Pump Test
New York State Department of Health
Wadsworth Center for Laboratories and Research
New Scotland Avenue (Site # 401031)
Albany, New York

December 13, 1991

Prepared by:
ERM-Northeast
501 New Karner Road
Suite 7
Albany, New York 12205

TABLE OF CONTENTS

1.0 INTRODUCTION

This document presents the goals, approach, procedures of implementation, findings, and evaluation of results for a pump test performed at the Wadsworth Center for Laboratories and Research (WCLR) site on New Scotland Avenue in Albany, New York. This document is intended as an appendix to the Draft Feasibility Study (FS) previously presented to the New York State Department of Health (NYSDOH) and the New York State Department of Environmental Conservation (NYSDEC). The pump test studies described herein were performed by ERM-Northeast, Inc. (ERM) under contract to the NYSDOH.

The purpose of the pump test was to evaluate whether a groundwater collection and treatment system proposed as part of the recommended remedial alternative in the FS can be successfully implemented. Specific objectives of the pump test were to obtain information on groundwater withdrawal rates and the area influenced by the withdrawal, and recovery rates. Activities performed to meet these objectives included the installation and development of a recovery well, conducting a simple step-drawdown pump test to evaluate the potential yield of the recovery well, conducting a constant rate pump test (and recovery test) to evaluate groundwater system hydraulic characteristics and, possibly, to detect boundary conditions. The objectives were met by ERM through performance of these field activities at the WCLR site and analysis of the data generated.

2.0 BACKGROUND

Previous work on the WCLR site performed by ERM for the NYSDOH include two phases of remedial investigation (RI) work and preparation of a draft feasibility study (FS). The 1990 (Phase I) Remedial Investigation Report (ERM, March 4, 1991) and the (1991) Phase II Remedial Investigation Report (ERM, June 21, 1991) documented that contamination present in the soil and shallow groundwater within a small disposal area (referred to as "the pit") is dominated by volatile organic compounds and that soil and groundwater contamination extends beyond the property boundary. The Draft Feasibility Study (ERM, August 22, 1991) provided a comprehensive and systematic evaluation of remedial alternatives that culminated in the selection of the most appropriate approach for addressing the soil and groundwater contamination. For detailed background information, the reader is referred to the three aforementioned reports.

The Draft FS identified a preferred remedial approach (Alternative #4) on the basis of diverse evaluation criteria. Alternative #4 consists of a ground water collection and treatment effort, coupled with a clay-soil cap to prevent infiltration, deed restrictions, access restrictions, and a monitoring program.

On October 2, 1991 comments on the Draft FS were received by the NYSDOH from the NYSDEC. Comment No. 2a of the FS portion of NYSDEC's comments required that a pump test be performed before FS approval to determine if groundwater collection could be implemented at the site. The Draft FS proposed utilization of monitoring well MW-4S, which is located downgradient of the disposal "pit" on Christian Brothers Academy (CBA) property, as a recovery well. The NYSDEC recommended that, if MW-4S did not have adequate capacity, a new recovery well should be placed on the NYSDOH WCLR property. On October 4, 1991, ERM presented the NYSDOH with two alternatives for the required pump test; 1) using existing 2-inch diameter well MW-4S, or; 2) installing a 4-inch diameter recovery

well on NYSDOH WCLR property. The 4-inch recovery well alternative was chosen by NYSDOH.

3.0 FIELD WORK

Based on discussions between the NYSDOH, the NYSDEC, and ERM, a letter presenting the implementation plans for the pump test was delivered to the NYSDEC on November 12, 1991. Verbal approval to proceed with the plan was given by the NYSDEC on November 12, 1991.

3.1 Recovery Well Installation

Recovery well RW-1 was installed on November 13, 1991 by Aquifer Drilling and Testing (ADT) of Albany, New York under the supervision of an ERM geologist. The location of RW-1 and existing monitoring wells and piezometers is shown on Figure 3-1. A construction diagram for RW-1 is presented in Figure 3-2.

The borehole for RW-1 was advanced to a depth of approximately 31 feet using 6.625-inch inside diameter/11.5-inch outside diameter hollow-stem augers. Soil samples were not collected during drilling; however, auger cuttings were visually observed and described in the field notebook. Soil cuttings are described as various fill materials in the top few feet overlying silty clay with occasional sand lenses to 31 feet. Soils were moist or very moist above 14 feet and all very moist below 14 feet. Geologic cross sections are presented in Figures 3-3, 3-4, and 3-5.

The breathing zone of field workers was monitored with an HNu photoionization detector during drilling to determine appropriate levels of respiratory protection, based on the guidelines in the previous NYSDOH Work Plan (ERM, September, 1990). Volatile organic vapors were not detected in the breathing zone; however, elevated concentrations (up to 180 ppm on the HNu) were measured at the top of the borehole.

Upon completion of the boring, approximately one foot of grade 0 sandpack was emplaced prior to well installation. The well was constructed of a 25-foot length of 8-slot, 4-inch diameter PVC set from 5 to 30 feet below grade, and affixed to an 8-foot length of riser pipe, which extends approximately three feet above grade. The grade 0 sandpack was installed around the well screen to approximately one foot above the top of the screen as the augers were incrementally withdrawn. A two-foot thick bentonite pellet seal was installed above the sandpack. A cement cap was placed in the remaining two feet of annular space and was mounded slightly above ground level. A locking protective steel casing was installed in the cement, with the top of the steel casing approximately two inches above the top of the PVC riser pipe (Figure 3-2).

3.2 Recovery Well Development

On November 15, 1991 recovery well RW-1 was developed to improve the hydraulic connection between the well and the surrounding formation. The well was developed by surging and bailing with a Waterra pump system and dedicated one-half inch polyethylene tubing, with a Delrin foot valve. Development proceeded by repeatedly surging and pumping the well and allowing it to partially recharge. Over the course of four and a half hours, five such development cycles were completed, removing a total of 100 gallons (approximately 6.5 well volumes) from the well and evacuating it to near dryness.

3.3 Pump Tests

3.3.1 Step Test

A Grundfos Redi-flo2 submersible pump was installed in RW-1 at a depth of approximately 27-28 feet below ground surface (30-31 feet below top of PVC riser). An appropriate power supply and a backup generator were set up at the well. The Redi-

flo2 is a 1.8-inch diameter, stainless steel pump which is designed to provide flow rates of 9 gallons per minute (gpm) to as little 0.25 gpm. Flow rates are controlled by an amperage dial on the converter box.

A step-drawdown pumping test was conducted on November 19, 1991. Stepped pumping rates of 0.25, 0.5, and 1.0 gpm were attempted. During the step-drawndown test, the discharge rate was continuously measured during pumping to maintain constant discharge rates for each step. To maintain the constant discharge, it was necessary to continually adjust the power supply from the converter box to the submersible pump during pumping. The step-drawdown test indicated that the discharge step of 0.25 gpm (and less) did not sufficiently draw-down water levels in RW-1 and that a discharge step of 1.0 gpm would dewater RW-1 within a few minutes. A pumping rate of 0.5 gpm was selected for the constant rate pump test.

3.3.2 Constant Rate Test

The constant rate pump test was conducted on November 21, 1991. Water levels were measured in all wells prior to initiation of pumping. Recovery well RW-1 was pumped at 0.5 gpm for one hour and 44 minutes. The discharge rate was continuously measured throughout the test using one gallon plastic jugs with quart markings and the converter box control was adjusted to maintain a constant rate of discharge. Discharge was contained on site during the test.

Pressure transducers were placed in wells RW-1, MW-4M, and MW-5M and connected to an Enviro-Labs DL-120 Data Logger to record the water levels in those wells. Water levels in all other wells were measured periodically using an electric water level meter or a steel measuring tape and a plunker. Due to the large water level fluctuation in well RW-1 during the test, manual readings were also taken in that well

for portions of the test in which water levels were beyond the measurement range of the transducer. All water level measurements were recorded to the nearest 0.01 foot relative to fixed measuring points at the tops of casings.

The pump was shut down when the water level in the recovery well was drawn down to near the pump intake level. At the end of the pump test, the water level recovery (residual drawdown) was recorded in the affected wells for 3 1/2 hours after pumping stopped and for all wells approximately 24 hours later. The recovery data was recorded in a similar manner as for drawdown.

Data tables of time-drawdown and recovery data are included in Appendix A. Graphical representations of drawdown and recovery data for affected wells are included in Appendix B.

Pumping of well RW-1 for 104 minutes at a rate of 0.5 gpm removed approximately 50 gallons of water from the well, or about 3 well water volumes. Drawdown in RW-1 began immediately upon initiation of pumping and continued at a steady rate until the conclusion of the test. Thus, a large portion of the water removed was water taken from storage of the well and surrounding sandpack. Monitoring well MW-4M was the only other well which responded significantly during the test. Drawdown in MW-4M began 20 seconds into the test and also continued at a steady rate throughout the test. Wells MW-4S, MW-7S, and MW-8S showed limited amounts of drawdown, 0.05, 0.08, and 0.06 feet, respectively. All other wells exhibited no drawdown during the test.

5/8", 1", 3/4"

4.0 ANALYTICAL PROCEDURES

The drawdown and recovery data from the two wells significantly affected by pumping (RW-1 and MW-4M) were plotted on linear and semi-logarithmic graphs (Appendix B). The resulting plots were then visually inspected to determine the appropriate analytical method or methods. The Chow Method (Chow, 1952 and Kruseman and DeRidder, 1979) was the only method deemed appropriate for calculation of formational parameters of transmissivity (T) and storativity (S). Transmissivity (ft^2/day) is the rate at which groundwater flows through a unit width of an aquifer (or aquitard) under a unit hydraulic gradient, and storativity (dimensionless) represents the volume of water released from an aquifer (or aquitard) for a given surface area under a unit drawdown.

The Chow Method is applicable for calculations of transmissivity and storativity in either confined or unconfined aquifers that do not reach steady-state flow conditions. The method involves selection of an arbitrary point on the semi-logarithmic time-drawdown graph for a well and drawing a tangent line to that point. The information obtained from the tangent point and the slope of the tangent line is used in the Chow Method to calculate transmissivity and storativity.

It should be noted that, while assumptions upon which the Chow Method is based are not completely satisfied in this test, this method is more appropriate than other analytical methods. Other methods typically used in pump test analysis can not be applied because the drawdown in the pumping well RW-1 continued at a steady rate throughout the duration of the test. The Chow Method was only applied to data from well RW-1 to calculate transmissivity and only applied to data from MW-4M to calculate transmissivity and storativity. Transmissivity could not be calculated for data from other wells due to very limited amounts of drawdown.

5.0 SUMMARY OF FINDINGS

Pumping of well RW-1 for 104 minutes at a rate of 0.5 gpm removed approximately 50 gallons of water from the well, or about 3 well water volumes. Drawdown in RW-1 began immediately upon initiation of pumping and continued at a steady rate until the conclusion of the test. Thus, a large portion of the water removed was water taken from storage of the well and surrounding sandpack. Monitoring well MW-4M was the only other well which responded significantly during the test. Drawdown in MW-4M began 20 seconds into the test and also continued at a steady rate throughout the test. Wells MW-4S, MW-7S, and MW-8S showed limited amounts of drawdown, 0.05, 0.08, and 0.06 feet, respectively. All other wells exhibited no drawdown during the test.

The response of MW-4M to pumping in RW-1 indicates a direct connection exists between these wells. Samples of soil collected from MW-4D, located adjacent to MW-4M, indicate the presence of occasional lenses of fine sand within the silt and clay formation below a depth of 26 feet. Although soil samples were not collected from RW-1, it appears likely that sand lenses may extend laterally from the lower few feet of MW-4M to the lower few feet of RW-1, a distance of about 20 feet, as shown on cross-section A-A' (Figure 3-4). The lack of response in other wells which are screened at similar depths to RW-1 and MW-4M (e.g., MW-1M, MW-2M, MW-3M and MW-8M) suggests that the apparent sand lens or lenses may be laterally discontinuous.

When the pump was turned off at the conclusion of the pump test, RW-1 began to recover immediately. Recovery in MW-4M was delayed by about 2 minutes. After 3 1/2 hours of recovery, RW-1 water levels had recovered by about 75% and MW-4M had recovered by about 60%. Both wells had nearly fully recovered by the following morning, about 24 hours after conclusion of the test.

Chow Method calculations yielded transmissivity values of 6.9 ft^2/day and 18.9 ft^2/day from RW-1 and MW-4M data, respectively. These values are representative of the sand lenses, not the entire screened portion of the formation. They indicate that the silty clay formation is not an aquifer; rather it is an aquitard. If sand lenses were not present, it is likely that transmissivity values would be much lower. A storativity value of 0.00013 was determined for data from MW-4M. This value is typical of a confined aquifer. Sand lenses near the base of MW-4M and RW-1 would act as a poor confined aquifer.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Pumping of RW-1 yielded about 50 gallons of water in less than two hours. This pumping caused a significant degree of drawdown in the well (over 20 feet), nearly dewatering the well completely. Based on the rate of recovery of RW-1 (about 75% of drawdown at 3 1/2 hours after pumping ceased), it does not appear that RW-1 will yield, on a sustained basis, much more than 100 gallons per day (gpd). A sustained yield of 200 gpd appears unrealistic. The pump test basically effected a drawdown only in monitoring well MW-4M. This effect appears to be the result of sand lenses which extend from RW-1 to MW-4M near the bottom of these two wells (i.e., approximately 30 feet below ground surface). Thus, the yield of RW-1 during the pump test can nearly all be attributed to removal of water from storage in the casing and sandpack of RW-1 and MW-4M and to drainage of the sand lenses at depth.

