

**MALCOLM
PIRNIE**

**REMEDIAL INVESTIGATION REPORT
ADDENDUM A: AQUIFER TESTING REPORT
MR. C CLEANERS SUPERFUND SITE**

**NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION**

MAY 1996

MALCOLM PIRNIE, INC.

**S-3515 Abbott Road
P. O. Box 1938
Buffalo, New York 14219**

0266-314-005

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Attachment	Description
A	Test Zone A: Well Design and Construction Details
B	Test Zone A: Pumping Analysis
C	Test Zone A: RW-1 Groundwater Sampling Results
D	Test Zone B: Well Design and Construction Details
E	Test Zone B: Pumping Test Analysis
F	Test Zone B: Groundwater Sampling Results

1.0 INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC) assigned Malcolm Pirnie, Inc. a Remedial Investigation (Work Assignment D-002852-7.1) at the Mr. C Cleaners Superfund site in East Aurora, New York (see Figure 1-1). The Remedial Investigation (RI) report was completed in June 1995 and included a preliminary remedial concept, a feasibility study work plan, and an aquifer testing work plan.

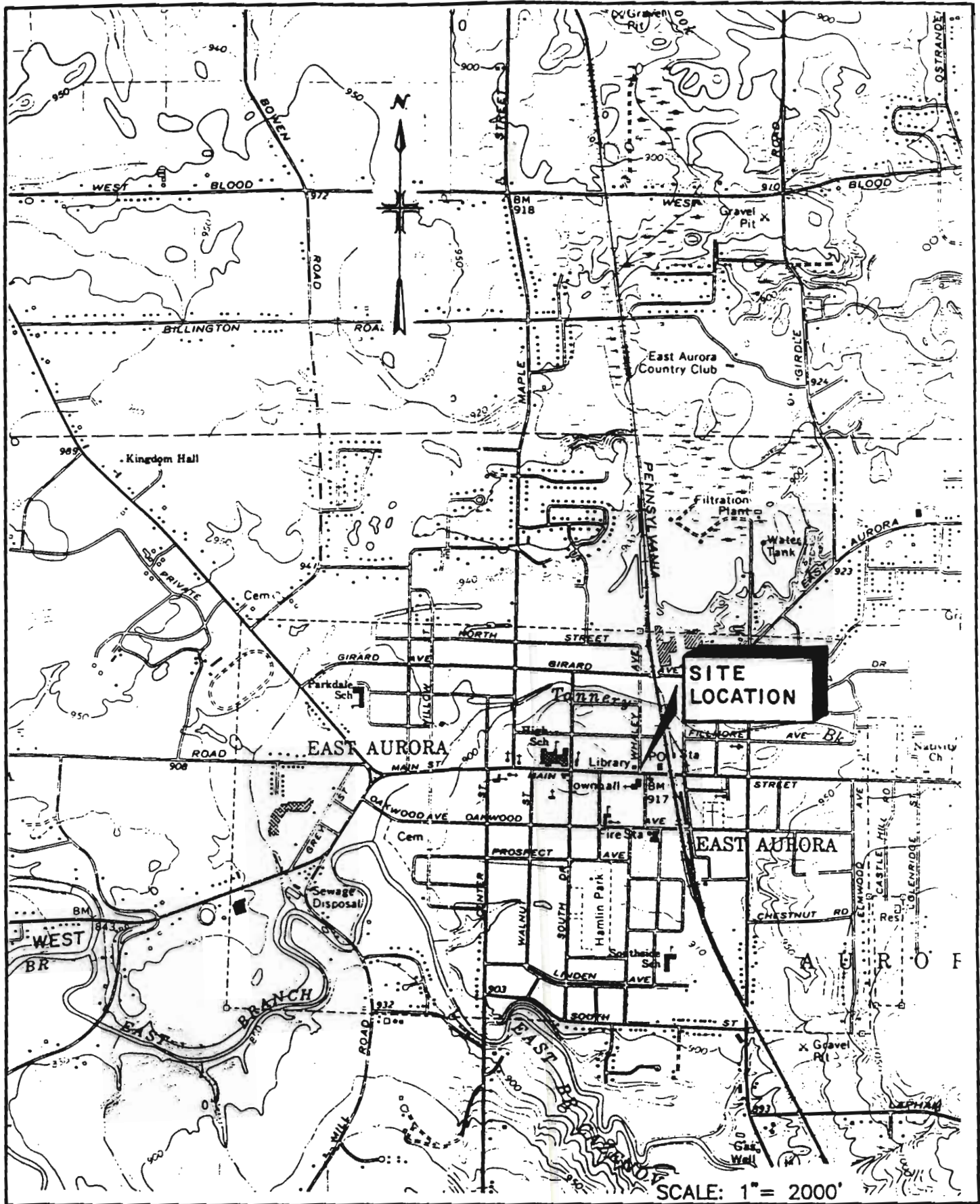
The preliminary remedial concept was based on sampling results from the Remedial Investigation activities which indicated that the highest PCE concentrations in groundwater are present in a source plume extending from Mr. C Cleaner's business (viz. test zone A) toward the rear of residential homes located west of Whaley Avenue and north of the Aurora Public Library (viz. test zone B). Further characterization of the hydrogeologic properties of the outwash aquifer was recommended to evaluate the remedial alternatives during the Feasibility Study. Aquifer testing was performed in each test zone during August and September 1995 to determine the feasibility of extracting groundwater from a localized area of the contaminant plume in which PCE concentrations exceed 1000 ppb. Objectives of the pumping tests were to evaluate the influence of pumping groundwater from the outwash aquifer and to evaluate the hydraulic coefficients of the aquifer.

This RI addendum has been prepared to summarize the investigations performed at the two test zones. The investigations were performed in accordance with the Aquifer Testing Work Plan submitted in the June 1995 RI report and subsequently modified during the aquifer testing program with agreement of the NYSDEC.

2.0 SITE CONDITIONS

2.1 Site Geology

The site is in a commercial/residential setting covered by asphalt, soil fill, and lawns. Beneath the fill is a layer of gravelly clayey silt till approximately 5 feet thick. A heterogeneous glacial outwash unit approximately 18 to 20 feet thick underlies the till. The RI field work indicated that coarse-grained outwash is associated with zones of lacustrine



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DEC-31-MAP

MR. C DRY CLEANER
NYSDEC STANDBY CONTRACT
SITE LOCATION MAP

NYSDEC

JUNE 1994

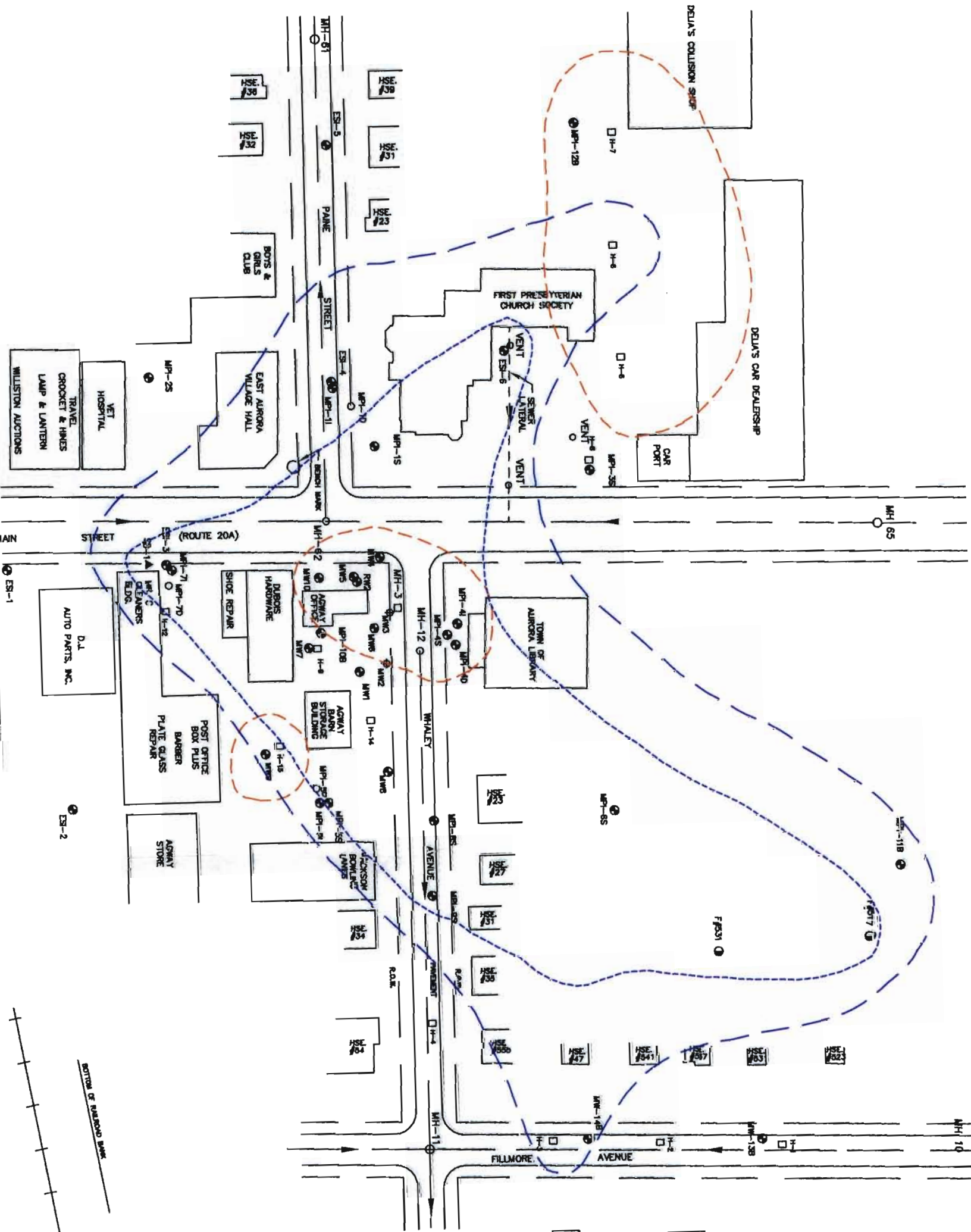
sediment and finer grained stratified outwash deposits to a depth of 28 feet below ground surface (bgs). Underlying the outwash is approximately 14 feet of generally homogeneous lacustrine fine silty sand, which in turn is underlain by a stratified till unit at approximately 42 feet below grade.

2.2 Site Hydrogeology

The RI identified three hydrostratigraphic units including the outwash aquifer occurring from the water table at approximately 10 feet bgs to 28 feet bgs, the lacustrine aquifer from 28 feet to 42 feet, and a confining layer from 42 feet to an unknown depth. Water level data indicate that the outwash aquifer and the lacustrine aquifer are hydraulically connected. However, the outwash and lacustrine aquifer have different hydraulic conductivities and porosities, and are monitored separately from a contaminant migration perspective.

2.3 Site Contamination

Tetrachloroethene (PCE) and the degradation products of PCE were detected within the shallow outwash aquifer beneath the site. A contaminant plume occurs in the upper portion of the outwash aquifer over a broad area between Fillmore Avenue on the north and the First Presbyterian Church on the south (see Figure 2-1). However, a much smaller, narrow plume characterized as a source plume with concentrations exceeding 1000 ppb, extends from Mr. C Cleaners in a northwest direction toward the rear of residential homes west of Whaley Avenue behind the Aurora Library (see Figure 2-2). The source plume originates near the watertable at Mr. C Cleaners, then deepens to the northwest where the highest concentrations are found near the base of the outwash aquifer. A secondary, more shallow plume with lower concentrations extends in a southwest direction toward the First Presbyterian Church. Sampling data demonstrates that the concentrations of chlorinated organics increase with depth in the outwash aquifer and then decrease substantially in the lacustrine aquifer.



LEG

□ H-11
○ MH-12

● MH-65
● F631

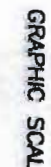
○ PD-2
▲ SB-2

◆ MH-2

F634

100

GRAPHIC SCALE



2.4 Aquifer Test Zones

Test zone A includes the suspected source area at Mr. C Cleaners and is situated to capture contaminated groundwater underlying the adjacent buildings and the site parking lot. Test zone B is behind the Library in a second area of elevated PCE levels located at the suspected leading edge of the plume. Data collected during the RI indicates that the two areas represent the extremes of hydraulic behavior anticipated in the outwash aquifer. The investigations conducted at test zone A and test zone B are presented in Sections 3.0 and 4.0, respectively.

Discharge water from all well development and pumping performed during the testing program was treated with granular activated carbon prior to discharge to the storm sewer along Whaley Avenue, and ultimate discharge to Tannery Brook. During the pump test at test zone B, one effluent sample was collected and analyzed as outlined in the Aquifer Testing Work Plan based on discharge monitoring requirements established for the aquifer test by the NYSDEC Division of Water. Analytical results are presented in Section 4.3 illustrating that the effluent sampling results met the discharge requirements.

3.0 TEST ZONE A INVESTIGATION

3.1 Well Installation

3.1.1 Test Well RW-1

Test well RW-1 was installed on the west side of the Mr. C Cleaners parking lot. The location of RW-1 is illustrated on Figure 2-2. Prior to well installation, a pilot boring (PB-1) was completed using continuous split spoon sampling to collect and characterize soil samples representative of the screened interval of the test well.

Grain size distribution curves were prepared for a total of six representative soil intervals in pilot boring, PB-1 at Mr. C Cleaners. All samples from 17-28 feet exhibit a well graded grain size distribution (viz. sand and gravel with 8 to 20% silt). The proposed screen slot size and sand pack selections were based on the grain size distribution of a composite sample collected from 21 to 24 feet below grade. This sample represents the finest grained soils encountered in the screened interval. Using the 60% retained value from the grain size

distribution and a multiplier of 5, a 60 slot size was selected to retain 90% of a sand pack with a uniformity coefficient of 2.5. The grain size curves, boring logs, and calculations leading to the selection of the slot size and sand pack are presented in Attachment 1.

The test well screen is Schedule 5, 304 stainless attached to a mild steel riser. The total well depth is 30 feet including a two-foot long sump, a 10-foot long screen, and a 18 foot long riser. The annulus surrounding the well screen is filled with a Morie #3 filter pack extending from 28 feet bgs to the top of the saturated outwash unit at approximately 10 feet bgs. A bentonite seal two-feet long overlies the sand pack. The remaining annular space is filled with cement-bentonite grout to the surface and completed with a curb box. Well design and construction details are presented in Attachment A.

3.1.2 Observation Well Installation

Observation well OW-A was installed 25 feet north of RW-1. The well is 28 feet deep with a 2-inch diameter 0.010-inch slot PVC well screen (5 feet in length) and PVC riser (23 feet in length). The sand pack extends from 28 feet to 10 feet bgs, and fully penetrates the outwash aquifer length. Observation well diagrams are found in Attachment A and locations are presented on Figure 2-2.

3.1.3 Well Development

Development of RW-1 was performed by the drilling subcontractor by means of surging and pumping. The effectiveness of the development was monitored by recording the pumping rate and drawdown to estimate changes in well yield and monitor stabilization of the specific capacity. A sweet odor, which is characteristic of PCE, was detected during the development of RW-1.

The observation well was developed until the turbidity in the well decreased significantly.

3.2 Pumping Test Results

Prior to the installation of RW-1, a maximum pumping rate of 24 gallons per minute was estimated for test zone A from the site-wide average in-situ hydraulic conductivity test

results for shallow wells (see calculations in Attachment B). However, during development, pumping rates of 40 gallons per minute produced minimal drawdown in the pumping well. It was determined that a pumping rate of between 55 and 100 gallons per minute would produce optimum drawdown in the pumping well. Because a larger volume carbon absorption unit is required at these higher rates the aquifer test was limited to step drawdown testing as described below.

3.2.1 Test Pumping

Step drawdown testing was performed at 40 gpm, 50 gpm, and 55 gpm. Each pumping rate was maintained for two hours. Water levels in the pumping well were recorded with an electronic data logger and transducer. During step testing, the water levels in observation wells OW-A and ESI-3 were monitored manually. The water level in the test well was allowed to recover to nearly static condition for at least 20 minutes between each step.

Additionally, RW-1 was pumped for six hours at a pumping rate of 27 gpm to collect groundwater samples representative of dynamic pumping conditions for bench scale AOP treatability testing. Water levels were monitored manually in the pumping well, OW-A, ESI-3, and MPI-10B.

3.2.2 Pumping Test Analysis

Maximum drawdowns recorded in RW-1 were 0.84 feet at 27 gpm, 1.4 feet at 40 gpm, 1.83 feet at 50 gpm, and 2.37 feet at 55 gpm. A step-drawdown analysis was performed by plotting the inverse of specific capacity versus pumping rate. Specific capacities decrease with pumping rates due to increased well losses. The step drawdown analysis provides an estimate of the specific capacity that may be achieved at a maximum permissible drawdown, and an estimate of maximum well yield. Based on this analysis, the maximum yield of RW-1, while maintaining the pumping level above the top of the well screen, is approximately 108 gpm. Calculations are included in Attachment B.

A preliminary estimate of the coefficient of transmissivity was calculated using Jacob's straight line solution to the Theis nonequilibrium equation (Driscoll, 1986). This

equation was developed for isotropic, homogeneous, infinite, and confined aquifers that are tested with a 100% efficient well. Therefore, this method presents an approximation of the actual transmissivity. Attachment B presents the calculations and supporting graphs of drawdown vs. time for the pumping well (RW-1) at 27 gpm, 50 gpm, and 55 gpm; and for the observation well OW-A at 27 gpm. No other observation well data collected was amenable to the Jacob's straight line solution due to an excessive distance from the pumping well and the short duration of the step tests. The preliminary transmissivities ranged from 41,620 gpd/ft to 40,430 gpd/ft. The use of other nonequilibrium methods of analysis which better model the outwash aquifer, require longer term pumping data.

As a comparison, the coefficient of transmissivity was also estimated as the product of the hydraulic conductivity and the saturated thickness of the aquifer. Using 9 E-2 cm/s from the in-situ slug testing at ESI-3 and 18 feet as the saturated thickness, the transmissivity value is 34,300 gpd/ft.

3.3 Groundwater Sampling

Groundwater samples were collected by Malcolm Pirnie, Inc. personnel from RW-1 on August 29, 1995. Groundwater was removed from the well with a submersible pump at 27 gpm for approximately 6.5 hours. Therefore 9,930 gallons were removed in that time period. Previously, a total of approximately 8000 gallons were removed for well development and step testing. Water was discharged into an activated carbon unit for treatment after passing through a gate valve, and electronic flow meter. Treated water was discharged into the Whaley Avenue storm sewer.

Twenty 1-gallon containers were collected for AOP bench scale treatability testing at Vulcan Peroxidation Systems, Inc. In addition, groundwater was collected for analysis of volatile organics at NYTEST Environmental, Inc. Field measurements and all NYTEST analytical data are presented in Attachment C. The analytical data are summarized in Table 4-2. (see Section 4.3).

Tetrachloroethene (PCE) was detected at a concentration of 680 ug/l in RW-1. In addition two PCE degradation products, dichloroethene and trichloroethene were detected

at concentrations of 8J and 3J ug/l, respectively. A concentration of 1,1,1 trichloroethane (3J ug/l) was also detected at RW-1.

4.0 TEST ZONE B INVESTIGATION

4.1 Well Installation

Two test wells, designated RW-2 and RW-3, and two observation wells, designated OW-B and OW-C, were installed in test zone B during September 1995. Test well locations are illustrated on Figure 2-2. Figure 4-1 illustrates the distance between the wells, and the geologic conditions observed at the boring locations in test zone B.

4.1.1 Preliminary Low Rate Pumping Test

A preliminary low rate pumping test was performed on existing well MPI-6S to verify the feasibility of performing a three day pumping test at the Library location prior to installation of recovery well, RW-2. Prior to conducting the low rate test, an observation well, OW-B, was installed 25 feet south of MPI-6S. Pumping was performed with a centrifugal pump, gate valve, electronic flow meter, cartridge filter, and an activated carbon unit. Water levels were monitored in MPI-6S and observation well OW-B using an In-Situ Hermit data logger.

MPI-6S was pumped at an initial rate of 1.7 gpm with a water table drawdown of approximately 16 feet below grade. OW-B responded immediately dropping 0.05 feet. However, the water level stabilized quickly and began to rise. The pumping rate was increased to 2.4 gpm after approximately 1.5 hours drawing the water level down to 19.9 feet below grade. After a total of five hours of pumping, the maximum drawdown 25 feet away in OW-B was only 0.08 feet and the test was terminated. Water level recovery was complete in MPI-6S within six minutes after pumping ended.

The test results indicated that MPI-6S has a low efficiency as indicated by the high drawdown during pumping and subsequent rapid recovery. However, the yield of MPI-6S indicated that a properly designed test well could be pumped during a three-day pumping test.

FIGURE 4-1

MR. C CLEANERS
AQUIFER TESTING REPORT

GEOLOGIC CROSS-SECTION AT TEST ZONE B

NYSDEC

NOVEMBER 1995

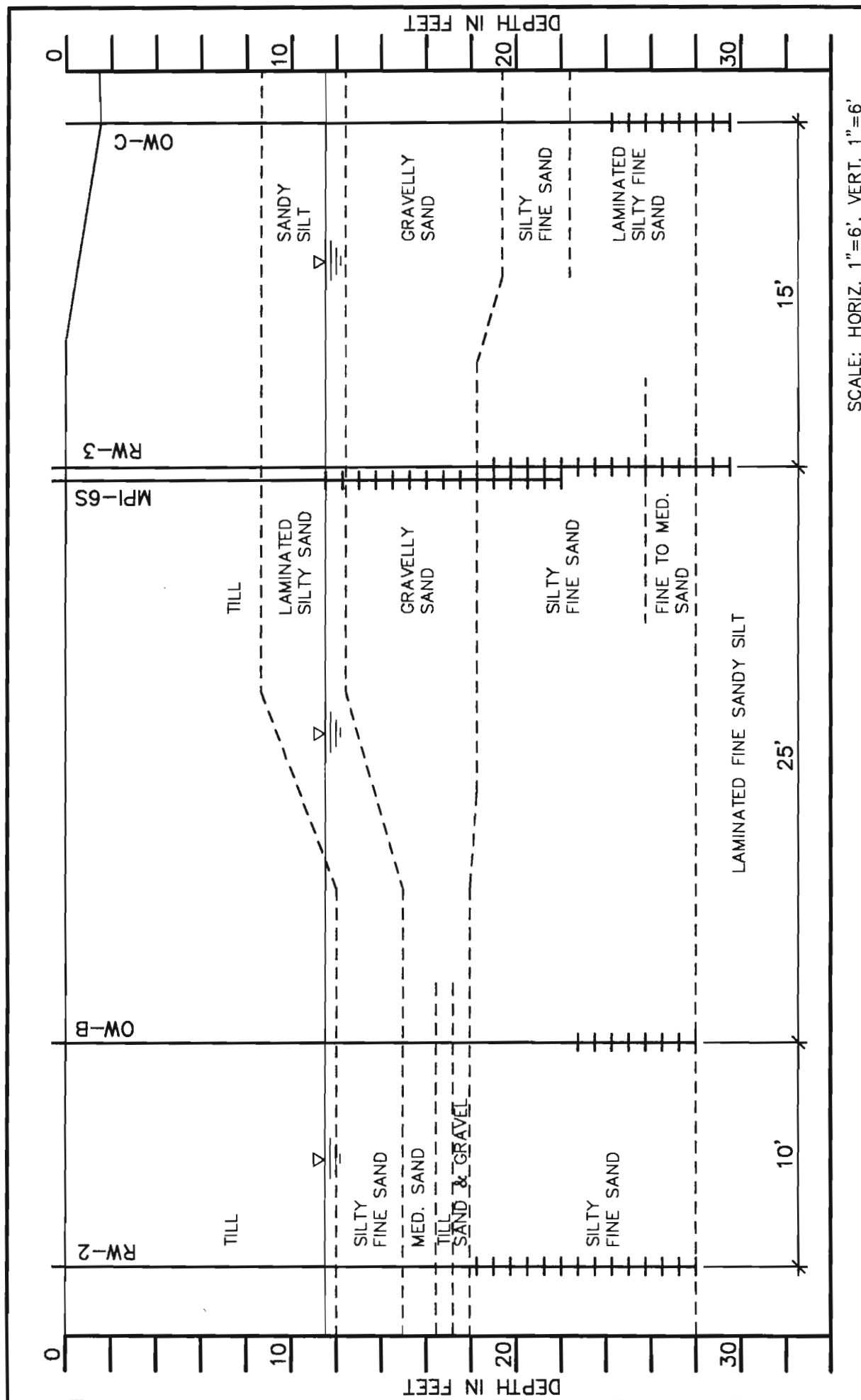
LEGEND

- GEOLOGIC CONTACT
- WELL RISER
- WELL SCREEN
- WATER TABLE

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DEC-31-GXS

SCALE: HORIZ. 1"=6', VERT. 1"=6'



4.1.2 Test Well RW-2

Test well RW-2 was installed in close proximity to OW-B (i.e. within 10 feet) to ensure significant drawdown would be observed in OW-B. Prior to the installation of RW-2, a pilot boring (PB-2) was completed within 15 feet of the test well location using continuous split spoon sampling to collect and characterize soil samples representative of the screened interval. RW-2 was designed using the grain size analyses performed on the sample composite collected from 20-26 feet below grade in PB-2. RW-2 was installed based on the design presented in Attachment D. However, during development, RW-2 produced a maximum yield of only 0.7 gallons per minute demonstrating that a pumping test in this location would not be feasible.

4.1.3 Test Well RW-3

The aquifer test work plan was modified to include the installation of a third test well (RW-3). Test well RW-3 was installed 5 feet from existing well MPI-6S and the Phase II RI hydropunch boring H-11; therefore, no pilot boring was needed. The low rate pumping test at MPI-6S indicated that a more efficient well design should produce a higher yield. Additionally, as discussed below in Section 4.3, analytical results from MPI-6S, OW-B, and RW-2 indicated that the concentration of PCE increases in the northerly direction (i.e. toward MPI-6S) and decreases southward from OW-B toward RW-2. The design of RW-3 was based on the grain size distributions from MPI-6S. However, to confirm that similar geology was present at MPI-6S and RW-3, soil samples were collected continuously during advancement of RW-3 from the water table to the base of the outwash at 28 feet below grade. As illustrated in Figure 4-1, two water bearing zones were encountered at RW-3. These include a gravelly sand in the 12 to 18 foot interval, and a fine to medium sand in the 26 to 28 foot interval. Silty fine sand, similar to the 18 to 26 foot interval at PB-2 (near RW-2 and OW-B), was observed in the 18 to 26 foot interval.

The well consists of a four-inch diameter 0.020-inch continuous slot PVC well screen (10 feet in length) and PVC riser (18 feet in length). Morie #0 sand pack extends from the screen base at approximately 29 feet to 10 feet below grade. MPI-6S grain size curves, RW-3 boring log/well construction diagram, and calculations are presented in Attachment D.

4.1.4 Observation Wells

Observation wells, one coupled with each recovery well were installed within 25 feet of the test wells. Observation well, OW-B is located 10 feet north of RW-2 and OW-C is 15 feet north of RW-3. Each well is 28 feet deep with a 2-inch diameter 0.010-inch slot PVC well screen (5 feet in length) and PVC riser (23 feet in length). The sand pack length of each well equals the saturated thickness of the outwash aquifer. Observation well diagrams are found in Attachment D and locations are presented on Figure 2-2.

4.1.5 Well Development

Development of RW-2 by repeated surging and bailing was performed until three successive surgings with no change in the recovery rate occurred. The recovery rate stabilized at 0.6 to 0.7 gallons per minute indicating that the recovery well could not be pumped at rates required for the implementation of groundwater collection in this location.

RW-3 was developed on September 12 and 13, 1995 by surging and pumping with a centrifugal pump until the turbidity decreased significantly and the flow rate stabilized. The well yield was 4 gallons per minute at the completion of development.

Observation wells were developed until the turbidity in the wells decreased significantly.

4.1.6 Slug Testing

Slug testing was performed in RW-2 and OW-B, because RW-2 was not pumpable at yields high enough to justify performing a pumping test. The field tests consisted of rising head slug tests using an electronic data logger to monitor water level recovery as described in the RI Work Plan. The hydraulic conductivity tests resulted in $3.8 \text{ E-}4 \text{ cm/s}$ and $1.7 \text{ E-}4 \text{ cm/s}$ for RW-2 and OW-B respectively, and are presented in Attachment D. These results are lower than the slug tests results for MPI-6S ($8.5 \text{ E-}3 \text{ cm/s}$).

4.2 Pumping Test Results

4.2.1 Step Drawdown Testing in RW-3

Step testing was performed at RW-3 on September 13, 1995 to determine the optimum pumping rate to be used during a 24 hour pumping test. Testing was performed at 4.3 gpm for one hour with a submersible pump. Pumping at 4.3 gpm produced drawdown of 5.9 feet or 33% of the saturated thickness. Therefore, 4 gpm was selected as the pumping rate so that the test pumping water level would not fall below the optimum drawdown for efficient pumping, which is 40% of the saturated thickness.

4.2.2 24-Hour Pumping Test

The 24-hour pumping test was performed September 14 and 15, 1995. An electric submersible pump was used to produce the drawdown in the pumping well. The discharge line was fitted with a flow meter capable of accurately measuring the flow rate to the nearest 0.1 gpm. The flow rate was regulated with a butterfly valve in the discharge line. Electricity was supplied to the pump and the flow meter by the power at the Aurora Public Library.

A pressure transducer was installed in the pumping well, RW-3 with an electronic data logger to monitor water level changes. Water level measurements from RW-3 were recorded in the data logger in the logarithmic mode to record measurements at a maximum of 30 seconds apart. Once the log sample interval exceeded one minute, the unit recorded one minute readings linearly. Pressure transducers and Telog data loggers were installed in observation wells, MPI-6S, OW-B, RW-2, and OW-C and were set to record the water levels at one minute time intervals. The data logger in RW-2 malfunctioned and was not used until 7 hours into the test when a replacement was deployed. Water levels were recorded with electronic water level probes at selected time intervals during the first seven hours of the test. Water levels from more distant observation wells, MPI-4S, MPI-8S, Fillmore Avenue residents' wells #531, and #517, and MPI-11B were recorded periodically (approximately every 2 hours) throughout the duration of the 24 hour test. However, no water level change occurred in these wells.

Monitoring well, ESI-2 which was outside of the potential influence of the pumping well was monitored to identify background (natural) fluctuations to the water table surface.

This well was monitored with a pressure transducer and Telog data logger during the 24 hour test. No significant background watertable fluctuation was observed.

The test pumping rate of 4.0 gpm was used for the first 2.5 hours of the test. Only a limited amount of drawdown was observed in the observation wells and the water level was increasing slightly in the pumping well, RW-3. The pumping rate was increased to 4.3 gpm at this time to produce more drawdown in the pumping and observation wells. The maximum drawdown achieved in the pumping well was 6.5 feet.

After approximately 24 hours, pumping was discontinued because drawdown had stabilized early in the test; and recovery was monitored. Prior to termination of pumping, the 4 Telog data loggers were reset to record water levels at 30 second intervals to fully characterize recovery. The recovery period lasted approximately 1.5 hours in the observation wells, and 15 minutes in RW-3.

Immediately after the recovery period, RW-3 was pumped for 1.25 hours at a rate of 5.0 gpm. Data loggers installed in observation wells were set to record water levels at 30 second intervals. Recovering water levels were monitored at the termination of pumping.

4.2.3 Pumping Test Analysis

The Neuman curve fitting method (Kruseman and deRidder, 1991) was used to analyze the observation well data from one pumping rate (5.0 gpm) and two recovery periods (4.3 gpm and 5.0 gpm). Neuman's curve-fitting method uses time and drawdown plotted on log-log graph paper to form a pumping test curve which is then matched to a type curve. Neuman's method is for unconfined aquifers with delayed watertable response. Type A curves for early time data were used since all of the drawdown occurred in the first hour of the test. Aquifer parameters including, transmissivity, storativity, horizontal, and vertical hydraulic conductivity are calculated. However, the values calculated for storativity can be unreasonable because the Neuman method ignores flow in the capillary fringe (Kruseman and deRidder, 1991).

Observation well pumping and recovery data were plotted and analyzed by the Neuman method. The Neuman type curves, the drawdown/recovery curves, and the calculations are presented in Attachment E. As summarized in Table 4-1 transmissivity

TABLE 4-1

**MR. C CLEANER SUPERFUND SITE
AQUIFER TESTING PROGRAM**

AQUIFER PARAMETERS - TEST ZONE B

Well No.	Rate	Transmissivity (gpd/ft)	Horiz. Hydraulic Conductivity (cm/s)	Ratio of Horiz/Vert. Hydraulic Conductivity
OW-B	4.3 gpm Recovery	1109	2.9E-3	4.8
	5.0 gpm Pumping	1129	3.0E-3	4.8
	5.0 gpm Recovery	1181	3.1E-3	4.8
OW-C	4.3 gpm Recovery	832	2.2E-3	1.7
	5.0 gpm Pumping	886	2.1E-3	1.7
	5.0 gpm Recovery	819	2.3E-3	1.8

values ranged from 819 to 1181 gpd/ft. Transmissivity values average 993 gpd/ft, which is rounded to a general value of 1000 gpd/ft. The data from pumping well RW-3 was not used because the method assumes that drawdown is small compared to the saturated thickness of the aquifer. The drawdown observed in the observation wells met this criterion.

Horizontal and vertical hydraulic conductivity values were also calculated from the Neuman method. Table 4-1 presents the horizontal hydraulic conductivity values and the horizontal to vertical conductivity ratio. The values obtained were slightly less than the slug test value from the MPI-6S (8.5 E-3 cm/s)

4.3 Groundwater Sampling

Groundwater samples were collected from RW-2, OW-B, and MPI-6S on August 14, 1995 and from OW-C on September 27, 1995. Groundwater was purged and sampled from the wells with polyethylene disposable bailers. Field measurements of pH, temperature, Eh, conductance, and turbidity were recorded for each well volume removed. Each of the four well samples was analyzed for volatile organics by Method ASP 91-1. Field parameters and the laboratory reports are presented in Attachment F. The analytical data are summarized on Table 4-2. Monitoring well sampling procedures are presented in the RI Work Plan.

Concentrations of PCE were detected in RW-2 (66 ug/l), OW-B (3000 ug/l), MPI-6S (1700 ug/l), and OW-C (2100 ug/l). Concentrations of 1,1 dichloroethene and 1,2 dichloroethene were detected in MPI-6S (12 and 26 ug/l) and OW-C (6J and 26 ug/l). Trichloroethene was detected in all four wells at concentrations ranging from 18 ug/l to 360 ug/l.

Groundwater samples collected from RW-3 during hour number 1 and hour number 23 of the 24 hour pumping test each exhibited TCE concentrations of 18,000 ug/l TCE. These levels are the highest concentrations of PCE detected at the Mr. C Cleaners site. Following receipt of the laboratory data, a site visit was conducted to obtain collaborating field evidence of the high concentrations, because no odor had been detected during well installation or pumping. A total organic vapor concentration of 64 ppm was measured in the headspace in the well riser at RW-3. A similar measurement

TABLE 4-2 MR. C CLEANER SUPERFUND SITE AQUIFER TESTING PROGRAM <i>GROUNDWATER SAMPLING RESULTS ^(1, 2)</i>								
Parameter	RW-1	RW-2 (PW-B)	OW-B	MP1-6S	OW-C	RW-3 Infl. #1	RW-3 Infl. #2	RW-3 Effluent
Volatile Organic (ug/l)								
Methylene Chloride	2 JB	3 JB	<10	3 JB	11 B	2 JB	2 JB	3 JB
1,1 Dichloroethene	<10	<10	<10	12	6 J	<10	2 J	<10
1,2 Dichloroethene	8 J	<10	9 J	26	26	16	20	<10
1,1,1 Trichloroethane	3 J	<10	<10	<10	<10	<10	<10	<10
1,2 Dichloropropane	<10	<10	<10	2 JB	<10	<10	<10	<10
Trichloroethene	3 J	18	110	360 J	180 J	290 J	340 J	<10
Tetrachloroethene	680	66	3000	1700	2100	18,000	18,000	<10
Chlorobenzene	4 J	<10	<10	<10	<10	<10	<10	<10
Metals (ug/l)								
Aluminum	—	—	—	—	—	130 B	136 B	1325 B
Calcium	—	—	—	—	—	152,000	157,000	156,000
Copper	—	—	—	—	—	44	<4.6	<4.6
Iron (total)	—	—	—	—	—	1650	1740	<75
Iron (dissolved)	—	—	—	—	—	1640	1700	—
Lead	—	—	—	—	—	44.6	<3.1	<3.1
Magnesium	—	—	—	—	—	25,400	26,200	25,900
Manganese (total)	—	—	—	—	—	386	359	379
Manganese (dissolved)	—	—	—	—	—	386	360	—
Mercury	—	—	—	—	—	<0.20	<0.20	<0.20
Zinc	—	—	—	—	—	24	4.6 B	<1.8
Cyanide	—	—	—	—	—	<10	<10	<10
Other (mg/l)								
Alkalinity	—	—	—	—	—	317	288	—
Hardness	—	—	—	—	—	494	515	—
Oil & Grease	—	—	—	—	—	—	—	1
Sulfate	—	—	—	—	—	41	49	—
Total Dissolved Solids	—	—	—	—	—	—	—	2580
Total Suspended Solids	—	—	—	—	—	22	4	6
Notes: (1) Only parameters detected above the analytical detection limit in more than one sample are listed. (2) J = Estimated Value B = Parameter detected in laboratory blank. (—) Not Analyzed								

in MPI-6S detected only 2 ppm total volatile organics. A sample of the sediment which accumulated on the bottom of the well during the pumping test was collected using a bottom loading bailer to identify the presence of liquid PCE. No visual evidence of liquid PCE was observed. The sediment was mixed with Sudan IV™, a hydrophobic organic dye which changes color in the presence of chlorinated organic liquids. No color change was observed. Finally, a water sample was collected from RW-3, sealed in a jar and shaken to release organic vapors from solution. Headspace measurements using the HNu ranged from 52 to 94 ppm. Total organic vapor measurement from RW-3 are consistent with the laboratory results. In addition, during the Phase II RI, a PCE concentration of 8,700 ug/l was detected from the 26 to 28 foot interval in hydropunch boring H-11, which is adjacent to MPI-6S and in the same interval as RW-3. The influent sampling results indicate that substantial concentrations of PCE are present near the base of the outwash aquifer, as was concluded in the RI report.

5.0 SUMMARY AND RECOMMENDATIONS

5.1 Test Zone A

Aquifer testing in test zone A was terminated after the step-drawdown test due to the constraints imposed by the on-site carbon treatment system. The flow limit required to maintain minimum contact time between the groundwater and absorbent media was too low to achieve a meaningful hydraulic stress on the outwash aquifer. Preliminary aquifer transmissivity values of approximately 40,000 gpd/ft were estimated based on short-term step-drawdown testing. There is some degree of error associated with the method of analysis. The FS should be approached with the realization that the transmissivity value is only an estimate based on limited data. However, the current estimates provide a common basis for the evaluation of alternative remedies in the Feasibility Study (FS).

Caution is necessary when evaluating pumping data in glacial outwash due to the depositional environment. The extent of a particular sand or gravel lens may impact the drawdown substantially during a pumping test. A pumping test of longer duration and higher pumping rate will produce a larger cone of depression that may encounter areas where

gravel units pinch out, resulting in lower transmissivity values. Based on the absence of gravel outwash in borings completed on the Agway site, it is anticipated that the transmissivity decreases substantially west of the Mr. C Cleaners parking lot. Therefore, the radius of influence of RW-1 at a higher pumping rate may extend further beyond MPI-10B due to the presence of less transmissive outwash material. The actual transmissivity should be determined from a pump test lasting as least 3 days to account for the heterogeneities in the outwash aquifer.

5.2 Test Zone B

The Neuman curve fitting method was used to calculate transmissivity for the outwash aquifer in the vicinity of the Library. The transmissivity values obtained for the formation using Neuman's method ranged from an average value of 846 gpd/ft at OW-C to an average value of 1140 gpd/ft at OW-B, with an overall average of approximately 1000 gpd/ft.

Groundwater sampling results indicate that the area of influence of RW-3 included the most highly concentrated portion of the tetrachloroethene plume identified to-date. Sampling results at RW-2 define the southern extent of the highly concentrated plume; sampling results at OW-C and RW-3 indicate that the highly concentrated plume may extend further north and west. A focused investigation using the Hydropunch™ sampling methodology utilized for the Phase II RI should be conducted to select the appropriate locations for groundwater remediation wells. A series of groundwater samples should be collected at the water table and the base of the outwash aquifer at locations north of OW-C (or perpendicular to the source plume axis) in order to determine the width of the source plume. A second series of water table or base of outwash samples should be collected west of MPI-65 to determine the westward extent of the source plume.

REFERENCES

- Driscoll, Fletcher G. (1989). *Groundwater and Wells, Second Edition*. Johnson Filtration Systems, St. Paul, Minnesota.
- Kruseman, G.P., and deRidder, N.A. (1991). *Analysis and Evaluation of Pumping Test Data, Second Edition*. International Institute for Land Reclamation and Improvement, The Netherlands.

