HSB 84A Pumping Test

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ABSTRACT

Two constant discharge, multiple well pumping tests were performed in the Congaree aquifer at the H-Area seepage basins during the weeks of April 30 through May 11. The purpose of the tests was to collect information that might determine the source of groundwater contamination in the Congaree aquifer and to estimate the hydraulic parameters of the aquifer.

Transmissivity estimates from data collected in Test One ranged from 1644 ft²/day to 2253 ft²/day with an average of 2013 ft²/day and from 1812 ft²/day to 2562 ft²/day with an average of 2269 ft²/day in Test Two. Some leakage through the confining bed was apparent in the vicinity of observation well HSB 69A.

This report includes the data collected, the analyses, results and interpretation of the pumping tests performed at HSB 84A. It should serve as a good baseline for future studies on the subject of contaminant migration in the Congaree aquifer on the Savannah River Site.

CONTENTS

INTRODUCTION	1
DISCUSSION	1
Project Background	1
Pre-Test Trend Data	3
Drawdown and Recovery Data	3
Test One	3
Test Two	6
Leakage at HSB 69A	9
Other Results	10
Sampling	12
RECOMMENDATIONS FOR FUTURE WORK	14
CONCLUSIONS	14
REFERENCES	16
APPENDIX A	Test One Drawdown Data
APPENDIX B	Test One Aqtesolv Plots
APPENDIX C	Test Two Drawdown and Recovery Data
APPENDIX D	Test Two Drawdown Plots
APPENDIX E	Test Two Recovery Plots
APPENDIX F	Chemical Data
APPENDIX G	Pre-Test Water Level Data

LIST OF FIGURES

1. Pumping Well and Observation Wells	2
2. Test One Barometric Pressure	4
3. Test Two Barometric Pressure	5
4. Test One Pumping Rate	7
5. Test Two Pumping Rate	8
6. Sectional View of Congaree Aquifer	11
7. Tritium Concentrations	13

LIST OF TABLES

1. Test One Analytical Results	17
2. Test Two Analytical Results	18

INTRODUCTION

Two constant discharge, multiple well pumping tests were performed in the Congaree Aquifer at the H-area seepage basins during the weeks of April 30 through May 11. Monitoring well HSB 84A was used as the pumping well and wells HSB 84B,C and D, HSB 69 and 69A, HSB 68A, HSB 139A, HSB 83A, HSB 86A, and HSB 118A were used as observation wells in both tests, (see Figure 1 for location map)... The first test, hereafter referred to as Test One, was conducted on May 1 and May 2. The average pumping rate for Test One was fifty nine gallons per minute and the duration of pumping was approximately twenty two hours. The test ended due to equipment problems. Because the exact time of pumping cessation was unknown, recovery in the observation wells was not recorded. A second test (Test Two) was conducted on May 8 and May 9 at an average pumping rate of fifty seven gallons per minute for a twenty one and a half hour duration. Recovery was measured in the observation wells for a twenty four hour period after pumping ceased for Test Two.

Water samples were collected every two hours from the pumping well during both tests and analyzed for tritium by an on site laboratory. Results from both tests were plotted and included in this report. During Test Two continuous measurements of pH, Specific Conductance, Temperature, dissolved oxygen and redox were taken from the discharging well. Those results will be included in a later report.

Several analytical solutions were used to reduce the drawdown and recovery data from both tests. The field measurements and the data reduction are included along with the results and conclusions.

DISCUSSION

PROJECT BACKGROUND

Since its installation in 1985, monitoring well HSB 84A has been the only Congaree well in the General Separations Area to display levels of tritium in excess of 10,000 pCi/ml. Other Congaree wells in the area display tritium contamination at levels less than 200 pCi/ml. Monitoring data indicate that contaminated water from the shallower water table and McBean hydrologic units entered the Congaree through a localized zone of high leakance near HSB 84A. Several theories about the nature and location of the hydraulic connection between the Congaree and shallower units have been postulated. A pumping test at HSB 84A was initiated to gain information about aquifer characteristics

Pumping Well and Observation Wells

and leakance values in the vicinity of the anomolous Congaree contamination.

PRE-TEST TREND DATA

Water levels were continuously recorded from April 27 until April 30 in all of the wells in the HSB 84 and 69 clusters. After the completion of Test One, water levels were continuously recorded in the same wells from May 2 through May 6, prior to the start of Test Two. The data were recorded using pressure transducers and a HermitTM 2000B data logger.

Barometric data were obtained from the SRL meteorology lab for the time period that corresponded to both the pre-test water levels and the two pumping tests. In addition, readings were taken every hour during both tests using a field barometer and that data is plotted and included as Figures 2 and 3. An attempt was made to compute the barometric efficiency of the Congaree aquifer using the pre-test data but barometric changes were so small during the period of data aquisition that it was not possible to discern any effect on water levels resulting from barometric pressure changes. Changes in barometric pressure during the drawdown portions of both tests were small, but during the recovery portion of Test Two, the barometric pressure made a discernible drop. Because hydraulic parameter estimates using the recovery data were in good agreement with estimates based on drawdown data, the drop in barometric pressure was not interpreted as having any effect on water levels. This is in contrast to the 1988 Congaree pumping test conducted by CH₂M Hill in which barometric efficiency was estimated to be about 25% for the Congaree aquifer¹.

