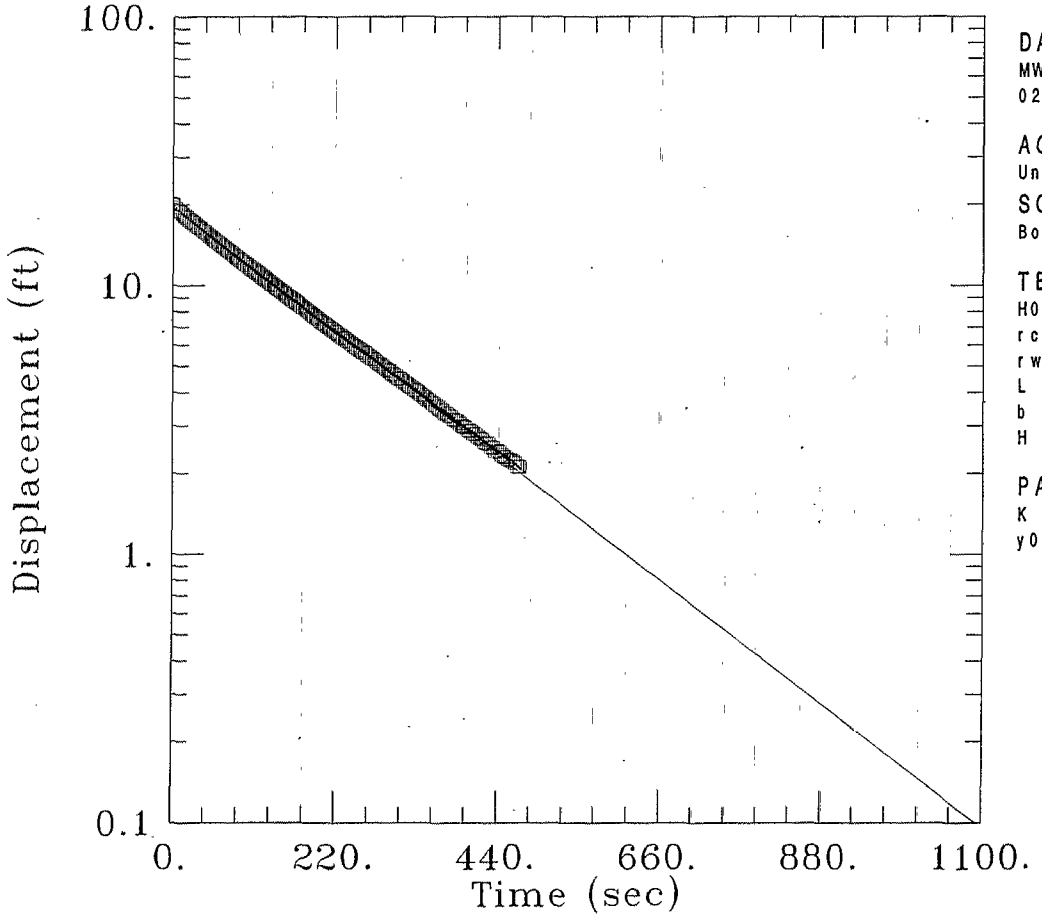
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 20.22 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 31.08 ft
H = 30.08 ft

PARAMETER ESTIMATES:
K = 2.772E-05 ft/sec
y0 = 18.99 ft

AQTESOLV

CH2MHILL
MW38-035
Test # 2
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW380352.DAT
02/18/97

AQUIFER MODEL:
Unconfined

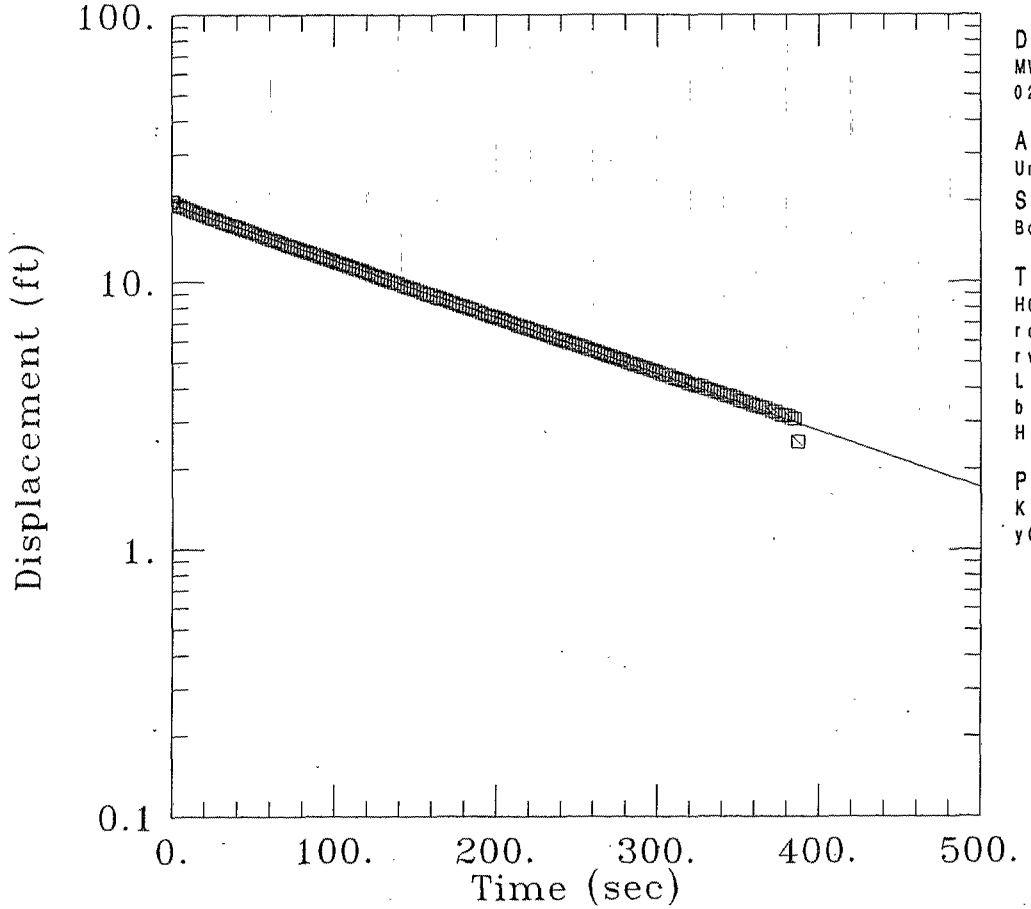
SOLUTION METHOD:
Bouwer-Rice

TEST DATA:
H0 = 20.1 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 31.08 ft
H = 30.08 ft

PARAMETER ESTIMATES:
K = 2.825E-05 ft/sec
y0 = 19.44 ft

AQTESOLV

CH2MHILL
MW38-035
Test # 3
Reynolds Metals Co.
Troutdale, Oregon



DATA SET:
MW380353.DAT
02/18/97

AQUIFER MODEL:
Unconfined

SOLUTION METHOD:
Bouwer-Rice

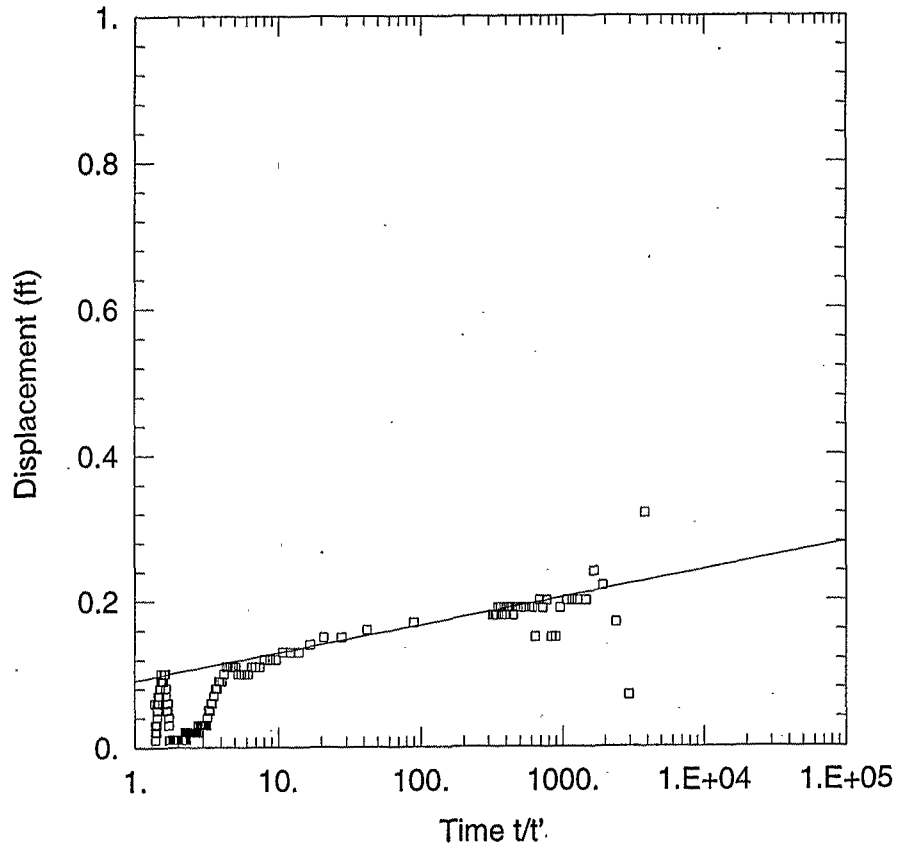
TEST DATA:
H0 = 20.07 ft
rc = 0.167 ft
rw = 0.5 ft
L = 5. ft
b = 31.08 ft
H = 30.08 ft

PARAMETER ESTIMATES:
K = 2.848E-05 ft/sec
y0 = 19.52 ft

AQTESOLV

ATTACHMENT B

Short-Term Aquifer Test Data Plots



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-B\10165A.A
Date: 03/12/98 Time: 13:19:04

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 12.48 ft^2/min
S' = 0.003831

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

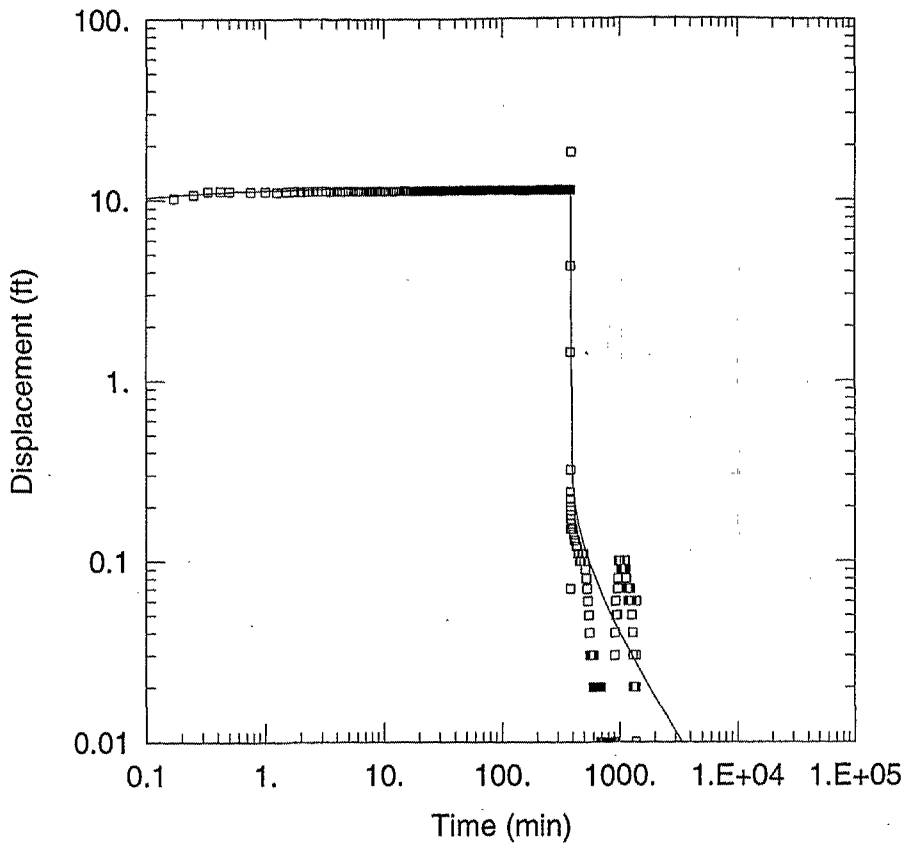
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
10-165	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW10-165	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-B\10165A.A
Date: 03/12/98 Time: 13:15:19

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 2.459 ft^2/min
S = 0.0005711

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

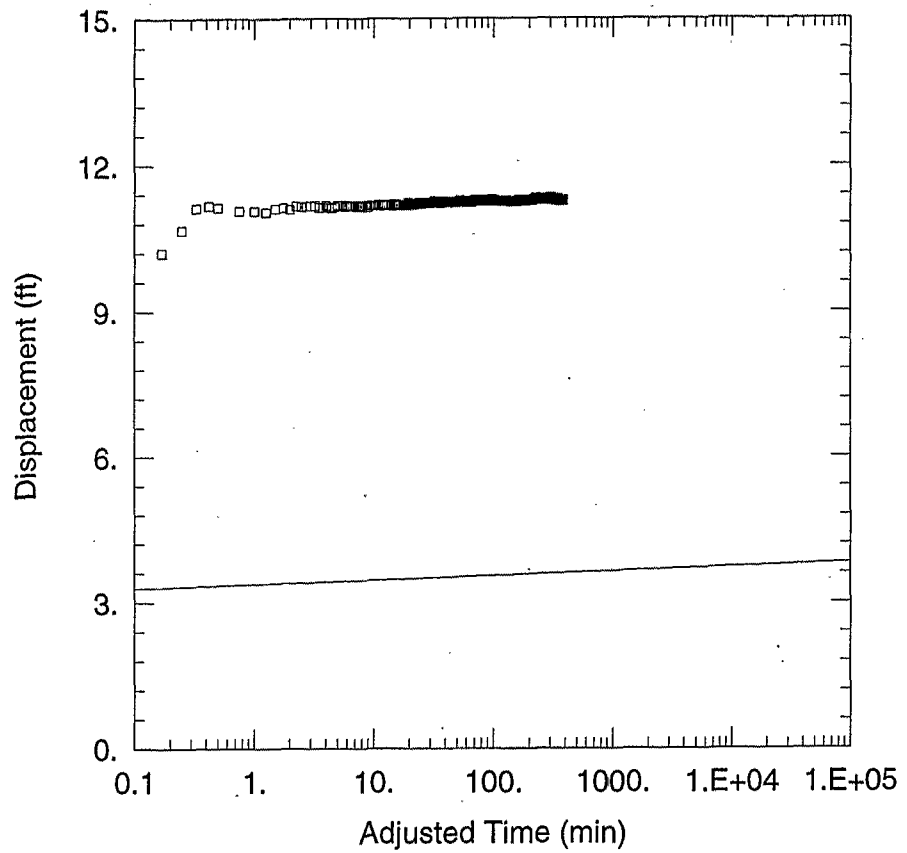
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
10-165	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW10-165	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-B\10165A.A
Date: 03/12/98 Time: 13:18:23

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 5.344 ft^2/min
S = 1.411E-37

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

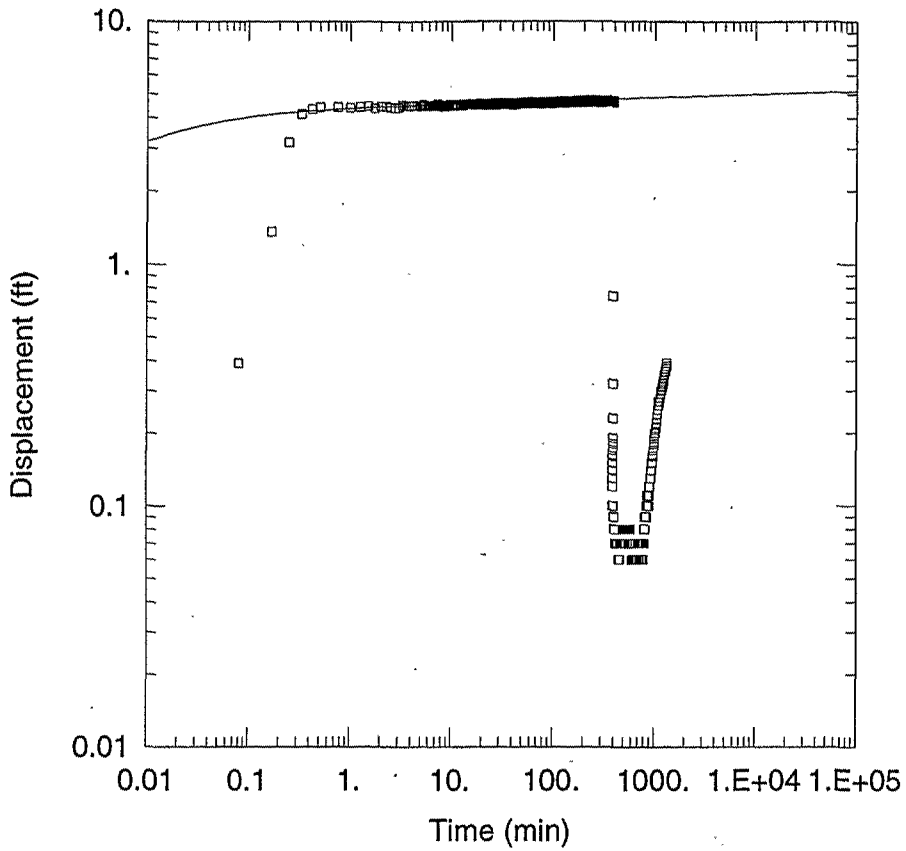
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
10-165	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW10-165	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-G\27-081NA
Date: 05/11/98 Time: 10:34:20

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 4.444 ft^2/min
S = 0.000859

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

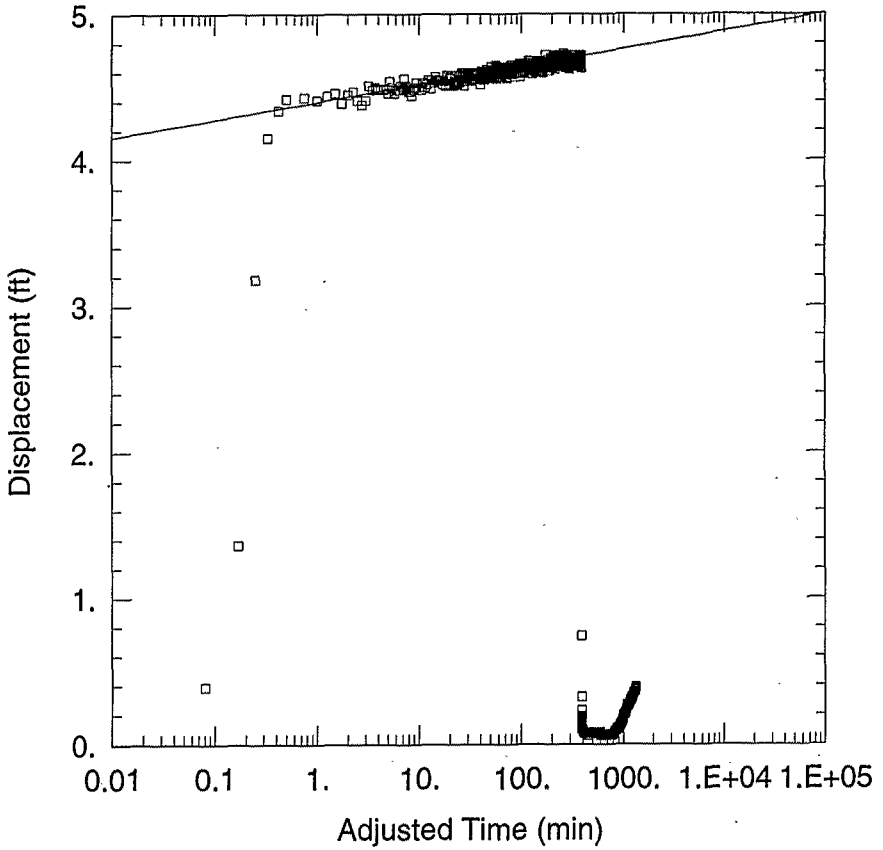
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW27-081	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW27-081NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-G\27-081NA
Date: 05/11/98 Time: 10:35:00

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 5.409 ft^2/min
S = 1.683E-35