ATTACHMENT A

TEST ZONE A: WELL DESIGN & CONSTRUCTION DETAILS

- **PB-1 Boring Log**
- **RW-1 Well Construction Details**
- **OW-A Construction Details**
- **Slot Size Calculations For Well Design**
- **Moire #3 Filter Sand - Grain Size Distribution**
- **Grain Size Curves from PB-1**

BOREHOLE LOG PB-1

PROJECT: MR. C CLEANERS REMEDIAL INVESTIGATION
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM:

CLIENT: NYSDEC
 DRILLING DATES: 07/21/95
 DRILLING METHOD: 2-1/4" HSA
 LOGGED/CHECKED BY: JB/RHO
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID)
 SS3 Split Spoon (3in.ID)
 ST Shelby Tube (2.8in.ID)
 WR Weight of Rods
 WH Weight of Hammer
 NR No Recovery

- Sampler Refusal
 JHS HNU reading in jar headspace
 GAS Combustible Gas reading in augers
 SSLA Sample submitted for laboratory analysis

x---x Penetration Resistance ('N' Blows/1.0 ft.)
 o---o Moisture Content ('M' %)

DEPTH (ft.BGS)	ELEVATION (ft AMSL)	SOIL/ROCK DESCRIPTION	SOIL DATA					ROCK DATA				WELL DIAGRAM	COMMENTS (USCS)
			GRAPHIC LOG	SAMPLE NO. / RUN NO.	BLOWS / 6"	RECOVERY (in)	'N'-VALUE	FROM/TO	DRILL RATE MIN./FT.	% REC.	% RQD.		
1	-1	Logging begins at 10.0' For 0.0-10.0' description see MPI-7D											
2	-2												
3	-3												
4	-4												
5	-5												
6	-6												
7	-7												
8	-8												
9	-9												
10	-10	Brown SILTY CLAY, w/ some sandy gravel, till		SS	8 8 8 7	0.8	16						JHS=32 ppm JHS=220 ppm
11	-11	STRATIFIED Brown moist SAND, w/ some gravel											JHS=42 ppm
12	-12	Brown wet medium SAND, with little to some gravel		SS	4 3 3 4	1.3	6						JHS=38 ppm
13	-13	Increasing moisture											JHS=72 ppm JHS=1.0 ppm
14	-14	Brown wet medium SAND, some f sand, trace silt, SP		SS	3 3 4 6	1.3	7						JHS=5.0 ppm
15	-15	Brown wet SILTY SAND with fine GRAVEL		SS	6 10 8 6	1.5	18						
16	-16	Wet GRAVEL and SAND, mostly medium sand		SS	7 4 4 6	0.8	8						
17	-17												
18	-18												
19	-19												
20	-20												

BOREHOLE LOG PB-1

PROJECT: MR. C CLEANERS REMEDIAL INVESTIGATION
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM:

CLIENT: NYSDEC
 DRILLING DATES: 07/21/95
 DRILLING METHOD: 2-1/4" HSA
 LOGGED/CHECKED BY: JB/RHO
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID) SS3 Split Spoon (3in.ID) ST Shelby Tube (2.8in.ID) WR Weight of Rods WH Weight of Hammer NR No Recovery	- Sampler Refusal JHS HNU reading in jar headspace GAS Combustible Gas reading in augers SSIA Sample submitted for laboratory analysis	x---x Penetration Resistance ('N' Blows/1.0 ft.) o---o Moisture Content ('M' %)
--	---	--

DEPTH (ft.BGS)	ELEVATION (ft AMSL)	SOIL/ROCK DESCRIPTION	SOIL DATA					ROCK DATA				WELL DIAGRAM	COMMENTS (USCS)
			GRAPHIC LOG	SAMPLE NO. / RUN NO.	BLOWS / 6" RECOVERY (in)	'N'-VALUE	FROM/TO	DRILL RATE MIN./FT.	% REC.	% RQD.			
21	-21	Brown wet SANDY GRAVEL		SS	10 9 13 8	0.7	22						JHS=13 ppm
22	-22	Brown becoming gray wet SAND with gravel											JHS=9.0 ppm JHS=18 ppm
23	-23	Brown wet SILTY SAND and GRAVEL		SS	12 8 7 8	1.0	15						JHS=7 ppm
24	-24	Brown wet SANDY GRAVEL No Recovery											
25	-25			SS	12 11 12 11	0.0	23						
26	-26	Brown wet SANDY GRAVEL, firm to loose, coarse and medium sand		SS	12 13 9 10	1.0	22						JHS=9 ppm
27	-27												
28	-28	Boring complete @ 28'. Borehole filled with drill cuttings.											
29	-29												
30	-30												
31	-31												
32	-32												
33	-33												
34	-34												
35	-35												
36	-36												
37	-37												
38	-38												
39	-39												
40	-40												

WELL/BOREHOLE RW-1 CONSTRUCTION DETAILS

PROJECT: MR C CLEANERS
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM: NEW YORK STATE SURVEY GRID

CLIENT: NYSDEC
 DRILLING DATES: 08/14/95 - 08/15/95
 DRILLING METHOD: 10 1/4" HSA
 LOGGED/CHECKED BY: JPH
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

 BENTONITE-CEMENT SEAL
 0 to 7.0 feet

 BENTONITE SLURRY SEAL
 7.0 to 10.0 feet

 MORIE #3 SAND PACK
 10.0 to 30.0 feet

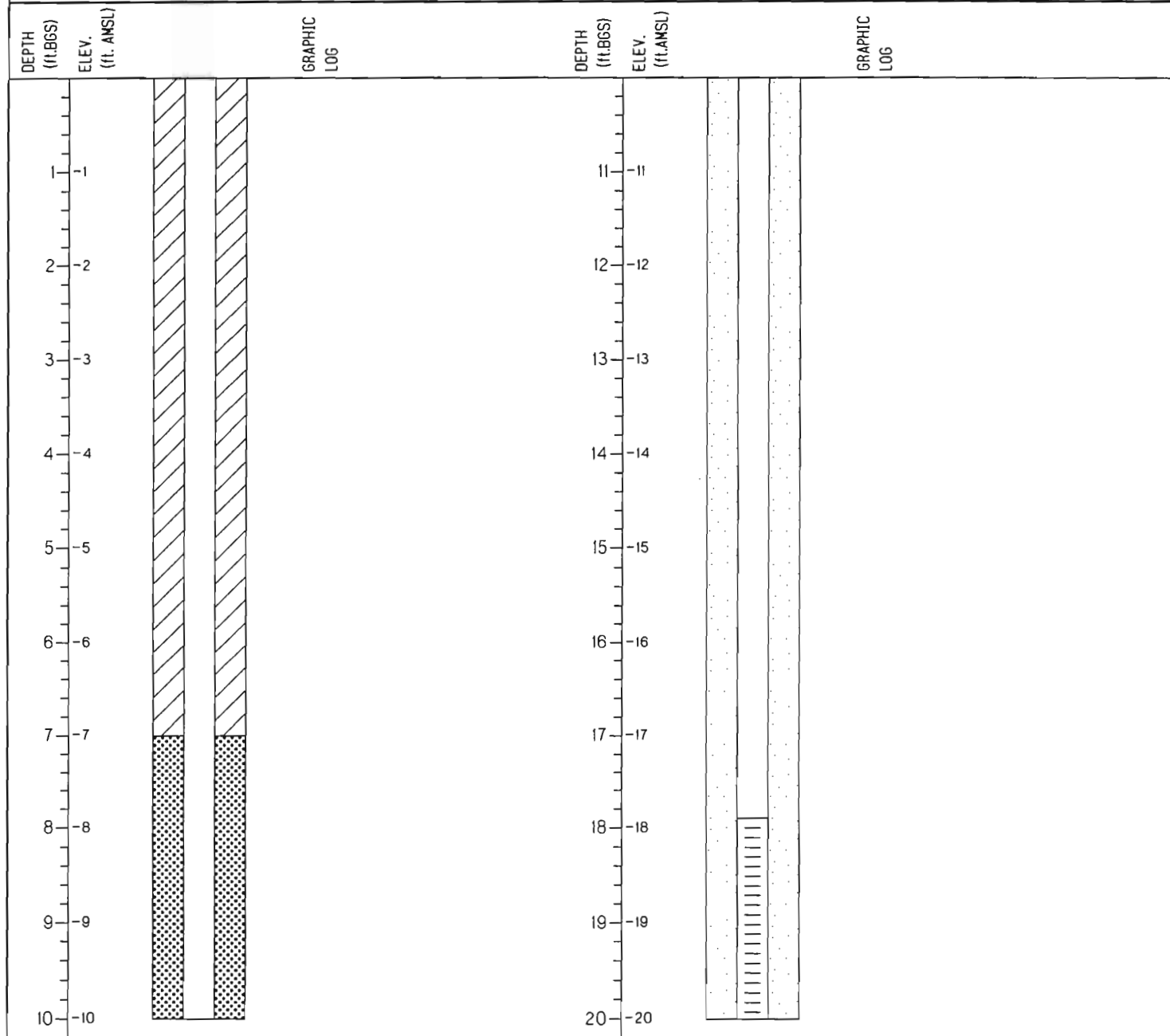
 6-INCH DIAM. CONTINUOUS SLOT (0.080") SCREEN
 17.9 to 27.9 feet

 4-INCH DIAMETER CASING
 0 feet

 6-INCH DIAMETER RISER
 0.0 to 17.9 Feet

 8-INCH DIAMETER BOREHOLE
 0 feet

 GRAPHIC LOG



NOTES:

WELL/BOREHOLE RW-1 CONSTRUCTION DETAILS

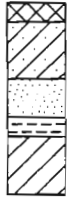
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 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM: NEW YORK STATE SURVEY GRID

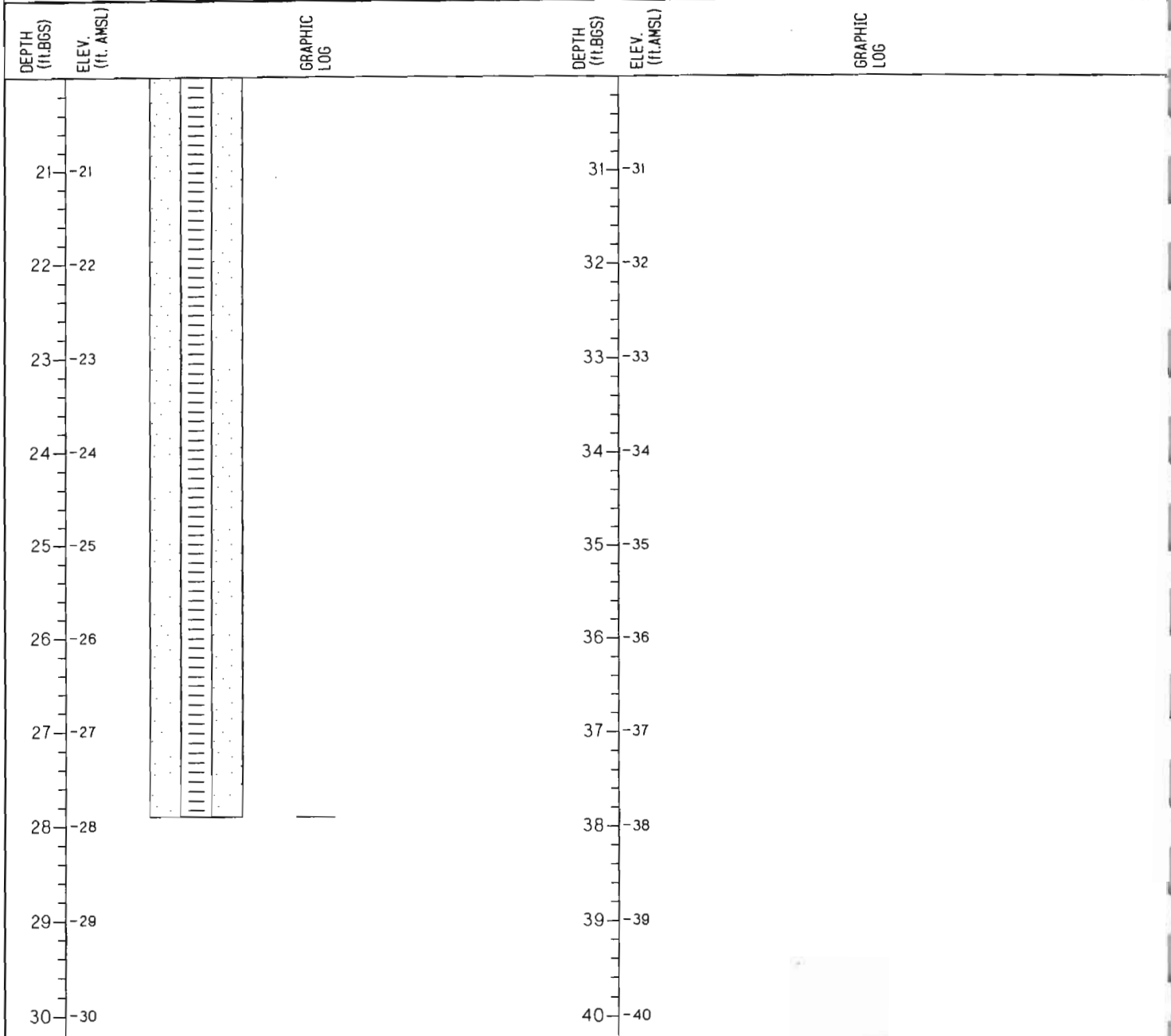
CLIENT: NYSDEC
 DRILLING DATES: 08/14/95 - 08/15/95
 DRILLING METHOD: 10 1/4" HSA
 LOGGED/CHECKED BY: JPH
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

	BENTONITE-CEMENT SEAL 0 to 7.0 feet
	BENTONITE SLURRY SEAL 7.0 to 10.0 feet
	MORIE #3 SAND PACK 10.0 to 30.0 feet
	6-INCH DIAM. CONTINUOUS SLOT (0.080") SCREEN 17.9 to 27.9 feet
	

	4-INCH DIAMETER CASING 0 feet
	
	6-INCH DIAMETER RISER 0.0 to 17.9 Feet
	
	8-INCH DIAMETER BOREHOLE 0 feet
	

	GRAPHIC LOG
---	-------------



NOTES:

WELL/BOREHOLE OW-A CONSTRUCTION DETAILS

PROJECT: MR C CLEANERS
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM: NEW YORK STATE SURVEY GRID

CLIENT: NYSDEC
 DRILLING DATES: 07/21/95
 DRILLING METHOD: 4 1/4" HSA
 LOGGED/CHECKED BY: JRB
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

 BENTONITE-CEMENT SEAL
0.0 to 8.0 feet

 BENTONITE SLURRY SEAL
8.0 to 10.0 feet

 MORIE #0 SAND PACK
10.0 to 28.0 feet

 2-INCH DIAMETER SLOTTED (0.010") SCREEN
23.0 to 28.0 feet

 4-INCH DIAMETER CASING
0.0 feet

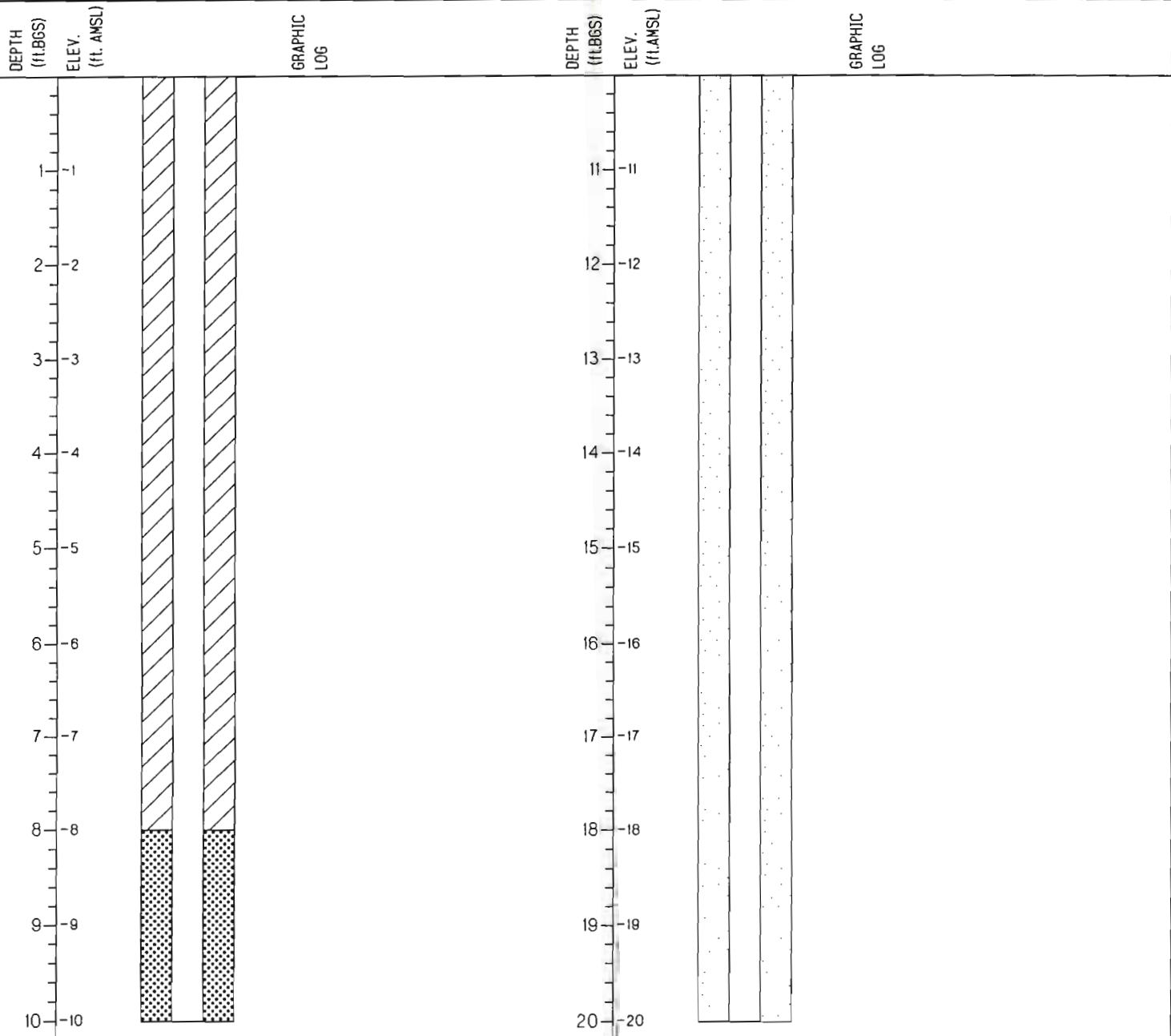
 2-INCH DIAMETER RISER
0.0 to 23.0 Feet

 8-INCH DIAMETER BOREHOLE
0 feet

 4-INCH DIAMETER BOREHOLE
0 feet



GRAPHIC LOG



NOTES:

WELL/BOREHOLE OW-A CONSTRUCTION DETAILS

PROJECT: MR C CLEANERS
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM: NEW YORK STATE SURVEY GRID

CLIENT: NYSDEC
 DRILLING DATES: 07/21/95
 DRILLING METHOD: 4 1/4" HSA
 LOGGED/CHECKED BY: JRB
 SURFACE ELEVATION:

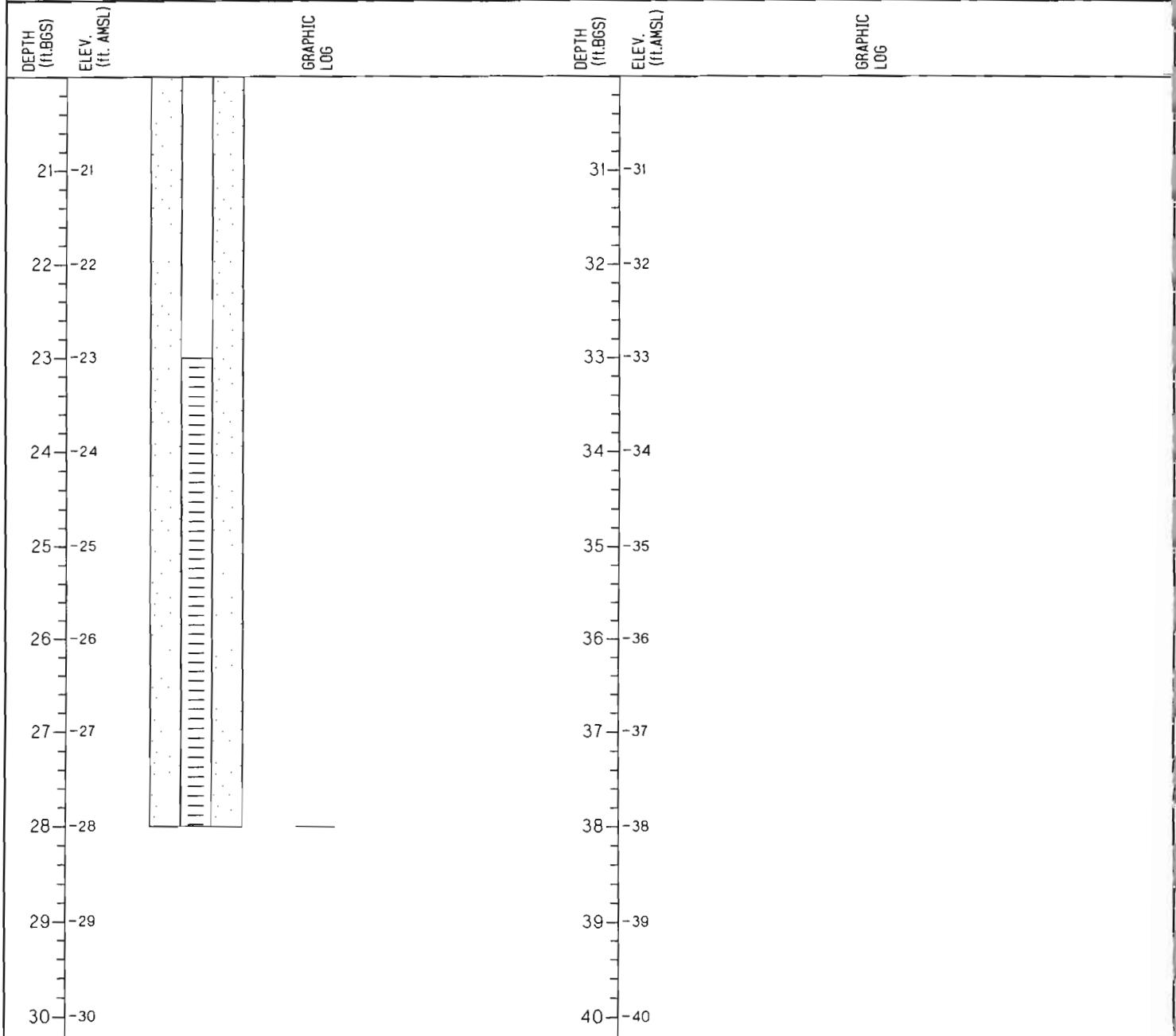
SYMBOLS AND DEFINITIONS

-  BENTONITE-CEMENT SEAL
0.0 to 8.0 feet
-  BENTONITE SLURRY SEAL
8.0 to 10.0 feet
-  MORIE #0 SAND PACK
10.0 to 28.0 feet
-  2-INCH DIAMETER SLOTTED (0.010") SCREEN
23.0 to 28.0 feet

-  4-INCH DIAMETER CASING
0.0 feet
-  2-INCH DIAMETER RISER
0.0 to 23.0 Feet
-  8-INCH DIAMETER BOREHOLE
0 feet
-  4-INCH DIAMETER BOREHOLE
0 feet



GRAPHIC LOG



NOTES:

Filter pack and Slot Size Design
(for pumping well near PB-1)
Recovery Zone A

① For interval 21-24' :

Size of sediment at 60% retained or $d_{40} = .79$ mm
Choose a multiplier of 5

$$0.79 \times 5 = 3.95 \text{ mm}$$

Slot size

$$= \frac{1.4 \text{ mm}}{25.4} = 0.055 \text{ inch} \approx 60 \text{ slot}$$

MORIE SCREENINGS

Typical Physical Analysis

Morie filter media meets the requirements of NSF Standard 61 and is NSF listed.



#2 Well Gravel

Inches	MM.	Sieve No.	Cum. Grams	% Ret.	% Pass.
.0837	2.360	8	.4	.4	99.6
.0787	2.000	10	9.3	8.9	90.7
.0661	1.700	12	51.4	42.1	48.6
.0555	1.400	14	92.9	41.5	7.1
.0469	1.190	16	97.6	4.7	2.4
.0394	1.000	18	99.0	1.4	1.0
.0331	.850	20	99.5	.5	.5
.0278	.710	25	99.7	.2	.3
.0234	.600	30	99.8	.1	.2
.0197	.500	35	99.9	.1	.1

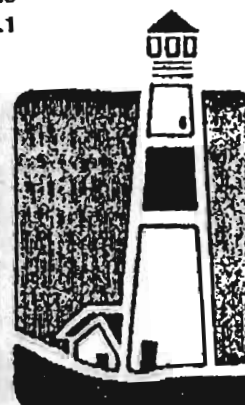
#3 Well Gravel

Inches	MM.	Sieve No.	Cum. Grams	% Ret.	% Pass.
.1320	3.360	6	.4	.4	99.6
.0837	2.362	8	48.2	47.8	51.8
.0787	2.000	10	77.2	29.0	22.8
.0661	1.700	12	94.8	17.6	5.2
.0555	1.400	14	98.8	4.0	1.2
.0469	1.190	16	99.3	.5	.7
.0394	1.000	18	99.6	.3	.4
.0331	.850	20	99.8	.2	.2
.0278	.710	25	99.9	.1	.1

#4 Well Gravel

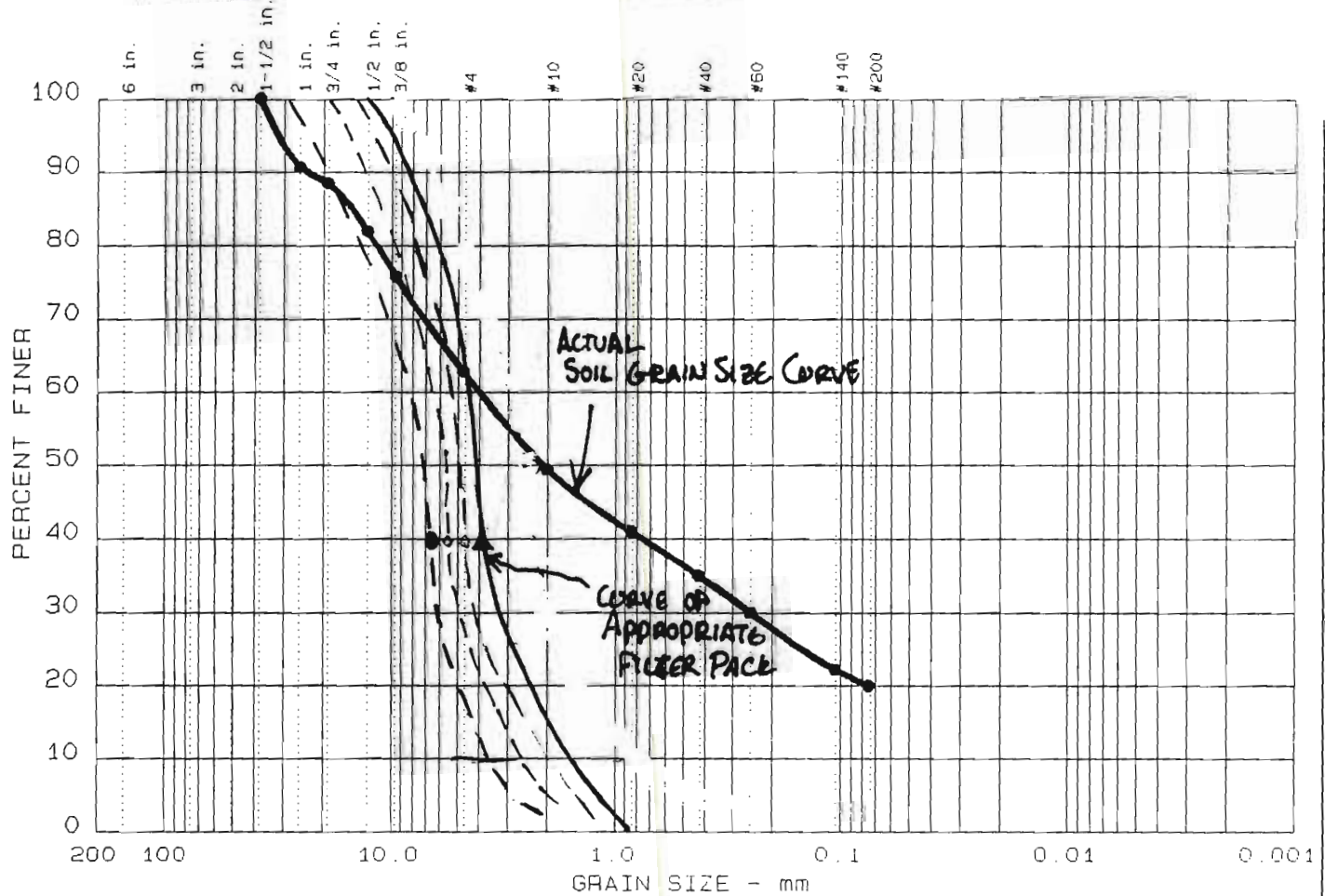
Inches	MM.	Sieve No.	Cum. Grams	% Ret.	% Pass.
.1870	4.750	4	2.1	5.0	97.9
.132	3.360	6	36.4	41.7	63.6
.0837	2.362	8	92.5	48.0	7.5
.0787	2.000	10	97.9	3.0	2.1
.0661	1.680	12	99.5	1.3	.5
.0555	1.400	14	99.9	.4	.1
.0394	1.190	16	100.0	.2	

THE MORIE COMPANY, INC.
MINERS OF INDUSTRIAL SAND AND GRAVEL





PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	37.1	42.9	20.0				

SIEVE inches size	PERCENT FINER		
1.5	100.0		
1	90.7		
0.75	88.6		
0.5	81.9		
0.375	75.8		
GRAIN SIZE			
Ø 60	3.98		
Ø 30	0.25		
Ø 10	0.02		
COEFFICIENTS			
C _c			
C _u	199		

SIEVE number size	PERCENT FINER		
4	62.9		
10	49.3		
20	40.9		
40	35.0		
60	29.9		
140	22.2		
200	20.0		

Sample information:

• PB-1, 21.0-24.0'

Remarks:

LAB ID NO.: 95-622

**MALCOLM
PIRNIE, INC.**

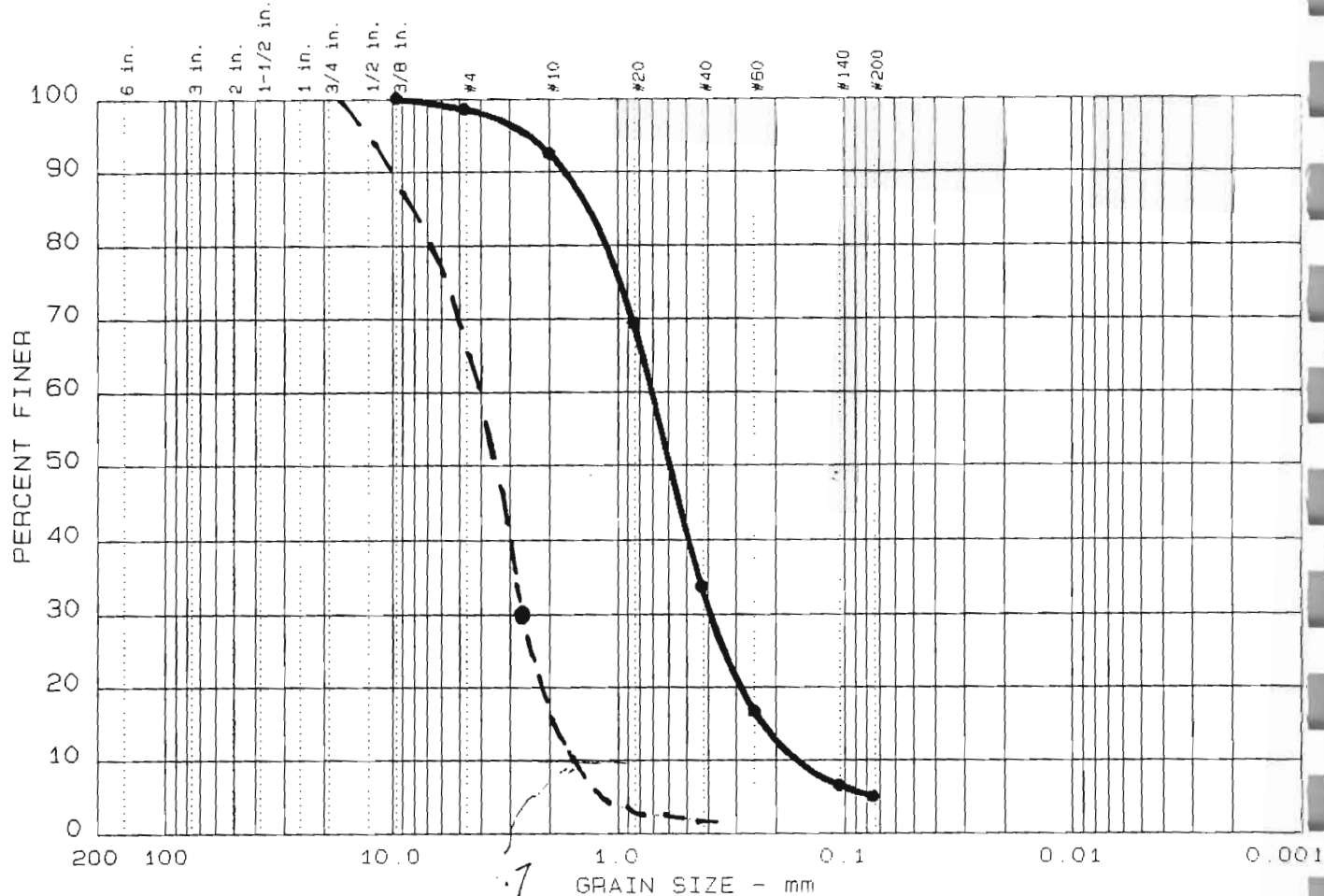
Project No.: 0266-31-4
Project: MR. C CLEANERS

Date: 7-25-95

Data Sheet No. _____

(2)

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	1.5	93.5	5.0		SP		

SIEVE inches size	PERCENT FINER		
0.375	100.0		
GRAIN SIZE			
D ₆₀	0.70		
D ₃₀	0.39		
D ₁₀	0.16		
COEFFICIENTS			
C _c	1.35		
C _u	4.4		

SIEVE number size	PERCENT FINER		
4	98.5		
10	92.5		
20	69.4		
40	33.6		
60	16.8		
140	6.5		
200	5.0		

Sample information:
● PB-1, 15.0-16.9'

Remarks:
LAB ID NO.: 95-618

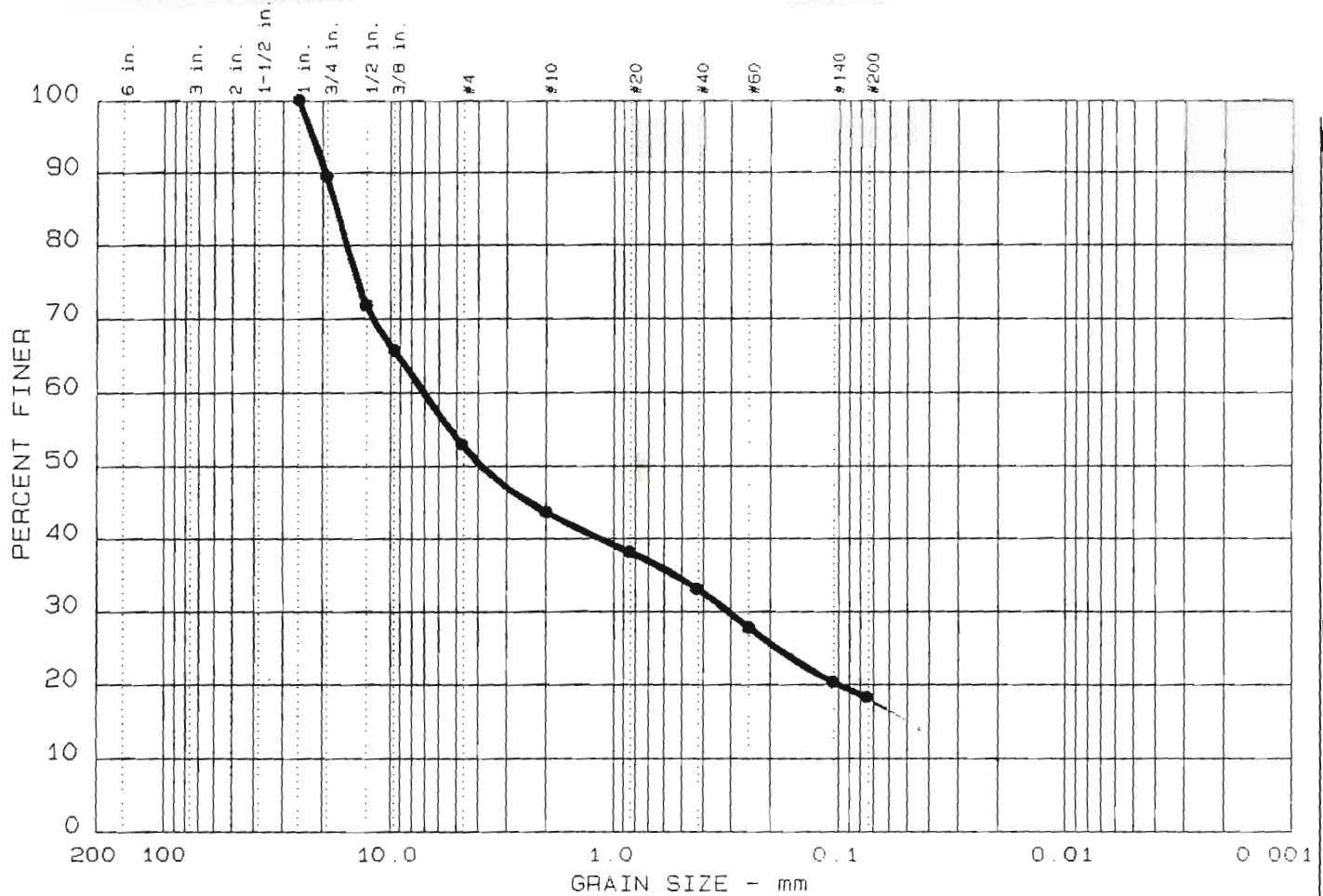
**MALCOLM
PIRNIE, INC.**

Project No.: 0266-31-4
Project: MR. C CLEANERS

Date: 7-25-95

Data Sheet No. _____

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	47.0	34.7	18.3				

SIEVE inches size	PERCENT FINER		
1	100.0		
0.75	89.6		
0.5	71.8		
0.375	65.7		
GRAIN SIZE			
D ₆₀	6.99		
D ₃₀	0.31		
D ₁₀	.02		
COEFFICIENTS			
C _c			
C _u	349.5		

SIEVE number size	PERCENT FINER		
4	53.0		
10	43.6		
20	38.1		
40	33.0		
60	27.7		
140	20.4		
200	18.3		

Sample information:

● PB-1, 16.8-17.6'

Remarks:

LAB ID NO.: 95-619

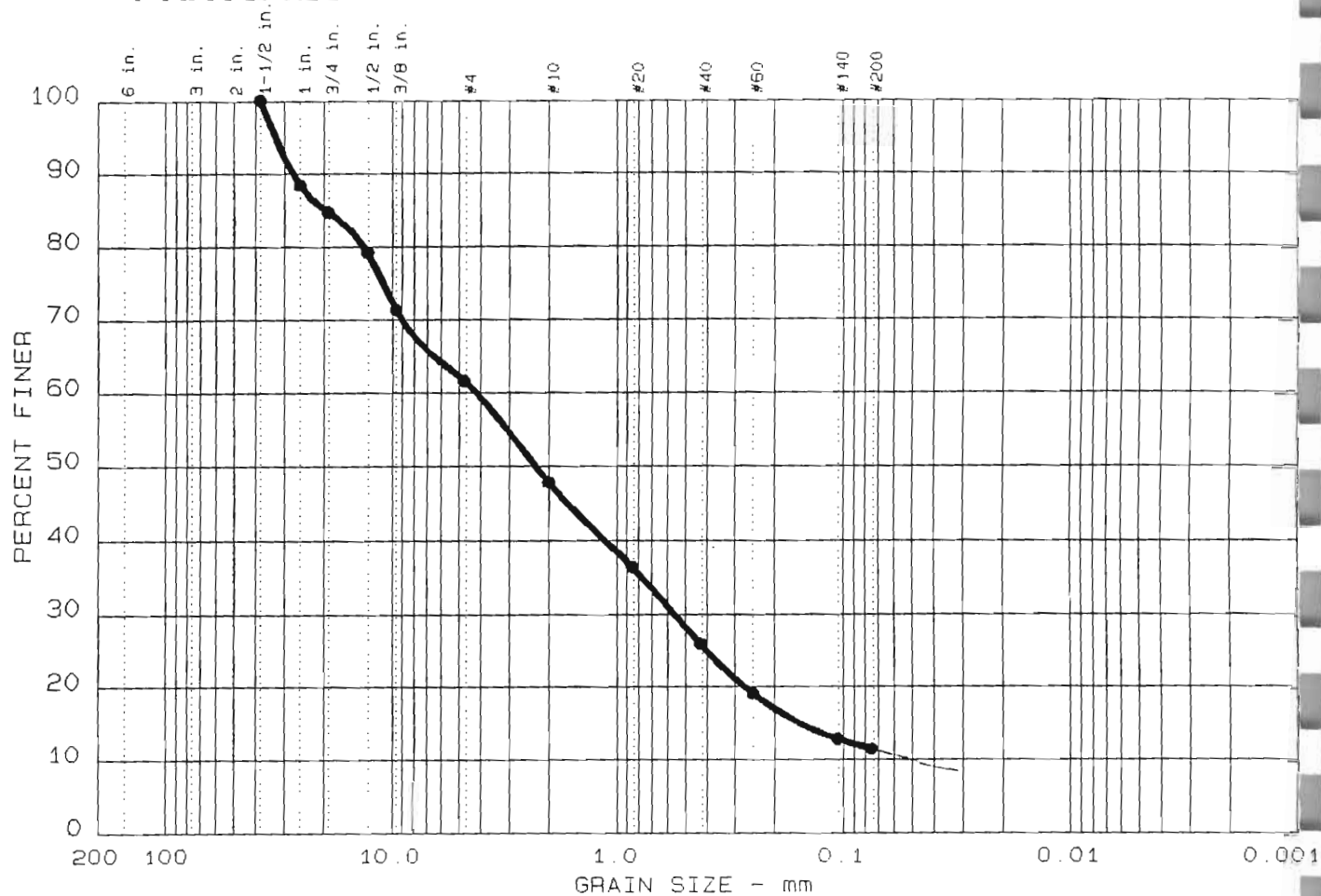
**MALCOLM
PIRNIE, INC.**

Project No.: 0266-31-4
Project: MR. C CLEANERS

Date: 7-25-95

Data Sheet No. _____

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	38.4	50.2	11.4				

SIEVE inches size	PERCENT FINER		
1.5	100.0		
1	88.4		
0.75	84.7		
0.5	79.2		
0.375	71.3		
X GRAIN SIZE			
D ₆₀	4.17		
D ₃₀	0.56		
D ₁₀	0.35		
X COEFFICIENTS			
C _c			
C _u	83.4		

SIEVE number size	PERCENT FINER		
4	61.6		
10	47.7		
20	36.3		
40	25.9		
60	19.0		
140	12.8		
200	11.4		

Sample information:

● PB-1, 18.0-18.8'

Remarks:

LAB ID NO.: 95-620

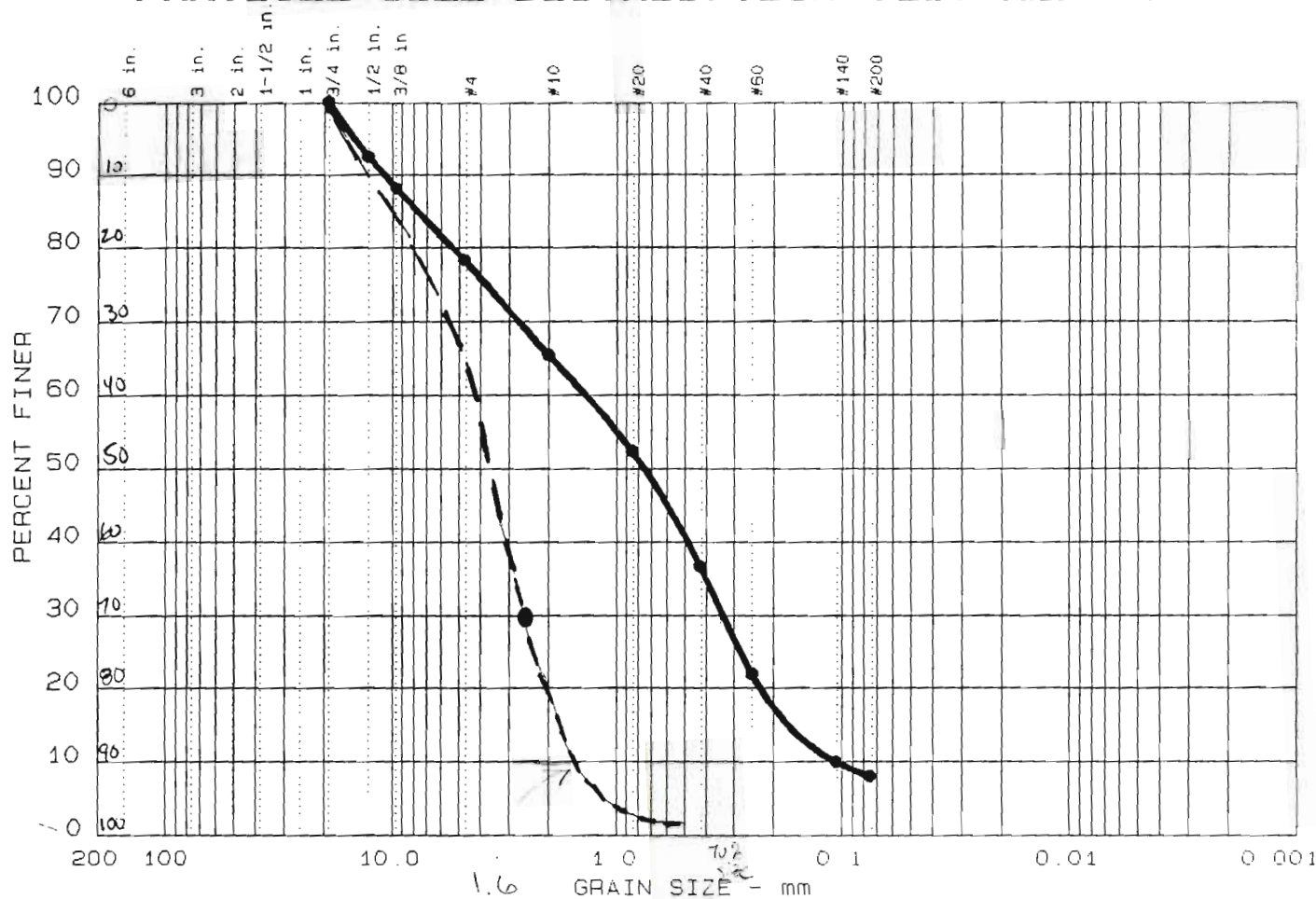
**MALCOLM
PIRNIE, INC.**

Project No.: 0266-31-4
Project: MR. C CLEANERS

Date: 7-25-95

Data Sheet No. _____

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	21.7	70.3	8.0				

SIEVE inches size	PERCENT FINER		
0.75	100.0		
0.5	92.5		
0.375	88.1		
GRAIN SIZE			
D ₆₀	1.36		
D ₃₀	0.33		
D ₁₀	0.10		
COEFFICIENTS			
C _c	0.78		
C _u	12.9		

SIEVE number size	PERCENT FINER		
4	78.3		
10	65.4		
20	52.3		
40	36.7		
60	22.0		
140	9.9		
200	8.0		

Sample information:

• PB-1, 20.0-21.0'

Remarks:

