EVALUATION OF GROUNDWATER PUMPING TEST DATA INDEPENDENT SPENT FUEL STORAGE INSTALLATION ST. LUCIE NUCLEAR POWER PLANT

PREPARED FOR:
Enercon Services, Inc.
Mt. Arlington. New Jersey

PREPARED BY:
GZA GeoEnvironmental, Inc.

File No. 03.0043301.40

GZA
GeoEnvironmental, Inc.

Engineers and Scientists

June 6, 2006

File No. 03.0043301.40

Enercon Services, Inc.
400 Valley Road
Mount Arlington, New Jersey 07856

Attention: Mr. Ron Miranda
Project Manager

27 Naek Road
Vernon
Connecticut
06066
860-875-7655
Fax: 860-872-2416
www.gza.com

Re: Evaluation of Groundwater Pumping Test Data
Independent Spent Fuel Storage Installation
St. Lucie Nuclear Power Plant

Dear Mr. Miranda:

The following presents GZA's evaluation of the pumping test data for the above-referenced project. Our evaluation was performed in accordance with Subcontract No. FPLSL024-006, Rev. 0, dated May 8, 2006.

A draft of this report was submitted previously (May 15, 2005). Comments to the draft were presented via email dated May 30, 2206. The comments have been addressed herein.

Please call the undersigned if you have any questions or require additional information.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Daniel C. Stapleton
Principal

Michael A. Powers
Senior Principal

Cc Ms. Teresa Seksinski

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INTRODUCTION

In accordance with Subcontract No. FPLSL024-006, Rev. 0, dated May 8, 2006, GZA GeoEnvironmental, Inc. (GZA) has completed tasks a. and b. of our contracted scope of work. These tasks included:

a. development of the pump test details; and
b. evaluation of the pump test data, and calculation of the aquifer transmissivity and storage coefficient.

This report presents GZA's evaluation of the pumping test results and our conclusions and recommendations.

BACKGROUND

A groundwater pumping test was conducted between May 3 and 8, 2006 by Tetra Tech, Inc. (Tetra Tech). Details and guidelines for the test were provided by GZA. The purpose of the pump test was to confirm the aquifer properties[1] utilized previously for project permitting, and to provide aquifer properties for use by the contractor in development of the construction dewatering details.

The details of the pump test were as follows.

The pump test utilized an extraction well and six pairs of monitoring wells. The wells were installed at the locations described on attached Table 1. The extraction well was located at plant coordinates: 1250.5 (east) and 774.5 (south). The monitoring wells were located to the west, north and south of the extraction well. This configuration was selected to provide information relative to the influence of the Intake Canal on pumping-induced draw downs, as well as simulate dewatering along the other sides of the excavation. Each pair of monitoring wells was intended to include a well located above and below the lower permeability organic layer (the shallow clay and organic deposits). As discussed in this report, one or more of the shallow monitoring wells may have penetrated this layer.

The extraction well was advanced to a depth of 60 feet below ground surface. The paired monitoring wells were advanced to depths of 15 feet and 30 feet below ground surface (the monitoring wells with the A-suffix were shallow and the B-suffix were deep). The extraction well was screened from 20 to 60 feet below ground surface. The monitoring wells were provided with 10-foot screens, located at the bottom of the well.

Each of the 13 wells was equipped with vented pressure transducers and data loggers to measure and document the elevation of groundwater. Pressure data were collected during the test at ten second intervals.

[1] Aquifer properties had been developed previously by GZA based on empirical relationships between material type, gradation and aquifer properties.

Pumping was performed in two phases. The first phase included a 4 hour step test and was performed primarily to establish a pump rate for the 72 hour test. The second phase was initiated after groundwater recovery and included a 72 hour constant rate extraction test. Table 2 provides details of the test extraction rates. Prior to the first phase, pretest groundwater elevation measurements were collected in each of the wells.

There was no significant precipitation during the performance of the test.

EVALUATION OF PUMP TEST DATA

Appendix A presents the pretest groundwater depth measurements and the drawdown data for the step test and pump test. Data are provided for the extraction well and each of the monitoring wells. The drawdown measurements are referenced to the initial observed water table depth. The depth to groundwater typically ranged from 8 to 9 feet below ground surface.

GZA's analysis of the step drawdown test calculated transmissivities in excess of 5,000 feet^2/day per day (ft^2/day). This indicated that a pumping rate of 300 gallons per minute (gpm) would not result in a water level during the 72-hour pump test that was below the pump intake level. Therefore, the 72-hour pump test was conducted with an extraction rate of 300 gpm.

The software Aqtesolve was used to calculate the aquifer properties. The Cooper-Jacobs method was utilized. The analysis results are presented in Appendix B and summarized in Table 1. The Cooper-Jacobs method was selected because: 1) it is a widely used in the industry; and 2) the observed site conditions (during the mid-portion of the test) are consistent with the assumptions underlying that method. The early time drawdown data appeared to reflect the effects of delayed yield, or a leaky confining layer. The latter time drawdown data clearly reflected the effects of a recharge boundary (presumed to be the Intake Canal) and tidal influences. These data, therefore, were not used to estimate aquifer properties. Since the draw downs were small compared to the aquifer thickness, we analyzed the data assuming "confined conditions", see Appendix B. We note that: 1) under ambient conditions, the aquifer is at least partially confined; and 2) under pumping conditions, a water table condition exists across some of the site. (Note that, although indicated on the data input included in the appendices, the aquifer thickness is not used to compute the transmissivity or storage coefficient. The actual effective aquifer thickness is likely greater than the value of 50 shown in Appendix B.)

As indicated in Table 1, the transmissivity ranged from 3,300 to 4,800 ft^2/day and computed storage coefficients ranged from 0.002 to 0.04. A review of Table 1 indicates that the storage coefficients computed from data collected from the shallow monitoring wells was somewhat greater than from the deeper wells. This may be the result of either delayed yield or indicate a leaking confining layer. These values are, however, still lower than typically computed for a water table aquifer.

We also estimated aquifer properties using a distance-drawdown method. The drawdown in the deep wells, at the approximate time to stabilization (4 hours), and the Cooper-Jacobs approximation to the Theis equation were used. This analysis indicated a transmissivity of 6,000 ft^2/day and a storage coefficient of 0.002. The plot of drawdown versus distance is presented at the end of Appendix B.

CONCLUSIONS

1. The pumping test resulted in consistent data relative to the hydraulic properties of the soils to be dewatered during the soil improvement excavation.

2. Our interpretation of the test data indicates that the soils in the vicinity of the excavation form a semi-confined aquifer that is in hydraulic communication with the Intake Canal located to the west and south of the proposed excavation.

3. Pumping during the first four hours (at 300 gpm) induced rapid drawdowns over an area that extended more than 100 feet from the extraction well. In less than 4 hours, the drawdown at the wells had essentially stabilized. A tidal influence was observed at each of the well locations.

4. Our analysis of the results indicates that the aquifer in the vicinity of the test has a transmissivity that ranges from approximately 3,300 to 6,000 ft^2/day, and averages 5,000 ft^2/day. The storage coefficient ranged from 0.03 to 0.002. As indicated on Table 1, the aquifer properties vary relative to the location of test well; similar or larger heterogeneities should be expected over the larger area that will be excavated.

5. The shallow wells responded fairly quickly to pumping, which may indicate that the organic confining layer is not continuous across the area. It may also indicate that one or more of the shallow wells penetrated the confining layer. Regardless, we recommend that the dewatering contractor plan on encountering shallow water at some locations that does not respond to pumping as quickly as was observed in the "A" series wells during this test.

6. The Intake Canal appears to act as a significant boundary condition in both shallow and deep monitoring wells. Therefore this boundary condition will limit the radius of influence of the construction dewatering wells. Also, due to the proximity of the excavation to the Intake Canal, water table fluctuations due to tidal influences should be expected.

7. The results of the pump test indicate conditions and aquifer properties similar to those that we assumed when estimating total extraction rates for permitting purposes (see our November 14, 2005 report). Although the final excavation is expected to be somewhat larger (and in places deeper) than assumed during November 2005, it is our opinion that, with proper construction dewatering design and management, the maximum construction dewatering extraction will be less than 4,500 gpm.

8. It is our opinion that extracting groundwater from one or more of the VOC treatment wells currently installed along the north edge of the proposed excavation, at a total rate of less than 200 gpm, will adequately manage the VOC-contaminated groundwater.

RECOMMENDATIONS

1. We recommend that the dewatering contractor consider the range of aquifer properties, established from the pump test and presented here, in their development of the construction dewatering system. Once the construction dewatering and temporary earth support details are developed by the contractor and made available to us, we will reconfigure the groundwater flow model to simulate the system proposed by the contractor. At that time, we will provide a report describing the simulated groundwater flow and estimated dewatering rates. The simulated movement of the VOC-contaminated groundwater will also be provided, along with final recommendations relative to pumping rates for the three (currently installed and operational) treatment wells.

2. The revised ground water model provides a strong analytical tool. We recommend that the selected dewatering contractor have provisions to collect sufficient data (draw downs and pumping rates) during construction to allow us to use the model to help resolve dewatering issues if they arise during construction.

TABLE 1
SUMMARY INFORMATION

ST. LUCIE NUCLEAR STATION
MAY 2006
GROUNDWATER PUMPING TEST

WELL DESIGNATION	LOCATION[1]	AVERAGE STEADY-STATE DRAWDOWN (FT)	CALCULATED HYDRAULIC PROPERTIES	
			TRANSMISSIVITY FT²/DAY	STORAGE COEFFICIENT
N-10A	10 Feet North	>5.8	ND	ND
N-10B		7.3	4600	0.012
N-25A	25 Feet North	4.3	4400	0.03
N-25B		6.2	4500	0.006
N50A	50 Feet North	4.5	4200	0.01
N50B		5.3	4500	0.004
W50A	50 Feet West	4.7	3300	0.016
W50B		4.9	4700	0.004
W100A	100 Feet West	3.2	5000	0.004
W100B		3.7	4800	0.002
S50A	50 Feet South	5.2	3400	0.01
S50B		5.2	4500	0.004
Extraction Well (PTW-1)	Plant E/Plant S 1250.5/774.5	15.0		
Distance-Drawdown Analyses			6000	0.002

1. Location relative to extraction well.
2. Cooper Jacob Method of Time Drawdown Analyses.
3. ND well N-10A went dry during the pump test.

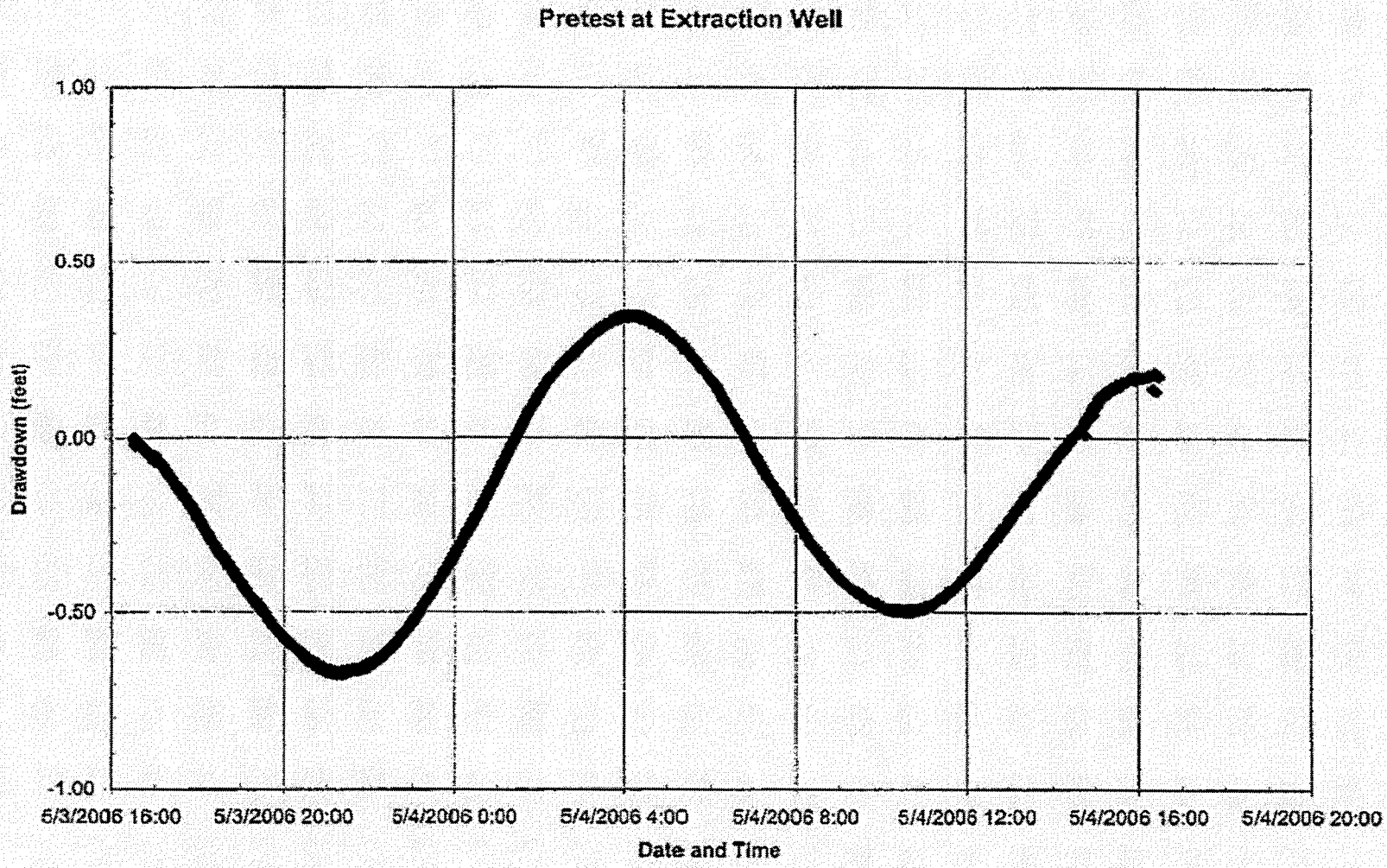
TABLE 2
GROUNDWATER EXTRACTION [1]

ST. LUCIE NUCLEAR STATION
MAY 2006
GROUNDWATER PUMPING TEST

EVENT	START TIME	DURATION HOURS	STOP TIME	EXTRACTION RATE GPM
Ambient Monitoring	5/3/06-16:00	23	5/4/06 - 17:00	Zero
Step Test	5/4/06-17:00		5/4/06 - 21:00	
		1		200
		1		250
		1		275
		1		300
Recovery	5/4/2006 21:00	11	5/5/06 - 08:00	Zero
Constant Rate Pumping	5/5/06-08:01	72	5/8/06 - 08:00	300 [2]

1. Information provided by Tetra Tech, Inc.
2. Pumping rate essentially constant, did not exceed 325 gpm.

Appendix A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0.50
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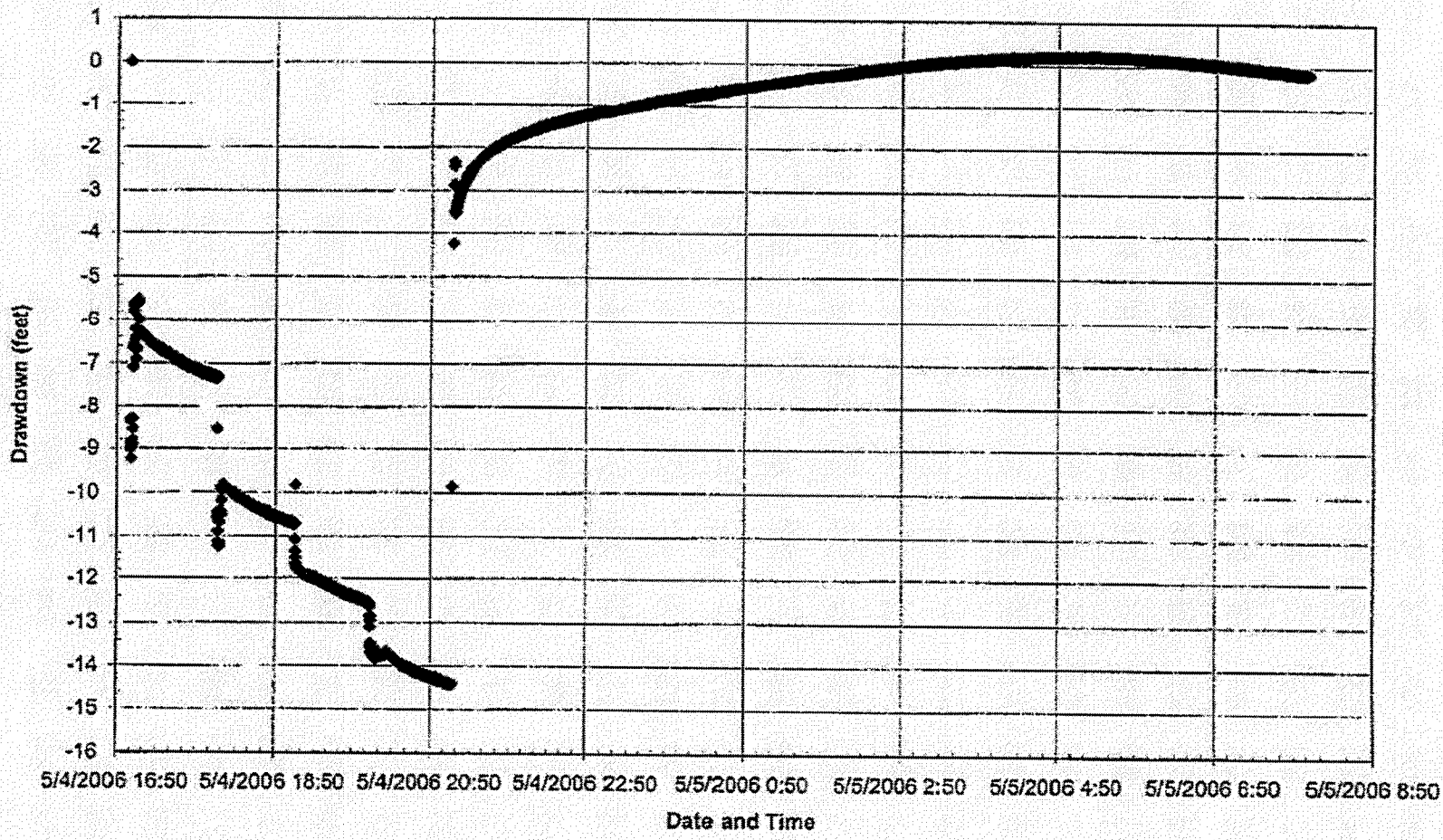
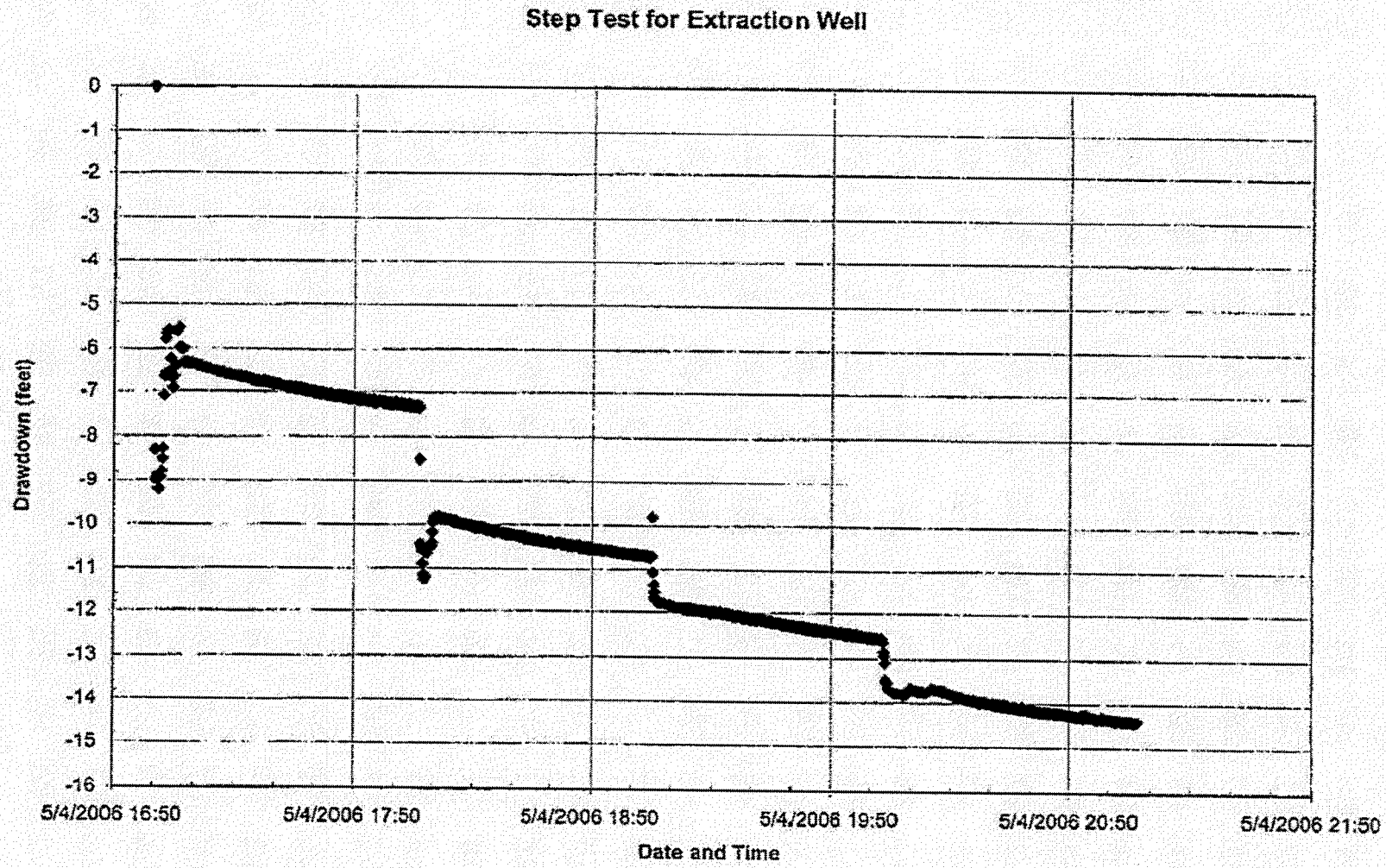
Drawdown (feet)
5/3/2006 16:00
5/3/2006 20:00
5/4/2006 0:00
5/4/2006 4:00
5/4/2006 8:00
5/4/2006 12:00
5/4/2006 16:00
5/4/2006 20:00
Date and Time