DRAWDOWN AND RECOVERY DATA

Test One: Test One was conducted for an approximately 22 hour period at a constant discharge rate of 59 gallons per minute. The pumping rate was verified every hour and a graph depicting pumping rate through time is included as Figure 4. Drawdown was measured using pressure transducers and a data logger for wells HSB 84A, 84B, 84C, 84D, 69A, and 69, throughout the test. Drawdown was measured using an electric water level tape in wells HSB 86A, 118A, 68A, 139A and 83A. Because of problems with the generator (power source for the pump), the exact time that pumping ceased is not known and therefore it was not possible to record the recovery of water levels for Test One. The drawdown data were analyzed by hand plotting using the Cooper Jacob straight line approximation and the Theis non-equilibrium solution, and by computer software using the Theis non-equilibrium solution and the Hantush Jacob leaky confined

Test One

Barometric Pressure

—□— Barometric Pressure

Test Two

Barometric Pressure

Barometric Pressure

aquifer solution. Results from these solutions are included as Table 1.

Test Two: Test Two was conducted at a constant discharge rate of 57 gallons per minute for a 21.5 hour duration. Monitoring of drawdown was done for the same wells and in the same manner as in Test One. Recovery data were recorded in hand measured wells for a 24 hour period after pumping ceased and for a 96 hour period in the instrumented wells. The same analytical solutions that were applied in Test One were also applied in Test Two. Recovery data were analyzed using a computer program based on the Theis non-equilibrium solution. Fluctuations in pumping rate for Test Two were much greater than in Test One (Figures 4 and 5), and in the closest observation well (HSB 69A), the drawdown seemed to be affected by the variable pumping rate. The other observation wells did not seem to display effects of non-constant discharge, probably related to their greater distances from the pumping well. Results from the analyses of both the drawdown and recovery portions of the test are included as Table 2.

Several analytical solutions were used to estimate the hydraulic parameters of the Congaree Aquifer. The results are tabulated in Tables 1 and 2 of this report. Solutions used were the Cooper Jacob straight line approximation, the Theis non-equilibrium solution, (as described in Heath²), the Theis recovery solution, and the Hantush Jacob leaky solution, (as applied in Agtesolv³ and described in Hantush Jacob, 1958). Plots were done by hand and by computer and compared for consistency. The Theis non-equilibrium solution was chosen as the most applicable for this particular set of tests.

The Cooper Jacob straight line solution is based on the cone of depression assuming a steady shape. The steady shape is related to distance from the pumping well and total time of pumping. The greater the distance from the pumping well, the longer it takes to achieve steady shape of the cone. For that reason, the confidence level of estimates obtained using the Cooper Jacob method, diminishes with distance from the pumping well. Observation well HSB 83A was at the greatest distance from the pumping well (2253 feet) and as a result, displayed the least amount of drawdown. The hydraulic parameters estimated for 83A using the straight line approximation are significantly different than those estimated from the other wells. However, using the Theis non-equilibrium solution, which does not depend on steady state or steady shape of the drawdown cone, the estimated parameters for the aquifer at HSB 83A are very similar to those estimated at other observation wells, (see Tables 1 and 2).

Test One Pumping Rate

—□— Pumping Rate

May 1 - 2

Test Two Pumping Rate

May 8 - 9

The Theis non-equilibrium solution produced consistent estimates of transmissivity and storativity and was applied to data from all of the wells. The Hantush Jacob leaky solution was used to analyze drawdown data from several of the observation wells. The only data that displayed obvious leakage (or recharge), was from HSB 69A. The data collected from the other wells tended to fit the Theis non-leaky type curve satisfactorily.

LEAKAGE AT HSB 69A

Drawdown data from observation well HSB 69A were plotted on log-log paper and a curve matching procedure was used, based on the Hantush Jacob leaky confined aquifer analytical method, to estimate transmissivity, storativity, and hydraulic conductivity of the aquifer and the leaky confining bed. HSB 69A is relatively close to the pumping well, HSB 84A, and both wells are partially penetrating wells, i.e. they are not open to the entire saturated thickness of the aquifer. When a pumping test is conducted using a pumping well that is partially penetrating, it is possible for the drawdown in nearby observation wells to be affected by vertical flow (partial penetration). When plotted, data that is affected by partial penetration can be mistaken for recharge or leakage. A mathematical method is presented in Walton, 1988, for determining whether or not to expect partial penetration impacts. The equation is:

$$r > 1.5b \sqrt{P_h/P_v}, \quad \text{where } r = \text{radial distance of observation well from pumping well.}$$

$b = \text{aquifer thickness.}$
 $P_h = \text{horizontal hydraulic conductivity of the aquifer.}$
 $P_v = \text{vertical hydraulic conductivity of the aquifer.}$

The radial distance from HSB 69A to HSB 84A is 122 feet. Using the above equation with the following parameters:

aquifer thickness = 55 ft. based on lithologic logs,
 $P_h/P_v = 1$ (aquifer isotropy is a basic assumption),

it can be determined that HSB 69A is outside of the influence of partial penetration. Even if $P_h/P_v = 2$, the results indicate that partial penetration impacts are insignificant.

Having eliminated the possibility of partial penetration impacts and assuming that the boundary conditions observed in the data collected at HSB 69A resulted from vertical leakage across the confining bed, the hydraulic conductivity of the confining bed can be mathematically estimated using the following equation:

$K' = T (\bar{b}')/B^2$, where K' = hydraulic conductivity of the confining bed.

T = transmissivity of the aquifer.

b' = thickness of the confining bed.

B = variable determined from the curve matching procedure described in Hantush Jacob, 1955.