LAB ID NO.: 95-621

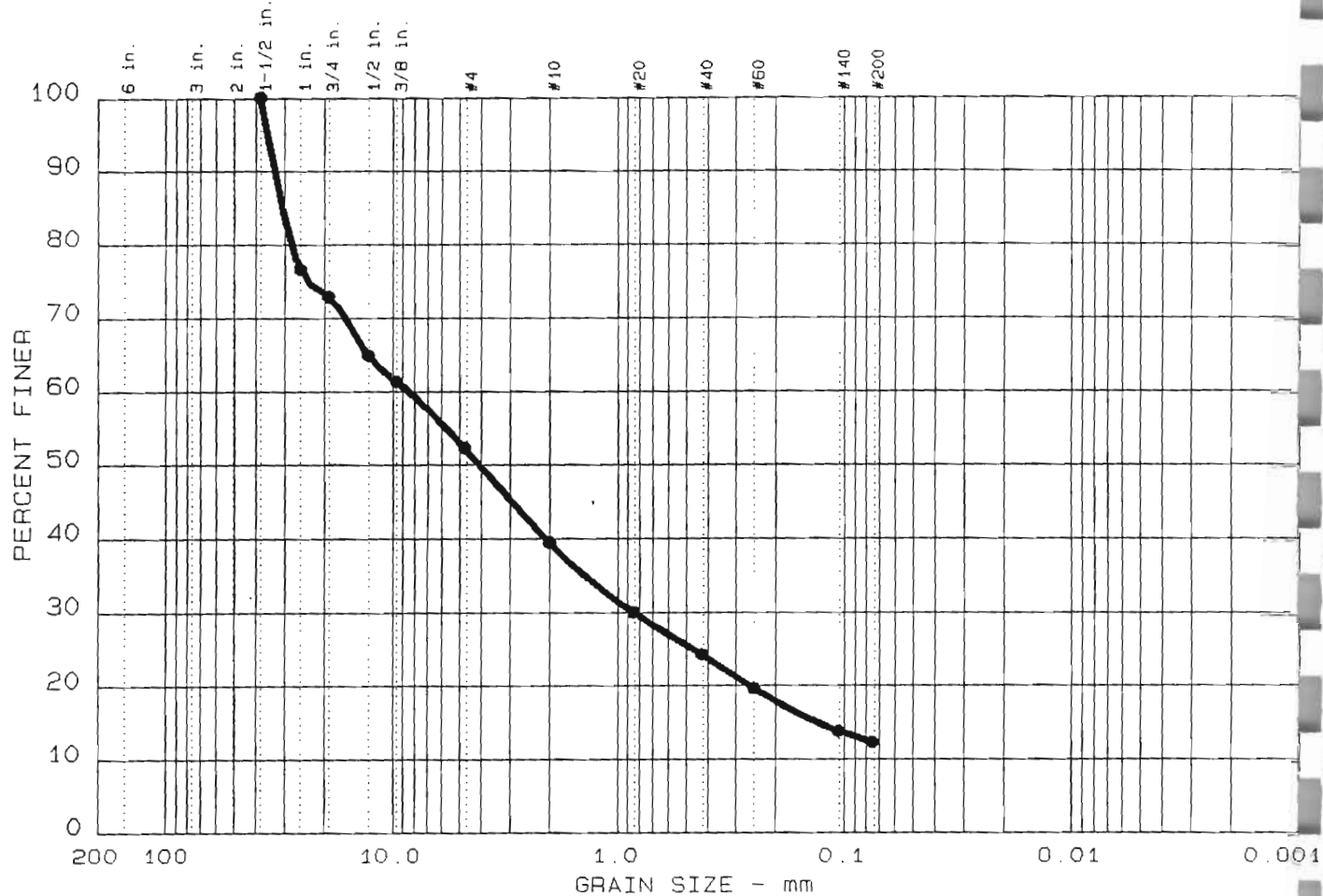
**MALCOLM
PIRNIE, INC.**

Project No.: 0266-31-4
Project: MR. C CLEANERS

Date: 7-25-95

Data Sheet No. _____

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	47.8	39.9	12.3				

SIEVE inches size	PERCENT FINER		
1.5	100.0		
1	76.6		
0.75	72.9		
0.5	64.9		
0.375	61.3		
GRAIN SIZE			
D ₆₀	8.40		
D ₃₀	0.85		
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

SIEVE number size	PERCENT FINER		
4	52.2		
10	39.4		
20	29.9		
40	24.2		
60	19.6		
140	13.8		
200	12.3		

Sample information:
 • PB-1, 26.0-28.0'

Remarks:
 LAB ID NO.: 95-623

**MALCOLM
PIRNIE, INC.**

Project No.: 0266-31-4
 Project: MR. C CLEANERS

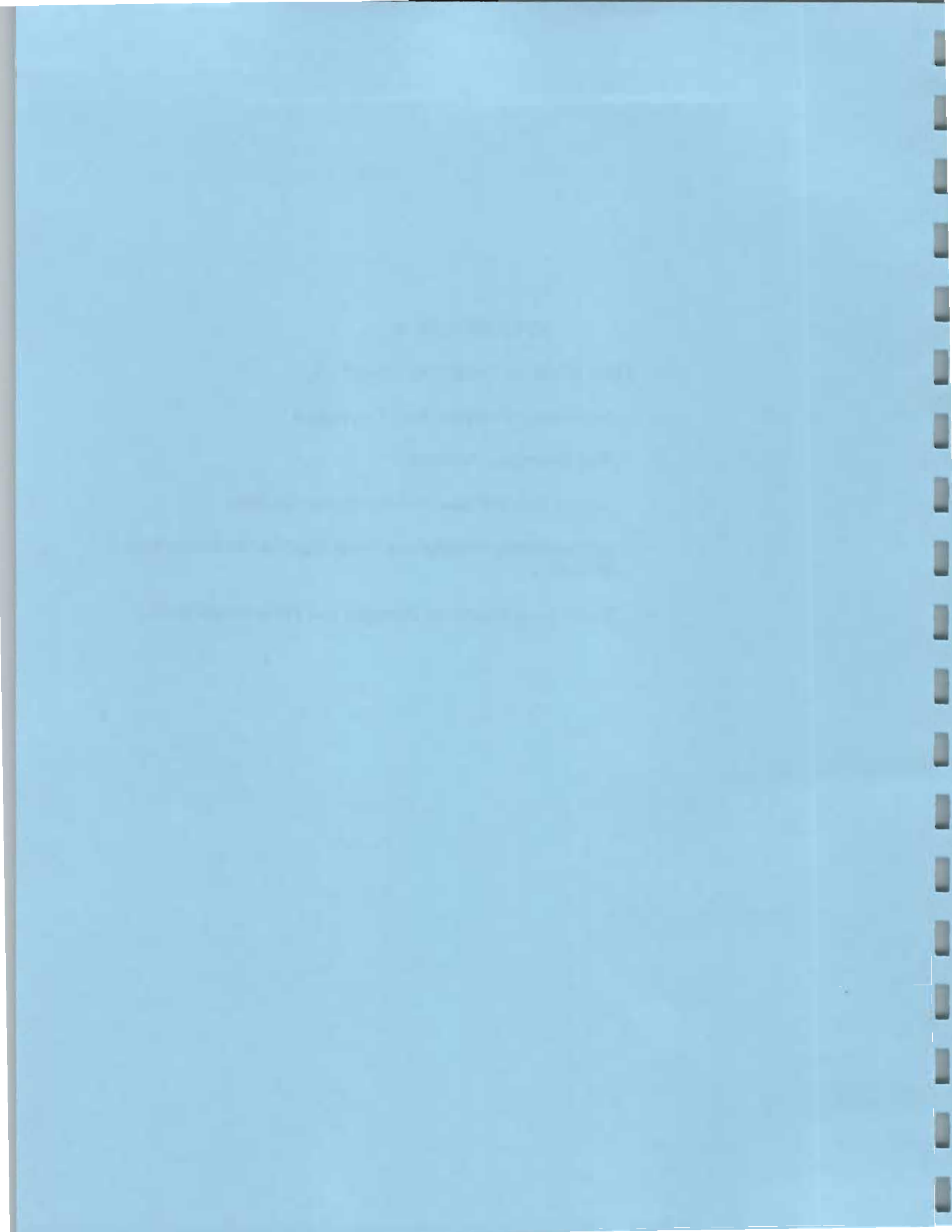
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Data Sheet No. _____

ATTACHMENT B

TEST ZONE A: PUMPING ANALYSIS

- **Preliminary Pumping Rate Calculation**
- **Step Drawdown Analysis**
- **Jacob's Straight Line Non-Equilibrium Analysis**
- **Transmissivity Calculations using Slug Test and Saturated Thickness**
- **Water Level Data from Pumping and Observation Wells**



Design of Pumping test at Mr C Cleaners Parking LotAssumptions

CASE ①

$$k = \text{average of 21 shallow wells} = 8.6 \text{ E-3 cm/s}$$

$$b = \text{Base of Outwash - watertable}$$

$$28' - 10' = 18 \text{ ft}$$

$$T = 8.6 \text{ E-3} \times 2835 \times 18 \text{ ft} = 439 \text{ ft}^2/\text{day}$$

$$= 439 \frac{\text{ft}^2}{\text{day}} \times \frac{\text{ft}}{\text{ft}} \times 7.48 \frac{\text{gal}}{\text{ft}^3} = 3284 \frac{\text{GPD}}{\text{FT}}$$

CASE ②

$$K = \text{average of 5 base of outwash wells} = 4.0 \text{ E-3 cm/s}$$

$$b = 18 \text{ ft}$$

$$T = 4.0 \text{ E-3} \times 2835 \times 18' \times 7.48 = 1527 \frac{\text{GPD}}{\text{FT}}$$

$S_y = 0.1$ assumes a watertable aquifer with incomplete gravity drainage

$Q = \text{Assume } 24 \text{ GPM}$ [see Attached analysis]
[Attachment A]

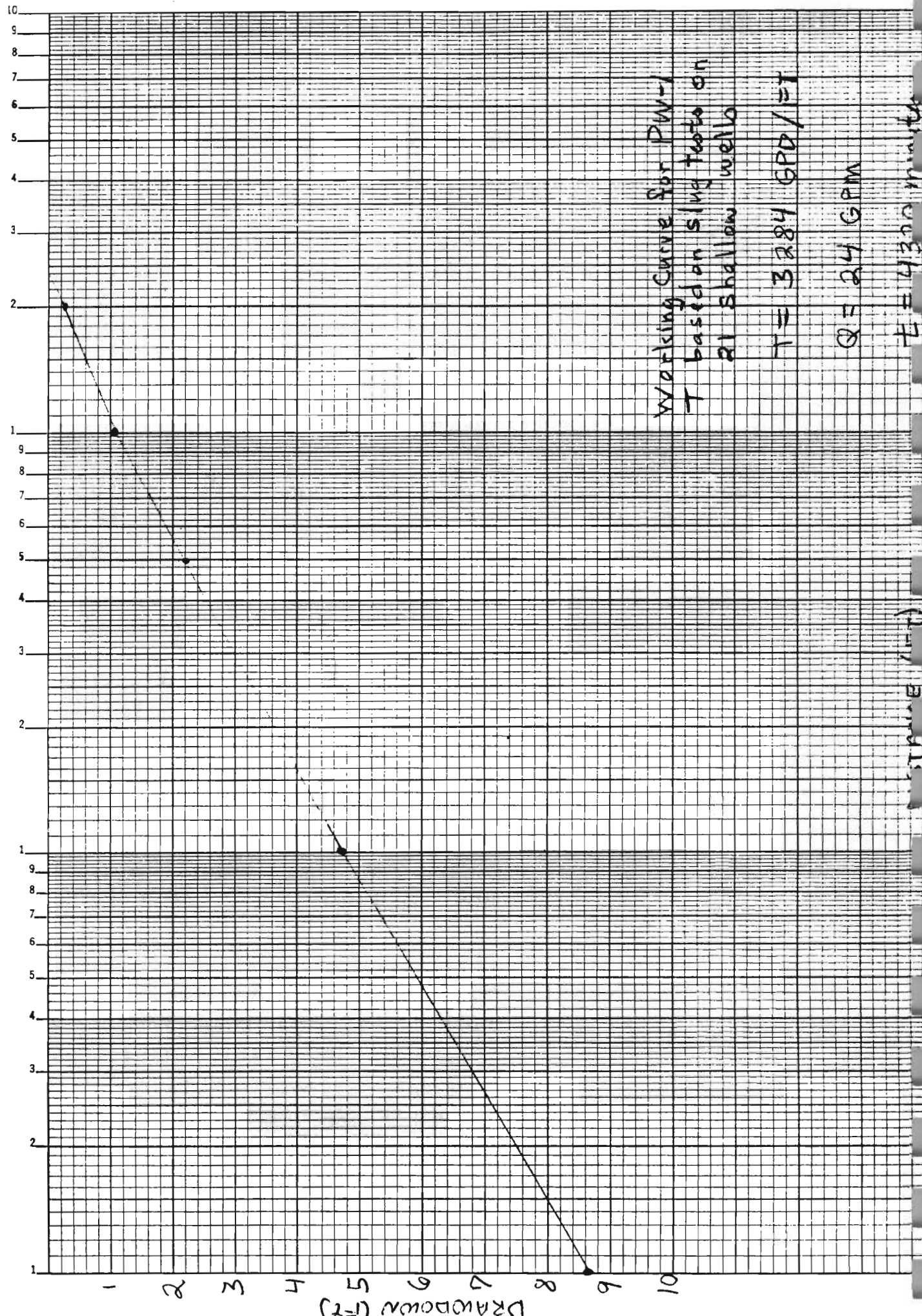
$t = \text{Assume } 3 \text{ days} = 4320 \text{ minutes}$

Assume: NONLEAKY ARTESIAN ISOTROPIC AQUIFER
WITH FULLY PENETRATING WELL AND
CONSTANT DISCHARGE - THIS IS APPLICABLE
IN THE ABSENCE OF SUBSTANTIAL
GRAVITY DRAINAGE.

2835

DRAWING PAPER NO. 1371-21
 TRACING PAPER NO. 1230-21
 SEMI-LOG. 3 CY. BY 10 DIV. / IN.

AQUABEE
 MADE IN USA



ATTACHMENT A
INITIAL TRANSMISSIVITY ESTIMATE

$$T = kb \quad \text{where } k = \text{average hyd. cond of 21 shallow wells} \\ = 8.6 \text{ E-3 cm/s} = 24.38 \frac{\text{ft}}{\text{day}}$$

$$b = \text{Base of outwash - water table} \\ 28 - 10 = 18 \text{ ft}$$

$$T = 24.38 \frac{\text{ft}}{\text{d}} \times 18 \text{ ft} \times \frac{\text{ft}}{\text{ft}} \times 7.48 \frac{\text{g}}{\text{ft}^3} \\ = 3284 \text{ GPD/FT}$$

Estimate Pumping Rate

$$\frac{Q}{S} = \frac{114.6 W(u)}{(114.6) W(u)} \quad u = \frac{1.87 (r^2) S}{T t}$$

where $r = \text{well radius } 3'' = 0.25'$
 $S = \text{specific yield} = 0.2$
 $T = 3284 \text{ GPD/ft}$
 $t = 3 \text{ days}$

$$u = \frac{1.87 (.25)^2 (.2)}{3284 (3)} = 2.4 \text{ E-6} \quad W(u) = 12.363$$

$$\frac{Q}{S} = \frac{3284}{114.6 (12.363)} = 2.3 \frac{\text{gpm}}{\text{ft}} \times 10 = 23 \text{ gpm} \approx 24 \text{ gpm}$$

Assume 10 ft of available drawdown

BY JMA DATE: SHEET NO. 1 OF 3
 CHKD. BY: Rlt DATE: 11-1-95 JOB NO. 0266-314
 SUBJECT: Step Drawdown Analysis of RW-1

RW-1

Top of Screen 18.0 ft
 Watertable 11.4 ft
 maximum drawdown 6.6 say 6.5 ft

Assume pumping level is maintained above screen. to prevent bacterial fouling of screen.

Step drawdown Data

<u>Q (gpm)</u>	<u>Drawdown (ft)</u>	<u>Elapsed Time (min)</u>	<u>Q/s</u>	<u>S/Q</u>
27	0.78	115	34.6	0.0289
	0.84	208	32.1	0.0311
40	1.40	118	28.6	0.035
50	1.83	108	22.3	0.0367
55	2.37	126	23.2	0.0431

Estimate specific capacity at maximum drawdown of 6.5 ft using Equation 16.8 on page 556 of Driscoll Groundwater and Wells 2nd Edition

$$S = BQ + CQ^2 \quad \text{where } Q = \text{discharge in gpm}$$

$$S = \text{drawdown in ft}$$

$$B + C \text{ are constants related to aquifer and well losses.}$$

Equation 16.8 approximates the influence of turbulent well losses on the pumping ~~loss~~ drawdown as Q increases.

Plot Recast Equation 16.8 as: $S/Q = CQ + B$

Plot ~~the~~ data from step drawdown test (see attached)

where

$$B = 0.0215$$

$$C = \text{slope} = \frac{0.05 - 0.0215}{80 - 0} = 3.56E-4$$

$$\frac{S}{Q} = (3.56 \times 10^{-4}) Q + 0.0215$$

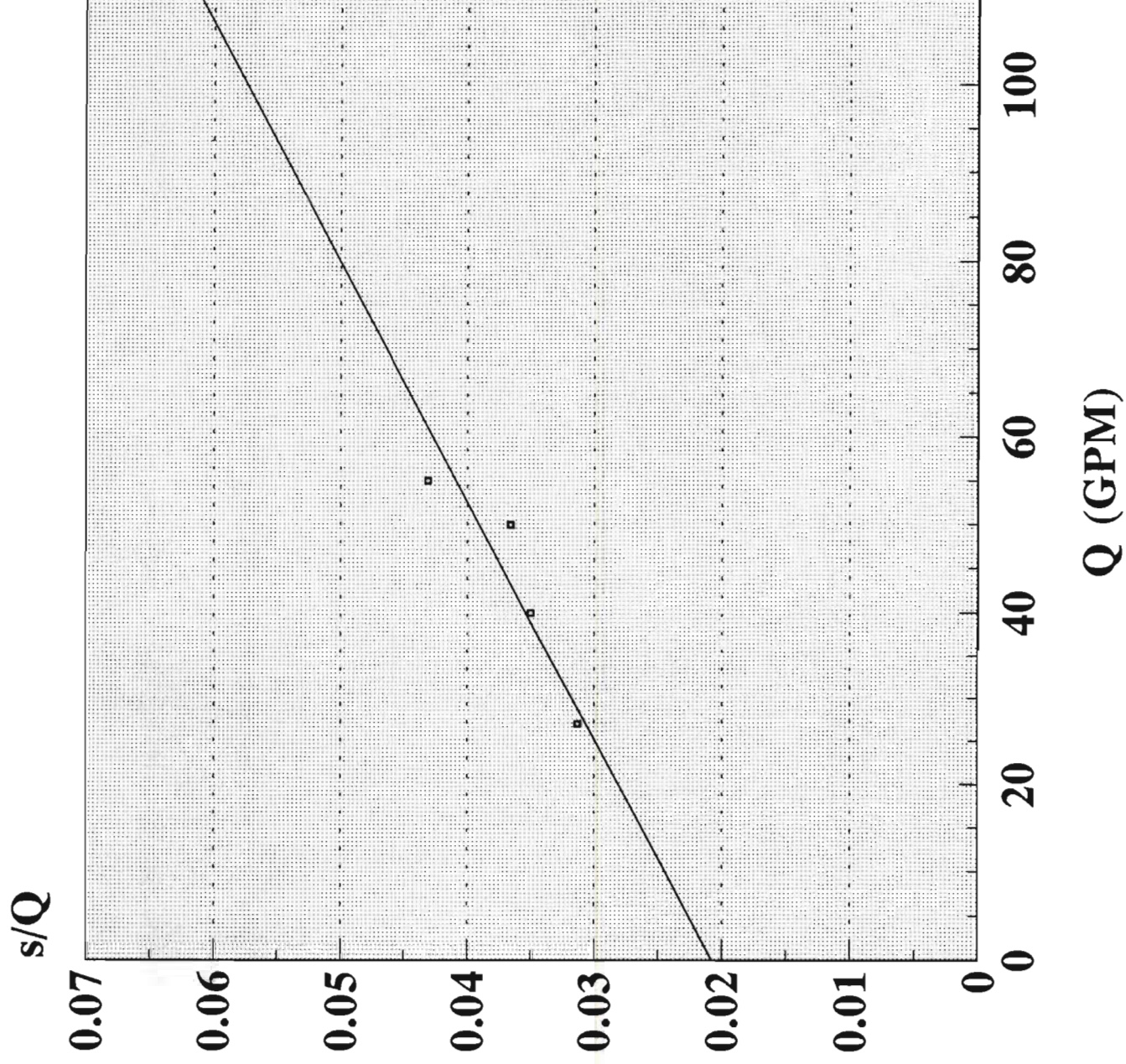
$$S/Q = (3.56 \times 10^{-4})(108 \text{ gpm}) + 0.0215 = 0.059948$$

$$S = (0.05995)(108) = 6.47 \approx 6.5 \text{ ft}$$

Estimated pumping rate of RW-1 at a drawdown
of 6.5 ft is 108 gpm

$$\text{Specific capacity } \frac{Q}{S} = \frac{108}{6.5} = 16.6 \text{ gpm/ft}$$

sheet 3 of 3
Step Drawdown Analysis
of RW-1



$$s/Q = CQ + B$$

$$B = .0215$$

$$C = \frac{(.070 - .0215)}{134 - 0} = 3.62 \times 10^{-4}$$

If drawdown is maximum of 6.5',
 $Q = ?$

$$s/Q = CQ + B$$

$$Q = 108 \text{ gpm}$$

equations are
from Darcy, pg 558

OW-A (8-22-95)

Drawdown Data
 collected while
 Pumping RW-1 @ 26.8

gpm

$$T = 264(Q)/AS$$

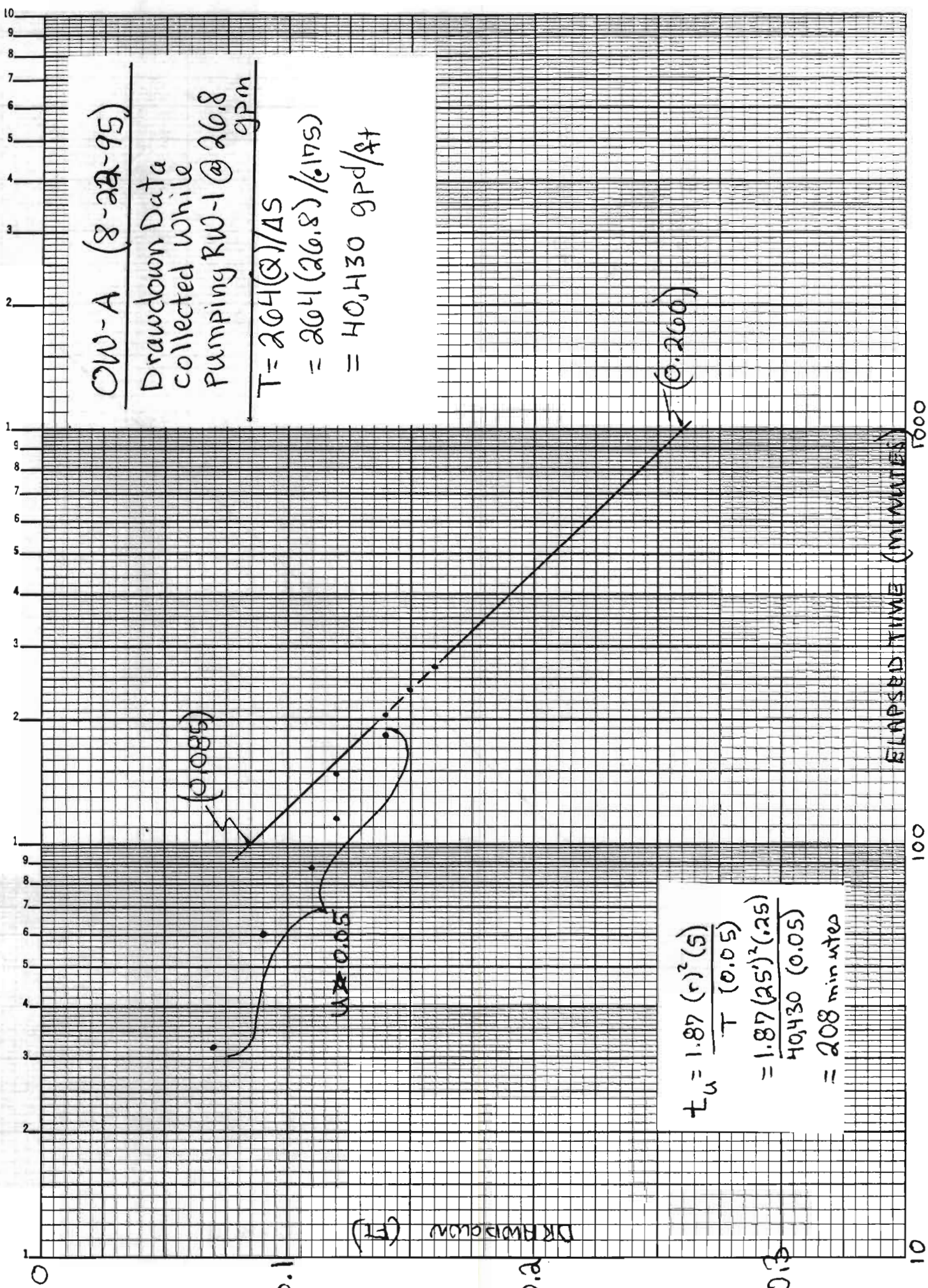
$$= 264(26.8)/(6.175)$$

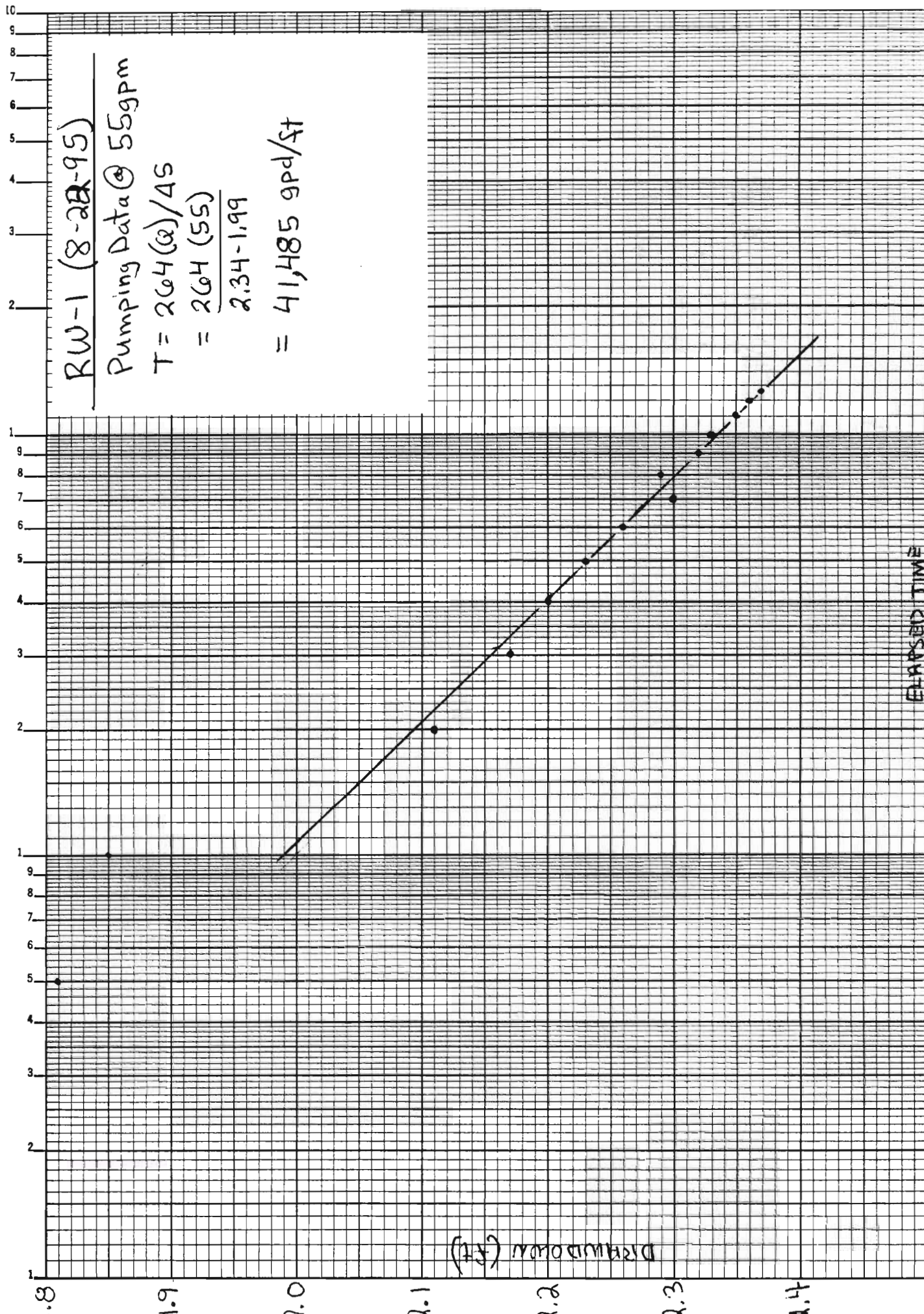
$$= 40,430 \text{ gpd/ft}$$

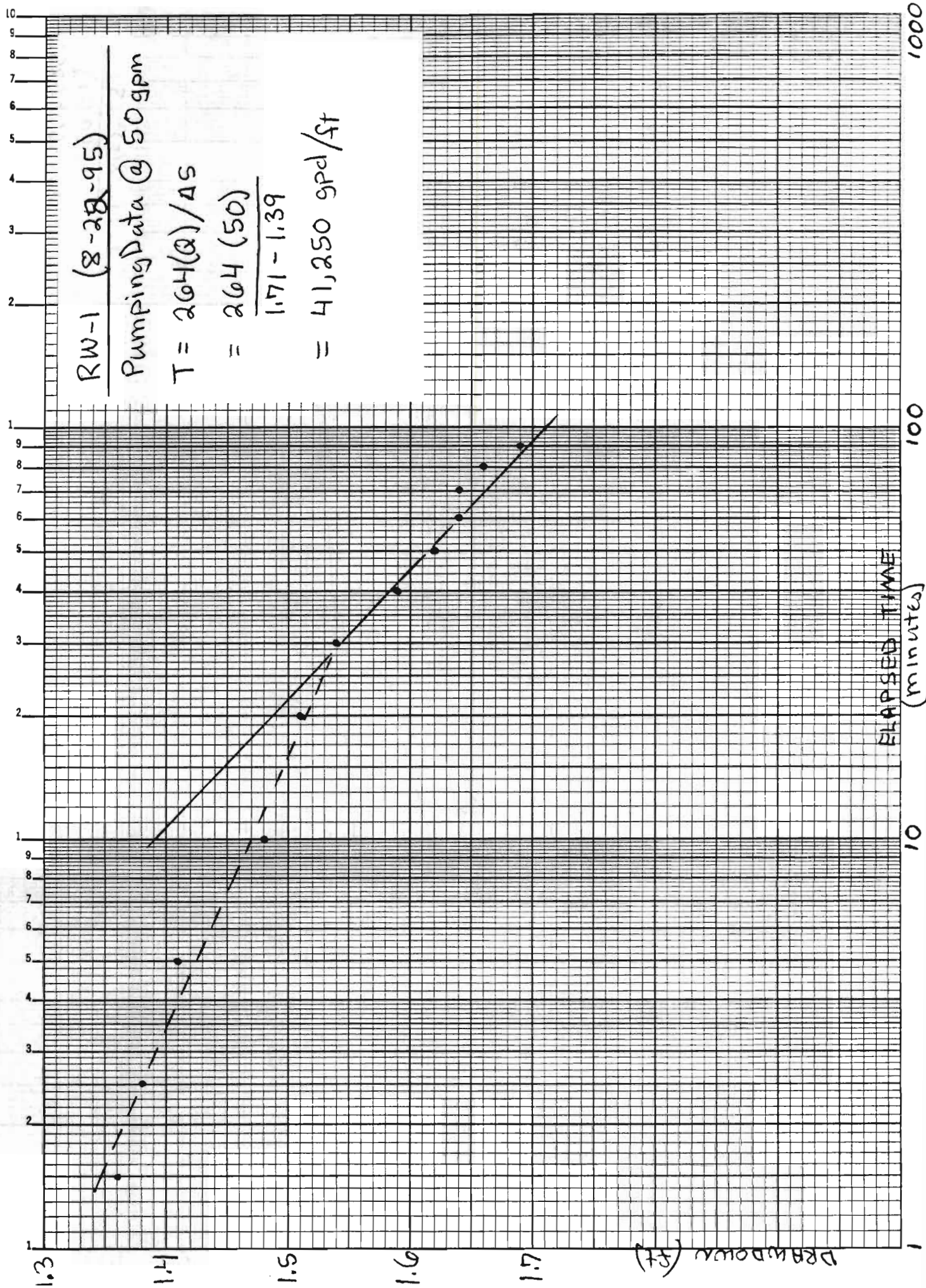
$$t_u = \frac{1.87 (r)^2 (S)}{T (0.05)}$$

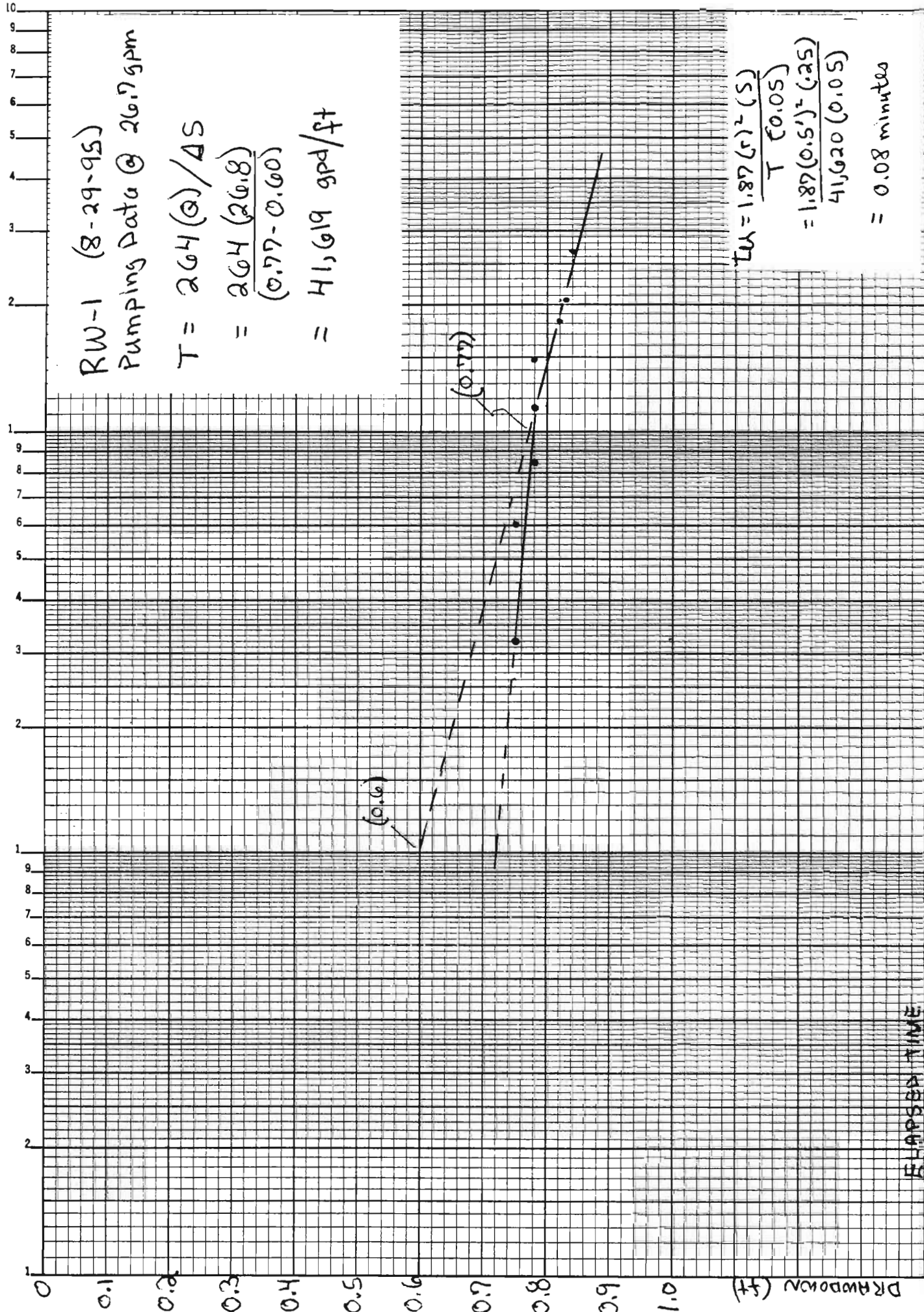
$$= \frac{1.87 (25')^2 (0.25)}{40,430 (0.05)}$$

$$= 208 \text{ minutes}$$









BY JMA DATE 8/30/95 SHEET NO. _____ OF _____
 CHKD. BY RH DATE 9-29-95 JOB NO. 0266-31-4
 SUBJECT Calculate T with $T = k * b$

$$T = k * b$$

T = trans. gpd/ft
 k = hydraulic conductivity
 b = Saturated thickness

$$T = 9 \times 10^{-2} \text{ cm/s} * 21200 * 18 \text{ ft}$$

$$T = 34,344 \text{ gpd/ft}$$

slug test at ESI-3

$$9 \times 10^{-2} \text{ cm/s}$$

Assumes slug test on ESI-3, screened over the upper 6 ft of the saturated thickness, is representative of the entire 18 ft of saturated interval.

Boring log for PB-1 (Pilot boring for RW-1) suggests this may be true since the dirty gravel at ESI-3 extends to 28 ft at PB-1.

~~However~~ Although, the vertical extent of the dirty gravel is less at H-12. ~~near the~~ across the parking lot.

MR. C CLEANERS

MONITORING WELL NUMBER KW-1

27 gpm

TOR / TOR of 1" PVC

flow rate lowered

MR. C CLEANERS

MONITORING WELL NUMBER OW-A

DATE 3/27/95

Pmp Start 08:32

27 gpm.

[illegible]

Pumping rate lowered @ 14:14

MR. C CLEANERS

MONITORING WELL NUMBER ES1-3

DATE 5/27/95

8.32 ✓ START

27
gpm

[illegible]

pumping
rate lowered
@ 14:45

MR. C CLEANERS

MONITORING WELL NUMBER Mpl-10B

27 gpm

[illegible]

Pump rate $\rightarrow$
extra lowered

MR. C CLEANERS

MONITORING WELL NUMBER RW-1

DATE 8-22-95

40 gpm

STATIC

[illegible]

PUMP TEST MEASUREMENTS

MR. C CLEANERS

OBSERV. WELL

MONITORING WELL NUMBER OW-A

DATE 8-22-95

40 gpm

[illegible]

MR. C CLEANERS

MONITORING WELL NUMBER ESI-3

40 gpm

[illegible]

MR. C CLEANERS

MONITORING WELL NUMBER RW-1

DATE 8-22-95

50 gpm Static 11.28

[illegible]

MR. C CLEANERS

MONITORING WELL NUMBER OW-A

50 gpm

STATIC 11.41

[illegible]

MR. C CLEANERS

MONITORING WELL NUMBER ES1-3

[illegible]

PUMP TEST MEASUREMENTS

MR. C CLEANERS

MONITORING WELL NUMBER RW-1

DATE 8-22-95

55 gpm

TIME	ELAPSED TIME	WATER LEVEL FROM TOR (H)	DRAWDOWN (H ₀ -h)
14:34	START	11.48	-
14:39	5.00	13.29	1.81
14:44	10.00	13.33	1.85
14:54	20.00	13.59	2.11
15:04	30.00	13.65	2.17
15:14	40.00	13.68	2.20
15:24	50.00	13.71	2.23
15:34	60.00	13.74	2.26
15:44	70.00	13.78	2.30
15:54	80.00	13.77	2.29
16:04	90.00	13.80	2.32
16:14	100.00	13.81	2.33
16:24	110.00	13.83	2.35
16:34	120.00	13.84	2.36
16:40	126.00	13.85	2.37
* Transcribed from Telog data			
logger record			

OBSERV. WELL

DATE 8-22-96

STATIC - 11.41

[illegible]

MR. C CLEANERS

MONITORING WELL NUMBER ES1-3

55 gpm

Static - 10.99

[illegible]

ATTACHMENT C

TEST ZONE A: RW-1 GROUNDWATER SAMPLING RESULTS

Sampling Date - August 29, 1995



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

September 12, 1995

Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Orchard Park, NY 14127

Attn : Robert O'Laskey
Ref : Mr. C. Cleaners, Proj. #0266-314
P.O. #: Pending

Nytest Environmental, Inc., is pleased to submit our Project Number 9521462 for Login Number 24896, on your sample(s) received 08/31/95.

We certify that this report is a true report of results obtained from our tests of this material.

Test sample(s) associated with this project will be retained for a period of thirty (30) days, unless otherwise instructed.

My staff is available to answer any questions concerning our report and we look forward to serving your future analytical needs.

Respectfully submitted,

Remo Gigante,
Executive Vice President
Nytest Environmental, Inc.

Encl:
Shipped Via:

NYS Lab ID#10195
NJ Cert.#73469

Report on sample(s) furnished by client applies to sample(s). Report on sample(s) obtained by us applies to lot sampled. Information contained herein is not to be used for reproduction except by special permission. In the event that there are portions or parts of sample(s) remaining after Nytest has completed the required tests, Nytest shall have the option of returning such sample(s) to the client at the client's expense.

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NYTEST ENVIRONMENTAL Inc.

LABORATORY
NUMBER

SAMPLE
IDENTIFICATION

TYPE OF
SAMPLE

2489601
2489602

RW-1
TRPBLK

Water
Water

000001

SDG Narrative

NARRATIVE DISCUSSION
VOLATILES - 24896

INTRODUCTION

This narrative covers the analysis of two (2) aqueous samples in accordance with protocols based on NYSDEC ASP(12/91).

HOLDING TIMES

The analytical holding time for this analysis was met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method.

All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with these samples met all method requirements.

SURROGATES

All surrogate recoveries met QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Matrix Spikes were not designated to be performed on the samples covered by this report.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

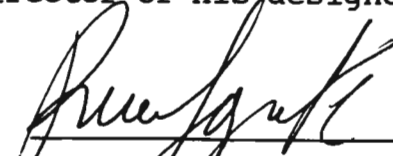
SAMPLE COMMENTS

Analysis of sample RW-1 yielded target analyte concentrations which exceeded the highest calibration standard. These compounds have been qualified "E". Reanalysis was performed at a dilution. Both sets of data are included. The concentrations of these compounds should be taken from the diluted analysis.

No other analytical problems were encountered.

000003

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.


Remo Gigante

000004

ASP Forms

000005

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

VOLATILE (VOA)

ANALYSES

[illegible]

Form I's

000008

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

RW-1

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24896

SAS No.:

SDG No.: MPI1

Matrix: (soil/water) WATER

Lab Sample ID: 2489601

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4209.D

Level: (low/med) LOW

Date Received: 08/31/95

% Moisture: not dec. _____

Date Analyzed: 08/31/95

GC Column:CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) UG/L	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	2	JB
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	8	J
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	3	J
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	3	J
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	610	E
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	4	J
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

000009

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

RW-1

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24896

SAS No.:

SDG No.: MPI1

Matrix: (soil/water) WATER

Lab Sample ID: 2489601

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N4209.D

Level: (low/med) LOW

Date Received: 08/31/95

% Moisture: not dec. _____

Data Analyzed: 08/31/95

GC Column:CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.831	2200	J
2.	UNKNOWN	7.467	16	J
3.	UNKNOWN	8.104	14	J
4.	UNKNOWN	9.947	160	J
5.	UNKNOWN AROMATIC	22.402	6	J
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

000010

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

RW-1DL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24896

SAS No.:

SDG No.: MPI1

Matrix: (soil/water) WATER

Lab Sample ID: 2489601

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4211.D

Level: (low/med) LOW

Date Received: 08/31/95

% Moisture: not dec. _____

Date Analyzed: 08/31/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 5.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	50	U
74-83-9-----	Bromomethane	50	U
75-01-4-----	Vinyl Chloride	50	U
75-00-3-----	Chloroethane	50	U
75-09-2-----	Methylene Chloride	29	JBD
67-64-1-----	Acetone	50	U
75-15-0-----	Carbon Disulfide	50	U
75-35-4-----	1,1-Dichloroethene	50	U
75-34-3-----	1,1-Dichloroethane	50	U
540-59-0-----	1,2-Dichloroethene (total)	7	JD
67-66-3-----	Chloroform	50	U
107-06-2-----	1,2-Dichloroethane	50	U
78-93-3-----	2-Butanone	50	U
71-55-6-----	1,1,1-Trichloroethane	50	U
56-23-5-----	Carbon Tetrachloride	50	U
75-27-4-----	Bromodichloromethane	50	U
78-87-5-----	1,2-Dichloropropane	50	U
10061-01-5-----	cis-1,3-Dichloropropene	50	U
79-01-6-----	Trichloroethene	50	U
124-48-1-----	Dibromochloromethane	50	U
79-00-5-----	1,1,2-Trichloroethane	50	U
71-43-2-----	Benzene	50	U
10061-02-6-----	trans-1,3-Dichloropropene	50	U
75-25-2-----	Bromoform	50	U
108-10-1-----	4-Methyl-2-Pentanone	50	U
591-78-6-----	2-Hexanone	50	U
127-18-4-----	Tetrachloroethene	680	D
79-34-5-----	1,1,2,2-Tetrachloroethane	50	U
108-88-3-----	Toluene	50	U
108-90-7-----	Chlorobenzene	50	U
100-41-4-----	Ethylbenzene	50	U
100-42-5-----	Styrene	50	U
1330-20-7-----	Xylene (total)	50	U

000011

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

RW-1DL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24896

SAS No.:

SDG No.: MPI1

Matrix: (soil/water) WATER

Lab Sample ID: 2489601

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4211.D

Level: (low/med) LOW

Date Received: 08/31/95

% Moisture: not dec. _____

Data Analyzed: 08/31/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 5.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.	UNKNOWN	6.879	6600	JD
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

000012

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

TRPBLK

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24896

SAS No.:

SDG No.: MPI1

Matrix: (soil/water) WATER

Lab Sample ID: 2489602

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4210.D

Level: (low/med) LOW

Date Received: 08/31/95

% Moisture: not dec. _____

Date Analyzed: 08/31/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
			Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

000013

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

TRPBLK

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24896

SAS No.:

SDG No.: MPI1

Matrix: (soil/water) WATER

Lab Sample ID: 2489602

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4210.D

Level: (low/med) LOW

Date Received: 08/31/95

% Moisture: not dec. _____

Data Analyzed: 08/31/95

GC Column:CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
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27.				
28.				
29.				
30.				