Step and Recovery Test for Extraction Well




Step Test for Extraction Well
Drawdown (feet)
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-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
-11
-12
-13
-14
-15
-16
5/4/2006 16:50
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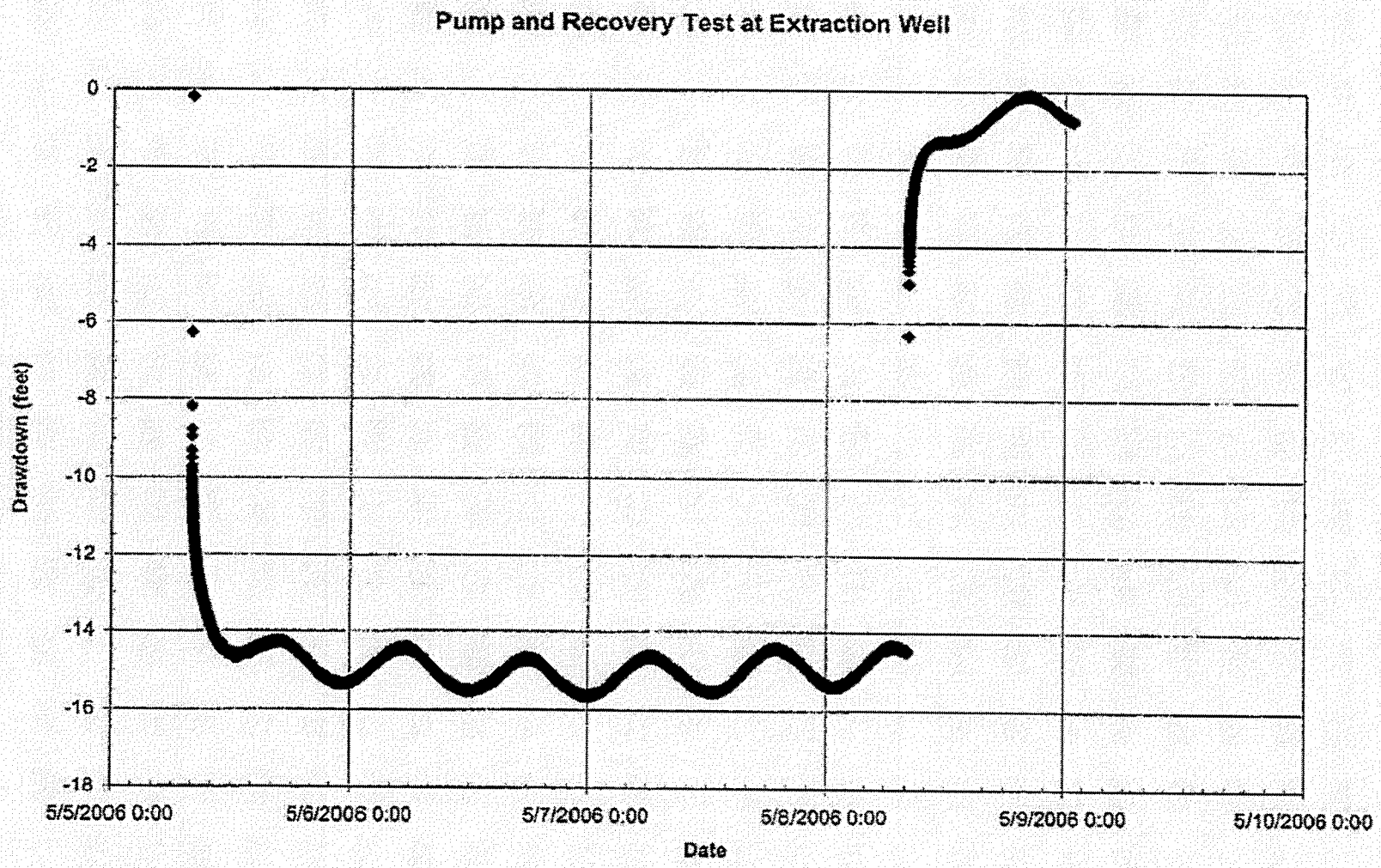
5/4/2006 21:50
Date and Time