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

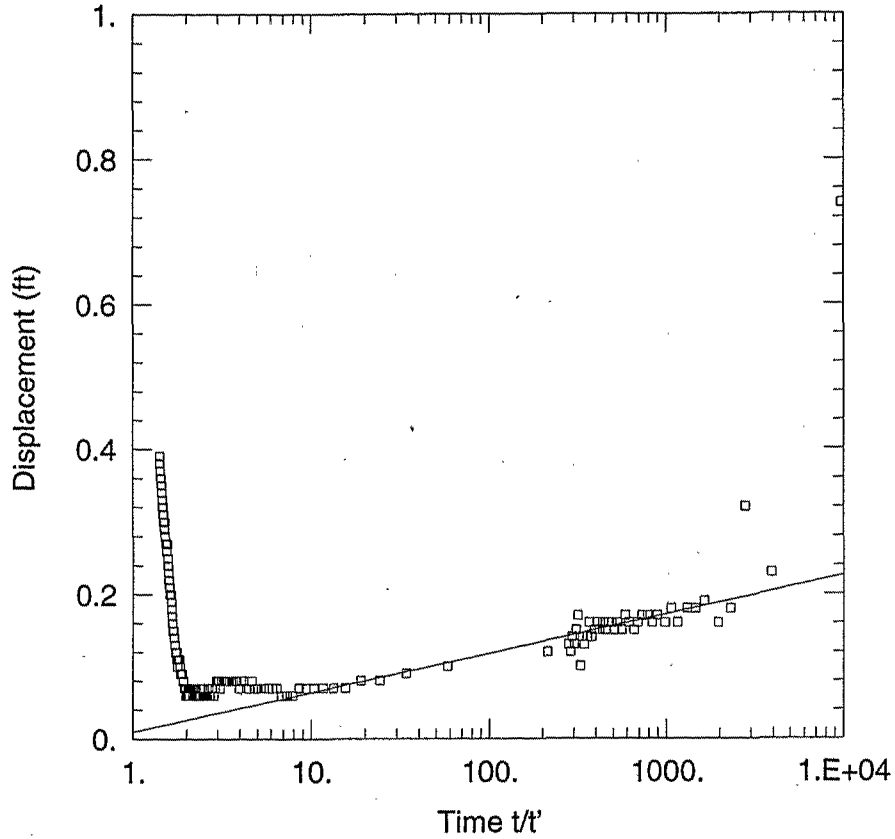
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW27-081	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW27-081NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-G\27-081RA
Date: 03/16/98 Time: 08:40:19

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)

T = 12.15 ft^2/min
S' = 0.6689

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

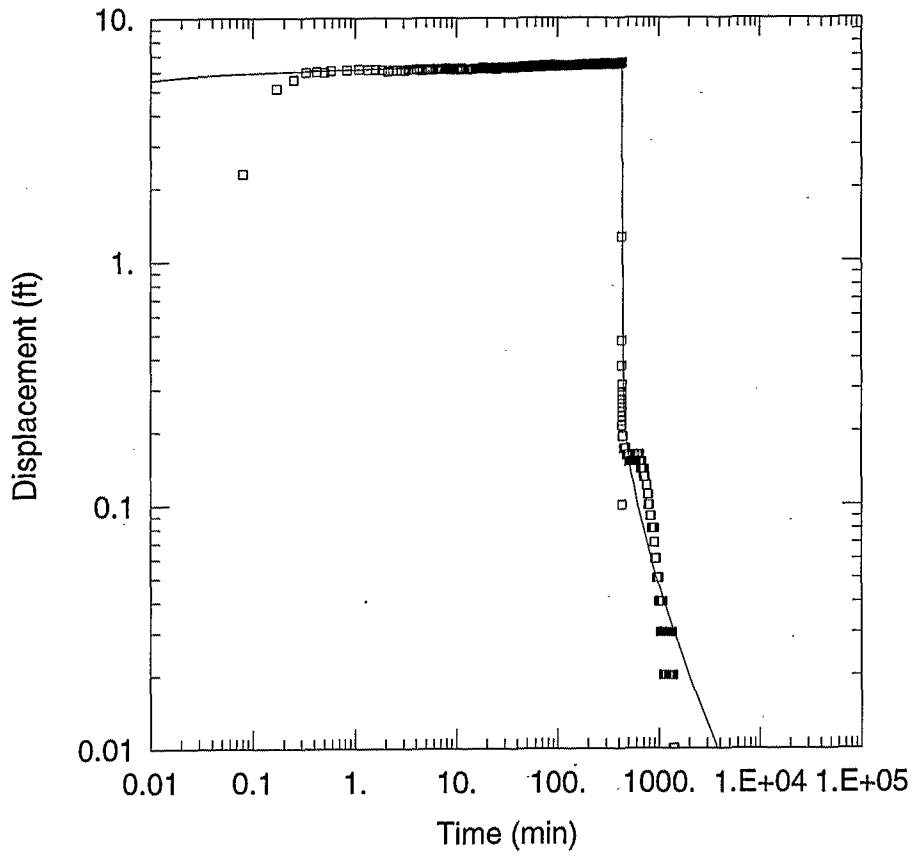
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW27-081	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW27-081NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-H\06-094A./
Date: 05/10/98 Time: 14:12:49

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 3.665 ft^2/min
S = 1.874E-05

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

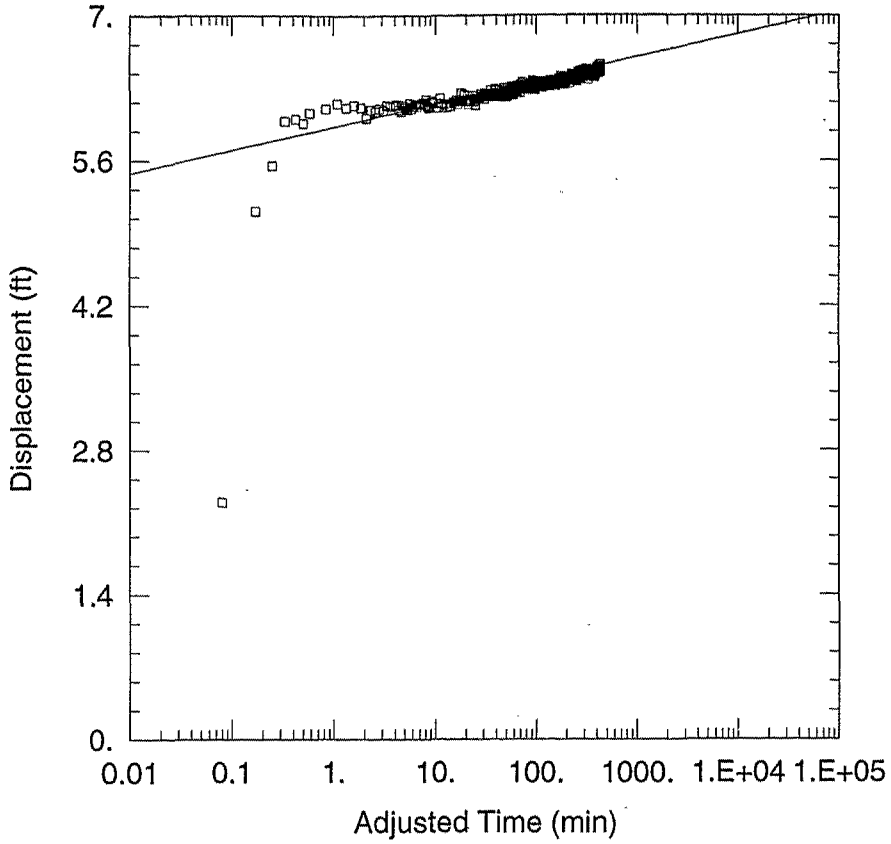
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW06-094	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW06-094NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-H\06-094A.A
Date: 03/12/98 Time: 10:19:54

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob

T = 3.074 ft^2/min
S = 5.099E-26

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

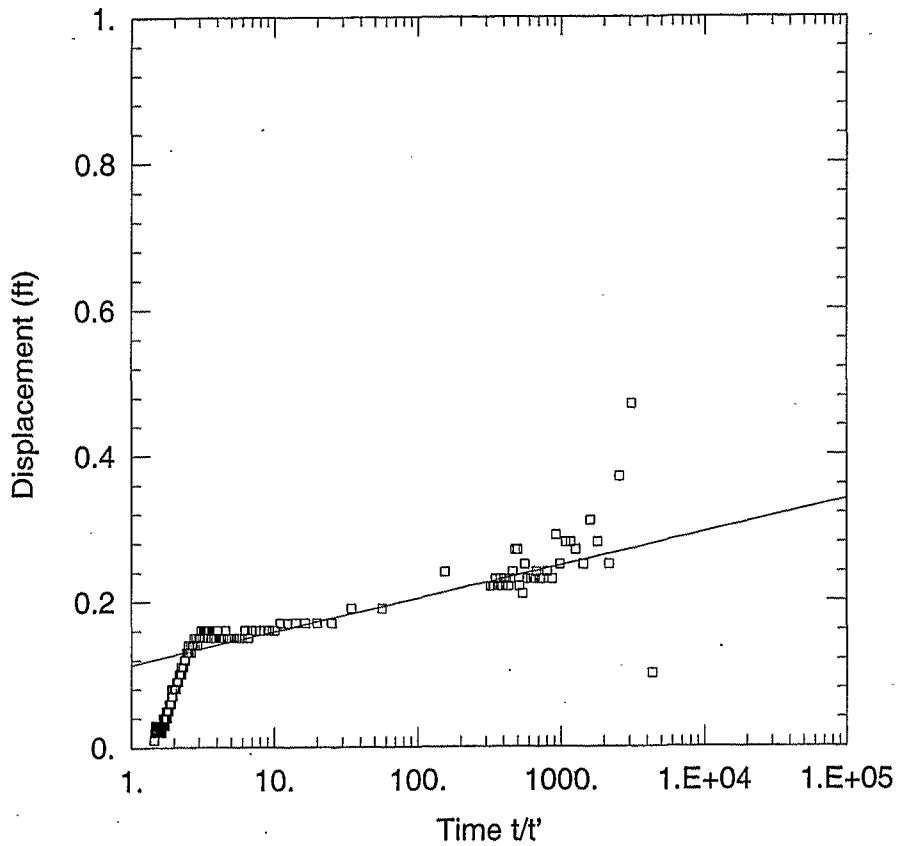
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW06-094	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW06-094NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-H\06-094A./
Date: 03/12/98 Time: 10:20:32

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 15.25 ft^2/min
S' = 0.003128

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

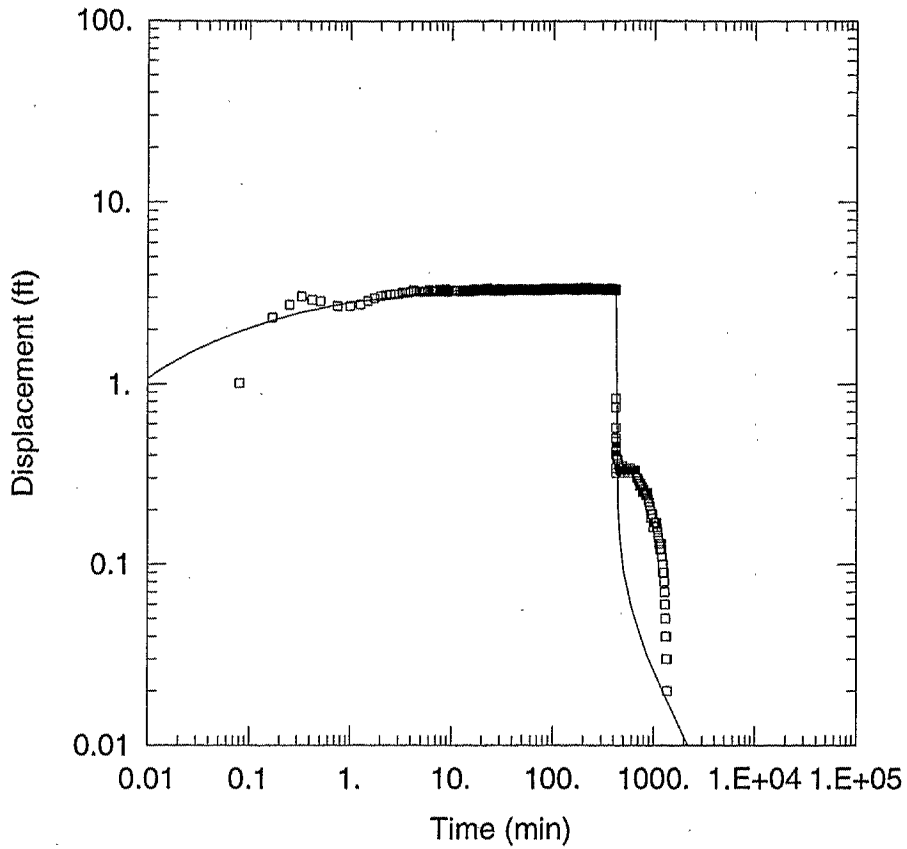
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW06-094	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW06-094NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-I\32-095UA.
Date: 03/12/98 Time: 14:46:34

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 5.923 ft^2/min
S = 0.02734

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

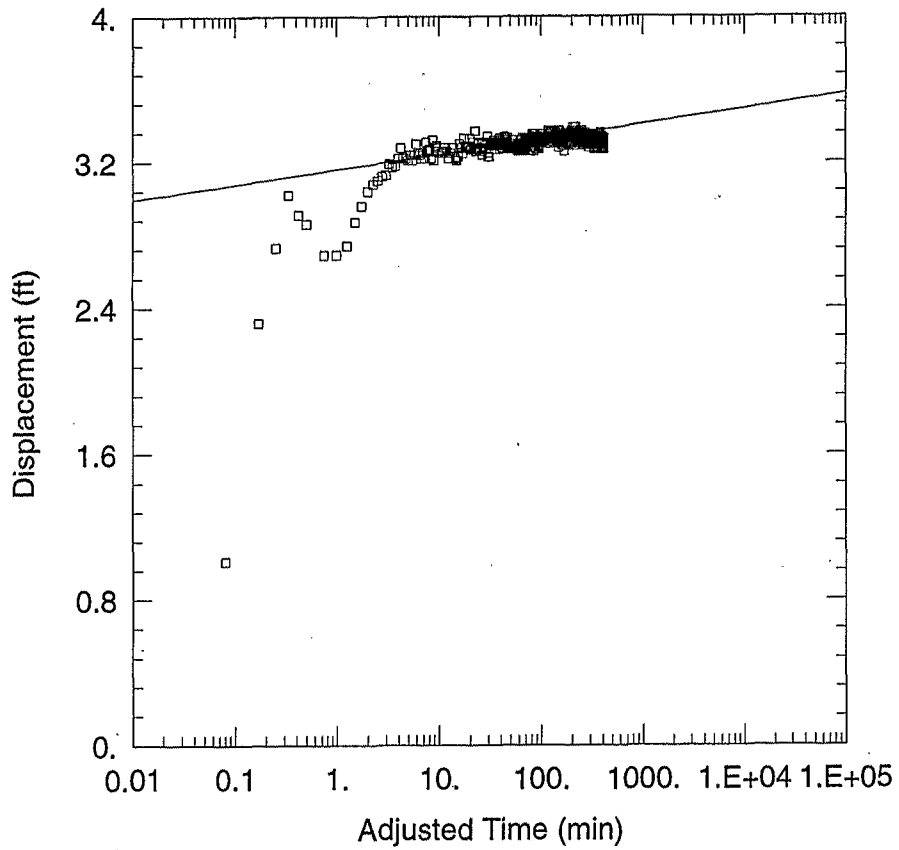
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
32-095	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW32-095	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-I\32-095UA.
Date: 03/12/98 Time: 14:47:07

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 7.825 ft^2/min
S = 2.066E-37

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

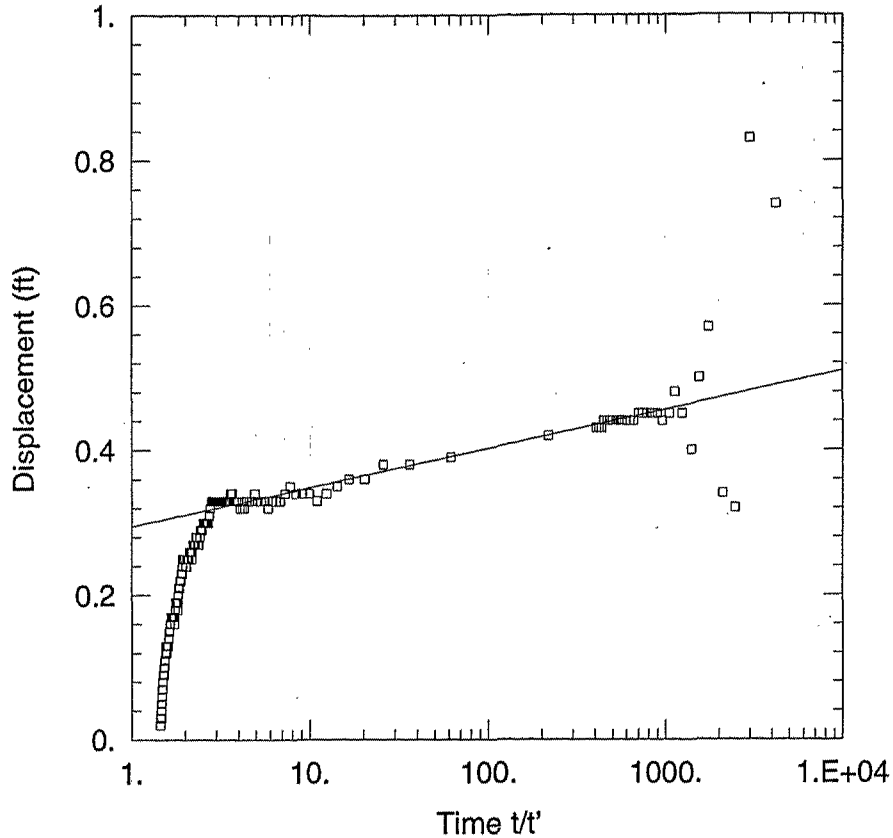
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
32-095	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW32-095	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-I\32-095RA.
Date: 03/12/98 Time: 14:47:50

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 12.08 ft^2/min
S' = 3.135E-06

AQUIFER DATA

Saturated Thickness: 100. ft

Anisotropy Ratio (Kz/Kr): 0.1

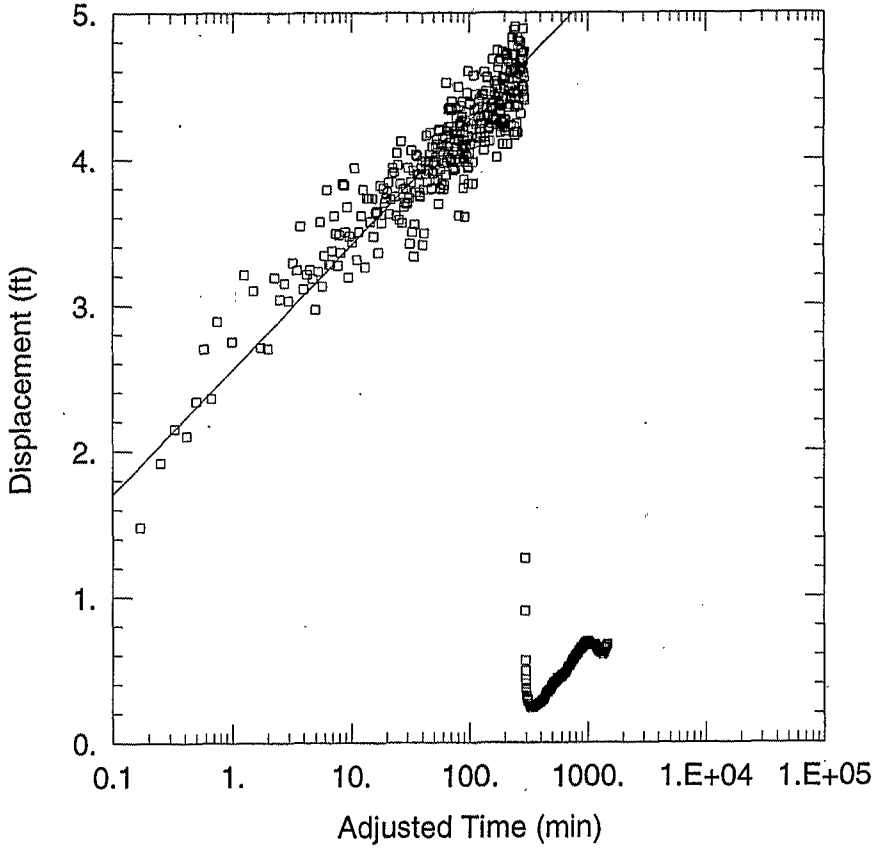
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
32-095	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW32-095	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-D\27-176NA
Date: 03/12/98 Time: 13:46:11