000014

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

VLKKN60

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24896

SAS No.:

SDG No.: MPI1

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN60

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4196.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Date Analyzed: 08/31/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	4	J
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

000015

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

VBKKN60

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24896

SAS No.:

SDG No.: MPI1

Matrix: (soil/water) WATER

Lab Sample ID: VBKKN60

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N4196.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Data Analyzed: 08/31/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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7.				
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10.				
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000016

Qualifiers

000017

nytest environmental_{inc}
Method Qualifiers for Organic CLP Methodologies

Q Qualifier - Specified entries and their meanings as follows:

- U -** Indicates compound was analyzed for but was not detected. The sample quantitation limit is corrected for dilutions and for the moisture content for soil samples. If a sample extract can not be concentrated to the protocol - specific volume, this fact is also accounted for in reporting the sample quantitation limit. The number is the minimum detected limits for the sample.
- J -** Indicates an estimated value. The flag is used either when estimating concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N -** Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- P -** This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C -** This flag applies to pesticide results where the identification has been successfully confirmed.
- B -** This flag is used when the analyte is found in the associated blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound.
- E -** This flag identifies compounds whose concentrations exceeded the calibration range of the GC/MS instrument for that specific analysis.
- D -** This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- A -** This flag indicates that a TIC is a suspected aldol-condensation product.

Traffic Reports

000019

UPS Next Day Air.

EXTREMELY URGENT



TRACKING NUMBER



0804 6942 696

UPS Next Day Air.

United Parcel Service Louisville KY

12/92 MS

Robt Wade
8/31/95 0945

000021

INTERNAL CHAIN OF CUSTODY

Laboratory Person Breaking Field Seal on Sample Shuttle & Accepting Responsibility for Sample			NAME: <u>Robert Fletcher</u>	TITLE: <u>SCO</u>
Client: <u>Malcolm Pirnie</u>	Date Broken: <u>8/31/95</u>	Military Time Seal Broken: <u>1645</u> ^{hr} <u>2945</u>		
Login #: <u>24896</u>	Analytical Parameter/Fraction: <u>ASPV0A</u>			

[illegible][illegible]

NY TEST ENVIRONMENTAL

GC/MS VOLATILE INJECTION LOG BOOK

DATE

17-9

17-9

DATA FILE	INJ TIME	SAMPLE ID	LAB ID	DATE RECD	CONDITION	CONCENTRATION	INTERNAL STD	COMMENTS
N2406	14:32	BFBINOS19			201			NG
N2407	14:42	VSTDO10N			5mls			NG
N2408	15:12	BFBINOS19			5mls			OK
N2409	15:22	BFBINOS19			5mls			
N2410	15:32	BFBINOS19			5mls			
N2411	15:42	BFBINOS19			5mls			
N2412	17:05	VSTDO10N			5mls			
N2413	17:37	VSTDO10N			5mls			
N2415	18:44	VBLKN34		NA	1000/5mls	9497,102	OK	Medium Soil
N2416	19:18	MW21-5			5mls	6,100,100	OK	
N2417	19:51	MW21-6		05-14-95	5mls	4,99,101	OK	
N2418	20:35	MW21-6MS		"		92,98,99	OK	
N2419	20:59	MW21-6MSD		"		93,99,101	OK	
N2420	21:32	MW451				96,101,101	OK	
N2421	22:06	MW452		05-16-95	1000/5mls	96,99,97	OK	
N2422	22:40	MW455		"	"	95,99,99	OK	
N2423	23:14	MW651		"	"	95,100,100	OK	
N2424	24:24	MW653		"	"	94,99,99	OK	
N2425	00:21	MW655		"	"	94,100,100	OK	
N2426	00:54	C6S47MS		"	"	95,101,98	OK	
N2427	01:28	C6S47MSD		"	"	94,101,99	OK	
N2428	01:58	Dummy						

000023

GC/MS VOLATILE INJECTION LOG BOOK

DATA FILE	INJ TIME	SAMPLE ID	LAB ID	DATE REC D	CONDITION	pH
N4194	09:32	682A081			201	
N4195	09:32	1510050N4			5 ml/s	
N4196	10:21	YBKN60	VELKN60	NA		
N4197	11:05	TB4130	2489501	08-30-95		~7
N4198	11:39	TB4130	2489502			~1
N4199	12:14	TB4110	2489503			~1
N4200	12:49	TB4100	2489504			~1
N4201	13:24	TB4090	2489505			~1
N4202	13:59	TB4080	2489506			~1
N4203	14:33	TB4070	2489507			~1
N4204	15:08	TB4060	2489508			~1
N4205	15:43	TB4050	2489509			~1
N4206	16:18	TB4050MS	2489509			~1
N4207	16:53	TB4050MS	2489509			~1
N4208	17:28	MSB	MSB	NA	5 ml/s	~7
N4209	18:03	RW-1	2489601	08-31-95	5 ml/s	~7
N4210	18:41	TRB01K	2489602	"	"	~7
N4211	19:10	RW-16L	2489603	"	1 ml 5 ml/s	~7

000024

08-31-95

DATE 08-31-95 S. Malinowski

TEKMAR POSITION	SURROGATE RECOVERY	INTERNAL STD AREA COUNTS	COMMENTS
1	174877926	116, 69736	OK
2	96, 98, 100	OK	OK
3	96, 96, 102	OK	From 11/5 5-1745-132-BTL
4	98, 96, 103	OK	240 comb 7-21-95-20-2-12
5	96, 95, 102	OK	Is/sur 7-21-95-20-2-12
6	98, 95, 101	OK	
7	98, 95, 102	OK	
8	95, 94, 102	OK	
9	97, 96, 102	OK	
10	98, 96, 102	OK	
11	97, 95, 102	OK	
12	95, 95, 101	OK	MS
13	96, 96, 100	OK	MSA
14	96, 96, 100	OK	
15	96, 95, 101	OK	telach biosthene 612 ug/K
16	96, 97, 102	OK	
17	95, 97, 101	OK	

08-31-95

ATTACHMENT D

TEST ZONE B: WELL DESIGN & CONSTRUCTION DETAILS

- **PB-2 Boring Log**
- **RW-2 Construction Details**
- **RW-2 Screen Slot Size Design/Grain Size Curves**
- **RW-2 Slug Test**
- **RW-3 Boring Log & Construction Details**
- **RW-3 Screen Design & Grain Size Curves**
- **OW-B Boring Log**
- **OW-B Slug Test**
- **OW-C Boring Log**
- **Moire Filter Sand - Grain Size Distribution Curves**

APPENDIX

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BOREHOLE LOG PB-2

PROJECT: MR. C CLEANERS REMEDIAL INVESTIGATION

PROJECT NO.: 0266-31-4

LOCATION: EAST AURORA, NEW YORK

SURVEY COORDINATES:

SURVEY DATUM:

CLIENT: NYSDEC

DRILLING DATES: 07/15/95

DRILLING METHOD: 2-1/4" HSA

LOGGED/CHECKED BY: JMA/BCH

SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID)
SS3 Split Spoon (3in.ID)
ST Shelby Tube (2.8in.ID)
WR Weight of Rods
WH Weight of Hammer
NR No Recovery

- Sampler Refusal
JHS HNU reading in jar headspace
GAS Combustible Gas reading in augers
SSLA Sample submitted for laboratory analysis

x---x Penetration Resistance ('N' Blows/1.0 ft.)
o---o Moisture Content ('M' %)

DEPTH (ft.BGS)	ELEVATION (ft AMSL)	SOIL/ROCK DESCRIPTION	SOIL DATA					ROCK DATA				WELL DIAGRAM	COMMENTS (USCS)
			GRAPHIC LOG	SAMPLE NO. / RUN NO.	BLOWS / 6"	RECOVERY (in)	'N'-VALUE	FROM/TO	DRILL RATE MIN./FT.	% REC.	% RQD.		
1	-1	Logging begins @ 10.0'											
2	-2	For 0.0-10.0' description see MPI-6S.											
3	-3												
4	-4												
5	-5												
6	-6												
7	-7												
8	-8												
9	-9												
10	-10												
11	-11	Brown moist SANDY GRAVEL, ang. gravel, loose when disturbed, massive, till		SS	11 10 8 9	1.1	18						JHS=0.5 ppm ZJHS=0.5 ppm
12	-12	Olive brown moist GRAVELLY SAND, loose when dist., massive, till											JHS=0.8 ppm
13	-13	STRATIFIED Brown wet SILTY fine SAND		SS	3 3 8 8	0.1	11						JHS=0.2 ppm
14	-14	Brown wet SILTY f SAND, little silt, mostly f & med. sand, liquifies when dist.		SS	3 3 5 12	1.4	8						JHS=0.2 ppm
15	-15	Brown wet SAND, tr silt, mostly med w/ some f sand											
16	-16												
17	-17	Brown moist GRAVELLY SAND, large cobble in silt-f sand matrix, massive, till		SS	20 22 15 7	2.0	37						JHS=0.5 ppm ZJHS=0.5 ppm JHS=0.7 ppm
18	-18	STRATIFIED Brown GRAVEL w/ sand											
19	-19	Brown wet SANDY SILT, little f sand, liq. when dist.		SS	3 6 9 10	2.0	15						JHS=0.7 ppm
20	-20	Gray wet SILTY f SAND, little silt, mostly f, tr-little med., liq. when dist.											JHS=0.0 ppm
		Gray wet f SAND, little silt, liq. when dist.											

BOREHOLE LOG PB-2

PROJECT: MR. C CLEANERS REMEDIAL INVESTIGATION
 PROJECT NO.: 0286-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM:

CLIENT: NYSDEC
 DRILLING DATES: 07/15/95
 DRILLING METHOD: 2-1/4" HSA
 LOGGED/CHECKED BY: JMA/BCH
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID)
 SS3 Split Spoon (3in.ID)
 ST Shelby Tube (2.8in.ID)
 WR Weight of Rods
 WH Weight of Hammer
 NR No Recovery

- Sampler Refusal
 JHS HNU reading in jar headspace
 GAS Combustible Gas reading in augers
 SSLA Sample submitted for laboratory analysis

x---x Penetration Resistance ('N' Blows/1.0 ft.)
 o---o Moisture Content ('M' %)

DEPTH (ft.BGS)	ELEVATION (ft AMSL)	SOIL/ROCK DESCRIPTION	SOIL DATA					ROCK DATA				WELL DIAGRAM	COMMENTS (USCS)
			GRAPHIC LOG	SAMPLE NO. / RUN NO.	BLOWS / 6"	RECOVERY (in)	'N'-VALUE	FROM/TO	DRILL RATE MIN./FT.	% REC.	% RQD.		
21	-21	Gray wet SILTY f SAND, some vf sand, little-some silt, liq. when dist.		SS	1 3 4 8	1.1	7						JHS=0.3 ppm JHS=0.6 ppm
22	-22	Gray wet f SAND, little vf, tr-little silt, liq. when dist.											JHS=0.7 ppm
23	-23			SS	4 5 8 8	2.0	13						
24	-24	Gray wet SAND, tr silt, mostly f sand, tr medium, liq. slightly when dist.											JHS=0.4 ppm
25	-25			SS	2 4 3 6	1.5	7						
26	-26												JHS=0.8 ppm
27	-27	Gray CLAYEY SILT, laminated		SS	2 6 6 6	1.8	12						JHS=0.6 ppm JHS=0.5 ppm
		Gray wet SAND, tr silt, mostly f, tr vf-medium, liq. when dist.											
28	-28	Advanced augers to 24' BGS. Sampled to 28' BGS. Borehole backfilled with drill cuttings.											
29	-29												
30	-30												
31	-31												
32	-32												
33	-33												
34	-34												
35	-35												
36	-36												
37	-37												
38	-38												
39	-39												
40	-40												

WELL/BOREHOLE RW-2 CONSTRUCTION DETAILS

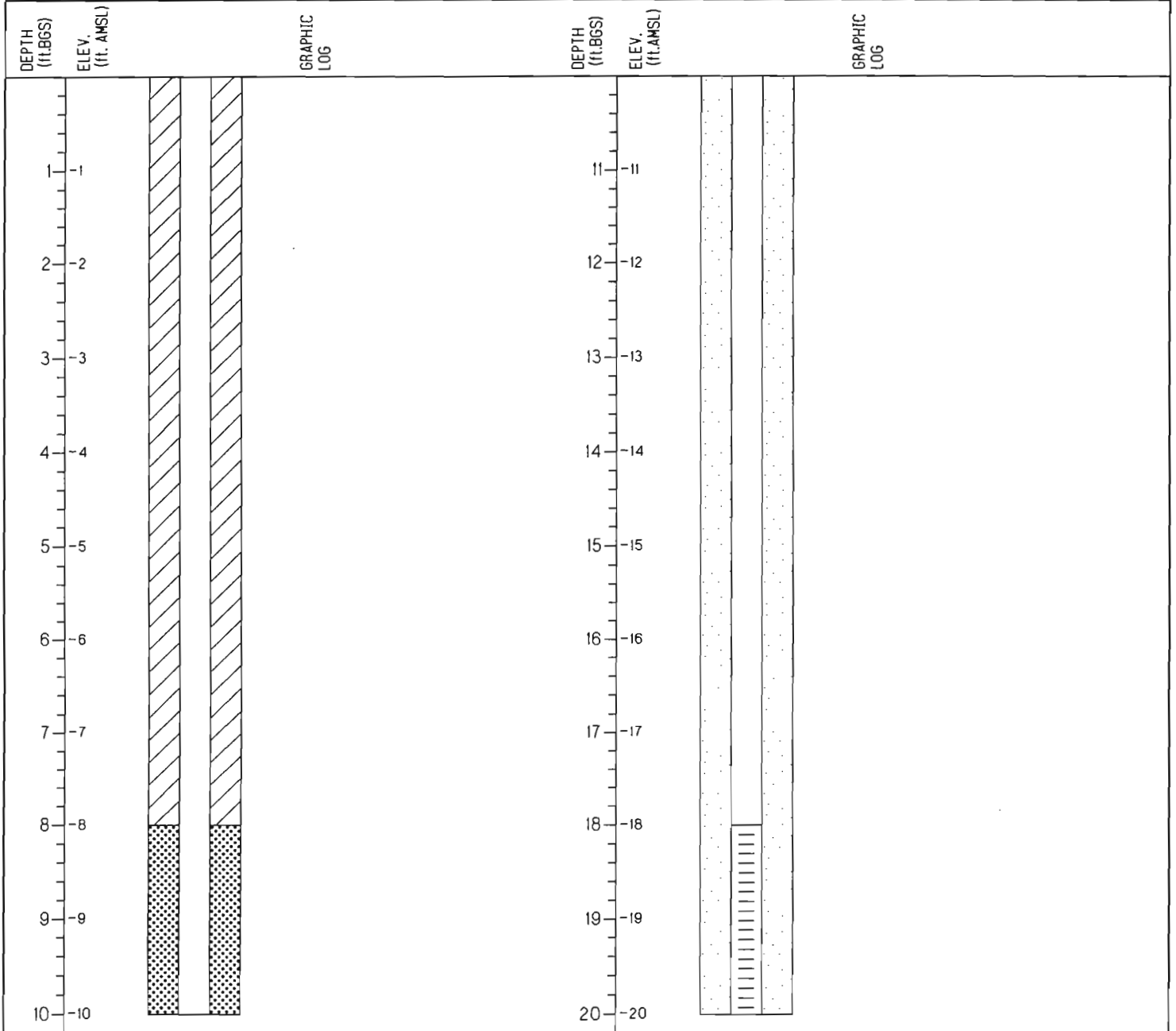
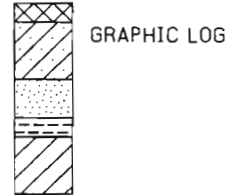
PROJECT: MR C CLEANERS
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM: NEW YORK STATE SURVEY GRID

CLIENT: NYSDEC
 DRILLING DATES: 08/15/95
 DRILLING METHOD: 8 1/4" HSA
 LOGGED/CHECKED BY: JRB
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

-  BENTONITE-CEMENT SEAL
0.0 to 8.0 feet
-  BENTONITE SLURRY SEAL
8.0 to 10.0 feet
-  MORIE #0 SAND PACK
10.0 to 28.0 feet
-  4-INCH DIAMETER SLOTTED (0.010")SCREEN
18.0 to 28.0 feet

-  4-INCH DIAMETER CASING
0.0 feet
-  4-INCH DIAMETER RISER
0.0 to 18.0 Feet
-  8-INCH DIAMETER BOREHOLE
0 feet



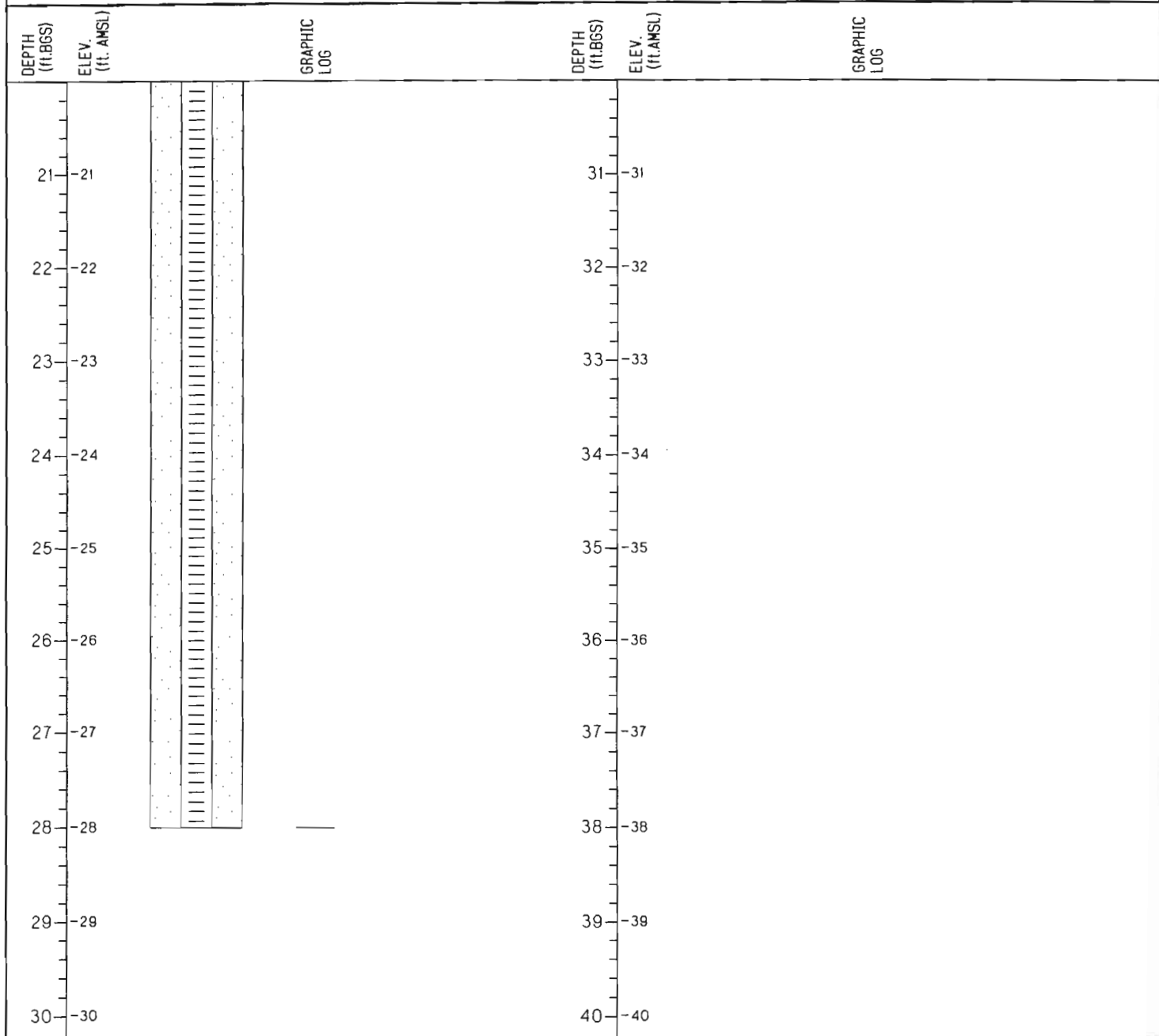
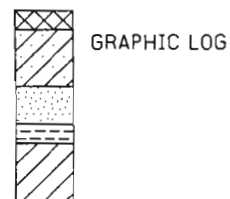
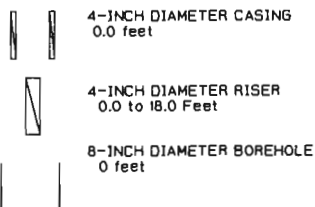
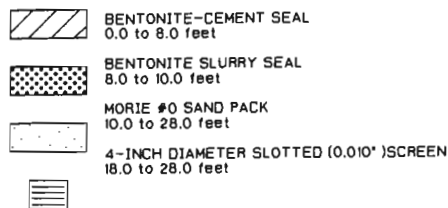
NOTES:

WELL/BOREHOLE RW-2 CONSTRUCTION DETAILS

PROJECT: MR C CLEANERS
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM: NEW YORK STATE SURVEY GRID

CLIENT: NYSDEC
 DRILLING DATES: 08/15/95
 DRILLING METHOD: 8 1/4" HSA
 LOGGED/CHECKED BY: JRB
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS



NOTES:

BY JWA DATE 7-27-95 SHEET NO. OF
CHKD. BY RNC DATE 7-27-95 JOB NO.
SUBJECT

Filter Pack Design
(For pumping well near PB-2)
Recovery Zone B

For Interval 20-26'

Size of sediment at 30% retained or $d_{30} = .062 \text{ mm}$

$$.062 \times 6 = .37 \text{ mm}$$

SLOT SIZE

$$.29 \text{ mm} = .011" \quad (\text{SLOT SIZE} = 10)$$

Grain size distribution plot showing Percent Finer versus Grain Size (mm). The plot includes a solid line with data points and a dashed line representing a comparison curve. Handwritten notes indicate specific grain sizes: 1.0 mm, 0.075 mm, and 0.075 mm.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
20	100
10	100
7.5	100
6	100
4.75	100
3.75	100
3	100
2.5	100
2	100
1.5	100
1.18	100
0.85	100
0.75	100
0.6	100
0.425	100
0.3	100
0.25	100
0.2	100
0.15	100
0.106	100
0.075	100
0.075	28
0.075	29
0.075	10
0.075	8
0.06	12
0.0425	38
0.03	60
0.025	80
0.02	95
0.015	100
0.0106	100
0.0075	100
0.006	100
0.00425	100
0.003	100
0.0025	100
0.002	100
0.0015	100
0.00106	100
0.00075	100
0.0006	100
0.000425	100
0.0003	100
0.00025	100
0.0002	100
0.00015	100
0.000106	100
0.000075	100
0.00006	100
0.0000425	100
0.00003	100
0.000025	100
0.00002	100
0.000015	100
0.0000106	100
0.0000075	100
0.000006	100
0.00000425	100
0.000003	100
0.0000025	100
0.000002	100
0.0000015	100
0.00000106	100
0.00000075	100
0.0000006	100
0.000000425	100
0.0000003	100
0.00000025	100
0.0000002	100
0.00000015	100
0.000000106	100
0.000000075	100
0.00000006	100
0.0000000425	100
0.00000003	100
0.000000025	100
0.00000002	100
0.000000015	100
0.0000000106	100
0.0000000075	100
0.000000006	100
0.00000000425	100
0.000000003	100
0.0000000025	100
0.000000002	100
0.0000000015	100
0.00000000106	100
0.00000000075	100
0.0000000006	100
0.000000000425	100
0.0000000003	100
0.00000000025	100
0.0000000002	100
0.00000000015	100
0.000000000106	100
0.000000000075	100
0.00000000006	100
0.0000000000425	100
0.00000000003	100
0.000000000025	100
0.00000000002	100
0.000000000015	100
0.0000000000106	100
0.0000000000075	100
0.000000000006	100
0.00000000000425	100
0.000000000003	100
0.0000000000025	100
0.000000000002	100
0.0000000000015	100
0.00000000000106	100
0.00000000000075	100
0.0000000000006	100
0.000000000000425	100
0.0000000000003	100
0.00000000000025	100
0.0000000000002	100
0.00000000000015	100
0.000000000000106	100
0.000000000000075	100
0.00000000000006	

Sample information:

- PB-2 / 20.0-26.0

Dashed line - curve
of Sand Pack

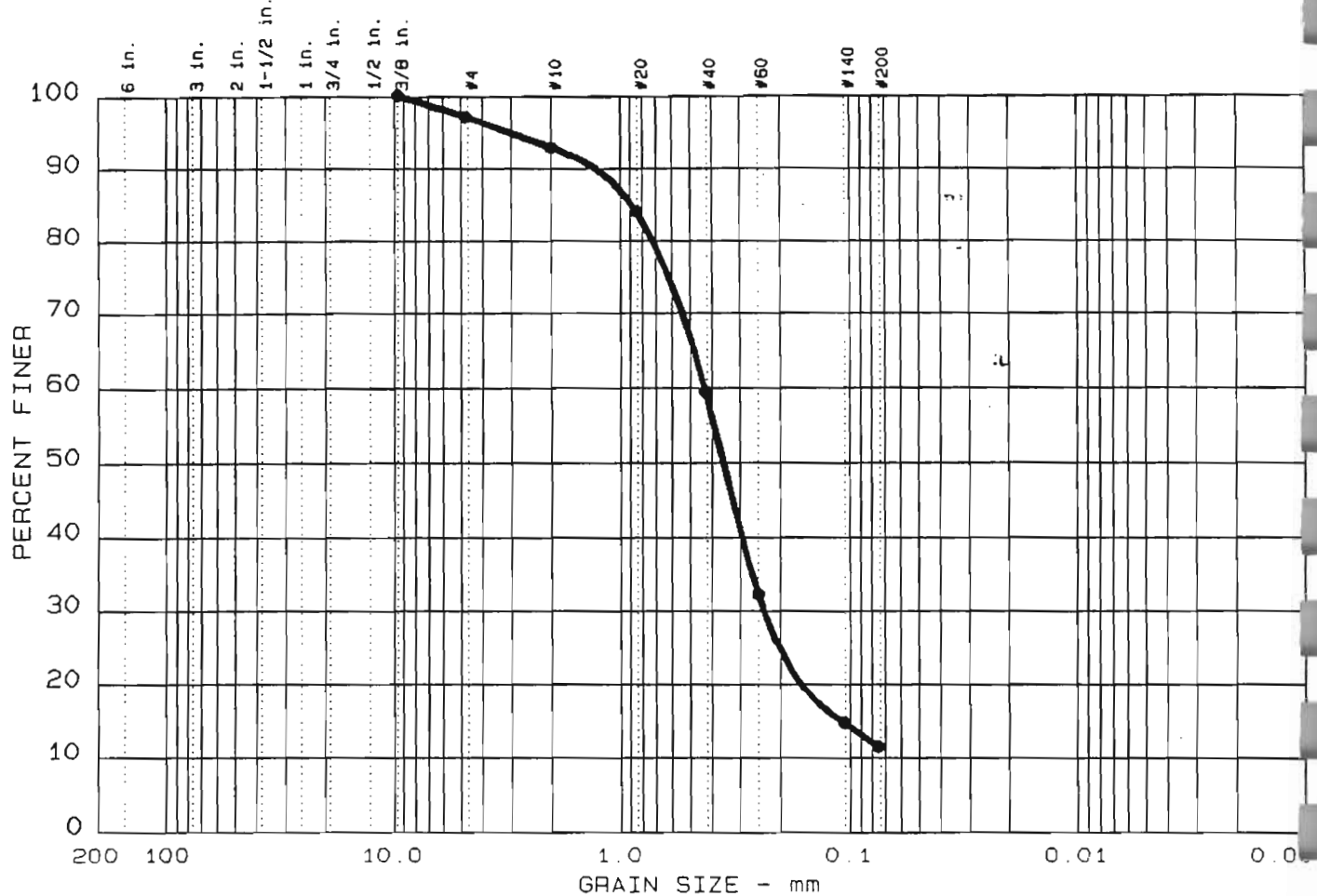
Solid line - curve of
formation

Remarks:

LAB ID NO.: 95-603

Data Sheet No

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	2.9	85.6	11.5				

SIEVE inches size	PERCENT FINER	SIEVE number size	PERCENT FINER
0.375	100.0	4	97.1
		10	92.9
		20	84.1
		40	59.5
		60	32.1
		140	14.7
		200	11.5
GRAIN SIZE			
D ₆₀	0.43		
D ₃₀	0.24		
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

Sample information:

● PB-2 / 16-16.6'

Remarks:

LAB ID NO.: 95-599

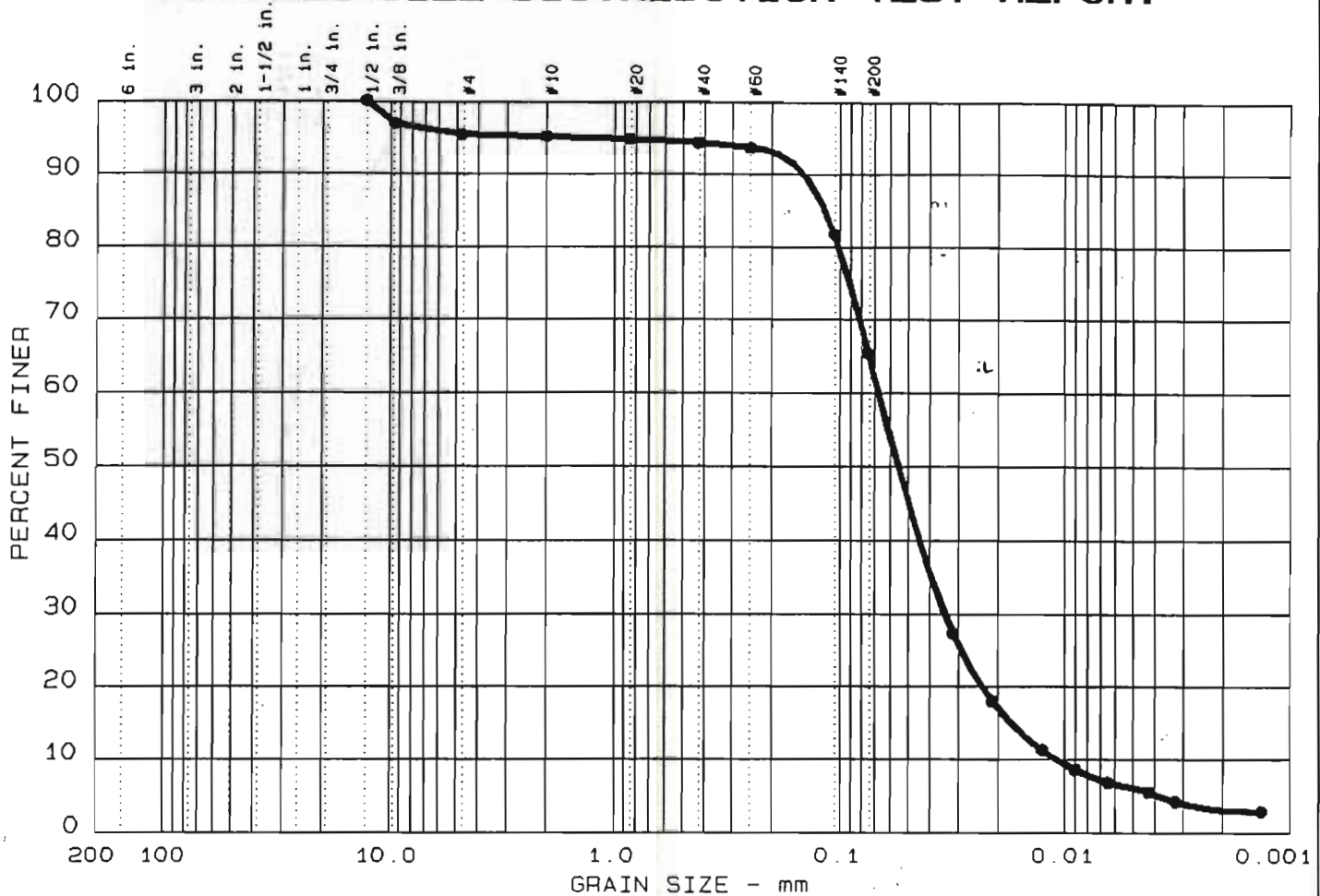
**MALCOLM
PIRNIE, INC.**

Project No.: 0266-31-4
Project: Mr. C Dry Cleaner

Date: 7-21-95

Data Sheet No. _____

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	4.5	30.1	62.4	3.0			

SIEVE inches size	PERCENT FINER		
0.5	100.0		
0.375	97.0		
✕ GRAIN SIZE			
D ₆₀			
D ₃₀	0.03		
D ₁₀	0.01		
✕ COEFFICIENTS			
C _c	1.60		
C _u	6.2		

SIEVE number size	PERCENT FINER		
4	95.5		
10	95.2		
20	94.8		
40	94.3		
60	93.7		
140	81.7		
200	65.4		

Sample information:
 ● PB-2 / 17.2-18.5

Remarks:
 LAB ID NO.: 95-500

**MALCOLM
PIRNIE, INC.**

Project No.: 0266-31-4
 Project: Mr. C Dry Cleaner

Date: 7-21-95

Data Sheet No. _____

Grain size distribution curve showing Percent Finer versus Grain Size (mm). The curve indicates that approximately 98% of the material is finer than 4.75 mm, and about 52% is finer than 0.075 mm.

Grain Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
20	100
10	100
4.75	98
2.5	95
1.18	85
0.6	70
0.3	55
0.15	52

SIEVE inches size	PERCENT FINER		
	●		
	GRAIN SIZE		
D ₆₀ D ₃₀ D ₁₀	0.09		
	COEFFICIENTS		
C _c C _u			

Remarks:
LAB ID NO.: 95-601

Data Sheet No.

Grain size distribution plot for Test No. 101. The graph shows Percent Finer (0-100) versus Grain Size in mm (200 to 0.001). The curve starts at 100% finer for 200 mm and decreases to approximately 25% finer at 0.075 mm. Key sieve sizes are marked at the top: 6 in., 3 in., 2 in., 1-1/2 in., 1 in., 3/4 in., 1/2 in., 3/8 in., #4, #10, #20, #40, #60, #140, and #200.

Sieve Size (mm)	Percent Finer (%)
200	100
100	100
60	100
40	100
20	98
10	98
4	98
2	83
1	62
0.6	55
0.3	34
0.15	25

	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	0.0	0.0	74.4	25.6				

SIEVE inches size	PERCENT FINER		
	GRAIN SIZE		
D ₆₀	0.23		
D ₃₀	0.09		
D ₁₀			
	COEFFICIENTS		
C _c C _u			

SIEVE number size	PERCENT FINER		
	●		
4	100.0		
10	100.0		
20	98.3		
40	83.8		
60	63.0		
140	34.6		
200	25.6		

Sample information:
● PB-2 / 19.5-20

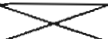
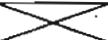
Remarks:
LAB ID NO.: 95-602

Data Sheet No. _____

A semi-logarithmic plot of grain size distribution. The vertical axis is labeled "PERCENT FINER" and ranges from 0 to 100 in increments of 10. The horizontal axis is labeled "GRAIN SIZE - mm" and is logarithmic, ranging from 200 down to 0.075. Above the horizontal axis, sieve sizes are listed: 6 in., 3 in., 2 in., 1-1/2 in., 1 in., 3/4 in., 1/2 in., 3/8 in., #4, #10, #20, #40, #60, #140, and #200. A solid black curve starts at 100% finer for grain sizes larger than approximately 0.85 mm (#20 sieve) and drops sharply between 0.425 mm (#40 sieve) and 0.075 mm (#200 sieve). Data points are plotted along the curve.

Sieve / Grain Size (mm)	Percent Finer (%)
#10 (1.75 mm)	100
#20 (0.85 mm)	100
#40 (0.425 mm)	98
#60 (0.25 mm)	92
#140 (0.106 mm)	43
#200 (0.075 mm)	27

	% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
●	0.0	0.0	72.9	27.1				

SIEVE inches size	PERCENT FINER		
			
	GRAIN SIZE		
D ₆₀	0.14		
D ₃₀	0.08		
D ₁₀			
	COEFFICIENTS		
C _c			
C _u			

SIEVE number size	PERCENT FINER		
	●		
10	100.0		
20	99.9		
40	99.0		
60	91.0		
140	42.9		
200	27.1		

Sample information:
● PB-2 / 25-26.5, 26.7-28

Remarks:
LAB ID NO.: 95-604

**MALCOLM
PIRNIE, INC.**

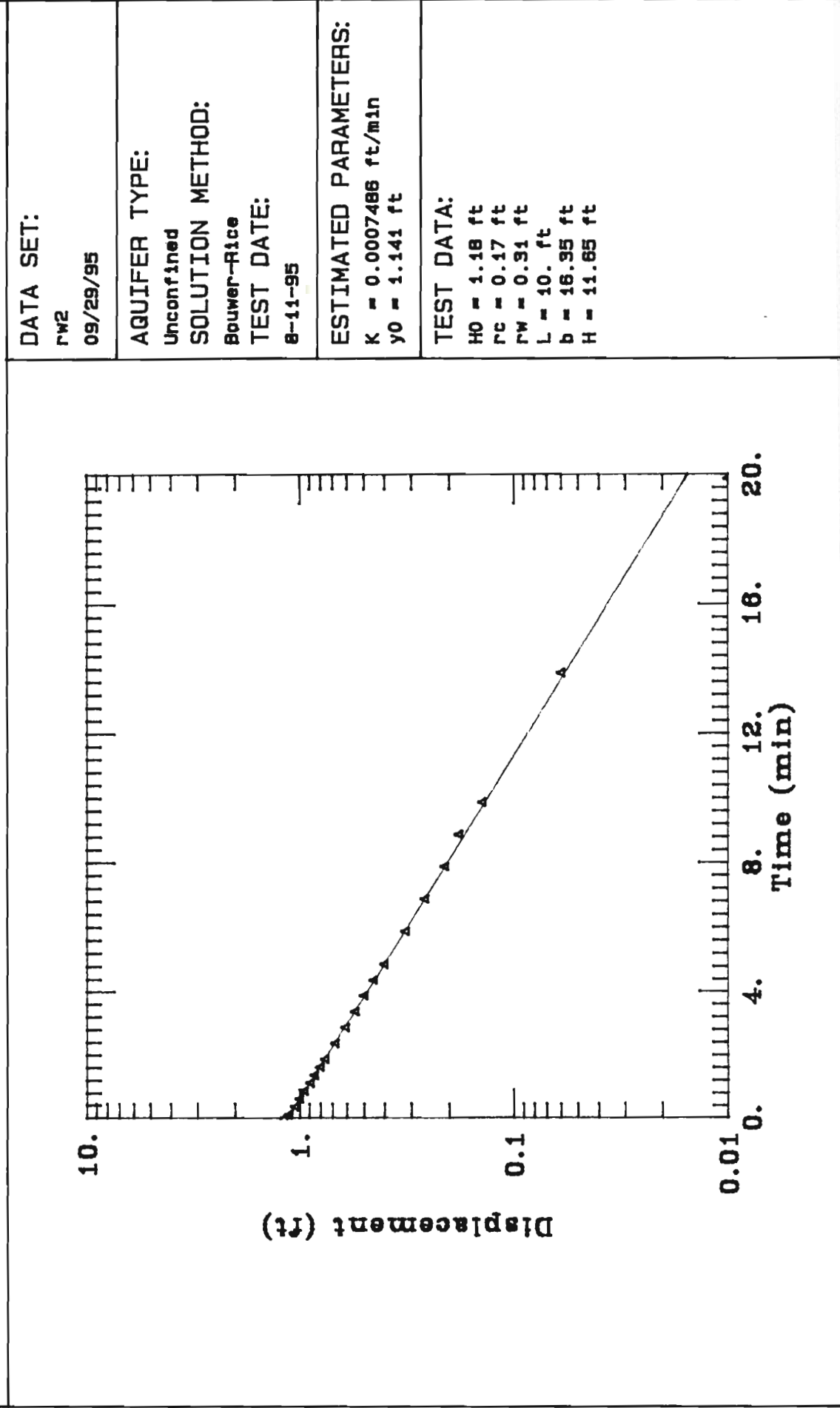
Project No.: 0266-31-4
Project: Mr. C Dry Cleaner

Date: 7-21-95

Data Sheet No.

MALCOLM PIRNIE, INC.	Client: NYSDEC
Project No.: 0266-314-004	Location: EAST AURORA, NY, LIBRARY

RW-2



KW-2

Environmental Logger

8/11 11:53

Test #0

Reference 11.65

Scale Factor 20.05

Offset -0.01

Step #0 8/11 10:17

Elapsed Time	Value
0	12.83
0.0667	12.78
0.1167	12.77
0.3667	12.7
0.6167	12.65
0.8667	12.6
1.1167	12.54
1.3667	12.5
1.6167	12.45
1.8667	12.41
2.3667	12.33
2.8667	12.26
3.3667	12.2
3.8667	12.15
4.3667	12.1
4.8667	12.05
5.8667	11.97
6.8667	11.91
7.8667	11.86
8.8667	11.83
9.8667	11.79
13.8667	11.71
19.8667	11.66
29.8667	11.65

BOREHOLE LOG RW-3

PROJECT: MR. C CLEANERS REMEDIAL INVESTIGATION
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM:

CLIENT: NYSDEC
 DRILLING DATES: 09/07/95
 DRILLING METHOD: 6-1/4" HSA
 LOGGED/CHECKED BY: JMA
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID)
 SS3 Split Spoon (3in.ID)
 ST Shelby Tube (2.8in.ID)
 WR Weight of Rods
 WH Weight of Hammer
 NR No Recovery

- Sampler Refusal
 JHS HNU reading in jar headspace
 GAS Combustible Gas reading in augers
 SSLA Sample submitted for laboratory analysis

x---x Penetration Resistance ('N' Blows/1.0 ft.)
 o---o Moisture Content ('M' %)

DEPTH (ft.BGS)	ELEVATION (ft AMSL)	SOIL/ROCK DESCRIPTION	SOIL DATA					ROCK DATA				WELL DIAGRAM	COMMENTS (USCS)
			GRAPHIC LOG	SAMPLE NO. / RUN NO.	BLOWS / 6"	RECOVERY (in)	'N'-VALUE	FROM/TO	DRILL RATE MIN./FT.	% REC.	% ROD.		
1	-1	Logging begins at 10.0'											
2	-2	For 0-10' description see MPI-6S.											
3	-3												
4	-4												
5	-5												
6	-6												
7	-7												
8	-8												
9	-9												
10	-10												
11	-11	LAMINATED Brown moist SILTY SAND, mostly fine & very fine sand, some silt, SM		SS	2 2 5 6	1.7	7						JHS=0.0 ppm
12	-12	Grey brown moist SILTY CLAYEY SAND											
13	-13	Grey wet SILTY SAND, mostly f & vf, some silt, t-little clay, SM		SS	11 10 12 10	2.0	22						JHS=6.0 ppm
14	-14	Brown SILTY SAND, mostly f & vf, some silt, t clay, 1.125 in. layer of c sand-oxidized @ 11.1'		SS									
15	-15	STRATIFIED Brown wet SAND, f-c sand											JHS=60 ppm
16	-16	Brown ext moist SANDY SILT, w/ little vf sand, sharp boundary @ 12.3 ft., .5 in. thick-gray sand		SS	3 4 7 10	0.5	11						JHS=162 ppm
17	-17	Brown wet SANDY SILT, w/ little vf sand											
18	-18	STRATIFIED, Brown wet SAND, f-c sand											
19	-19	Wet SAND and GRAVEL, rounded and black shale, f-c sand, compact becoming sand & gravel @ 14.0'		SS	8 8 10 12	0.6	18						JHS=220 ppm
20	-20	Grey GRAVELLY SAND, black shale, compact, f-c sand		SS	2 8 11 6	1.1	19						
		Grey wet SILTY SAND, mostly f and vf sand, little silt											

BOREHOLE LOG RW-3

PROJECT: MR. C CLEANERS REMEDIAL INVESTIGATION
PROJECT NO.: 0266-31-4
LOCATION: EAST AURORA, NEW YORK
SURVEY COORDINATES:
SURVEY DATUM:

CLIENT: NYSDEC
DRILLING DATES: 09/07/95
DRILLING METHOD: 6-1/4" HSA
LOGGED/CHECKED BY: JMA
SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID)
SS3 Split Spoon (3in.ID)
ST Shelby Tube (2.8in.ID)
WR Weight of Rods
WH Weight of Hammer
NR No Recovery

- Sampler Refusal
JHS HNU reading in jar headspace
GAS Combustible Gas reading in augers
SSLA Sample submitted for laboratory analysis

x---x Penetration Resistance ('N' Blows/1.0 ft.)
o---o Moisture Content ('M' %)

DEPTH (ft BGS)		ELEVATION (ft AMSL)	SOIL/ROCK DESCRIPTION	SOIL DATA					ROCK DATA				WELL DIAGRAM	COMMENTS (USCS)
		GRAPHIC LOG		SAMPLE NO. / RUN NO.	BLOWS / 6"	RECOVERY (in)	'N'-VALUE	FROM/TO	DRILL RATE MIN./FT.	% REC.	% RQD.			
21	-21		Grey brown SAND, f-c, trace f gravel, loose when disturbed		SS	1 2 5	1.5	2						JHS=230 ppm
22	-22		Grey SAND, f-m sand, loose when disturbed											JHS=28 ppm
23	-23		Grey SILTY SAND, little-some silt, vf sand, liq. when disturbed		SS	2 2 3 4	1.9	5						JHS=180 ppm
24	-24		Grey wet SAND, trace silt, mostly f-m sand, occ. gravel, liq. when disturbed											JHS=260 ppm
25	-25		Grey wet SAND, mostly medium, little fine, loose when disturbed		SS	WR WH 1 3	1.1	1						
26	-26		Encountered running sands		SS	5 8 5 6	2.0	13						
27	-27													
28	-28													
29	-29													
30	-30		Sampled to 28.0'. Boring complete @ 30.0'. Installed Pumping well. Natural sands filled borehole to 29.3' while installing well. Well bottom at 29.3'.											
31	-31													
32	-32													
33	-33													
34	-34													
35	-35													
36	-36													
37	-37													
38	-38													
39	-39													
40	-40													

FILTER PACK DESIGN
(for pumping well RW-3 near Mp1-65)

FOR INTERVAL 18-24'

Size of sediment or 30% retained or $d_{30} = .078$ mm

$$.078 \times 5 = .39$$

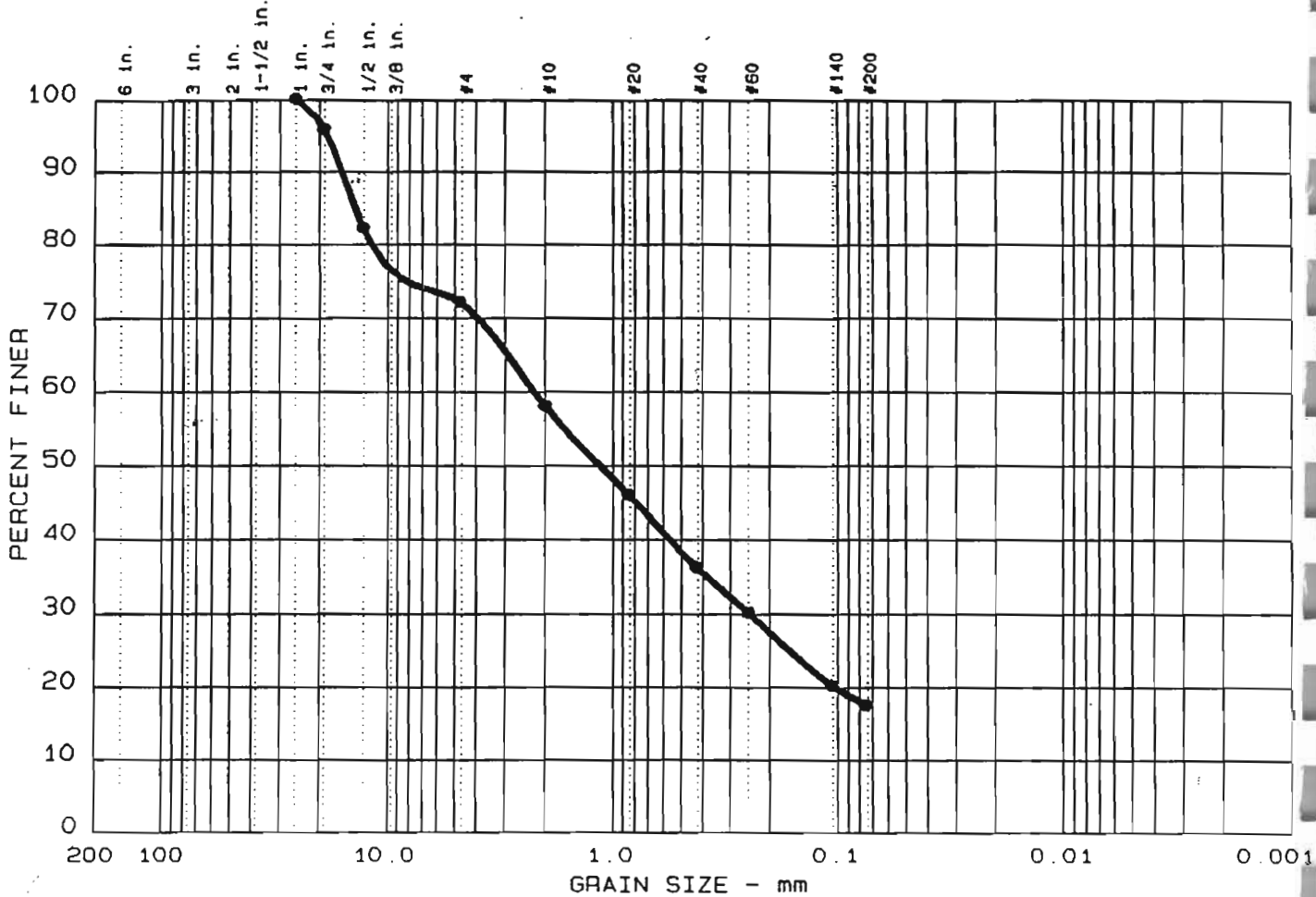
SLOT SIZE

$$.39 \text{ mm} = .012" \text{ SLOT}$$

Use 20 slot (.020")

Data Sheet No.