Pump and Recovery Test at Extraction Well
0
-2
-4
-6
-8
-10
-12
-14
-16
-18
Drawdown (feet)
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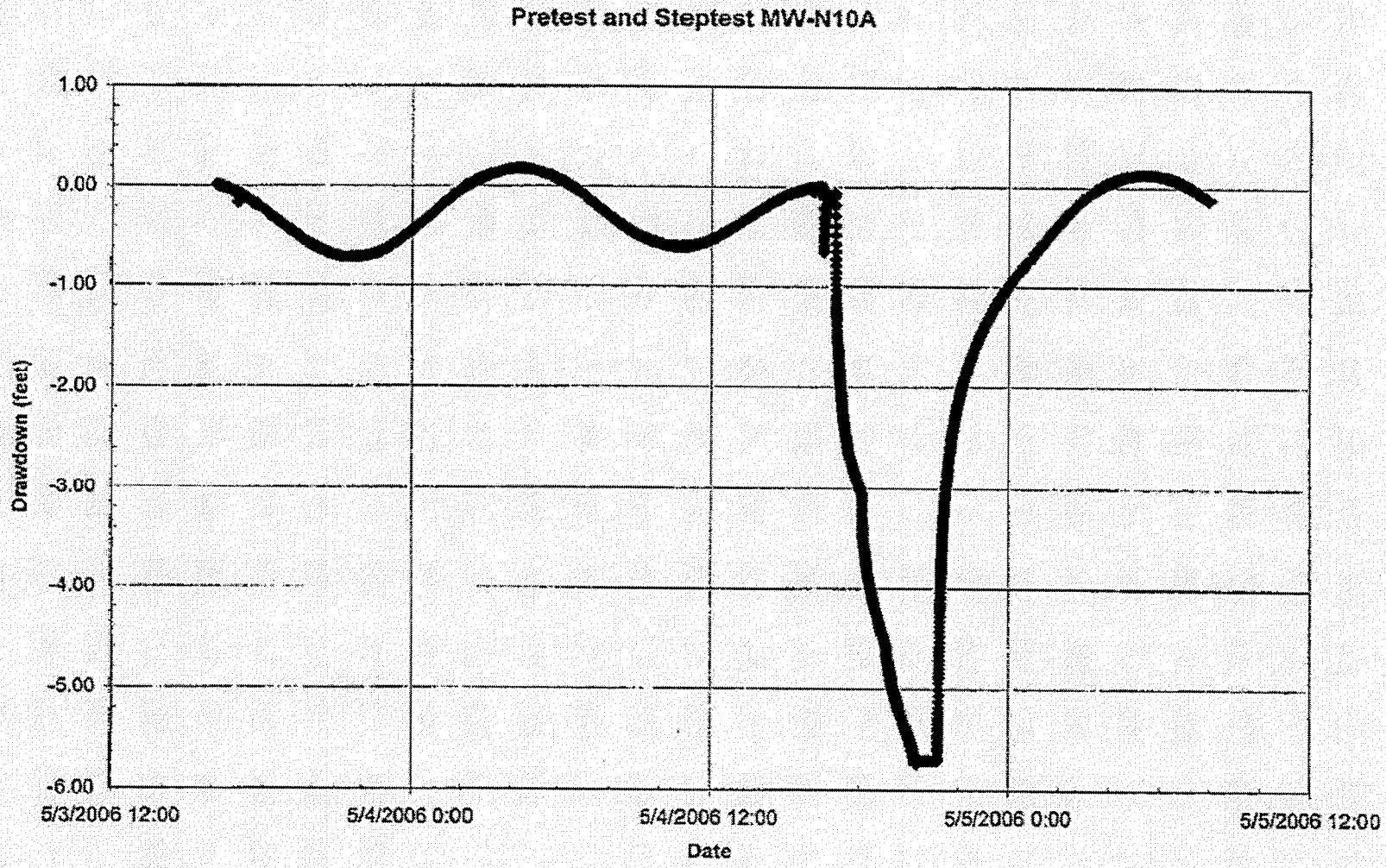
Date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0.00
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-2.00
-3.00
-4.00
-5.00
-6.00
Drawdown (feet)
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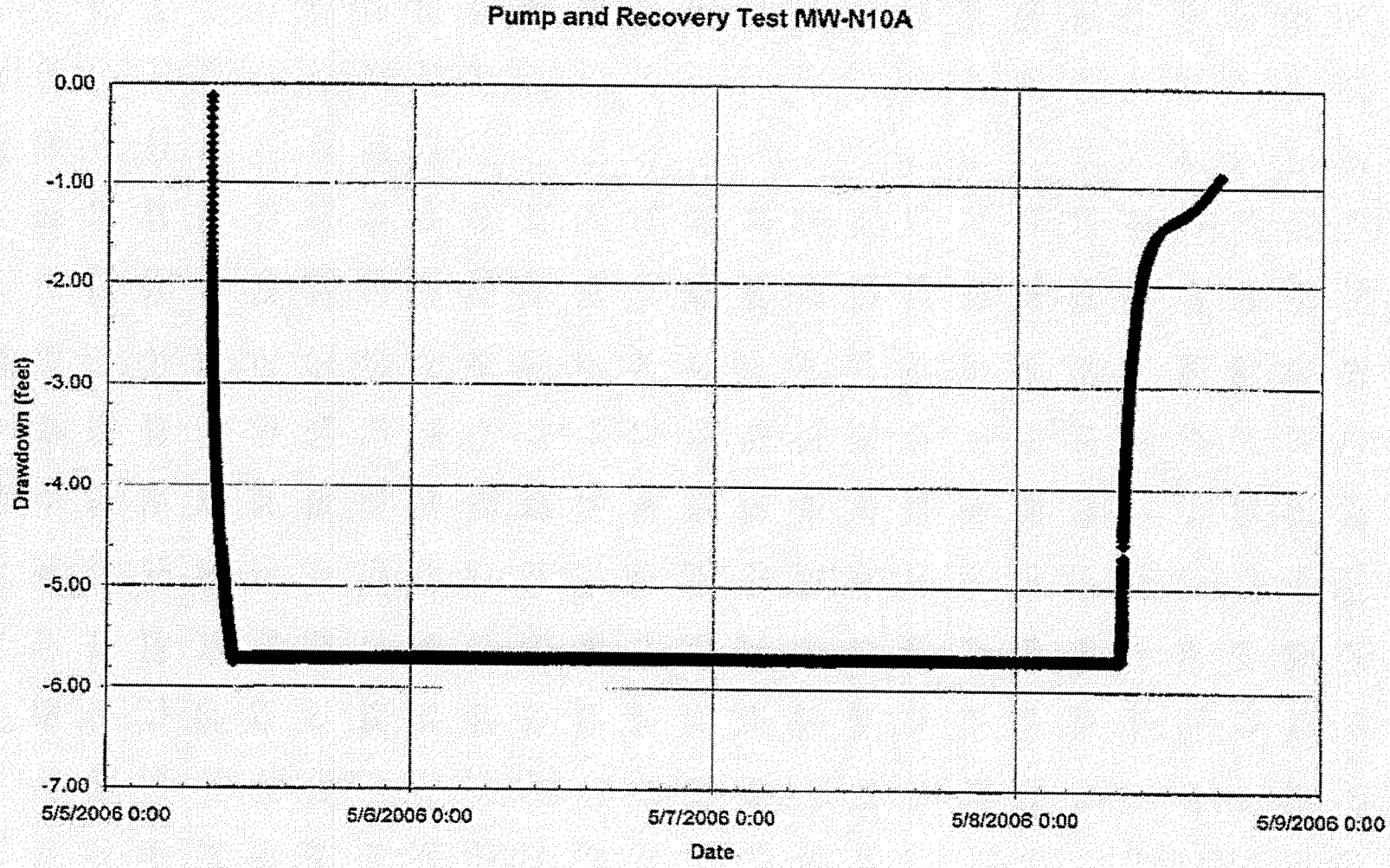
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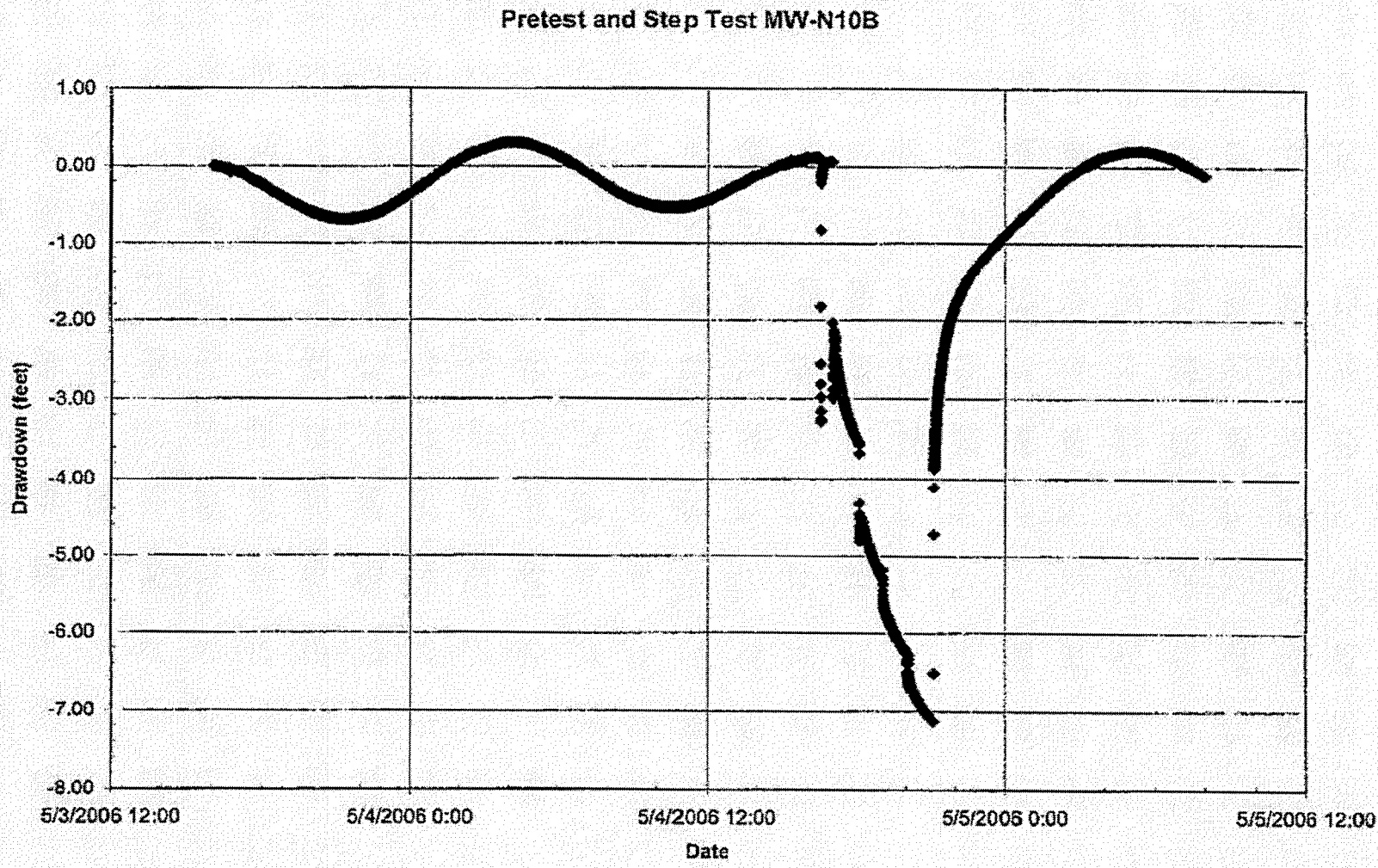
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-3.00
-4.00
-5.00
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-8.00
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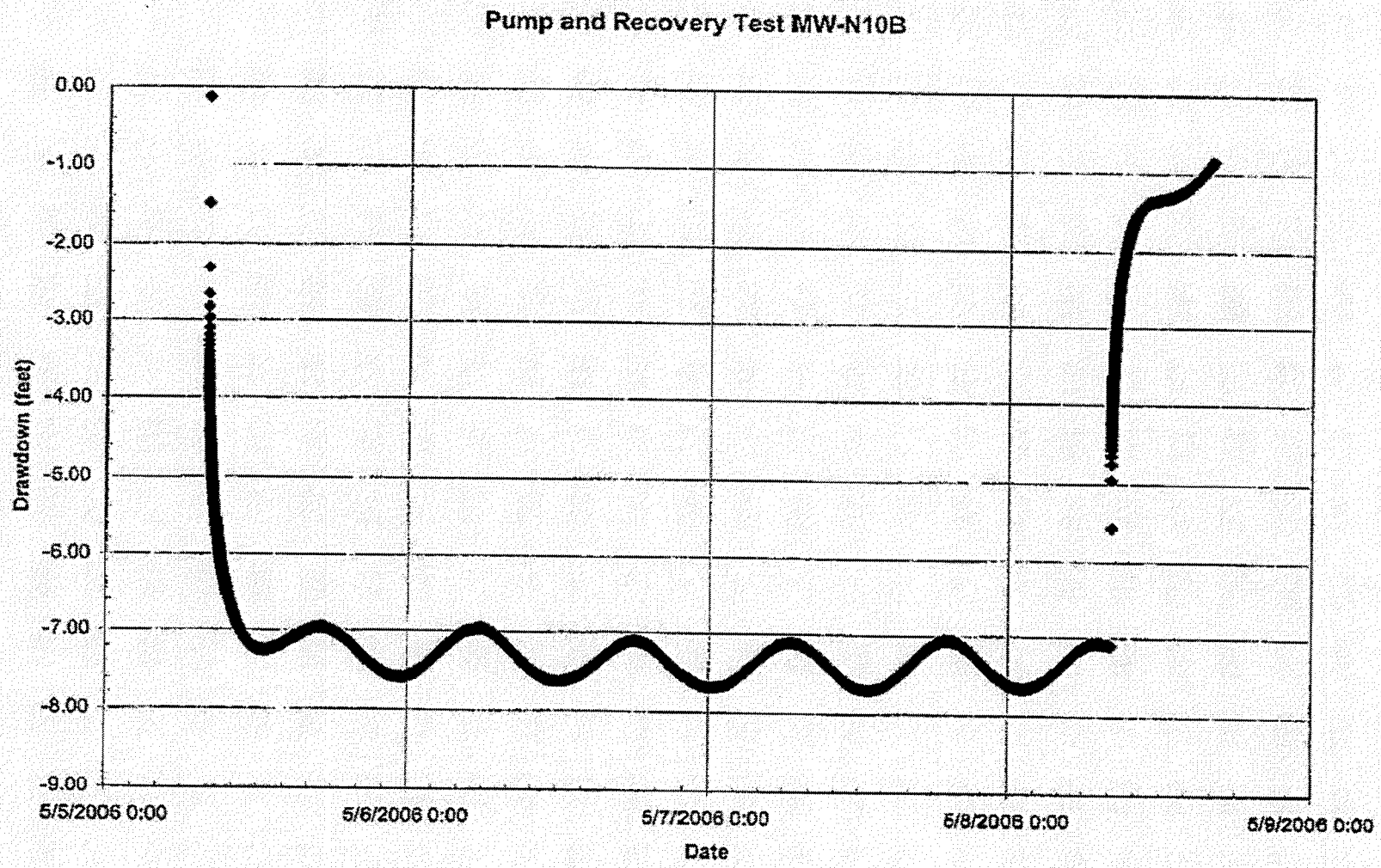
5/4/2006 12:00
5/5/2006 0:00
5/5/2006 12:00
Date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-3.00
-4.00
-5.00
-6.00
-7.00
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-9.00
Drawdown (feet)
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5/6/2006 0:00
5/7/2006 0:00
5/8/2006 0:00
5/9/2006 0:00
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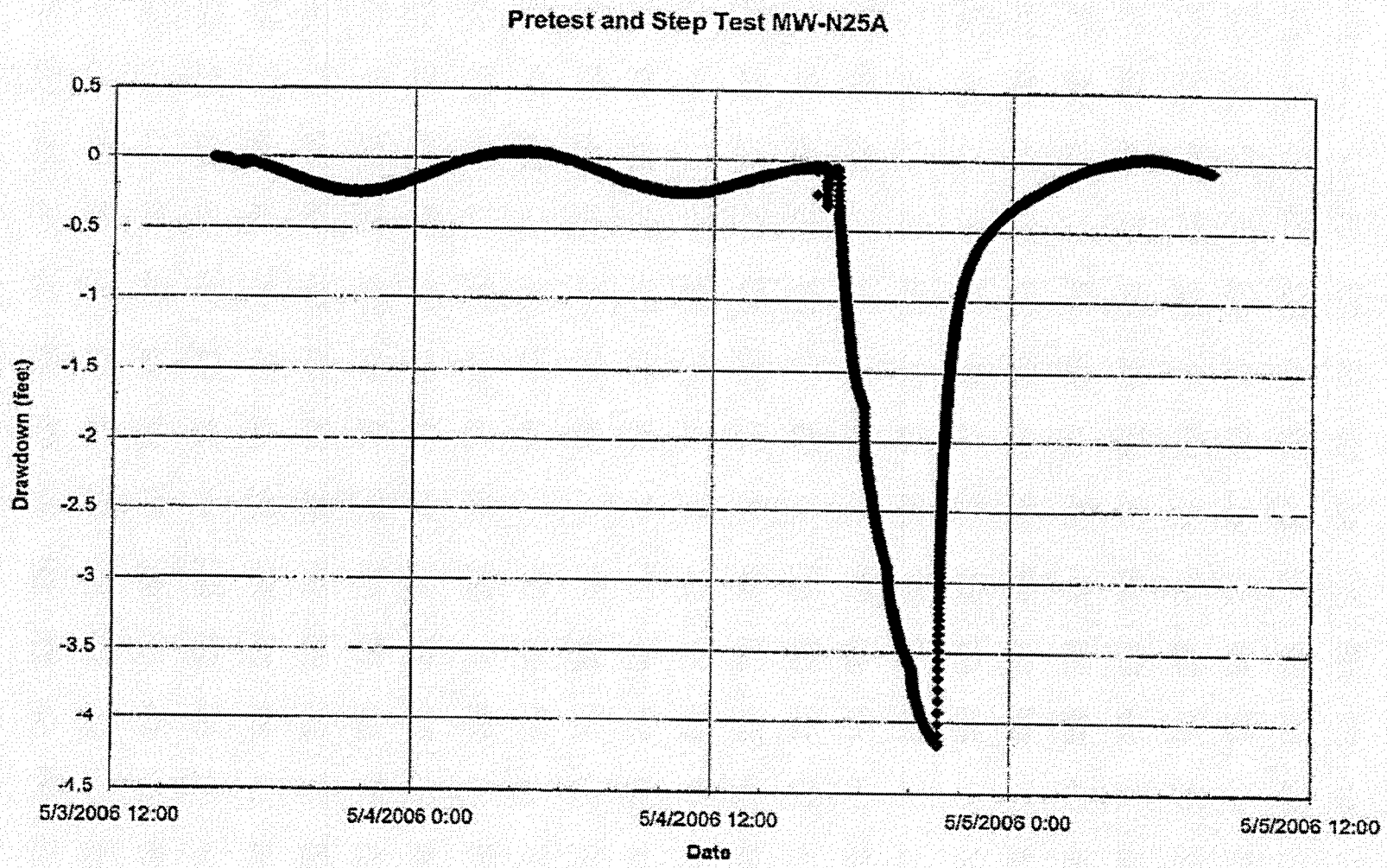
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0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
-4
-4.5
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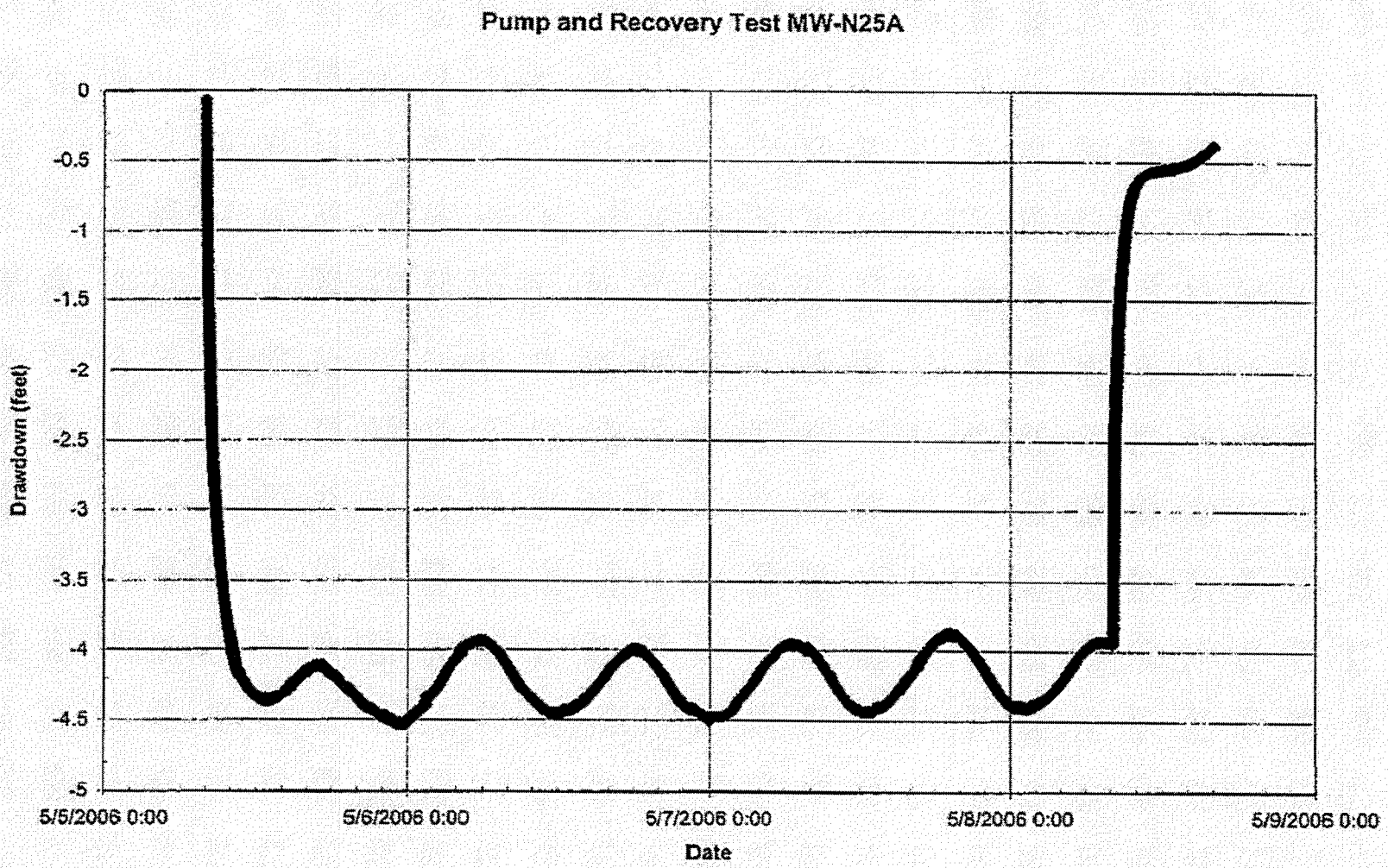
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-1
-1.5
-2