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 0.3487 ft^2/min
S = 0.001567

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

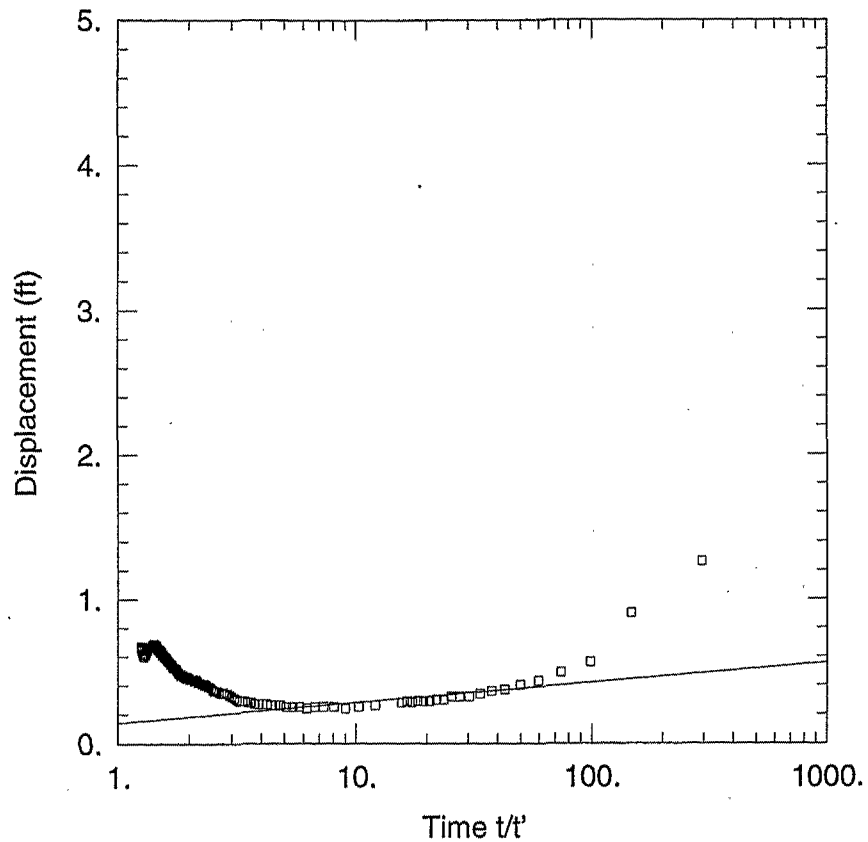
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW27-176	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW27-176NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-D\27-176RA
Date: 03/12/98 Time: 13:49:05

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 2.147 ft^2/min
S' = 0.09495

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

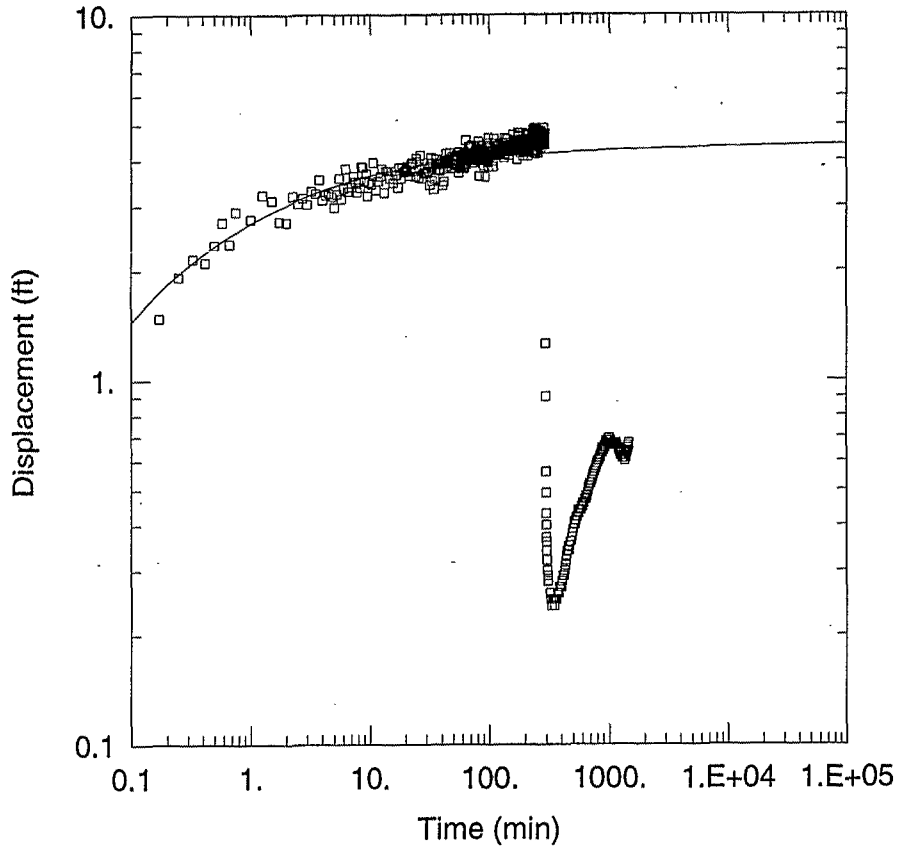
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW27-176	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW27-176NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-D\27-176NA
Date: 03/12/98 Time: 13:45:50

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 4.234 ft^2/min
S = 0.1692

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

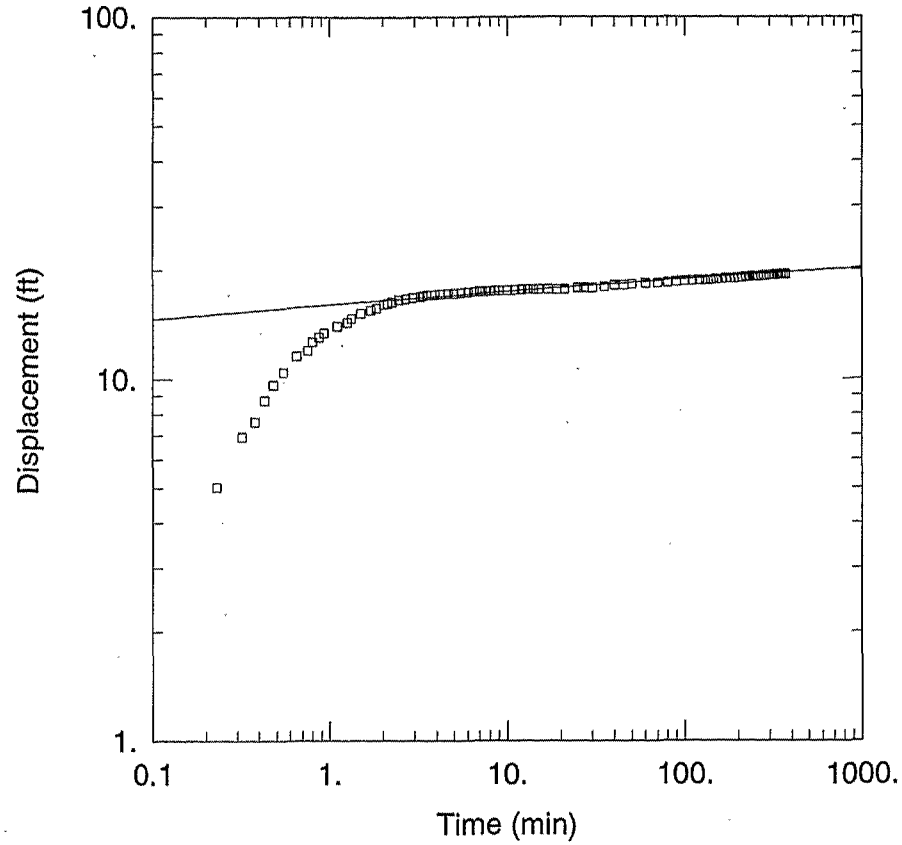
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW27-176	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW27-176NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-F\8-169C.A(
Date: 02/27/98 Time: 10:51:28

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 0.09131 ft^2/min
S = 1.562E-12

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

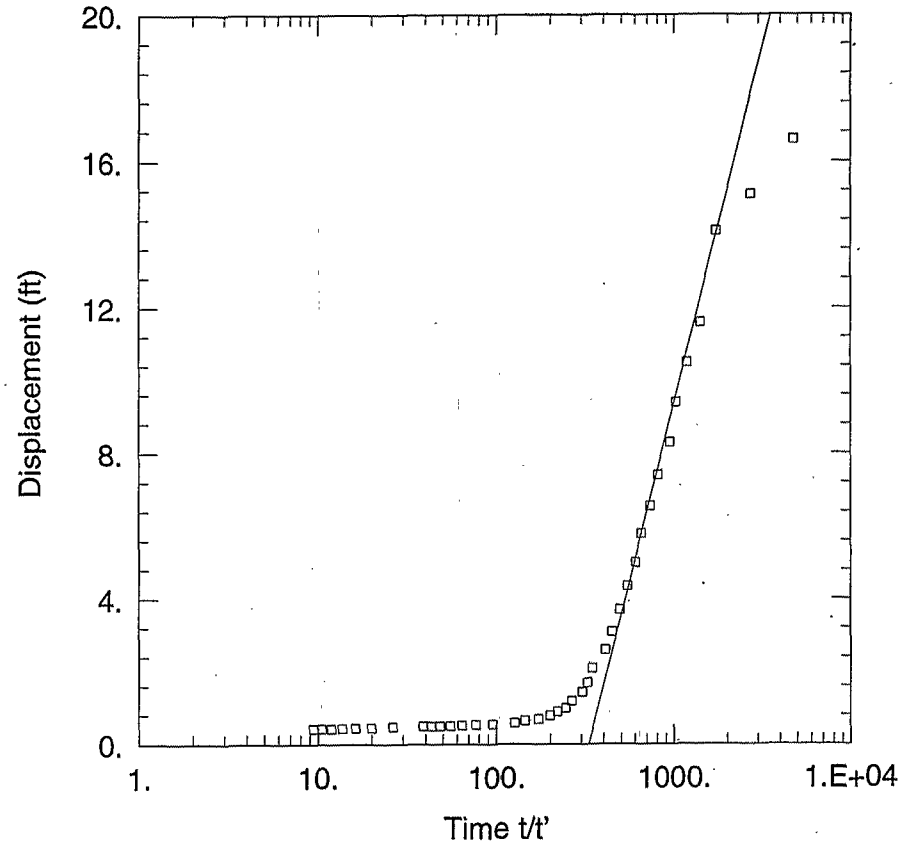
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW08-169	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW08-169NC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-F\8-169R.A(

Date: 03/02/98 Time: 08:01:39

SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 0.006584 ft^2/min

S' = 330.7

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

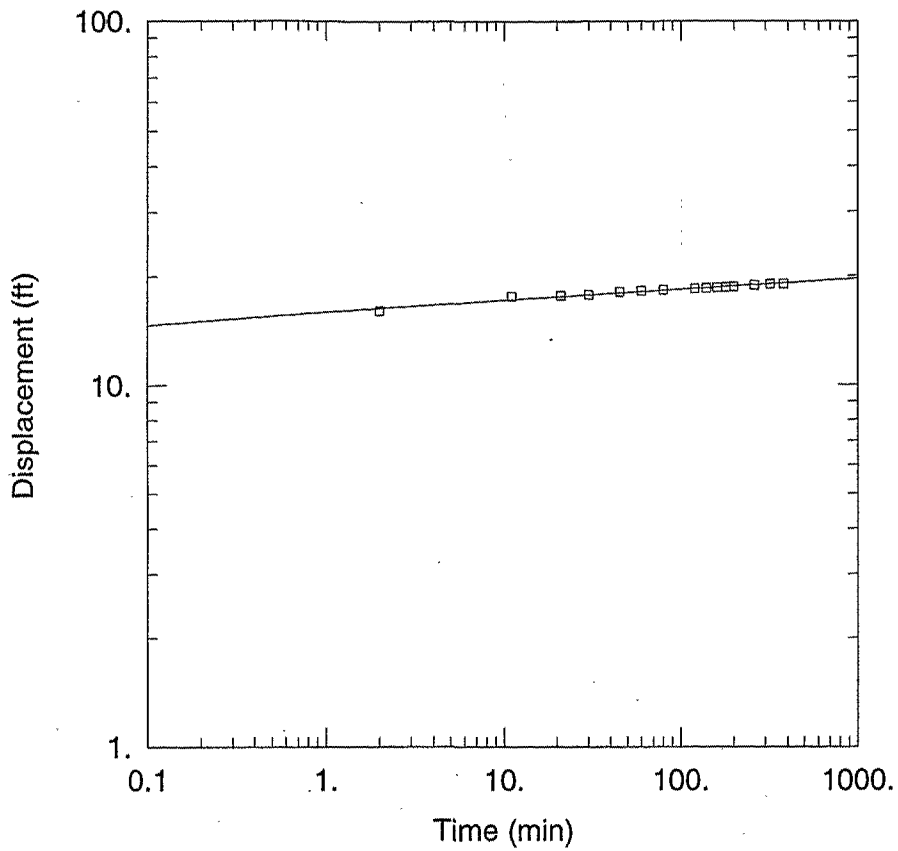
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
MW08-169	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW08-169REC	0.5	0.5



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\SHORTTER\TEST-F\8-169C.A(
Date: 02/27/98 Time: 10:54:07

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 0.104 ft^2/min
S = 5.743E-14

AQUIFER DATA

Saturated Thickness: 200. ft

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

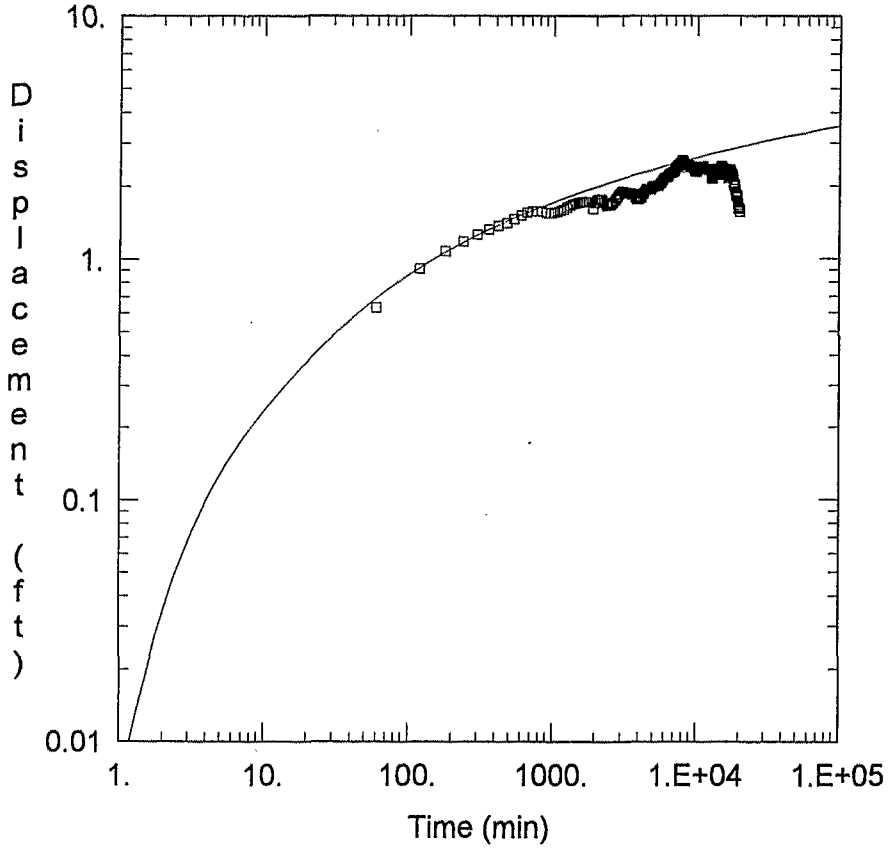
Well Name	X (ft)	Y (ft)
MW08-169	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW08-169NC	0.5	0.5

ATTACHMENT C

Long-Term Aquifer Test Data Plots



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\33165DPW.AQT
Date: 02/11/98 Time: 08:06:50

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper
T = 44.67 ft^2/min
S = 0.00549
Rw = 1.308E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

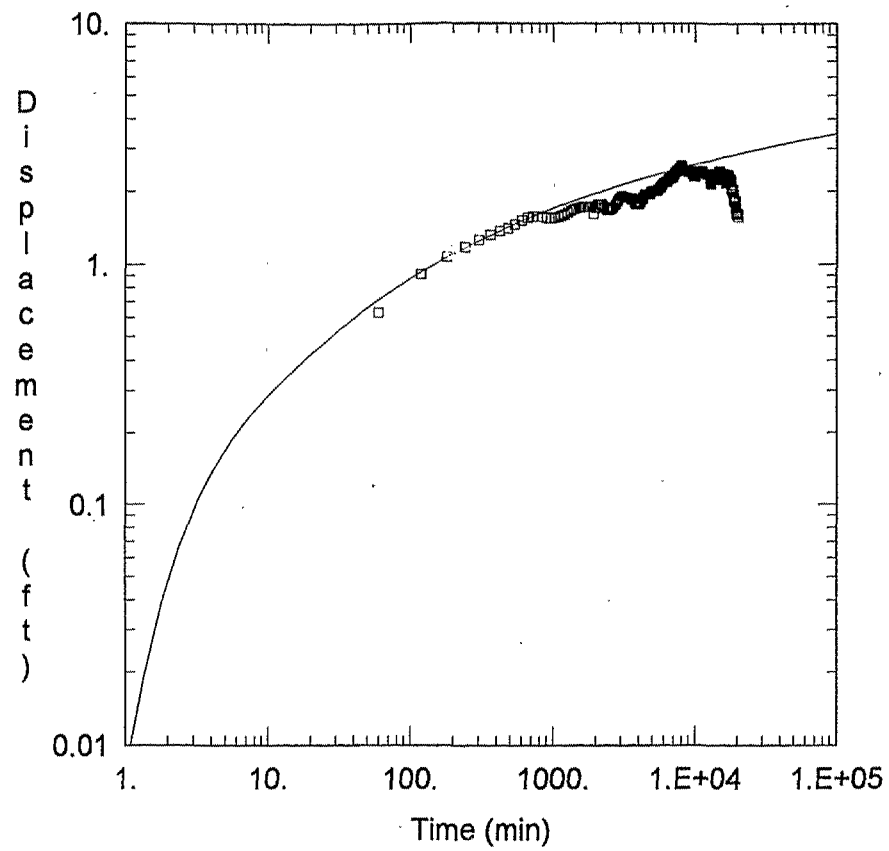
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ PW33-165	7.717E+006	6.949E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\33165DPW.AQT
Date: 02/11/98 Time: 08:04:23

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 45.78 ft^2/min
S = 0.006787