PARTICLE SIZE DISTRIBUTION TEST REPORT



% +3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	LL	PI
0.0	27.8	54.6	17.6				

SIEVE inches size	PERCENT FINER		
1	100.0		
0.75	95.9		
0.5	82.3		
GRAIN SIZE			
D ₆₀	2.21		
D ₃₀	0.24		
D ₁₀			
COEFFICIENTS			
C _c			
C _u			

SIEVE number size	PERCENT FINER		
4	72.2		
10	58.1		
20	46.0		
40	36.2		
60	30.1		
140	20.3		
200	17.6		

Sample information:
 ● MPI-6S, 12-18'

Remarks:

LAB ID NO.: 95-335

**MALCOLM
PIRNIE, INC.**

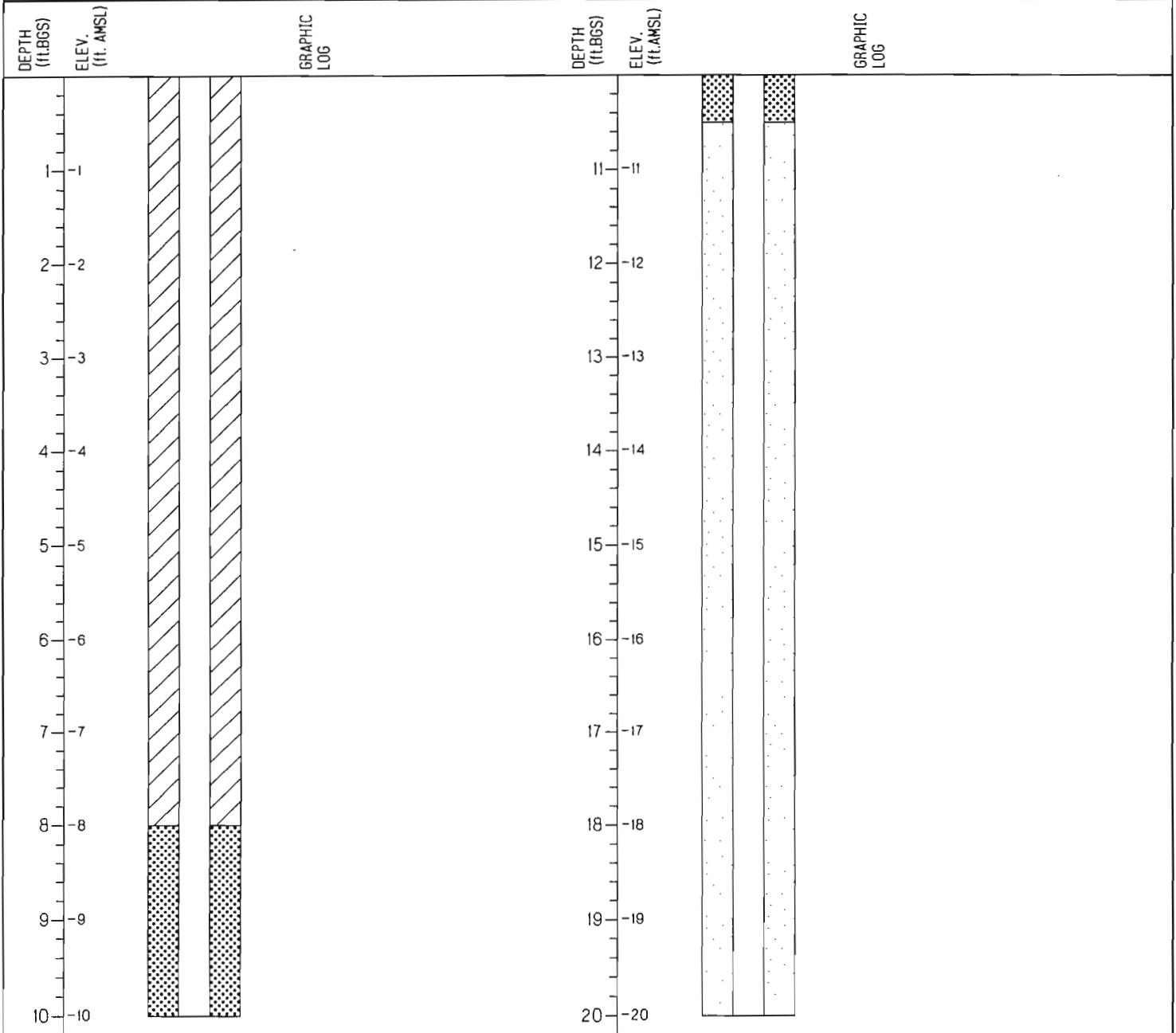
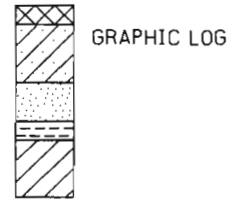
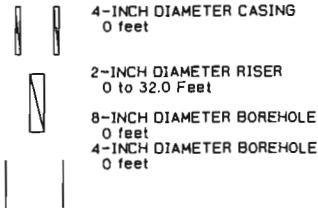
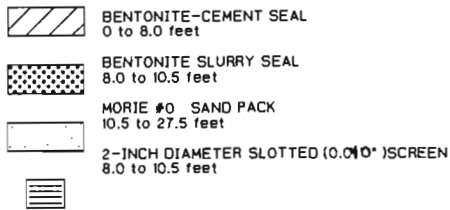
Project No.: 0266-31-4
 Project: Mr. C Dry Cleaner
 Date: 5-23-95
 Data Sheet No. _____

WELL/BOREHOLE OW-B CONSTRUCTION DETAILS

PROJECT: MR C CLEANERS
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM: NEW YORK STATE SURVEY GRID

CLIENT: NYSDEC
 DRILLING DATES: 07/15/95
 DRILLING METHOD: 4 1/4" HSA
 LOGGED/CHECKED BY: JMA
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS



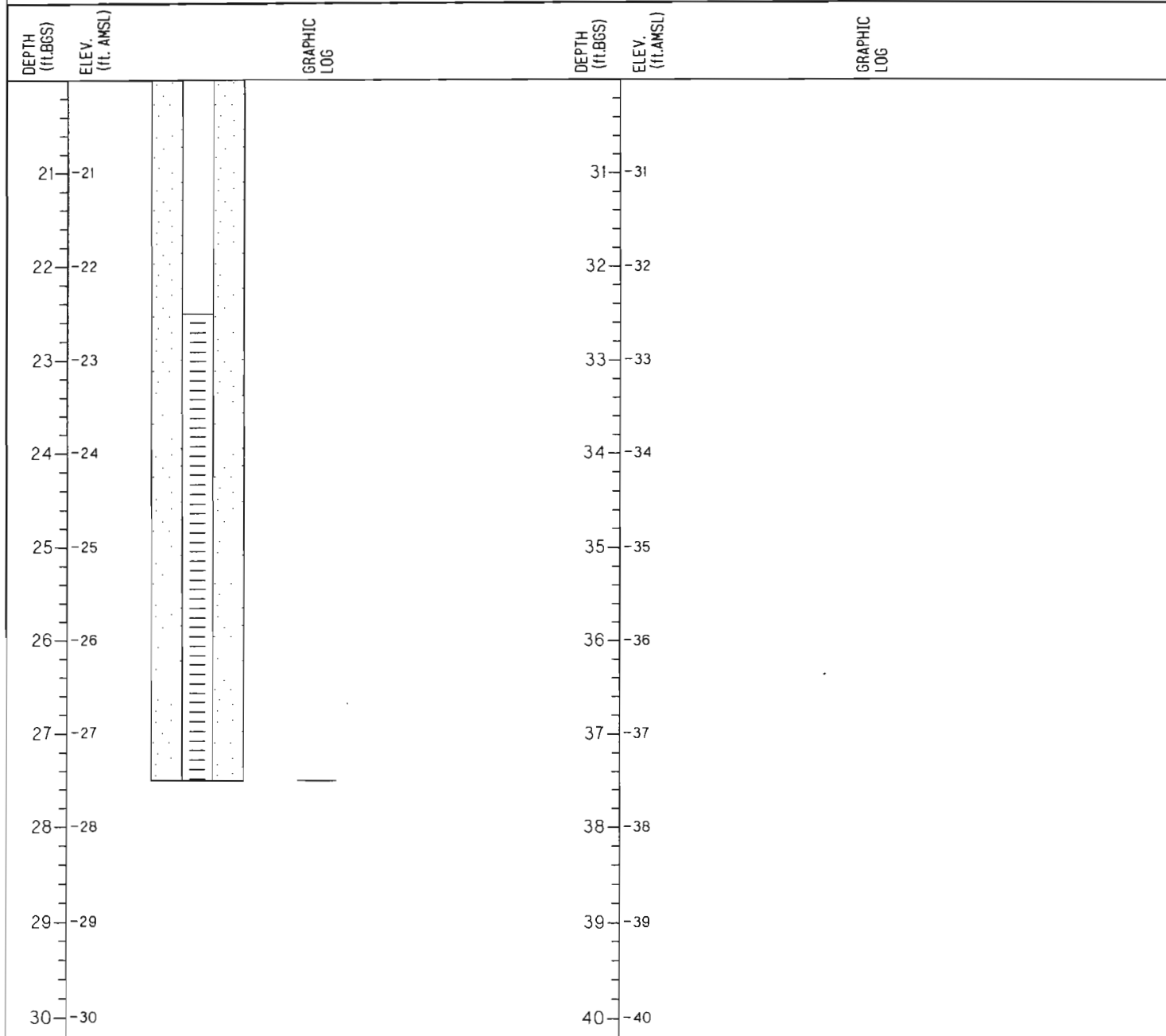
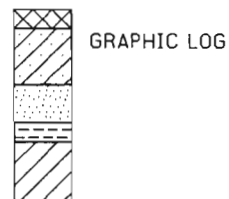
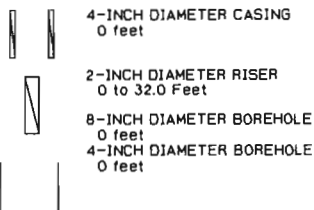
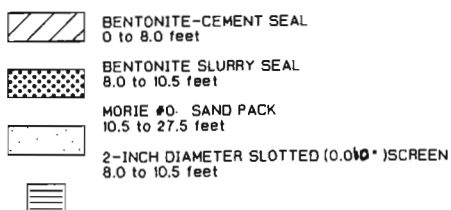
NOTES:

WELL/BOREHOLE OW-B CONSTRUCTION DETAILS

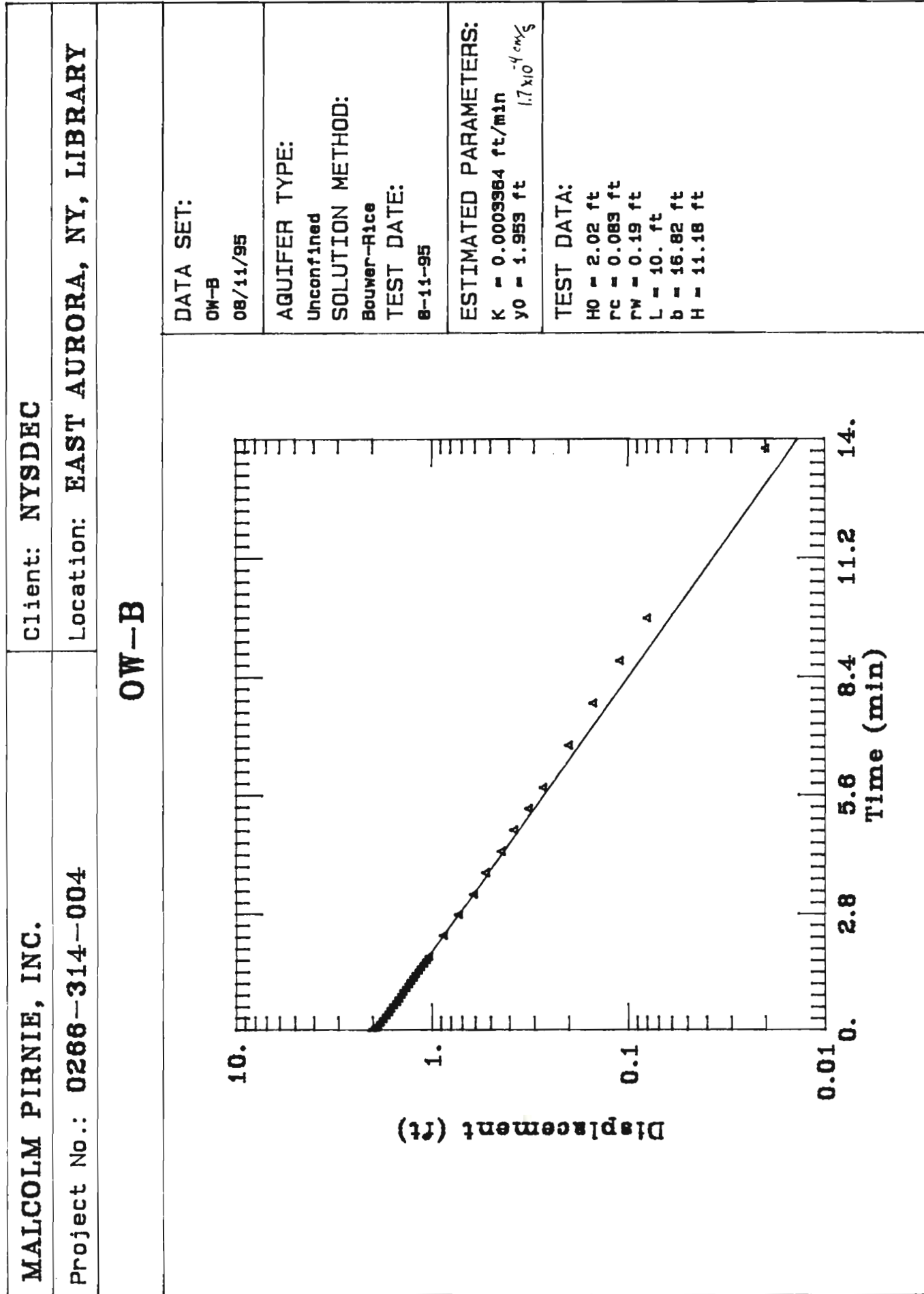
PROJECT: MR C CLEANERS
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM: NEW YORK STATE SURVEY GRID

CLIENT: NYSDEC
 DRILLING DATES: 07/15/95
 DRILLING METHOD: 4 1/4" HSA
 LOGGED/CHECKED BY: JMA
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS



NOTES:



ow-b

Environmental Logger

8/11 11:50

Test #1

Reference 11.18

Scale Factor 20.05

Offset -0.01

Step #0 8/11 11:03

Elapsed Time	Value
0	13.2
0.0167	13.17
0.0334	13.14
0.0667	13.11
0.0834	13.08
0.1167	13.06
0.2001	13
0.2834	12.94
0.3667	12.88
0.4501	12.83
0.5334	12.79
0.6167	12.74
0.7001	12.69
0.7834	12.65
0.8667	12.6
0.9501	12.57
1.0334	12.52
1.1167	12.48
1.2	12.45
1.2834	12.41
1.3667	12.38
1.4501	12.34
1.5334	12.31
1.6167	12.27
1.7001	12.24
1.7834	12.21
2.2834	12.05
2.7834	11.91
3.2834	11.79
3.7834	11.71
4.2834	11.62
4.7834	11.56
5.2834	11.5
5.7834	11.45
6.7834	11.38
7.7834	11.33
8.7834	11.29
9.7834	11.26
13.7834	11.2
15.7834	11.18

BOREHOLE LOG OW-C

PROJECT: MR. C CLEANERS REMEDIAL INVESTIGATION
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM:

CLIENT: NYSDEC
 DRILLING DATES: 09/08/95
 DRILLING METHOD: 4 1/4" HSA
 LOGGED/CHECKED BY: JMA
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID)
 SS3 Split Spoon (3in.ID)
 ST Shelby Tube (2.8in.ID)
 WR Weight of Rods
 WH Weight of Hammer
 NR No Recovery

- Sampler Refusal
 JHS H₂N reading in jar headspace
 GAS Combustible Gas reading in augers
 SSLA Sample submitted for laboratory analysis

x---x Penetration Resistance ('N' Blows/1.0 ft.)
 o---o Moisture Content ('M' %)

DEPTH (ft.BGS)	ELEVATION (ft AMSL)	SOIL/ROCK DESCRIPTION	SOIL DATA					ROCK DATA				WELL DIAGRAM	COMMENTS (USCS)
			GRAPHIC LOG	SAMPLE NO. / RUN NO.	BLOWS / 6"	RECOVERY (in)	'N'-VALUE	FROM/TO	DRILL RATE MIN./FT.	% REC.	% RGD.		
1	-1	Logging begins at 10.0' For 0.0-10.0' description see MPI-6S											
2	-2												
3	-3												
4	-4												
5	-5												
6	-6												
7	-7												
8	-8												
9	-9												
10	-10												
11	-11	Grey wet SILT and SAND w/ fine and v. fine size, laminated		SS	3	1.4	7						JHS=0.0 ppm
12	-12	STRATIFIED Grey wet SAND w/ trace silt, mostly fine sand, little medium and v. fine, stratified		SS	3 4 9								JHS=11.5 ppm
13	-13	Wet SAND and GRAVEL, subrounded and subangular, f-c sand		SS	11 11 10	1.2	21						JHS=198 ppm
14	-14	Brown wet GRAVELLY f-c SAND, some f gravel		SS	8 7 9	1.2	16						JHS=340 ppm
15	-15	Wet m-c SAND & GRAVEL, subround & subang.		SS	12 13 11	1.2	24						JHS=230 ppm
16	-16	Wet GRAVELLY SAND, subrounded & subang., f-c sand		SS	10 10 5	0.9	15						
17	-17	Brown wet f-m SAND, little gravel & c sand		SS	25 10 5 3								
18	-18	Brown wet SAND & GRAVEL, f-c sand, subrounded & subang., compact		SS									
19	-19	Grey wet SAND & GRAVEL, f-c sand, subround gravel		SS									
20	-20	Grey wet SANDY SILT, v. fine sand, liquifies when disturbed		SS									
		Gray wet SILTY f SAND, little silt											

BOREHOLE LOG OW-C

PROJECT: MR. C CLEANERS REMEDIAL INVESTIGATION
 PROJECT NO.: 0266-31-4
 LOCATION: EAST AURORA, NEW YORK
 SURVEY COORDINATES:
 SURVEY DATUM:

CLIENT: NYSDEC
 DRILLING DATES: 09/08/95
 DRILLING METHOD: 4 1/4" HSA
 LOGGED/CHECKED BY: JMA
 SURFACE ELEVATION:

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID)
 SS3 Split Spoon (3in.ID)
 ST Shelby Tube (2.8in.ID)
 WR Weight of Rods
 WH Weight of Hammer
 NR No Recovery

- Sampler Refusal
 JHS HNU reading in jar headspace
 GAS Combustible Gas reading in augers
 SSLA Sample submitted for laboratory analysis

x---x Penetration Resistance ('N' Blows/1.0 ft.)
 o---o Moisture Content ('M' %)

No recovery		SOIL/ROCK DESCRIPTION	SOIL DATA					ROCK DATA				WELL DIAGRAM	COMMENTS (USCS)	
DEPTH (ft.BGS)	ELEVATION (ft AMSL)		GRAPHIC LOG	SAMPLE NO. / RUN NO.	BLOWS / 6"	RECOVERY (in)	'N'-VALUE	FROM/TO	DRILL RATE MIN./FT.	% REC.	% RQD.			
21	-21	Brown wet SILTY SAND, vf-m sand, little silt, trace gravel		SS	3 2 3 3	2.0	5						JHS=210 ppm	
22	-22	Gray wet SILTY SAND, vf-f sand, tr-little silt			SS	1 1 2 2	1.3	3						JHS=210 ppm
23	-23	Gray wet SILTY SAND, vf sand, tr f, little silt				SS	4 4 5 6	2.0	9					
24	-24	Gray wet SILTY SAND, vf-f sand, tr-little silt				SS	4 5 7 7	2.0	12					
25	-25	Gray wet SILTY SAND, vf sand, tr fine, little-some silt, trace laminations												
26	-26	Gray wet SILTY SAND, f sand, little vf, little silt, slightly laminated												
27	-27	LAMINATED Gray wet SILT and SAND, vf sand, liquid when disturbed												
28	-28	Gray wet SILTY SAND, tr-little sand, mostly f, little med and vf, stratified												
29	-29	Gray wet SILTY SAND, m-c, tr f gravel												
30	-30	Gray wet SILTY SAND, some silt, mostly vf, laminated												
31	-31	Sampled to 28.0' bgs. Natural sands filled borehole to 28.0' while installing well. Well bottom at 28.0'. Boring completed at 29.0'. Installed observation well.												
32	-32													
33	-33													
34	-34													
35	-35													
36	-36													
37	-37													
38	-38													
39	-39													
40	-40													

MORIE SCREENINGS

Morie filter media meets the requirements of NSF Standard 61 and is NSF listed.



Typical Physical Analysis

#0 Well Gravel

Inches	MM.	Sieve No.	Cum. Grams	% Ret.	% Pass.
.0469	1.190	16	0.8	0.8	99.2
.0394	1.000	18	8.8	8.0	91.2
.0331	.850	20	49.1	40.3	50.9
.0278	.710	25	81.7	32.6	18.3
.0234	.600	30	95.2	13.5	4.8
.0197	.500	35	99.2	4.0	0.8
.0165	.425	40	99.7	0.5	0.3
.0117	.300	50	100.0	0.3	0.0

#1 Well Gravel

Inches	MM.	Sieve No.	Cum. Grams	% Ret.	% Pass.
.0861	1.700	12	1.7	1.7	98.3
.0555	1.410	14	30.5	28.8	69.5
.0469	1.190	16	56.4	25.9	43.6
.0394	1.000	18	80.7	24.3	19.3
.0331	.850	20	95.3	14.6	4.7
.0278	.710	25	98.2	2.9	1.8
.0234	.600	30	99.1	.9	.9
.0197	.500	35	99.7	.6	.3
.0165	.425	40	99.9	.2	.1

THE MORIE COMPANY, INC.

MINERS OF INDUSTRIAL SAND AND GRAVEL

GEORGIA BRICA DIVISION

Junction City, GA 31812

404/289-3204

ALABAMA BRICA DIVISION

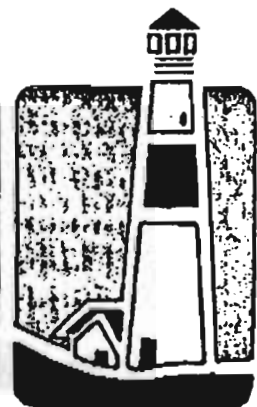
Prichard, AL 36067

205/758-5334

TENNESSEE BRICA DIVISION

Memphis, TN 38111

901/264-9800



TEL 353-4633

ATTACHMENT E

TEST ZONE B: PUMPING TEST ANALYSES

- **Water Level Data from Pumping & Observation Wells**
- **Neuman Type Curves**
- **Neuman Method Calculations**

**Recovery Period for 5 gpm:
RW-2; OW-B; OW-C; RW-3 (not used)**

**Recovery Period for 4.27 gpm:
RW-2; OW-B; OW-C; RW-3 (not used)**

**Pumping Period for 5 gpm:
RW-2; OW-B; OW-C; RW-3 (not used)**

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

PHYSICAL CHEMISTRY

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PUMP TEST DATA FOR OW-B

9-14-95 through 9-15-95

Static Water Level= 11.76

Pumping rate = 4 GPM

Distance from pumped well= ~25 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
09:49:00	7.445	11.76	0	0
09:50:00	7.44	11.765	0.005	0
09:51:00	7.429	11.776	0.016	1
09:52:00	7.393	11.812	0.052	2
09:53:00	7.345	11.86	0.1	3
09:54:00	7.301	11.904	0.144	4
09:55:00	7.264	11.941	0.181	5
09:56:00	7.238	11.967	0.207	6
09:57:00	7.22	11.985	0.225	7
09:58:00	7.206	11.999	0.239	8
09:59:00	7.199	12.006	0.246	9
10:00:00	7.186	12.019	0.259	10
10:05:00	7.177	12.028	0.268	15
10:10:00	7.173	12.032	0.272	20
10:15:00	7.176	12.029	0.269	25
10:20:00	7.176	12.029	0.269	30
10:25:00	7.173	12.032	0.272	35
10:30:00	7.172	12.033	0.273	40
10:35:00	7.172	12.033	0.273	45
10:40:00	7.171	12.034	0.274	50
10:45:00	7.17	12.035	0.275	55
10:50:00	7.164	12.041	0.281	60

RECOVERY DATA FOR OW-B

9-15-95

Static Water Level= 11.76

Pumping Rate= 5 gpm

Distance from Pumped Well= ~25 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
12:03	7.107	12.098	0.338	0
12:03:30	7.123	12.082	0.322	0.5
12:04	7.146	12.059	0.299	1
12:04:30	7.175	12.03	0.27	1.5
12:05	7.206	11.999	0.239	2
12:05:30	7.235	11.97	0.21	2.5
12:06	7.264	11.941	0.181	3
12:06:30	7.288	11.917	0.157	3.5
12:07	7.306	11.899	0.139	4
12:07:30	7.324	11.881	0.121	4.5
12:08	7.34	11.865	0.105	5
12:08:30	7.351	11.854	0.094	5.5
12:09	7.361	11.844	0.084	6
12:09:30	7.372	11.833	0.073	6.5
12:10	7.379	11.826	0.066	7
12:10:30	7.385	11.82	0.06	7.5
12:11	7.39	11.815	0.055	8
12:11:30	7.395	11.81	0.05	8.5
12:12	7.398	11.807	0.047	9
12:12:30	7.403	11.802	0.042	9.5
12:13:00	7.406	11.799	0.039	10
12:13:30	7.406	11.799	0.039	10.5
12:14	7.408	11.797	0.037	11
12:14:30	7.411	11.794	0.034	11.5
12:15	7.414	11.791	0.031	12
12:16	7.415	11.79	0.03	13
12:17	7.416	11.789	0.029	14
12:18	7.416	11.789	0.029	15
12:19	7.419	11.786	0.026	16
12:20	7.419	11.786	0.026	17
12:25	7.420	11.785	0.025	22
12:30	7.420	11.785	0.025	27
12:35	7.422	11.783	0.023	32
12:40	7.420	11.785	0.025	37
12:50	7.423	11.782	0.022	47
13:00	7.425	11.78	0.02	57
13:10	7.426	11.779	0.019	67
13:35	7.428	11.777	0.017	92
14:00	7.432	11.773	0.013	117

RECOVERY DATA FOR OW-B

9-15-95

Static Water Level= 11.76

Pumping Rate= 4.27 gpm

Distance from Pumped Well= ~25 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
09:44:00	7.144	12.061	0.301	0
09:44:30	7.151	12.054	0.294	0.5
09:45:00	7.167	12.038	0.278	1
09:45:30	7.193	12.012	0.252	1.5
09:46:00	7.22	11.985	0.225	2
09:46:30	7.248	11.957	0.197	2.5
09:47:00	7.272	11.933	0.173	3
09:47:30	7.296	11.909	0.149	3.5
09:48:00	7.314	11.891	0.131	4
09:48:30	7.33	11.875	0.115	4.5
09:49:00	7.345	11.86	0.1	5
09:49:30	7.358	11.847	0.087	5.5
09:50:00	7.364	11.841	0.081	6
09:50:30	7.372	11.833	0.073	6.5
09:51:00	7.379	11.826	0.066	7
09:51:30	7.385	11.82	0.06	7.5
09:52:00	7.39	11.815	0.055	8
09:52:30	7.395	11.81	0.05	8.5
09:53:00	7.4	11.805	0.045	9
09:53:30	7.403	11.802	0.042	9.5
09:54:00	7.406	11.799	0.039	10
09:55:00	7.407	11.798	0.038	11
09:56:00	7.408	11.797	0.037	12
09:57:00	7.4095	11.7955	0.0355	13
09:58:00	7.411	11.794	0.034	14
09:59:00	7.411	11.794	0.034	15
10:00	7.4125	11.7925	0.0325	16
10:01	7.414	11.791	0.031	17
10:02	7.415	11.79	0.03	18
10:05	7.415	11.79	0.03	21
10:10	7.418	11.787	0.027	26
10:15	7.424	11.781	0.021	31
10:20	7.426	11.779	0.019	36
10:25	7.427	11.778	0.018	41
10:30	7.427	11.778	0.018	46
10:35	7.427	11.778	0.018	51
10:40	7.427	11.778	0.018	56

PUMPING DATA FOR OW-B

9-15-95

Static Water Level= 11.76

Pumping Rate= 5 gpm

Distance from Pumped Well= ~25 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
10:44:00	7.427	11.778	0.018	0
10:45:00	7.416	11.789	0.029	0
10:45:30	7.393	11.812	0.052	0.5
10:46:00	7.364	11.841	0.081	1
10:46:30	7.335	11.87	0.11	1.5
10:47:00	7.309	11.896	0.136	2
10:47:30	7.282	11.923	0.163	2.5
10:48:00	7.259	11.946	0.186	3
10:48:30	7.238	11.967	0.207	3.5
10:49:00	7.217	11.988	0.228	4
10:49:30	7.196	12.009	0.249	4.5
10:50:00	7.186	12.019	0.259	5
10:50:30	7.172	12.033	0.273	5.5
10:51:00	7.159	12.046	0.286	6
10:51:30	7.154	12.051	0.291	6.5
10:52:00	7.146	12.059	0.299	7
10:52:30	7.144	12.061	0.301	7.5
10:53:00	7.141	12.064	0.304	8
10:53:30	7.136	12.069	0.309	8.5
10:54:00	7.133	12.072	0.312	9
10:54:30	7.125	12.08	0.32	9.5
10:55:00	7.120	12.085	0.325	10
10:55:30	7.117	12.088	0.328	10.5
10:56	7.115	12.09	0.33	11
10:57	7.115	12.09	0.33	12
10:58	7.114	12.091	0.331	13
10:59	7.111	12.094	0.334	14
11:00	7.110	12.095	0.335	15
11:01	7.109	12.096	0.336	16
11:02	7.109	12.096	0.336	17
11:03	7.107	12.098	0.338	18
11:04	7.107	12.098	0.338	19
11:05	7.104	12.101	0.341	20

PUMP TEST DATA FOR OW-C

9-14-95 through 9-15-95

Static Water Level= 10.07

Pumping rate = 4 GPM

Distance from pumped well= ~15 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
09:50:00	9.26	10.07	0	0
09:51:00	9.24	10.09	0.02	1
09:52:00	9.18	10.15	0.08	2
09:53:00	9.1	10.23	0.16	3
09:54:00	9.03	10.3	0.23	4
09:55:00	8.97	10.36	0.29	5
09:56:00	8.93	10.4	0.33	6
09:57:00	8.9	10.43	0.36	7
09:58:00	8.87	10.46	0.39	8
09:59:00	8.86	10.47	0.4	9
10:00:00	8.84	10.49	0.42	10
10:05:00	8.838	10.492	0.422	15
10:10:00	8.824	10.506	0.436	20
10:15:00	8.82	10.51	0.44	25
10:20:00	8.82	10.51	0.44	30
10:25:00	8.816	10.514	0.444	35
10:30:00	8.81	10.52	0.45	40
10:35:00	8.81	10.52	0.45	45
10:40:00	8.81	10.52	0.45	50
10:45:00	8.81	10.52	0.45	55
10:50:00	8.802	10.528	0.458	60

Recovery Test Data for OW-C

9-15-95

Static Water Level= 10.07

Pumping Rate= 4.27 GPM

Distance from Pumped Well= ~15 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
09:44:00	8.82	10.51	0.44	0
09:44:30	8.85	10.48	0.41	0
09:45:00	8.86	10.47	0.4	0.5
09:45:30	8.9	10.43	0.36	1
09:46:00	8.95	10.38	0.31	1.5
09:46:30	8.98	10.35	0.28	2
09:47:00	9.02	10.31	0.24	2.5
09:47:30	9.05	10.28	0.21	3
09:48:00	9.08	10.25	0.18	3.5
09:48:30	9.11	10.22	0.15	4
09:49:00	9.13	10.2	0.13	4.5
09:49:30	9.14	10.19	0.12	5
09:50:00	9.17	10.16	0.09	5.5
09:50:30	9.19	10.14	0.07	6
09:51:00	9.2	10.13	0.06	6.5
09:52:00	9.21	10.12	0.05	7
09:53:00	9.23	10.1	0.03	8.5
09:54:00	9.245	10.085	0.015	9.5
09:55:00	9.245	10.085	0.015	10.5
09:56:00	9.26	10.07	0	11.5

PUMP TEST DATA FOR OW-C

9-15-95

Static Water Level= 10.07

Pumping Rate During Pump Test= 5 gpm

Distance from pumped well= ~15 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
10:45:00	9.26	10.07	0	0
10:45:30	9.24	10.09	0.02	0.5
10:46:00	9.19	10.14	0.07	1
10:46:30	9.14	10.19	0.12	1.5
10:47:00	9.10	10.23	0.16	2
10:47:30	9.06	10.27	0.2	2.5
10:48:00	9.03	10.3	0.23	3
10:48:30	9.00	10.33	0.26	3.5
10:49:00	8.97	10.36	0.29	4
10:49:30	8.94	10.39	0.32	4.5
10:50:00	8.92	10.41	0.34	5
10:50:30	8.89	10.44	0.37	5.5
10:51:00	8.87	10.46	0.39	6
10:51:30	8.87	10.46	0.39	6.5
10:52:00	8.85	10.48	0.41	7
10:52:30	8.84	10.49	0.42	7.5
10:53:00	8.82	10.51	0.44	8
10:53:30	8.82	10.51	0.44	8.5
10:54:00	8.81	10.52	0.45	9
10:54:30	8.80	10.53	0.46	9.5
10:55:00	8.81	10.52	0.45	10
10:55:30	8.80	10.53	0.46	10.5
10:56	8.79	10.54	0.47	11
10:57	8.79	10.54	0.47	12

Recovery

PUMP TEST DATA FOR OW-C

9-15-95

Static Water Level= 10.07

Pumping Rate During Pump Test= 5 gpm

Distance from pumped well= ~ 15 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
12:03	8.785	10.545	0.475	0
12:04	8.86	10.47	0.4	1
12:05	8.955	10.375	0.305	2
12:06	9.01	10.32	0.25	3
12:06:30	9.05	10.28	0.21	3.5
12:07	9.09	10.24	0.17	4
12:07:30	9.11	10.22	0.15	4.5
12:08	9.13	10.2	0.13	5
12:08:30	9.14	10.19	0.12	5.5
12:09	9.17	10.16	0.09	6
12:09:30	9.18	10.15	0.08	6.5
12:10	9.2	10.13	0.06	7
12:10:30	9.21	10.12	0.05	7.5
12:11	9.21	10.12	0.05	8
12:11:30	9.22	10.11	0.04	8.5
12:12	9.24	10.09	0.02	9
12:12:30	9.24	10.09	0.02	9.5
12:13	9.24	10.09	0.02	10
12:13:30	9.25	10.08	0.01	10.5
12:14	9.25	10.08	0.01	11
12:14:30	9.26	10.07	0	11.5

RECOVERY DATA FOR RW-2

9-15-95

Static Water Level= 12.18

Pumping Rate= 5 gpm

Distance from Pumped Well= ~35 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
12:03	3.24	12.41	0.23	0
12:03:30	3.25	12.4	0.22	0
12:04	3.25	12.4	0.22	0.5
12:04:30	3.27	12.38	0.2	1
12:05	3.28	12.37	0.19	1.5
12:05:30	3.29	12.36	0.18	2
12:06	3.31	12.34	0.16	2.5
12:06:30	3.32	12.33	0.15	3
12:07	3.33	12.32	0.14	3.5
12:07:30	3.34	12.31	0.13	4
12:08	3.35	12.3	0.12	4.5
12:08:30	3.36	12.29	0.11	5
12:09	3.36	12.29	0.11	5.5
12:09:30	3.37	12.28	0.1	6
12:10	3.37	12.28	0.1	6.5
12:11	3.375	12.275	0.095	7.5
12:12	3.38	12.27	0.09	8.5
12:13:00	3.38	12.27	0.09	9.5
12:14	3.38	12.27	0.09	10.5
12:15	3.38	12.27	0.09	11.5
12:16	3.4	12.25	0.07	12.5
12:17	3.4	12.25	0.07	13.5
12:18	3.405	12.245	0.065	14.5
12:19	3.41	12.24	0.06	15.5
12:20	3.41	12.24	0.06	16.5
12:25	3.410	12.24	0.06	21.5

RECOVERY DATA FOR RW-2

9-15-95

Static Water Level= 12.18

Pumping Rate= 4.27 gpm

Distance from Pumped Well= ~35 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
09:44:00	3.26	12.39	0.21	0
09:44:30	3.25	12.4	0.22	0.5
09:45:00	3.25	12.4	0.22	1
09:45:30	3.26	12.39	0.21	1.5
09:46:00	3.26	12.39	0.21	2
09:46:30	3.27	12.38	0.2	2.5
09:47:00	3.27	12.38	0.2	3
09:47:30	3.28	12.37	0.19	3.5
09:48:00	3.29	12.36	0.18	4
09:48:30	3.29	12.36	0.18	4.5
09:49:00	3.31	12.34	0.16	5
09:49:30	3.31	12.34	0.16	5.5
09:50:00	3.32	12.33	0.15	6
09:50:30	3.32	12.33	0.15	6.5
09:51:00	3.33	12.32	0.14	7
09:51:30	3.33	12.32	0.14	7.5
09:52:00	3.33	12.32	0.14	8
09:52:30	3.34	12.31	0.13	8.5
09:53:00	3.34	12.31	0.13	9
09:54:00	3.34	12.31	0.13	10
09:55:00	3.34	12.31	0.13	11
09:56:00	3.34	12.31	0.13	12
09:57:00	3.33	12.32	0.14	13
09:58:00	3.32	12.33	0.15	14
09:59:00	3.32	12.33	0.15	15
10:00	3.32	12.33	0.15	16
10:05	3.32	12.33	0.15	21
10:10	3.334	12.316	0.136	26
10:15	3.326	12.324	0.144	31
10:20	3.402	12.248	0.068	36
10:25	3.453	12.197	0.017	41
10:30	3.462	12.188	0.008	46
10:35	3.421	12.229	0.049	51
10:40	3.431	12.219	0.039	56
10:44:30	3.463	12.187	0.007	61

PUMPING DATA FOR RW-2, 9-15-95

Static Water Level= 12.18

Pumping Rate= 5 gpm

Distance from Pumped Well= ~35 ft

TIME	WATER ABOVE TRANSDUCER, ft	WATER LEVEL FROM TOR	DRAWDOWN ft	ELAPSED TIME, min
10:45:00	3.49	12.16	-0.02	0
10:45:30	3.47	12.18	0	0.5
10:46:00	3.46	12.19	0.01	1
10:46:30	3.450	12.2	0.02	1.5
10:47:00	3.440	12.21	0.03	2
10:47:30	3.430	12.22	0.04	2.5
10:48:00	3.420	12.23	0.05	3
10:48:30	3.410	12.24	0.06	3.5
10:49:00	3.380	12.27	0.09	4
10:49:30	3.370	12.28	0.1	4.5
10:50:00	3.360	12.29	0.11	5
10:50:30	3.350	12.3	0.12	5.5
10:51:00	3.330	12.32	0.14	6
10:51:30	3.330	12.32	0.14	6.5
10:52:00	3.320	12.33	0.15	7
10:52:30	3.310	12.34	0.16	7.5
10:53:00	3.310	12.34	0.16	8
10:54:00	3.290	12.36	0.18	9
10:55:00	3.280	12.37	0.19	10
10:55:30	3.270	12.38	0.2	10.5
10:56	3.260	12.39	0.21	11
10:57	3.255	12.395	0.215	12
10:58	3.245	12.405	0.225	13
10:59	3.235	12.415	0.235	14
11:00	3.230	12.42	0.24	15
11:04	3.220	12.43	0.25	19
11:05	3.205	12.445	0.265	20
11:06	3.195	12.455	0.275	21
11:07	3.18	12.47	0.29	22
11:08	3.18	12.47	0.29	23
11:09	3.17	12.48	0.3	24
11:10	3.17	12.48	0.3	25
11:11	3.18	12.47	0.29	26
11:12	3.19	12.46	0.28	27
11:13	3.205	12.445	0.265	28
11:14	3.23	12.42	0.24	29
11:15	3.24	12.41	0.23	30
11:20	3.26	12.39	0.21	35
11:25	3.278	12.372	0.192	40
11:30	3.272	12.378	0.198	45
11:35	3.266	12.384	0.204	50
11:40	3.263	12.387	0.207	55
11:45	3.259	12.391	0.211	60
11:50	3.265	12.385	0.205	65
11:55	3.254	12.396	0.216	70
12:00	3.248	12.402	0.222	75
12:02	3.235	12.415	0.235	77