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-3
-3.5
-4
-4.5
-5
Drawdown (feet)
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5/6/2006 0:00
5/7/2006 0:00
5/8/2006 0:00
5/9/2006 0:00
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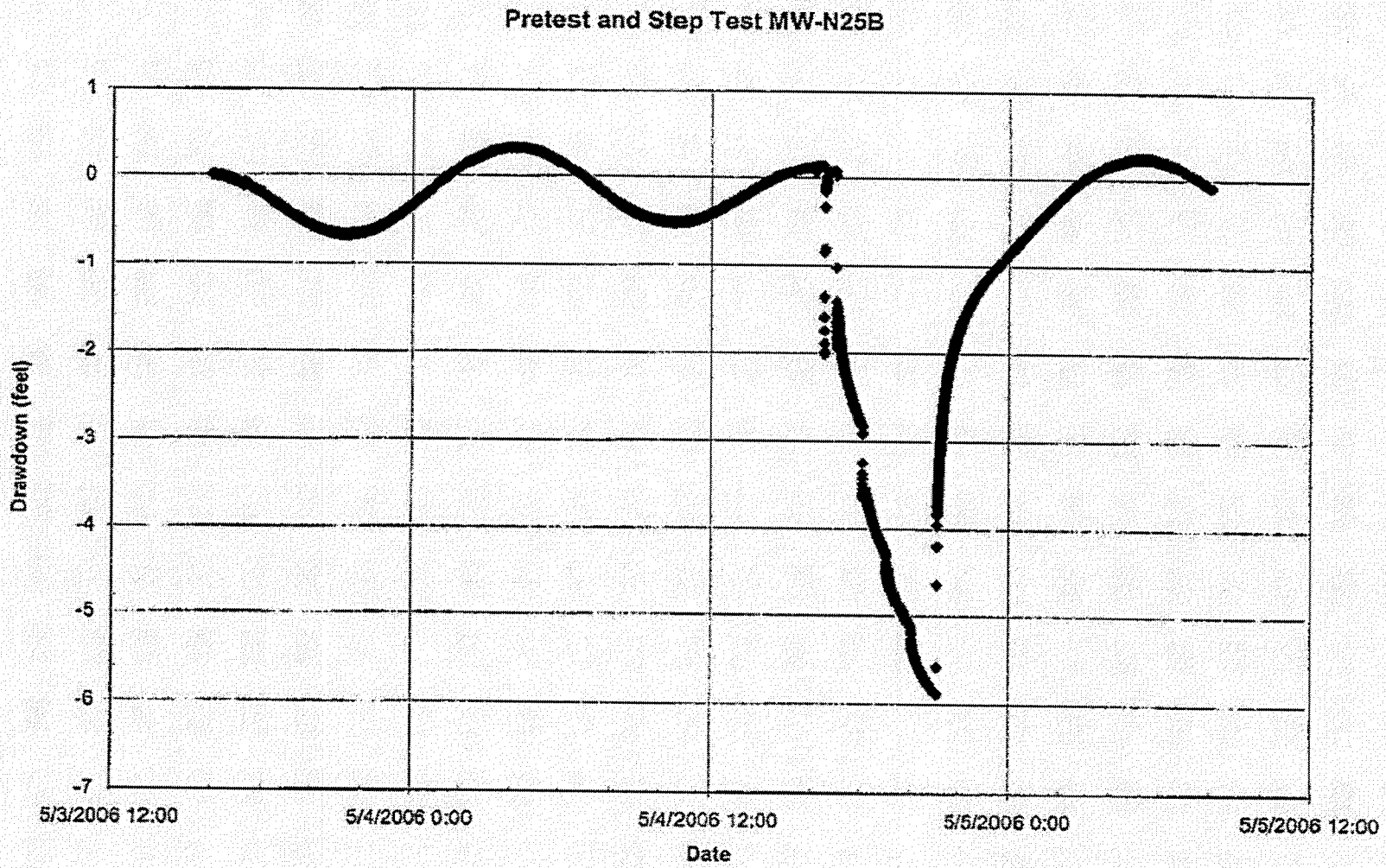
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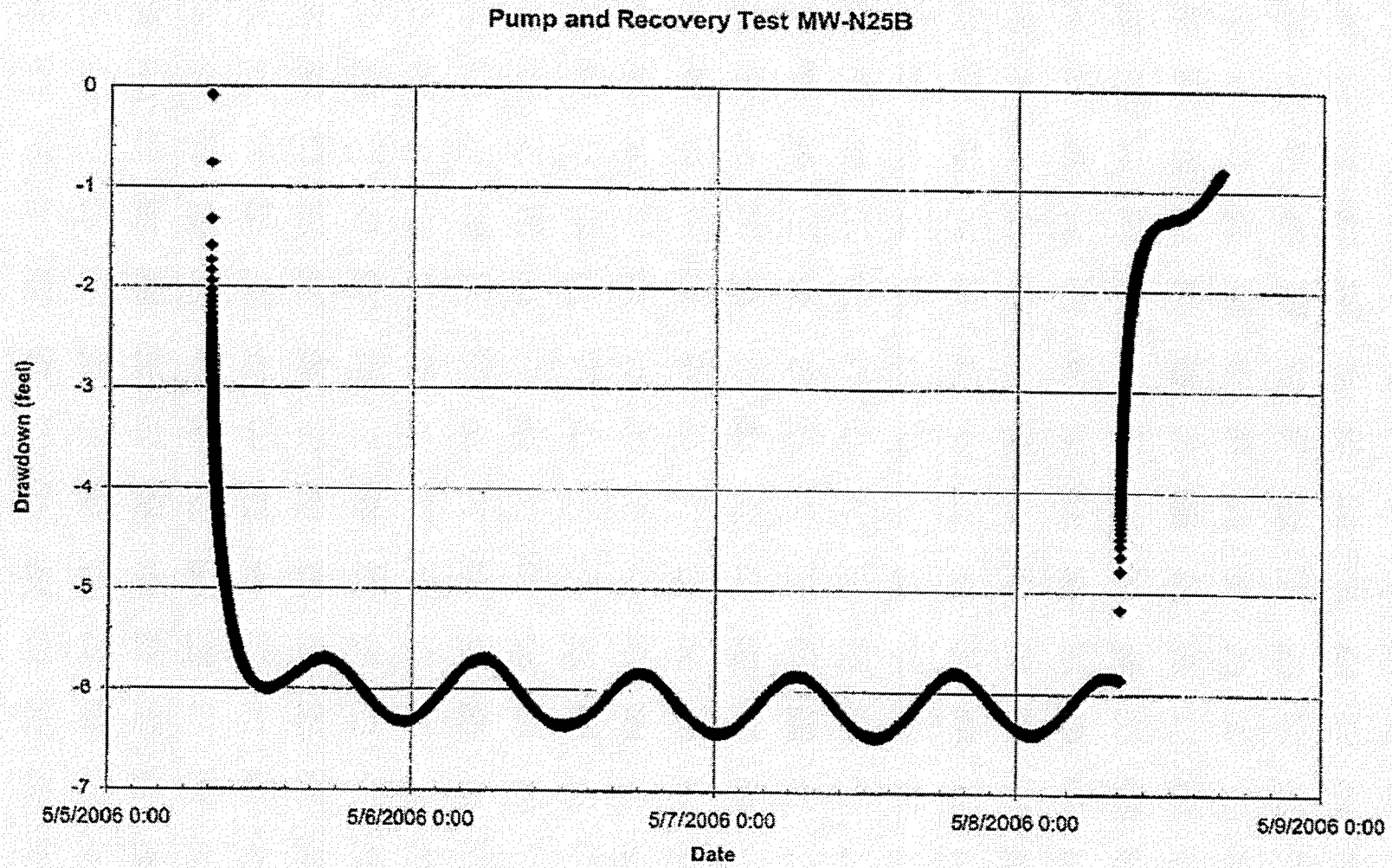
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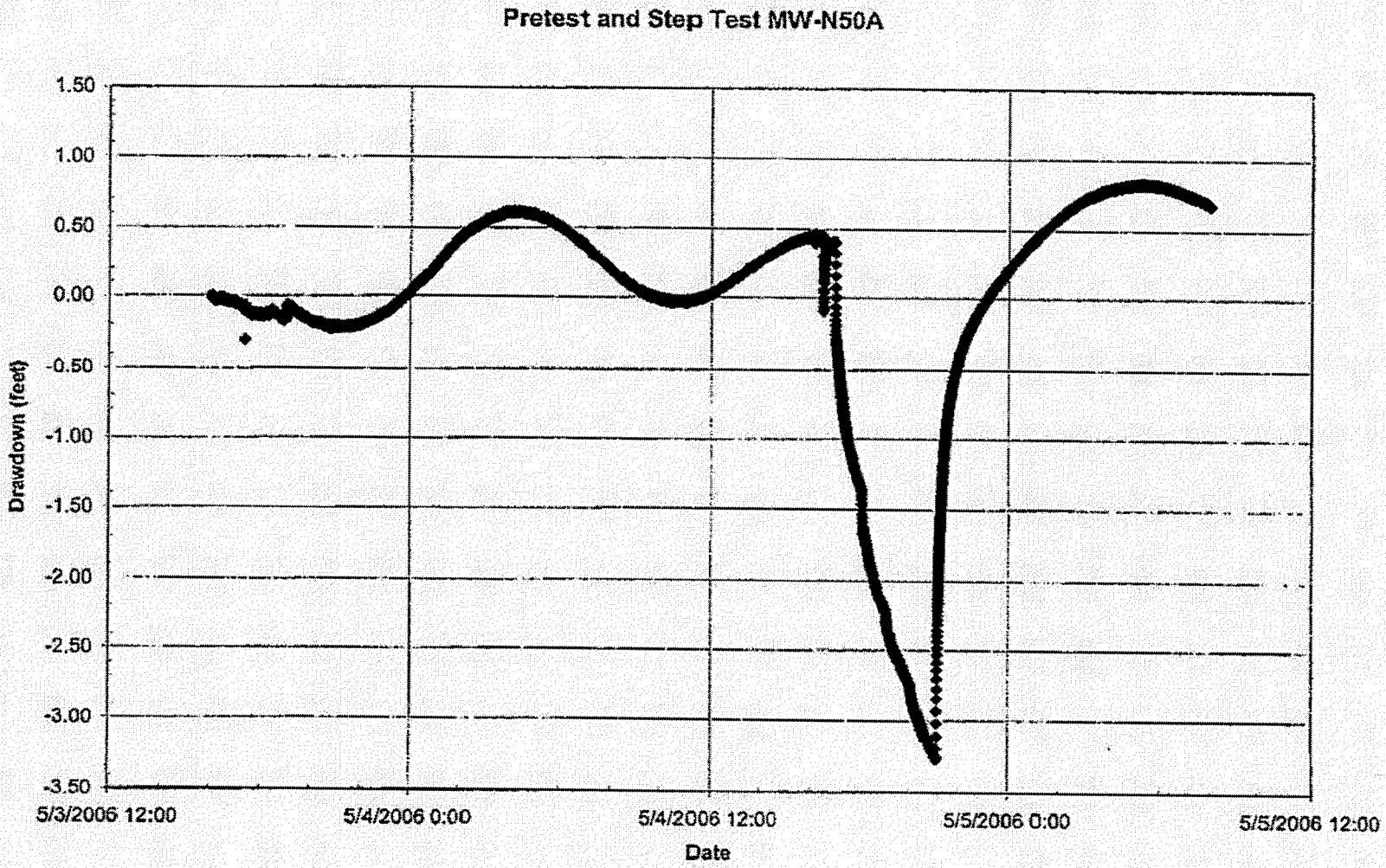
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0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
Drawdown (feet)
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5/4/2006 0:00
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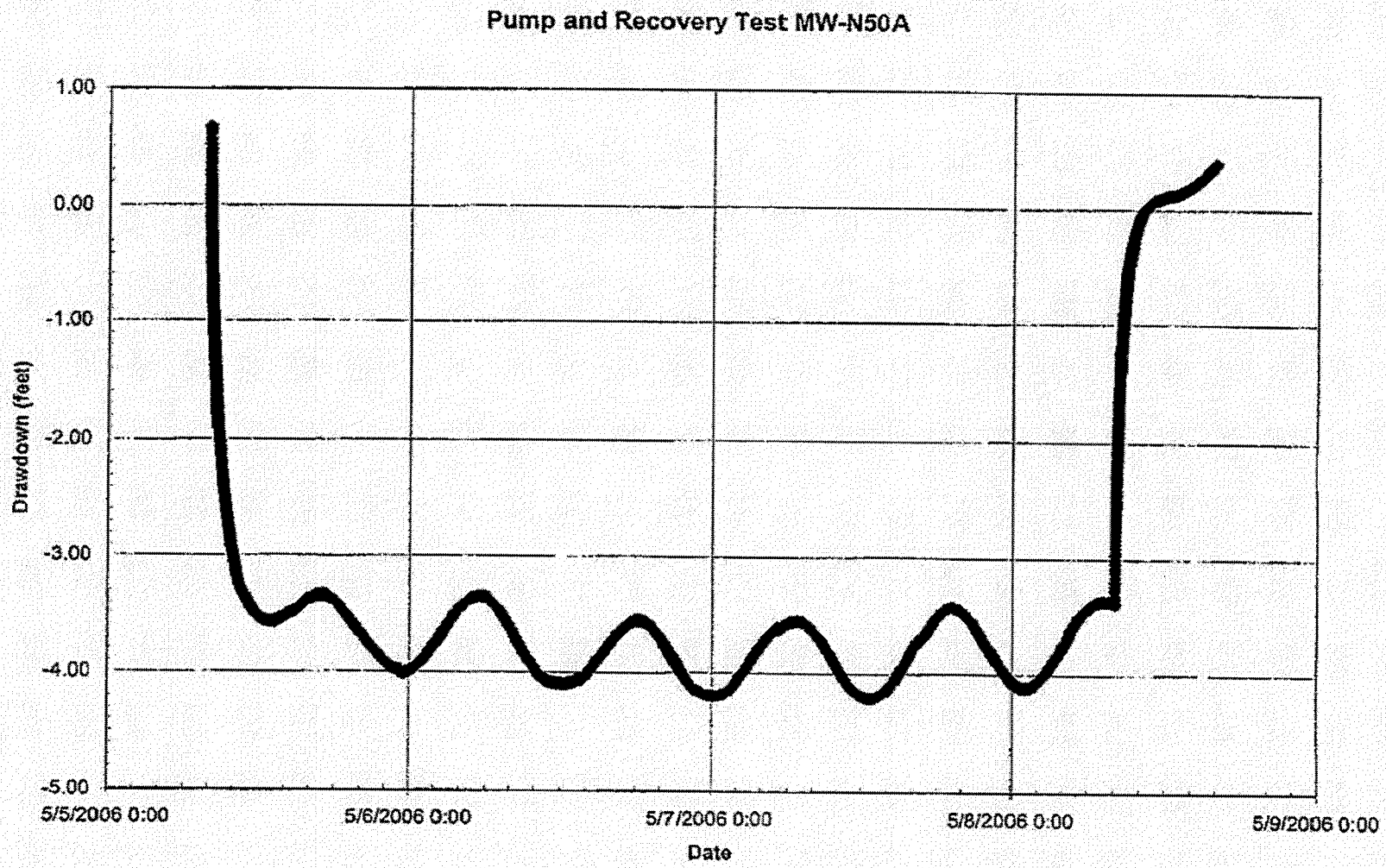
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Drawdown (feet)
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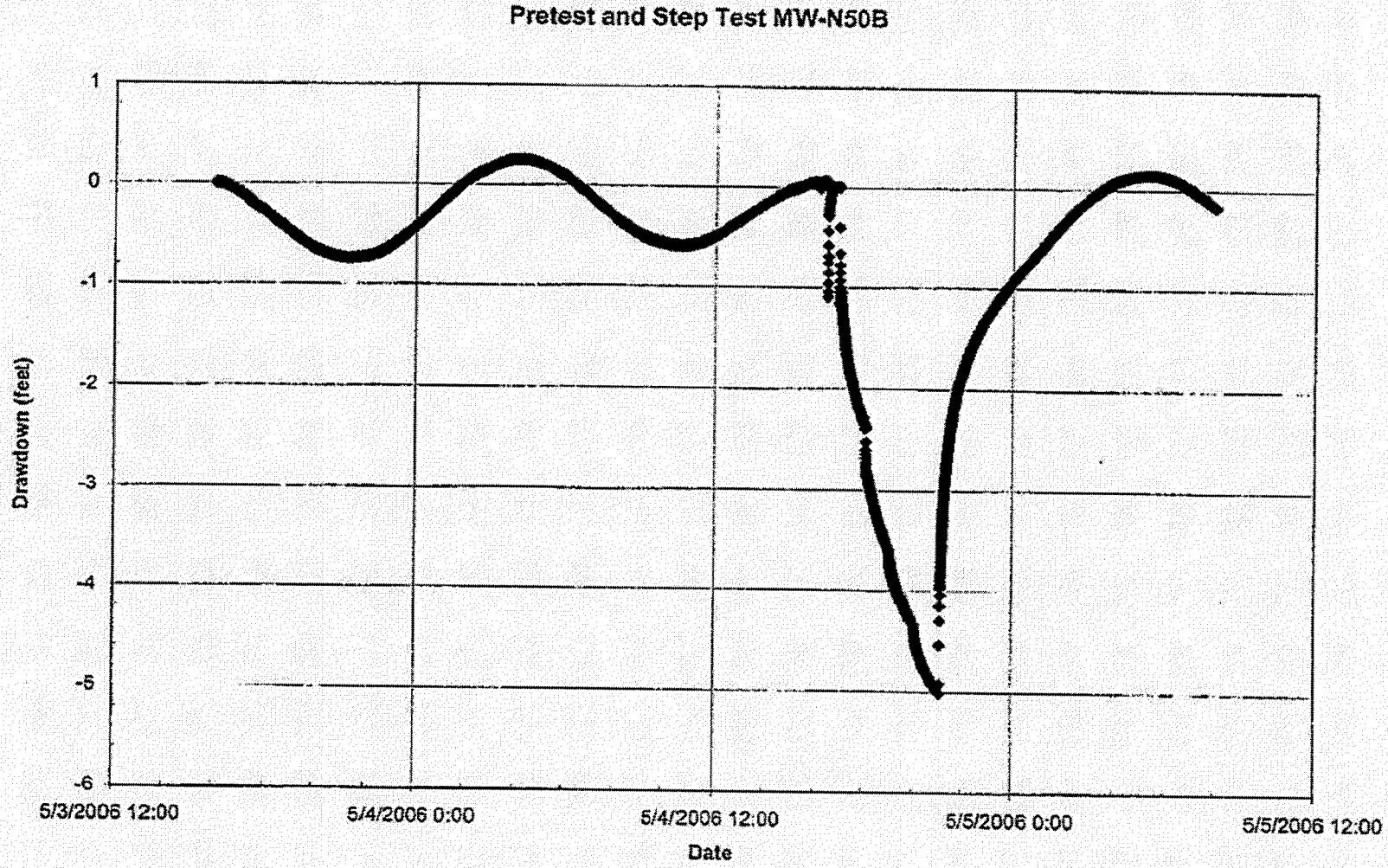
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Drawdown (feet)
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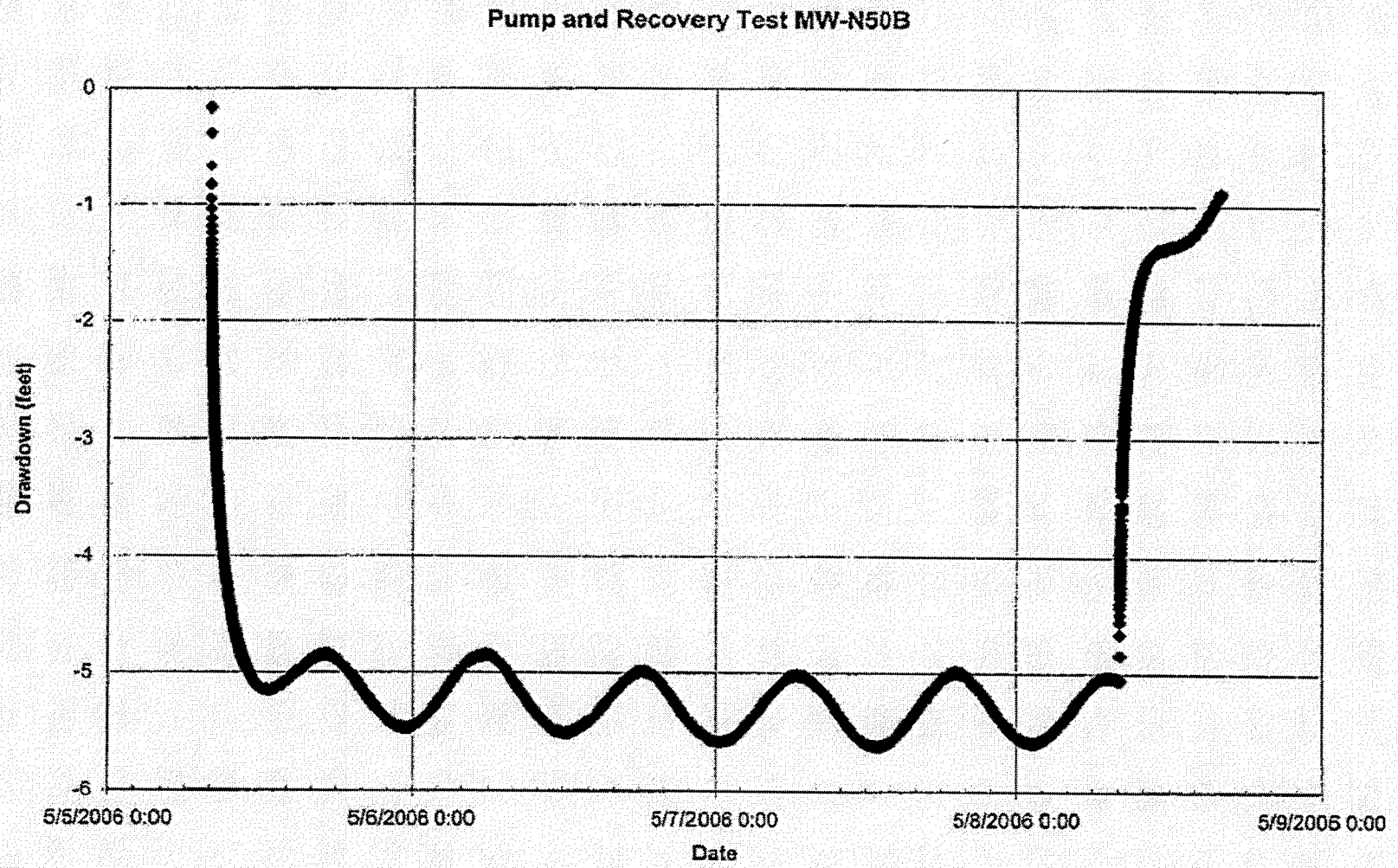
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Drawdown (feet)
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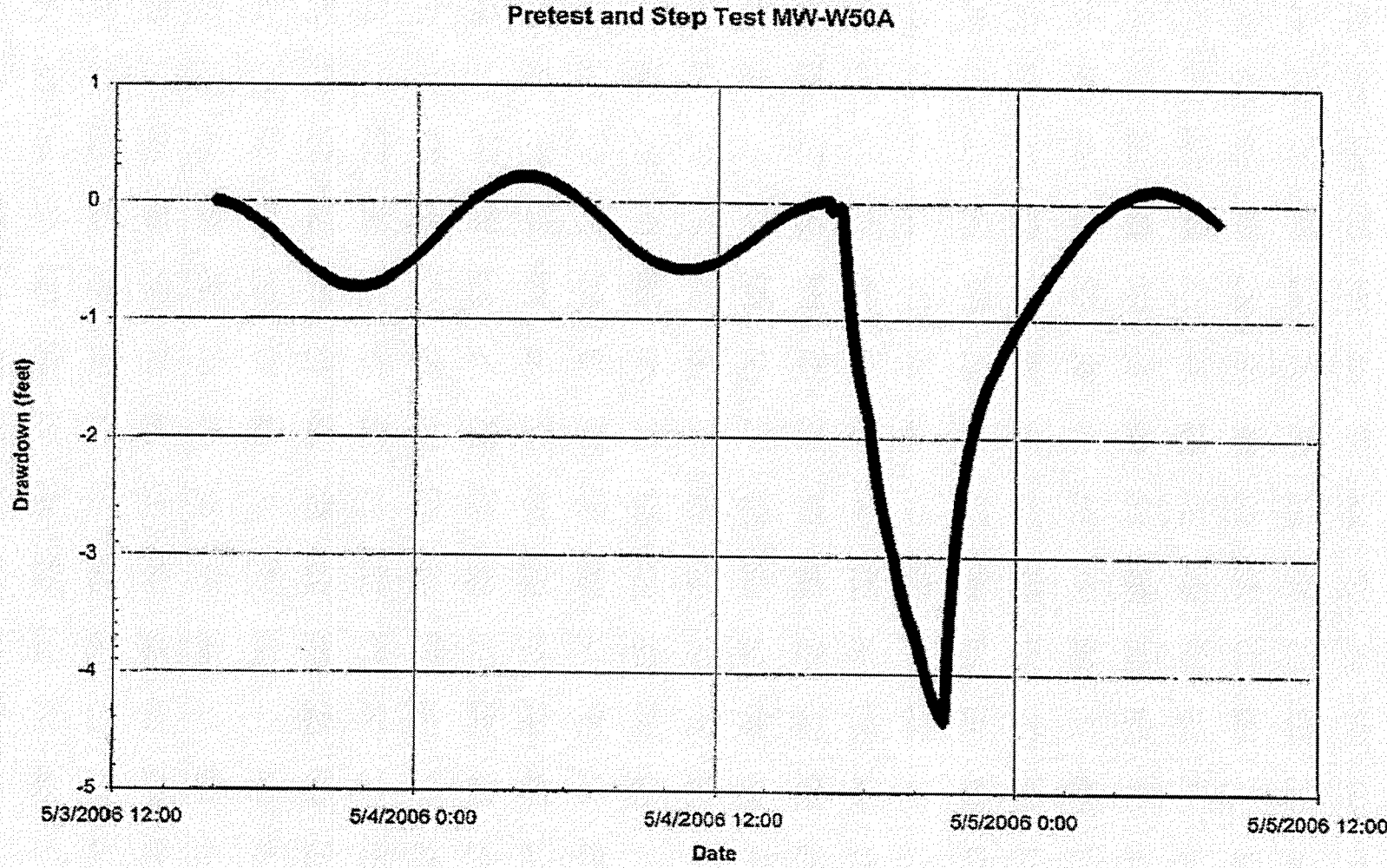
Pretest and Step Test MW-W50A
1
0
-1
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-5
Drawdown (feet)
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5/5/2006 12:00
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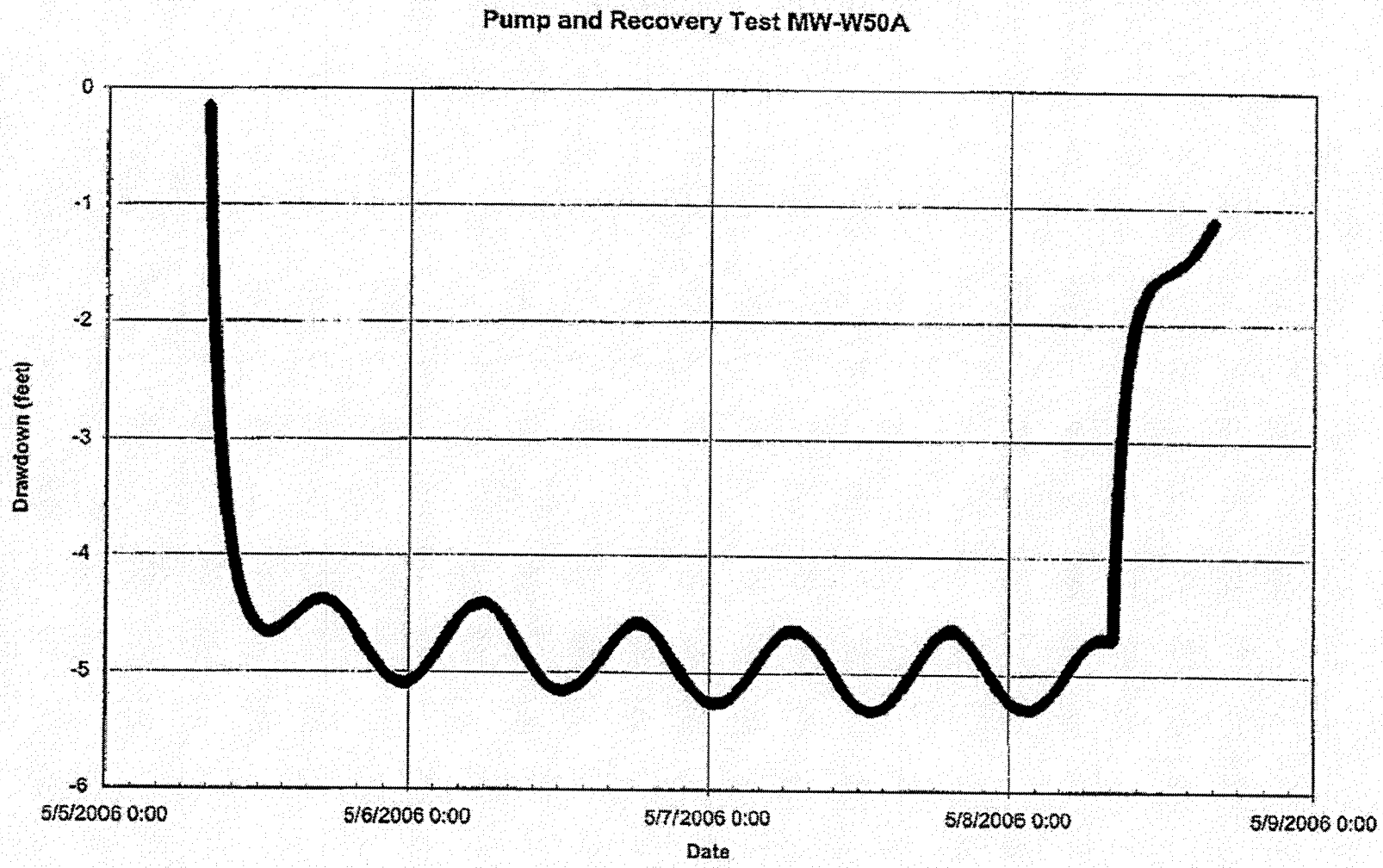