Using the above equation and the following parameters:

$T = 1292 \text{ ft}^2/\text{day}$, based on data collected during the tests,
 $b' = 6 \text{ feet}$, based on lithologic logs,
 $B = 1627$, based on $r/B = .075$ from the curve matching with r previously identified as 122 feet,

the hydraulic conductivity of the leaky confining bed was estimated to be 0.0029 ft/day . This is one to three orders of magnitude higher than estimates based on undisturbed samples collected in the confining bed from other points in the area in which the pumping test was conducted⁴. These results suggest the presence of a localized area of increased leakance in the vicinity of HSB 69A.

OTHER RESULTS

Transmissivity estimates based on the drawdown at each observation well using the Theis non-equilibrium solution were all very similar (with the exception of HSB 69A) and ranged from $1644 \text{ ft}^2/\text{day}$ to $2253 \text{ ft}^2/\text{day}$ with an average of $2013 \text{ ft}^2/\text{day}$ for Test One and from $1812 \text{ ft}^2/\text{day}$ to $2562 \text{ ft}^2/\text{day}$ with an average of $2269 \text{ ft}^2/\text{day}$ for Test Two. Storage coefficient estimates ranged from 0.00022 to 0.00031 for Test One with an average value of 0.00027 and from 0.00020 to 0.00029 with an average of 0.00025 for Test Two (excluding HSB 69A). The transmissivity estimate using data collected at HSB 69A and the Hantush Jacob leaky solution was $1281 \text{ ft}^2/\text{day}$ for Test One and $1247 \text{ ft}^2/\text{day}$ for Test Two. The storage coefficient estimate based on HSB 69A data was 0.00038 for Test One and 0.00027 for Test Two.

A review of the geology of the tested aquifer reveals that the aquifer thickness is somewhat variable, ranging from 48 feet at the pumping well, to 94 feet at HSB 83A (see Figure 6). A basic assumption of the analytical solutions is that the saturated thickness of the pumped aquifer is uniform. The hydraulic conductivity of the aquifer material can be simply derived mathematically by dividing the transmissivity by the aquifer thickness. Because the aquifer thickness is apparently not uniform, hydraulic conductivity was estimated using both an average thickness of 65 feet and using the varying thicknesses at each well. The following short table lists the range and average

HSB - 84A PUMPING TEST SECTIONAL VIEW OF CONGAREE AQUIFER

FIGURE 6

estimates of hydraulic conductivity based on uniform thickness and varying aquifer thicknesses:

	<u>TEST ONE</u>	<u>TEST TWO</u>
Aquifer Thickness	VARIABLE	VARIABLE
Range of K_h	24 to 40 ft/day	26 to 47 ft/day
Average K_h	31 ft/day	34 ft/day
Aquifer Thickness	65 feet	65 feet
Range of K_h	20 to 35 ft/day	19 to 39 ft/day
Average K_h	29 ft/day	32 ft/day

No hydraulic parameters were estimated from the drawdown in the pumping well (HSB 84A), because well efficiency was so low (estimated to be 27%), that the data are essentially unusable. Specific capacity of the pumping well (yield per unit of drawdown) was calculated to be 1.8 gallons per minute/foot of drawdown or 1.8 gpm/ft.

Observation wells screened in the upper water bearing zones, above the pumped aquifer, did not show any drawdown during either test that could be attributed to pumping. Data collected from those wells is included in Appendices A and C.

SAMPLING

500 ml samples were collected from the pumping well approximately every two hours during both tests. The samples were taken to an on site lab and analyzed for tritium. The results were plotted versus time on graph paper and are included as Figure 7. Test Two was originally started at 9:00 a.m. on May 8 and was terminated after nineteen minutes because of problems with the generator, and then re-initiated three hours later. A sample was collected after one minute during the aborted test and the data is plotted with the rest of the Test Two data.

During Test Two, continuous measurements of temperature, pH, conductivity, dissolved oxygen and ORP were made throughout the test using an in line Hydrolabtm. These data were not included in this report but will be included in a later report.

Tritium Concentrations Test One and Two

RECOMMENDATIONS FOR FUTURE WORK

Pumping rate constancy was a problem in both tests, although test one was fairly uniform. The only power source that was available for this particular test was an older model generator. If a follow up test is attempted it would be advisable to rent a new generator with a minimum of 72 hours of fuel capacity.

The pumping well easily yielded 55 to 65 gallons per minute with fifteen to twenty feet of available drawdown remaining. Well efficiency was estimated at 27 % using the distance drawdown analytical method and actual remaining available drawdown could have been as much as 40 feet. Based on that information, HSB 84A could be expected to yield up to or greater than 100 gallons per minute. A fully penetrating 6" diameter well could believably yield 200 or more gallons per minute and such a pumping rate over several days might stress the system enough to draw some more definite conclusions about the contamination source and the characteristics of the confining bed. If a follow up test is attempted, a larger capacity pump should be used in HSB 84A, or a 6" diameter fully penetrating well should be installed nearby. There are plenty of Congaree wells in the area to use as observation wells and therefore no additional wells would need to be installed for that purpose.

The original plan for pumping HSB 84A, called for measuring water levels during the drawdown and recovery portions of the test, in FSB 78A which is well outside of the influence of the pumping test. Because the data logger was available to collect precedent and antecedent water levels in HSB 84A and HSB 69A and because manpower resources were limited for the test, monitoring of FSB 78A was not implemented. Sensitivity of the pressure transducers to changes in water level seemed to have some limitations i.e. there may have been some instrument drift when collecting the trend water levels which compounded the difficulty of computing barometric efficiency. Monitoring a well that is completely removed from the radius of influence of the pumping test is a very sound method for verifying the existence (or absence) of external influences. Any future test should utilize that method.