PUMPING DATA FOR RW-3

Static Water Level = 11.36

Pumping Rate = 4.0 gpm to 2.5 hours

Pumping Rate = 4.27 gpm from 2.5 to 24 hours

Test Date: 09-14-95

ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)
0	11.84	0.48	29	17.53	6.17	84	17.33	5.97
0.1	11.75	0.39	30	17.54	6.18	85	17.33	5.97
0.2	11.68	0.32	31	17.55	6.19	86	17.33	5.97
0.3	11.61	0.25	32	17.57	6.21	87	17.33	5.97
0.5	11.51	0.15	33	17.57	6.21	88	17.33	5.97
0.75	11.39	0.03	34	17.57	6.21	89	17.33	5.97
0.8333	11.37	0.01	35	17.58	6.22	90	17.33	5.97
0.9167	11.98	0.62	36	17.57	6.21	91	17.33	5.97
1	12.36	1	37	17.59	6.23	92	17.33	5.97
1.0833	12.63	1.27	38	17.57	6.21	93	17.33	5.97
1.1667	12.81	1.45	39	17.59	6.23	94	17.33	5.97
1.25	12.99	1.63	40	17.58	6.22	95	17.33	5.97
1.3333	13.29	1.93	41	17.57	6.21	96	17.33	5.97
1.4166	13.84	2.48	42	17.58	6.22	97	17.34	5.98
1.5	14.32	2.96	43	17.59	6.23	98	17.33	5.97
1.5833	14.55	3.19	44	17.59	6.23	99	17.33	5.97
1.6667	14.57	3.21	45	17.59	6.23	100	17.33	5.97
1.75	14.6	3.24	46	17.59	6.23	101	17.33	5.97
1.8333	14.7	3.34	47	17.59	6.23	102	17.33	5.97
1.9167	14.86	3.5	48	17.6	6.24	103	17.33	5.97
2	15.02	3.66	49	17.6	6.24	104	17.34	5.98
2.5	15.93	4.57	50	17.6	6.24	105	17.35	5.99
3	16.48	5.12	51	17.59	6.23	106	17.33	5.97
3.5	16.76	5.4	52	17.59	6.23	107	17.35	5.99
4	17.29	5.93	53	17.6	6.24	108	17.35	5.99
4.5	17.38	6.02	54	17.7	6.34	109	17.35	5.99
5	17.38	6.02	55	17.77	6.41	110	17.35	5.99
5.5	17.31	5.95	56	17.78	6.42	111	17.35	5.99
6	17.32	5.96	57	17.79	6.43	112	17.34	5.98
6.5	17.43	6.07	58	17.81	6.45	113	17.35	5.99
7	17.54	6.18	59	17.81	6.45	114	17.36	6
7.5	17.59	6.23	60	17.63	6.27	115	17.35	5.99
8	17.63	6.27	61	17.39	6.03	116	17.35	5.99
8.5	17.66	6.3	62	17.37	6.01	117	17.35	5.99
9	17.67	6.31	63	17.37	6.01	118	17.34	5.98
9.5	17.68	6.32	64	17.36	6	119	17.35	5.99
10	17.69	6.33	65	17.36	6	120	17.35	5.99
11	17.62	6.26	66	17.36	6	121	17.35	5.99
12	17.59	6.23	67	17.35	5.99	122	17.35	5.99
13	17.58	6.22	68	17.35	5.99	123	17.36	6
14	17.58	6.22	69	17.35	5.99	124	17.36	6
15	17.58	6.22	70	17.35	5.99	125	17.35	5.99
16	17.59	6.23	71	17.35	5.99	126	17.35	5.99
17	17.59	6.23	72	17.35	5.99	127	17.35	5.99
18	17.59	6.23	73	17.35	5.99	128	17.36	6
19	17.59	6.23	74	17.36	6	129	17.36	6
20	17.6	6.24	75	17.35	5.99	130	17.36	6
21	17.57	6.21	76	17.35	5.99	131	17.35	5.99
22	17.55	6.19	77	17.35	5.99	132	17.35	5.99
23	17.54	6.18	78	17.35	5.99	133	17.36	6
24	17.53	6.17	79	17.35	5.99	134	17.36	6
25	17.54	6.18	80	17.35	5.99	135	17.36	6
26	17.54	6.18	81	17.35	5.99	136	17.36	6
27	17.54	6.18	82	17.35	5.99	137	17.36	6
28	17.53	6.17	83	17.33	5.97	138	17.36	6

PUMPING DATA FOR RW-3

Static Water Level = 11.38

Pumping Rate = 4.0 gpm to 2.5 hours

Pumping Rate = 4.27 gpm from 2.5 to 24 hours

Test Date: 09-14-95

ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)
139	17.36	6	194	17.51	6.15	690	17.81	6.45
140	17.37	6.01	195	17.52	6.16	700	17.8	6.44
141	17.36	6	196	17.32	5.96	710	17.81	6.45
142	17.36	6	197	17.5	6.14	720	17.76	6.4
143	17.34	5.98	198	17.47	6.11	730	17.75	6.39
144	17.3	5.94	199	17.48	6.12	740	17.75	6.39
145	17.27	5.91	200	17.46	6.1	750	17.74	6.38
146	17.28	5.92	210	17.68	6.32	760	17.75	6.39
147	17.28	5.92	220	17.62	6.26	770	17.74	6.38
148	17.26	5.9	230	17.62	6.26	780	17.74	6.38
149	17.28	5.92	240	17.64	6.28	790	17.73	6.37
150	17.27	5.91	250	17.64	6.28	800	17.74	6.38
151	17.28	5.92	260	17.6	6.24	810	17.74	6.38
152	17.27	5.91	270	18.11	6.75	820	17.74	6.38
153	17.37	6.01	280	17.66	6.3	830	17.62	6.16
154	17.47	6.11	290	17.64	6.28	840	17.95	6.59
155	17.47	6.11	300	17.73	6.37	850	17.22	5.86
156	17.42	6.06	310	17.71	6.35	860	17.17	5.81
157	17.49	6.13	320	17.69	6.33	870	17.72	6.36
158	17.59	6.23	330	17.66	6.3	880	17.7	6.34
159	17.62	6.26	340	17.9	6.54	890	17.65	6.29
160	17.62	6.26	350	17.86	6.5	900	17.84	6.48
161	17.6	6.24	360	17.87	6.51	910	17.78	6.42
162	17.6	6.24	370	17.87	6.51	920	17.76	6.4
163	17.59	6.23	380	17.85	6.49	930	17.66	6.3
164	17.58	6.22	390	17.85	6.49	940	17.65	6.29
165	17.58	6.22	400	17.62	6.26	950	17.62	6.26
166	17.56	6.2	410	17.61	6.25	960	17.81	6.45
167	17.56	6.2	420	17.73	6.37	970	17.81	6.45
168	17.56	6.2	430	17.7	6.34	980	17.76	6.4
169	17.55	6.19	440	17.7	6.34	990	17.76	6.4
170	17.5	6.14	450	17.66	6.3	1000	17.73	6.37
171	17.5	6.14	460	17.67	6.31	1010	18.08	6.72
172	17.5	6.14	470	17.69	6.33	1020	17.71	6.35
173	17.5	6.14	480	17.68	6.32	1030	17.67	6.31
174	17.5	6.14	490	17.67	6.31	1040	17.71	6.35
175	17.5	6.14	500	17.64	6.28	1050	17.7	6.34
176	17.49	6.13	510	17.75	6.39	1060	17.69	6.33
177	17.5	6.14	520	17.9	6.54	1070	17.88	6.52
178	17.47	6.11	530	17.88	6.52	1080	17.83	6.47
179	17.45	6.09	540	17.89	6.53	1090	17.8	6.44
180	17.44	6.08	550	17.87	6.51	1100	17.8	6.44
181	17.42	6.06	560	17.87	6.51	1110	17.79	6.43
182	17.43	6.07	570	17.87	6.51	1120	17.79	6.43
183	17.43	6.07	580	17.86	6.5	1130	17.78	6.42
184	17.42	6.06	590	17.92	6.56	1140	17.71	6.35
185	17.42	6.06	600	17.92	6.56	1150	17.69	6.33
186	17.42	6.06	610	17.93	6.57	1160	17.69	6.33
187	17.43	6.07	620	17.93	6.57	1170	17.69	6.33
188	17.65	6.29	630	17.85	6.49	1180	17.79	6.43
189	17.7	6.34	640	17.83	6.47	1190	17.74	6.38
190	17.48	6.12	650	17.81	6.45	1200	17.73	6.37
191	17.4	6.04	660	17.82	6.46	1210	17.7	6.34
192	17.45	6.09	670	17.82	6.46	1220	17.67	6.31
193	17.48	6.12	680	17.82	6.46	1230	17.92	6.56

PUMPING DATA FOR RW-3

Static Water Level = 11.36

Pumping Rate = 4.0 gpm to 2.5 hours

Pumping Rate = 4.27 gpm from 2.5 to 24 hours

Test Date: 09-14-95

ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)
1240	17.89	6.53						
1250	17.84	6.48						
1260	17.83	6.47						
1270	17.79	6.43						
1280	17.77	6.41						
1290	17.76	6.4						
1300	17.76	6.4						
1310	17.52	6.16						
1320	17.5	6.14						
1330	17.48	6.12						
1340	17.48	6.12						
1350	17.83	6.47						
1360	17.82	6.46						
1370	17.8	6.44						
1380	17.81	6.45						
1390	17.79	6.43						
1400	17.77	6.41						
1410	17.76	6.4						
1420	17.71	6.35						
1430	17.89	6.53						

RECOVERY DATA FOR RW-3

Static Water Level = 11.36

Pumping Rate = 4.27 gpm

Test Date: 09-15-95

ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)
0	17.94	6.58	14	11.44	0.08			
0.1	17.74	6.38	15	11.44	0.08			
0.1166	17.6	6.24	16	11.44	0.08			
0.1333	17.44	6.08	17	11.44	0.08			
0.15	17.31	5.95	18	11.44	0.08			
0.1666	17.19	5.83	19	11.44	0.08			
0.1833	17.07	5.71	20	11.44	0.08			
0.2	16.95	5.59	21	11.44	0.08			
0.2166	16.83	5.47	22	11.44	0.08			
0.2333	16.72	5.36	23	11.44	0.08			
0.25	16.61	5.25	24	11.44	0.08			
0.2666	16.48	5.12	25	11.44	0.08			
0.2833	16.4	5.04	26	11.44	0.08			
0.3	16.31	4.95	27	11.44	0.08			
0.3166	16.21	4.85	28	11.44	0.08			
0.3333	16.11	4.75	29	11.44	0.08			
0.4167	15.65	4.29	30	11.44	0.08			
0.5	15.23	3.87	31	11.44	0.08			
0.5833	14.85	3.49	32	11.44	0.08			
0.6667	14.51	3.15	33	11.44	0.08			
0.75	14.2	2.84	34	11.44	0.08			
0.8333	13.92	2.56	35	11.44	0.08			
0.9167	13.67	2.31	36	11.44	0.08			
1	13.44	2.08	37	11.44	0.08			
1.0833	13.23	1.87	38	11.44	0.08			
1.1667	13.04	1.68	39	11.44	0.08			
1.25	12.86	1.5	40	11.44	0.08			
1.3333	12.7	1.34	41	11.44	0.08			
1.4166	12.58	1.22	42	11.44	0.08			
1.5	12.48	1.12	43	11.44	0.08			
1.5833	12.38	1.02	44	11.44	0.08			
1.6667	12.3	0.94	45	11.44	0.08			
1.75	12.22	0.86	46	11.44	0.08			
1.8333	12.15	0.79	47	11.44	0.08			
1.9167	12.09	0.73	48	11.44	0.08			
2	12.03	0.67	49	11.44	0.08			
2.5	11.79	0.43	50	11.44	0.08			
3	11.66	0.3	51	11.44	0.08			
3.5	11.59	0.23	52	11.44	0.08			
4	11.54	0.18	53	11.44	0.08			
4.5	11.52	0.16	54	11.44	0.08			
5	11.5	0.14	55	11.44	0.08			
5.5	11.49	0.13	56	11.44	0.08			
6	11.48	0.12	57	11.44	0.08			
6.5	11.47	0.11	58	11.44	0.08			
7	11.47	0.11	59	11.44	0.08			
7.5	11.47	0.11						
8	11.46	0.1						
8.5	11.46	0.1						
9	11.46	0.1						
9.5	11.45	0.09						
10	11.45	0.09						
11	11.45	0.09						
12	11.45	0.09						
13	11.45	0.09						

PUMPING DATA FOR RW-3
Static Water Level = 11.36
Pumping Rate = 5.0 gpm
Test Date: 09-15-95

ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)
0	11.4	0.04	14	18.91	7.55	69	18.85	7.49
0.1	12.03	0.67	15	18.91	7.55	70	18.87	7.51
0.1166	11.67	0.31	16	18.92	7.56	71	18.86	7.5
0.1333	12.12	0.76	17	18.91	7.55	72	18.86	7.5
0.15	12.38	1.02	18	18.92	7.56	73	18.87	7.51
0.1666	12.52	1.16	19	18.91	7.55	74	18.87	7.51
0.1833	12.71	1.35	20	18.91	7.55	75	18.87	7.51
0.2	12.77	1.41	21	18.91	7.55	76	18.86	7.5
0.2166	12.85	1.49	22	18.92	7.56	77	18.86	7.5
0.2333	13.04	1.68	23	18.91	7.55			
0.25	13.12	1.76	24	18.91	7.55			
0.2666	13.19	1.83	25	18.89	7.53			
0.2833	13.27	1.91	26	18.88	7.52			
0.3	13.36	2	27	18.87	7.51			
0.3166	13.47	2.11	28	18.87	7.51			
0.3333	13.55	2.19	29	18.86	7.5			
0.4167	13.89	2.53	30	18.87	7.51			
0.5	14.29	2.93	31	18.85	7.49			
0.5833	14.57	3.21	32	18.85	7.49			
0.6667	15	3.64	33	18.85	7.49			
0.75	15.4	4.04	34	18.84	7.48			
0.8333	15.66	4.3	35	18.85	7.49			
0.9167	15.87	4.51	36	18.85	7.49			
1	16.04	4.68	37	18.85	7.49			
1.0833	16.18	4.82	38	18.85	7.49			
1.1667	16.32	4.96	39	18.85	7.49			
1.25	16.48	5.12	40	18.86	7.5			
1.3333	16.66	5.3	41	18.87	7.51			
1.4166	16.82	5.46	42	18.87	7.51			
1.5	16.96	5.6	43	18.87	7.51			
1.5833	17.11	5.75	44	18.88	7.52			
1.6667	17.23	5.87	45	18.86	7.5			
1.75	17.35	5.99	46	18.87	7.51			
1.8333	17.45	6.09	47	18.87	7.51			
1.9167	17.54	6.18	48	18.87	7.51			
2	17.63	6.27	49	18.87	7.51			
2.5	17.98	6.62	50	18.85	7.49			
3	18.24	6.88	51	18.86	7.5			
3.5	18.46	7.1	52	18.87	7.51			
4	18.59	7.23	53	18.87	7.51			
4.5	18.67	7.31	54	18.87	7.51			
5	18.71	7.35	55	18.86	7.5			
5.5	18.74	7.38	56	18.87	7.51			
6	18.76	7.4	57	18.87	7.51			
6.5	18.77	7.41	58	18.88	7.52			
7	18.78	7.42	59	18.87	7.51			
7.5	18.77	7.41	60	18.87	7.51			
8	18.77	7.41	61	18.87	7.51			
8.5	18.77	7.41	62	18.88	7.52			
9	18.78	7.42	63	18.86	7.5			
9.5	18.78	7.42	64	18.87	7.51			
10	18.78	7.42	65	18.87	7.51			
11	18.8	7.44	66	18.87	7.51			
12	18.78	7.42	67	18.87	7.51			
13	18.84	7.48	68	18.87	7.51			

RECOVERY DATA FOR RW-3

Static Water Level = 11.38

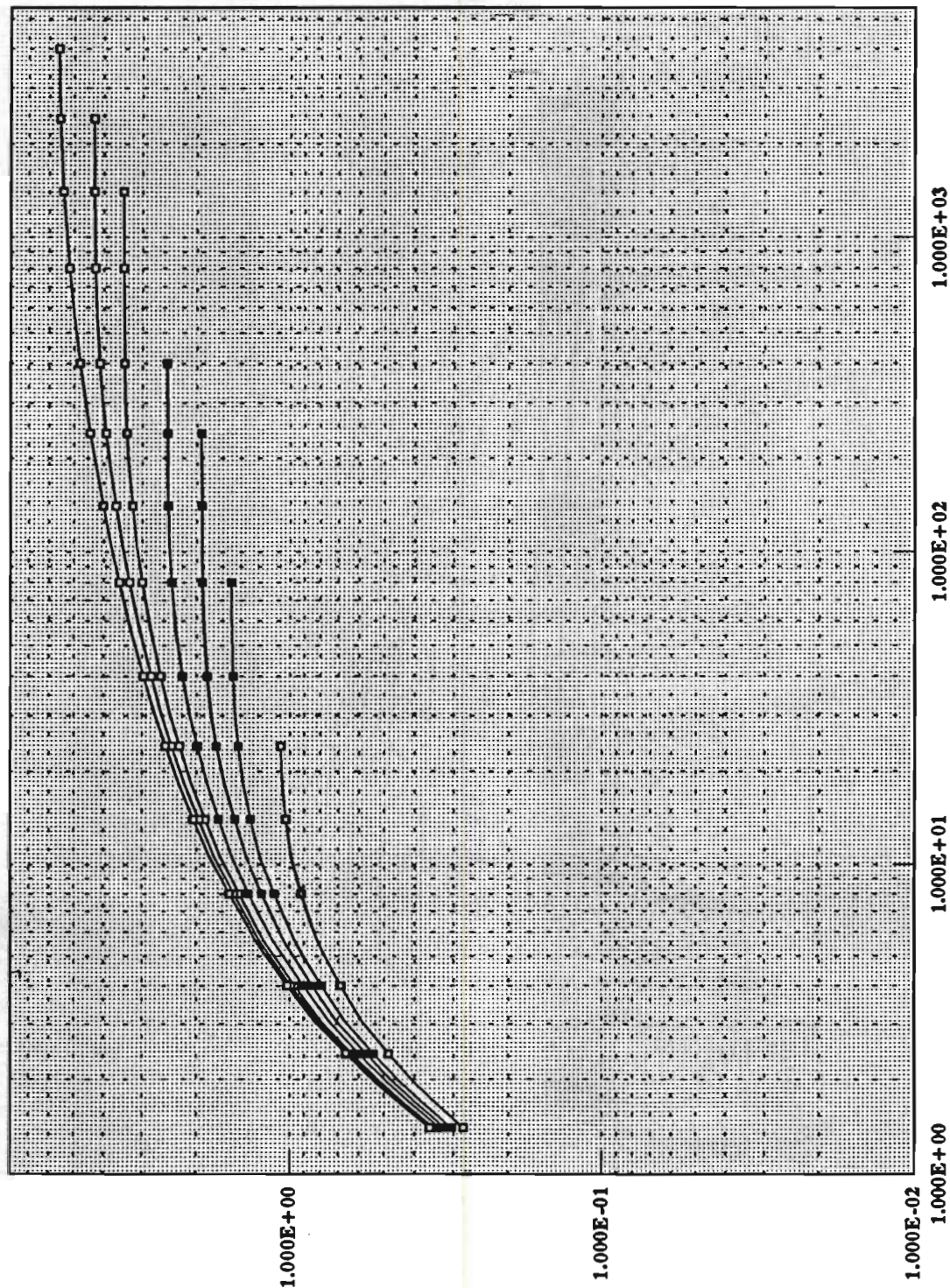
Pumping Rate = 5.0 gpm

Test Date: 09-15-95

ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)	ELAPSED TIME (min)	WL FROM TOR	DRAWDOWN (ft)
0	18.91	7.55	14	11.48	0.1			
0.1	18.75	7.39	15	11.48	0.1			
0.1166	18.63	7.27	16	11.48	0.1			
0.1333	18.49	7.13	17	11.48	0.1			
0.15	18.32	6.96	18	11.48	0.1			
0.1666	18.18	6.82	19	11.48	0.1			
0.1833	18.04	6.68	20	11.48	0.1			
0.2	17.89	6.53	21	11.45	0.09			
0.2166	17.76	6.4	22	11.45	0.09			
0.2333	17.62	6.26	23	11.45	0.09			
0.25	17.49	6.13	24	11.45	0.09			
0.2666	17.37	6.01	25	11.45	0.09			
0.2833	17.25	5.89	26	11.45	0.09			
0.3	17.12	5.76	27	11.45	0.09			
0.3166	17.01	5.65						
0.3333	16.9	5.54						
0.4167	16.36	5						
0.5	15.88	4.52						
0.5833	15.44	4.08						
0.6667	15.05	3.69						
0.75	14.69	3.33						
0.8333	14.36	3						
0.9167	14.08	2.72						
1	13.81	2.45						
1.0833	13.57	2.21						
1.1667	13.35	1.99						
1.25	13.16	1.8						
1.3333	12.98	1.62						
1.4166	12.85	1.49						
1.5	12.72	1.36						
1.5833	12.61	1.25						
1.6667	12.51	1.15						
1.75	12.42	1.06						
1.8333	12.33	0.97						
1.9167	12.26	0.9						
2	12.19	0.83						
2.5	11.9	0.54						
3	11.73	0.37						
3.5	11.64	0.28						
4	11.58	0.22						
4.5	11.55	0.19						
5	11.52	0.16						
5.5	11.51	0.15						
6	11.5	0.14						
6.5	11.49	0.13						
7	11.48	0.12						
7.5	11.48	0.12						
8	11.48	0.12						
8.5	11.47	0.11						
9	11.47	0.11						
9.5	11.46	0.1						
10	11.47	0.11						
11	11.46	0.1						
12	11.46	0.1						
13	11.46	0.1						

Family of Neuman Type Curves

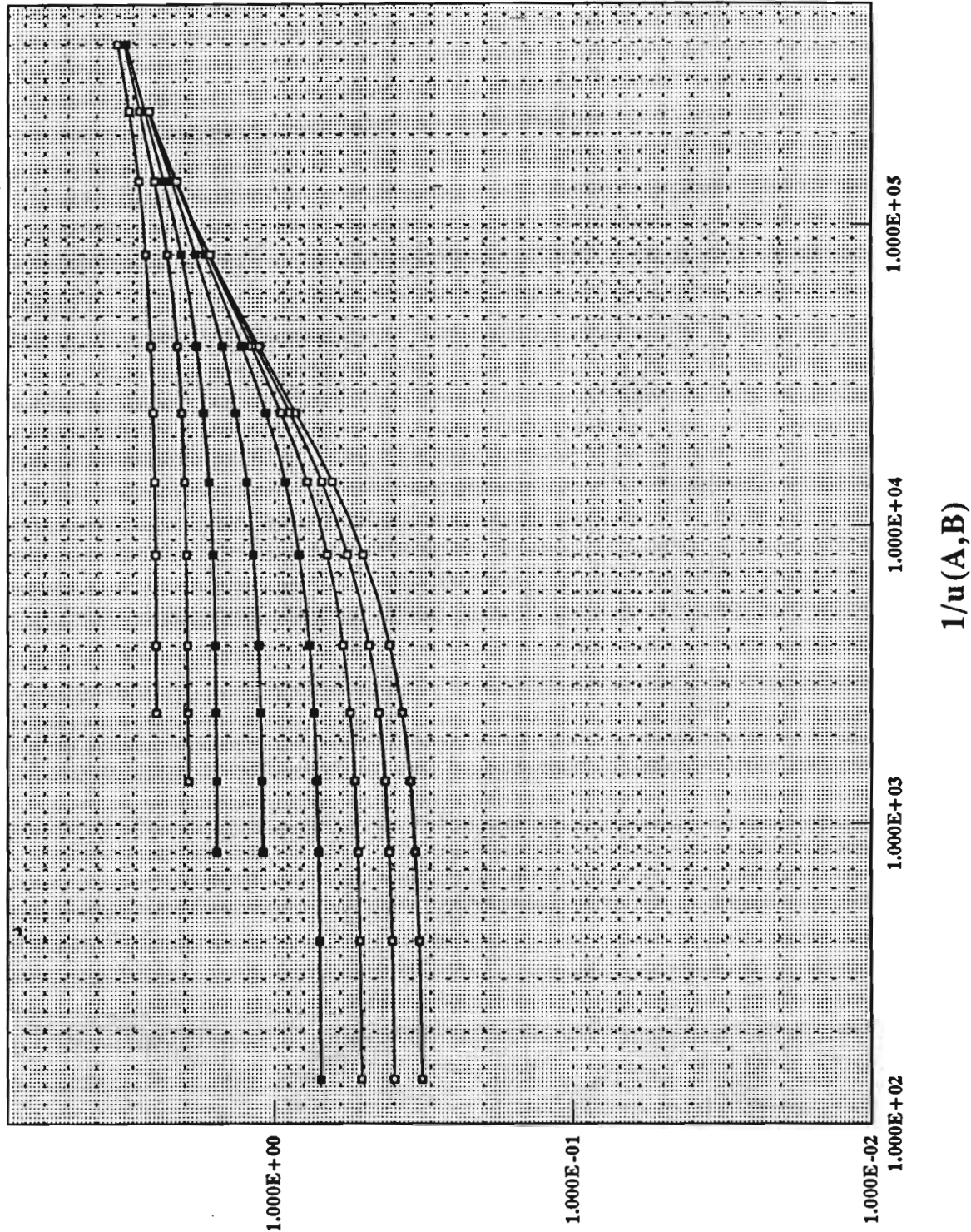
$W(u(A), B)$



$B=0.001$
 $B=0.004$
 $B=0.01$
 $B=0.03$
 $B=0.06$
 $B=0.1$
 $B=0.2$

Family of Neuman Type B Curves

$W(u(A), B)$



RW-2, 5 gpm, Recovery Data

$$T = \frac{114.6 Q}{s} W(U_A, \theta)$$

$$= \frac{114.6 (5)}{.21} (.68)$$

$$= 1855.4 \text{ gpd/ft}$$

$$S = \frac{T t U_A}{1.87 r^2}$$

$$= \frac{1855.4 (6.60 \times 10^{-4}) .1}{1.87 (1225)}$$

$$= 5.3 \times 10^{-5}$$

$$K_h = \frac{T}{D} = \frac{1855.4}{18} = 103.1 \text{ gpd/ft}^2$$

$$\times 4.72 \times 10^{-5} \frac{\text{cm/s}}{\text{gpd/ft}^2} = 4.9 \times 10^{-3} \text{ cm/s}$$

$$K_v = \frac{B D^2 K_h}{r^2} = \frac{0.4 (324) (4.9 \times 10^{-3})}{1225} = 5.2 \times 10^{-4} \text{ cm/s}$$

$$\frac{K_h}{K_v} = \frac{4.9 \times 10^{-3}}{5.2 \times 10^{-4}} = 9.4$$

$$B = 0.4$$

$$1/U_A = 10$$

$$U_A = .1$$

$$W(U_A, \theta) = .68$$

$$S = .21 \text{ ft}$$

$$t = .95 \text{ min or } 6.60 \times 10^{-4} \text{ d}$$

$$r = 35 \text{ ft}$$

$$r^2 = 1225 \text{ ft}^2$$

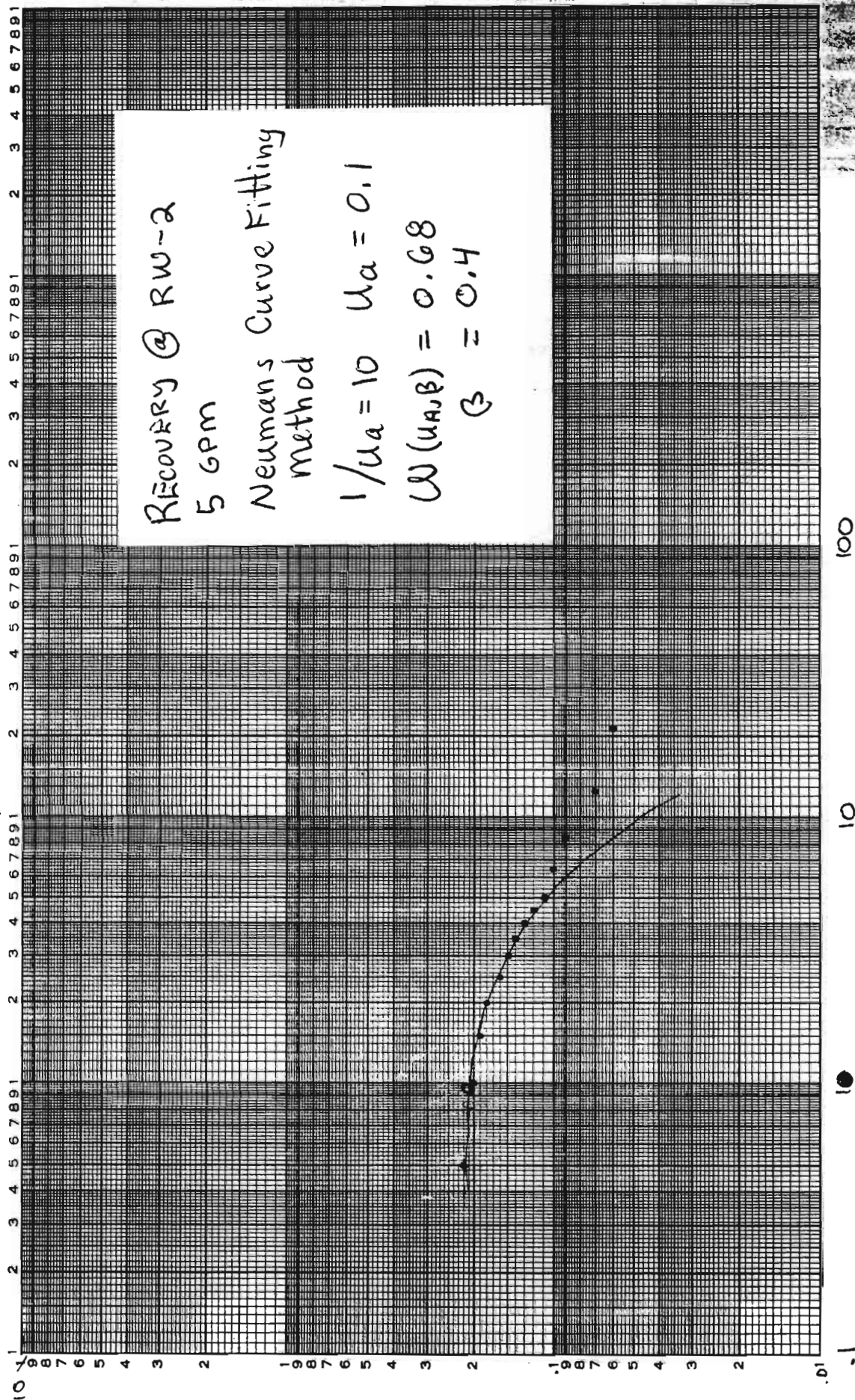
$$Q = 5 \text{ gpm}$$

$$D = 18 \text{ ft}$$

$$D^2 = 324 \text{ ft}^2$$

Neuman's
Curve
Fitting Method

Full Logarithmic, 3 x 5



RECOVERY @ RW-2
5 GPM

Neuman's Curve Fitting
method

$$1/u_a = 10 \quad u_a = 0.1$$

$$W(u_a, \beta) = 0.68$$

$$\beta = 0.4$$

OW-B, 5 gpm, Recovery Data

$$T = \frac{114.6 Q}{S} W(U_A, \beta)$$

$$= \frac{114.6 (5)}{.33} (.68)$$

$$= 1180.7 \text{ gpd/ft}$$

$$S = \frac{T t U_A}{1.87 r^2}$$

$$= \frac{1180.7 (4.33 \times 10^4) (.1)}{1.87 (625)}$$

$$= 4.4 \times 10^{-5}$$

$$K_h = \frac{T}{D} = \frac{1180.7}{18} = 65.6 \text{ gpd/ft}^2$$

$$\times 4.72 \times 10^{-5} \frac{\text{cm/s}}{\text{gpd/ft}^2} = 3.1 \times 10^{-3} \text{ cm/s}$$

$$K_v = \frac{\beta D^2 K_h}{r^2} = \frac{0.4 (324) (3.1 \times 10^{-3})}{625} = 6.4 \times 10^{-4} \text{ cm/s}$$

$$K_h / K_v = 4.8$$

$$\beta = 0.4$$

$$1/U_A = 10$$

$$U_A = .1$$

$$W(U_A, \beta) = .68$$

$$S = .33 \text{ ft}$$

$$t = .63 \text{ min or } 4.33 \times 10^4 \text{ d}$$

$$r = 25 \text{ ft}$$

$$r^2 = 625 \text{ ft}^2$$

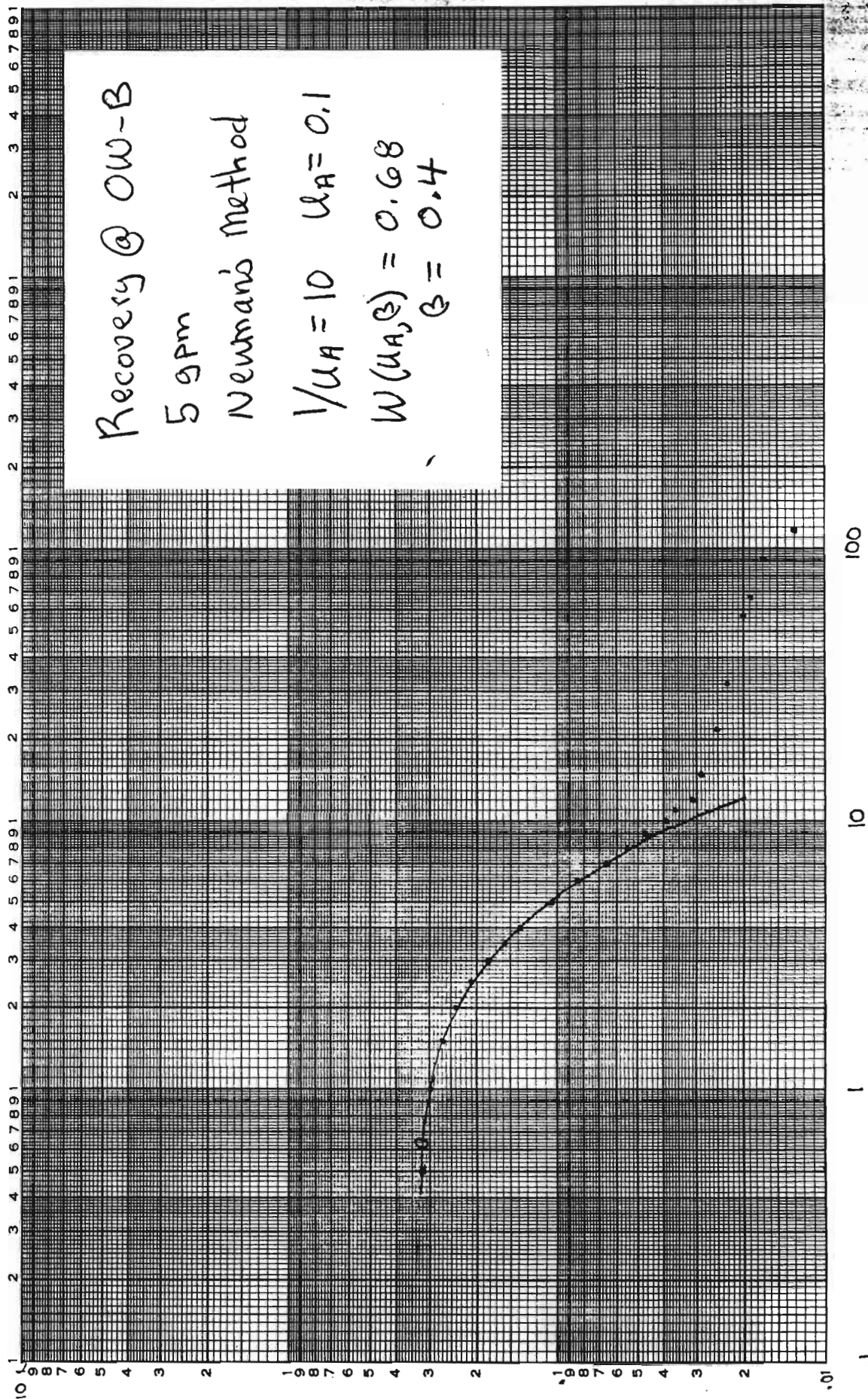
$$Q = 5 \text{ gpm}$$

$$D = 18 \text{ ft}$$

$$D^2 = 324 \text{ ft}^2$$

Neuman's 
Curve
Fitting Method

Full Logarithmic, 3 x 5



OW-C, 5 gpm, Recovery Data

$$T = \frac{114.6 Q}{S} W(U_A, \beta)$$

$$= \frac{114.6 (5)}{.105} .15$$

$$= 818.6 \text{ gpd/ft}$$

$$S = \frac{T \pm U_A}{1.87 r^2}$$

$$= \frac{818.6 (4.03 \times 10^3) (1)}{1.87 (225)}$$

$$= 9.8 \times 10^{-3}$$

$$K_h = \frac{T}{D} = \frac{818.6}{18} = 45.5 \text{ gpd/ft}^2$$

$$\times 4.72 \times 10^{-5} \frac{\text{cm/s}}{\text{gpd/ft}^2} = 2.1 \times 10^{-3} \text{ cm/s}$$

$$K_v = \frac{\beta D^2 K_h}{r^2} = \frac{0.4 (324) (2.1 \times 10^{-3})}{225} = 1.2 \times 10^{-3} \text{ cm/s}$$

$$\frac{K_h}{K_v} = 1.8$$

$$\beta = 0.4$$

$$U_A = 1$$

$$U_A = 1$$

$$W(U_A, \beta) = .15$$

$$S = .105 \text{ ft}$$

$$t = 5.8 \text{ min or } 4.03 \times 10^3 \text{ s}$$

$$r = 15 \text{ ft}$$

$$r^2 = 225 \text{ ft}^2$$

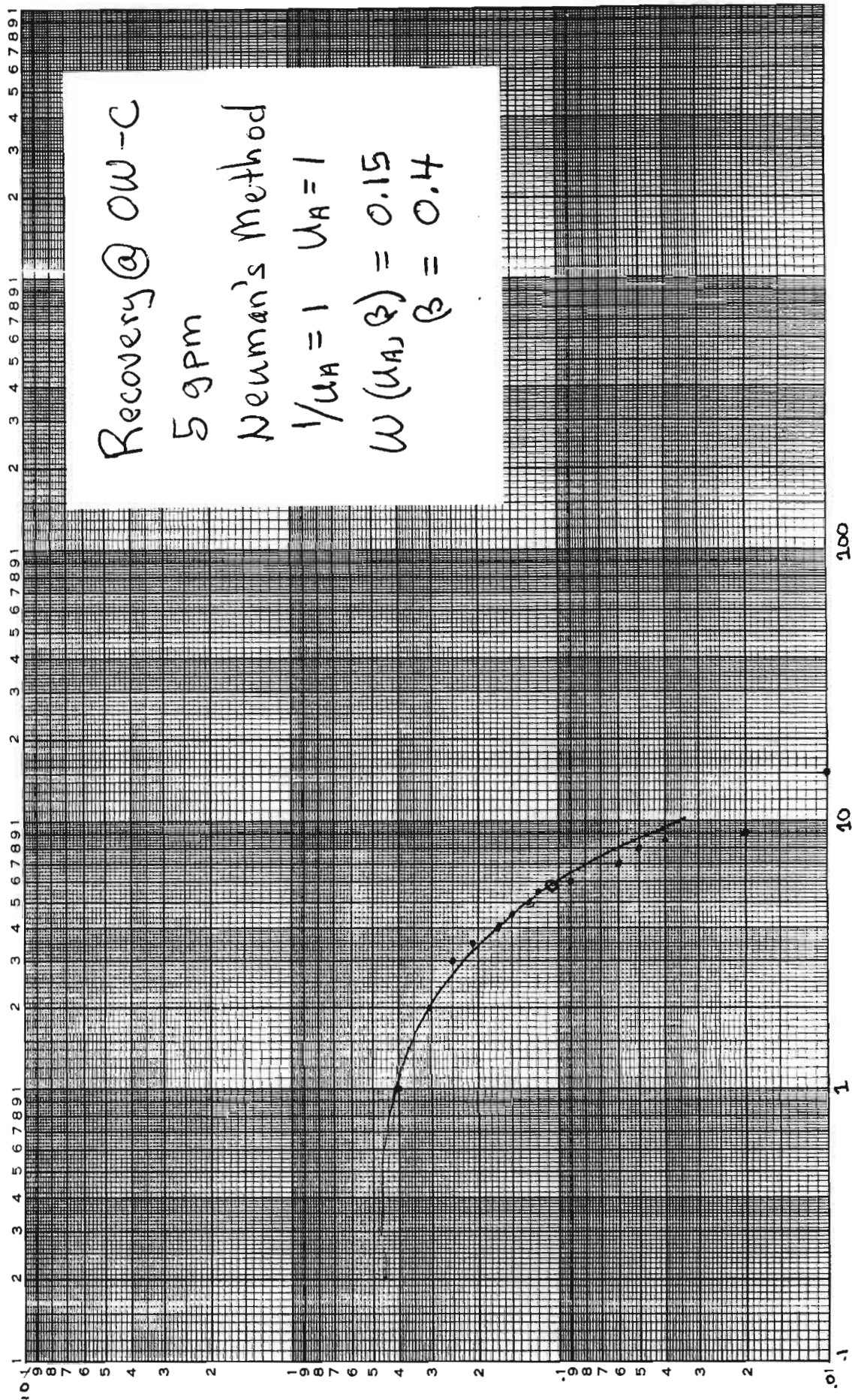
$$Q = 5 \text{ gpm}$$

$$D = 18 \text{ ft}$$

$$D^2 = 324 \text{ ft}^2$$

Neuman's
Curve
Fitting Method

Full Logarithmic, 3 x 5



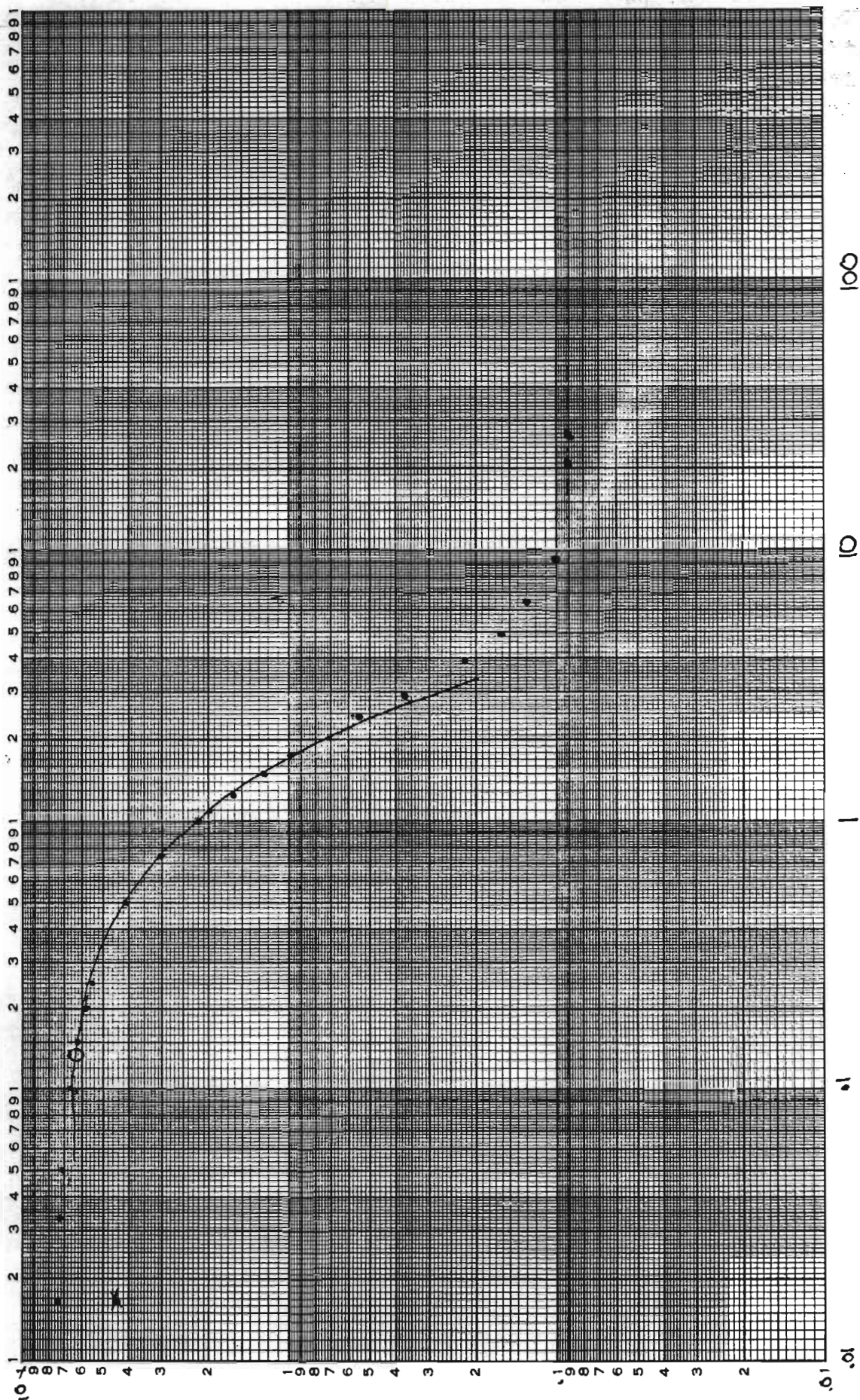
Uraadoun, Ft

Neuman's
Curve
Fitting Method

RW-3 recovery 0.99m

$1/u_a = 10, \sqrt{}$
 $u_a = 0.1 \sqrt{}$

$W(u_a, \beta) = 0.69$
 $\beta = 0.4$



Drawdown, ft

Time, min

RW-2, 4.27 gpm, Recovery Data

$$T = \frac{114.6 Q}{S} W(U_A, \beta)$$

$$= \frac{114.6 (4.27)}{.21} (.39)$$

$$= 908.8 \text{ gpd/ft}$$

$$S = \frac{T t U_A}{1.87 r^2}$$

$$= \frac{908.8 (8.68 \times 10^{-4}) (.1)}{1.87 (1225)}$$

$$= 3.4 \times 10^{-5}$$

$$K_h = \frac{T}{D} = \frac{908.8}{18} = 50.5 \text{ gpd/ft}^2$$

$$\approx 4.72 \times 10^{-5} \frac{\text{cm/s}}{\text{gpd/ft}^2} = 2.4 \times 10^{-3} \text{ cm/s}$$