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

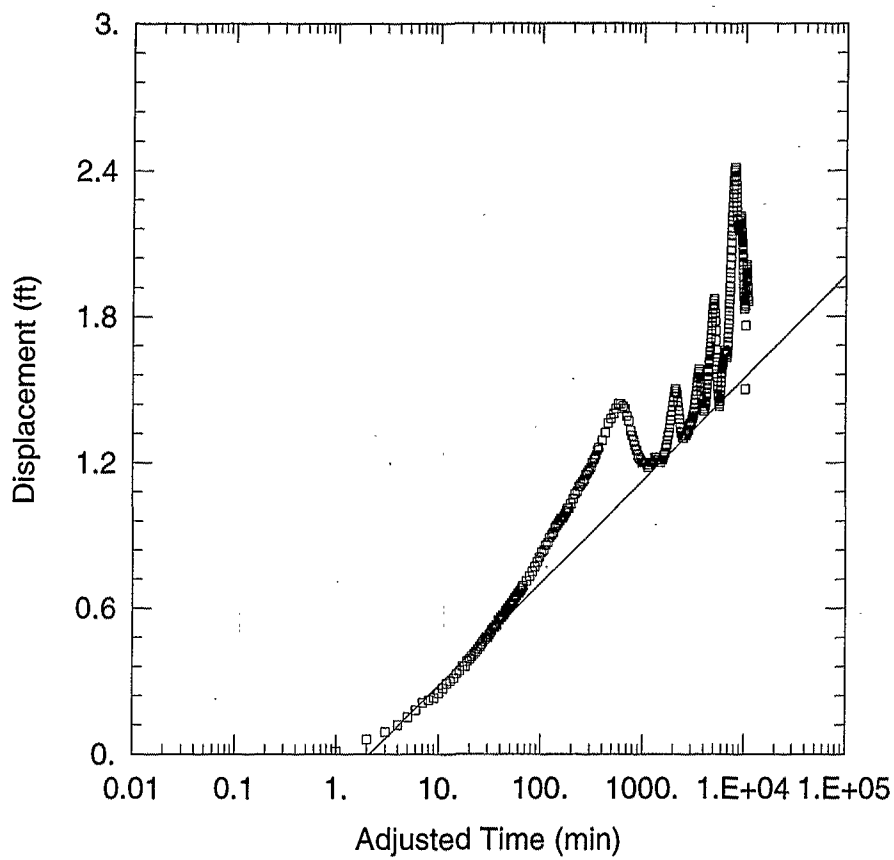
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ PW33-165	7.717E+006	6.949E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FFT01C.AQT
Date: 05/14/98 Time: 15:33:16

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 57.87 ft^2/min
S = 0.003804

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

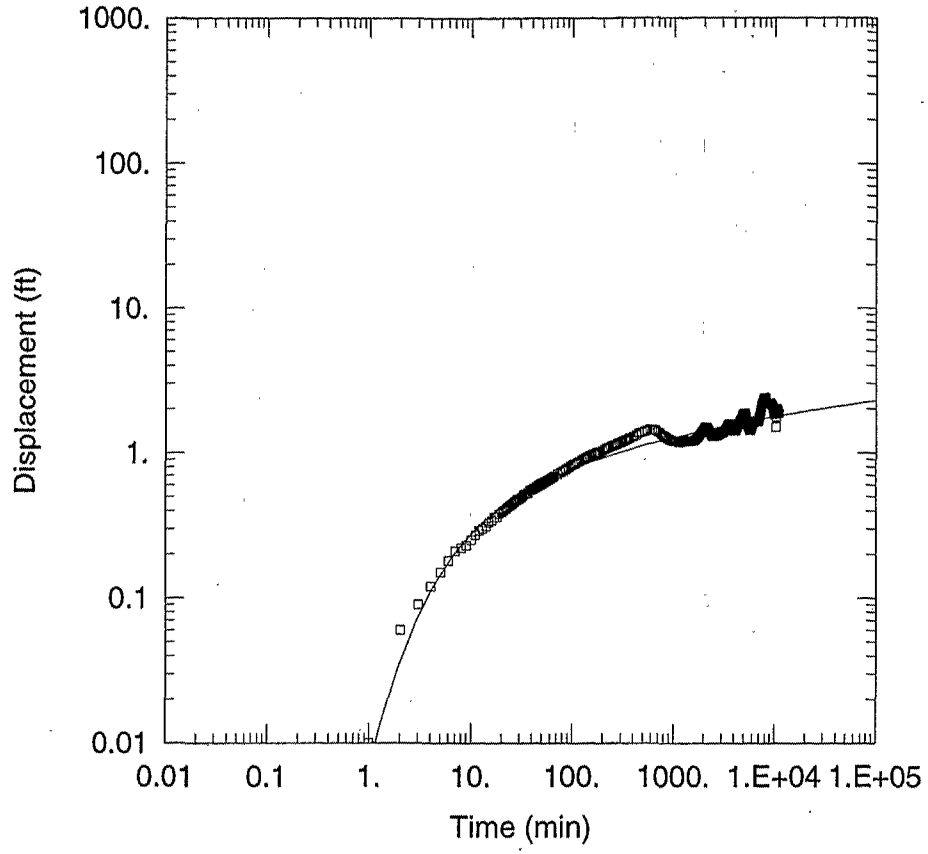
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FFT01	7.713E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FFT01.AQT
Date: 05/14/98 Time: 15:35:35

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 48.48 ft^2/min
S = 0.001285

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

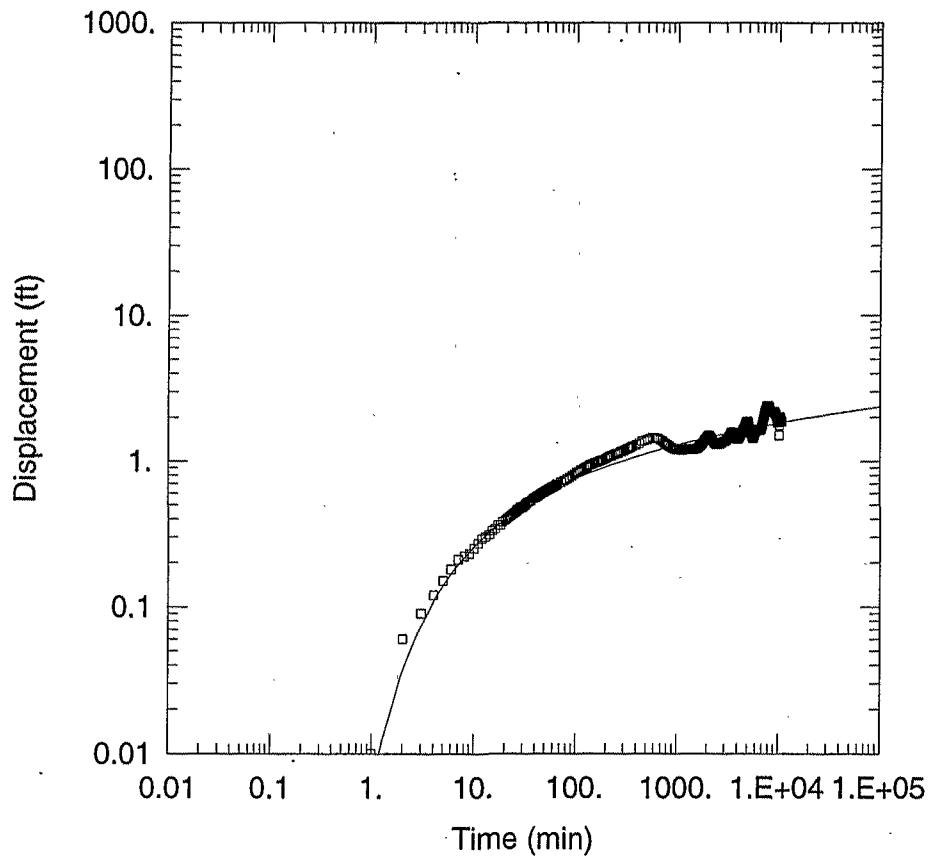
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FFT01	7.713E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FFT01P.AQT
Date: 05/14/98 Time: 15:35:53

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper
T = 45.48 ft^2/min
S = 0.005668
Rw = 1.989E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

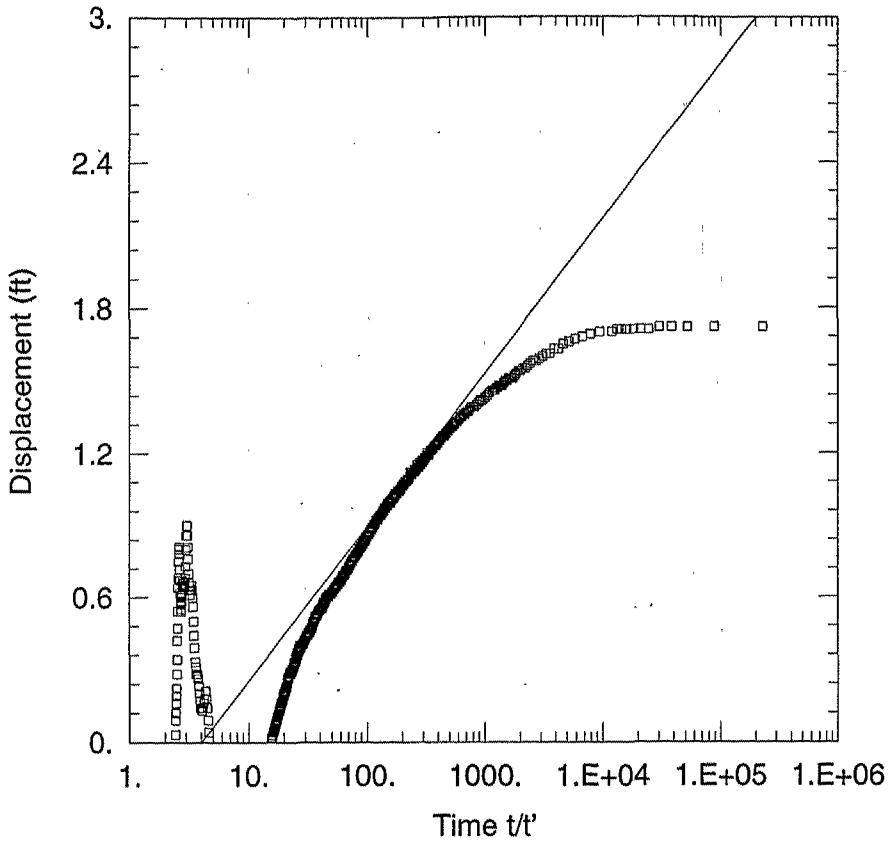
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FFT01	7.713E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FFT01REC.AQT
Date: 05/10/98 Time: 13:51:14

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 38.17 ft^2/min
S' = 4.038

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

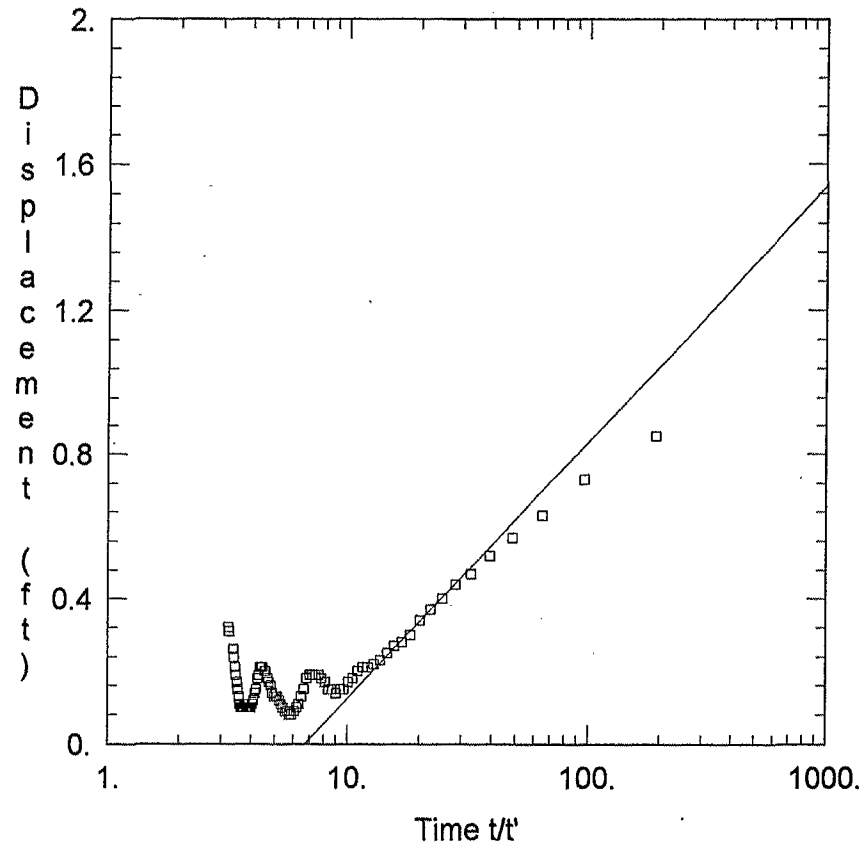
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FFT01	7.713E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\15175RFF.AQT
Date: 02/16/98 Time: 12:34:40

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 34.38 ft^2/min
S' = 6.695

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

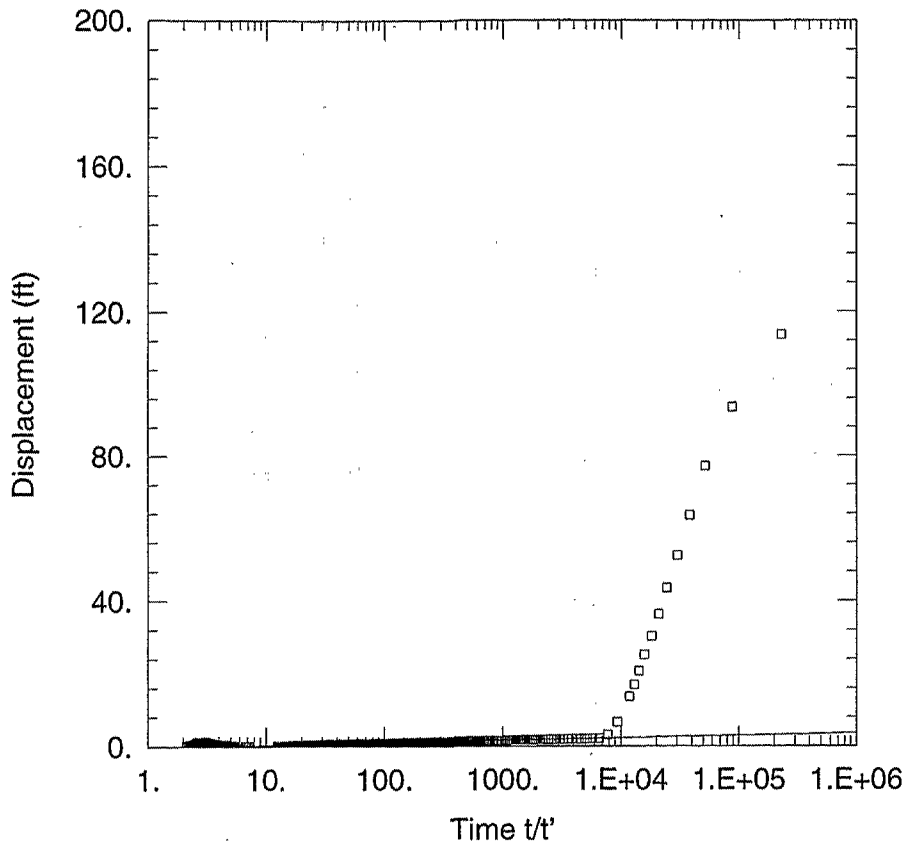
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW15-175 Rec	7.714E+006	6.951E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FF04REC.AQT
Date: 05/10/98 Time: 11:50:42

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 37.48 ft^2/min
S' = 4.532

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

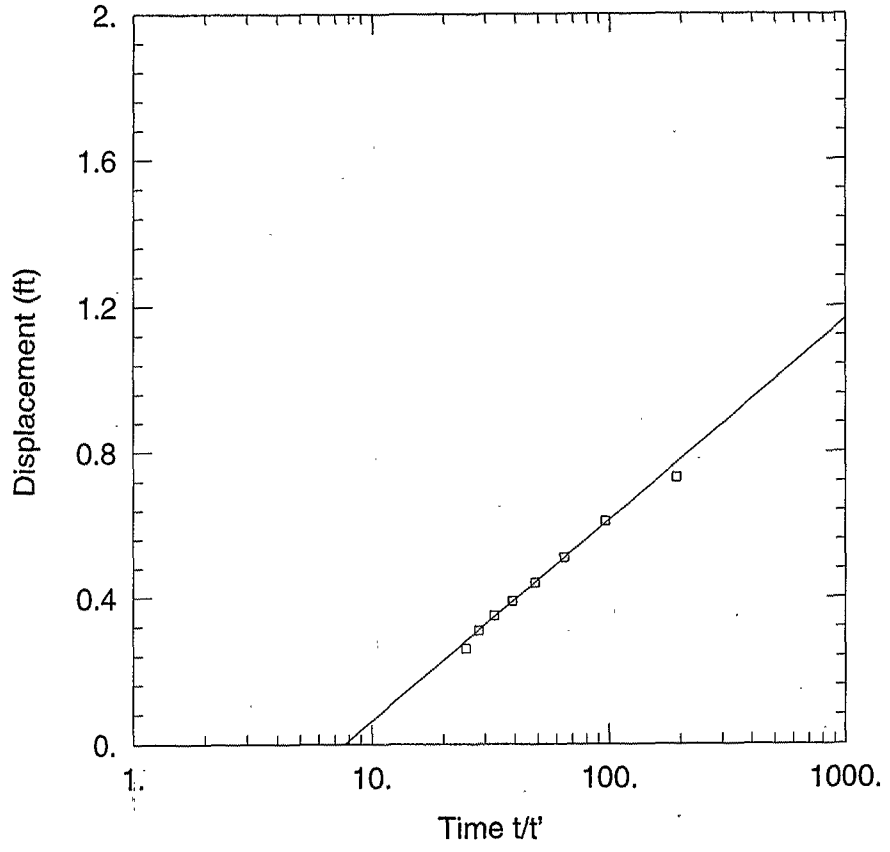
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FF04 (Rec)	7.712E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\06176R.AQT
Date: 05/10/98 Time: 11:51:49

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 44.2 ft^2/min
S' = 7.726

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

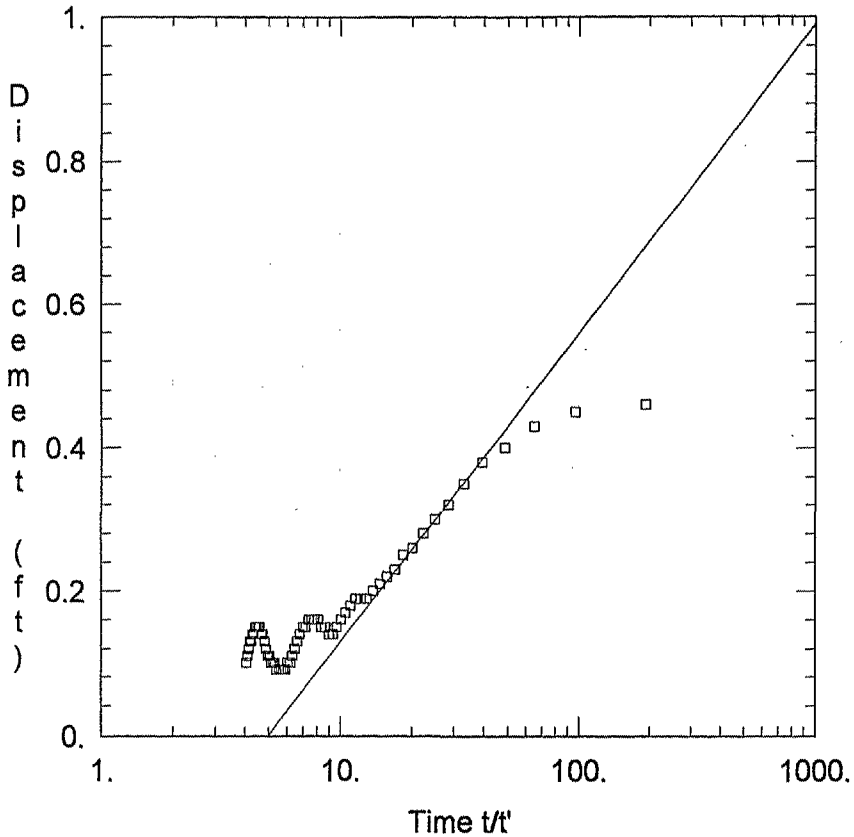
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW06-176Rec	7.714E+006	6.961E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\32165RFF.AQT
Date: 02/17/98 Time: 14:24:05