Ground water sampling conducted during the remedial investigation has shown that the highest levels of groundwater contamination by volatile organic compounds (VOCs) are in the shallow ground water, which occurs in the lower few feet of fill and upper few feet of silty clay beneath the WCLR site. For example, VOC concentrations are very high in MW-4S and are progressively much lower in MW-4M and MW-4D. If the sand lenses near 30 feet in depth are drained by extended pumping of RW-1, a downward hydraulic gradient would be induced in the area of RW-1, and MW-4 S/M/D. Such a downward gradient would tend to induce a downward flow of the most contaminated groundwater from depths of roughly 10 feet to 30 feet. This would tend to spread contamination, rather than contain it.

The goals of a groundwater collection system are to contain the migration of contamination through hydrologic control as well as to collect contaminated groundwater for treatment. Thus, a recovery well which meets these objectives at this site should ideally collect the shallowest, most contaminated groundwater, i.e., the water near the base of fill and top of silty clay.

The pump test has shown that very little water can be extracted from recovery well RW-1. This supports the comment in the risk assessment (Section 4.5 of the Feasibility Study) that installation of a domestic water supply well at the site is highly unlikely. The pump test has also shown that, if RW-1 did not extend to sand lenses at depth, its yield would have been even less. As such, the effectiveness and implementability of groundwater extraction and treatment will be quite low and the benefits do not justify the costs. If any groundwater extraction is implemented, it would provide marginal benefits of contaminant reduction.

If groundwater extraction is required, it is preferable to implement a groundwater extraction system which extends only to a depth of 15 feet or less, due to the potential to extend contamination to depth as demonstrated in RW-1. The low yield of shallow soil materials at the location of RW-1 would make it preferable to place any groundwater extraction well directly within the former disposal pit, where prior soil disturbance would have slightly improved soil porosity and permeability. A pumping system in such a well would require float-activated on-off switches to control the pump. Monitoring and pump/float adjustments during the start-up period would be needed to optimize the limited recovery pumping.

It is recommended that wells RW-1 and MW-4M be properly abandoned by grouting as soon as possible to curtail potential downward migration of shallow contamination to the sand lenses at depth.

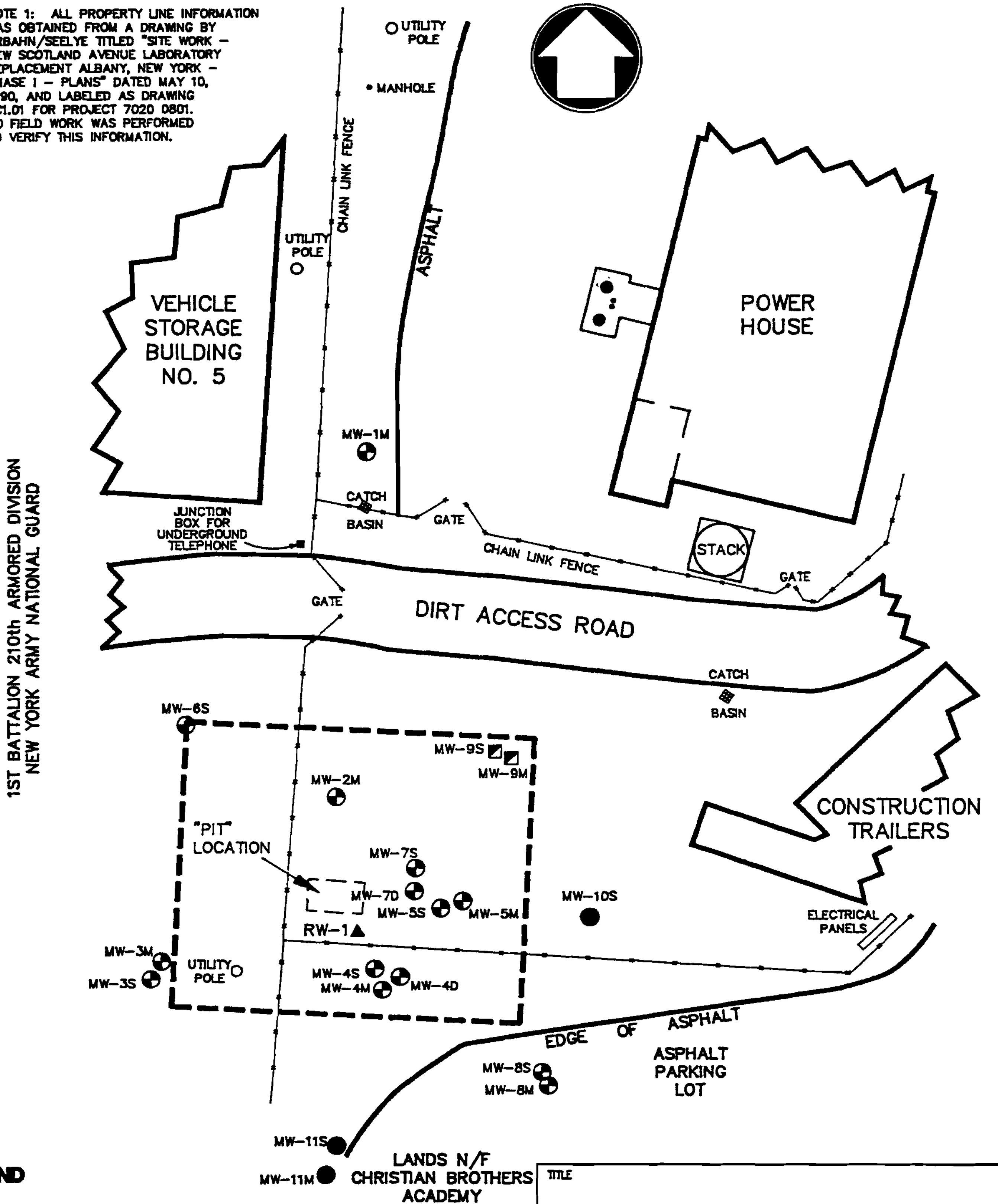
7.0 REFERENCES

Chow, V.T., 1952, On the determination of transmissivity and storage coefficients from pumping test data: Amer. Geophys. Union Transactions, vol 33, p. 397-404.

Kruseman, G.P. and DeRidder, N.A., 1979, Analysis and Evaluation of Pumping Test Data: Bulletin II, International Institute for Land Reclamation and Improvement, Wageningen, Netherlands, 200 pp.

FIGURES

NOTE 1: ALL PROPERTY LINE INFORMATION WAS OBTAINED FROM A DRAWING BY URBAHN/SEELYE TITLED "SITE WORK – NEW SCOTLAND AVENUE LABORATORY REPLACEMENT ALBANY, NEW YORK – PHASE I – PLANS" DATED MAY 10, 1990, AND LABELED AS DRAWING #C1.01 FOR PROJECT 7020 0801. NO FIELD WORK WAS PERFORMED TO VERIFY THIS INFORMATION.



LEGEND

MW–2M	*MONITORING WELL LOCATION AND ID NUMBER (PHASE I)*
MW–10S	*MONITORING WELL LOCATION AND ID NUMBER (PHASE II)*
MW–9S	*PIEZOMETER LOCATION AND ID NUMBER (PHASE II)*
RW–1	*4–INCH RECOVERY WELL LOCATION AND ID NUMBER*

SOURCE: MAP ENTITLED, "SITE PLAN FOR WADSWORTH LABORATORY, ALBANY, NEW YORK" PREPARED 11/15/90 BY CAPE SERVICES, INC. FOR ERM–NORTHEAST, ALBANY, NEW YORK.

TITLE

RECOVERY WELL LOCATION

PREPARED FOR

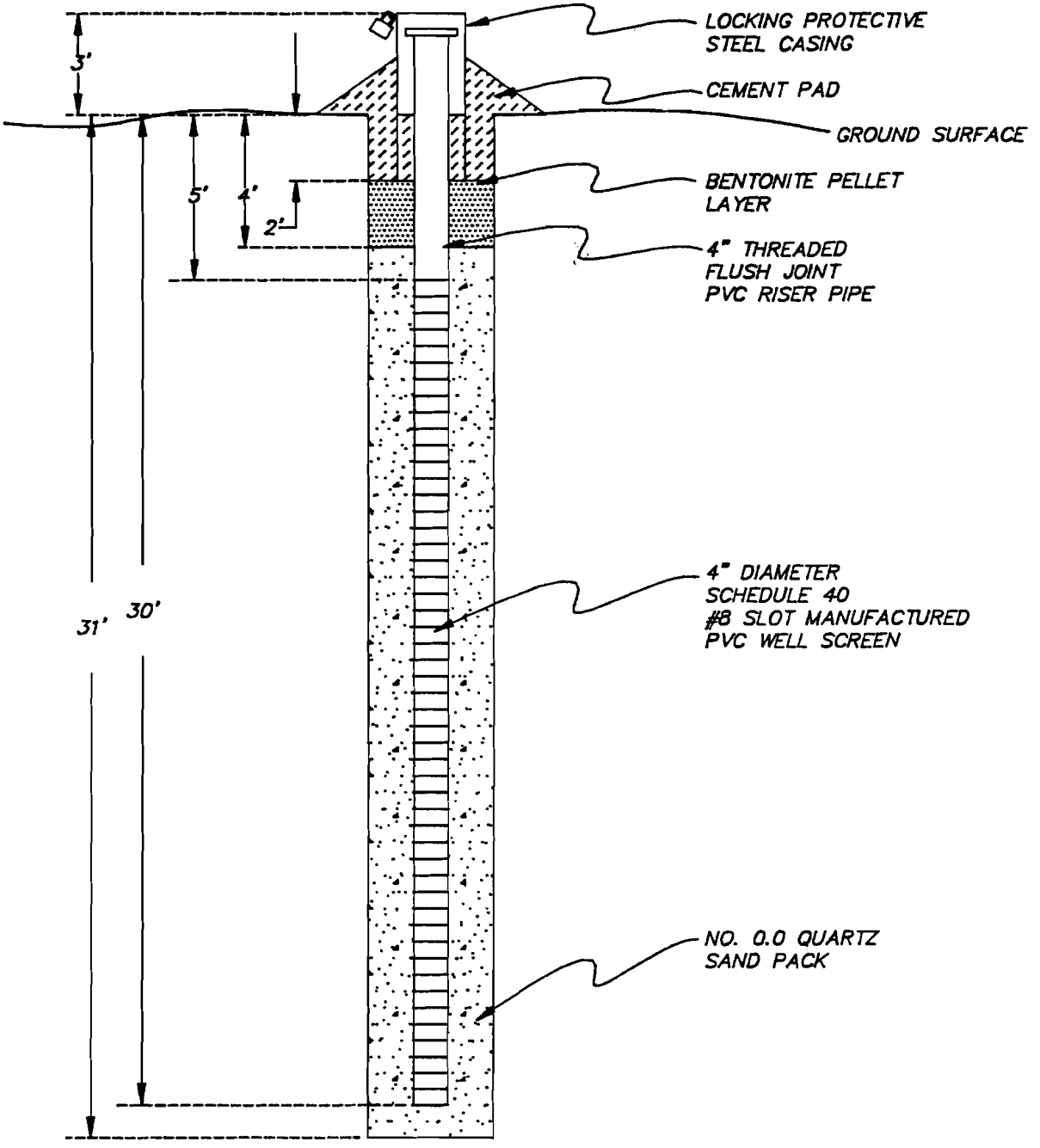
NYS DEPARTMENT OF HEALTH

ERM-Northeast
Environmental Resources Management

SCALE 1" = 40"
DATE 11/91
FIGURE 3-1

443.001/8

D:\DGH\ERMWAD B/04/91 1017



RECOVERY WELL CONSTRUCTION DIAGRAM

PREPARED FOR

NYS DEPARTMENT OF HEALTH

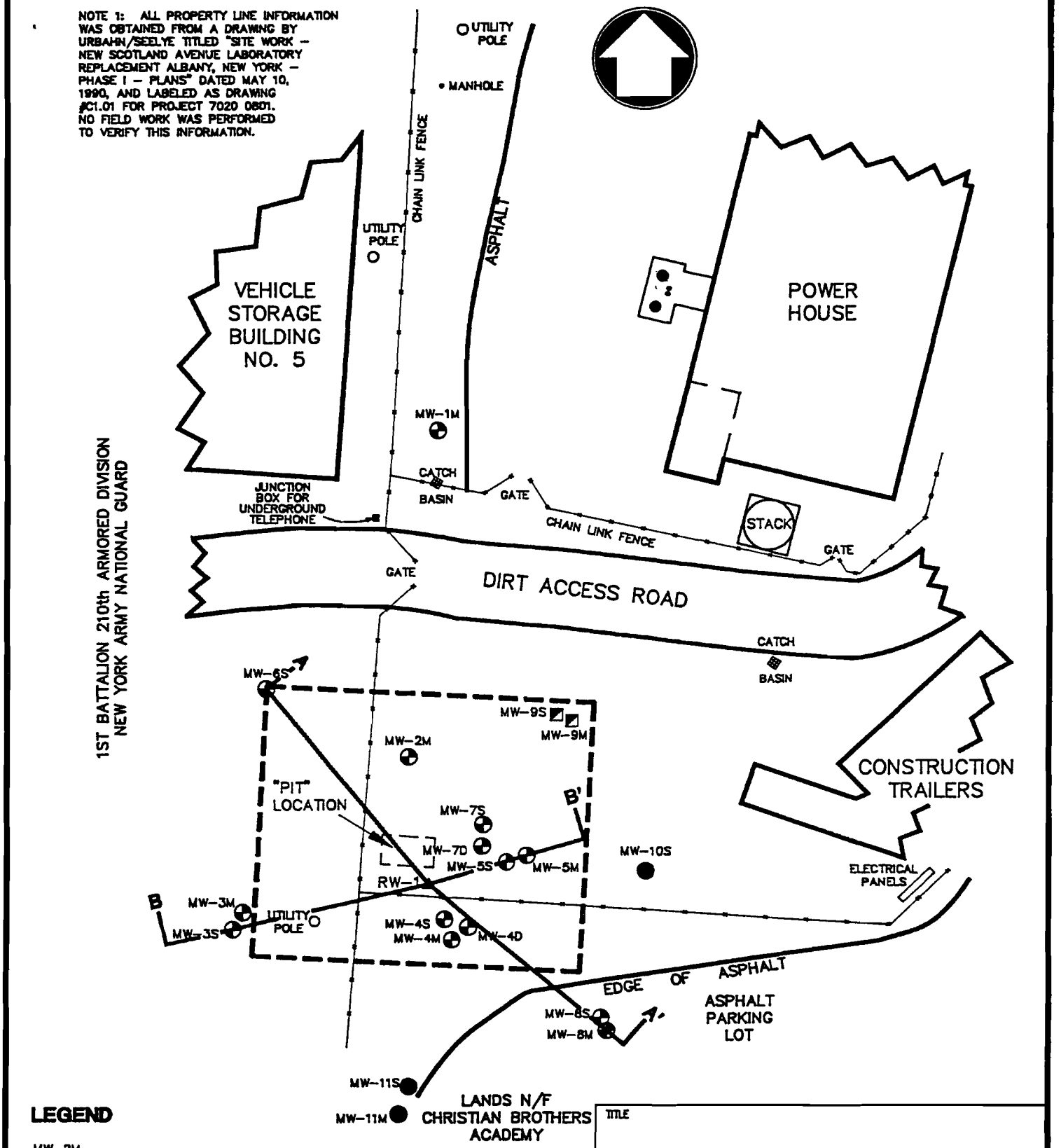
ERM-Northeast
Environmental Resources Management