$$K_v = \frac{\beta D^2 K_h}{r^2} = \frac{0.8 (324) (2.4 \times 10^{-3})}{1225} = 5.1 \times 10^{-4} \text{ cm/s}$$

$$\frac{K_h}{K_v} = 4.7$$

$$\beta = 0.8$$

$$U_A = 10$$

$$U_A = .1$$

$$W(U_A, \beta) = .39$$

$$S = .21 \text{ ft}$$

$$t = 125 \text{ m or } 8.68 \times 10^{-4} \text{ d}$$

$$r = 35'$$

$$r^2 = 1225 \text{ ft}^2$$

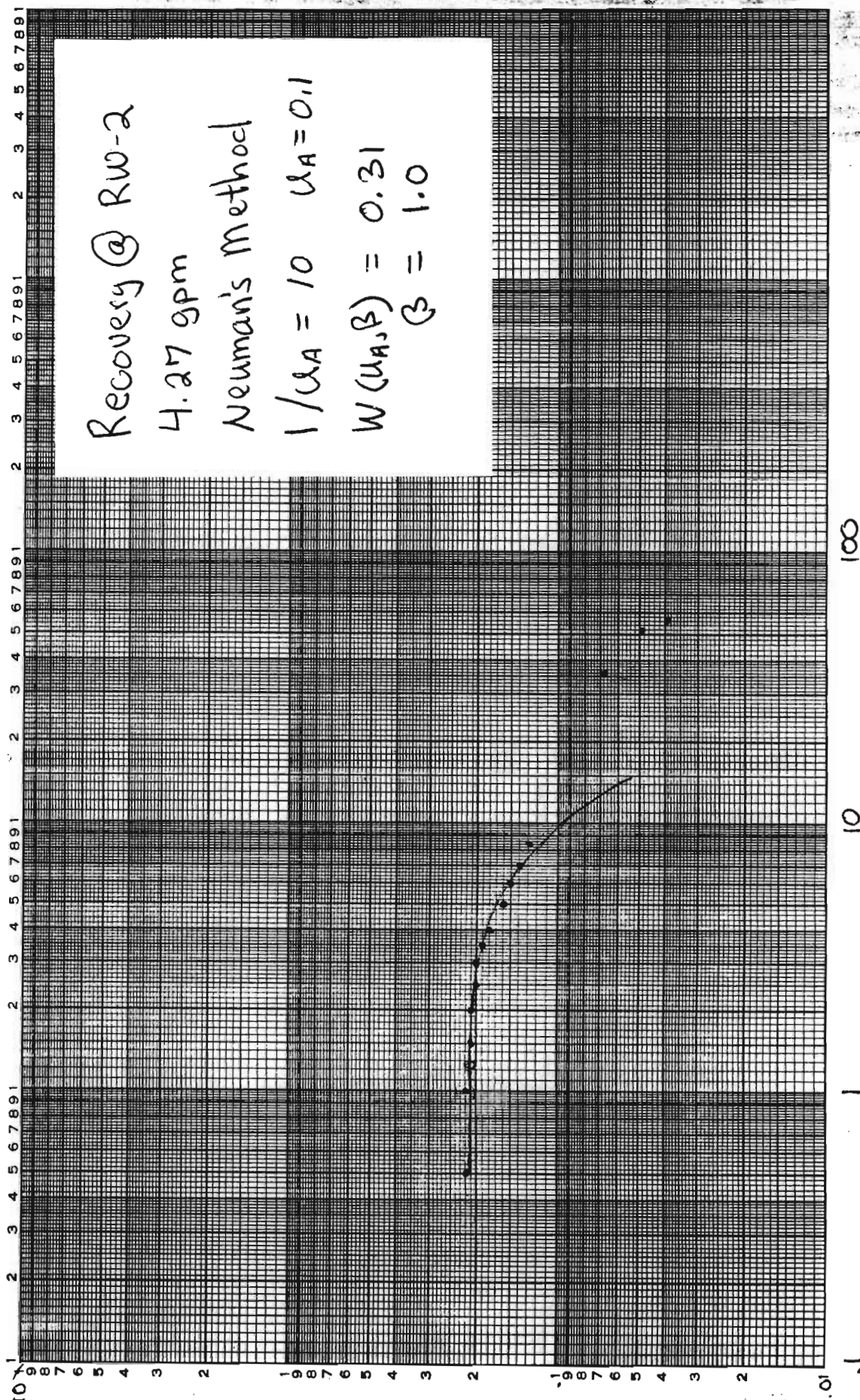
$$Q = 4.27 \text{ gpm}$$

$$D = 18 \text{ ft}$$

$$D^2 = 324 \text{ ft}^2$$

Neuman's
Curve
Fitting Method

Full Logarithmic, 3 x 5



Drawdown, ft

OW-B, 4.27 gpm, Recovery DATA

$$T = \frac{114.6 Q}{S} W(U_A, \beta)$$

$$= \frac{114.6 (4.27)}{.3} (.68)$$

$$= 1109.2 \text{ gpd/ft}$$

$$S = \frac{T t U_A}{1.87 r^2}$$

$$= \frac{1109.2 (4.72 \times 10^4) (.1)}{1.87 (625)}$$

$$= 4.5 \times 10^{-5}$$

$$K_h = \frac{T}{D} = \frac{1109.2}{18} = 61.6 \text{ gpd/ft}^2$$

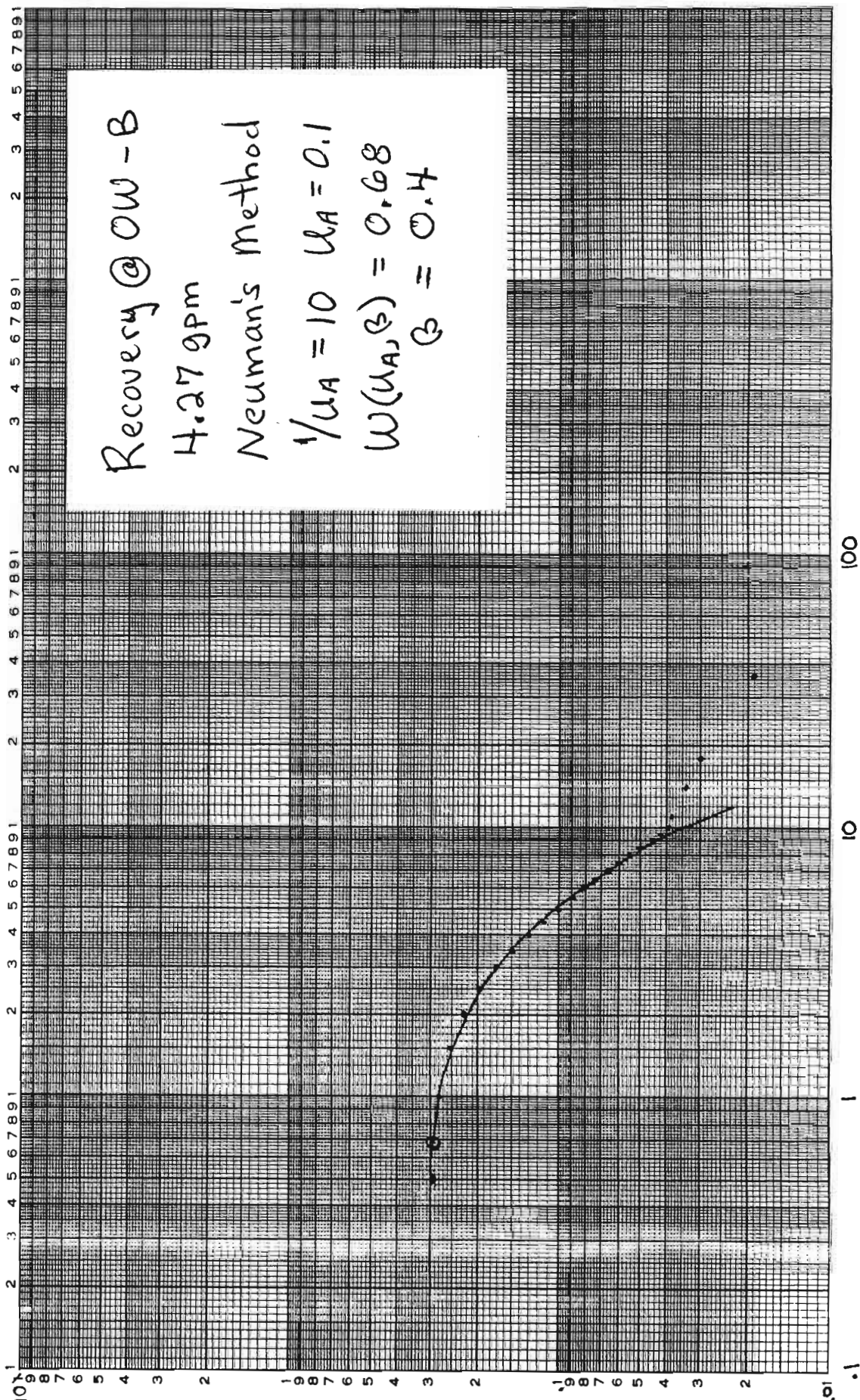
$$\times 4.72 \times 10^{-5} \frac{\text{cm/s}}{\text{gpd/ft}^2} = 2.9 \times 10^{-3} \text{ cm/s}$$

$$K_v = \frac{\beta D^2 K_h}{r^2} = \frac{0.4 (324) 2.9 \times 10^{-3}}{625} = 6.0 \times 10^{-4} \text{ cm/s}$$

$$\frac{K_h}{K_v} = \frac{2.9 \times 10^{-3}}{6.0 \times 10^{-4}} = 4.8$$

Neuman's ()
Curve
Fitting Method

Full Logarithmic, 3 x 5



OW-C, 4.27 gpm, Recovery Data

$$T = \frac{114.6 Q}{S} W(U_A, B)$$

$$= \frac{114.6(4.27)}{.40} (.68)$$

$$= 831.9 \text{ gpd/ft}$$

$$S = \frac{T t U_A}{1.87 r^2}$$

$$= \frac{831.9 (4.03 \times 10^4) (.1)}{1.87 (225)}$$

$$= 8.0 \times 10^{-5}$$

$$K_h = \frac{T}{D} = \frac{831.9}{18} = 46.2 \text{ gpd/ft}^2$$

$$\times 4.72 \times 10^{-5} \frac{\text{cm/s}}{\text{gpd/ft}^2} = 2.2 \times 10^{-3} \text{ cm/s}$$

$$K_v = \frac{\beta D^2 K_h}{r^2} = \frac{0.4 (324) (2.2 \times 10^{-3})}{225} = 1.3 \times 10^{-3} \text{ cm/s}$$

$$K_h/K_v = 1.7$$

$$\beta = 0.4$$

$$U_A = 10$$

$$U_A = .1$$

$$W(U_A, B) = .68$$

$$S = .40 \text{ ft}$$

$$t = .58 \text{ min} \text{ or } 4.03 \times 10^4 \text{ d}$$

$$r = 15 \text{ ft}$$

$$r^2 = 225 \text{ ft}^2$$

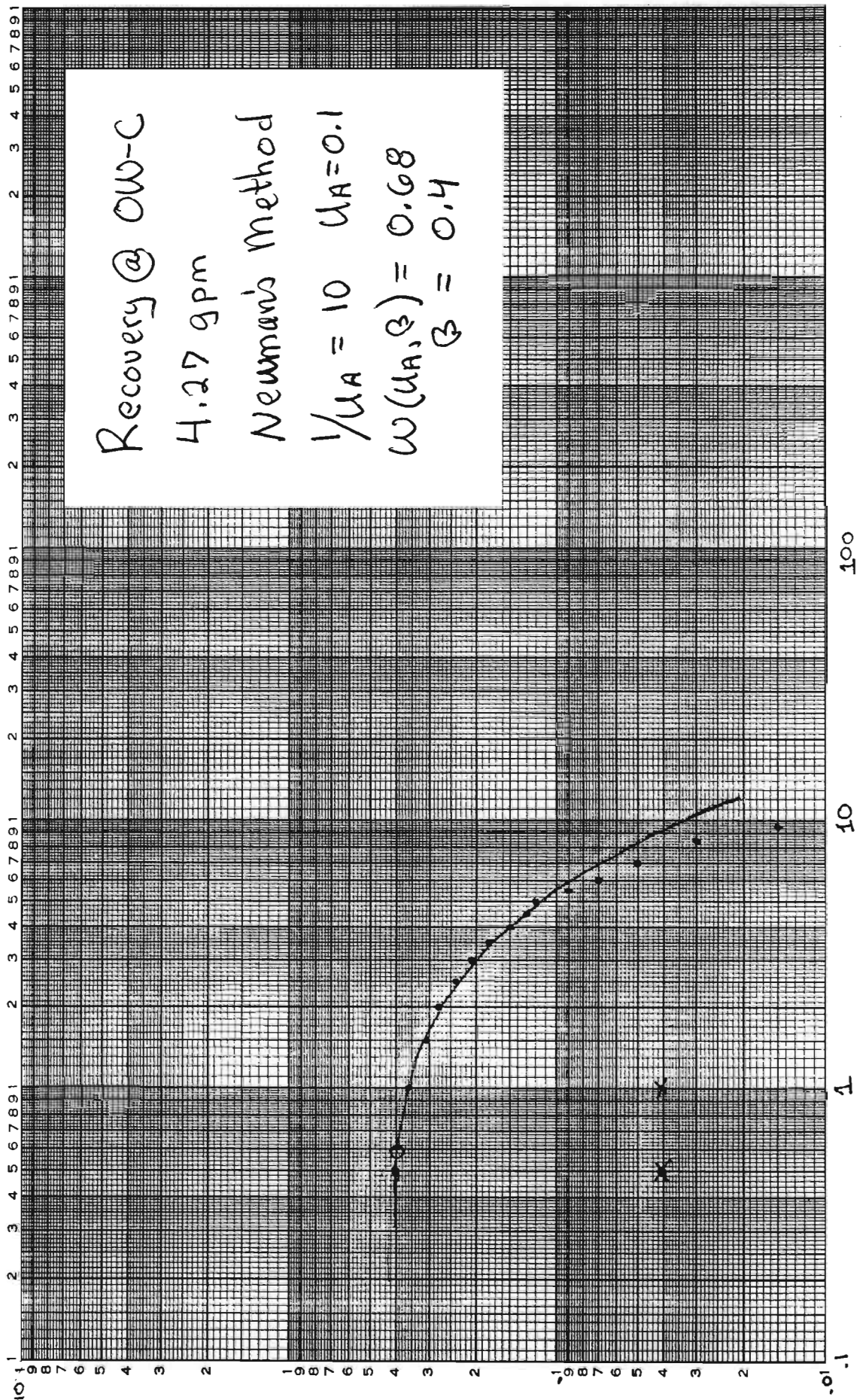
$$Q = 4.27 \text{ gpm}$$

$$D = 18 \text{ ft}$$

$$D^2 = 324 \text{ ft}^2$$

Neuman's
Curve
Fitting Method

Full Logarithmic, 3 x 5



Drawdown, ft.

Time min

RW-3 Recovery 4.27 gpm

$U_A = 10'$

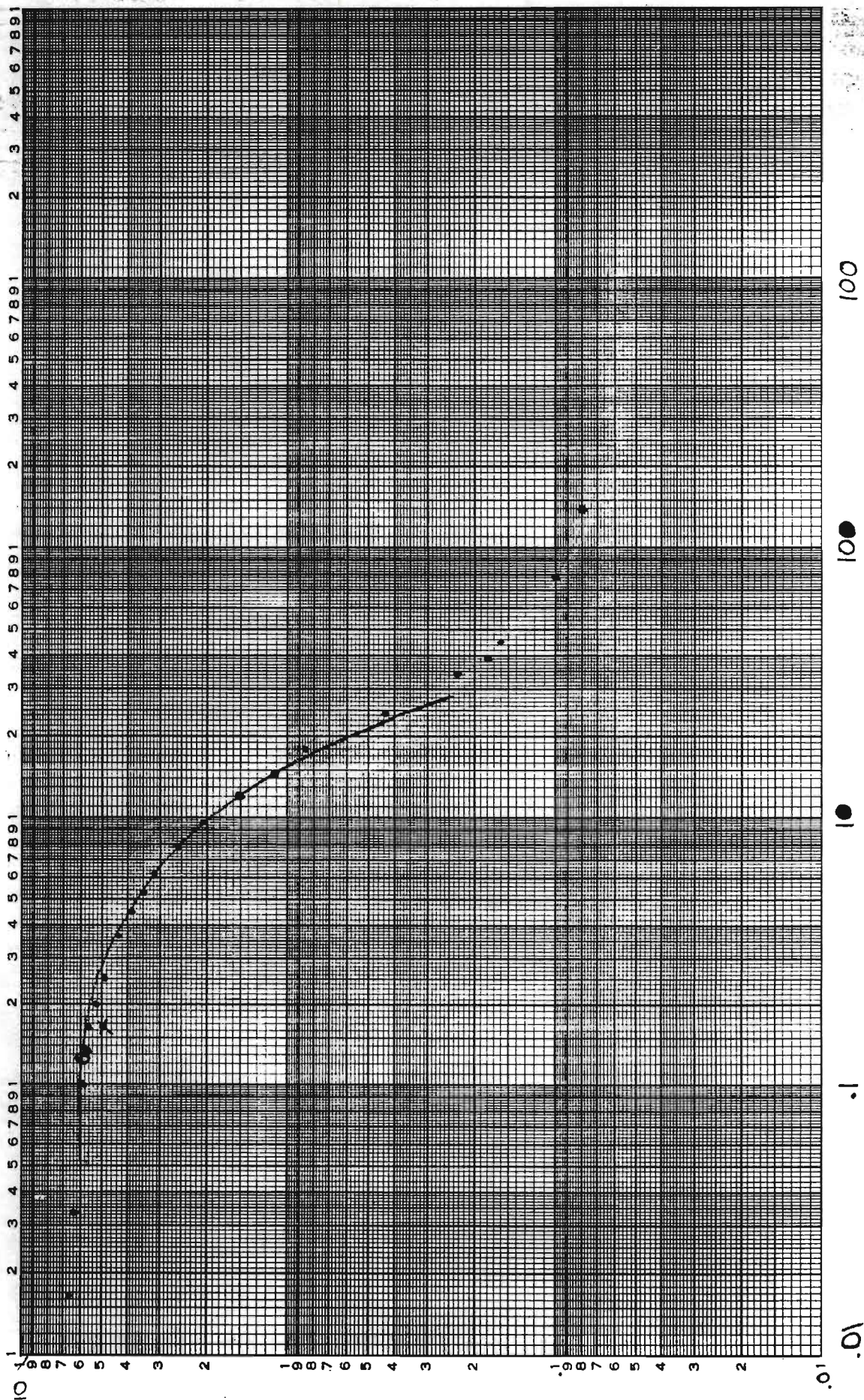
$U_B = .1'$

$W(u_0, \theta) = .68$

$\theta = 0.4$

Neuman's
Curve
Fitting Method

Full Logarithmic, 3×5



Drawdown, Ft

RW-2, 5 gpm, Pumping Data
Drawdown

$$T = \frac{114.6 Q}{s} W(U_0, \beta)$$

$$= \frac{114.6 (5)}{.069} (.16)$$

$$= 1328.7$$

$$S = \frac{T + U_0}{1.87 r^2}$$

$$= \frac{1328.7 (2.43 \times 10^3)}{1.87 (1225)}$$

$$= 1.4 \times 10^{-3}$$

$$k_h = \frac{T}{D} = \frac{1328.7}{18} = 73.8 \text{ gpd/ft}^2$$

$$\times 4.72 \times 10^{-5} \frac{\text{cm/s}}{\text{gpd/ft}^2} = 3.5 \times 10^{-3} \text{ cm/s}$$

$$k_v = \frac{\beta D^2 k_h}{r^2} = \frac{0.4 (324) (3.5 \times 10^{-3})}{1225} = 3.7 \times 10^{-4} \text{ cm/s}$$

$$k_h / k_v = 9.5$$

$$\beta = 0.4$$

$$U_0 = 1$$

$$U_0 = 1$$

$$W(U_0, \beta) = .16$$

$$S = .069 \text{ ft}$$

$$t = 3.5 \text{ min or } 2.43 \times 10^3 \text{ d}$$

$$r = 35 \text{ ft}$$

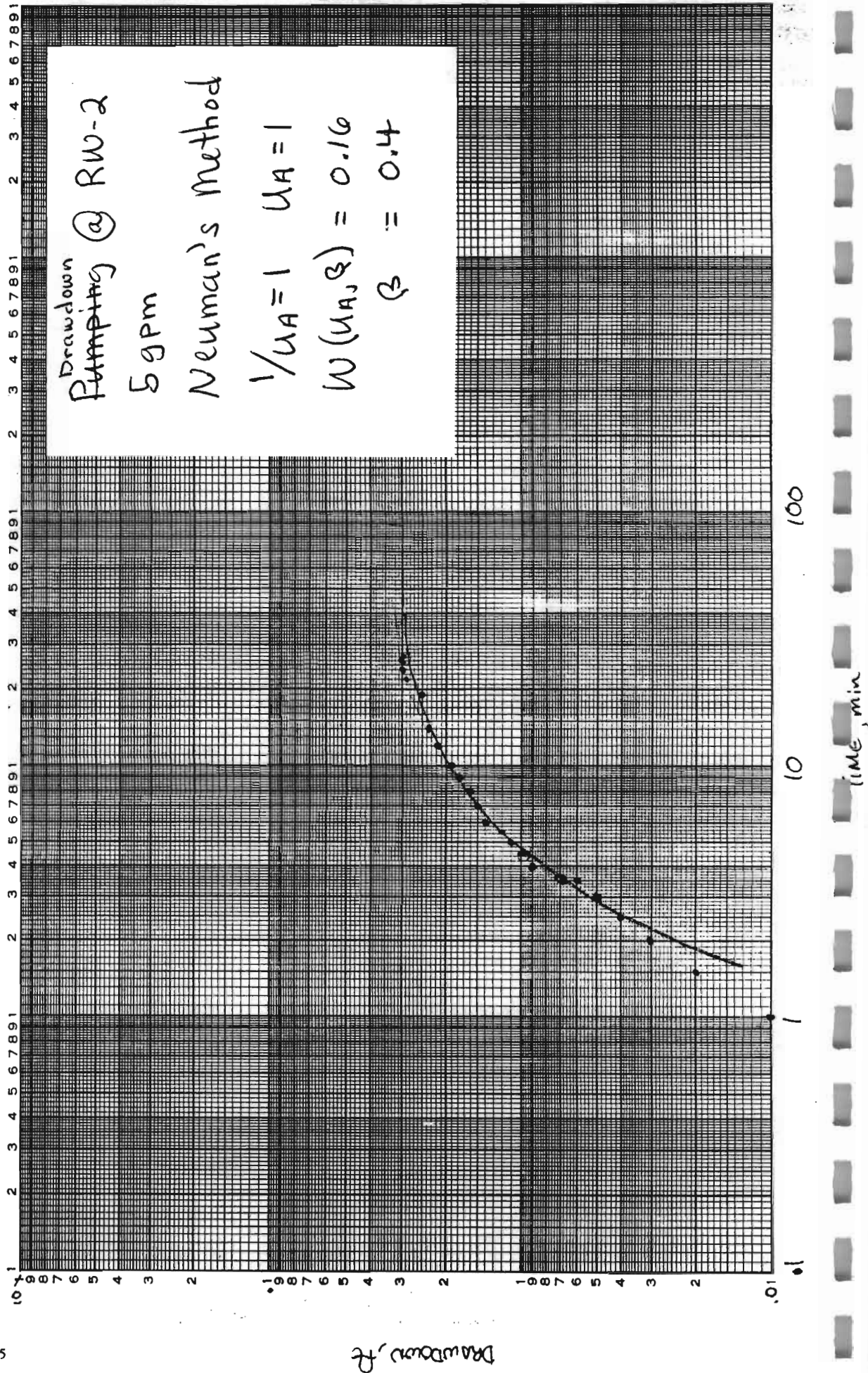
$$r^2 = 1225 \text{ ft}^2$$

$$Q = 5 \text{ gpm}$$

$$D = 18$$

$$D^2 = 324 \text{ ft}^2$$

Neuman's
Curve
Fitting Method



OW-B, 5 gpm, Pumping Data

$$T = \frac{114.6 Q}{S} W(U_0, \theta)$$

$$= \frac{114.6 (5)}{.345} .68$$

$$= 1129.4 \text{ gpd/ft}$$

$$S = \frac{T \pm U_0}{1.87 r^2}$$

$$= \frac{(1129.4)(.00936)(.1)}{1.87 (625)}$$

$$= 9.1 \times 10^{-4}$$

$$K_h = \frac{T}{D} = \frac{1129.4}{18} = 62.7 \text{ gpd/ft}^2$$

$$* 4.72 \times 10^{-5} \text{ cm/s} / \text{gpd/ft}^2 = 3.0 \times 10^{-3} \text{ cm/s}$$

$$K_v = \frac{\theta D^2 K_h}{r^2} = \frac{0.4 (324) (3.0 \times 10^{-3})}{625} = 6.2 \times 10^{-4} \text{ cm/s}$$

$$K_h / K_v = 4.8$$

$$\theta = 0.4$$

$$U_0 = 10$$

$$U_0 = .1$$

$$W(U_0, \theta) = .68$$

$$S = .345 \text{ ft}$$

$$t = 135 \text{ min or } 9.38 \times 10^{-3} \text{ d}$$

$$r = 25 \text{ ft}$$

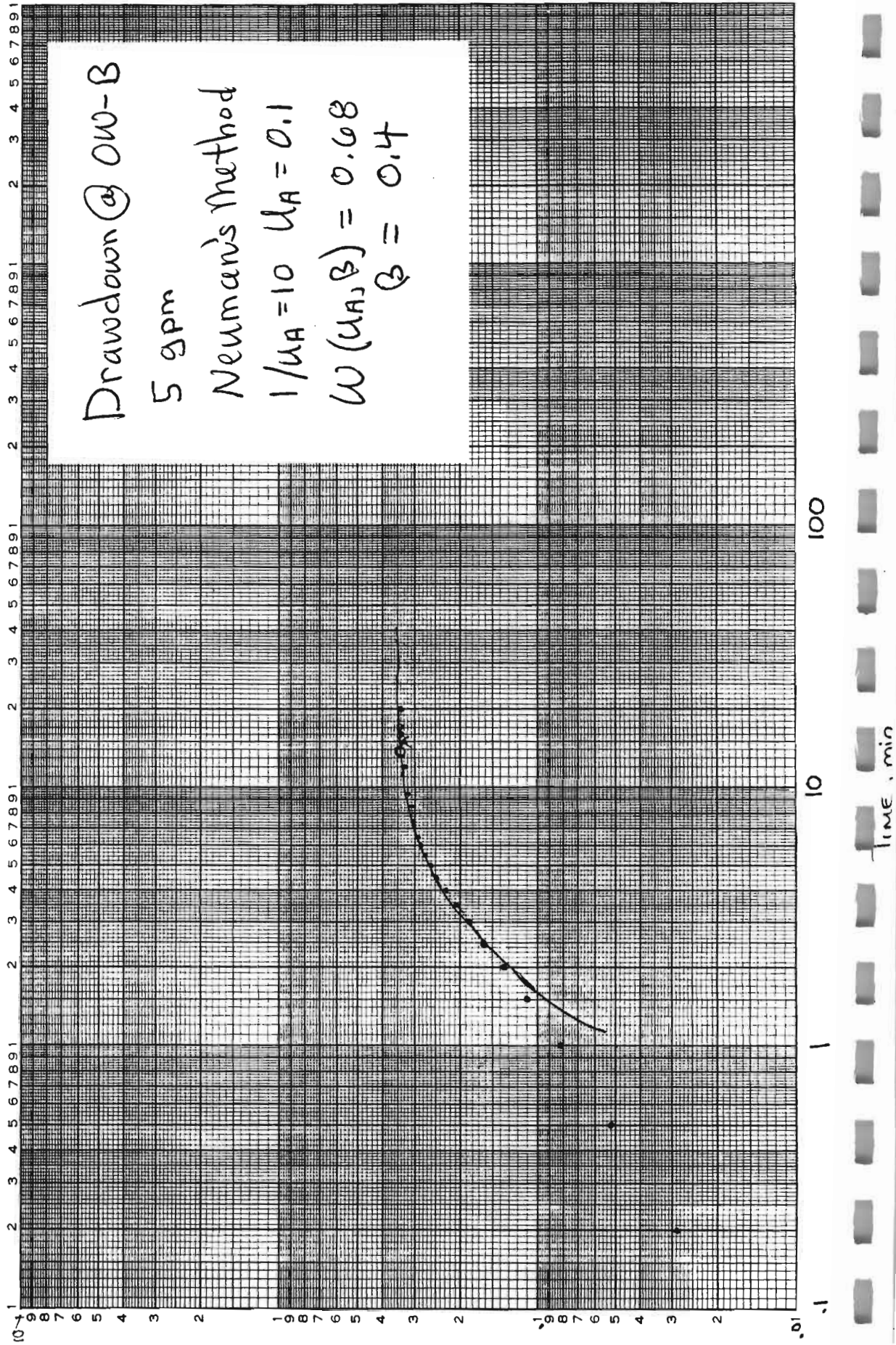
$$r^2 = 625 \text{ ft}^2$$

$$Q = 5 \text{ gpm}$$

$$D = 18 \text{ ft}$$

$$D^2 = 324 \text{ ft}^2$$

Neuman's
Curve
Fitting Method



OW-C, 5 gpm, Pumping Data

$$T = \frac{114.6 Q}{S} W(U_A, \beta)$$

$$= \frac{114.6 (5)}{0.11} (.17)$$

$$= 885.5 \text{ gpd/ft}$$

$$S = \frac{T \pm U_A}{1.87 r^2}$$

$$= \frac{885.5 (1.01 \times 10^3) (1)}{1.87 (225)}$$

$$= 2.1 \times 10^{-3}$$

$$\beta = 0.4$$

$$U_A = 1$$

$$U_A = 1$$

$$W(U_A, \beta) = .17$$

$$S = .11 \text{ ft}$$

$$t = 1.45 \text{ min} = 1.01 \times 10^3 \text{ d}$$

$$r = 15 \text{ ft}$$

$$r^2 = 225 \text{ ft}^2$$

$$Q = 5 \text{ gpm}$$

$$D = 18 \text{ ft}$$

$$D^2 = 324 \text{ ft}^2$$

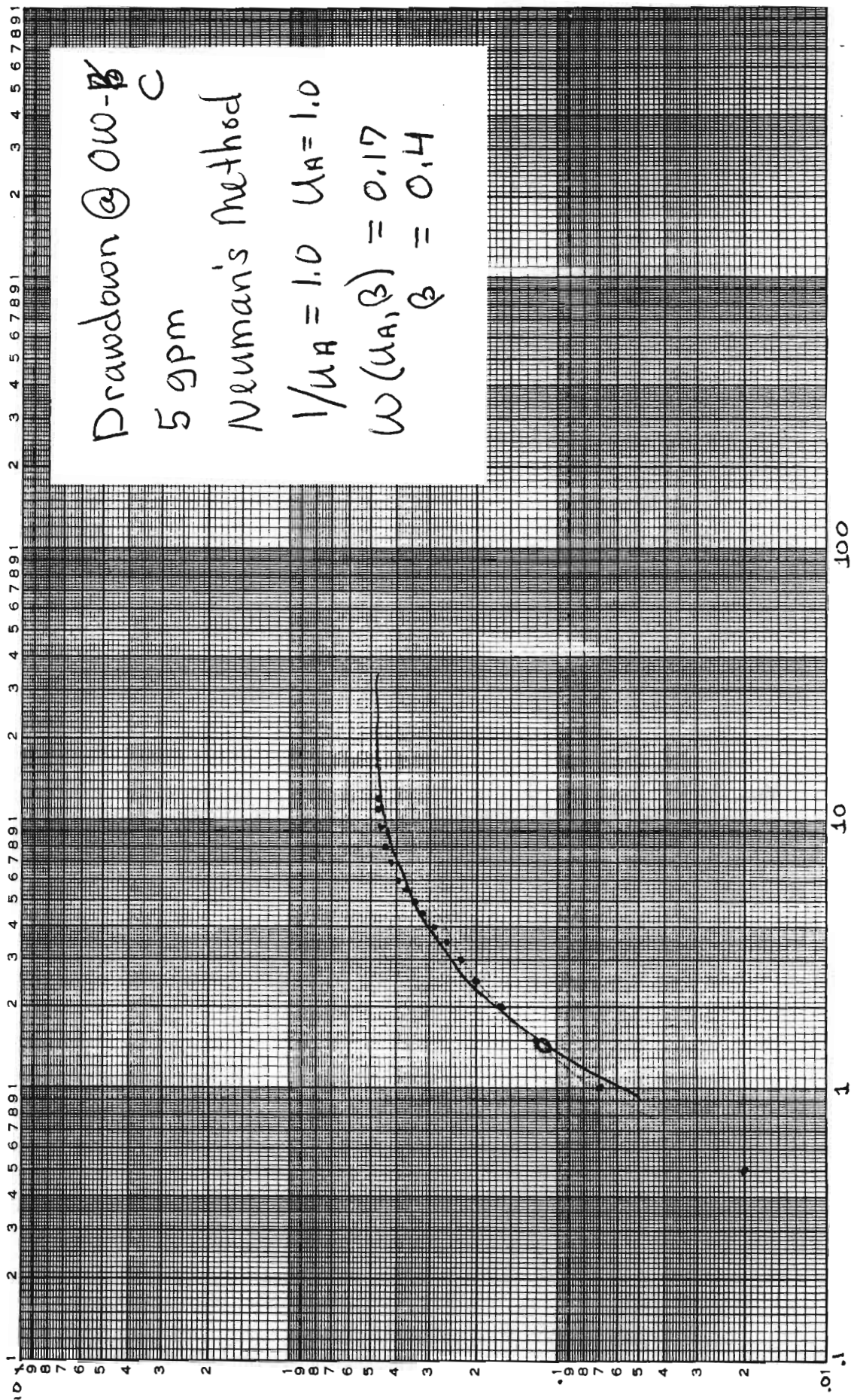
$$K_h = \frac{T}{D} = \frac{885.5 \text{ gpd/ft}}{18 \text{ ft}} = 49.2 \text{ gpd/ft}^2$$

$$49.2 \text{ gpd/ft} \times 4.72 \times 10^5 \frac{\text{cm}^3}{\text{gpd/ft}^2} = 2.3 \times 10^{-3} \text{ cm}^3$$

$$K_v = \frac{\beta D^2 \overset{\nwarrow K_h}{2.3 \times 10^{-3}}}{\underset{\uparrow r^2}{225}} = \frac{0.4 (324) (2.3 \times 10^{-3})}{225} = 1.3 \times 10^{-3} \text{ cm}^3$$

$$\frac{K_h}{K_v} = 1.7$$

Neuman's
Curve
Fitting Method



KW-5 Pumping 3gpm

$V_0 = 10$

$U_0 = .1$

$w(u_0, \theta) = .5^u$

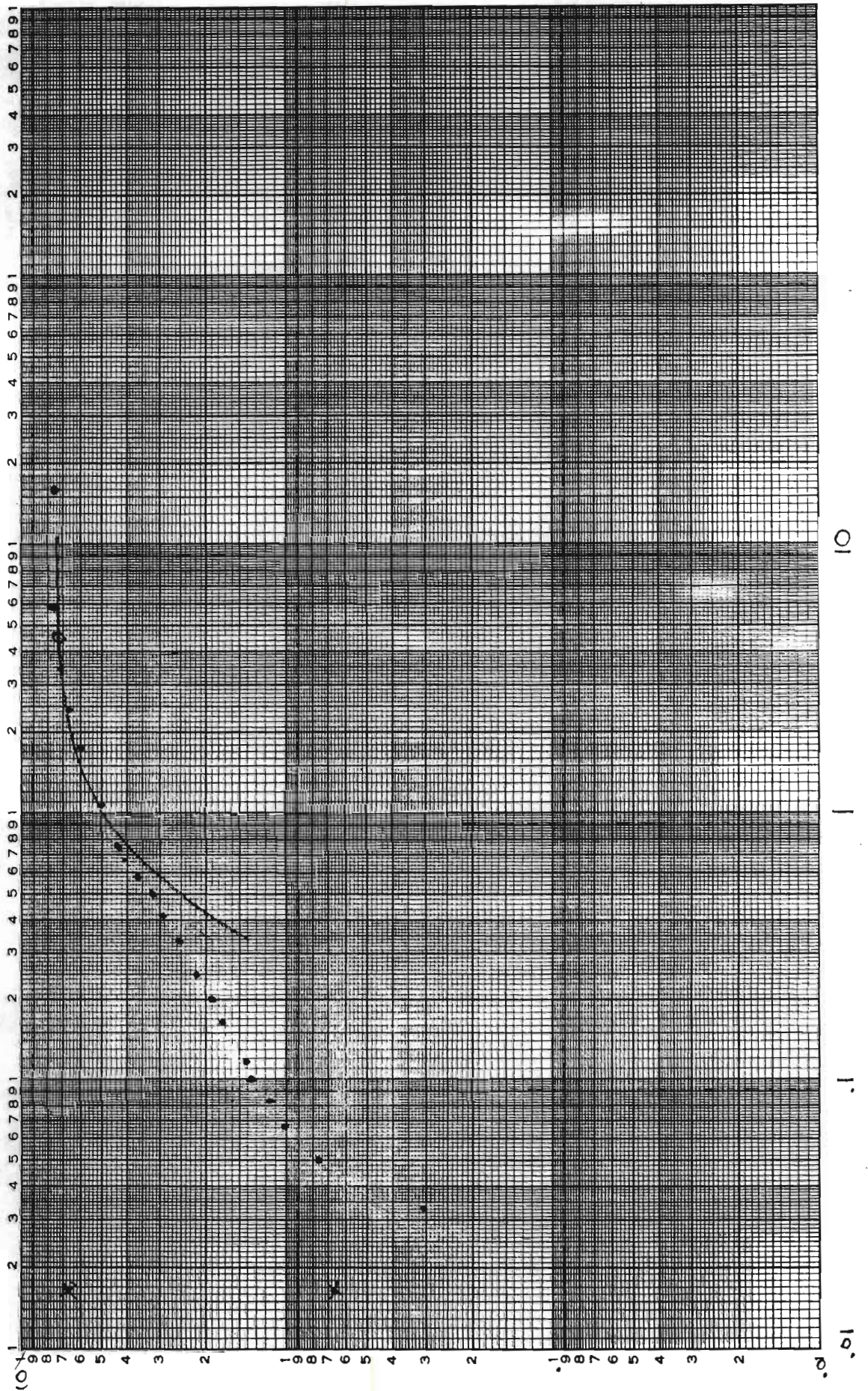
$\beta = 0.6^u$

doesn't have good fit

Neuman's

Curve

Fitting Method



ATTACHMENT F

TEST ZONE B: GROUNDWATER SAMPLING RESULTS

- **Sampling Date - August 14, 1995**

RW-2; OW-B; MPI-6S

- **Sampling Date - September 14-15, 1995**

Influent #1 (Pumping discharge from RW-3 - Hour 1)

Influent #2 (Pumping discharge from RW-3 - Hour 23)

Effluent (sampled after carbon treatment)

- **Sampling Date - September 27, 1995**

OW-C

TABLE F-1
MR. C CLEANER SUPERFUND SITE
AQUIFER TESTING PROGRAM
SUMMARY OF FIELD MEASUREMENTS

Location	Sampling Date	Sampling Time	Temp °C	pH (units)	Eh (mv)	Conductance (umhos/cm)	Turbidity (NTU)	Appearance/ Odor Detected
OW-B	8-10-95 ⁽¹⁾	15:20	15.1	6.80	—	1770	>100	slightly turbid/slight cloudy/none
	8-14-95 ⁽²⁾	13:19	16.5	6.86	-7	1722	90	
RW-2	8-10-95 ⁽¹⁾	12:05	13.1	7.09	—	1605	>100	brown/none clear/none
	8-14-95 ⁽²⁾	13:02	17.9	7.25	—	981	9	
MP1-6S	8-14-95	13:27	16.2	6.81	-16	1667	>100	turbid/none
RW-1	8-29-95	13:17	22.0	7.42	—	980	—	clear/solvent clear/solvent
	8-29-95	14:40	—	7.46	—	980	—	
RW3 ⁽³⁾ (I)	9-14-95	15:20	—	7.26	—	1451	—	— —
	9-15-95	8:20	17.5	7.15	—	1619	—	
(E)	9-15-95	8:40	17.0	7.22	—	1611	—	—
OW-C	9-27-95 ⁽²⁾	9:35	18.8	7.38	+48	1683	>100	turbid/none
(1) From well development (2) From well sampling (3) (I) - Influent to carbon during pumping test (E) - Effluent from carbon during pumping test								



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

FAX COVER SHEET

TO: ROBERT O'LASKEY

FAX NO: _____

DATE: 8/22/95NO. OF PAGES: 18
(Including cover page)FROM: LORI BEYERMESSAGE:
RESULTSNEI LOGIN NUMBER(S): 24743

NOTE: IF YOU DO NOT RECEIVE THE ENTIRE TRANSMISSION,
OR NEED PAGES TO BE RE-SENT DUE TO ILLEGIBILITY,
PLEASE CALL US BACK IMMEDIATELY.

CHAIN OF CUSTODY RECORD

[illegible]

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MPI-6S

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474303

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N3932.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Date Analyzed: 08/16/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/L	
74-87-3	-----Chloromethane	10		U
74-83-9	-----Bromomethane	10		U
75-01-4	-----Vinyl Chloride	10		U
75-00-3	-----Chloroethane	10		U
75-09-2	-----Methylene Chloride	3		JB
67-64-1	-----Acetone	10		U
75-15-0	-----Carbon Disulfide	10		U
75-35-4	-----1,1-Dichloroethene	12		
75-34-3	-----1,1-Dichloroethane	10		U
540-59-0	-----1,2-Dichloroethene (total)	26		
67-66-3	-----Chloroform	10		U
107-06-2	-----1,2-Dichloroethane	10		U
78-93-3	-----2-Butanone	10		U
71-55-6	-----1,1,1-Trichloroethane	10		U
56-23-5	-----Carbon Tetrachloride	10		U
75-27-4	-----Bromodichloromethane	10		U
78-87-5	-----1,2-Dichloropropane	2		J
10061-01-5	-----cis-1,3-Dichloropropene	10		U
79-01-6	-----Trichloroethene	470		E
124-48-1	-----Dibromochloromethane	10		U
79-00-5	-----1,1,2-Trichloroethane	10		U
71-43-2	-----Benzene	10		U
10061-02-6	-----trans-1,3-Dichloropropene	10		U
75-25-2	-----Bromoform	10		U
108-10-1	-----4-Methyl-2-Pentanone	10		U
591-78-6	-----2-Hexanone	10		U
127-18-4	-----Tetrachloroethene	2600		E
79-34-5	-----1,1,2,2-Tetrachloroethane	10		U
108-88-3	-----Toluene	10		U
108-90-7	-----Chlorobenzene	10		U
100-41-4	-----Ethylbenzene	10		U
100-42-5	-----Styrene	10		U
1330-20-7	-----Xylene (total)	10		U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

MPI-6S

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474303

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N3932.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Data Analyzed: 08/16/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.870	19	J
2.				
3.				
4.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MPI-6SDL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474303

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N3943.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Date Analyzed: 08/17/95

GC Column:CAP

ID: 0.53 (mm)

Dilution Factor: 100.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	1000	U
74-83-9	Bromomethane	1000	U
75-01-4	Vinyl Chloride	1000	U
75-00-3	Chloroethane	1000	U
75-09-2	Methylene Chloride	240	JBD
67-64-1	Acetone	1000	U
75-15-0	Carbon Disulfide	1000	U
75-35-4	1,1-Dichloroethene	1000	U
75-34-3	1,1-Dichloroethane	1000	U
540-59-0	1,2-Dichloroethene (total)	1000	U
67-66-3	Chloroform	1000	U
107-06-2	1,2-Dichloroethane	1000	U
78-93-3	2-Butanone	1000	U
71-55-6	1,1,1-Trichloroethane	1000	U
56-23-5	Carbon Tetrachloride	1000	U
75-27-4	Bromodichloromethane	1000	U
78-87-5	1,2-Dichloropropane	1000	U
10061-01-5	cis-1,3-Dichloropropene	1000	U
79-01-6	Trichloroethene	360	JD
124-48-1	Dibromochloromethane	1000	U
79-00-5	1,1,2-Trichloroethane	1000	U
71-43-2	Benzene	1000	U
10061-02-6	trans-1,3-Dichloropropene	1000	U
75-25-2	Bromoform	1000	U
108-10-1	4-Methyl-2-Pentanone	1000	U
591-78-6	2-Hexanone	1000	U
127-18-4	Tetrachloroethene	1700	D
79-34-5	1,1,2,2-Tetrachloroethane	1000	U
108-88-3	Toluene	1000	U
108-90-7	Chlorobenzene	1000	U
100-41-4	Ethylbenzene	1000	U
100-42-5	Styrene	1000	U
1330-20-7	Xylene (total)	1000	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

MPI-6SDL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474303

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N3943.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Data Analyzed: 08/17/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 100.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

OW-B

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474302

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N3931.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Date Analyzed: 08/16/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	9	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	110	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	6700	E
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

OW-B

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474302

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N3931.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Data Analyzed: 08/16/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.011	8	J
2.	UNKNOWN	6.859	19	J
3.				
4.				
5.				
6.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

OW-BDL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474302

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N3942.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Date Analyzed: 08/17/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 100.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3	-----Chloromethane	1000	J
74-83-9	-----Bromomethane	1000	U
75-01-4	-----Vinyl Chloride	1000	U
75-00-3	-----Chloroethane	1000	U
75-09-2	-----Methylene Chloride	290	JBD
67-64-1	-----Acetone	1000	U
75-15-0	-----Carbon Disulfide	1000	U
75-35-4	-----1,1-Dichloroethene	1000	U
75-34-3	-----1,1-Dichloroethane	1000	U
540-59-0	-----1,2-Dichloroethene (total)	1000	U
67-66-3	-----Chloroform	1000	U
107-06-2	-----1,2-Dichloroethane	1000	U
78-93-3	-----2-Butanone	1000	U
71-55-6	-----1,1,1-Trichloroethane	1000	U
56-23-5	-----Carbon Tetrachloride	1000	U
75-27-4	-----Bromodichloromethane	1000	U
78-87-5	-----1,2-Dichloropropane	1000	U
10061-01-5	-----cis-1,3-Dichloropropene	1000	U
79-01-6	-----Trichloroethene	1000	U
124-48-1	-----Dibromochloromethane	1000	U
79-00-5	-----1,1,2-Trichloroethane	1000	U
71-43-2	-----Benzene	1000	U
10061-02-6	-----trans-1,3-Dichloropropene	1000	U
75-25-2	-----Bromoform	1000	U
108-10-1	-----4-Methyl-2-Pentanone	1000	U
591-78-6	-----2-Hexanone	1000	U
127-18-4	-----Tetrachloroethene	3000	D
79-34-5	-----1,1,2,2-Tetrachloroethane	1000	U
108-88-3	-----Toluene	1000	U
108-90-7	-----Chlorobenzene	1000	U
100-41-4	-----Ethylbenzene	1000	U
100-42-5	-----Styrene	1000	U
1330-20-7	-----Xylene (total)	1000	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

OW-BDL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474302

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N3942.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Data Analyzed: 08/17/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 100.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

Lab Name: NYTEST ENV INC

Contract: 9521462

PW-B

RW-2

Lab Code: NYTEST Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474301

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N3930.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Date Analyzed: 08/16/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	3	JB
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	18	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	66	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

PW-B *file*

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474301

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N3930.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Data Analyzed: 08/16/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

TB1

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST Case No.: 24743 SAS No.: SDG No.: MRC1

Matrix: (soil/water) WATER Lab Sample ID: 2474304

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: N3941.D

Level: (low/med) LOW Date Received: 08/16/95

% Moisture: not dec. Date Analyzed: 08/17/95

GC Column: CAP ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
			Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	4	JB
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	10	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

TB1

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: 2474304

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N3941.D

Level: (low/med) LOW

Date Received: 08/16/95

% Moisture: not dec. _____

Data Analyzed: 08/17/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN HYDROCARBON	20.802	7	J
2.	UNKNOWN HYDROCARBON	21.449	10	J
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

VLKN36

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN36

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N3920.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Date Analyzed: 08/16/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	26	
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

VBLKN36

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN36

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N3920.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Data Analyzed: 08/16/95

GC Column:CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
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9.				
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29.				
30.				