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 56.65 ft^2/min
S' = 5.015

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

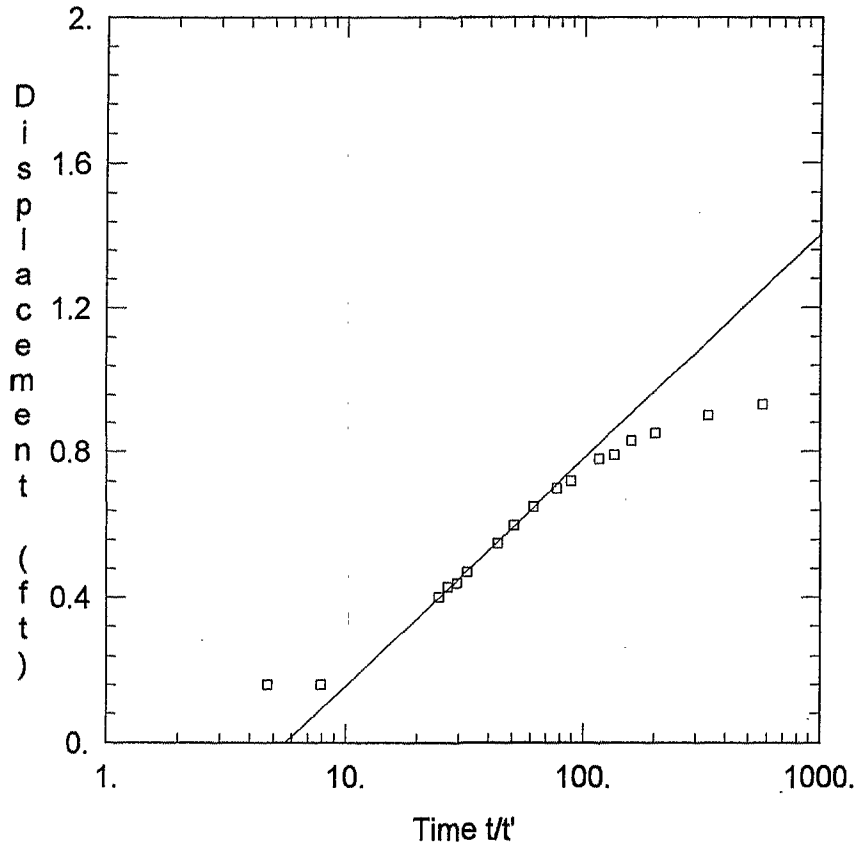
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW32-165Rec	7.712E+006	6.961E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\12184R.AQT
Date: 02/17/98 Time: 09:52:37

SOLUTION

Aquifer Model: Confined
Solution Method: Theis (Recovery)
T = 39.08 ft^2/min
S' = 5.642

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

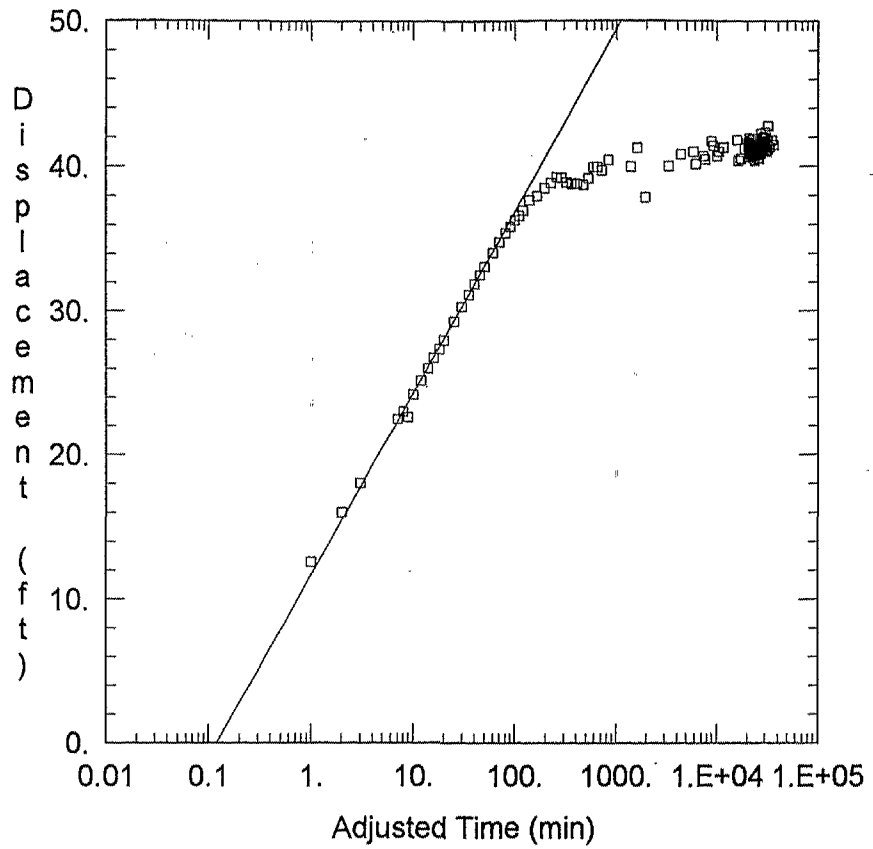
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW12-184 Rec	7.714E+006	6.943E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\07THE.AQT
Date: 02/11/98 Time: 07:59:06

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 1.677 ft^2/min
S = 1.803

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

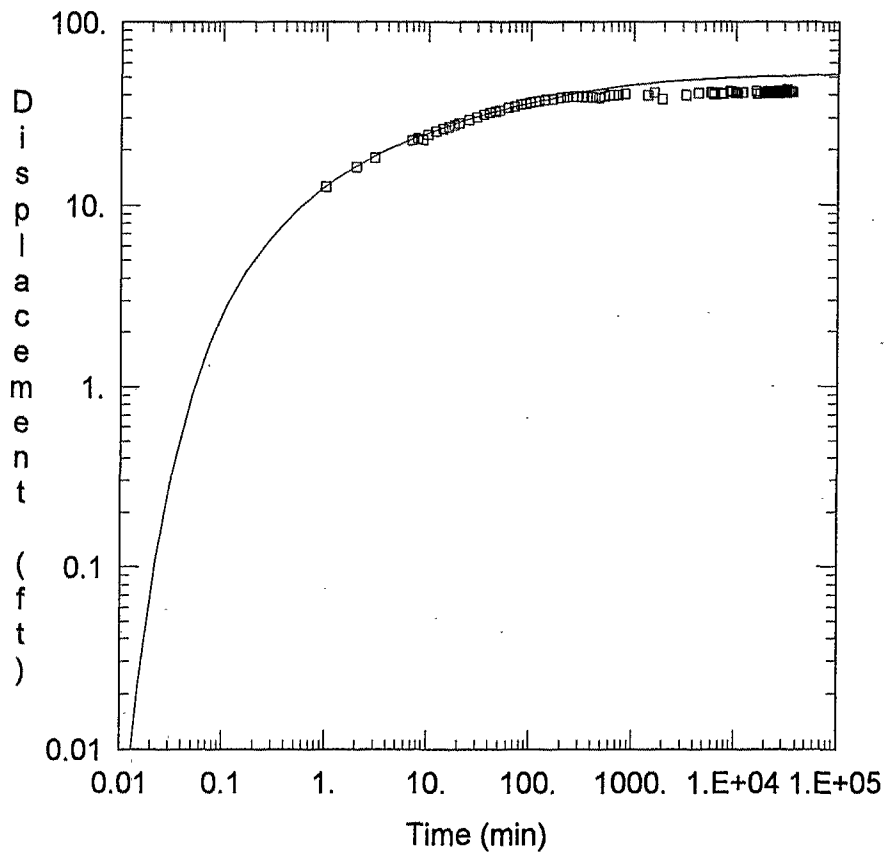
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ PW07	7.716E+006	6.95E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\07THE.AQT
Date: 02/11/98 Time: 07:57:57

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 21.61 ft^2/min
S = 20.5

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

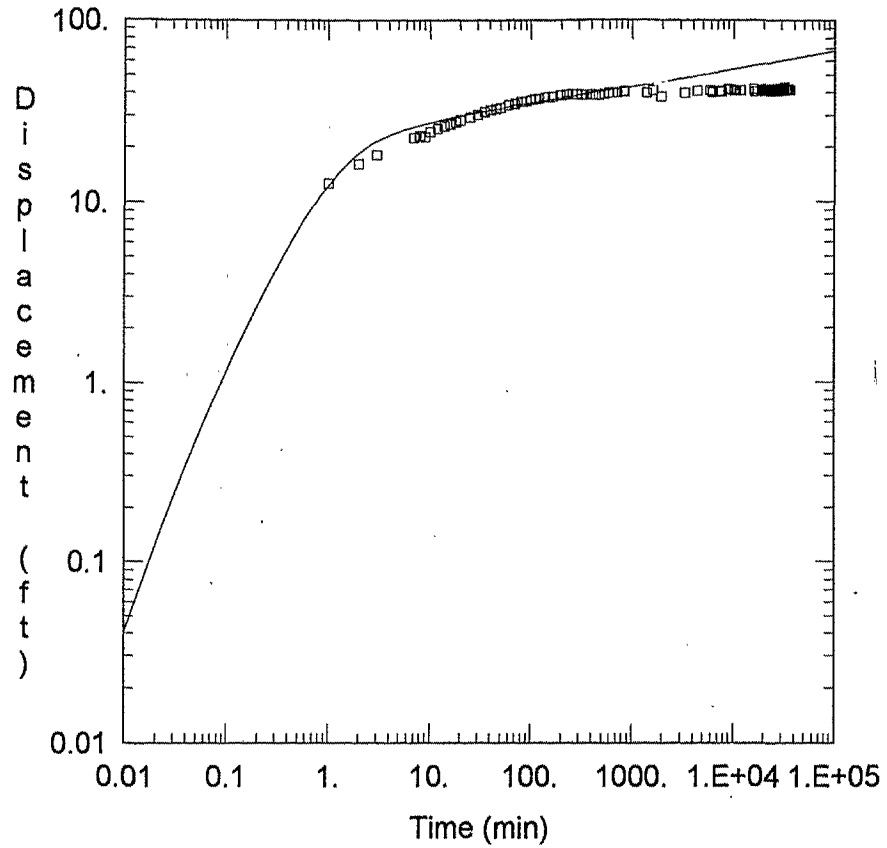
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ PW07	7.716E+006	6.95E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\07THE.AQT
Date: 02/11/98 Time: 08:00:20

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper
T = 2.769 ft^2/min
S = 0.06279
Rw = 9.114E-08 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

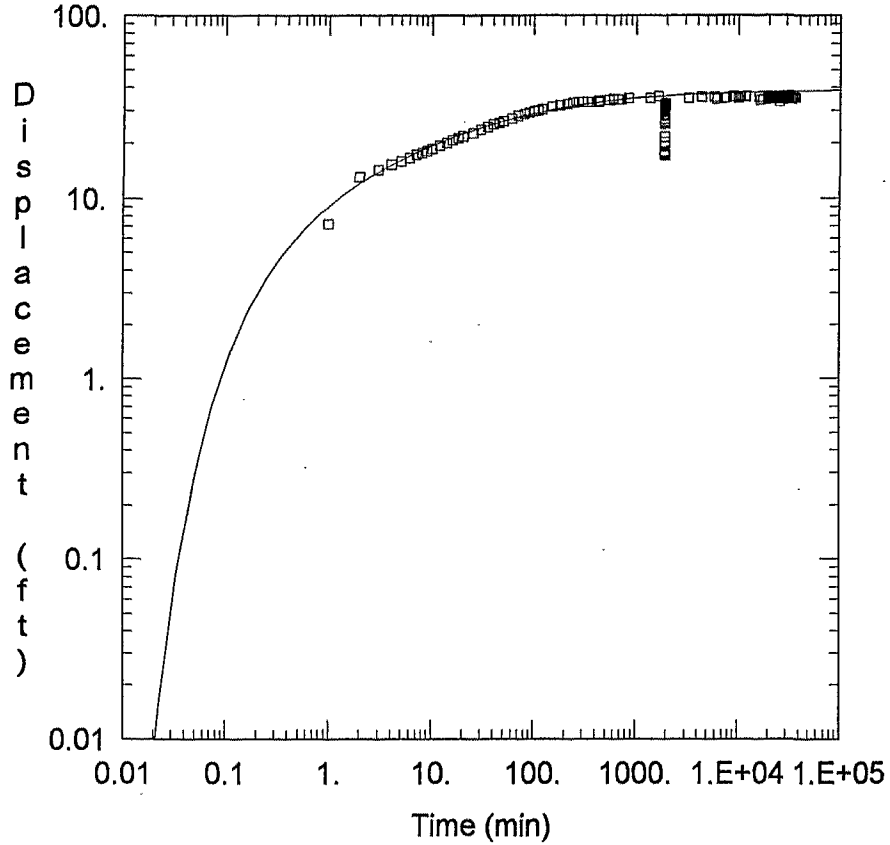
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ PW07	7.716E+006	6.95E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\PW03THE.AQT
Date: 02/10/98 Time: 16:33:25

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 46.23 ft^2/min
S = 68.67

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

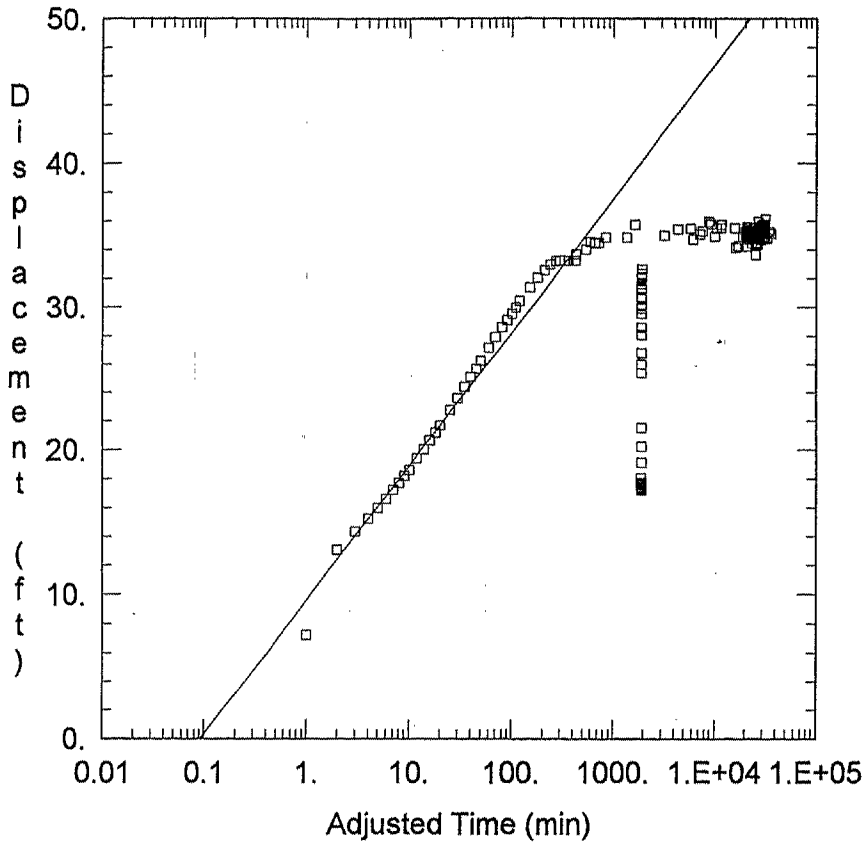
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ PW03	7.716E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\PW03THE.AQT
Date: 02/10/98 Time: 16:34:30

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 2.275 ft^2/min
S = 1.139E-06

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

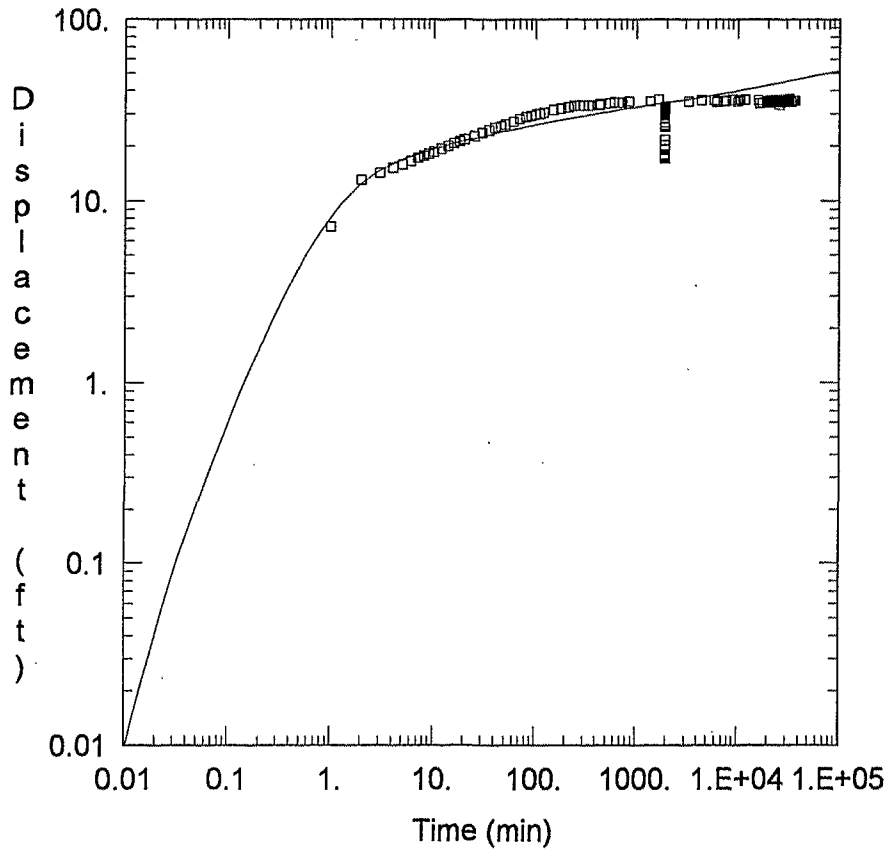
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ PW03	7.716E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\PW03THE.AQT
Date: 02/10/98 Time: 16:35:54

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 2.959 ft^2/min
S = 0.25
Rw = 4.568E-08 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

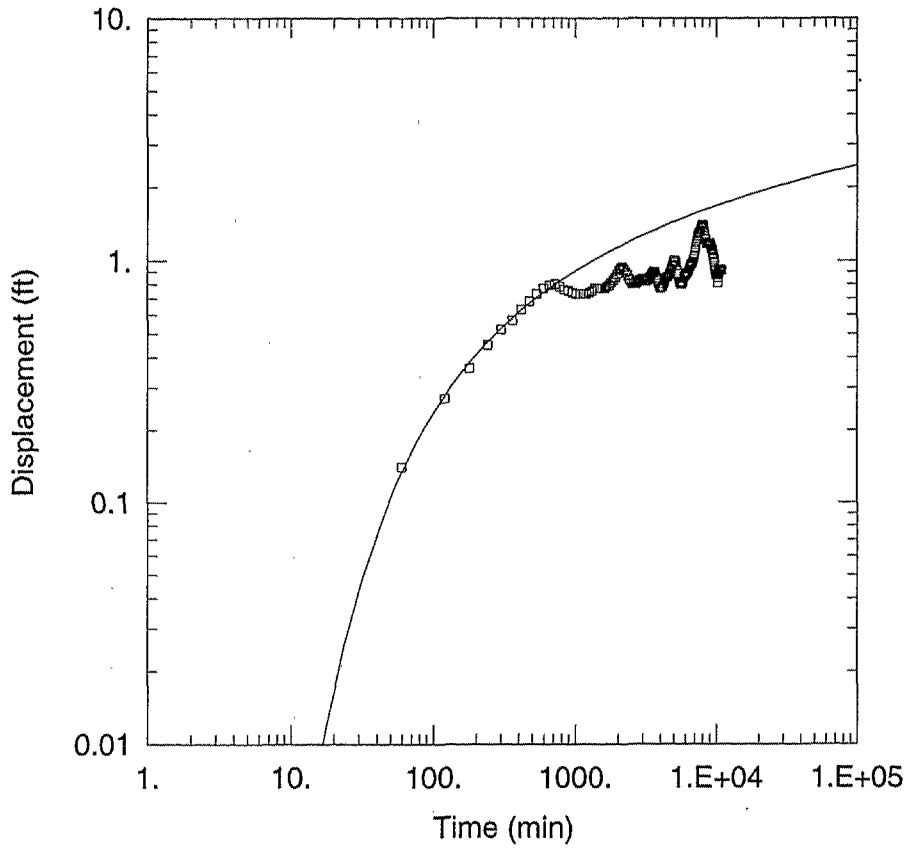
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ PW03	7.716E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\15175DFF.AQT
Date: 05/10/98 Time: 12:05:58

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 31.22 ft^2/min
S = 0.002839