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-1
-2
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-4
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Drawdown (feet)
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5/7/2006 0:00
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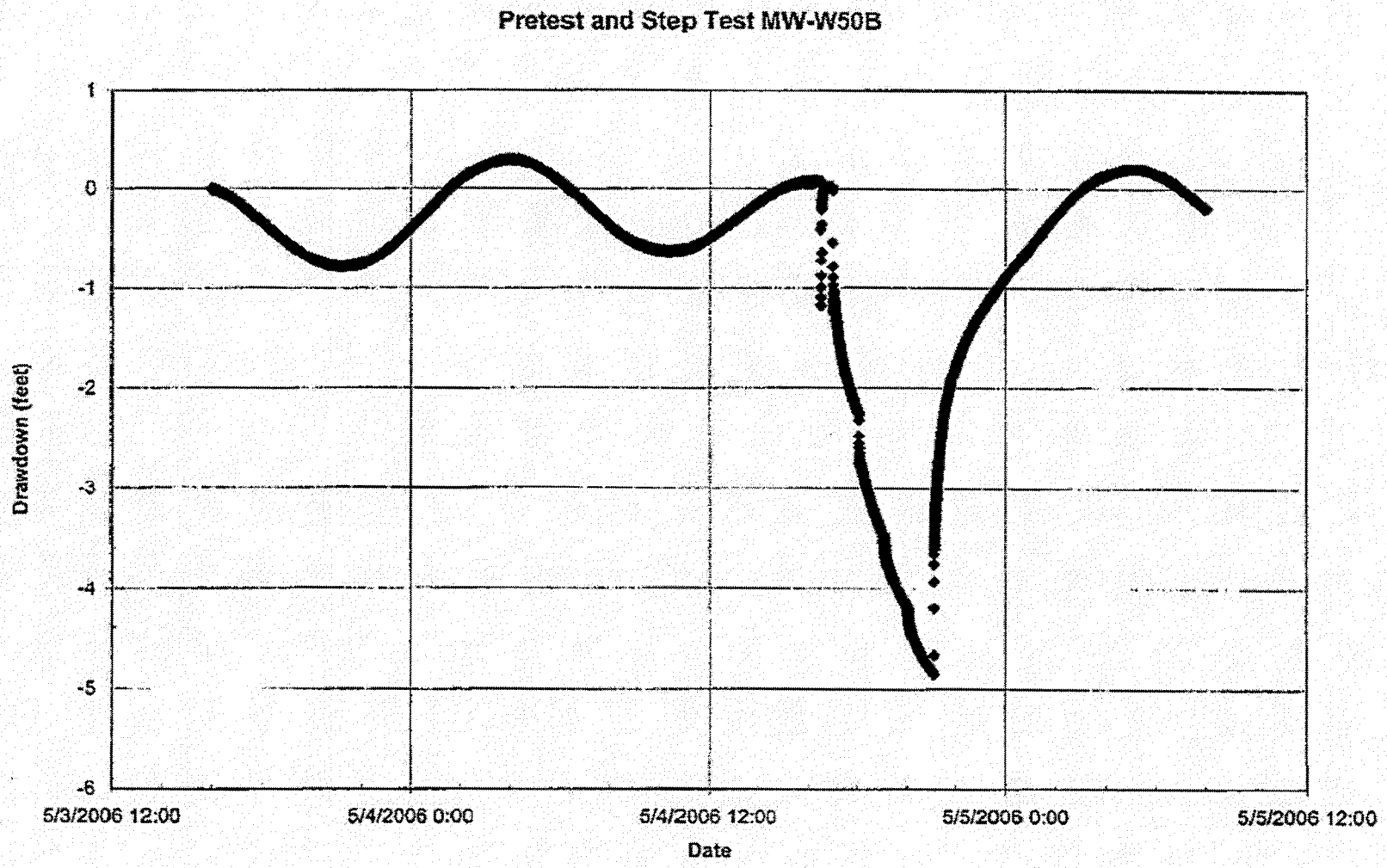
Date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0
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-2
-3
-4
-5
-6
Drawdown (feet)
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5/4/2006 0:00
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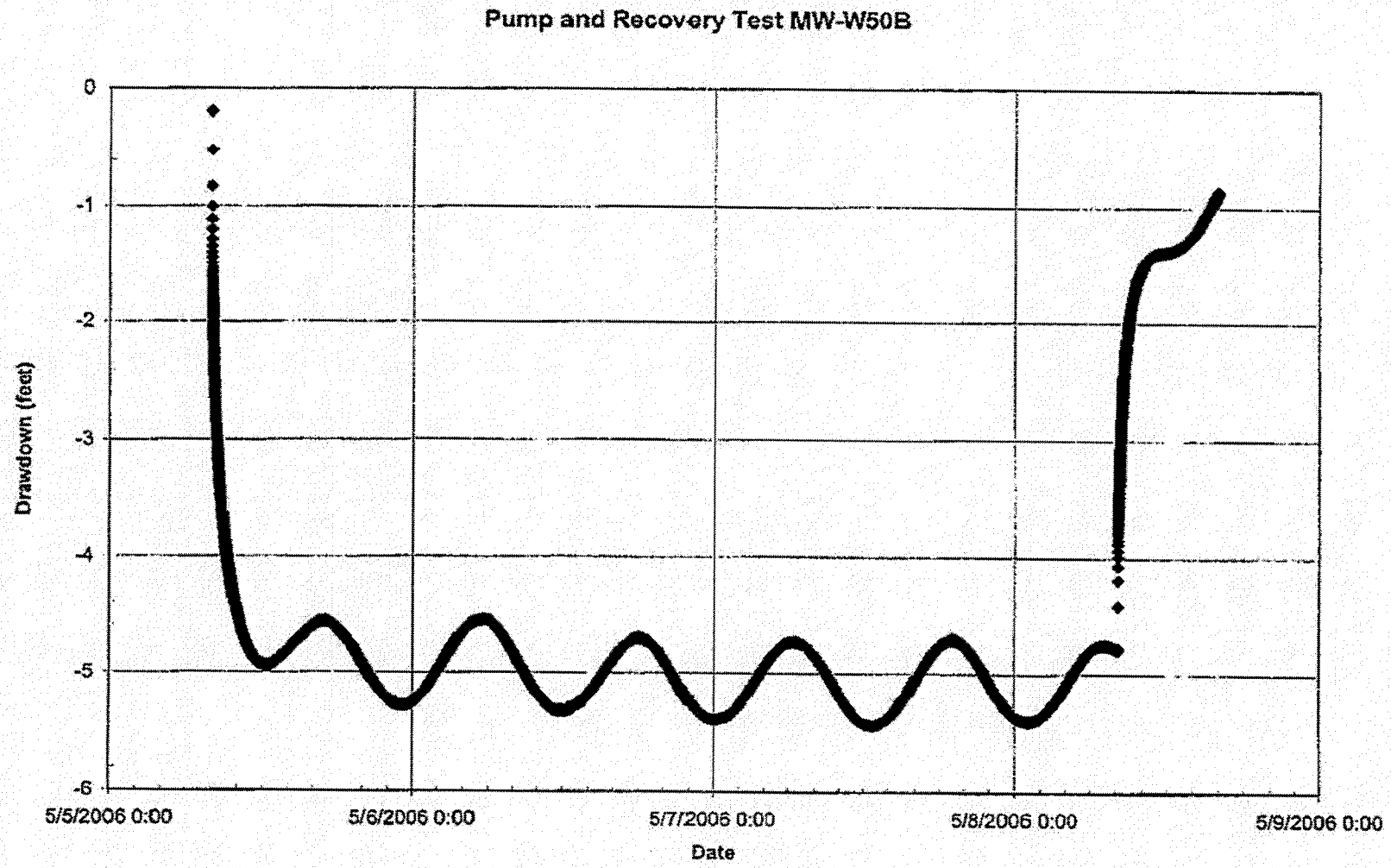
5/5/2006 0:00
5/5/2006 12:00
Date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-4
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-6
Drawdown (feet)
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5/7/2006 0:00
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5/9/2006 0:00
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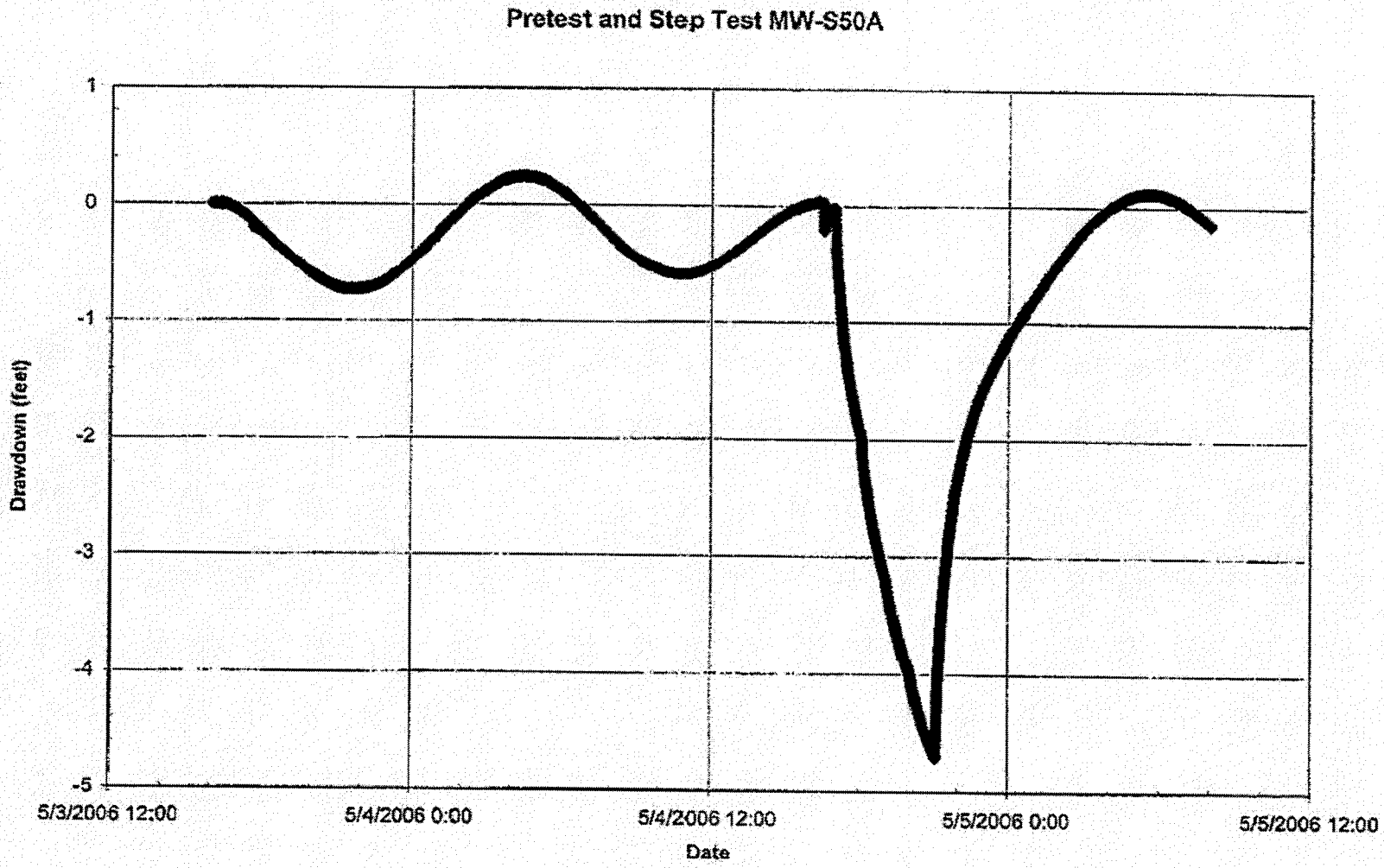
Pretest and Step Test MW-S50A
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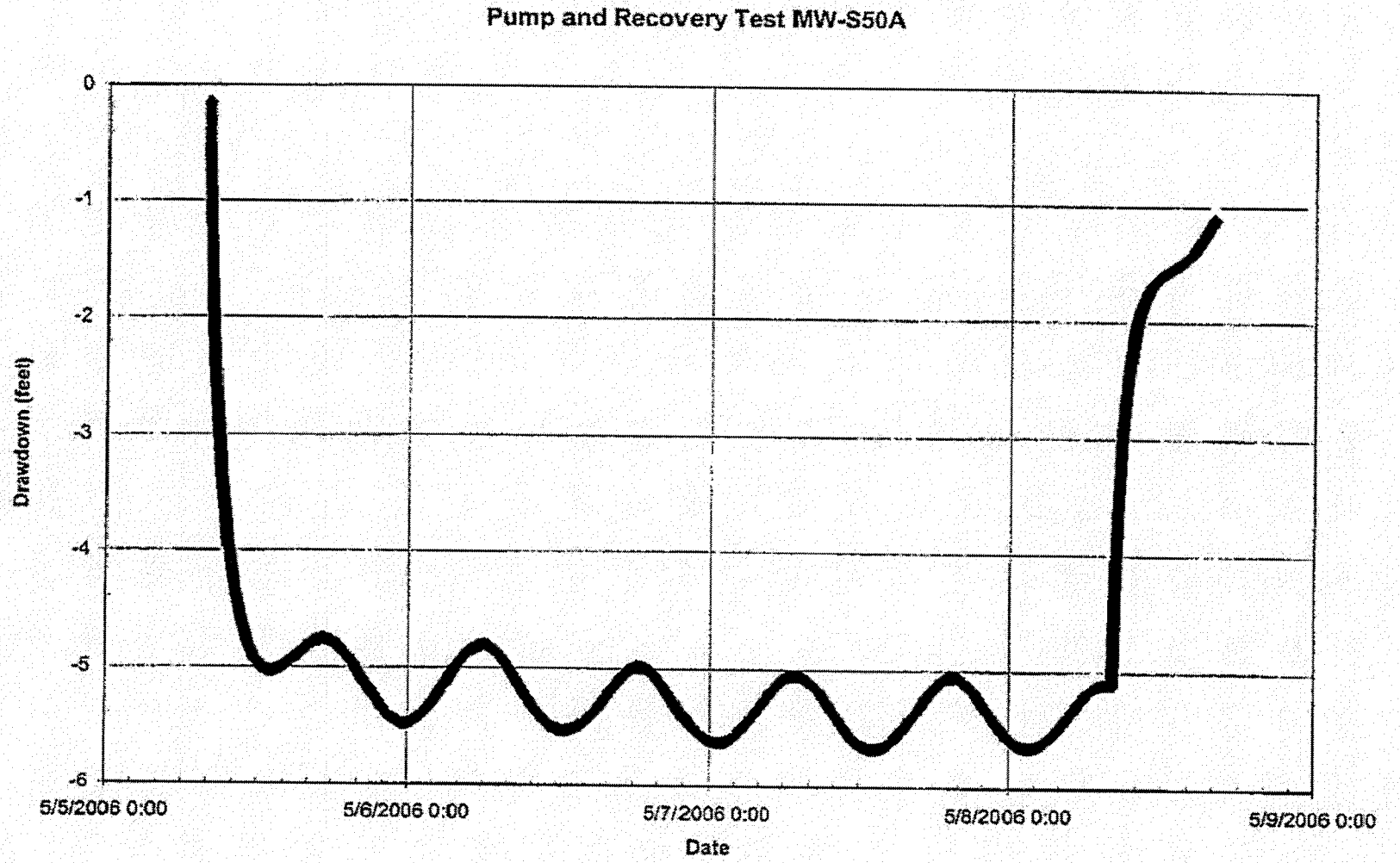
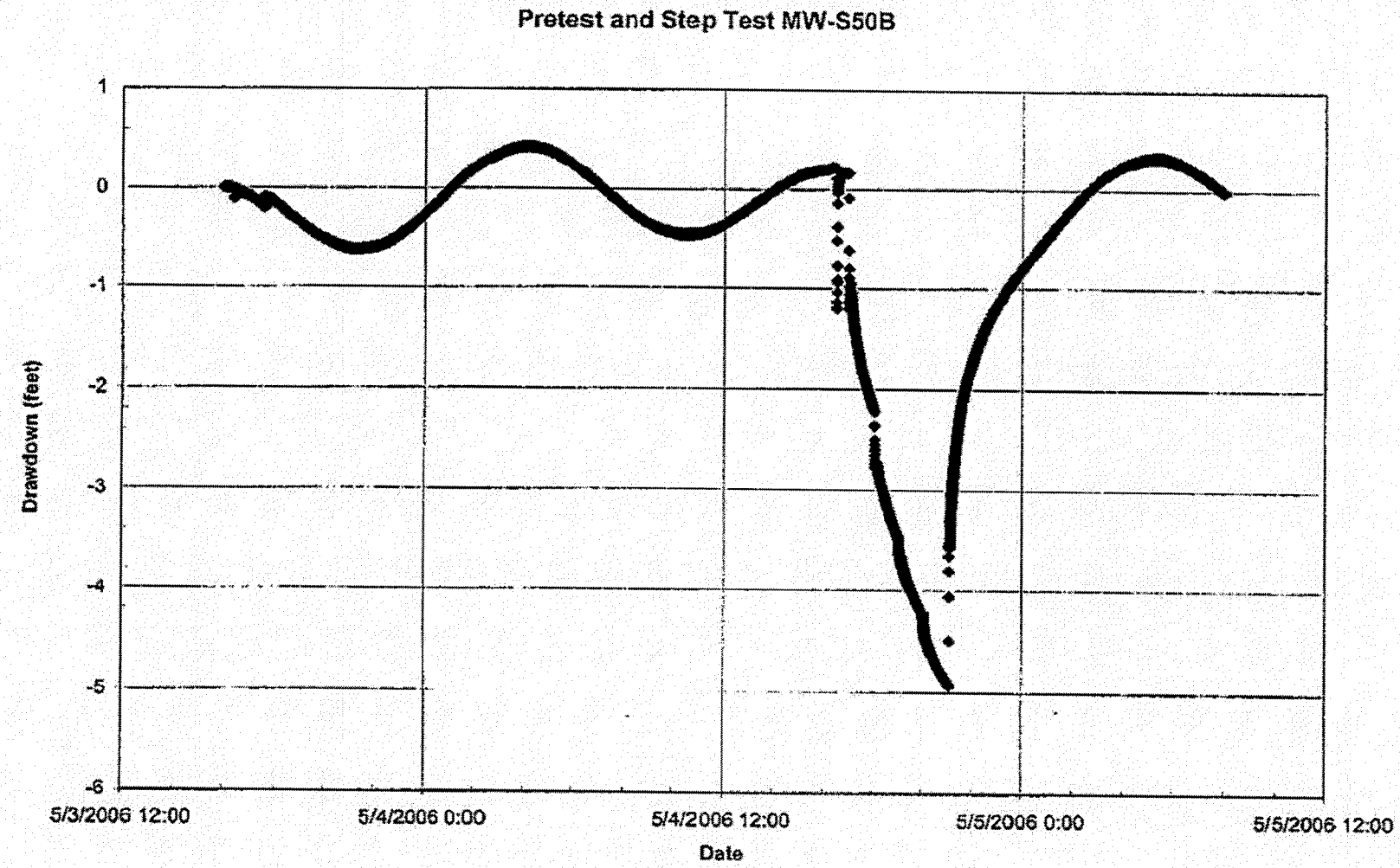
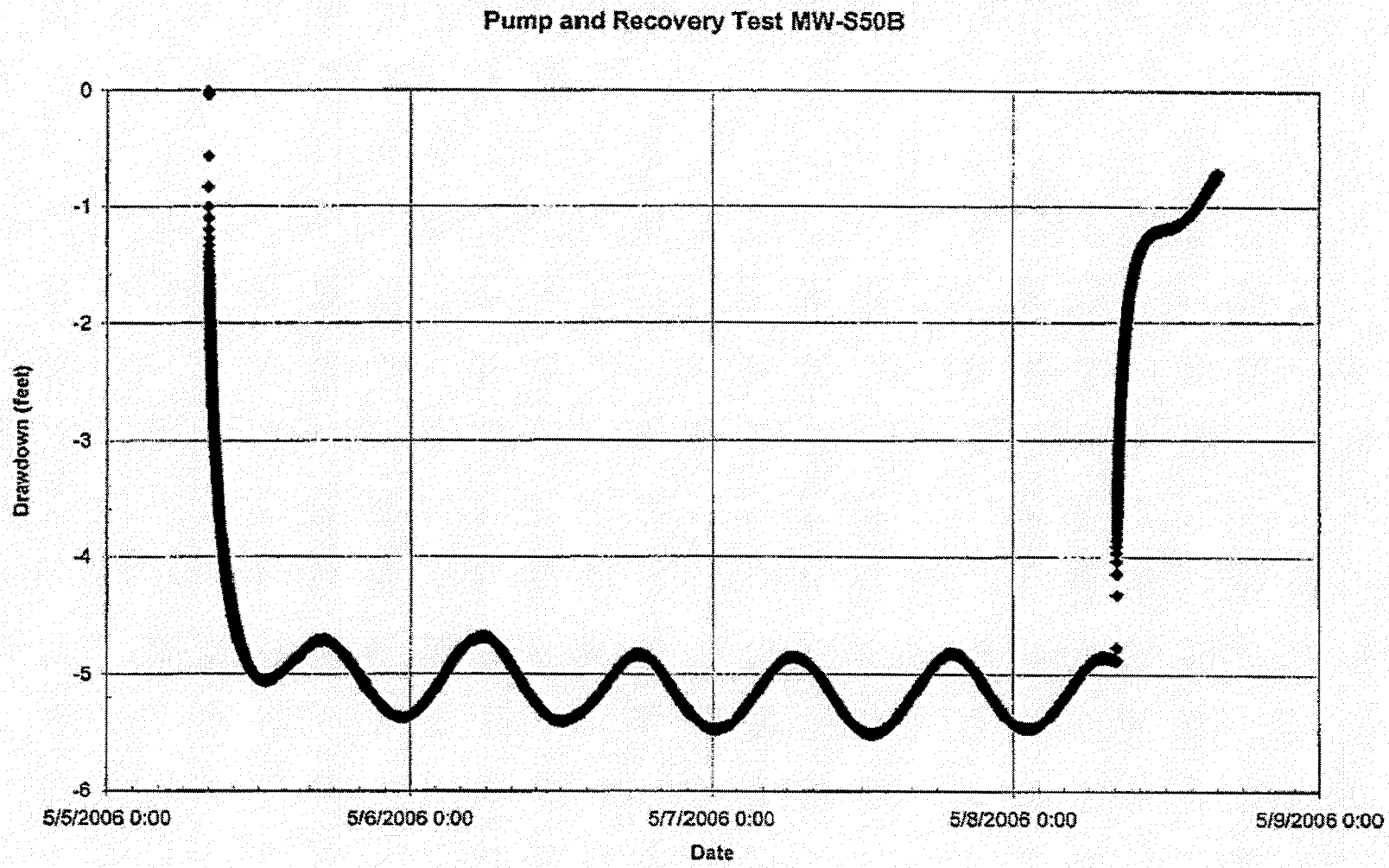
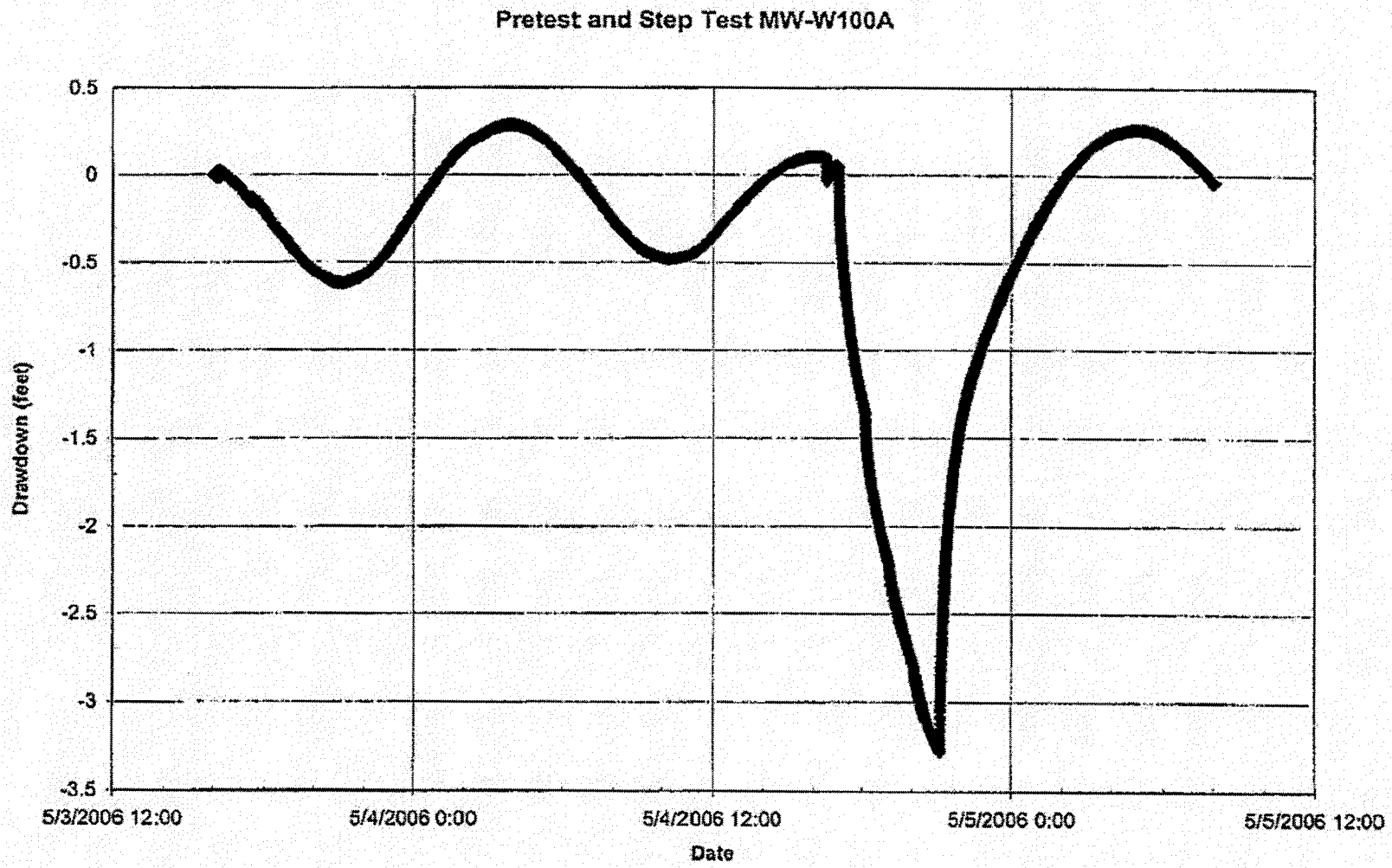
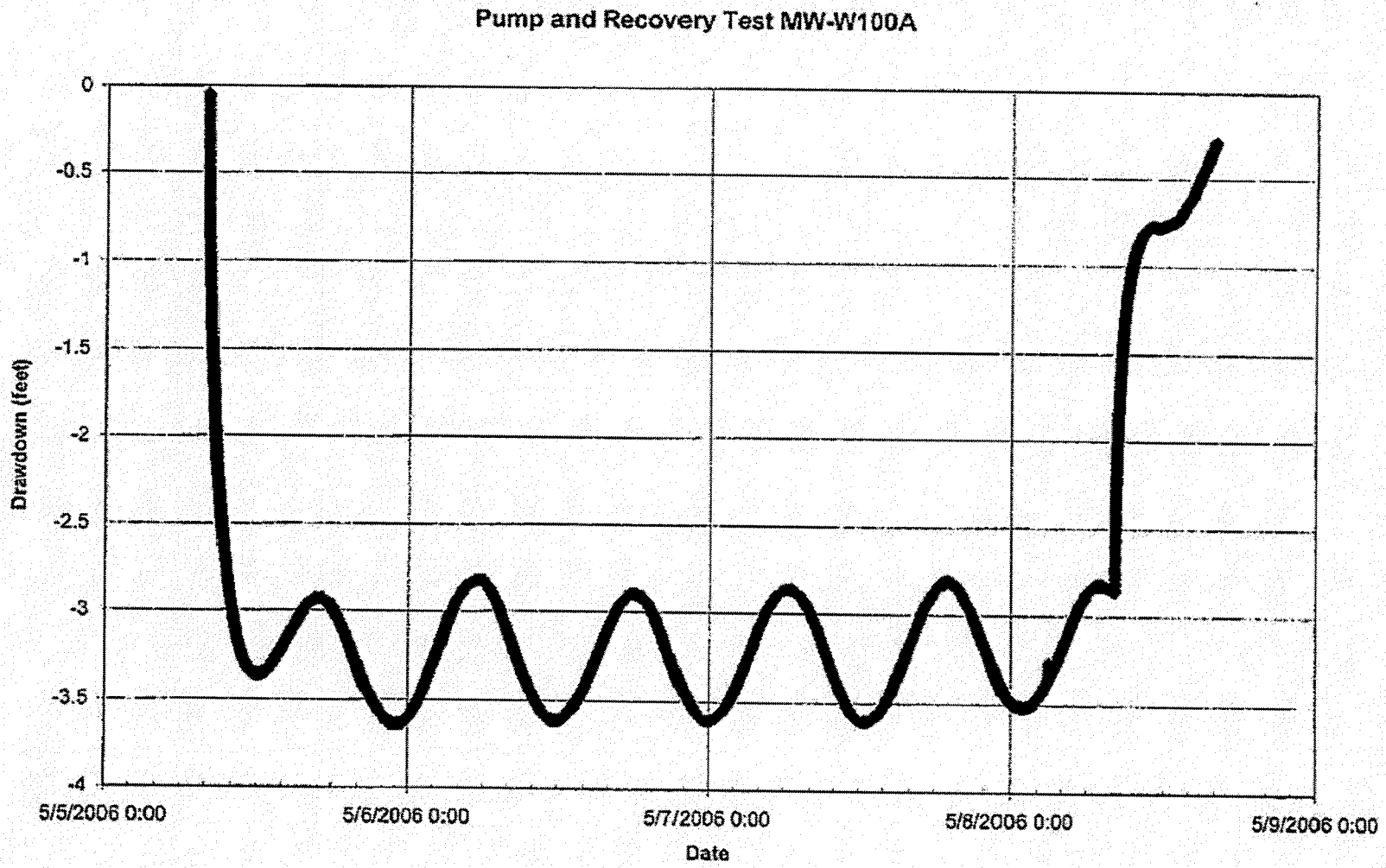
0
-1
-2
-3
-4
-5
Drawdown (feet)
5/3/2006 12:00
5/4/2006 0:00
5/4/2006 12:00
5/5/2006 0:00
5/5/2006 12:00
Date