CONCLUSIONS

Data collected and analyzed resulting from the pumping test do not clearly answer the question of why there is tritium contamination in the Congaree aquifer at HSB 84A, however some leakage through the confining bed (green clay) was observed in the test results. The hydraulic conductivity of the confining bed was estimated to be 0.003

feet/day-in the vicinity of observation well HSB 69A. This is one to three orders of magnitude higher than estimates made on undisturbed samples of the same clay layer collected at other wells in the area⁴. The chemical data collected during the test do indicate that the pumpage was pulling in a constant concentration of tritium, with a rapid increase in the very early time of pumping and a quick levelling off to a concentration approximately ten times the pre-test level.

The wells screened in the zones above the pumped zone, did not display drawdown during either test. That information would tend to eliminate the possibility of any large opening, direct line type of communication existing between the Congaree and the upper zones in the immediate vicinity of HSB 84A.

Leakage (or recharge) was observed at HSB 69A. From the measured leakage, the hydraulic conductivity of the confining layer was estimated. A longer term test with a higher pumping rate and more observation wells might yield more information about leakage and lead to some stronger conclusions about the permeability and characteristics of the confining bed.

Although several analytical solutions were used to reduce the drawdown data, the Theis non-equilibrium solution was chosen as the most applicable for this particular exercise. Estimates of transmissivity based on the Theis solution at the different observation wells (excluding HSB 69A) ranged from 1644 ft²/day to 2253 ft²/day with an average of 2013 ft²/day for Test One and from 1812 ft²/day to 2562 ft²/day with an average of 2269 ft²/day for Test Two. Storage coefficient estimates ranged from 0.00022 to 0.00031 with an average of 0.00027 for Test One and from 0.00020 to 0.00029 with an average of 0.00025 for Test Two. The transmissivity estimate at HSB 69A was estimated to be 1281 ft²/day for Test One and 1247 ft²/day for Test Two, based on the Hantush Jacob leaky confined aquifer solution. The storage coefficients estimated at HSB 69A were 0.00038 for Test One and 0.00027 for Test Two.

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3. G.M. Duffield and J.O. Rumbaugh III. AQTESOLVTM, Aquifer Test Solver, Version 1.00. October 1989.
4. Application For A Hazardous Waste Part B Permit, Savannah River Plant, United States Department of Energy, Volume V, H-Area Hazardous Waste Management Facility; Part 2: Sections E.1 - E.8, Table E.5-7, April 15, 1988.

ANALYTICAL SOL'N	WELL NAME	TEST ONE					
		HSB 69A	HSB 68A	HSB 86A	HSB 118A	HSB 139A	HSB 83A
Cooper Jacob (Hand Plot)		T= 1535 FT ² /DAY S= 0.00024	T= 2000 FT ² /DAY S= 0.00021	T= 2212 FT ² /DAY S= 0.00022	T= 2490 FT ² /DAY S= 0.00023	T= 1943 FT ² /DAY S= 0.00023	T= 3816 FT ² /DAY S= 0.00013
Theis (Hand Plot)		NA	T= 2009 FT ² /DAY S= 0.00022	T= 2055 FT ² /DAY S= 0.00027	T= 2102 FT ² /DAY S= 0.00030	T= 1644 FT ² /DAY S= 0.00031	T= 2253 FT ² /DAY S= 0.00023
Aqtesolv (Non-Leaky Theis)		NA	T= 2035 FT ² /DAY S= 0.00021	T= 2039 FT ² /DAY S= 0.00027	T= 2229 FT ² /DAY S= 0.00031	T= 1637 FT ² /DAY S= 0.00031	T= 2677 FT ² /DAY S= 0.00021
Aqtesolv (Hantush Leaky)		T= 1281 FT ² /DAY S= 0.00038	NA	NA	NA	NA	NA
Hantush Jacob Leaky (Hand Plot)		T= 1292 FT ² /DAY S= 0.00036					

TABLE 1

TABLE 2

ANALYTICAL SOL'N WELL NAME	HSB 69A	HSB 68A	HSB 86A	HSB 118A	HSB 139A	HSB 83A
	TEST TWO					
Cooper Jacob (Hand Plot)	T= 1581 FT ² /DAY S= 0.00017	T= 2257 FT ² /DAY S= 0.00017	T= 2575 FT ² /DAY 0.00019	T= 2790 FT ² /DAY S= 0.00020	T= 2231 FT ² /DAY S= 0.00021	T= 3720 FT ² /DAY S= 0.00016
Aqtesolv (Non-Leaky Theis)	T = 1124 FT ² /DAY S= 0.00029	T= 2202 FT ² /DAY S= 0.00020	T= 2226 FT ² /DAY S= 0.00027	T= 2543 FT ² /DAY S= 0.00026	T= 1812 FT ² /DAY S= 0.00029	T= 2562 FT ² /DAY S= 0.00022
Aqtesolv (Hantush Leaky)	T= 1247 FT ² /DAY S= 0.00027	T= 2125 FT ² /DAY S= 0.00020	NA	NA	NA	NA
Aqtesolv (Theis- Recovery)	T= 1548 FT ² /DAY S'= 1.282	T= 2300 FT ² /DAY S'= 0.9791	T= 2183 FT ² /DAY S'= 1.133	T= 2369 FT ² /DAY S'= 1.072	T= 1873 FT ² /DAY S'= 1.217	T= 2714 FT ² /DAY S'= 0.8923