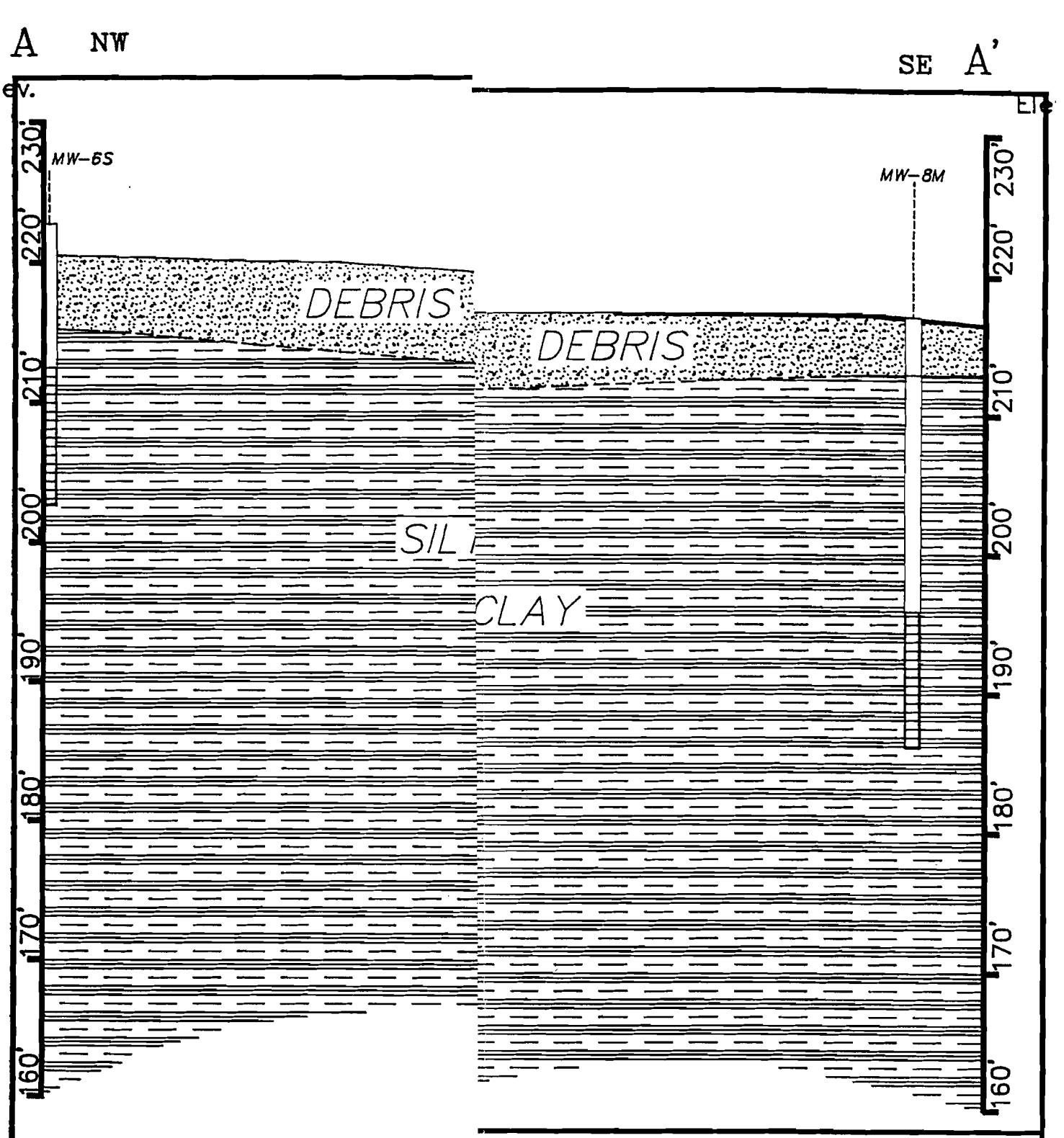
SCALE 1"=5'

DATE 11/91

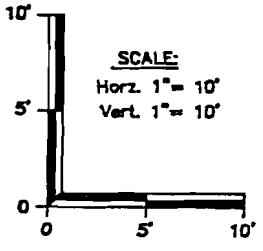
FIGURE 3-2

D:\DOH\RECWELL 12/04/91 1157


NOTE 1: ALL PROPERTY LINE INFORMATION WAS OBTAINED FROM A DRAWING BY URBAHN/SEELYE TITLED "SITE WORK – NEW SCOTLAND AVENUE LABORATORY REPLACEMENT ALBANY, NEW YORK – PHASE I – PLANS" DATED MAY 10, 1990, AND LABELED AS DRAWING #C1.01 FOR PROJECT 7020 0801. NO FIELD WORK WAS PERFORMED TO VERIFY THIS INFORMATION.
UTILITY POLE
MANHOLE
CHAIN LINK FENCE
ASPHALT
VEHICLE STORAGE BUILDING NO. 5
POWER HOUSE
1ST BATTALION 210th ARMORED DIVISION NEW YORK ARMY NATIONAL GUARD
MW-1M
CATCH BASIN
GATE
JUNCTION BOX FOR UNDERGROUND TELEPHONE
CHAIN LINK FENCE
STACK
GATE
GATE
DIRT ACCESS ROAD
CATCH BASIN
CONSTRUCTION TRAILERS
MW-6S
MW-9S
MW-9M
MW-2M
"PIT" LOCATION
B'
MW-7S
MW-7D
MW-5S
MW-5M
MW-10S
ELECTRICAL PANELS
RW-1
B
MW-3M
MW-3S
UTILITY POLE
MW-4S
MW-4M
MW-4D
EDGE OF ASPHALT
ASPHALT PARKING LOT
MW-8S
MW-8M
MW-11S
MW-11M
LANDS N/F CHRISTIAN BROTHERS ACADEMY
LEGEND
MW-2M
MONITORING WELL LOCATION AND ID NUMBER (PHASE I)
MW-10S
MONITORING WELL LOCATION AND ID NUMBER (PHASE II)
MW-9S
PIEZOMETER LOCATION AND ID NUMBER (PHASE II)
RW-1
4-INCH RECOVERY WELL LOCATION AND ID NUMBER
A
A'
CROSS SECTION LOCATION
SOURCE: MAP ENTITLED, "SITE PLAN FOR WADSWORTH LABORATORY, ALBANY, NEW YORK" PREPARED 11/15/90 BY CAPE SERVICES, INC. FOR ERM-NORTHEAST, ALBANY, NEW YORK.
TITLE
CROSS SECTION LOCATIONS
PREPARED FOR
NYS DEPARTMENT OF HEALTH
ERM
ERM-Northeast
Environmental Resources Management
SCALE 1"=40'
DATE 11/91
FIGURE 3-3
D:\DGN\ERMNAD 11/04/91 1054



LEGEND



CROSS SECTION A-A'

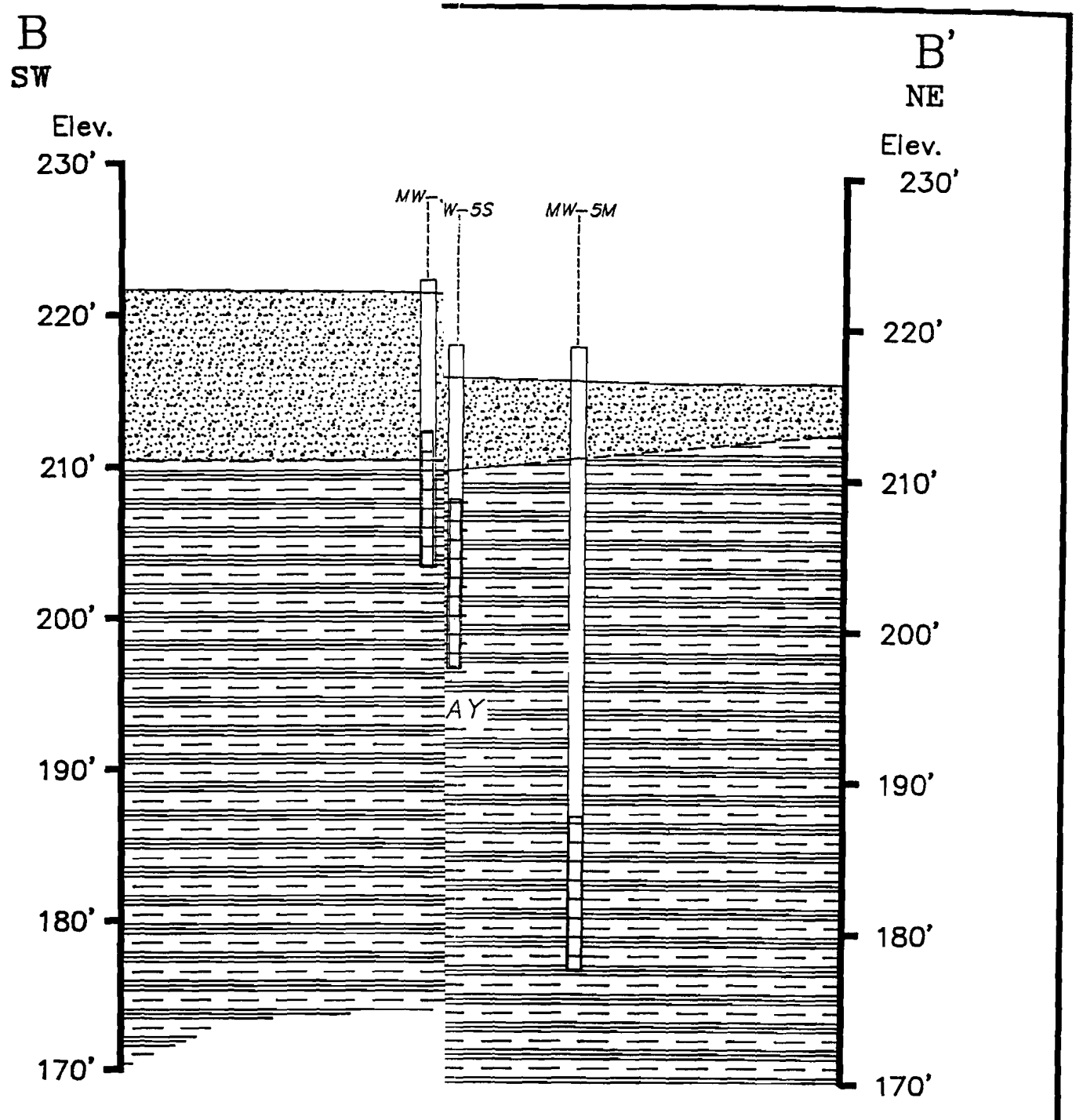
FOR

NYS DEPARTMENT OF HEALTH

ERM-Northeast
Environmental Resources Management

SCALE	FIGURE
AS SHOWN	3-4
DATE 12/91	

D:\DGN\SEC-A 12/05/91 8:44



LE

CROSS SECTION B-B'

FOR

NYS DEPARTMENT OF HEALTH

10'
5'
0
0
5'
10'
SCALE:
Horz. 1"= 10'
Vert. 1"= 10'

ERM-Northeast
Environmental Resources Management

SCALE	FIGURE
AS SHOWN	3-5
DATE	
12/91	

D:\DOH\SEC-B 12/05/91 1455

A

APPENDIX A

TIME-DRAWDOWN AND RECOVERY DATA

PUMPING TEST DATA
NYSDOH-WCLR SITE - ALBANY, NEW YORK
TEST DATE: NOVEMBER 21, 1991
PUMPING WELL: RW-1
DISCHARGE RATE: 0.5 GALLONS PER MINUTE

DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	08:18:28 AM	0.00	0.00	0.00	0.00
21-Nov-91	08:18:38 AM	0.17	0.42	0.00	0.00
21-Nov-91	08:18:48 AM	0.33	0.69	0.01	0.00
21-Nov-91	08:18:58 AM	0.50	0.90	0.03	0.00
21-Nov-91	08:19:08 AM	0.67	1.07	0.05	0.00
21-Nov-91	08:19:18 AM	0.83	1.16	0.07	0.00
21-Nov-91	08:19:28 AM	1.00	1.19	0.10	0.00
21-Nov-91	08:19:38 AM	1.17	1.21	0.13	0.00
21-Nov-91	08:19:48 AM	1.33	1.23	0.15	0.00
21-Nov-91	08:19:58 AM	1.50	1.25	0.18	0.00
21-Nov-91	08:20:08 AM	1.67	1.26	0.20	0.00
21-Nov-91	08:20:18 AM	1.83	1.27	0.23	0.00
21-Nov-91	08:20:28 AM	2.00	1.29	0.25	0.00
21-Nov-91	08:20:38 AM	2.17		0.27	0.00
21-Nov-91	08:20:48 AM	2.33		0.30	0.00
21-Nov-91	08:20:58 AM	2.50	1.49	0.32	0.00
21-Nov-91	08:21:08 AM	2.67		0.34	0.00
21-Nov-91	08:21:17 AM	2.82		0.37	0.00
21-Nov-91	08:21:27 AM	2.98	1.62	0.39	0.00
21-Nov-91	08:21:37 AM	3.15		0.41	0.00
21-Nov-91	08:21:47 AM	3.32		0.44	0.00
21-Nov-91	08:21:57 AM	3.48	1.83	0.46	0.00
21-Nov-91	08:22:07 AM	3.65		0.48	0.00
21-Nov-91	08:22:17 AM	3.82		0.51	0.00
21-Nov-91	08:22:27 AM	3.98		0.53	0.00
21-Nov-91	08:22:37 AM	4.15	1.98	0.55	0.00
21-Nov-91	08:22:47 AM	4.32		0.58	0.00
21-Nov-91	08:22:57 AM	4.48	2.13	0.60	0.00
21-Nov-91	08:23:08 AM	4.67		0.62	0.00
21-Nov-91	08:23:18 AM	4.83		0.65	0.00
21-Nov-91	08:23:28 AM	5.00	2.23	0.67	0.00
21-Nov-91	08:23:38 AM	5.17		0.69	0.00
21-Nov-91	08:23:48 AM	5.33		0.72	0.00
21-Nov-91	08:23:58 AM	5.50		0.74	0.00
21-Nov-91	08:24:08 AM	5.67		0.77	0.00
21-Nov-91	08:24:17 AM	5.82		0.79	0.00
21-Nov-91	08:24:27 AM	5.98	2.43	0.81	0.00
21-Nov-91	08:24:38 AM	6.17		0.83	0.00
21-Nov-91	08:24:48 AM	6.33		0.86	0.00
21-Nov-91	08:24:58 AM	6.50		0.88	0.00
21-Nov-91	08:25:08 AM	6.67		0.90	0.00
21-Nov-91	08:25:18 AM	6.83		0.93	0.00
21-Nov-91	08:25:28 AM	7.00	2.69	0.95	0.00
21-Nov-91	08:25:38 AM	7.17		0.97	0.00
21-Nov-91	08:25:48 AM	7.33		0.99	0.00
21-Nov-91	08:25:58 AM	7.50		1.01	0.00
21-Nov-91	08:26:08 AM	7.67		1.03	0.00
21-Nov-91	08:26:18 AM	7.83		1.06	0.00
21-Nov-91	08:26:28 AM	8.00		1.08	0.00
21-Nov-91	08:26:37 AM	8.15		1.10	0.00
21-Nov-91	08:26:48 AM	8.33	3.19	1.12	0.00
21-Nov-91	08:26:58 AM	8.50		1.14	0.00
21-Nov-91	08:27:08 AM	8.67		1.16	0.00
21-Nov-91	08:27:18 AM	8.83		1.19	0.00
21-Nov-91	08:27:28 AM	9.00	3.21	1.21	0.00
21-Nov-91	08:27:38 AM	9.17		1.23	0.00
21-Nov-91	08:27:48 AM	9.33		1.25	0.00
21-Nov-91	08:27:58 AM	9.50		1.27	0.00
21-Nov-91	08:28:08 AM	9.67		1.29	0.00
21-Nov-91	08:28:18 AM	9.83		1.31	0.00
21-Nov-91	08:28:28 AM	10.00	3.31	1.33	0.00
21-Nov-91	08:28:38 AM	10.17		1.35	0.00
21-Nov-91	08:28:48 AM	10.33		1.37	0.00
21-Nov-91	08:28:58 AM	10.50		1.39	0.00
21-Nov-91	08:29:08 AM	10.67		1.41	0.00

DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	08:29:18 AM	10.83		1.43	0.00
21-Nov-91	08:29:27 AM	10.98	3.47	1.45	0.00
21-Nov-91	08:29:38 AM	11.17		1.47	0.00
21-Nov-91	08:29:48 AM	11.33		1.49	0.00
21-Nov-91	08:29:57 AM	11.48		1.50	0.00
21-Nov-91	08:30:08 AM	11.67		1.53	0.00
21-Nov-91	08:30:18 AM	11.83		1.54	0.00
21-Nov-91	08:30:28 AM	12.00		1.56	0.01
21-Nov-91	08:30:38 AM	12.17	3.70	1.58	0.01
21-Nov-91	08:30:48 AM	12.33		1.60	0.01
21-Nov-91	08:30:58 AM	12.50		1.62	0.01
21-Nov-91	08:31:08 AM	12.67		1.64	0.01
21-Nov-91	08:31:18 AM	12.83		1.66	0.01
21-Nov-91	08:31:28 AM	13.00	3.82	1.68	0.01
21-Nov-91	08:31:38 AM	13.17		1.70	0.01
21-Nov-91	08:31:48 AM	13.33		1.72	0.01
21-Nov-91	08:31:58 AM	13.50		1.74	0.01
21-Nov-91	08:32:08 AM	13.67		1.75	0.01
21-Nov-91	08:32:18 AM	13.83		1.77	0.01
21-Nov-91	08:32:28 AM	14.00	4.02	1.79	0.01
21-Nov-91	08:32:38 AM	14.17		1.81	0.01
21-Nov-91	08:32:48 AM	14.33		1.83	0.01
21-Nov-91	08:32:58 AM	14.50		1.85	0.01
21-Nov-91	08:33:08 AM	14.67		1.87	0.01
21-Nov-91	08:33:18 AM	14.83		1.89	0.01
21-Nov-91	08:33:28 AM	15.00	4.19	1.90	0.01
21-Nov-91	08:33:38 AM	15.17		1.92	0.01
21-Nov-91	08:33:48 AM	15.33		1.94	0.01
21-Nov-91	08:33:58 AM	15.50		1.96	0.01
21-Nov-91	08:34:08 AM	15.67		1.98	0.01
21-Nov-91	08:34:18 AM	15.83		2.00	0.01
21-Nov-91	08:34:28 AM	16.00		2.01	0.01
21-Nov-91	08:34:38 AM	16.17		2.03	0.01
21-Nov-91	08:34:48 AM	16.33		2.05	0.01
21-Nov-91	08:34:58 AM	16.50		2.07	0.01
21-Nov-91	08:35:08 AM	16.67		2.09	0.01
21-Nov-91	08:35:18 AM	16.83		2.11	0.01
21-Nov-91	08:35:28 AM	17.00		2.13	0.01
21-Nov-91	08:35:38 AM	17.17		2.15	0.01
21-Nov-91	08:35:48 AM	17.33		2.17	0.01
21-Nov-91	08:35:58 AM	17.50		2.19	0.01
21-Nov-91	08:36:08 AM	17.67		2.21	0.01
21-Nov-91	08:36:18 AM	17.83		2.23	0.01
21-Nov-91	08:36:27 AM	17.98		2.25	0.01
21-Nov-91	08:36:37 AM	18.15		2.27	0.01
21-Nov-91	08:36:47 AM	18.32		2.29	0.01
21-Nov-91	08:36:57 AM	18.48		2.31	0.01
21-Nov-91	08:37:07 AM	18.65		2.33	0.01
21-Nov-91	08:37:17 AM	18.82		2.35	0.01
21-Nov-91	08:37:27 AM	18.98		2.37	0.01
21-Nov-91	08:37:37 AM	19.15		2.39	0.01
21-Nov-91	08:37:48 AM	19.33		2.41	0.01
21-Nov-91	08:37:58 AM	19.50		2.43	0.01
21-Nov-91	08:38:08 AM	19.67		2.45	0.01
21-Nov-91	08:38:18 AM	19.83	5.40	2.46	0.01
21-Nov-91	08:38:48 AM	20.33		2.52	0.01
21-Nov-91	08:39:18 AM	20.83		2.58	0.01
21-Nov-91	08:39:48 AM	21.33		2.64	0.01
21-Nov-91	08:40:18 AM	21.83		2.69	0.01
21-Nov-91	08:40:48 AM	22.33		2.74	0.01
21-Nov-91	08:41:18 AM	22.83		2.80	0.01
21-Nov-91	08:41:48 AM	23.33		2.86	0.01
21-Nov-91	08:42:18 AM	23.83		2.91	0.01
21-Nov-91	08:42:48 AM	24.33		2.97	0.01
21-Nov-91	08:43:18 AM	24.83	6.27	3.01	0.01
21-Nov-91	08:43:48 AM	25.33		3.07	0.01
21-Nov-91	08:44:18 AM	25.83		3.12	0.01
21-Nov-91	08:44:48 AM	26.33		3.16	0.01
21-Nov-91	08:45:18 AM	26.83		3.22	0.01
21-Nov-91	08:45:47 AM	27.32		3.27	0.01
21-Nov-91	08:46:18 AM	27.83		3.32	0.01

DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	08:46:48 AM	28.33		3.37	0.01
21-Nov-91	08:47:18 AM	28.83		3.42	0.01
21-Nov-91	08:47:48 AM	29.33		3.47	0.01
21-Nov-91	08:48:18 AM	29.83	7.29	3.51	0.01
21-Nov-91	08:48:48 AM	30.33		3.56	0.01
21-Nov-91	08:49:18 AM	30.83		3.61	0.01
21-Nov-91	08:49:48 AM	31.33		3.66	0.01
21-Nov-91	08:50:18 AM	31.83	7.62	3.71	0.01
21-Nov-91	08:50:47 AM	32.32	7.68	3.75	0.01
21-Nov-91	08:51:17 AM	32.82	7.79	3.80	0.01
21-Nov-91	08:51:47 AM	33.32	7.90	3.85	0.01
21-Nov-91	08:52:17 AM	33.82	7.97	3.90	0.01
21-Nov-91	08:52:47 AM	34.32	8.06	3.95	0.01
21-Nov-91	08:53:17 AM	34.82	8.15	4.00	0.01
21-Nov-91	08:53:47 AM	35.32	8.23	4.05	0.01
21-Nov-91	08:54:17 AM	35.82	8.34	4.10	0.01
21-Nov-91	08:54:47 AM	36.32	8.41	4.15	0.01
21-Nov-91	08:55:17 AM	36.82	8.51	4.19	0.01
21-Nov-91	08:55:47 AM	37.32	8.60	4.24	0.01
21-Nov-91	08:56:17 AM	37.82	8.67	4.29	0.01
21-Nov-91	08:56:47 AM	38.32	8.80	4.33	0.01
21-Nov-91	08:57:17 AM	38.82	8.90	4.38	0.01
21-Nov-91	08:57:47 AM	39.32	9.00	4.43	0.01
21-Nov-91	08:58:17 AM	39.82	9.11	4.48	0.01
21-Nov-91	08:58:47 AM	40.32	9.20	4.53	0.01
21-Nov-91	08:59:17 AM	40.82	9.33	4.58	0.01
21-Nov-91	08:59:47 AM	41.32	9.45	4.64	0.01
21-Nov-91	09:00:17 AM	41.82	9.57	4.69	0.01
21-Nov-91	09:00:47 AM	42.32	9.66	4.74	0.01
21-Nov-91	09:01:17 AM	42.82	9.68	4.80	0.01
21-Nov-91	09:01:47 AM	43.32	9.79	4.85	0.01
21-Nov-91	09:02:17 AM	43.82	9.87	4.89	0.01
21-Nov-91	09:02:47 AM	44.32	10.00	4.95	0.02
21-Nov-91	09:03:17 AM	44.82	10.11	5.00	0.01
21-Nov-91	09:03:47 AM	45.32	10.15	5.04	0.02
21-Nov-91	09:04:17 AM	45.82	10.20	5.09	0.01
21-Nov-91	09:04:47 AM	46.32	10.28	5.14	0.01
21-Nov-91	09:05:17 AM	46.82	10.34	5.19	0.02
21-Nov-91	09:05:47 AM	47.32	10.40	5.23	0.02
21-Nov-91	09:06:17 AM	47.82	10.48	5.28	0.02
21-Nov-91	09:06:47 AM	48.32	10.58	5.32	0.01
21-Nov-91	09:07:17 AM	48.82	10.73	5.37	0.01
21-Nov-91	09:07:47 AM	49.32	10.89	5.42	0.01
21-Nov-91	09:08:17 AM	49.82	11.02	5.48	0.01
21-Nov-91	09:08:47 AM	50.32	11.15	5.53	0.01
21-Nov-91	09:09:17 AM	50.82	11.26	5.58	0.01
21-Nov-91	09:09:47 AM	51.32	11.34	5.64	0.01
21-Nov-91	09:10:17 AM	51.82	11.42	5.68	0.01
21-Nov-91	09:10:47 AM	52.32	11.57	5.74	0.01
21-Nov-91	09:11:17 AM	52.82	11.71	5.79	0.01
21-Nov-91	09:11:47 AM	53.32	11.83	5.85	0.01
21-Nov-91	09:12:17 AM	53.82	11.94	5.90	0.01
21-Nov-91	09:12:47 AM	54.32	12.05	5.96	0.01
21-Nov-91	09:13:17 AM	54.82	12.16	6.01	0.01
21-Nov-91	09:13:47 AM	55.32	12.24	6.06	0.02
21-Nov-91	09:14:17 AM	55.82	12.32	6.11	0.02
21-Nov-91	09:14:47 AM	56.32	12.39	6.21	0.02
21-Nov-91	09:15:17 AM	56.82	12.48	6.27	0.01
21-Nov-91	09:15:47 AM	57.32	12.52	6.32	0.02
21-Nov-91	09:16:17 AM	57.82	12.57	6.37	0.01
21-Nov-91	09:16:47 AM	58.32	12.70	6.42	0.02
21-Nov-91	09:17:17 AM	58.82	12.78	6.47	0.01
21-Nov-91	09:17:47 AM	59.32	12.92	6.53	0.02
21-Nov-91	09:18:17 AM	59.82	13.04	6.58	0.02
21-Nov-91	09:18:47 AM	60.32	13.15	6.64	0.02
21-Nov-91	09:19:17 AM	60.82	13.22	6.69	0.02
21-Nov-91	09:19:47 AM	61.32	13.34	6.74	0.02
21-Nov-91	09:20:17 AM	61.82	13.44	6.79	0.01
21-Nov-91	09:20:47 AM	62.32	13.52	6.83	0.02
21-Nov-91	09:21:17 AM	62.82	13.60	6.88	0.02
21-Nov-91	09:21:47 AM	63.32	13.73	6.93	0.02

DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	09:22:17 AM	63.82	13.80	6.97	0.02
21-Nov-91	09:22:47 AM	64.32	13.87	7.02	0.02
21-Nov-91	09:23:17 AM	64.82	13.84	7.07	0.02
21-Nov-91	09:23:47 AM	65.32	13.93	7.11	0.02
21-Nov-91	09:24:17 AM	65.82	13.99	7.15	0.02
21-Nov-91	09:24:47 AM	66.32	14.07	7.19	0.02
21-Nov-91	09:25:17 AM	66.82	14.20	7.23	0.02
21-Nov-91	09:25:47 AM	67.32	14.31	7.27	0.02
21-Nov-91	09:26:17 AM	67.82	14.37	7.32	0.02
21-Nov-91	09:26:47 AM	68.32	14.44	7.36	0.02
21-Nov-91	09:27:17 AM	68.82	14.59	7.40	0.02
21-Nov-91	09:27:47 AM	69.32	14.70	7.44	0.02
21-Nov-91	09:28:17 AM	69.82	14.79	7.48	0.02
21-Nov-91	09:28:47 AM	70.32	14.86	7.53	0.02
21-Nov-91	09:29:17 AM	70.82	15.03	7.57	0.02
21-Nov-91	09:29:47 AM	71.32	15.12	7.61	0.02
21-Nov-91	09:30:17 AM	71.82	15.22	7.66	0.02
21-Nov-91	09:30:47 AM	72.32	15.35	7.70	0.02
21-Nov-91	09:31:17 AM	72.82	15.38	7.75	0.02
21-Nov-91	09:31:47 AM	73.32	15.44	7.79	0.02
21-Nov-91	09:32:17 AM	73.82	15.52	7.84	0.02
21-Nov-91	09:32:47 AM	74.32	15.62	7.88	0.02
21-Nov-91	09:33:17 AM	74.82	15.64	7.92	0.02
21-Nov-91	09:33:47 AM	75.32	15.69	7.97	0.02
21-Nov-91	09:34:17 AM	75.82	15.78	8.00	0.02
21-Nov-91	09:34:47 AM	76.32	15.89	8.05	0.02
21-Nov-91	09:35:17 AM	76.82	16.00	8.09	0.02
21-Nov-91	09:35:47 AM	77.32	16.10	8.14	0.02
21-Nov-91	09:36:17 AM	77.82	16.23	8.18	0.02
21-Nov-91	09:36:47 AM	78.32	16.34	8.22	0.02
21-Nov-91	09:37:17 AM	78.82	16.41	8.26	0.02
21-Nov-91	09:37:47 AM	79.32	16.45	8.30	0.02
21-Nov-91	09:38:17 AM	79.82	16.62	8.34	0.02
21-Nov-91	09:38:47 AM	80.32	16.52	8.38	0.02
21-Nov-91	09:39:17 AM	80.82	16.47	8.41	0.02
21-Nov-91	09:39:47 AM	81.32	16.72	8.45	0.02
21-Nov-91	09:40:17 AM	81.82	16.86	8.49	0.02
21-Nov-91	09:40:47 AM	82.32	16.97	8.52	0.02
21-Nov-91	09:41:17 AM	82.82	17.14	8.55	0.02
21-Nov-91	09:41:47 AM	83.32	17.22	8.59	0.02
21-Nov-91	09:42:17 AM	83.82	17.32	8.62	0.02
21-Nov-91	09:42:47 AM	84.32	17.39	8.67	0.02
21-Nov-91	09:43:17 AM	84.82	17.44	8.71	0.02
21-Nov-91	09:43:47 AM	85.32	17.54	8.76	0.02
21-Nov-91	09:44:17 AM	85.82	17.60	8.80	0.02
21-Nov-91	09:44:47 AM	86.32	17.73	8.83	0.02
21-Nov-91	09:45:17 AM	86.82	17.78	8.86	0.02
21-Nov-91	09:45:47 AM	87.32	17.86	8.90	0.02
21-Nov-91	09:46:17 AM	87.82	17.94	8.94	0.02
21-Nov-91	09:46:47 AM	88.32	17.99	8.98	0.02
21-Nov-91	09:47:17 AM	88.82	18.00	9.02	0.02
21-Nov-91	09:47:47 AM	89.32	18.05	9.06	0.02
21-Nov-91	09:48:17 AM	89.82	18.09	9.10	0.02
21-Nov-91	09:48:47 AM	90.32	18.20	9.12	0.02
21-Nov-91	09:49:17 AM	90.82	18.32	9.15	0.02
21-Nov-91	09:49:47 AM	91.32	18.44	9.18	0.02
21-Nov-91	09:50:17 AM	91.82	18.52	9.21	0.02
21-Nov-91	09:50:47 AM	92.32	18.57	9.24	0.02
21-Nov-91	09:51:17 AM	92.82	18.68	9.27	0.02
21-Nov-91	09:51:47 AM	93.32	18.78	9.30	0.02
21-Nov-91	09:52:17 AM	93.82	18.89	9.33	0.02
21-Nov-91	09:52:47 AM	94.32	19.01	9.37	0.02
21-Nov-91	09:53:17 AM	94.82	19.08	9.39	0.02
21-Nov-91	09:53:47 AM	95.32	19.18	9.43	0.02
21-Nov-91	09:54:17 AM	95.82	19.27	9.46	0.02
21-Nov-91	09:54:47 AM	96.32	19.35	9.50	0.02
21-Nov-91	09:55:17 AM	96.82		9.53	0.02
21-Nov-91	09:55:47 AM	97.32		9.57	0.02
21-Nov-91	09:56:17 AM	97.82		9.61	0.02
21-Nov-91	09:56:47 AM	98.32		9.64	0.02
21-Nov-91	09:57:17 AM	98.82		9.66	0.02

DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	09:57:47 AM	99.32		9.68	0.02
21-Nov-91	09:58:17 AM	99.82		9.70	0.03
21-Nov-91	09:58:47 AM	100.32		9.72	0.02
21-Nov-91	09:59:17 AM	100.82	20.12	9.75	0.02
21-Nov-91	09:59:47 AM	101.32		9.78	0.02
21-Nov-91	10:00:17 AM	101.82		9.81	0.02
21-Nov-91	10:00:47 AM	102.32		9.84	0.02
21-Nov-91	10:01:17 AM	102.82		9.87	0.02
21-Nov-91	10:01:47 AM	103.32		9.91	0.02
21-Nov-91	10:02:06 AM	103.63		9.93	0.02
21-Nov-91	10:02:16 AM	103.80	20.47	9.94	0.02
PUMP OFF					
21-Nov-91	10:02:26 AM	103.97		9.95	0.02
21-Nov-91	10:02:36 AM	104.13		9.95	0.02
21-Nov-91	10:02:46 AM	104.30	19.47	9.95	0.02
21-Nov-91	10:02:56 AM	104.47	19.39	9.95	0.02
21-Nov-91	10:03:06 AM	104.63		9.95	0.02
21-Nov-91	10:03:16 AM	104.80	19.32	9.95	0.02
21-Nov-91	10:03:26 AM	104.97	19.30	9.95	0.02
21-Nov-91	10:03:36 AM	105.13	19.27	9.95	0.02
21-Nov-91	10:03:46 AM	105.30	19.24	9.95	0.02
21-Nov-91	10:03:56 AM	105.47	19.21	9.95	0.02
21-Nov-91	10:04:06 AM	105.63	19.18	9.94	0.02
21-Nov-91	10:04:16 AM	105.80	19.15	9.94	0.02
21-Nov-91	10:04:26 AM	105.97	19.12	9.93	0.02
21-Nov-91	10:04:36 AM	106.13	19.08	9.93	0.02
21-Nov-91	10:04:46 AM	106.30	19.05	9.93	0.02
21-Nov-91	10:04:56 AM	106.47	19.02	9.92	0.02
21-Nov-91	10:05:06 AM	106.63	18.99	9.92	0.02
21-Nov-91	10:05:16 AM	106.80	18.95	9.91	0.02
21-Nov-91	10:05:26 AM	106.97	18.92	9.91	0.02
21-Nov-91	10:05:36 AM	107.13	18.89	9.91	0.02
21-Nov-91	10:05:46 AM	107.30	18.86	9.90	0.02
21-Nov-91	10:05:56 AM	107.47	18.83	9.90	0.02
21-Nov-91	10:06:06 AM	107.63	18.80	9.89	0.02
21-Nov-91	10:06:16 AM	107.80	18.77	9.89	0.02
21-Nov-91	10:06:26 AM	107.97	18.74	9.88	0.02
21-Nov-91	10:06:36 AM	108.13	18.72	9.88	0.02
21-Nov-91	10:06:46 AM	108.30	18.69	9.87	0.02
21-Nov-91	10:06:56 AM	108.47	18.67	9.87	0.02
21-Nov-91	10:07:06 AM	108.63	18.64	9.87	0.02
21-Nov-91	10:07:16 AM	108.80	18.61	9.86	0.02
21-Nov-91	10:07:26 AM	108.97	18.58	9.86	0.02
21-Nov-91	10:07:36 AM	109.13	18.56	9.85	0.02
21-Nov-91	10:07:46 AM	109.30	18.53	9.85	0.02
21-Nov-91	10:07:56 AM	109.47	18.50	9.84	0.02
21-Nov-91	10:08:06 AM	109.63	18.47	9.84	0.02
21-Nov-91	10:08:16 AM	109.80	18.44	9.83	0.02
21-Nov-91	10:08:26 AM	109.97	18.41	9.82	0.02
21-Nov-91	10:08:36 AM	110.13	18.38	9.82	0.02
21-Nov-91	10:08:46 AM	110.30	18.35	9.81	0.02
21-Nov-91	10:08:56 AM	110.47	18.33	9.81	0.02
21-Nov-91	10:09:06 AM	110.63	18.30	9.80	0.02
21-Nov-91	10:09:16 AM	110.80	18.27	9.80	0.02
21-Nov-91	10:09:26 AM	110.97	18.25	9.79	0.02
21-Nov-91	10:09:36 AM	111.13	18.22	9.78	0.02
21-Nov-91	10:09:46 AM	111.30	18.19	9.78	0.02
21-Nov-91	10:09:56 AM	111.47	18.16	9.77	0.02
21-Nov-91	10:10:06 AM	111.63	18.13	9.77	0.02
21-Nov-91	10:10:16 AM	111.80	18.11	9.76	0.02
21-Nov-91	10:10:26 AM	111.97	18.08	9.76	0.02
21-Nov-91	10:10:36 AM	112.13	18.05	9.75	0.02
21-Nov-91	10:10:46 AM	112.30	18.02	9.74	0.02
21-Nov-91	10:10:56 AM	112.47	18.00	9.74	0.02
21-Nov-91	10:11:06 AM	112.63	17.97	9.73	0.02
21-Nov-91	10:11:16 AM	112.80	17.95	9.72	0.02
21-Nov-91	10:11:26 AM	112.97	17.92	9.72	0.03
21-Nov-91	10:11:36 AM	113.13	17.90	9.71	0.02
21-Nov-91	10:11:46 AM	113.30	17.87	9.71	0.02
21-Nov-91	10:11:56 AM	113.47	17.85	9.70	0.02
21-Nov-91	10:12:06 AM	113.63	17.82	9.69	0.03

DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	10:12:16 AM	113.80	17.80	9.69	0.02
21-Nov-91	10:12:26 AM	113.97	17.77	9.68	0.02
21-Nov-91	10:12:36 AM	114.13	17.75	9.67	0.02
21-Nov-91	10:12:46 AM	114.30	17.72	9.67	0.02
21-Nov-91	10:12:56 AM	114.47	17.70	9.66	0.02
21-Nov-91	10:13:06 AM	114.63	17.67	9.65	0.02
21-Nov-91	10:13:16 AM	114.80	17.65	9.65	0.02
21-Nov-91	10:13:26 AM	114.97	17.62	9.64	0.02
21-Nov-91	10:13:36 AM	115.13	17.59	9.63	0.02
21-Nov-91	10:13:46 AM	115.30	17.56	9.63	0.02
21-Nov-91	10:13:56 AM	115.47	17.54	9.62	0.02
21-Nov-91	10:14:06 AM	115.63	17.51	9.61	0.02
21-Nov-91	10:14:16 AM	115.80	17.48	9.60	0.02
21-Nov-91	10:14:26 AM	115.97	17.45	9.60	0.02
21-Nov-91	10:14:36 AM	116.13	17.42	9.59	0.02
21-Nov-91	10:14:46 AM	116.30	17.39	9.59	0.03
21-Nov-91	10:14:56 AM	116.47	17.37	9.58	0.02
21-Nov-91	10:15:06 AM	116.63	17.34	9.57	0.02
21-Nov-91	10:15:16 AM	116.80	17.32	9.57	0.03
21-Nov-91	10:15:26 AM	116.97	17.29	9.56	0.02
21-Nov-91	10:15:36 AM	117.13	17.27	9.55	0.03
21-Nov-91	10:15:46 AM	117.30	17.24	9.55	0.02
21-Nov-91	10:15:56 AM	117.47	17.22	9.54	0.02
21-Nov-91	10:16:06 AM	117.63	17.20	9.53	0.02
21-Nov-91	10:16:16 AM	117.80	17.17	9.52	0.02
21-Nov-91	10:16:26 AM	117.97	17.15	9.52	0.02
21-Nov-91	10:16:36 AM	118.13	17.13	9.51	0.02
21-Nov-91	10:16:46 AM	118.30	17.10	9.50	0.02
21-Nov-91	10:16:56 AM	118.47	17.08	9.50	0.02
21-Nov-91	10:17:06 AM	118.63	17.05	9.49	0.02
21-Nov-91	10:17:16 AM	118.80	17.03	9.49	0.02
21-Nov-91	10:17:26 AM	118.97	17.01	9.48	0.02
21-Nov-91	10:17:36 AM	119.13	16.99	9.48	0.02
21-Nov-91	10:17:46 AM	119.30	16.96	9.47	0.02
21-Nov-91	10:17:56 AM	119.47	16.94	9.46	0.02
21-Nov-91	10:18:06 AM	119.63	16.92	9.46	0.02
21-Nov-91	10:18:16 AM	119.80	16.90	9.45	0.02
21-Nov-91	10:18:26 AM	119.97	16.87	9.44	0.02
21-Nov-91	10:18:36 AM	120.13	16.85	9.44	0.02
21-Nov-91	10:18:46 AM	120.30	16.83	9.43	0.02
21-Nov-91	10:18:56 AM	120.47	16.81	9.42	0.02
21-Nov-91	10:19:06 AM	120.63	16.79	9.42	0.02
21-Nov-91	10:19:16 AM	120.80	16.76	9.41	0.02
21-Nov-91	10:19:26 AM	120.97	16.74	9.40	0.02
21-Nov-91	10:19:36 AM	121.13	16.72	9.40	0.02
21-Nov-91	10:19:46 AM	121.30	16.69	9.39	0.02
21-Nov-91	10:19:56 AM	121.47	16.67	9.38	0.02
21-Nov-91	10:20:06 AM	121.63	16.65	9.38	0.02
21-Nov-91	10:20:16 AM	121.80	16.62	9.37	0.02
21-Nov-91	10:20:26 AM	121.97	16.60	9.37	0.02
21-Nov-91	10:20:36 AM	122.13	16.58	9.36	0.02
21-Nov-91	10:20:46 AM	122.30	16.55	9.35	0.02
21-Nov-91	10:20:56 AM	122.47	16.53	9.35	0.02
21-Nov-91	10:21:06 AM	122.63	16.50	9.34	0.02
21-Nov-91	10:21:16 AM	122.80	16.48	9.33	0.02
21-Nov-91	10:21:26 AM	122.97	16.45	9.33	0.02
21-Nov-91	10:21:36 AM	123.13	16.43	9.32	0.02
21-Nov-91	10:21:46 AM	123.30	16.41	9.31	0.02
21-Nov-91	10:21:56 AM	123.47	16.39	9.31	0.02
21-Nov-91	10:22:06 AM	123.63	16.37	9.30	0.02
21-Nov-91	10:22:36 AM	124.13	16.29	9.28	0.02
21-Nov-91	10:23:06 AM	124.63	16.22	9.26	0.02
21-Nov-91	10:23:36 AM	125.13	16.15	9.23	0.02
21-Nov-91	10:24:06 AM	125.63	16.09	9.21	0.02
21-Nov-91	10:24:36 AM	126.13	16.03	9.19	0.02
21-Nov-91	10:25:06 AM	126.63	15.96	9.17	0.03
21-Nov-91	10:25:36 AM	127.13	15.90	9.15	0.03
21-Nov-91	10:26:06 AM	127.63	15.84	9.13	0.03
21-Nov-91	10:26:36 AM	128.13	15.78	9.11	0.02
21-Nov-91	10:27:06 AM	128.63	15.72	9.09	0.03
21-Nov-91	10:27:36 AM	129.13	15.66	9.07	0.03

DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	10:28:06 AM	129.63	15.60	9.05	0.03
21-Nov-91	10:28:36 AM	130.13	15.54	9.03	0.03
21-Nov-91	10:29:06 AM	130.63	15.48	9.01	0.02
21-Nov-91	10:29:36 AM	131.13	15.42	8.99	0.03
21-Nov-91	10:30:06 AM	131.63	15.36	8.97	0.03
21-Nov-91	10:30:36 AM	132.13	15.30	8.95	0.02
21-Nov-91	10:31:06 AM	132.63	15.24	8.93	0.03
21-Nov-91	10:31:36 AM	133.13	15.18	8.91	0.03
21-Nov-91	10:32:06 AM	133.63	15.12	8.89	0.03
21-Nov-91	10:32:36 AM	134.13	15.06	8.87	0.03
21-Nov-91	10:33:06 AM	134.63	15.01	8.85	0.03
21-Nov-91	10:33:36 AM	135.13	14.95	8.83	0.03
21-Nov-91	10:34:06 AM	135.63	14.89	8.81	0.03
21-Nov-91	10:34:36 AM	136.13	14.84	8.79	0.03
21-Nov-91	10:35:06 AM	136.63	14.79	8.77	0.03
21-Nov-91	10:35:36 AM	137.13	14.73	8.75	0.03
21-Nov-91	10:36:06 AM	137.63	14.68	8.73	0.03
21-Nov-91	10:36:36 AM	138.13	14.62	8.71	0.03
21-Nov-91	10:37:06 AM	138.63	14.56	8.69	0.03
21-Nov-91	10:37:36 AM	139.13	14.50	8.67	0.03
21-Nov-91	10:38:06 AM	139.63	14.44	8.65	0.03
21-Nov-91	10:38:36 AM	140.13	14.38	8.64	0.03
21-Nov-91	10:39:06 AM	140.63	14.32	8.62	0.03
21-Nov-91	10:39:36 AM	141.13	14.25	8.60	0.03
21-Nov-91	10:40:06 AM	141.63	14.19	8.58	0.03
21-Nov-91	10:40:36 AM	142.13	14.12	8.56	0.03
21-Nov-91	10:41:06 AM	142.63	14.06	8.54	0.03
21-Nov-91	10:41:36 AM	143.13	14.01	8.52	0.03
21-Nov-91	10:42:06 AM	143.63	13.95	8.50	0.03
21-Nov-91	10:42:36 AM	144.13	13.90	8.48	0.03
21-Nov-91	10:43:06 AM	144.63	13.85	8.46	0.03
21-Nov-91	10:43:36 AM	145.13	13.80	8.44	0.03
21-Nov-91	10:44:06 AM	145.63	13.76	8.42	0.03
21-Nov-91	10:44:36 AM	146.13	13.71	8.41	0.03
21-Nov-91	10:45:06 AM	146.63	13.67	8.39	0.03
21-Nov-91	10:45:36 AM	147.13	13.62	8.37	0.03
21-Nov-91	10:46:06 AM	147.63	13.58	8.35	0.03
21-Nov-91	10:46:36 AM	148.13	13.53	8.33	0.03
21-Nov-91	10:47:06 AM	148.63	13.48	8.32	0.03
21-Nov-91	10:47:36 AM	149.13	13.44	8.30	0.03
21-Nov-91	10:48:06 AM	149.63	13.39	8.28	0.03
21-Nov-91	10:48:36 AM	150.13	13.34	8.26	0.03
21-Nov-91	10:49:06 AM	150.63	13.29	8.24	0.03
21-Nov-91	10:49:36 AM	151.13	13.24	8.23	0.03
21-Nov-91	10:50:06 AM	151.63	13.20	8.21	0.03
21-Nov-91	10:50:36 AM	152.13	13.15	8.19	0.03
21-Nov-91	10:51:06 AM	152.63	13.10	8.18	0.03
21-Nov-91	10:51:36 AM	153.13	13.05	8.16	0.03
21-Nov-91	10:52:06 AM	153.63	13.00	8.14	0.03
21-Nov-91	10:52:36 AM	154.13	12.95	8.12	0.03
21-Nov-91	10:53:06 AM	154.63	12.90	8.11	0.03
21-Nov-91	10:53:36 AM	155.13	12.84	8.09	0.03
21-Nov-91	10:54:06 AM	155.63	12.79	8.07	0.03
21-Nov-91	10:54:36 AM	156.13	12.74	8.05	0.03
21-Nov-91	10:55:06 AM	156.63	12.69	8.03	0.03
21-Nov-91	10:55:36 AM	157.13	12.64	8.02	0.03
21-Nov-91	10:56:06 AM	157.63	12.59	8.00	0.03
21-Nov-91	10:56:36 AM	158.13	12.54	7.99	0.03
21-Nov-91	10:57:06 AM	158.63	12.49	7.97	0.03
21-Nov-91	10:57:36 AM	159.13	12.44	7.95	0.03
21-Nov-91	10:58:06 AM	159.63	12.39	7.93	0.03
21-Nov-91	10:58:36 AM	160.13	12.35	7.92	0.03
21-Nov-91	10:59:06 AM	160.63	12.30	7.90	0.03
21-Nov-91	10:59:36 AM	161.13	12.25	7.88	0.03
21-Nov-91	11:00:06 AM	161.63	12.20	7.86	0.03
21-Nov-91	11:00:36 AM	162.13	12.16	7.85	0.03
21-Nov-91	11:01:06 AM	162.63	12.11	7.83	0.03
21-Nov-91	11:01:36 AM	163.13	12.07	7.82	0.03
21-Nov-91	11:02:06 AM	163.63	12.02	7.80	0.03
21-Nov-91	11:02:36 AM	164.13	11.97	7.78	0.03
21-Nov-91	11:03:06 AM	164.63	11.92	7.76	0.03