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

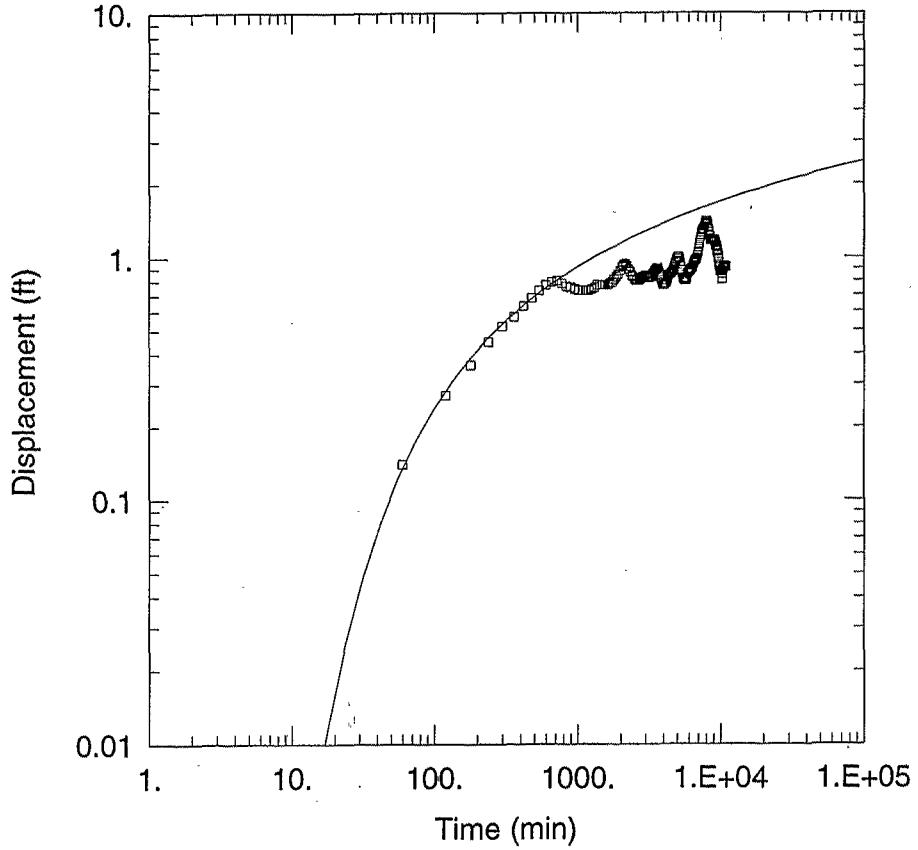
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW15-175	7.714E+006	6.951E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\15175DFF.AQT
Date: 05/10/98 Time: 12:08:31

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper
T = 31.05 ft^2/min
S = 0.002782
Rw = 4.823E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

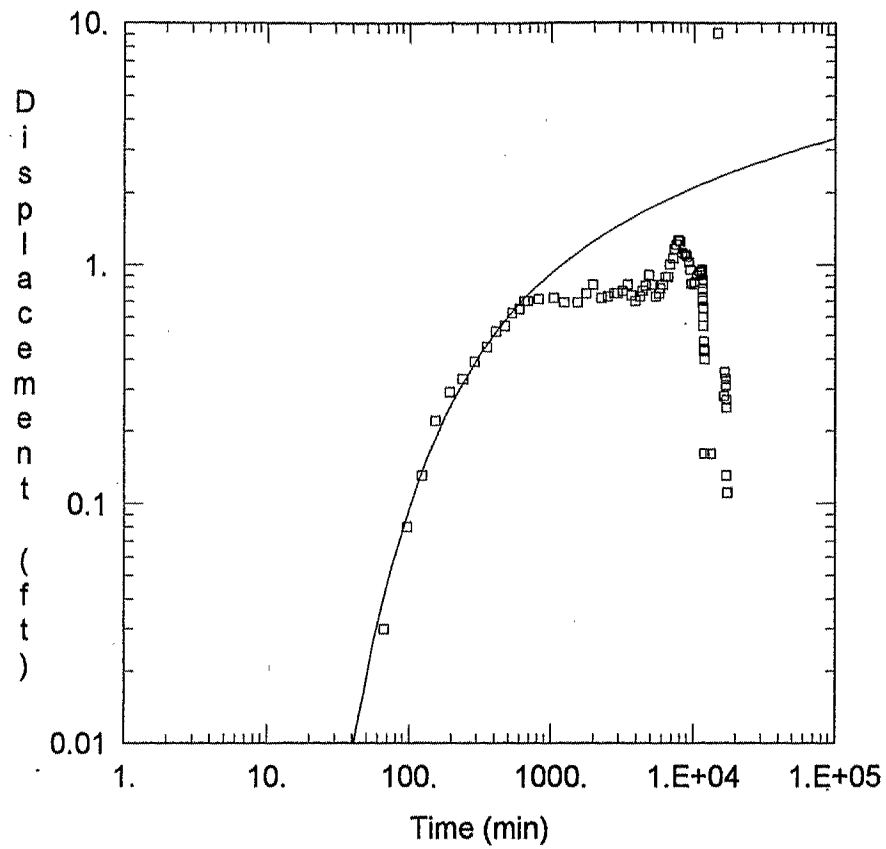
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW15-175	7.714E+006	6.951E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\12184H.AQT
Date: 02/12/98 Time: 10:19:44

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 19.84 ft^2/min
S = 0.003075

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

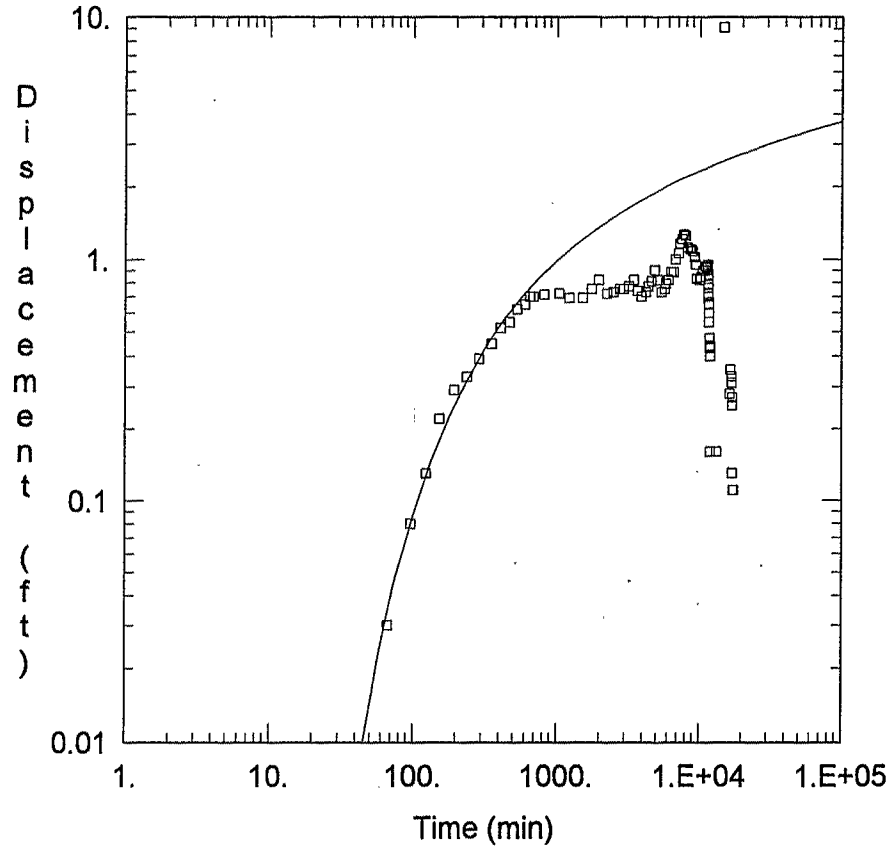
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW12-184	7.714E+006	6.943E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\12184H.AQT
Date: 02/12/98 Time: 10:21:40

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper
T = 17.4 ft^2/min
S = 0.003016
Rw = 3.255E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

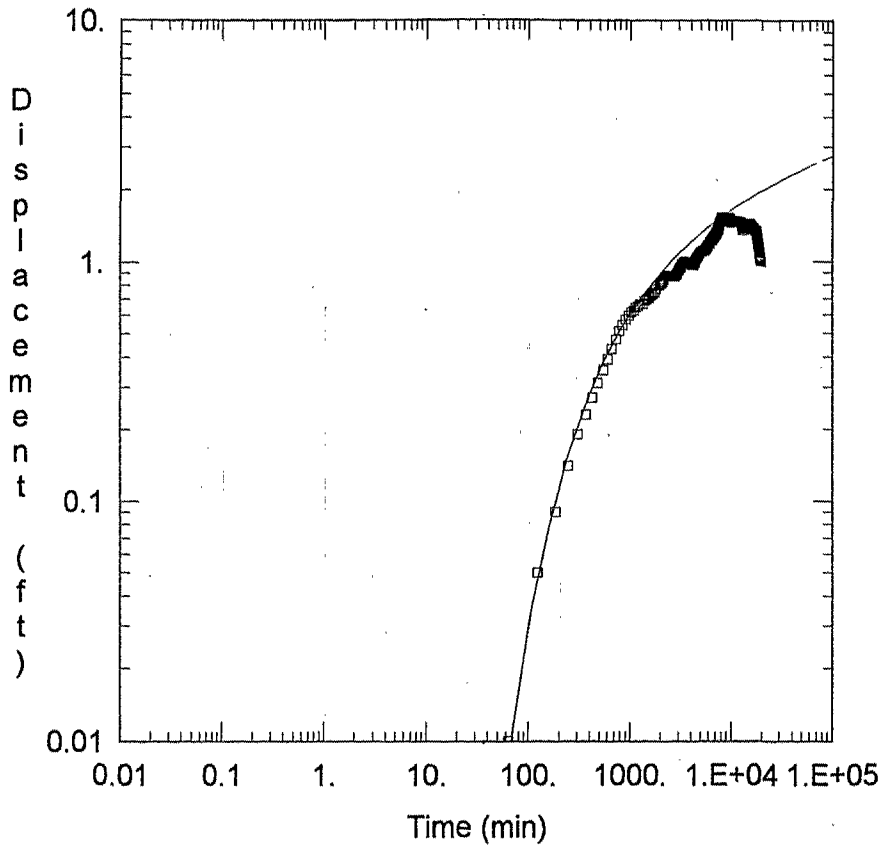
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW12-184	7.714E+006	6.943E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\03175DPW.AQT
Date: 02/11/98 Time: 08:17:30

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 36.27 ft^2/min
S = 0.008317

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

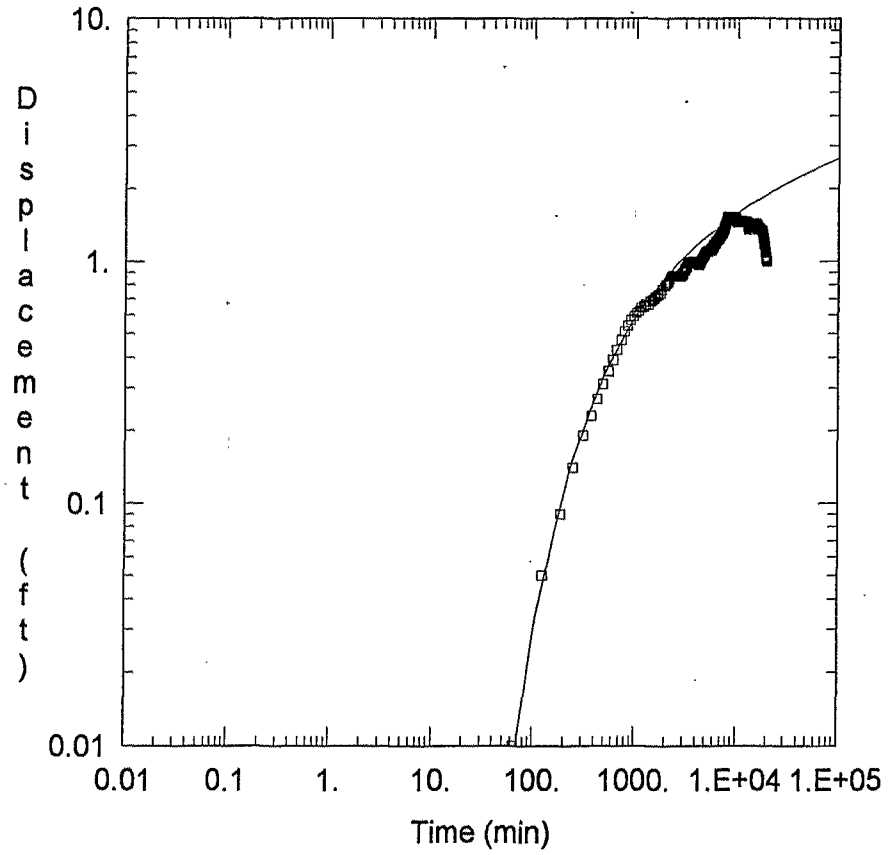
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
MW03-175	7.717E+006	6.934E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\03175DPW.AQT
Date: 02/11/98 Time: 08:20:15

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper
T = 37.62 ft^2/min
S = 0.008515
Rw = 5.881E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

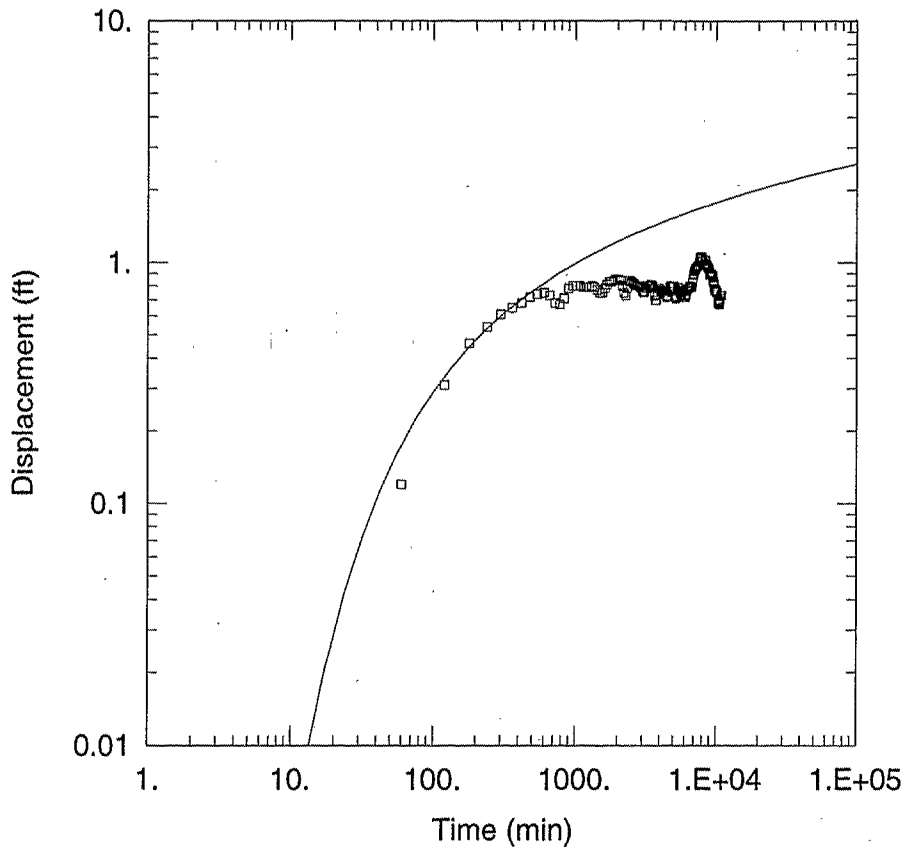
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW03-175	7.717E+006	6.934E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\06176DC2.AQT
Date: 05/10/98 Time: 12:11:06

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 30.78 ft^2/min
S = 0.001851

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

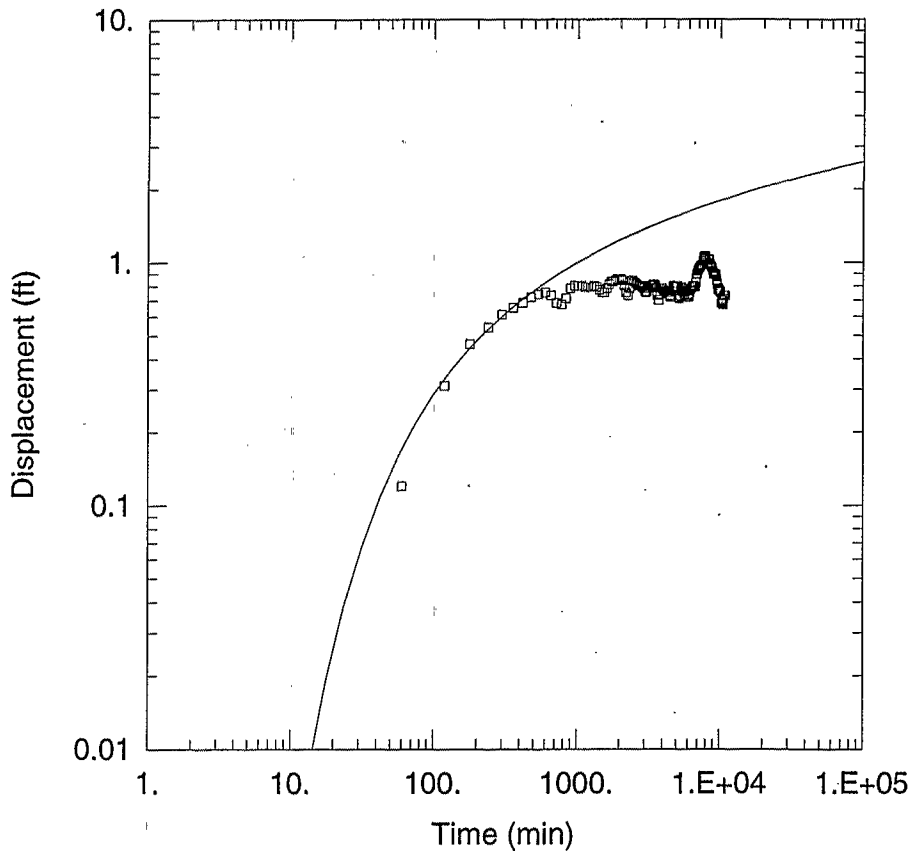
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW06-176 Cor	7.714E+006	6.961E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\06176PC2.AQT
Date: 05/10/98 Time: 12:13:18

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 30.31 ft^2/min
S = 0.001874
Rw = 3.459E-11 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

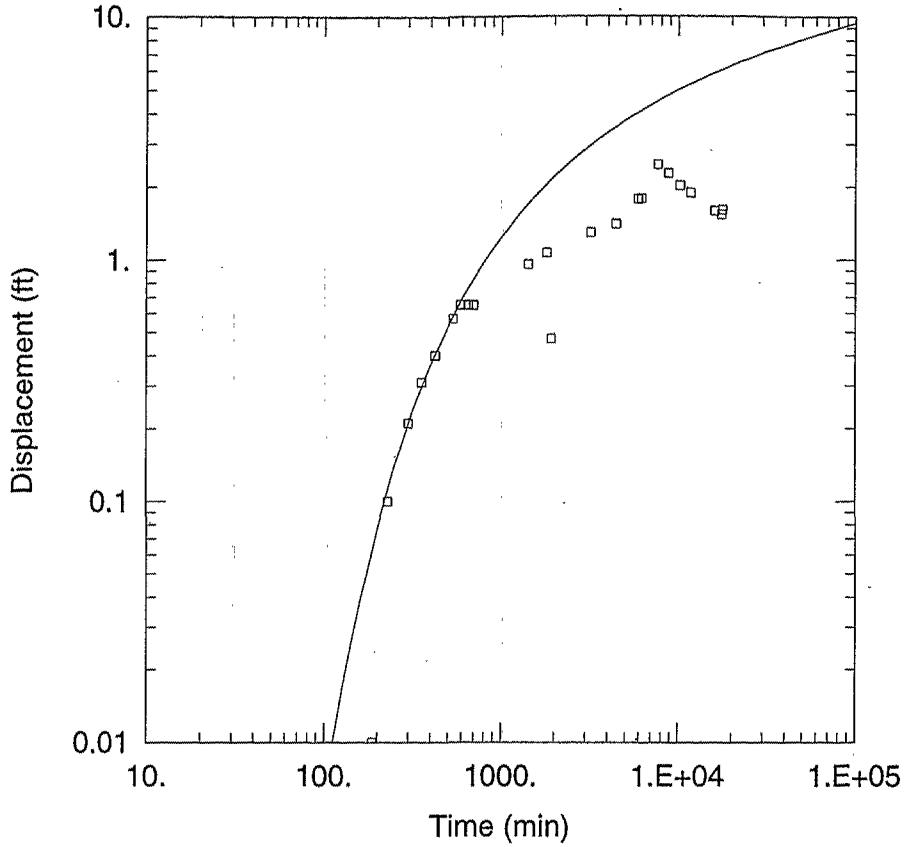
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW06-176 Cor	7.714E+006	6.961E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\21176HPW.AQT
Date: 05/10/98 Time: 12:19:57