APPENDIX A

**TEST ONE
DRAWDOWN DATA**

HSB 84A
APRIL 1, 1990
TEST ONE
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	2.271
0.0083	3.454
0.0166	5.395
0.0250	5.836
0.0333	7.146
0.0416	7.761
0.0500	8.518
0.0583	8.692
0.0666	9.401
0.0750	9.607
0.0833	11.389
0.1000	12.777
0.1166	13.456
0.1333	15.002
0.1500	16.090
0.1666	15.617
0.1833	16.800
0.2000	19.403
0.2166	19.640
0.2333	20.933
0.2500	20.823
0.2666	21.895
0.2833	22.258
0.3000	21.801
0.3166	22.416
0.3333	23.205
0.4166	23.915
0.5000	25.429
0.5833	26.659
0.6666	25.445
0.7500	26.328
0.8333	27.480
0.9166	28.410
1.0000	26.817
1.0833	28.410
1.1666	29.215
1.2500	27.811
1.3333	28.300
1.4166	29.041
1.5000	28.505
1.5833	29.483
1.6666	29.436
1.7500	28.647
1.8333	28.868
1.9166	28.616
2.0000	28.647
2.5000	29.183

3.0000	30.067
3.5000	30.083
4.0000	30.556
4.5000	30.177
5.0000	30.177
5.5000	30.445
6.0000	30.083
6.5000	30.288
7.0000	28.899
7.5000	30.177
8.0000	30.887
8.5000	30.414
9.0000	29.814
9.5000	29.704
10.0000	30.035
12.0000	30.020
14.0000	30.714
16.0000	30.193
18.0000	30.461
20.0000	30.793
22.0000	30.745
24.0000	30.666
26.0000	30.130
28.0000	30.714
30.0000	30.840
32.0000	31.581
34.0000	31.297
36.0000	31.723
38.0000	30.777
40.0000	32.165
42.0000	30.445
44.0000	30.840
46.0000	30.146
48.0000	31.155
50.0000	31.345
52.0000	31.187
54.0000	30.603
56.0000	30.998
58.0000	30.556
60.0000	31.534
62.0000	31.061
64.0000	31.455
66.0000	31.723
68.0000	31.424
70.0000	30.871
72.0000	31.171
74.0000	31.266
76.0000	31.455
78.0000	30.934
80.0000	30.966
82.0000	31.707
84.0000	31.565
86.0000	31.376
88.0000	32.417

90.0000	31.550
92.0000	31.360
94.0000	30.793
96.0000	31.187
98.0000	31.755
100.000	31.455
110.000	31.629
120.000	32.402
130.000	31.991
140.000	32.370
150.000	31.660
160.000	32.764
170.000	32.480
180.000	31.771
190.000	31.928
200.000	31.266
210.000	32.196
220.000	31.834
230.000	32.275
240.000	31.376
250.000	32.465
260.000	33.143
270.000	32.701
280.000	32.764
290.000	32.449
300.000	32.875
310.000	32.559
320.000	32.291
330.000	32.764
340.000	33.301
350.000	32.969
360.000	32.465
370.000	31.976
380.000	32.402
390.000	31.849
400.000	32.402
410.000	31.865
420.000	31.976
430.000	32.275
440.000	32.086
450.000	32.954
460.000	32.733
470.000	32.859
480.000	33.317
490.000	32.638
500.000	33.175
510.000	32.323
520.000	32.323
530.000	31.897
540.000	31.723
550.000	33.806
560.000	32.591
570.000	32.796
580.000	32.386

590.000	32.118
600.000	31.660
610.000	32.449
620.000	32.433
630.000	33.080
640.000	32.496
650.000	32.859
660.000	32.070
670.000	31.360
680.000	31.865
690.000	31.502
700.000	32.260
710.000	32.622
720.000	32.402
730.000	31.692
740.000	32.544
750.000	32.591
760.000	32.512
770.000	31.692
780.000	31.897
790.000	31.644
800.000	32.417
810.000	33.916
820.000	31.897
830.000	32.323
840.000	32.291
850.000	32.827
860.000	33.096
870.000	33.175
880.000	32.307
890.000	32.323
900.000	32.528
910.000	33.395
920.000	32.701
930.000	32.780
940.000	32.102
950.000	33.317
960.000	30.635
970.000	33.253
980.000	33.632
990.000	33.159
1000.00	33.111
1100.00	32.275
1200.00	32.796
1300.00	4.322
1400.00	1.277

WELL NO.: 84ADISTANCE FROM PUMPING WELL: 0DATE: May 1, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
10:15	0	59.01	0	18149		1013.9
10:21	6	89.20	30.19	18445	49.3	
10:28	13	89.63	30.62	18923	59.5	
10:35	20	89.77	30.76	19338	59.3	
10:42	27	89.98	30.97	19750	58.9	
10:50	35	90.15	31.14	20225	59.4	
11:00	45	90.25	31.24	208.15	59.0	
11:35	80	90.60	31.59	22885	59.1	1014.25
12:35	140	90.90	31.89	26448	59.4	
13:06	171	91.07	32.06	28226	57.4	1013.88
13:55	220	91.30	32.29	31287	62.5	
14:35	260	91.65	32.64	33573	57.2	1013.2
15:10	295	91.75	32.74	35680	60.2	
16:06	351	91.72	32.71	39039	60.0	
16:55	400	91.55	32.54	41964	59.7	1011.25
17:56	461	91.55	32.54	45589	59.4	1011.54
18:55	520	91.58	32.57	49170	60.7	1012.16
20:00	585	91.61	32.60	52960	58.3	1012.38
20:52	637	91.67	32.66	56070	59.8	1012.30
22:02	707	91.67	32.66	60170	58.6	1013.55
22:56	761	91.70	32.69	63368	59.2	1013.60
00:18	843	91.60	32.59	68293	60.01	1013.91