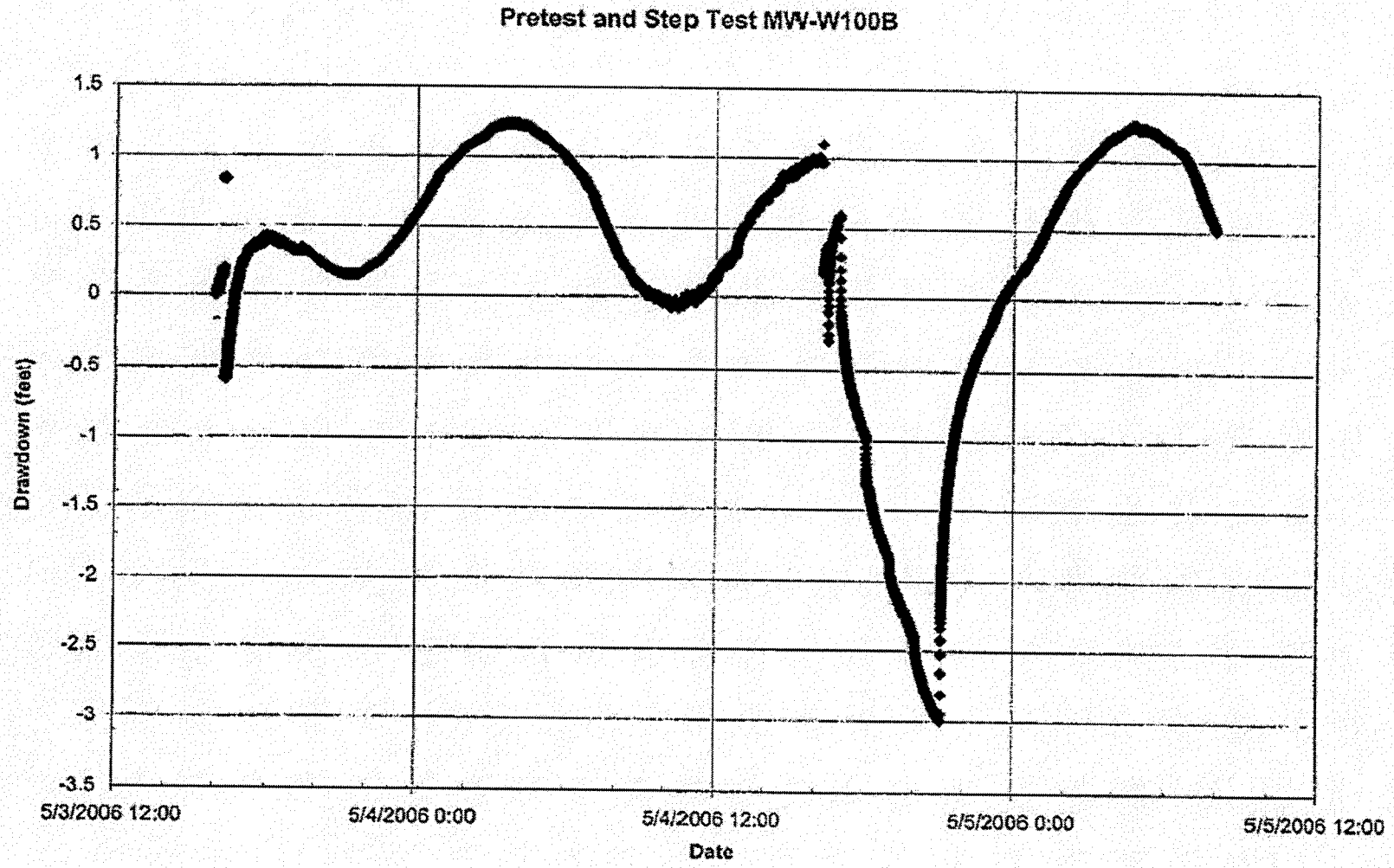

Pump and Recovery Test MW-S50A
0
-1
-2
-3
-4
-5
-6
Drawdown (feet)
5/5/2006 0:00
5/6/2006 0:00
5/7/2006 0:00
5/8/2006 0:00
5/9/2006 0:00
Date