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 9.011 ft^2/min
S = 0.003625

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

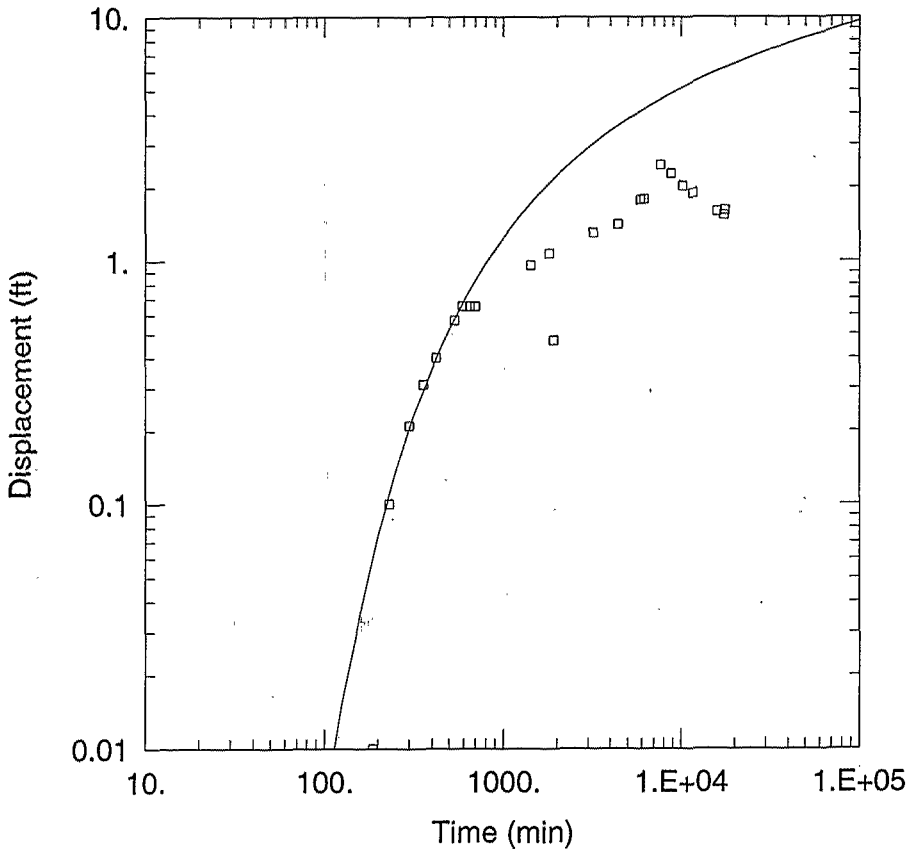
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW21-176	7.716E+006	6.972E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\21176HPW.AQT
Date: 05/10/98 Time: 12:20:52

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 8.799 ft^2/min
S = 0.003615
Rw = 9.232E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

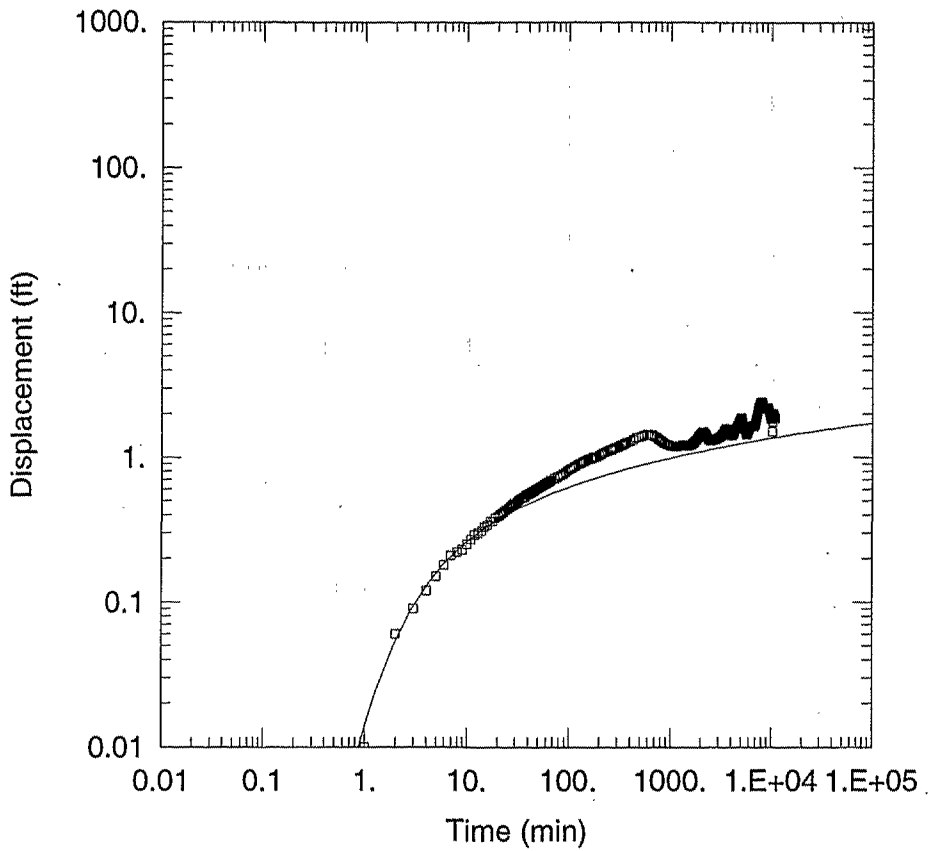
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW21-176	7.716E+006	6.972E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FFT01.AQT
Date: 05/10/98 Time: 12:24:01

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 66.75 ft^2/min
S = 0.001183

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

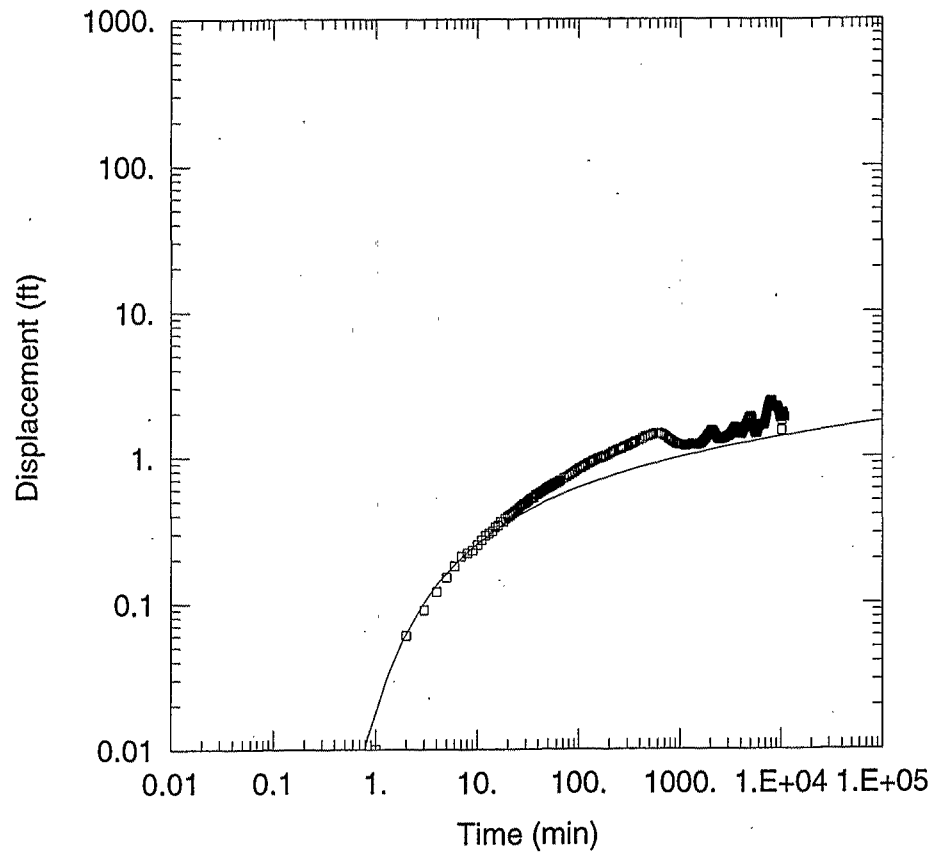
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FFT01	7.713E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FFT01.AQT
Date: 05/10/98 Time: 12:24:49

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 64.65 ft^2/min
S = 0.004708
Rw = 2.182E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

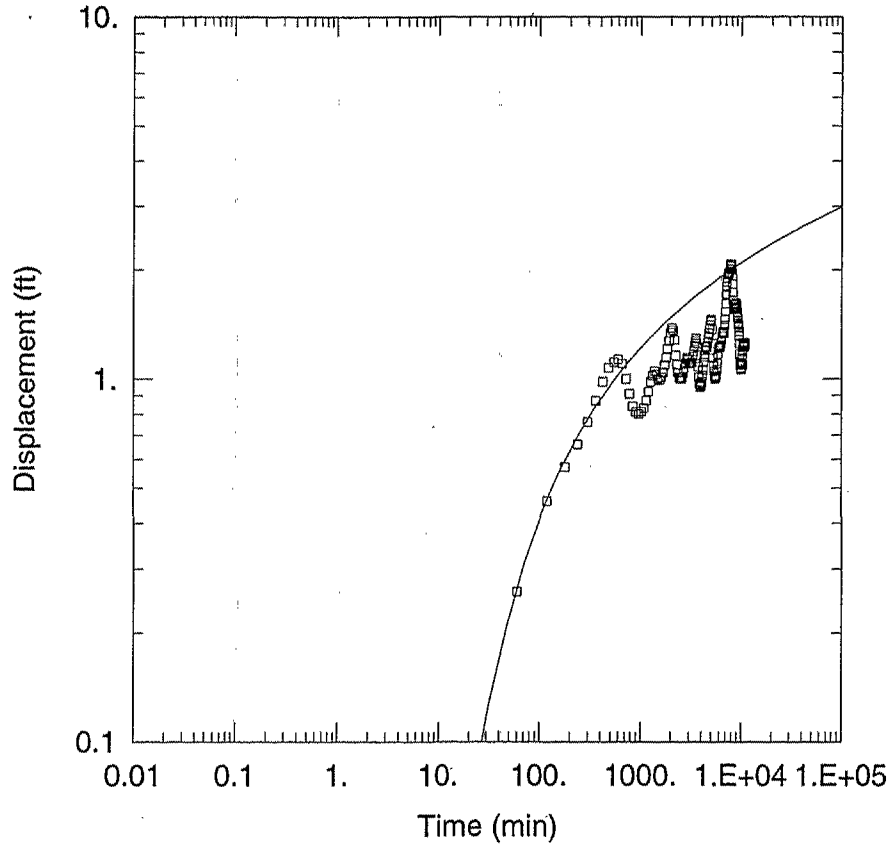
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FFT01	7.713E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FF06DFF.AQT
Date: 05/10/98 Time: 12:28:47

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 27.52 ft^2/min
S = 0.001379

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

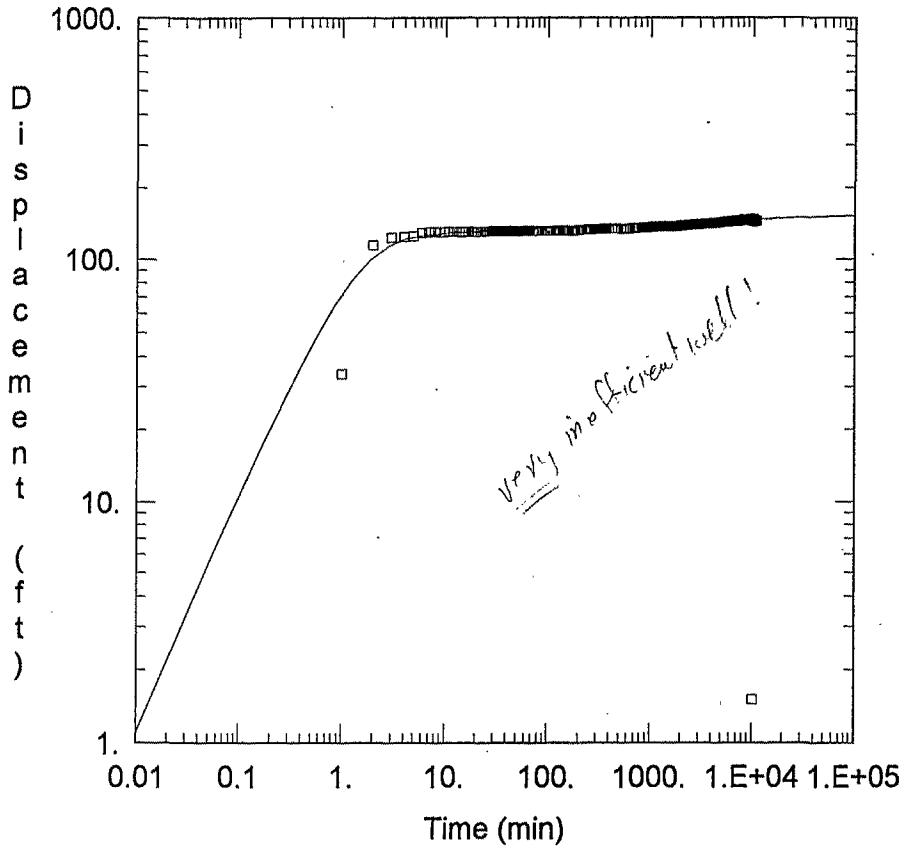
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FF06	7.711E+006	6.956E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FF04.AQT
Date: 02/11/98 Time: 09:30:06

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 4.26 ft^2/min
S = 1.335E-20
Rw = 12.96 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

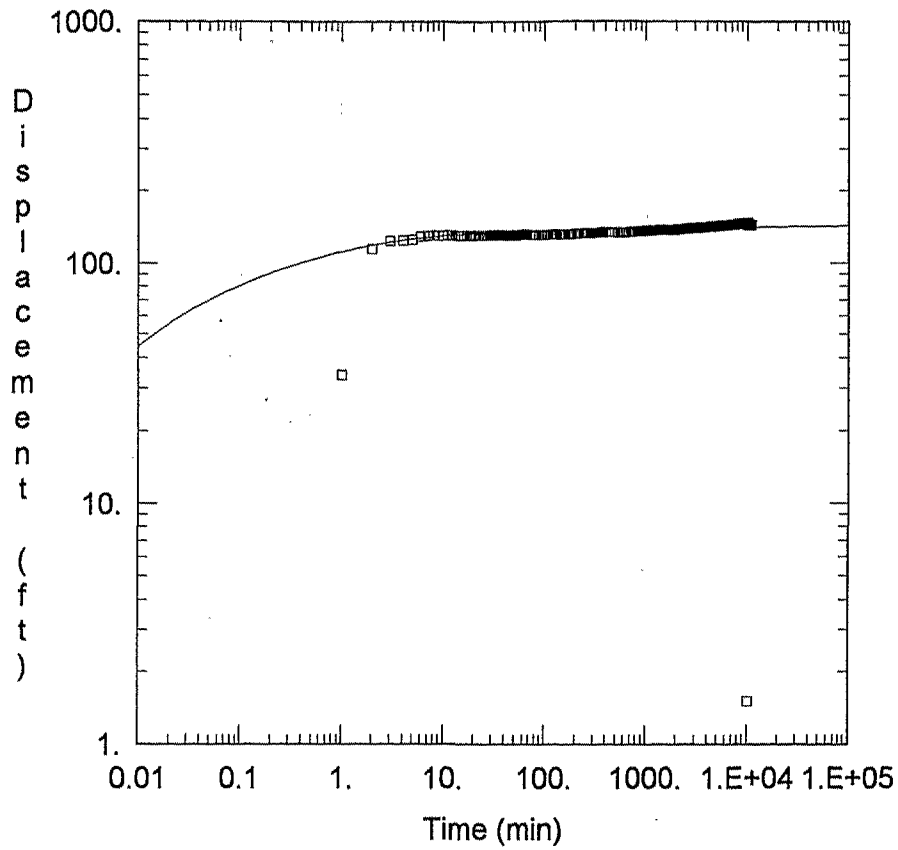
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FF04	7.712E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FF04.AQT
Date: 02/11/98 Time: 08:52:50

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 14.44 ft^2/min
S = 0.08946

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

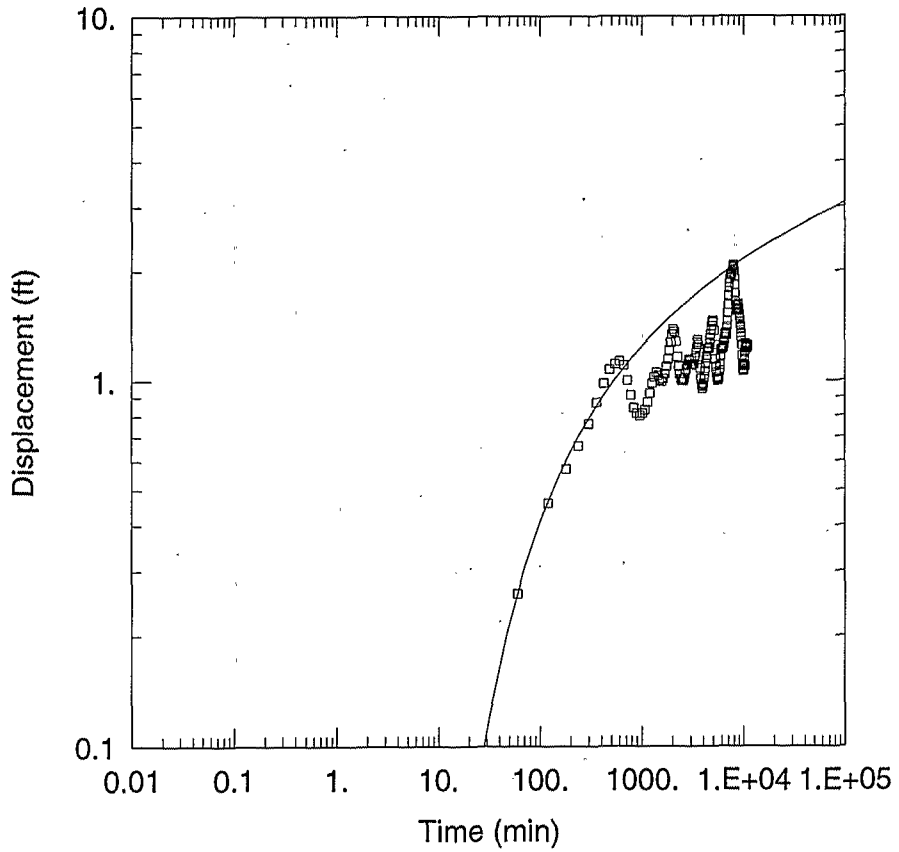
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FF04	7.712E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FF06DPFF.AQT
Date: 05/10/98 Time: 12:38:05

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 26.49 ft^2/min
S = 0.001397
Rw = 4.006E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

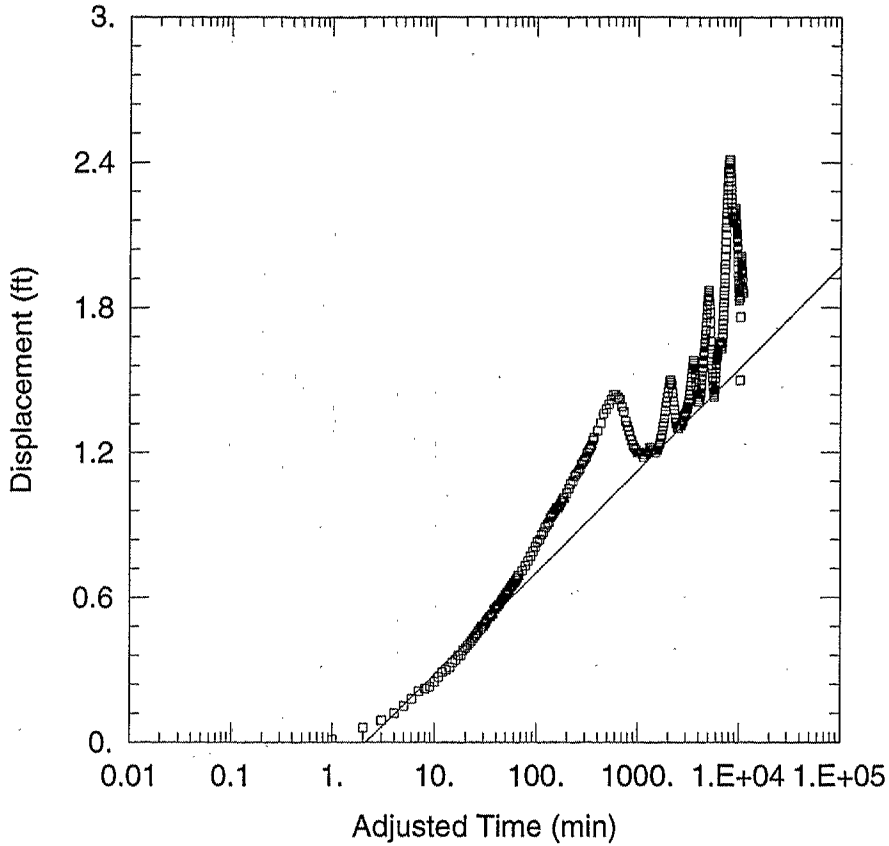
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FF06	7.711E+006	6.956E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FFT01C.AQT
Date: 05/10/98 Time: 12:38:27