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

VBLKN39

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN39

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N3940.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Date Analyzed: 08/17/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	2	J
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

VBLKN39

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 24743

SAS No.:

SDG No.: MRC1

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN39

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N3940.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Data Analyzed: 08/17/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
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29.				
30.				



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

October 11, 1995

Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Orchard Park, NY 14127

Attn : Robert O'Laskey
Ref : Mr. C. Cleaners, Proj. #0266-314
P.O. #: Pending

Nytest Environmental, Inc., is pleased to submit our Project Number 9521462 for Login Numbers 25031, on your sample(s) received 09/16/95.

We certify that this report is a true report of results obtained from our tests of this material.

Test sample(s) associated with this project will be retained for a period of thirty (30) days, unless otherwise instructed.

My staff is available to answer any questions concerning our report and we look forward to serving your future analytical needs.

Respectfully submitted,

Remo Gigante,
Executive Vice President
Nytest Environmental, Inc.

Encl: 1 bound 1 unbound
Shipped Via: FEDEX

NYS Lab ID#10195
NJ Cert.#73469

Report on sample(s) furnished by client applies to sample(s). Report on sample(s) obtained by us applies to lot sampled. Information contained herein is not to be used for reproduction except by special permission. In the event that there are portions or parts of sample(s) remaining after Nytest has completed the required tests, Nytest shall have the option of returning such sample(s) to the client at the client's expense.

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NYTEST ENVIRONMENTAL Inc.

LABORATORY
NUMBER

SAMPLE
IDENTIFICATION

TYPE OF
SAMPLE

2503101
2503102
2503103
2503104

INFL-1
INFL-2
EFFLUE
TRPBLK

Water
Water
Water
Water

000001

SDG Narrative

NARRATIVE DISCUSSION
VOLATILES - 25031

INTRODUCTION

This narrative covers the analysis of four (4) aqueous samples in accordance with protocols based on NYSDEC ASP(12/91).

HOLDING TIMES

The analytical holding time for this analysis was met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method.

All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blanks associated with these samples met all method requirements.

SURROGATES

All surrogate recoveries met QC criteria.

MATRIX SPIKE BLANKS

The recoveries for the matrix spike blank were within QC limits.

MATRIX SPIKES

Sample EFFLUE was utilized in the MS/MSD series. All spike recoveries and RPD values fell within the advisory QC limits.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

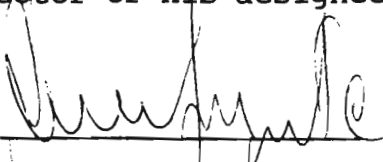
SAMPLE COMMENTS

Analysis of samples INFL-1 and INFL-2 yielded target analyte concentrations which exceeded the highest calibration standard. These compounds have been qualified "E". Reanalyses were performed at dilutions. Both sets of data are included for each sample. The concentrations of these compounds should be taken from the diluted analyses.

No other analytical problems were encountered.

000003

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.


Remo Gigante

000004

ASP Forms

000005

[illegible]

Traffic Reports

000009

CHAIN OF CUSTODY RECORD

000010



RECIPIENT'S COPY

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

4685449764

4685449764



From (Your Name) Please Print Jeanne Asquith		Date 9/15/95	Your Phone Number (Very Important) (212) 425-1500		To (Recipient's Name) Please Print NYEST Environmental		Recipient's Phone Number (Very Important) (212) 425-1500	
Company PAULSON FURNITURE INC		Department/Floor No. 2		Company NYEST Environmental		Department/Floor No. 2		
Street Address 3015 ABSTOTT RD.		City DECATUR PARK		Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.) 620 Seneca Blvd.		City Washington		
State NY		ZIP Required 11650		State NY		ZIP Required 11650		
YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.) 0315-22-9182								
PAYMENT 1 ☒ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check				IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here Street Address City State ZIP Required				
4 SERVICES (Check only one box) Priority Overnight (Delivery by next business morning) 11 ☒ OTHER PACKAGING 16 ☐ FEDEX LETTER 12 ☐ FEDEX PAK 13 ☐ FEDEX BOX 14 ☐ FEDEX TUBE Economy Two-Day (Delivery by second business day) 30 ☐ ECONOMY Government Overnight (Restricted for authorized users only) 46 ☐ GOVT LETTER 41 ☐ GOVT PACKAGE Freight Service (For packages over 150 lbs.) 70 ☐ OVERNIGHT FREIGHT 80 ☐ TWO-DAY FREIGHT		5 DELIVERY AND SPECIAL HANDLING (Check services required) Weekday Service 1 ☐ HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H) 2 ☐ DELIVER WEEKDAY Saturday Service 31 ☐ HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H) 3 ☒ DELIVER SATURDAY (Extra charge) (Not available to all locations) 9 ☐ SATURDAY PICK-UP (Extra charge) Special Handling 4 ☐ DANGEROUS GOODS (Extra charge) 6 ☐ DRY ICE (Dangerous Goods Shipper's Declaration not required) 12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)		6 PACKAGES WEIGHT In Pounds Only YOUR DECLARED VALUE (See right) 1 50 4500 Total Total Total 1 50 4500 DIM SHIPMENT (Chargeable Weight) L x W x H 1 x 1 x 1 Received At 1 ☐ Regular Stop 3 ☐ Drop Box 2 ☐ On-Call Stop 4 ☐ B.S.C. 5 ☐ Station		Emp. No. Date Federal Express Use ☐ Cash received ☐ Return Shipment ☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold Street Address City State Zip Received By: Date/Time Received FedEx Employee Number X 9/16/95 1015 160		

000011

NYTEST ENVIRONMENTAL INC.

INTERNAL CHAIN OF CUSTODY

Laboratory Person Breaking Field
Seal on Sample Shuttle & Accepting
Responsibility for Sample

NAME: Michael Lani

TITLE: SC

Client:

Malcolm Pirnie

Date Broken

9/16/95

Military Time Seal Broken:

1015

Login #:

25031

Analytical Parameter/Fraction:

SO₄, TCM, TSS, 06, TDS

METALS (TDS), ALK, ASPVOA, HARBOR

SAMPLE NO.	ALIQOT/EXTRACT NO.	SAMPLE NO.	ALIQOT/EXTRACT NO.
INFL-1	25031-01		
INFL-2	02		
EFFLUE	03		
TRPBLK	04		

DATE	TIME	RELINQUISHED BY	RECIEVED BY	PURPOSE OF CHANGE OF CUS
9/16/95	0900	PRINTED NAME <u>M. Lani</u> SIGNATURE <u>M. Lani</u>	PRINTED NAME <u>HARSHA M.</u> SIGNATURE <u>M. Lani</u>	SO ₄ , TSS, TDS ALK hard.
9/14/95	11:00	PRINTED NAME <u>M. Lani</u> SIGNATURE <u>M. Lani</u>	PRINTED NAME <u>S. Malinowski</u> SIGNATURE <u>S. Malinowski</u>	ASPVOA
9/21/95	0745	PRINTED NAME <u>P. Pierides</u> SIGNATURE <u>P. Pierides</u>	PRINTED NAME <u>Hanguo W.</u> SIGNATURE <u>H. W.</u>	TCN.
9/21	16:00	PRINTED NAME <u>M. Lani</u> SIGNATURE <u>M. Lani</u>	PRINTED NAME <u>H. Trujillo</u> SIGNATURE <u>H. Trujillo</u>	metals
9/23/95	0830	PRINTED NAME <u>S. Malinowski</u> SIGNATURE <u>S. Malinowski</u>	PRINTED NAME <u>M. Lani</u> SIGNATURE <u>M. Lani</u>	Storage
9/28/95	900	PRINTED NAME <u>R. Fletcher</u> SIGNATURE <u>R. Fletcher</u>	PRINTED NAME <u>Unith</u> SIGNATURE <u>Unith</u>	OG
10/3/95	1520	PRINTED NAME <u>Hanguo W.</u> SIGNATURE <u>H. W.</u>	PRINTED NAME <u>R. Fletcher</u> SIGNATURE <u>R. Fletcher</u>	Storage
10/4/95	1300	PRINTED NAME <u>HARSHA M.</u> SIGNATURE <u>M. Lani</u>	PRINTED NAME <u>M. Lani</u> SIGNATURE <u>M. Lani</u>	Storage

000012

NYTEST ENVIRONMENTAL

GC/MS VOLATILE INJECTION LOG BOOK

DATA FILE	INJ TIME	SAMPLE ID	LAB ID	DATE REC'D	CONDITION	pH
N4265	09:12	BF8N807			2ul	
N4266	09:23	VST050N9	VST050N9		5mls	
N4267	10:08	VST050N9	"		5mls	
N4268	12:03	BF8N807			2ul	
N4269	12:14	VST050N1	VST050N1		5.5mls	
N4270	12:55	VBLKN63	VBLKN63	N/A		
N4271	13:36	MSB	MSB	N/A		
N4272	14:10	KB095Z	2491002	08-30-95		
N4273	14:43	KB09W	2491002	08-30-95		
N4274	15:17	KB09WMS	2491002			
N4275	15:51	KB09WMSD	2491002			
N4276	16:24	WC-1	2493001	09-06-95		
N4277	17:06	VST060N	VST060N		5mls	
N4278	17:41	VST060N	VST060N		5mls	
N4279	18:15	VST060N	VST060N		5mls	
N4280	18:50	VST060N	VST060N		5mls	
N4281	19:25	VST060N	VST060N		5mls	
N4282	19:59	VST060N	VST060N		5mls	
N4283	20:34	VST060N	VST060N		5mls	

000013

5/10/95-08-95

DATE 09-07-95 S. Malinowski

TECHMAR POSITION	SURROGATE RECOVERY	INTERNAL STD AREA COUNTS	COMMENTS	ANALYST
1			OK	S. Malinowski
1			NG	
1			NG	
1			OK	
1	182505, 894789	67469	OK power ASP/340/3210	
2	94, 98, 97	OK	OK	
3	94, 96, 103	OK	OK	
4	92, 103, 72	NG	Do not use	
5	87, 126, 67	NG		
6	88, 121, 89	NG	MS ok submit all three	
7	36, 117, 64	NG	MSD	
8	93, 103, 98	OK		
9				
10				
11				
12				
13				
14				
15				

Tren 113 5-17-83-010

Comp. 7-21-83-30-50

Isk 7-21-83-30-60

5/10/95-08-95

NYTEST ENVIRONMENTAL

GC/MS VOLATILE INJECTION LOG BOOK

DATA FILE	INJ TIME	SAMPLE ID	LAB ID	DATE REC'D	CONDITION	pH
N4437	10:07	BEBIN0919			2UL	
N4438	10:17	VST05001			5mLs	
N4439	10:56	VBKN77		NA		~7
N4440	11:54	VBKN77		NA		~7
N4441	12:39	TRPBLK	2503101	09-16-95		~7
N4442	13:14	EFFLUE	2503103			~7
N4443	13:48	EFFLUEMS				~7
N4444	14:23	EFFLUEMSD				~7
N4445	14:57	MSB	MSB	NA		~7
N4446	15:32	INFL-1	2503101	09-16-95		
N4447	16:18	INFL-2	2503102	09-16-95		
N4448	17:03	BLANK	BLANK	NA	5mLs	~7
N4449	17:43	VBKN78	VBKN78	NA	100L/5mLs	
N4450	18:17	SAPS38	2498302	09-12-95		
N4451	18:52	SAPS39	2498303			
N4452	19:26	SAPS40	2498304			

gm 09-20-95

DATE 09-19-95 S. Malinowski

TEKMAR POSITION	SURROGATE RECOVERY	INTERNAL STD AREA COUNTS	COMMENTS	ANALYST
1	175178, 990127	690590	OK	J. Malinowski
2	94, 96, 102	OK	NA OK	
2	93, 97, 104	OK	NA OK	
3	94, 96, 100	OK	NA OK	
4	96, 97, 101	OK	OK	
5	97, 97, 99	OK	MS	
6	96, 96, 97	OK	MSD	
7	96, 97, 99	OK	OK	
8	95, 102, 101	OK	Tetrachloroethene 10500 ug/L	
9	96, 102, 100	OK	" 12000 ug/L	
10	95, 96, 99	OK	to clean system	
11	94, 96, 101	OK	GC confirmation run	
12	114, 97, 119	OK	"	
13	113, 97, 115	OK	"	
14	94, 97, 97	OK	"	

Renat Dilution 1
NA OK SYS

SM0920-95

NYTEST ENVIRONMENTAL

GC/MS VOLATILE INJECTION LOG BOOK

DATA FILE	DATE/TIME	SAMPLE ID	LAB ID	DATE REC'D	CONDITION	pH
N4453	09:24	BFB/M080			2u/l	
N4454	09:32	BFB/M080			2u/l	
N4455	09:39	BFB/M080			2u/l	
N4456	09:49	VSTJES02	NST06002		5mls	
N4457	10:28	VBLKN79	VBLKN79	NA	5mls	~7
N4458	11:22	VBLKN79	VBLKN79	NA	5mls	~7
N4459	12:07	JERRY	JERRY	NA	1ml/sal	
N4460	12:41	INFL-IDL	250301	09-16-95	20u/sals	
N4461	13:16	INFL-2AL	250302	↓	↓	
N4462	13:51	1KC60	2504501	09-10-95	250u/smls	
N4463	14:25	2KC60	2504502		250u/smls	
N4464	15:03	1GW60	2504503		20u/smls	
N4465	15:48	2GW60	2504504		20u/smls	
N4466	16:13	1N0A60	2504505			
N4467	16:47	2N0A60	2504506			
N4468	17:22	1N0S60	2504507			
N4469	17:56	2N0S60	2504508			
N4470	18:31	1KC60AL	2504501			
N4471	19:00	2KC60AL	2504502			

000015

SMOP-2495

DATE 09-20-95 S. MAJORS K.

83

TEKMAR POSITION	SURROGATE RECOVERY	INTERNAL STD AREA COUNTS	COMMENTS
			NG
			NG
			OK
1	162192	845921	637756 OK
2	93,96,100	OK	NT 1 TIC present
2	92,96,100	OK	OK
3	92,96,100	OK	OK
4	93,98,99	OK	OK
5	95,97,96	OK	OK
6	91,95,97	OK	OK
7	91,97,95	OK	OK
8	94,98,96	OK	OK
9	94,98,95	OK	OK
10	92,98,93	OK	OK
11	95,98,93	OK	OK
12	94,90,91	OK	OK
13	93,90,91	OK	OK
14	95,90,91	OK	OK
15	95,100,90	OK	OK

A. Melnick

From 10 92-95-92-B-III

comb 7-21-95-30-E-IE

Isobar 7-21-95-90-C-IE

From 115 4000 ug/L

" " 4000 ug/L

" " 1800 ug/L

From 572 ug/L

" " 440 ug/L

" " 572 ug/L

" " 675 ug/L

1,1,1 Trichloroethane 210 ug/L

From 328

" " 248 ug/L

From 277 ug/L

SMOP-2495

Qualifiers

nytest environmental_{inc}

Method Qualifiers for Organic CLP Methodologies

Q Qualifier - Specified entries and their meanings as follows:

- U -** Indicates compound was analyzed for but was not detected. The sample quantitation limit is corrected for dilutions and for the moisture content for soil samples. If a sample extract can not be concentrated to the protocol - specific volume, this fact is also accounted for in reporting the sample quantitation limit. The number is the minimum detected limits for the sample.
- J -** Indicates an estimated value. The flag is used either when estimating concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N -** Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- P -** This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C -** This flag applies to pesticide results where the identification has been successfully confirmed.
- B -** This flag is used when the analyte is found in the associated blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound.
- E -** This flag identifies compounds whose concentrations exceeded the calibration range of the GC/MS instrument for that specific analysis.
- D -** This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- A -** This flag indicates that a TIC is a suspected aldol-condensation product.

000017

Method Qualifiers for Inorganics

FORM I-IN includes fields for three types of results qualifiers. These qualifiers must be completed as follows:

* C (Concentration) qualifier -- Enter "B" if the reported value was obtained from a reading that was less than the Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL). If the analyte was for but not detected, a "U" must be entered.

* Q Qualifier -- Specified entries and their meanings are as follows :

- E - The reported value is estimated because of the presence of interference.
- M - Duplicate precision not met (CV > 20%).
- N - Spiked sample recovery not within control limits.
- S - The reported value was determined by Method of Standard Addition (MSA).
- W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.
- * - Duplicate analysis not within control limits.
- + - Correlation Coefficient for MSA is less than 0.995.

Entering "S", "W" or "+" is mutually exclusive.

* M (Method) qualifier - enter:

- "P" for ICP
- "A" for Flame AA
- "F" for Furnace AA
- "CV" for Cold Vapor AA
- "AV" for Automated Cold Vapor AA
- "AS" for Semi-Automated Spectrophotometric
- "C" for Manual Spectrophotometric
- "T" for Titrimetric
- "NR" if the analyte is not required to be analyzed.

Form I's

000019

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

EFFLUE

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503103

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4442.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Date Analyzed: 09/19/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	3	JB
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	10	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

EFFLUE

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503103

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N4442.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Data Analyzed: 09/19/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.840	150	J
2.				
3.				
4.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

EFFLUENTS

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503103

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4443.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Date Analyzed: 09/19/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	46	
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	52	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	51	
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	55	
108-90-7	Chlorobenzene	54	
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

EFFLUEMSD

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503103

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4444.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Date Analyzed: 09/19/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	3	JB
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	42	
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	48	
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	50	
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	50	
108-90-7-----	Chlorobenzene	49	
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

INFL-1

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4446.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Date Analyzed: 09/19/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	2	JB
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	16	
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	400	E
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	11000	E
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

INFL-1

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4446.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Data Analyzed: 09/19/95

GC Column:CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.840	72	J
2.				
3.				
4.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

INFL-1DL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4460.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Date Analyzed: 09/20/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 250.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	2500	U
74-83-9-----	Bromomethane	2500	U
75-01-4-----	Vinyl Chloride	2500	U
75-00-3-----	Chloroethane	2500	U
75-09-2-----	Methylene Chloride	890	JBD
67-64-1-----	Acetone	2500	U
75-15-0-----	Carbon Disulfide	2500	U
75-35-4-----	1,1-Dichloroethene	2500	U
75-34-3-----	1,1-Dichloroethane	2500	U
540-59-0-----	1,2-Dichloroethene (total)	2500	U
67-66-3-----	Chloroform	2500	U
107-06-2-----	1,2-Dichloroethane	2500	U
78-93-3-----	2-Butanone	2500	U
71-55-6-----	1,1,1-Trichloroethane	2500	U
56-23-5-----	Carbon Tetrachloride	2500	U
75-27-4-----	Bromodichloromethane	2500	U
78-87-5-----	1,2-Dichloropropane	2500	U
10061-01-5-----	cis-1,3-Dichloropropene	2500	U
79-01-6-----	Trichloroethene	290	JD
124-48-1-----	Dibromochloromethane	2500	U
79-00-5-----	1,1,2-Trichloroethane	2500	U
71-43-2-----	Benzene	2500	U
10061-02-6-----	trans-1,3-Dichloropropene	2500	U
75-25-2-----	Bromoform	2500	U
108-10-1-----	4-Methyl-2-Pentanone	2500	U
591-78-6-----	2-Hexanone	2500	U
127-18-4-----	Tetrachloroethene	18000	D
79-34-5-----	1,1,2,2-Tetrachloroethane	2500	U
108-88-3-----	Toluene	2500	U
108-90-7-----	Chlorobenzene	2500	U
100-41-4-----	Ethylbenzene	2500	U
100-42-5-----	Styrene	2500	U
1330-20-7-----	Xylene (total)	2500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

INFL-1DL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4460.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Data Analyzed: 09/20/95

GC Column:CAP ID: 0.53 (mm)

Dilution Factor: 250.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

INFL-2

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503102

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4447.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Date Analyzed: 09/19/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	JB
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	2	J
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	20	
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	490	E
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	12000	E
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

INFL-2

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503102

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4447.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Data Analyzed: 09/19/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.838	53	J
2.	UNKNOWN	15.742	9	J
3.	UNKNOWN	15.848	13	J
4.				
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7.				
8.				
9.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

INFL-2DL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503102

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4461.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Date Analyzed: 09/20/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 250.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
			Q
74-87-3-----	Chloromethane	2500	U
74-83-9-----	Bromomethane	2500	U
75-01-4-----	Vinyl Chloride	2500	U
75-00-3-----	Chloroethane	2500	U
75-09-2-----	Methylene Chloride	960	JBD
67-64-1-----	Acetone	2500	U
75-15-0-----	Carbon Disulfide	2500	U
75-35-4-----	1,1-Dichloroethene	2500	U
75-34-3-----	1,1-Dichloroethane	2500	U
540-59-0-----	1,2-Dichloroethene (total)	2500	U
67-66-3-----	Chloroform	2500	U
107-06-2-----	1,2-Dichloroethane	2500	U
78-93-3-----	2-Butanone	2500	U
71-55-6-----	1,1,1-Trichloroethane	2500	U
56-23-5-----	Carbon Tetrachloride	2500	U
75-27-4-----	Bromodichloromethane	2500	U
78-87-5-----	1,2-Dichloropropane	2500	U
10061-01-5-----	cis-1,3-Dichloropropene	2500	U
79-01-6-----	Trichloroethene	340	JD
124-48-1-----	Dibromochloromethane	2500	U
79-00-5-----	1,1,2-Trichloroethane	2500	U
71-43-2-----	Benzene	2500	U
10061-02-6-----	trans-1,3-Dichloropropene	2500	U
75-25-2-----	Bromoform	2500	U
108-10-1-----	4-Methyl-2-Pentanone	2500	U
591-78-6-----	2-Hexanone	2500	U
127-18-4-----	Tetrachloroethene	18000	D
79-34-5-----	1,1,2,2-Tetrachloroethane	2500	U
108-88-3-----	Toluene	2500	U
108-90-7-----	Chlorobenzene	2500	U
100-41-4-----	Ethylbenzene	2500	U
100-42-5-----	Styrene	2500	U
1330-20-7-----	Xylene (total)	2500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

INFL-2DL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503102

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: N4461.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Data Analyzed: 09/20/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 250.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

MSB

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: MSB

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4445.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Date Analyzed: 09/19/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	3	JB
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	45	
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	50	
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	48	
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	50	
108-90-7	-----Chlorobenzene	50	
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

MSB

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: MSB

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4445.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Data Analyzed: 09/19/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

TRPBLK

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503104

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4441.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Date Analyzed: 09/19/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	3	JB
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

TRPBLK

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: 2503104

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4441.D

Level: (low/med) LOW

Date Received: 09/16/95

% Moisture: not dec. _____

Data Analyzed: 09/19/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

VB LKN77

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN77

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4440.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Date Analyzed: 09/19/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMFOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	3	J
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	10	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

VBLKN77

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN77

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4440.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Data Analyzed: 09/19/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

VBLKN79

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN79

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4458.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Date Analyzed: 09/20/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	2	J
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

VB LKN79

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25031

SAS No.:

SDG No.: MRC2

Matrix: (soil/water) WATER

Lab Sample ID: VBLKN79

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: N4458.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Data Analyzed: 09/20/95

GC Column:CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
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INORGANIC ANALYSES DATA SHEET

DINFL-1

1

INORGANIC ANALYSES DATA SHEET

DINFL-2

000041

1

INORGANIC ANALYSES DATA SHEET

INFL-1

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

INFL-2

Lab Name: NYTEST ENV INC Contract: 9521462

Lab Code: NYTEST Case No.: 25031 SAS No.: SDG No.: MRC2

Matrix (soil/water): WATER

Lab Sample ID: 503102

Level (low/med): LOW

Date Received: 09/16/95

```
% Solids:      0.0
```

Concentration Units (ug/L or mg/kg dry weight): UG/L

[illegible]

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

1

INORGANIC ANALYSES DATA SHEET

INFL-3

NYTEST ENVIRONMENTAL, INC.

REPORT OF ANALYSIS

Log In No : 25031

We find as follows :

Sample Identification

	Lab ID :	2503101	2503102	2503103	
	Client ID :	INFL-1	INFL-2	EFFLUE	Method Blank
<u>Parameter(s)</u>					
Results in mg/L:					
Alkalinity, Total		317	288	NR	1 U
Hardness		494	515	NR	1 U
Oil & Grease		.NR	NR	1	1 U
Sulfate		41	49	NR	3 U
Total Cyanide		0.01 U	0.01 U	0.01 U	0.01 U
Total Dissolved Solid		NR	NR	2580	10 U
Total Suspended Solids		22	4	6	1 U

U : Below method blank/method reporting limit

E : Above method limit

NA : Not available

NR : Not Required

000045



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

October 11, 1995

Malcolm Pirnie, Inc.
S. 3515 Abbott Road
Orchard Park, NY 14127

Attn : Robert O'Laskey
Ref : Mr. C. Cleaners, Proj. #0266-314
P.O. #: Pending

Nyttest Environmental, Inc., is pleased to submit our Project Number 9521462 for Login Numbers 25141, on your sample(s) received 09/28/95.

We certify that this report is a true report of results obtained from our tests of this material.

Test sample(s) associated with this project will be retained for a period of thirty (30) days, unless otherwise instructed.

My staff is available to answer any questions concerning our report and we look forward to serving your future analytical needs.

Respectfully submitted,

Remo Gigante,
Executive Vice President
Nyttest Environmental, Inc.

Encl: 1 bound 1 unbound
Shipped Via: FEDEX

NYS Lab ID#10195
NJ Cert.#73469

Report on sample(s) furnished by client applies to sample(s). Report on sample(s) obtained by us applies to lot sampled. Information contained herein is not to be used for reproduction except by special permission. In the event that there are portions or parts of sample(s) remaining after Nyttest has completed the required tests, Nyttest shall have the option of returning such sample(s) to the client at the client's expense.

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Sample Identification Cross Reference Table	1
SDG Narrative	2 - 4
ASP Forms	5 - 7
Traffic Reports	8 - 14
Qualifiers.	15 - 16
Form I.	17 - 27

NYTEST ENVIRONMENTAL Inc.

LABORATORY
NUMBER

SAMPLE
IDENTIFICATION

TYPE OF
SAMPLE

2514101
2514102

OW-C
TB

Water
Water

000001

SDG Narrative

NARRATIVE DISCUSSION
VOLATILES - 25141

INTRODUCTION

This narrative covers the analysis of two (2) aqueous samples in accordance with protocols based on NYSDEC ASP(12/91).

HOLDING TIMES

The analytical holding time for this analysis was met.

CALIBRATIONS

All required minimum RRFs and maximum %RSD initial calibration requirements have been met in accordance with the method.

All required minimum RRFs and maximum %D continuing calibration requirements have been met in accordance with the method.

METHOD BLANKS

The method blank associated with these samples met all method requirements.

SURROGATES

All surrogate recoveries met QC criteria.

MATRIX SPIKES

Matrix Spikes were not designated to be performed on the samples covered by this report.

INTERNAL STANDARDS

All area responses and retention times fell within an acceptable range.

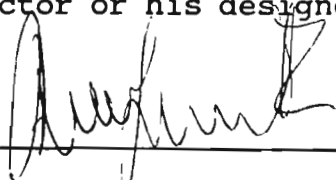
SAMPLE COMMENTS

Analysis of sample OW-C yielded target analyte concentrations which exceeded the highest calibration standard. These compounds have been qualified "E". Reanalysis was performed at a dilution. Both sets of data are included. The concentrations of these compounds should be taken from the diluted analysis.

No other analytical problems were encountered.

000003

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Director or his designee, as verified by the following signature.


Remo Gigante

ASP Forms

000005

[illegible]

Traffic Reports

000008



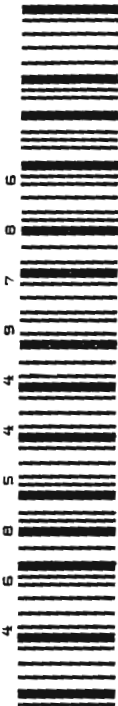
RECIPIENT'S COPY

QUESTIONS? CALL 800-238-5355 TOLL FREE.

4685449786

AIRBILL
PACKAGE
TRACKING NUMBER

4685449786



Date

9/17/95

From (Your Name) Please Print

Bayco Home

Your Phone Number (Very Important)

(212) 222-1300

To (Recipient's Name) Please Print

NWISS Employment

Recipient's Phone Number (Very Important)

(516) 625 5500

Company

WILLIAM P. INC

Department/Floor No.

2

Company

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes)

Department/Floor No.

60

State

NY

ZIP Required

11050

City

Brooklyn

Street Address

60 Seaview Blvd.

City

Brooklyn

State

NY

ZIP Required

11050

City

Brooklyn

Street Address

60 Seaview Blvd.

City

Brooklyn

State

NY

ZIP Required

11050

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Brooklyn

Street Address

60 Seaview Blvd.

City

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City

Brooklyn

Street Address

60 Seaview Blvd.

City

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11050

City

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TEST ENVIRONMENTAL GC/MS VOLATILE INJECTION LOG BOOK

DATA FILE	INJ TIME	SAMPLE ID	LAB ID	DATE REC'D	CONDITION	pH
4150	0108	VS01010101				
4151	0132	VS01010101			52	
4152	0100	VS01010101				
4153	0108	VS01010101				
4154	1014	VS01010101				
4155	1016	VS01010101				
4156	1021	VS01010101			52	
4157	1024	VS01010101				
4158	1532	VS01010101				
4159	1537	VS01010101				
4160	1537	VS01010101				
4161	1537	VS01010101				
4162	1555	VS01010101				
4163	1620	VS01010101				
4164	1721	VS01010101			52	
4165	1737	VS01010101			52	
4166	1715	VS01010101			52	
4167	1741	VS01010101		7-14-95	52	7
4168	1770	VS01010101		7-20-95		7
4169	1853	VS01010101				7
4170	2026	VS01010101		7-18-95		7
4171	2051	VS01010101				7
4172	2121	VS01010101				7
4173	2203	VS01010101				7
4174	2226	VS01010101				7
4175	2309	VS01010101		7-20-95		7
4176	2341	VS01010101				7
4177	2309	VS01010101				7
4178	2309	VS01010101				7
4179	2309	VS01010101				7
4180	2309	VS01010101				7
4181	2309	VS01010101				7

PAGE 1012

DATE

7-24-95

TKMAR POSITION

SURROGATE RECOVERY

INTERNAL STD AREA COUNTS

COMMENTS

ANALYST

Vol. 1012

000012

DATE 11/08/05

page 1 of 2

NYTEST ENVIRONMENTAL GC/MS VOLATILE INJECTION LOG BOOK

DATA FILE	INJ TIME	SAMPLE ID	LAB ID	DATE REC'D	CONDITION	ION	RECOVERY	INTERNAL STD	AREA COUNTS	COMMENTS	ANALYST
ME119	08:39	BFBM1002									
ME120	08:54	V87A05044	V87A05044		5m/s	1			810347	8260W	
ME121	09:42	V87A05044	V87A05044		"	1			447154		
ME122	10:19	Q207B	2514328	9-28-05	"	7			01-		
ME123	10:50	Q277B	2514811	9-28-05	"	7			012		
ME124	11:33	Q277B	2514810	"	"	7			012		
ME125	12:08	Q28FB	2515712	"	"	1			012		
ME126	12:43	TRIPBL	2515713	"	"	7			012		
ME127	13:13	BFBM1002									
ME128	13:25	V87A05044	V87A05044	5m/s	5m/s	1			178331	HEROIN	
ME129	14:02	V87A05044	V87A05044	"	"	1			012		
ME130	14:38	V87A05044	V87A05044	"	"	1			012		
ME131	15:10	LITUM80	2517801	9-18-05	100µm/5m/s	1			012		
ME132	15:31	Q207B	2501404	9-14-05	100µm/5m/s	3			012		
ME133	16:22	Q207B	2501405	"	"	4			012		
ME134	16:52	Q207B	2501406	"	"	5			012		
ME135	17:24	Q207B	2501407	"	"	6			012		
ME136	17:55	Q207B	2501408	"	"	7			012		
ME137	18:27	F85-128	2510801	9-23-05	5m/s	1			012		
ME138	18:54	F1	2519002	9-20-05	"	1			012		
ME139	19:32	7B	2514102	9-27-05	"	7			012		
ME140	20:04	QW-C	2514101	"	"	7			012		
ME141	20:36	UTBLC0927	V87A05044								
ME142	21:08	MWH-325	2506200	9-20-05	"	10			012		
ME143	21:39	MWH-326	2506201	"	"	11			012		
ME144	22:10	MWH-324	2506203	"	"	12			012		
ME145	22:41	MWH-324MS	2506204	"	"	13			012		
ME146	23:13	MWH-324MS	2506205	"	"	14			012		
ME147	23:44	Q207B	2501406	9-14-05	100µm/5m/s	1			012		

000013

DATE 10-5-45

GC/MS VOLATILE INJECTION LOG BOOK

NYTEST ENVIRONMENTAL

DATAFILE	INJ TIME	SAMPLE ID	LAB ID	DATE RECD	CONDITION	IR	CH	SURROGATE RECOVERY	INTERNAL STD AREA COUNTS	COMMENTS	ANALYST
M6222	07:53	BFB1M004									MR
M6228	08:08	VST001M12	VST001M12		25 mg		1		833608 833610 833612 334381 02		
M6230	08:50	VBLK0M45	VBLK0M45		"		1	99.90 P3			
M6231	09:27	M5B	M5B		"		1	104.84 P3	02		
M6232	09:55	MW-18SD4	2514210	9-28-95	5/25 mg		1	104.87 P4	02		
M6233	10:35	MW-18SD4	2513102	9-27-95	5/25		1	100.97 P4	02		
M6234	11:04	MW-007SD4	2513105	"	"		1	106.85 P2	02		
M6235	11:32	MW-009SD5	2513110	"	25 mg		1	101.87 P4	02		
M6236	11:54	MW-009SD5	2513110	"	"		1	100.86 P3	02		
M6237	12:32	P5-SD4	2514210	"	1/25		1	100.82 P3	02		
M6238	12:43:01	P5DD4	2514511	"	520/25 ml		1	104.85 P2	02		
M6239	13:32	VST005M3	VST005M3		5 ml		1	22.035	103374, 856690	OK	
M6240	14:08	VBLK0M46	VBLK0M46	NA	5 ml		2	92, 101, 98	OK	OK	
M6241	14:36	VBLK0M47	VBLK0M47	NA	1000/5 ml		3	94, 102, 101	OK	OK	
M6242	15:07	OW-C01	2514101	09-28-95	"		4	94, 101, 100	OK	OK	
M6243	15:40	R-140MS	2514017	09-28-95	500/5 ml		5	97, 102, 102	OK	MS	
M6244	16:10	R-140MS	2514017	09-28-95	500/5 ml		6	80, 90, 90	OK	MSD	
M6245	16:38	R-1DL	2514001	09-28-95	100/5 ml		7	withstand	OK	OK	
M6246	17:08	BFB2M1005			2 ul					OK	
M6247	17:30	VST005M4	VST005M4		5 ml		1	230337, 10789, 892697	OK	OK	
M6248	18:00	VBLK0M48	VBLK0M48	NA	5 ml		2	95, 102, 98	OK	OK	
M6249	18:32	VBLK1002	VBLK1002		10/5 ml		3	94, 102, 101	OK	OK	
M6250	19:02	1900	2515401	09-27-95	1 ml/5 ml		4	96, 102, 100	OK	OK	
M6251	19:33	1900MS	2513401	✓			5	102, 104, 99	OK	MS	
M6252	20:13	1900MSD	2513401				6	102, 102, 98	OK	MSD	
M6253	20:49	MSB	MSB	NA			7	100, 104, 100	OK	OK	
M6254	21:24	STPLB	2517404	09-29-95			8	94, 102, 102	OK	OK	
M6255	21:55	VBLK0029	VBLK0029	NA			9	95, 104, 99	OK	OK	
M6256	22:26	C-SEPT	2515202	09-28-95	✓		10				

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000014

Qualifiers

000015

nytest environmental^{inc}
Method Qualifiers for Organic CLP Methodologies

Q Qualifier - Specified entries and their meanings as follows:

- U -** Indicates compound was analyzed for but was not detected. The sample quantitation limit is corrected for dilutions and for the moisture content for soil samples. If a sample extract can not be concentrated to the protocol - specific volume, this fact is also accounted for in reporting the sample quantitation limit. The number is the minimum detected limits for the sample.
- J -** Indicates an estimated value. The flag is used either when estimating concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N -** Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- P -** This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C -** This flag applies to pesticide results where the identification has been successfully confirmed.
- B -** This flag is used when the analyte is found in the associated blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag is used for a TIC as well as for a positively identified target compound.
- E -** This flag identifies compounds whose concentrations exceeded the calibration range of the GC/MS instrument for that specific analysis.
- D -** This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- A -** This flag indicates that a TIC is a suspected aldol-condensation product.

000016

Form I's

000017

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

OW-C

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: 2514101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6140.D

Level: (low/med) LOW

Date Received: 09/28/95

% Moisture: not dec. _____

Date Analyzed: 10/02/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	11	B
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	6	J
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	26	
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	340	E
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	2800	E
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

OW-C

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: 2514101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6140.D

Level: (low/med) LOW

Date Received: 09/28/95

% Moisture: not dec. _____

Data Analyzed: 10/02/95

GC Column:CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.367	23	J
2.				
3.				
4.				
5.				
6.				
7.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

OW-CDL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: 2514101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6242.D

Level: (low/med) LOW

Date Received: 09/28/95

% Moisture: not dec. _____

Date Analyzed: 10/05/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 50.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L
			Q
74-87-3-----	Chloromethane	500	U
74-83-9-----	Bromomethane	500	U
75-01-4-----	Vinyl Chloride	500	U
75-00-3-----	Chloroethane	500	U
75-09-2-----	Methylene Chloride	460	JBD
67-64-1-----	Acetone	500	U
75-15-0-----	Carbon Disulfide	500	U
75-35-4-----	1,1-Dichloroethene	500	U
75-34-3-----	1,1-Dichloroethane	500	U
540-59-0-----	1,2-Dichloroethene (total)	500	U
67-66-3-----	Chloroform	500	U
107-06-2-----	1,2-Dichloroethane	500	U
78-93-3-----	2-Butanone	500	U
71-55-6-----	1,1,1-Trichloroethane	500	U
56-23-5-----	Carbon Tetrachloride	500	U
75-27-4-----	Bromodichloromethane	500	U
78-87-5-----	1,2-Dichloropropane	500	U
10061-01-5-----	cis-1,3-Dichloropropene	500	U
79-01-6-----	Trichloroethene	180	JD
124-48-1-----	Dibromochloromethane	500	U
79-00-5-----	1,1,2-Trichloroethane	500	U
71-43-2-----	Benzene	500	U
10061-02-6-----	trans-1,3-Dichloropropene	500	U
75-25-2-----	Bromoform	500	U
108-10-1-----	4-Methyl-2-Pentanone	500	U
591-78-6-----	2-Hexanone	500	U
127-18-4-----	Tetrachloroethene	2100	D
79-34-5-----	1,1,2,2-Tetrachloroethane	500	U
108-88-3-----	Toluene	500	U
108-90-7-----	Chlorobenzene	500	U
100-41-4-----	Ethylbenzene	500	U
100-42-5-----	Styrene	500	U
1330-20-7-----	Xylene (total)	500	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

OW-CDL

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: 2514101

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6242.D

Level: (low/med) LOW

Date Received: 09/28/95

% Moisture: not dec. _____

Data Analyzed: 10/05/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 50.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1.				
2.				
3.				
4.				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

TB

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: 2514102

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6139.D

Level: (low/med) LOW

Date Received: 09/28/95

% Moisture: not dec. _____

Date Analyzed: 10/02/95

GC Column: CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	12	B
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	10	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

TB

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: 2514102

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6139.D

Level: (low/med) LOW

Date Received: 09/28/95

% Moisture: not dec. _____

Data Analyzed: 10/02/95

GC Column:CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

VB LKM38

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: VB LKM38

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6129.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Date Analyzed: 10/02/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	10	
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
79-01-6-----	Trichloroethene	10	U
124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

VBLKM38

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: VBLKM38

Sample wt/vol: 5.0

(g/mL) ML

Lab File ID: M6129.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Data Analyzed: 10/02/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

NYSDEC SAMPLE NO.

VB LKM46

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: VB LKM46

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6240.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Date Analyzed: 10/05/95

GC Column: CAP

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

74-87-3-----	Chloromethane	10	U
74-83-9-----	Bromomethane	10	U
75-01-4-----	Vinyl Chloride	10	U
75-00-3-----	Chloroethane	10	U
75-09-2-----	Methylene Chloride	9	J
67-64-1-----	Acetone	10	U
75-15-0-----	Carbon Disulfide	10	U
75-35-4-----	1,1-Dichloroethene	10	U
75-34-3-----	1,1-Dichloroethane	10	U
540-59-0-----	1,2-Dichloroethene (total)	10	U
67-66-3-----	Chloroform	10	U
107-06-2-----	1,2-Dichloroethane	10	U
78-93-3-----	2-Butanone	10	U
71-55-6-----	1,1,1-Trichloroethane	10	U
56-23-5-----	Carbon Tetrachloride	10	U
75-27-4-----	Bromodichloromethane	10	U
78-87-5-----	1,2-Dichloropropane	10	U
10061-01-5-----	cis-1,3-Dichloropropene	10	U
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124-48-1-----	Dibromochloromethane	10	U
79-00-5-----	1,1,2-Trichloroethane	10	U
71-43-2-----	Benzene	10	U
10061-02-6-----	trans-1,3-Dichloropropene	10	U
75-25-2-----	Bromoform	10	U
108-10-1-----	4-Methyl-2-Pentanone	10	U
591-78-6-----	2-Hexanone	10	U
127-18-4-----	Tetrachloroethene	10	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10	U
108-88-3-----	Toluene	10	U
108-90-7-----	Chlorobenzene	10	U
100-41-4-----	Ethylbenzene	10	U
100-42-5-----	Styrene	10	U
1330-20-7-----	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

NYSDEC SAMPLE NO.

VBLKM46

Lab Name: NYTEST ENV INC

Contract: 9521462

Lab Code: NYTEST

Case No.: 25141

SAS No.:

SDG No.: MRC3

Matrix: (soil/water) WATER

Lab Sample ID: VBLKM46

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: M6240.D

Level: (low/med) LOW

Date Received: 00/00/00

% Moisture: not dec. _____

Data Analyzed: 10/05/95

GC Column:CAP ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

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