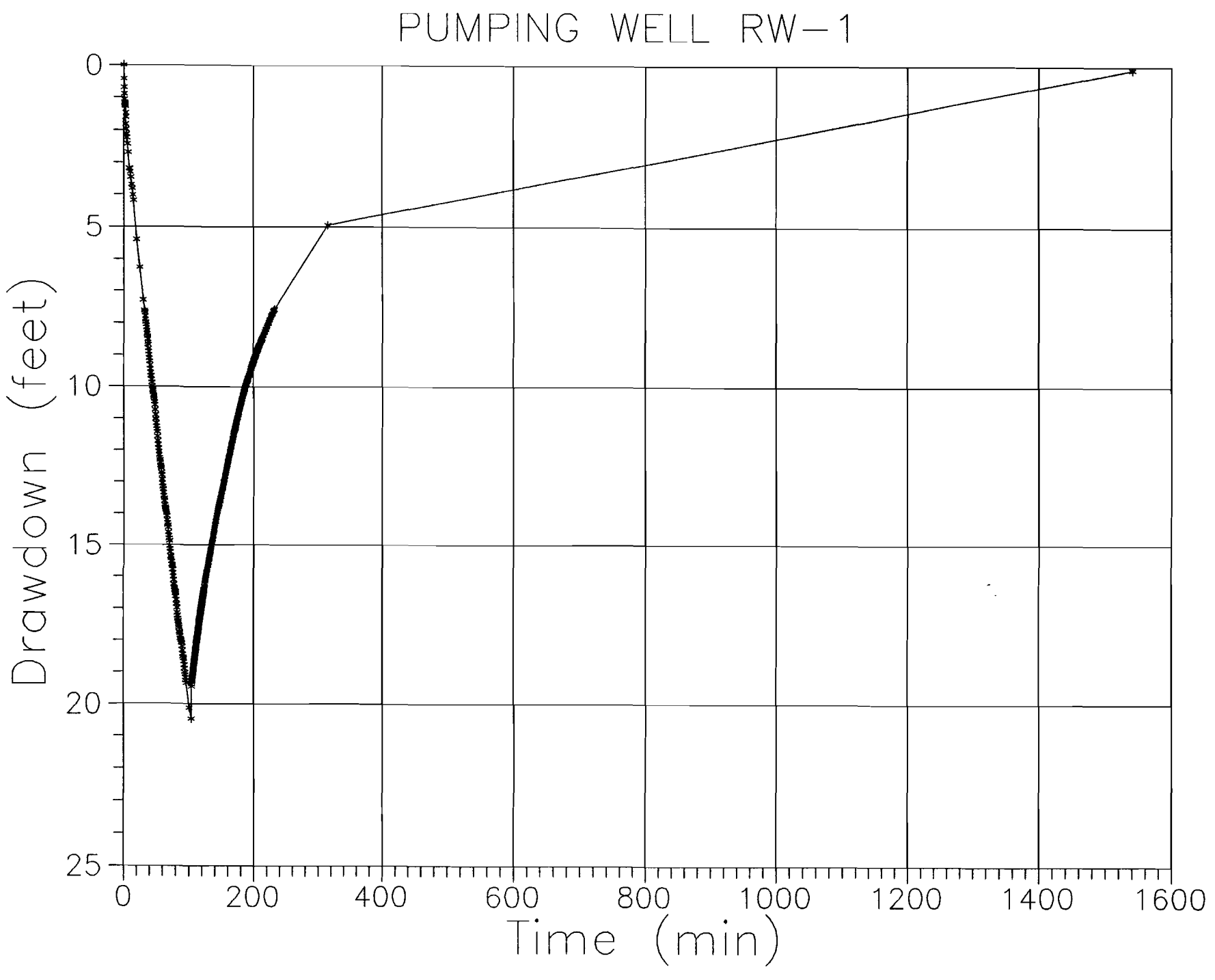
DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	11:03:36 AM	165.13	11.87	7.75	0.03
21-Nov-91	11:04:06 AM	165.63	11.82	7.73	0.03
21-Nov-91	11:04:36 AM	166.13	11.78	7.71	0.03
21-Nov-91	11:05:06 AM	166.63	11.73	7.70	0.03
21-Nov-91	11:05:36 AM	167.13	11.68	7.68	0.03
21-Nov-91	11:06:06 AM	167.63	11.63	7.67	0.03
21-Nov-91	11:06:36 AM	168.13	11.59	7.65	0.04
21-Nov-91	11:07:06 AM	168.63	11.54	7.63	0.03
21-Nov-91	11:07:36 AM	169.13	11.50	7.61	0.03
21-Nov-91	11:08:06 AM	169.63	11.45	7.60	0.03
21-Nov-91	11:08:36 AM	170.13	11.41	7.58	0.03
21-Nov-91	11:09:06 AM	170.63	11.37	7.56	0.03
21-Nov-91	11:09:36 AM	171.13	11.33	7.55	0.03
21-Nov-91	11:10:06 AM	171.63	11.29	7.53	0.03
21-Nov-91	11:10:36 AM	172.13	11.25	7.52	0.03
21-Nov-91	11:11:06 AM	172.63	11.21	7.50	0.03
21-Nov-91	11:11:36 AM	173.13	11.16	7.48	0.03
21-Nov-91	11:12:06 AM	173.63	11.12	7.47	0.03
21-Nov-91	11:12:36 AM	174.13	11.08	7.45	0.03
21-Nov-91	11:13:06 AM	174.63	11.03	7.43	0.03
21-Nov-91	11:13:36 AM	175.13	10.99	7.41	0.03
21-Nov-91	11:14:06 AM	175.63	10.95	7.40	0.03
21-Nov-91	11:14:36 AM	176.13	10.90	7.38	0.04
21-Nov-91	11:15:06 AM	176.63	10.86	7.37	0.04
21-Nov-91	11:15:36 AM	177.13	10.82	7.35	0.04
21-Nov-91	11:16:06 AM	177.63	10.78	7.34	0.04
21-Nov-91	11:16:36 AM	178.13	10.73	7.32	0.04
21-Nov-91	11:17:06 AM	178.63	10.69	7.30	0.04
21-Nov-91	11:17:36 AM	179.13	10.65	7.28	0.04
21-Nov-91	11:18:06 AM	179.63	10.61	7.27	0.04
21-Nov-91	11:18:36 AM	180.13	10.57	7.25	0.04
21-Nov-91	11:19:06 AM	180.63	10.53	7.23	0.04
21-Nov-91	11:19:36 AM	181.13	10.49	7.22	0.04
21-Nov-91	11:20:06 AM	181.63	10.44	7.20	0.04
21-Nov-91	11:20:36 AM	182.13	10.40	7.19	0.04
21-Nov-91	11:21:06 AM	182.63	10.37	7.17	0.04
21-Nov-91	11:21:36 AM	183.13	10.32	7.15	0.04
21-Nov-91	11:22:06 AM	183.63	10.29	7.14	0.04
21-Nov-91	11:22:36 AM	184.13	10.25	7.12	0.04
21-Nov-91	11:23:06 AM	184.63	10.22	7.10	0.04
21-Nov-91	11:23:36 AM	185.13	10.18	7.09	0.04
21-Nov-91	11:24:06 AM	185.63	10.15	7.07	0.04
21-Nov-91	11:24:36 AM	186.13	10.11	7.06	0.04
21-Nov-91	11:25:06 AM	186.63	10.08	7.04	0.04
21-Nov-91	11:25:36 AM	187.13	10.04	7.02	0.04
21-Nov-91	11:26:06 AM	187.63	10.01	7.01	0.04
21-Nov-91	11:26:36 AM	188.13	9.98	6.99	0.04
21-Nov-91	11:27:06 AM	188.63	9.95	6.98	0.04
21-Nov-91	11:27:36 AM	189.13	9.92	6.96	0.04
21-Nov-91	11:28:06 AM	189.63	9.88	6.94	0.04
21-Nov-91	11:28:36 AM	190.13	9.85	6.93	0.04
21-Nov-91	11:29:06 AM	190.63	9.82	6.91	0.04
21-Nov-91	11:29:36 AM	191.13	9.79	6.90	0.04
21-Nov-91	11:30:06 AM	191.63	9.75	6.88	0.04
21-Nov-91	11:30:36 AM	192.13	9.72	6.87	0.04
21-Nov-91	11:31:06 AM	192.63	9.69	6.85	0.04
21-Nov-91	11:31:36 AM	193.13	9.66	6.84	0.04
21-Nov-91	11:32:06 AM	193.63	9.63	6.82	0.04
21-Nov-91	11:32:36 AM	194.13	9.60	6.81	0.04
21-Nov-91	11:33:06 AM	194.63	9.56	6.79	0.04
21-Nov-91	11:33:36 AM	195.13	9.53	6.78	0.04
21-Nov-91	11:34:06 AM	195.63	9.50	6.76	0.04
21-Nov-91	11:34:36 AM	196.13	9.47	6.75	0.04
21-Nov-91	11:35:06 AM	196.63	9.43	6.73	0.04
21-Nov-91	11:35:36 AM	197.13	9.40	6.72	0.04
21-Nov-91	11:36:06 AM	197.63	9.36	6.71	0.04
21-Nov-91	11:36:36 AM	198.13	9.33	6.69	0.04
21-Nov-91	11:37:06 AM	198.63	9.30	6.68	0.04
21-Nov-91	11:37:36 AM	199.13	9.27	6.66	0.04
21-Nov-91	11:38:06 AM	199.63	9.24	6.65	0.04
21-Nov-91	11:38:36 AM	200.13	9.21	6.63	0.04

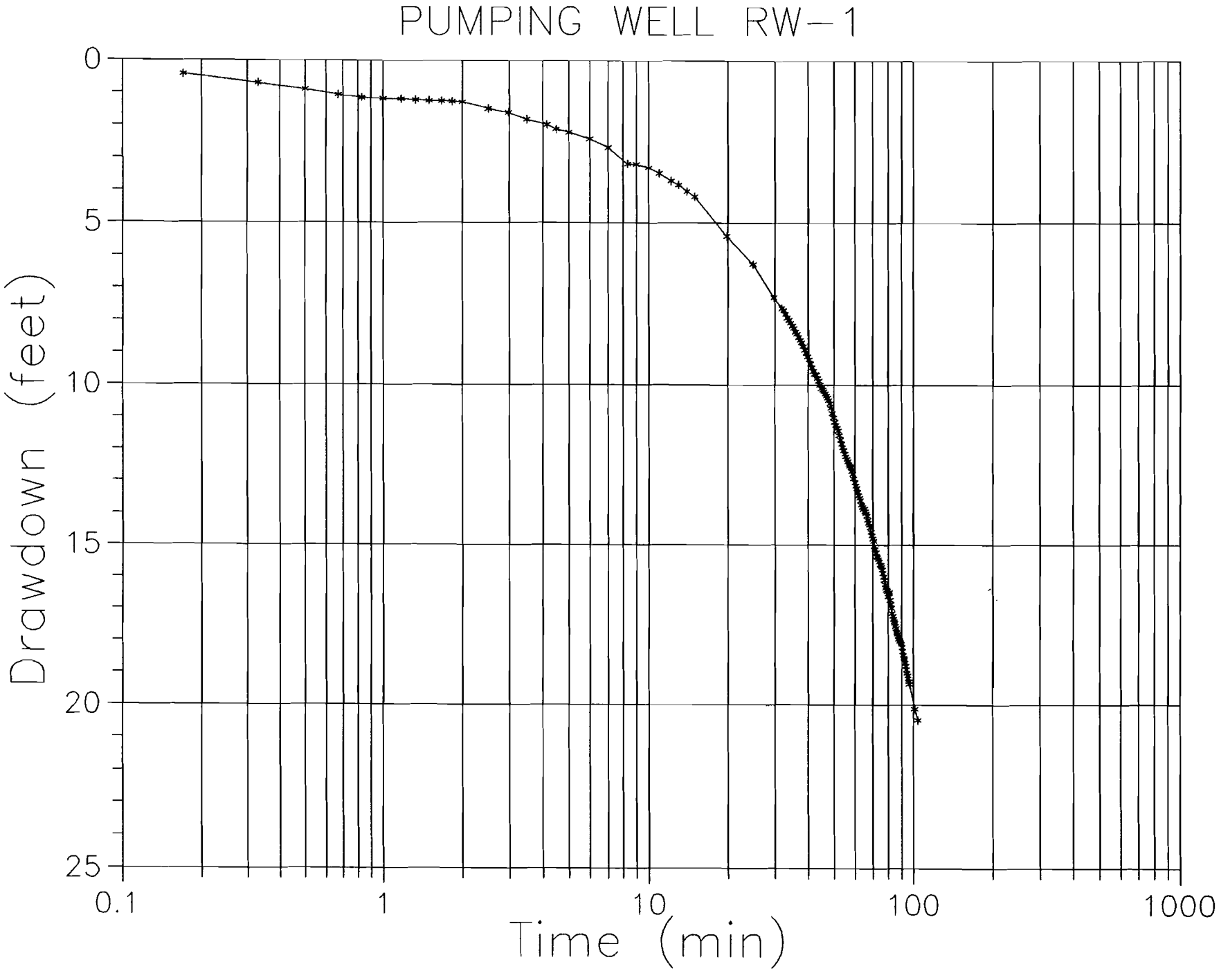
DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	11:39:06 AM	200.63	9.18	6.62	0.04
21-Nov-91	11:39:36 AM	201.13	9.15	6.60	0.04
21-Nov-91	11:40:06 AM	201.63	9.12	6.59	0.04
21-Nov-91	11:40:36 AM	202.13	9.09	6.57	0.04
21-Nov-91	11:41:06 AM	202.63	9.06	6.56	0.04
21-Nov-91	11:41:36 AM	203.13	9.03	6.54	0.04
21-Nov-91	11:42:06 AM	203.63	9.00	6.53	0.04
21-Nov-91	11:42:36 AM	204.13	8.97	6.51	0.04
21-Nov-91	11:43:06 AM	204.63	8.94	6.50	0.04
21-Nov-91	11:43:36 AM	205.13	8.91	6.49	0.04
21-Nov-91	11:44:06 AM	205.63	8.89	6.47	0.04
21-Nov-91	11:44:36 AM	206.13	8.86	6.46	0.04
21-Nov-91	11:45:06 AM	206.63	8.83	6.44	0.04
21-Nov-91	11:45:36 AM	207.13	8.81	6.43	0.04
21-Nov-91	11:46:06 AM	207.63	8.78	6.42	0.04
21-Nov-91	11:46:36 AM	208.13	8.75	6.40	0.04
21-Nov-91	11:47:06 AM	208.63	8.73	6.39	0.04
21-Nov-91	11:47:36 AM	209.13	8.70	6.37	0.04
21-Nov-91	11:48:06 AM	209.63	8.67	6.36	0.04
21-Nov-91	11:48:36 AM	210.13	8.64	6.35	0.04
21-Nov-91	11:49:06 AM	210.63	8.62	6.33	0.05
21-Nov-91	11:49:36 AM	211.13	8.59	6.32	0.04
21-Nov-91	11:50:06 AM	211.63	8.56	6.30	0.04
21-Nov-91	11:50:36 AM	212.13	8.54	6.29	0.05
21-Nov-91	11:51:06 AM	212.63	8.51	6.28	0.05
21-Nov-91	11:51:36 AM	213.13	8.49	6.26	0.05
21-Nov-91	11:52:06 AM	213.63	8.46	6.25	0.04
21-Nov-91	11:53:06 AM	214.63	8.41	6.22	0.05
21-Nov-91	11:54:06 AM	215.63	8.36	6.20	0.05
21-Nov-91	11:55:06 AM	216.63	8.31	6.17	0.05
21-Nov-91	11:56:06 AM	217.63	8.26	6.14	0.05
21-Nov-91	11:57:06 AM	218.63	8.21	6.12	0.05
21-Nov-91	11:58:06 AM	219.63	8.17	6.09	0.05
21-Nov-91	11:59:06 AM	220.63	8.12	6.06	0.05
21-Nov-91	12:00:06 PM	221.63	8.07	6.04	0.05
21-Nov-91	12:01:06 PM	222.63	8.02	6.01	0.05
21-Nov-91	12:02:06 PM	223.63	7.97	5.99	0.05
21-Nov-91	12:03:06 PM	224.63	7.92	5.96	0.05
21-Nov-91	12:04:06 PM	225.63	7.88	5.94	0.05
21-Nov-91	12:05:06 PM	226.63	7.83	5.91	0.05
21-Nov-91	12:06:06 PM	227.63	7.78	5.88	0.05
21-Nov-91	12:07:06 PM	228.63	7.74	5.86	0.05
21-Nov-91	12:08:06 PM	229.63	7.70	5.83	0.05
21-Nov-91	12:09:06 PM	230.63	7.65	5.81	0.05
21-Nov-91	12:10:06 PM	231.63	7.61	5.79	0.05
21-Nov-91	12:11:07 PM	232.65	7.58	5.76	0.05
21-Nov-91	12:12:07 PM	233.65		5.73	0.05
21-Nov-91	12:13:07 PM	234.65		5.71	0.05
21-Nov-91	12:14:07 PM	235.65		5.69	0.05
21-Nov-91	12:15:07 PM	236.65		5.66	0.05
21-Nov-91	12:16:07 PM	237.65		5.64	0.05
21-Nov-91	12:17:07 PM	238.65		5.62	0.05
21-Nov-91	12:18:07 PM	239.65		5.59	0.05
21-Nov-91	12:19:07 PM	240.65		5.57	0.05
21-Nov-91	12:20:07 PM	241.65		5.55	0.05
21-Nov-91	12:21:07 PM	242.65		5.52	0.06
21-Nov-91	12:22:07 PM	243.65		5.50	0.06
21-Nov-91	12:23:07 PM	244.65		5.48	0.06
21-Nov-91	12:24:07 PM	245.65		5.45	0.06
21-Nov-91	12:25:07 PM	246.65		5.43	0.06
21-Nov-91	12:26:07 PM	247.65		5.41	0.06
21-Nov-91	12:27:07 PM	248.65		5.38	0.06
21-Nov-91	12:28:07 PM	249.65		5.36	0.06
21-Nov-91	12:29:07 PM	250.65		5.34	0.06
21-Nov-91	12:30:07 PM	251.65		5.32	0.06
21-Nov-91	12:31:07 PM	252.65		5.30	0.06
21-Nov-91	12:32:06 PM	253.63		5.28	0.07
21-Nov-91	12:33:07 PM	254.65		5.25	0.06
21-Nov-91	12:34:07 PM	255.65		5.23	0.06
21-Nov-91	12:35:07 PM	256.65		5.21	0.06
21-Nov-91	12:36:07 PM	257.65		5.19	0.06