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 57.87 ft^2/min
S = 0.003804

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

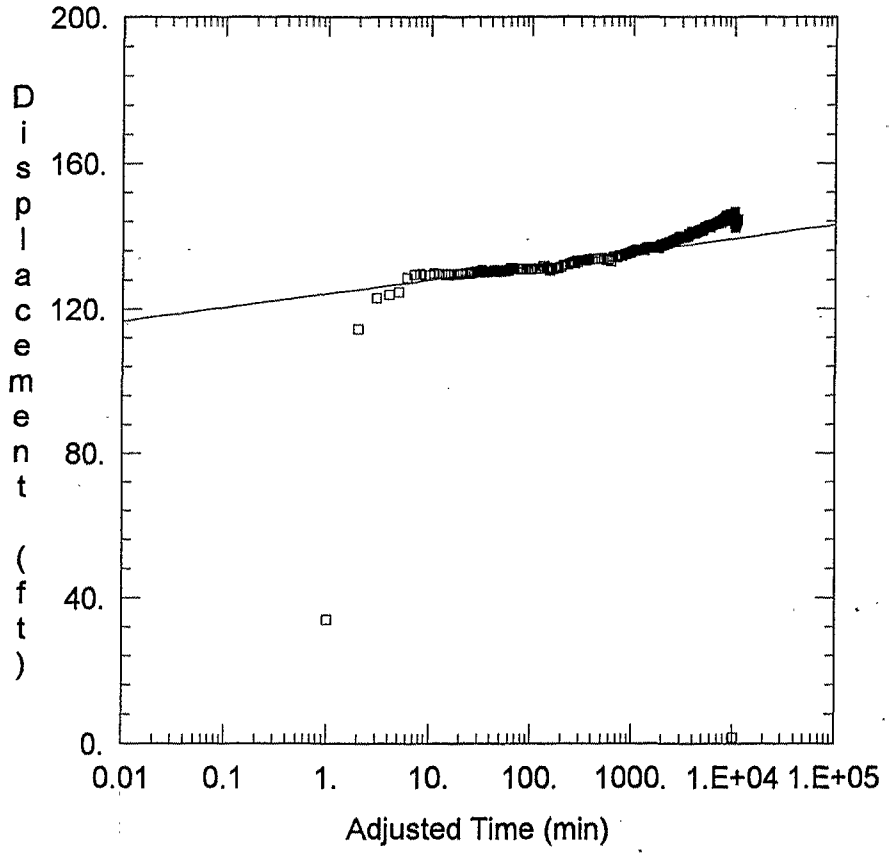
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FFT01	7.713E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\FF04.AQT
Date: 02/11/98 Time: 09:23:15

SOLUTION

Aquifer Model: Confined
Solution Method: Cooper-Jacob
T = 6.497 ft^2/min
S = 4.874E-32

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

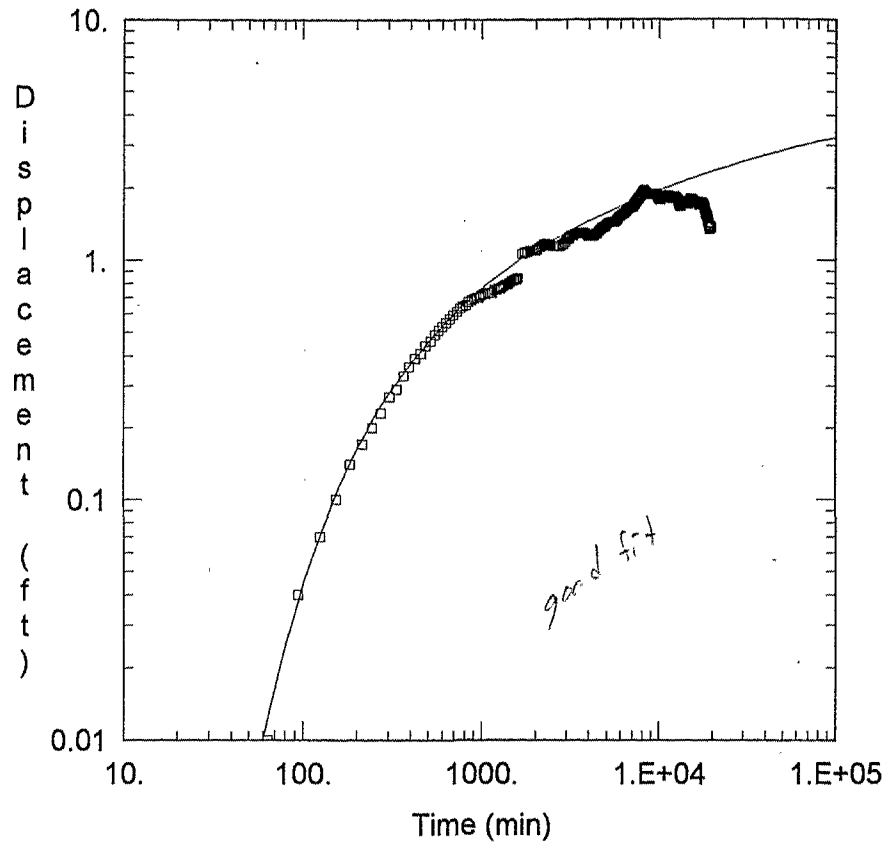
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ FF04	7.712E+006	6.953E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\28160DPW.AQT
Date: 02/11/98 Time: 08:08:29

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 31.47 ft^2/min
S = 0.03254

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

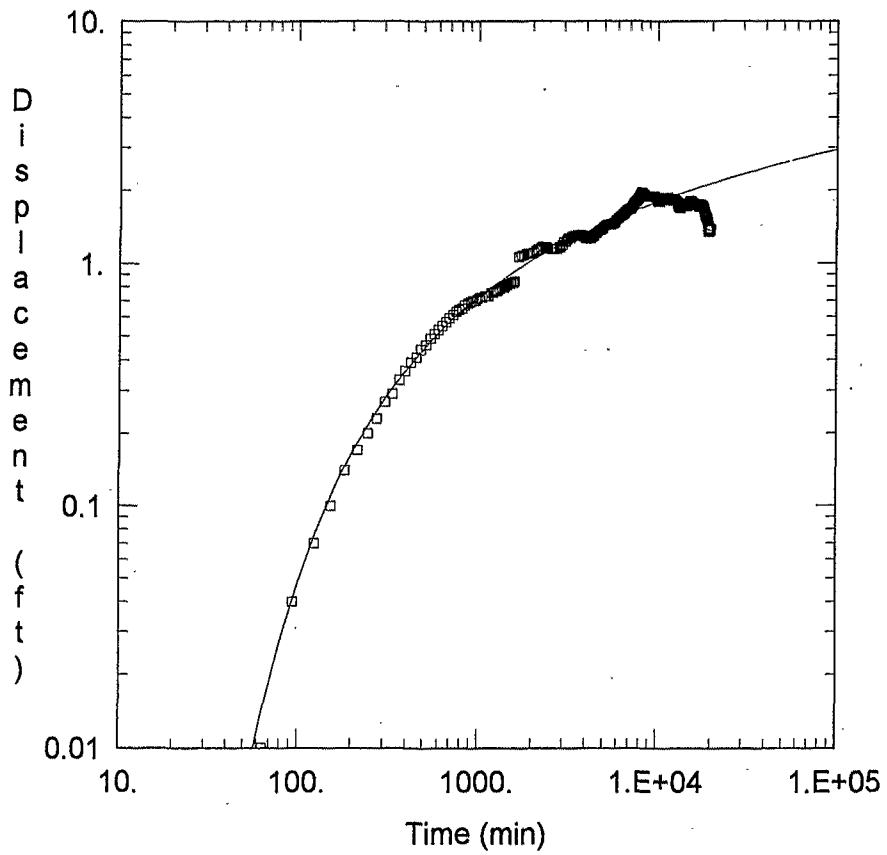
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
MW28-160[redacted]d	7.716E+006	6.945E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\28160DPW.AQT
Date: 02/11/98 Time: 08:10:57

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 35.35 ft^2/min
S = 0.03258
Rw = 6.662E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

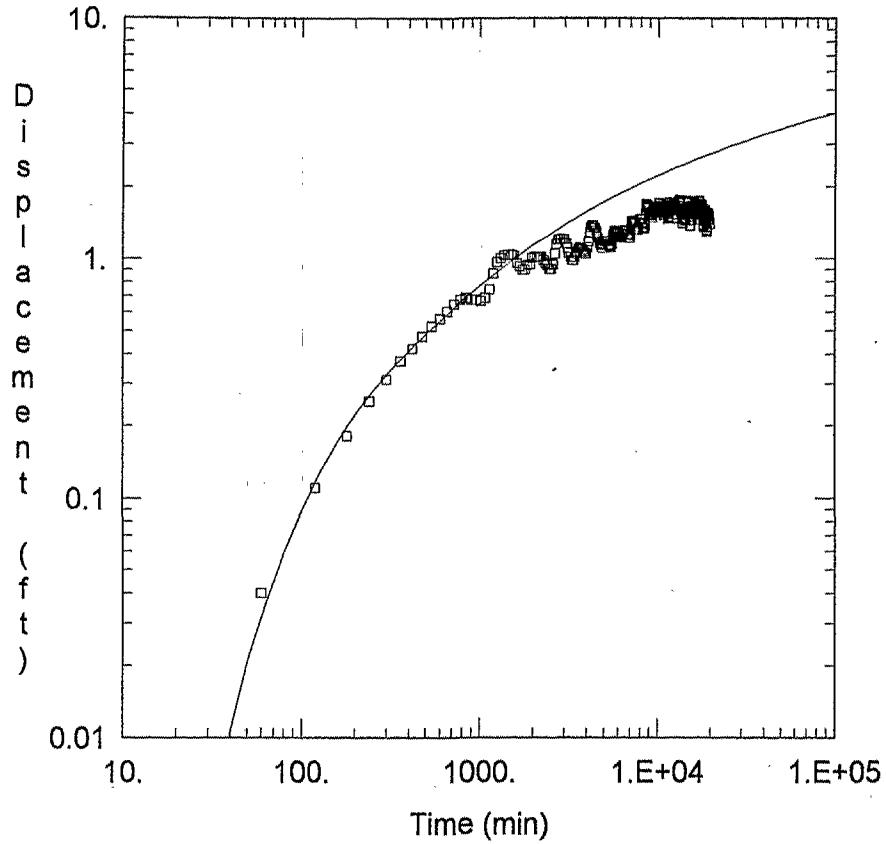
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
MW28-160[redacted]	7.716E+006	6.945E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\32165-PW.AQT
Date: 02/03/98 Time: 17:04:19

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper
T = 22.04 ft^2/min
S = 0.1698
Rw = 5.412E-06 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

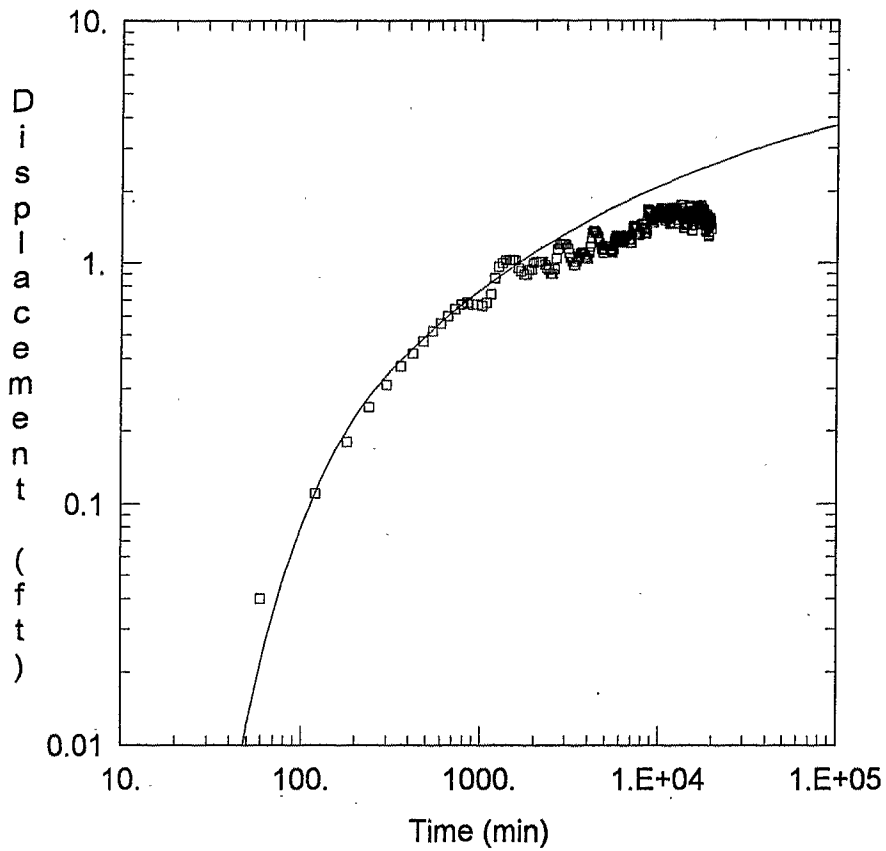
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW32-165Cor	7.715E+006	6.952E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\32165-PW.AQT
Date: 02/03/98 Time: 17:02:26

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 24.17 ft^2/min
S = 0.1874

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

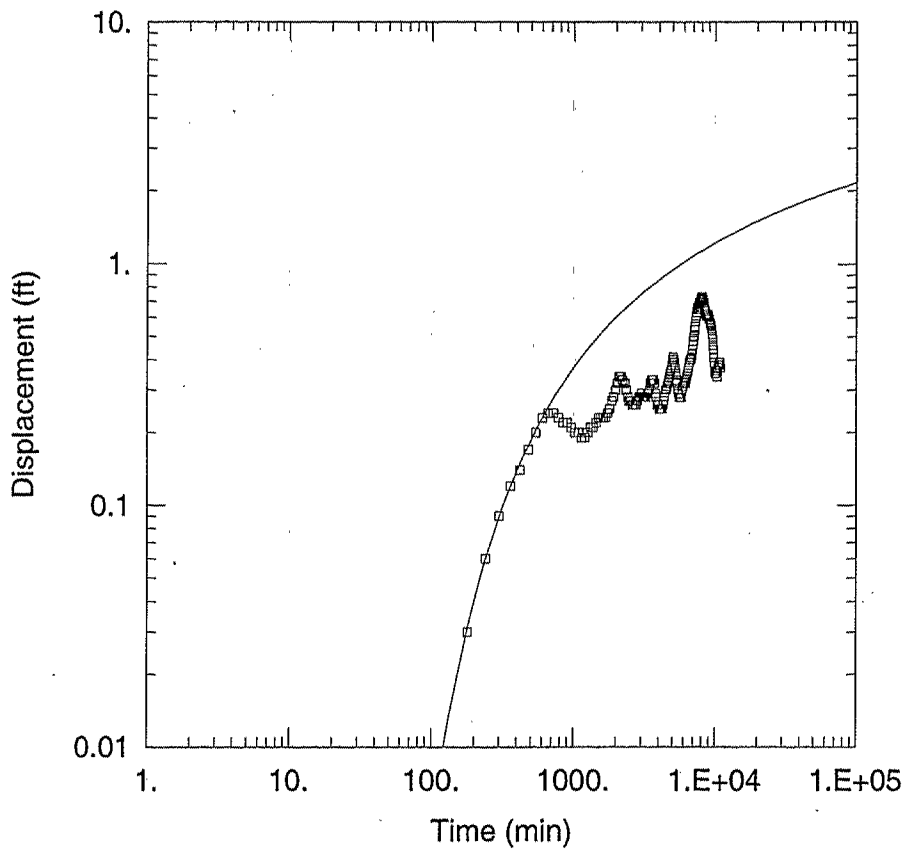
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW07	7.716E+006	6.95E+005
PW03	7.716E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW32-165Cor	7.715E+006	6.952E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\32165HFF.AQT
Date: 05/10/98 Time: 13:08:40

SOLUTION

Aquifer Model: Confined
Solution Method: Theis
T = 25.57 ft^2/min
S = 0.04589

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

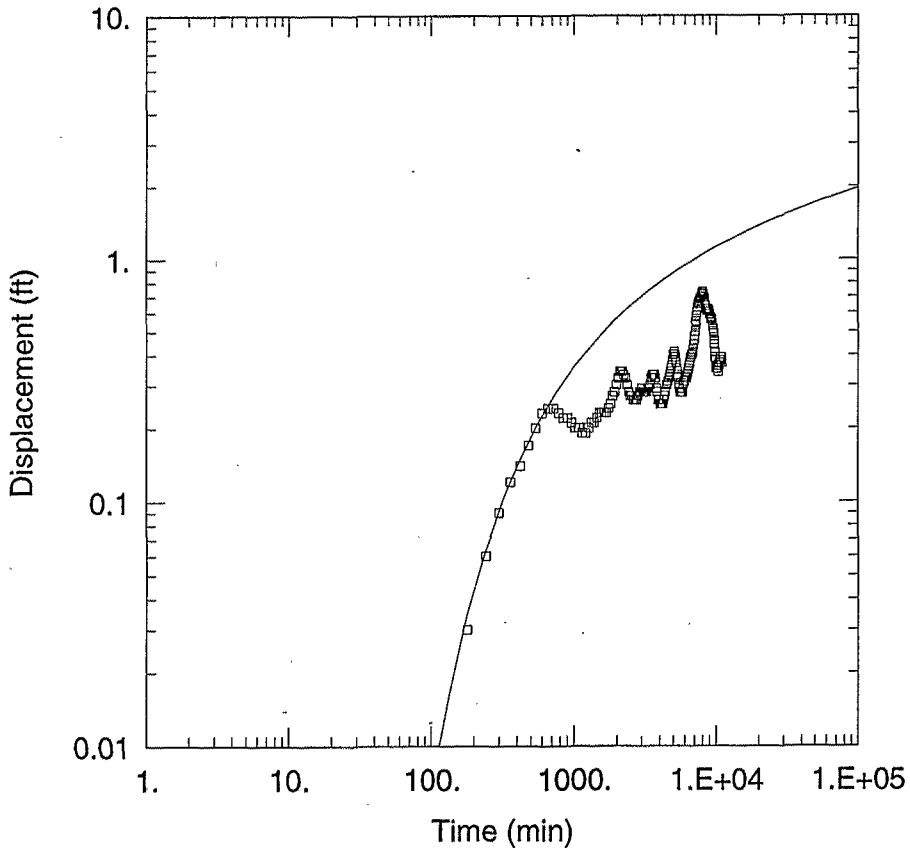
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW32-165	7.712E+006	6.961E+005



WELL TEST ANALYSIS

Data Set: C:\REYNOLDS\AQUIFERT\PW07PW03\32165HFP.AQT
Date: 05/10/98 Time: 13:09:32

SOLUTION

Aquifer Model: Confined
Solution Method: Papadopulos-Cooper

T = 28.69 ft^2/min
S = 0.04618
Rw = 0.2423 ft

AQUIFER DATA

Saturated Thickness: 300. ft

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
FF04	7.712E+006	6.953E+005

Observation Wells

Well Name	X (ft)	Y (ft)
▫ MW32-165	7.712E+006	6.961E+005