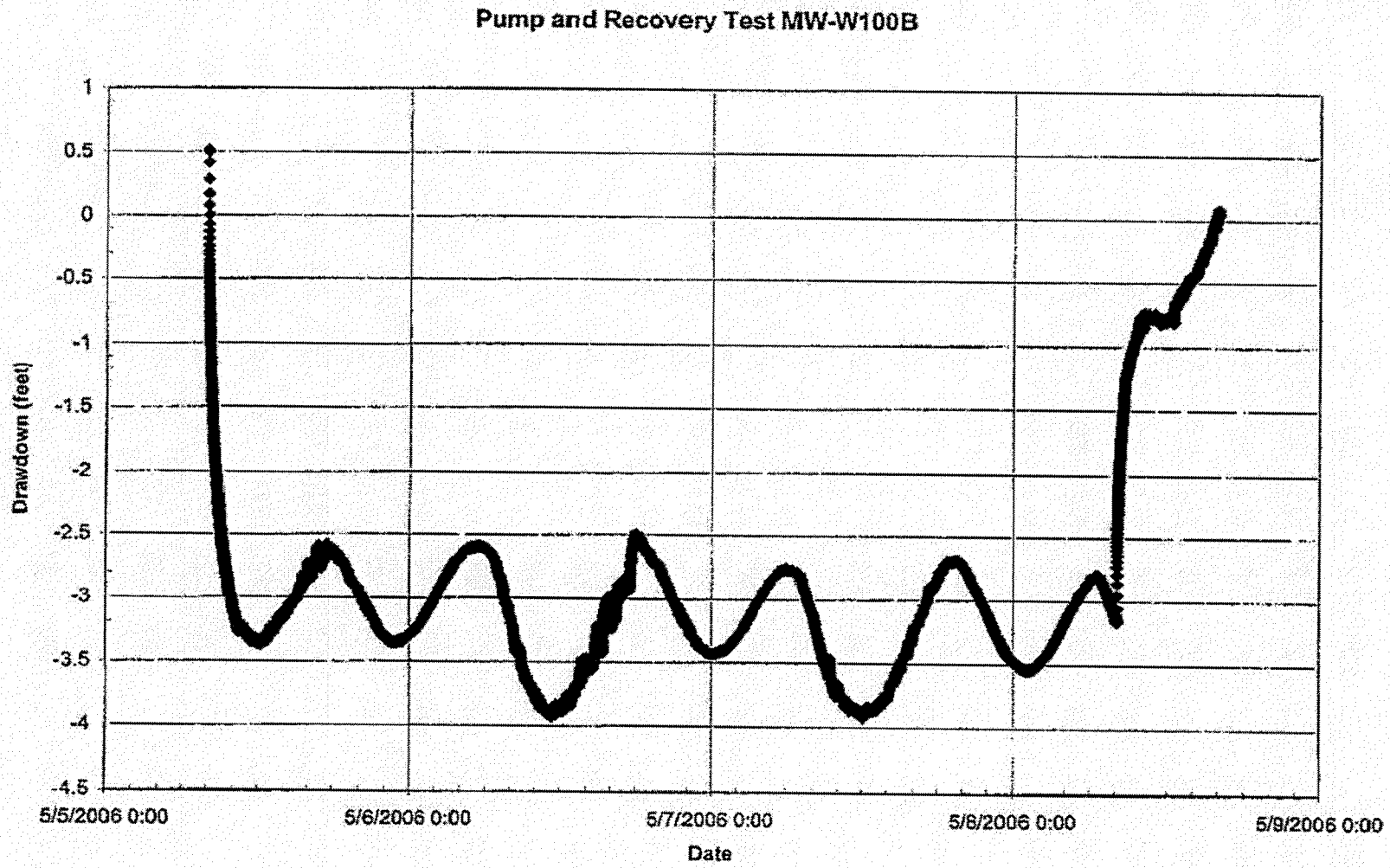

Pretest and Step Test MW-S50B
1
0
-1
-2
-3
-4
-5
-6
Drawdown (feet)
5/3/2006 12:00
5/4/2006 0:00
5/4/2006 12:00
5/5/2006 0:00
5/5/2006 12:00
Date


Pump and Recovery Test MW-S50B
0
-1
-2
-3
-4
-5
-6
Drawdown (feet)
5/5/2006 0:00
5/6/2006 0:00
5/7/2006 0:00
5/8/2006 0:00
5/9/2006 0:00
Date

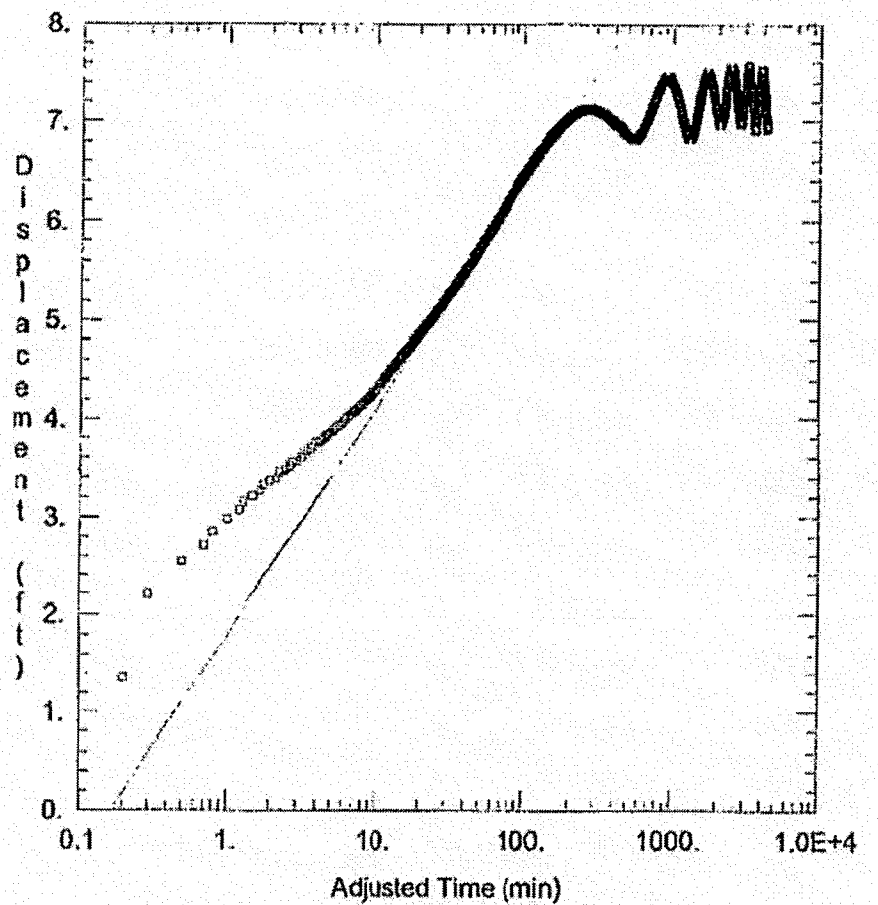

Pretest and Step Test MW-W100A
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
Drawdown (feet)
5/3/2006 12:00
5/4/2006 0:00
5/4/2006 12:00
5/5/2006 0:00
5/5/2006 12:00
Date


Pump and Recovery Test MW-W100A
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
-4
Drawdown (feet)
5/5/2006 0:00
5/6/2006 0:00
5/7/2006 0:00
5/8/2006 0:00
5/9/2006 0:00
Date


Pretest and Step Test MW-W100B
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
Drawdown (feet)
5/3/2006 12:00
5/4/2006 0:00
5/4/2006 12:00
5/5/2006 0:00
5/5/2006 12:00
Date


Pump and Recovery Test MW-W100B
Drawdown (feet)
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5
-4
-4.5
5/5/2006 0:00
5/6/2006 0:00
5/7/2006 0:00
5/8/2006 0:00
5/9/2006 0:00
Date

Appendix B



MW-N10B

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-N10B.aqt
Date: 05/15/06 Time: 10:02:08

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

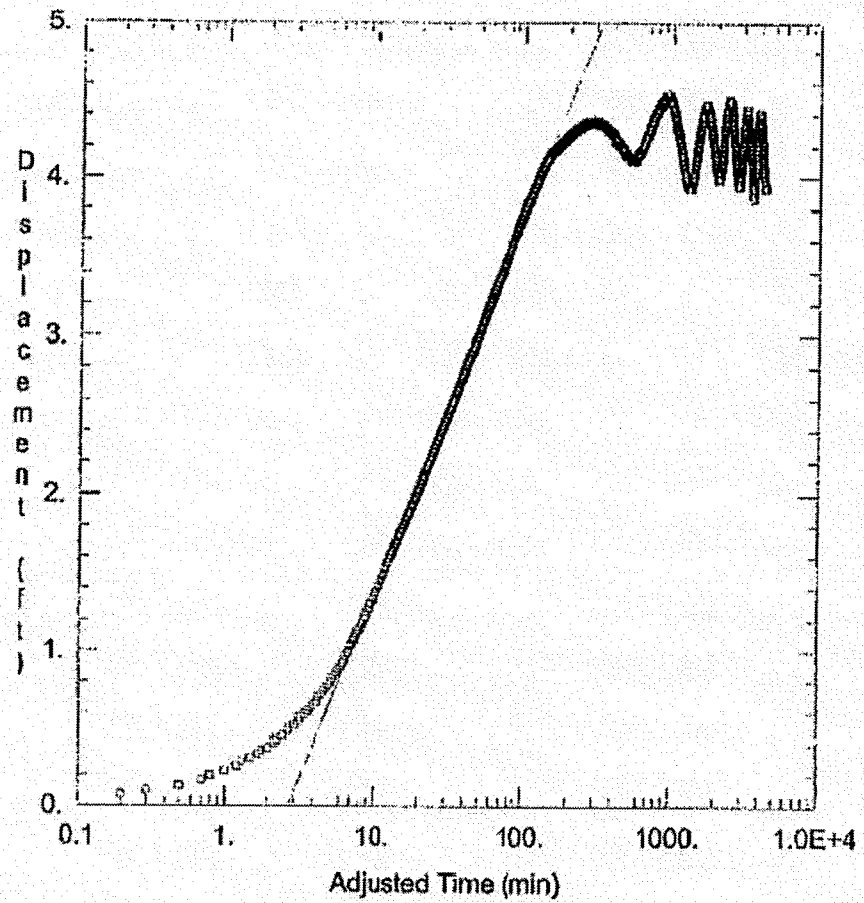
Observation Wells

Well Name	X (ft)	Y (ft)
MW-N10B	10	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

$T = 4600.\ ft^2/day$ S = 0.012



MW-N25A

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-N25A.aqt
Date: 05/15/06 Time: 09:48:39

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

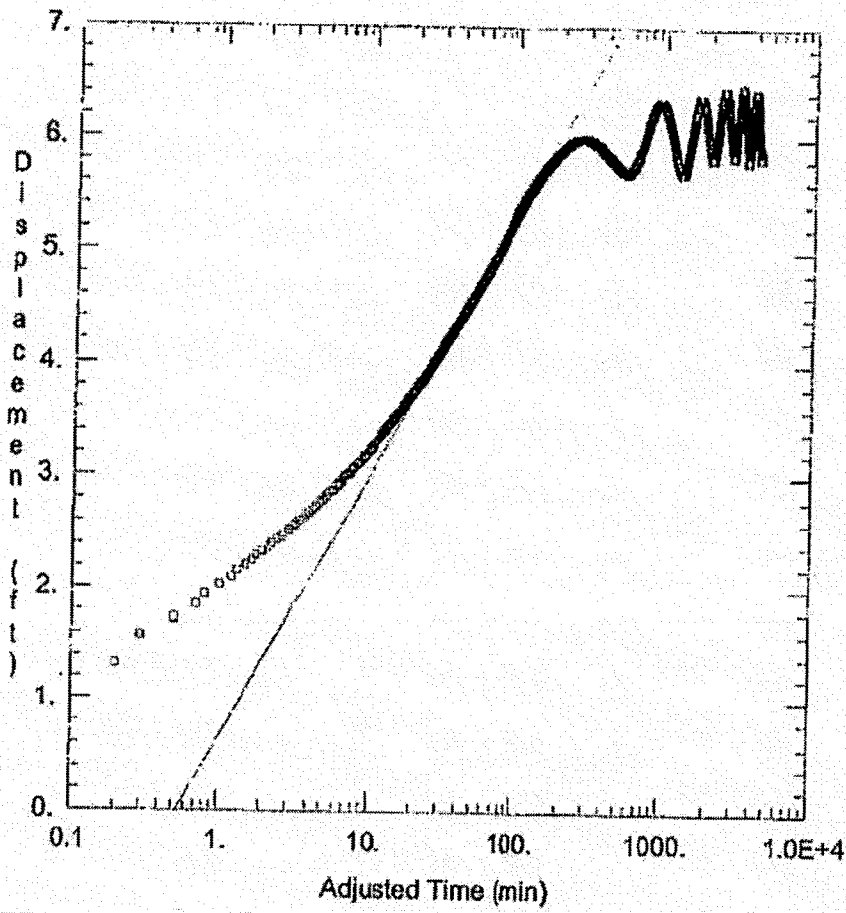
Observation Wells

Well Name	X (ft)	Y (ft)
MW-N25A	25	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 4400. ft^2/day S = 0.03



MW-N25B

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MWN25B.aqt
Date: 05/15/06 Time: 09:53:46

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

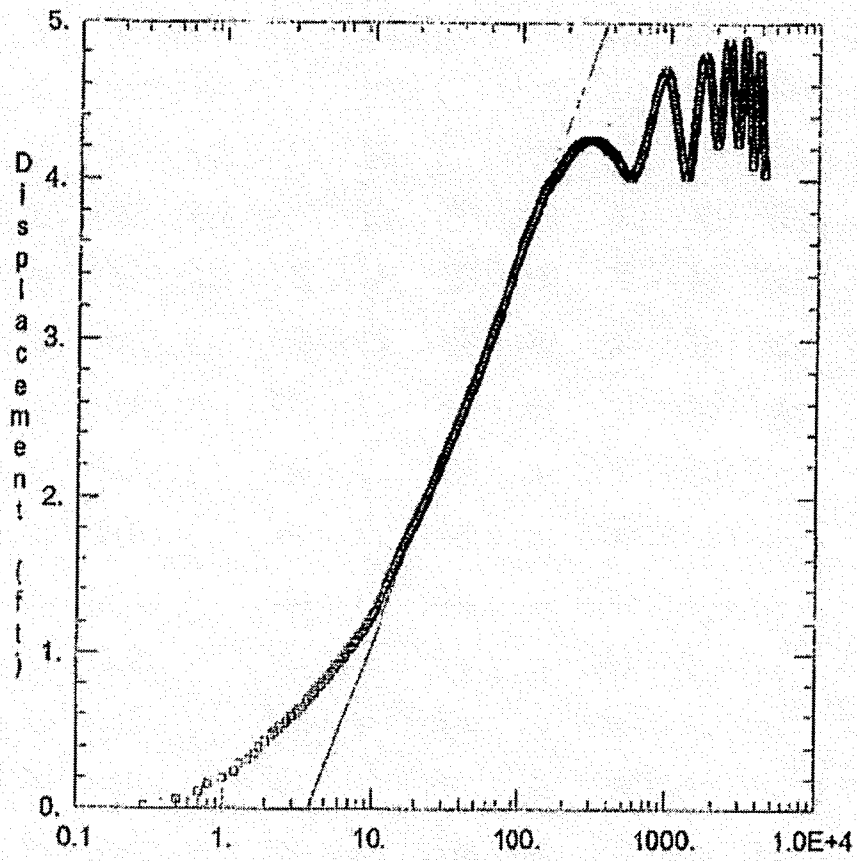
Observation Wells

Well Name	X (ft)	Y (ft)
MW-N25B	25	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 4500. ft^2/day S = 0.006



MW-N50A

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-N50A.aqt
Date: 05/15/06 Time: 10:01:27

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

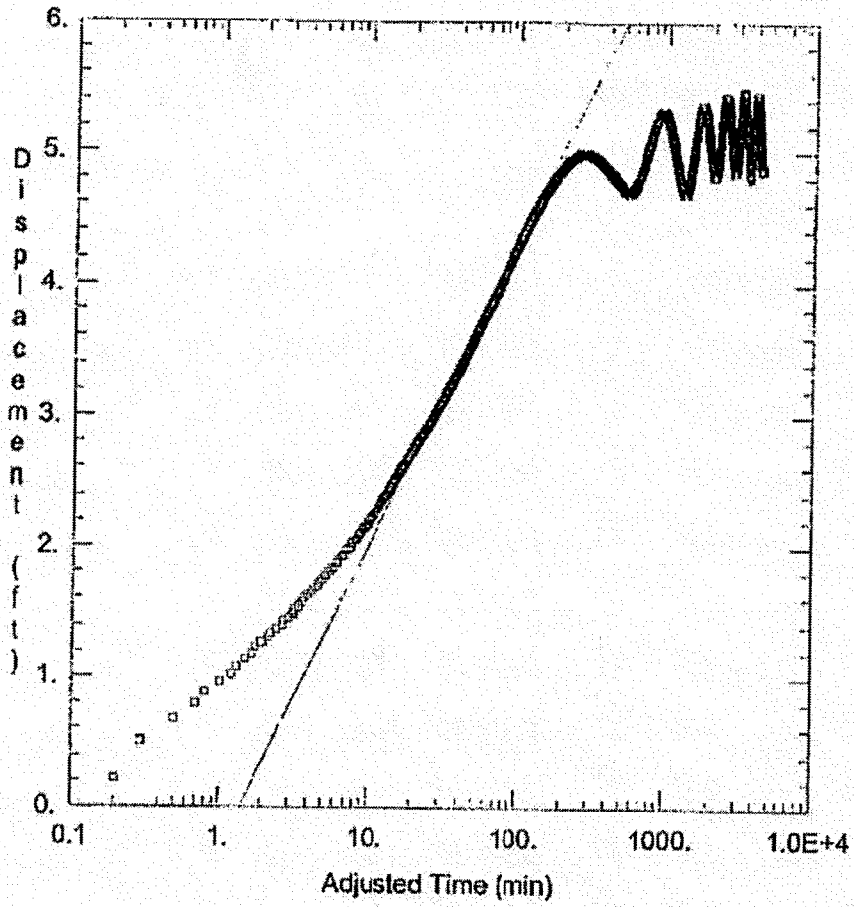
Observation Wells

Well Name	X (ft)	Y (ft)
MW-N50A	50	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 4200. ft^2/day S = 0.01



MW-N50B

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-N50B.aqt
Date: 05/15/06 Time: 10:08:36

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

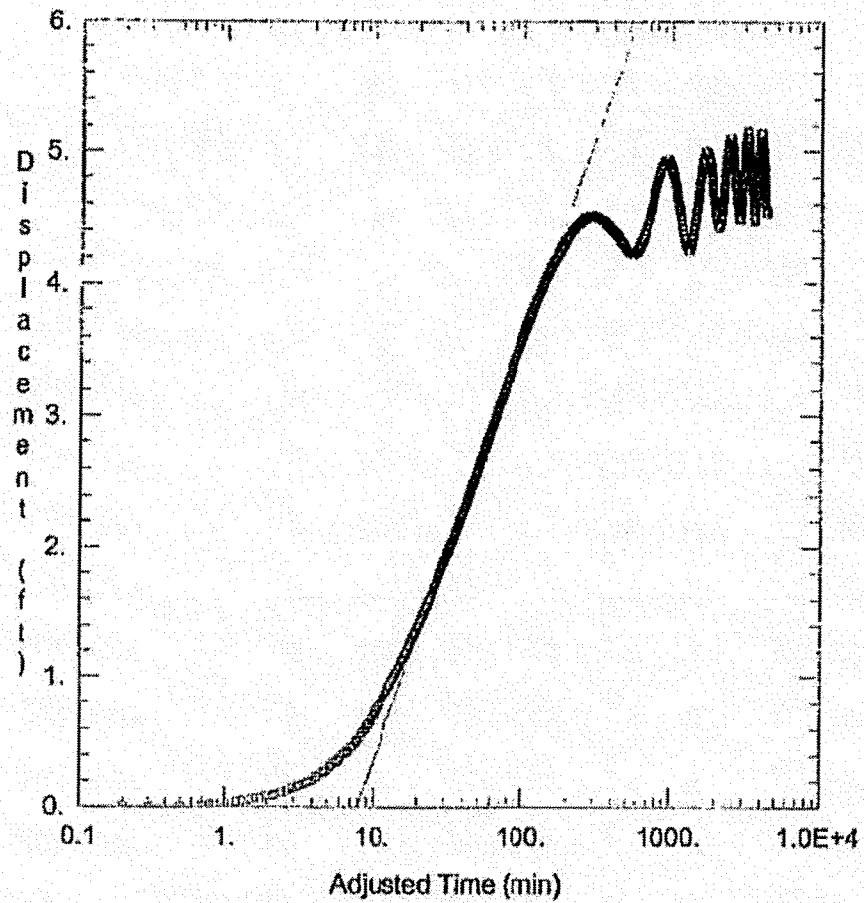
Observation Wells

Well Name	X (ft)	Y (ft)
MW-N50B	50	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 4500. ft^2/day S = 0.004