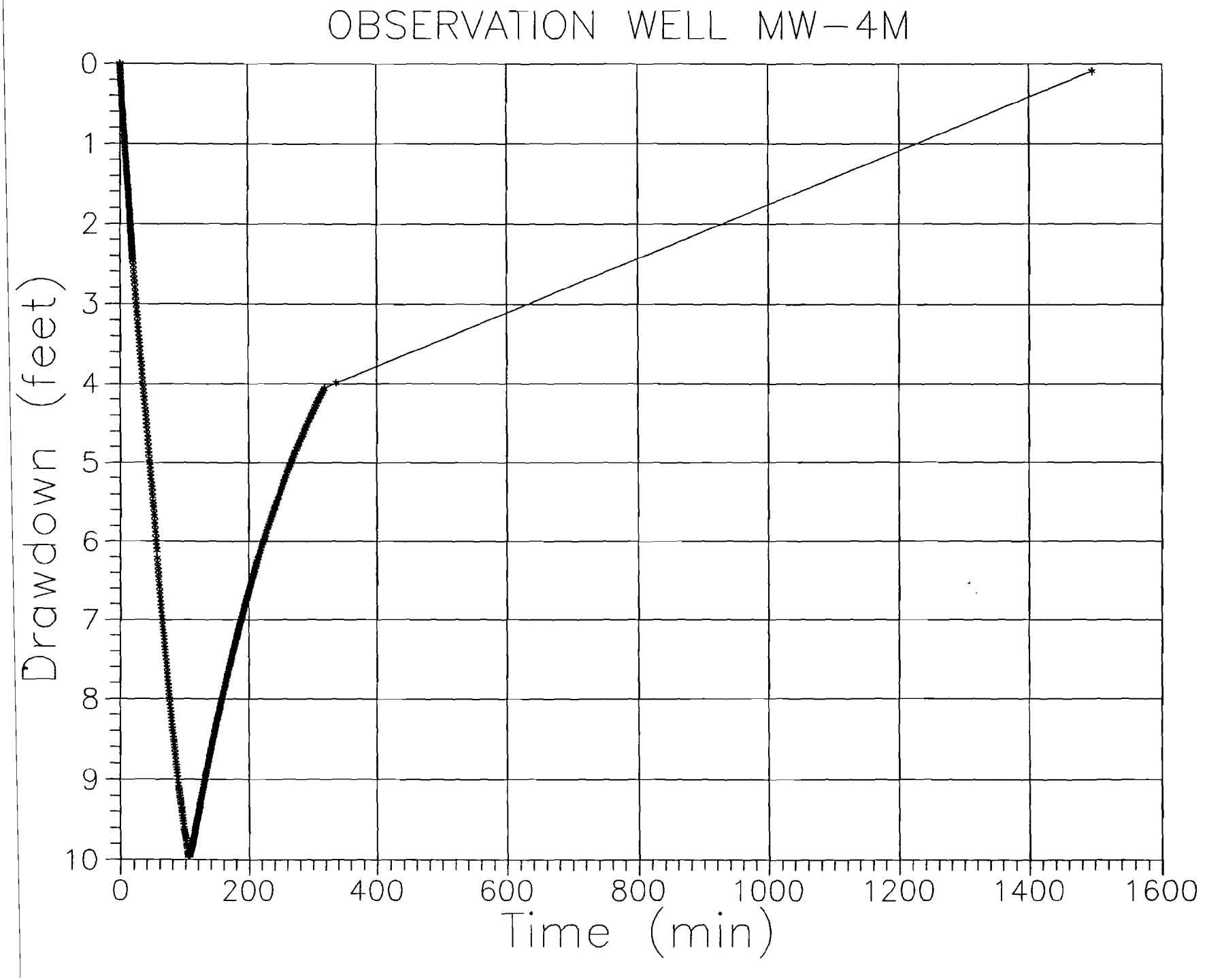
DATE	TIME	ELAPSED	RW-1 DRAWDOWN	MW-4M DRAWDOWN	MW-5M DRAWDOWN
21-Nov-91	12:37:07 PM	258.65		5.17	0.06
21-Nov-91	12:38:07 PM	259.65		5.14	0.06
21-Nov-91	12:39:07 PM	260.65		5.11	0.06
21-Nov-91	12:40:07 PM	261.65		5.09	0.06
21-Nov-91	12:41:07 PM	262.65		5.07	0.06
21-Nov-91	12:42:07 PM	263.65		5.05	0.06
21-Nov-91	12:43:07 PM	264.65		5.03	0.06
21-Nov-91	12:44:07 PM	265.65		5.01	0.06
21-Nov-91	12:45:07 PM	266.65		4.99	0.06
21-Nov-91	12:46:07 PM	267.65		4.97	0.06
21-Nov-91	12:47:07 PM	268.65		4.95	0.06
21-Nov-91	12:48:07 PM	269.65		4.93	0.06
21-Nov-91	12:49:07 PM	270.65		4.91	0.06
21-Nov-91	12:50:07 PM	271.65		4.89	0.06
21-Nov-91	12:51:07 PM	272.65		4.87	0.06
21-Nov-91	12:52:06 PM	273.63		4.86	0.09
21-Nov-91	12:53:07 PM	274.65		4.83	0.07
21-Nov-91	12:54:07 PM	275.65		4.82	0.07
21-Nov-91	12:55:07 PM	276.65		4.80	0.06
21-Nov-91	12:56:07 PM	277.65		4.78	0.06
21-Nov-91	12:57:07 PM	278.65		4.76	0.06
21-Nov-91	12:58:07 PM	279.65		4.74	0.06
21-Nov-91	12:59:07 PM	280.65		4.72	0.06
21-Nov-91	01:00:07 PM	281.65		4.70	0.06
21-Nov-91	01:01:07 PM	282.65		4.68	0.06
21-Nov-91	01:02:07 PM	283.65		4.67	0.06
21-Nov-91	01:03:07 PM	284.65		4.65	0.06
21-Nov-91	01:04:06 PM	285.63		4.64	0.10
21-Nov-91	01:05:07 PM	286.65		4.61	0.07
21-Nov-91	01:06:07 PM	287.65		4.59	0.07
21-Nov-91	01:07:07 PM	288.65		4.57	0.07
21-Nov-91	01:08:07 PM	289.65		4.55	0.07
21-Nov-91	01:09:07 PM	290.65		4.53	0.07
21-Nov-91	01:10:07 PM	291.65		4.52	0.07
21-Nov-91	01:11:07 PM	292.65		4.50	0.07
21-Nov-91	01:12:07 PM	293.65		4.48	0.07
21-Nov-91	01:13:07 PM	294.65		4.46	0.07
21-Nov-91	01:14:07 PM	295.65		4.45	0.07
21-Nov-91	01:15:07 PM	296.65		4.43	0.07
21-Nov-91	01:16:07 PM	297.65		4.41	0.07
21-Nov-91	01:17:07 PM	298.65		4.40	0.07
21-Nov-91	01:18:07 PM	299.65		4.38	0.07
21-Nov-91	01:19:07 PM	300.65		4.36	0.07
21-Nov-91	01:20:07 PM	301.65		4.35	0.07
21-Nov-91	01:21:07 PM	302.65		4.33	0.07
21-Nov-91	01:22:07 PM	303.65		4.31	0.08
21-Nov-91	01:23:07 PM	304.65		4.29	0.07
21-Nov-91	01:24:07 PM	305.65		4.28	0.08
21-Nov-91	01:25:07 PM	306.65		4.26	0.08
21-Nov-91	01:26:07 PM	307.65		4.25	0.08
21-Nov-91	01:27:07 PM	308.65		4.23	0.08
21-Nov-91	01:28:06 PM	309.63		4.21	0.08
21-Nov-91	01:29:07 PM	310.65		4.20	0.08
21-Nov-91	01:30:07 PM	311.65		4.18	0.08
21-Nov-91	01:31:07 PM	312.65		4.16	0.08
21-Nov-91	01:32:07 PM	313.65		4.15	0.08
21-Nov-91	01:33:07 PM	314.65		4.13	0.08
21-Nov-91	01:34:07 PM	315.65	4.95	4.12	0.08
21-Nov-91	01:35:07 PM	316.65		4.10	0.08
21-Nov-91	01:36:07 PM	317.65		4.09	0.08
21-Nov-91	01:37:07 PM	318.65		4.07	0.08
21-Nov-91	01:38:07 PM	319.65		4.06	0.08
21-Nov-91	01:56:00 PM	337.54		3.99	
22-Nov-91	09:15:00 AM	1496.54		0.13	
22-Nov-91	09:40:00 AM	1521.54			0.07
22-Nov-91	10:00:00 AM	1541.54	0.05		

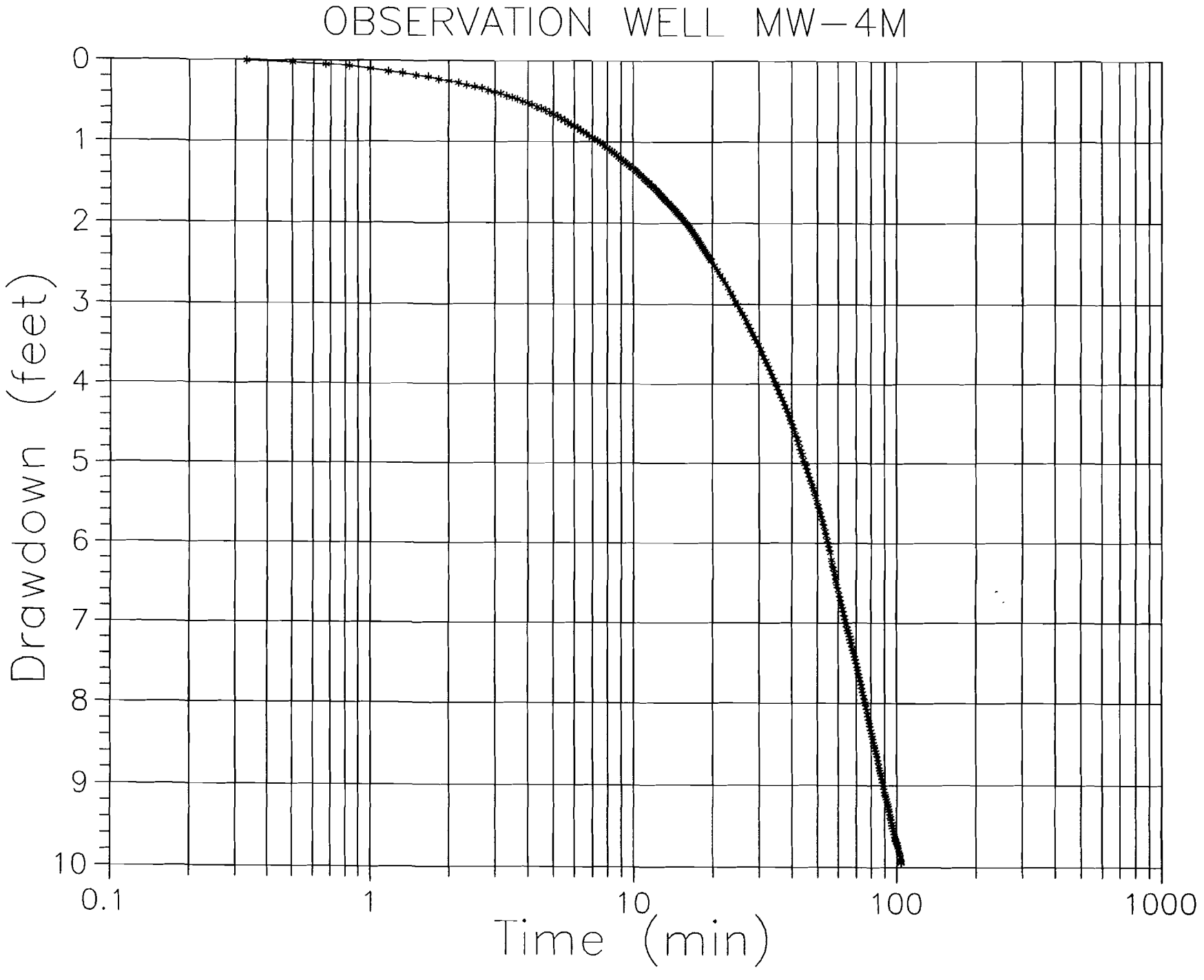
B

APPENDIX B
TIME-DRAWDOWN AND RECOVERY GRAPHS


PUMPING WELL RW-1
Drawdown (feet)
0
5
10
15
20
25
0
200
400
600
800
1000
1200
1400
1600
Time (min)


PUMPING WELL RW-1
Drawdown (feet)
0
5
10
15
20
25
0.1
1
10
100
1000
Time (min)


OBSERVATION WELL MW-4M
Drawdown (feet)
0
1
2
3
4
5
6
7
8
9
10
0
200
400
600
800
1000
1200
1400
1600
Time (min)


OBSERVATION WELL MW-4M
Drawdown (feet)
0
1
2
3
4
5
6
7
8
9
10
0.1
1
10
100
1000
Time (min)