DISTANCE FROM PUMPING WELL: 0

DATE: May 2, 1990

[illegible]

HSB 84B
MAY 1, 1990
TEST ONE
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	-0.015
0.0083	-0.015
0.0166	-0.015
0.0250	-0.015
0.0333	-0.015
0.0416	-0.015
0.0500	-0.015
0.0583	-0.015
0.0666	-0.015
0.0750	-0.015
0.0833	-0.015
0.1000	-0.015
0.1166	-0.015
0.1333	-0.015
0.1500	-0.015
0.1666	-0.015
0.1833	-0.015
0.2000	-0.015
0.2166	-0.015
0.2333	-0.015
0.2500	-0.015
0.2666	-0.015
0.2833	-0.015
0.3000	-0.015
0.3166	-0.015
0.3333	-0.015
0.4166	-0.015
0.5000	-0.015
0.5833	-0.015
0.6666	-0.015
0.7500	-0.031
0.8333	-0.031
0.9166	-0.031
1.0000	-0.031
1.0833	-0.031
1.1666	-0.031
1.2500	-0.031
1.3333	-0.031
1.4166	-0.031
1.5000	-0.031
1.5833	-0.015
1.6666	-0.015
1.7500	-0.015
1.8333	-0.015
1.9166	-0.015
2.0000	-0.015
2.5000	-0.015
3.0000	-0.015

3.5000	-0.015
4.0000	-0.031
4.5000	-0.031
5.0000	-0.031
5.5000	-0.031
6.0000	-0.031
6.5000	-0.015
7.0000	-0.015
7.5000	-0.031
8.0000	-0.015
8.5000	-0.031
9.0000	-0.031
9.5000	-0.031
10.0000	-0.031
12.0000	-0.031
14.0000	-0.031
16.0000	-0.031
18.0000	-0.031
20.0000	-0.031
22.0000	-0.031
24.0000	-0.047
26.0000	-0.063
28.0000	-0.063
30.0000	-0.047
32.0000	-0.078
34.0000	-0.078
36.0000	-0.063
38.0000	-0.063
40.0000	-0.047
42.0000	-0.078
44.0000	-0.063
46.0000	-0.078
48.0000	-0.063
50.0000	-0.063
52.0000	-0.063
54.0000	-0.063
56.0000	-0.078
58.0000	-0.078
60.0000	-0.094
62.0000	-0.063
64.0000	-0.094
66.0000	-0.063
68.0000	-0.078
70.0000	-0.078
72.0000	-0.063
74.0000	-0.094
76.0000	-0.063
78.0000	-0.063
80.0000	-0.063
82.0000	-0.063
84.0000	-0.094
86.0000	-0.078
88.0000	-0.094
90.0000	-0.094

92.0000	-0.078
94.0000	-0.078
96.0000	-0.094
98.0000	-0.063
100.000	-0.078
110.000	-0.063
120.000	-0.078
130.000	-0.078
140.000	-0.078
150.000	-0.078
160.000	-0.063
170.000	-0.110
180.000	-0.094
190.000	-0.078
200.000	-0.063
210.000	-0.094
220.000	-0.063
230.000	-0.078
240.000	-0.078
250.000	-0.078
260.000	-0.078
270.000	-0.078
280.000	-0.078
290.000	-0.078
300.000	-0.078
310.000	-0.047
320.000	-0.063
330.000	-0.031
340.000	-0.047
350.000	-0.063
360.000	-0.063
370.000	-0.063
380.000	-0.126
390.000	-0.063
400.000	-0.078
410.000	-0.126
420.000	-0.063
430.000	-0.078
440.000	-0.047
450.000	-0.047
460.000	-0.063
470.000	-0.063
480.000	-0.063
490.000	-0.063
500.000	-0.063
510.000	-0.047
520.000	-0.047
530.000	-0.047
540.000	-0.063
550.000	-0.063
560.000	-0.063
570.000	-0.063
580.000	-0.063
590.000	-0.063

600.000	-0.063
610.000	-0.063
620.000	-0.063
630.000	-0.063
640.000	-0.063
650.000	-0.063
660.000	-0.063
670.000	-0.063
680.000	-0.063
690.000	-0.063
700.000	-0.063
710.000	-0.063
720.000	-0.063
730.000	-0.063
740.000	-0.063
750.000	-0.063
760.000	-0.063
770.000	-0.063
780.000	-0.063
790.000	-0.063
800.000	-0.063
810.000	-0.063
820.000	-0.063
830.000	-0.063
840.000	-0.063
850.000	-0.063
860.000	-0.063
870.000	-0.063
880.000	-0.063
890.000	-0.063
900.000	-0.063
910.000	-0.063
920.000	-0.063
930.000	-0.063
940.000	-0.063
950.000	-0.063
960.000	-0.063
970.000	-0.063
980.000	-0.063
990.000	-0.063
1000.00	-0.063
1100.00	-0.063
1200.00	-0.047
1300.00	-0.031
1400.00	0.110