MW-W50A

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-W50A.aqt
Date: 05/15/06 Time: 10:13:53

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

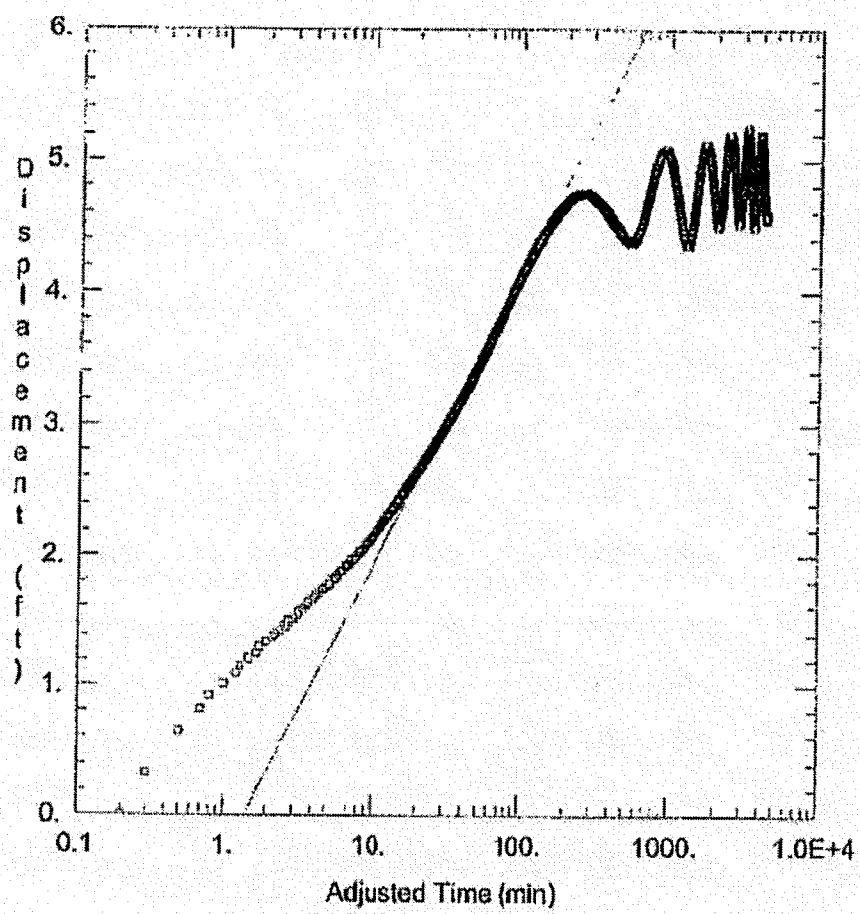
Observation Wells

Well Name	X (ft)	Y (ft)
MW-W50A	50	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 3300. ft^2/day S = 0.016



MW-W50B

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-W50B.aqt
Date: 05/15/06 Time: 10:20:15

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

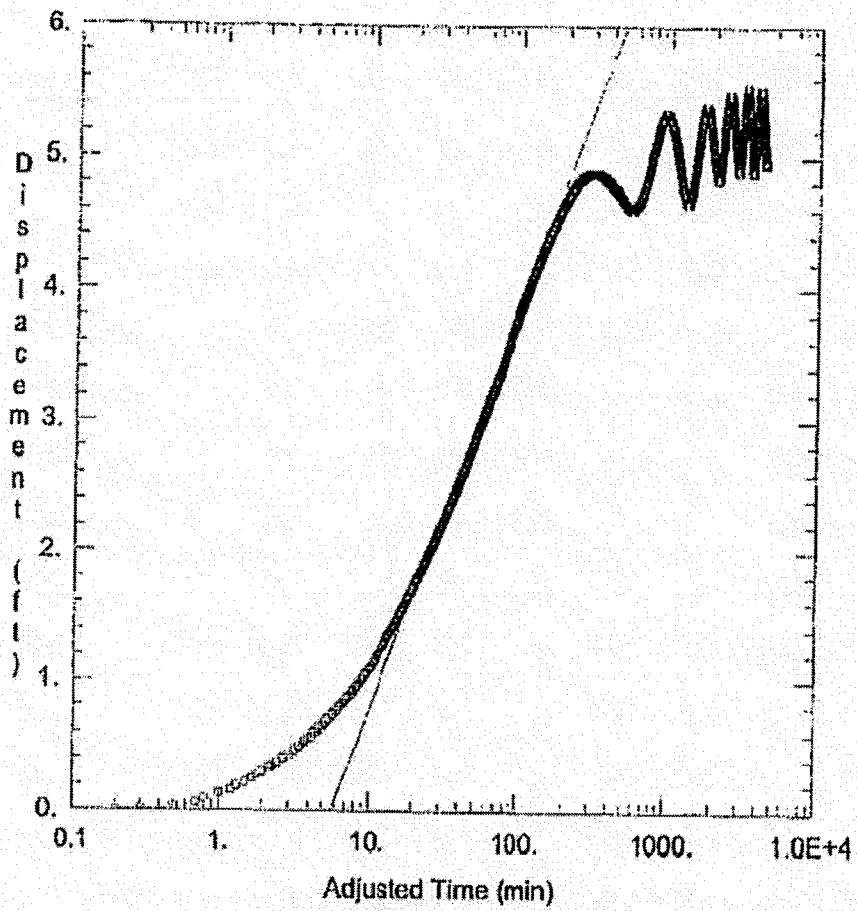
Well Name	X (ft)	Y (ft)
PW 1	0	0

Observation Wells

Well Name	X (ft)	Y (ft)
MW-W50B	50	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob
T = 4700. ft^2/day S = 0.0042



MW-S50A

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-S50A.aqt
Date: 05/15/06 Time: 10:24:39

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

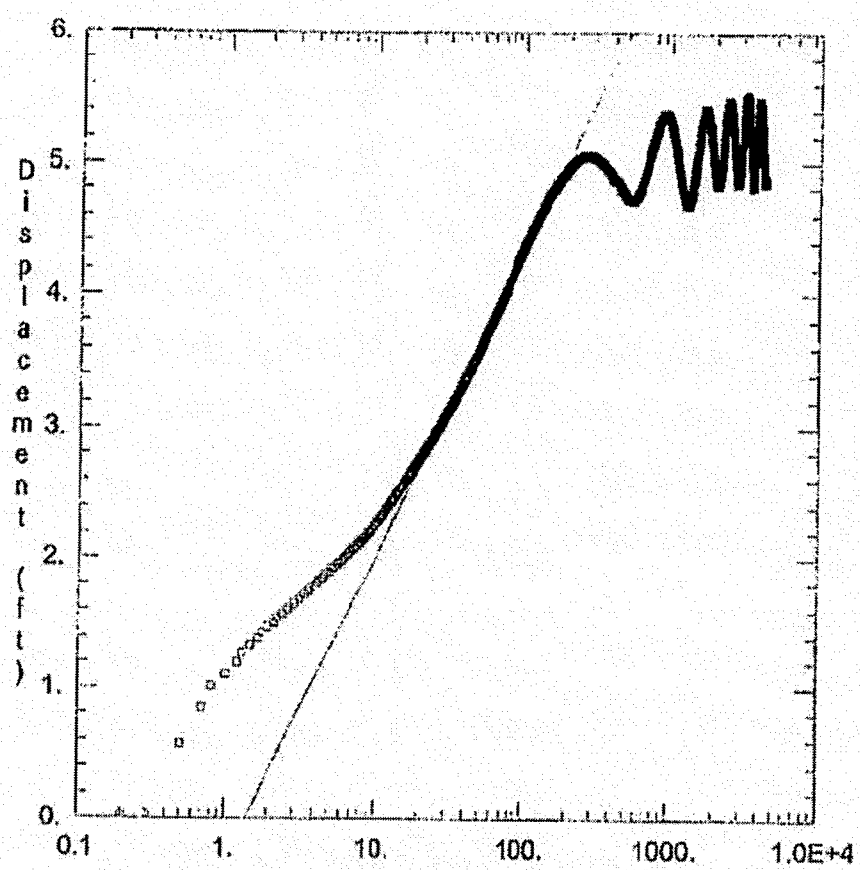
Observation Wells

Well Name	X (ft)	Y (ft)
MW-S50A	50	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

$T = 3400.\ ft^2/day$ $S = 0.012$



MW-S50B

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-S50B.aqt
Date: 05/15/06 Time: 10:32:15

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

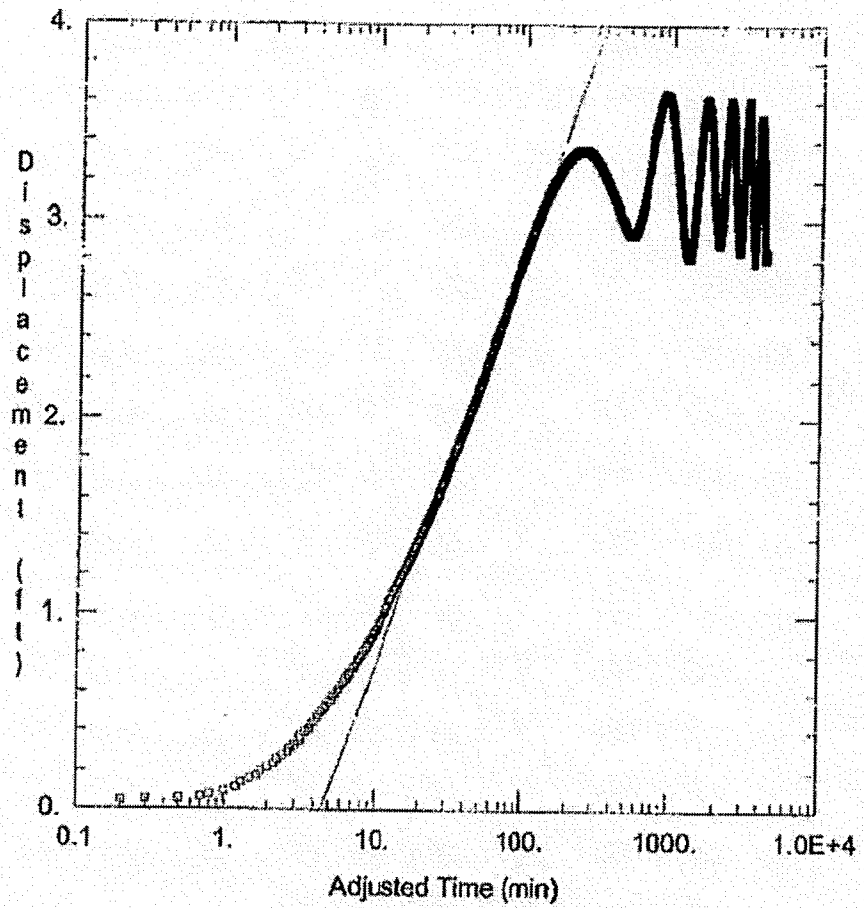
Observation Wells

Well Name	X (ft)	Y (ft)
MW-S50B	50	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 4500. ft^2/day S = 0.004



MW-W100A

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-W100A.aqt
Date: 05/15/06 Time: 10:35:40

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

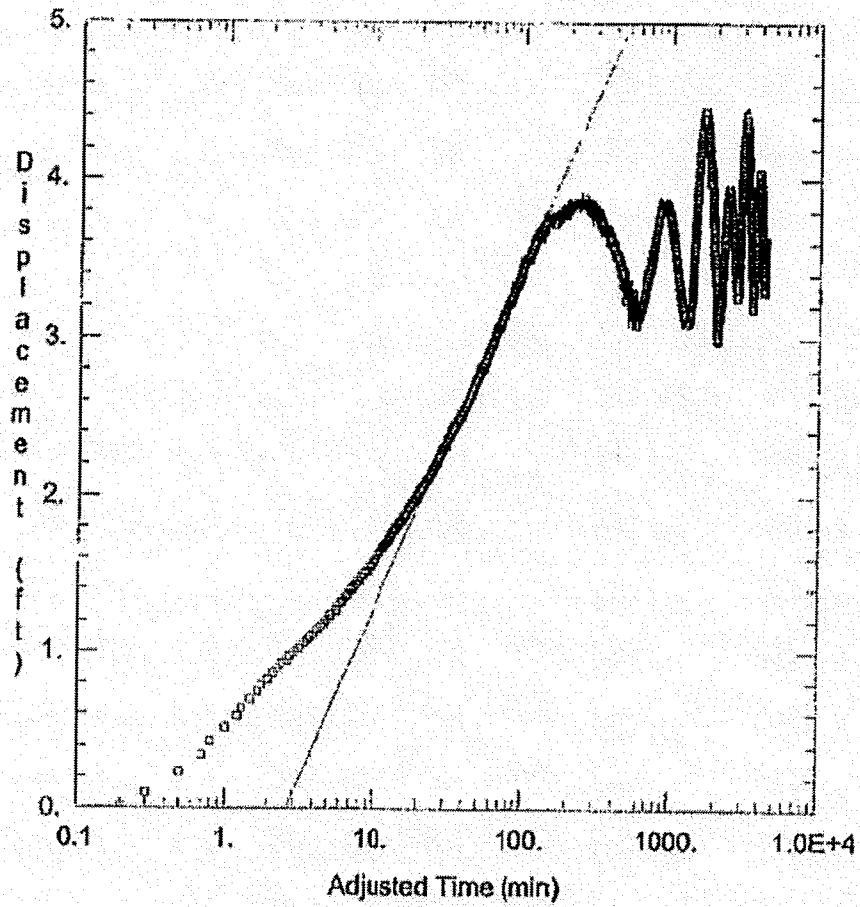
Observation Wells

Well Name	X (ft)	Y (ft)
MW-W100A	100	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 5000. ft^2/day S = 0.0035



MW-W100B

Data Set: J:\ENV\43301.4\pumptest\aqtesolvresults\MW-W100B.aqt
Date: 05/15/06 Time: 10:39:10

PROJECT INFORMATION

Company: GZA
Client: Florida P and L
Project: 43301.4
Location: St. Lucie
Test Well: PW-1
Test Date: 5/5/06

AQUIFER DATA

Saturated Thickness: 50. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
PW 1	0	0

Observation Wells

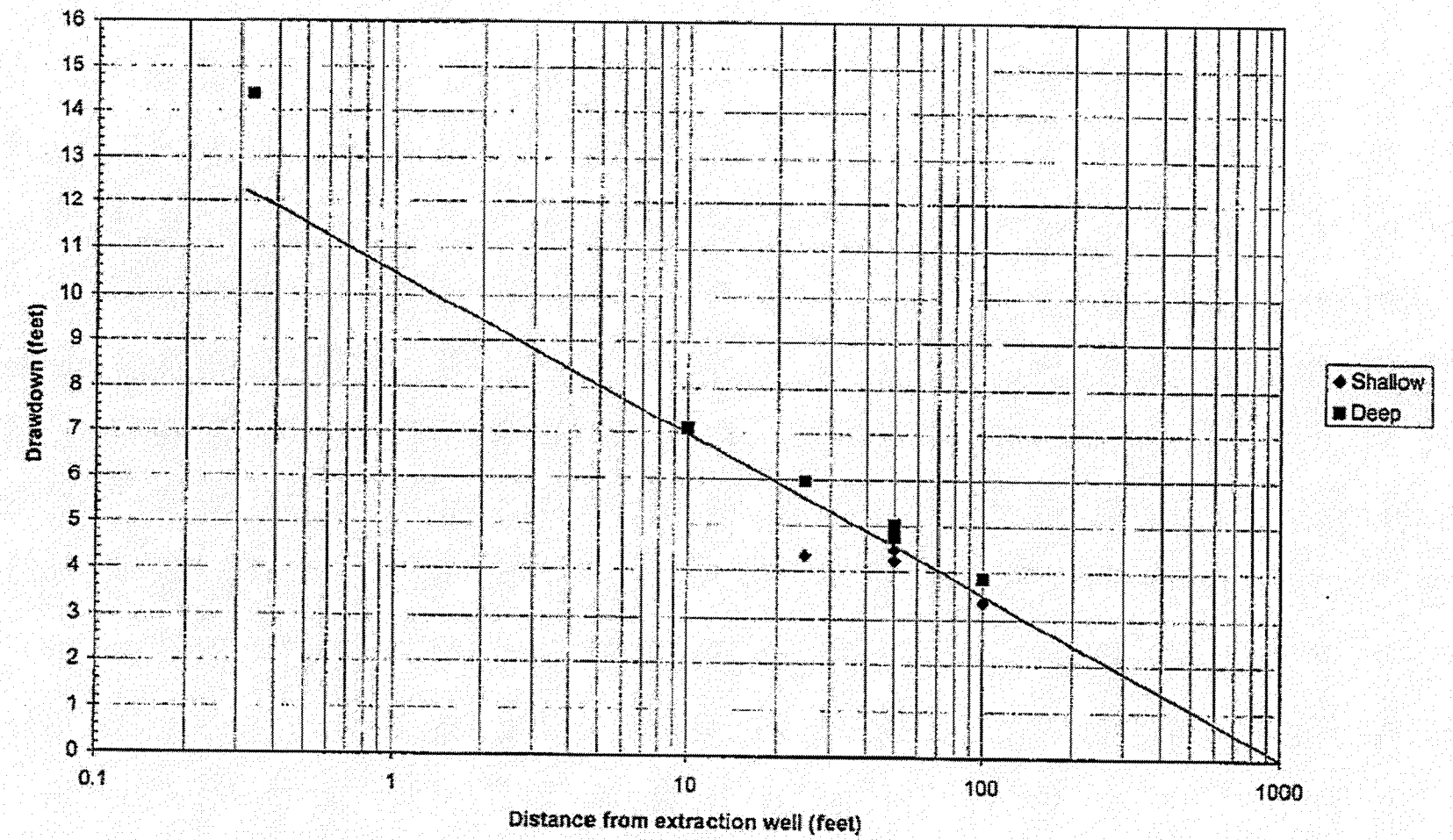
Well Name	X (ft)	Y (ft)
MW-W100B	100	0

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 4800. ft^2/day S = 0.002

Distance versus Drawdown after 4 hours of pumping



$T = \frac{528\,Q}{\Delta s} = \frac{528\,(300\ gpm)}{3.5\ ft} = 45{,}260\ gpd/ft$

$= \boxed{6{,}000\ ft^2/day}$

$S = \frac{0.3\,T t_o}{r^2} = \frac{0.3\,(45{,}260\ gpd/ft)\,0.17 days}{(1{,}000\ Ft)^2} = 0.002$