HSB 84C
MAY 1, 1990
TEST ONE
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	0.000
0.0083	0.000
0.0166	0.000
0.0250	0.000
0.0333	0.000
0.0416	0.000
0.0500	0.000
0.0583	0.000
0.0666	0.000
0.0750	0.000
0.0833	0.000
0.1000	0.000
0.1166	0.000
0.1333	0.000
0.1500	0.015
0.1666	0.000
0.1833	0.015
0.2000	0.000
0.2166	0.015
0.2333	0.015
0.2500	0.000
0.2666	0.015
0.2833	0.000
0.3000	0.015
0.3166	0.015
0.3333	0.000
0.4166	0.000
0.5000	0.000
0.5833	0.000
0.6666	0.000
0.7500	0.000
0.8333	0.000
0.9166	0.000
1.0000	0.000
1.0833	0.000
1.1666	0.000
1.2500	0.000
1.3333	0.000
1.4166	0.015
1.5000	0.015
1.5833	0.015
1.6666	0.015
1.7500	0.015
1.8333	0.015
1.9166	0.031
2.0000	0.015
2.5000	0.015
3.0000	0.015

3.5000	0.031
4.0000	0.015
4.5000	0.031
5.0000	0.031
5.5000	0.031
6.0000	0.031
6.5000	0.047
7.0000	0.063
7.5000	0.047
8.000	0.063
8.5000	0.047
9.0000	0.063
9.5000	0.063
10.0000	0.078
12.0000	0.063
14.0000	0.078
16.0000	0.078
18.0000	0.078
20.0000	0.078
22.0000	0.078
24.0000	0.078
26.0000	0.063
28.0000	0.063
30.0000	0.063
32.0000	0.063
34.0000	0.063
36.0000	0.063
38.0000	0.063
40.0000	0.063
42.0000	0.047
44.0000	0.063
46.0000	0.047
48.0000	0.047
50.0000	0.047
52.0000	0.047
54.0000	0.047
56.0000	0.031
58.0000	0.031
60.0000	0.031
62.0000	0.031
64.0000	0.015
66.0000	0.031
68.0000	0.031
70.0000	0.031
72.0000	0.031
74.0000	0.015
76.0000	0.031
78.0000	0.031
80.0000	0.031
82.0000	0.015
84.0000	0.000
86.0000	0.015
88.0000	0.000
90.0000	0.000

92.0000	0.015
94.0000	0.000
96.0000	0.000
98.0000	0.015
100.000	0.000
110.000	-0.015
120.000	-0.047
130.000	-0.063
140.000	-0.078
150.000	-0.078
160.000	-0.078
170.000	-0.078
180.000	-0.094
190.000	-0.094
200.000	-0.063
210.000	-0.094
220.000	-0.078
230.000	-0.078
240.000	-0.078
250.000	-0.078
260.000	-0.063
270.000	-0.078
280.000	-0.078
290.000	-0.094
300.000	-0.078
310.000	-0.063
320.000	-0.078
330.000	-0.063
340.000	-0.078
350.000	-0.078
360.000	-0.078
370.000	-0.078
380.000	-0.126
390.000	-0.078
400.000	-0.094
410.000	-0.110
420.000	-0.078
430.000	-0.094
440.000	-0.063
450.000	-0.078
460.000	-0.078
470.000	-0.078
480.000	-0.078
490.000	-0.078
500.000	-0.078
510.000	-0.078
520.000	-0.078
530.000	-0.078
540.000	-0.078
550.000	-0.078
560.000	-0.078
570.000	-0.078
580.000	-0.094
590.000	-0.094

600.000	-0.094
610.000	-0.094
620.000	-0.094
630.000	-0.094
640.000	-0.094
650.000	-0.094
660.000	-0.094
670.000	-0.094
680.000	-0.094
690.000	-0.094
700.000	-0.094
710.000	-0.094
720.000	-0.094
730.000	-0.094
740.000	-0.094
750.000	-0.094
760.000	-0.094
770.000	-0.094
780.000	-0.094
790.000	-0.094
800.000	-0.094
810.000	-0.094
820.000	-0.094
830.000	-0.094
840.000	-0.094
850.000	-0.094
860.000	-0.094
870.000	-0.094
880.000	-0.094
890.000	-0.094
900.000	-0.094
910.000	-0.094
920.000	-0.094
930.000	-0.094
940.000	-0.094
950.000	-0.094
960.000	-0.094
970.000	-0.094
980.000	-0.094
990.000	-0.094
1000.00	-0.094
1100.00	-0.173
1200.00	-0.157
1300.00	-0.126
1400.00	-0.047

HSB 84D
MAY 1, 1990
TEST ONE
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	-0.015
0.0083	0.000
0.0166	0.000
0.0250	0.000
0.0333	0.000
0.0416	0.000
0.0500	-0.015
0.0583	-0.015
0.0666	-0.015
0.0750	-0.015
0.0833	-0.015
0.1000	-0.015
0.1166	-0.015
0.1333	-0.015
0.1500	-0.015
0.1666	-0.015
0.1833	0.000
0.2000	-0.015
0.2166	-0.015
0.2333	-0.015
0.2500	-0.015
0.2666	-0.015
0.2833	-0.015
0.3000	-0.015
0.3166	-0.015
0.3333	-0.015
0.4166	-0.015
0.5000	-0.015
0.5833	-0.031
0.6666	-0.031
0.7500	-0.031
0.8333	-0.031
0.9166	-0.031
1.0000	-0.031
1.0833	-0.031
1.1666	-0.031
1.2500	-0.031
1.3333	-0.031
1.4166	-0.031
1.5000	-0.031
1.5833	-0.031
1.6666	-0.031
1.7500	-0.015
1.8333	-0.031
1.9166	-0.015
2.0000	-0.015
2.5000	-0.015
3.0000	-0.015

3.5000	-0.015
4.0000	-0.015
4.5000	-0.015
5.0000	-0.015
5.5000	-0.015
6.0000	-0.015
6.5000	0.015
7.0000	0.015
7.5000	0.015
8.0000	0.015
8.5000	0.015
9.0000	0.015
9.5000	0.015
10.0000	0.031
12.0000	0.031
14.0000	0.031
16.0000	0.015
18.0000	0.031
20.0000	0.031
22.0000	0.031
24.0000	0.031
26.0000	0.015
28.0000	0.031
30.0000	0.015
32.0000	0.015
34.0000	0.015
36.0000	0.015
38.0000	0.015
40.0000	0.015
42.0000	0.015
44.0000	0.015
46.0000	0.015
48.0000	0.015
50.0000	0.015
52.0000	0.015
54.0000	0.015
56.0000	0.015
58.0000	0.015
60.0000	0.000
62.0000	0.015
64.0000	0.000
66.0000	0.031
68.0000	0.015
70.0000	0.015
72.0000	0.015
74.0000	0.015
76.0000	0.015
78.0000	0.031
80.0000	0.031
82.0000	0.031
84.0000	0.000
86.0000	0.015
88.0000	0.000
90.0000	0.015

92.0000	0.031
94.0000	0.015
96.0000	0.015
98.0000	0.031
100.000	0.015
110.000	0.031
120.000	0.015
130.000	0.031
140.000	0.015
150.000	0.015
160.000	0.031
170.000	0.015
180.000	0.015
190.000	0.031
200.000	0.031
210.000	0.015
220.000	0.031
230.000	0.031
240.000	0.031
250.000	0.031
260.000	0.015
270.000	0.015
280.000	0.031
290.000	0.015
300.000	0.031
310.000	0.047
320.000	0.031
330.000	0.047
340.000	0.031
350.000	0.031
360.000	0.031
370.000	0.031
380.000	-0.015
390.000	0.031
400.000	0.015
410.000	0.000
420.000	0.031
430.000	0.015
440.000	0.031
450.000	0.031
460.000	0.031
470.000	0.031
480.000	0.031
490.000	0.031
500.000	0.031
510.000	0.031
520.000	0.031
530.000	0.031
540.000	0.031
550.000	0.031
560.000	0.015
570.000	0.015
580.000	0.015
590.000	0.015

600.000	0.015
610.000	0.015
620.000	0.000
630.000	0.000
640.000	0.000
650.000	0.000
660.000	0.000
670.000	0.000
680.000	0.000
690.000	0.000
700.000	0.000
710.000	0.000
720.000	0.000
730.000	0.000
740.000	0.000
750.000	0.000
760.000	0.000
770.000	0.000
780.000	0.000
790.000	0.000
800.000	-0.015
810.000	-0.015
820.000	-0.015
830.000	0.000
840.000	-0.015
850.000	0.000
860.000	0.000
870.000	-0.015
880.000	-0.015
890.000	-0.015
900.000	-0.015
910.000	-0.015
920.000	-0.015
930.000	-0.015
940.000	-0.015
950.000	-0.015
960.000	-0.015
970.000	-0.031
980.000	-0.031
990.000	-0.031
1000.00	-0.031
1100.00	-0.031
1200.00	-0.031
1300.00	0.000
1400.00	0.031

END

HSB 69
MAY 1, 1990
TEST ONE
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	0.003
0.0083	0.003
0.0166	0.006
0.0250	0.006
0.0333	0.006
0.0416	0.006
0.0500	0.006
0.0583	0.006
0.0666	0.009
0.0750	0.009
0.0833	0.009
0.1000	0.006
0.1166	0.006
0.1333	0.006
0.1500	0.009
0.1666	0.006
0.1833	0.006
0.2000	0.009
0.2166	0.009
0.2333	0.009
0.2500	0.009
0.2666	0.006
0.2833	0.006
0.3000	0.009
0.3166	0.009
0.3333	0.006
0.4166	0.003
0.5000	0.003
0.5833	0.000
0.6666	0.003
0.7500	0.000
0.8333	-0.003
0.9166	-0.006
1.0000	-0.006
1.0833	-0.006
1.1666	-0.006
1.2500	-0.006
1.3333	0.000
1.4166	0.000
1.5000	0.000
1.5833	0.000
1.6666	0.000
1.7500	0.000
1.8333	0.003
1.9166	0.003
2.0000	0.003
2.5000	-0.006
3.0000	0.000

3.5000	-0.006
4.0000	-0.006
4.5000	-0.006
5.0000	-0.012
5.5000	-0.003
6.0000	-0.003
6.5000	-0.006
7.0000	0.000
7.5000	-0.009
8.0000	0.000
8.5000	-0.006
9.0000	-0.009
9.5000	-0.009
10.0000	-0.009
12.0000	0.000
14.0000	0.000
16.0000	-0.006
18.0000	-0.003
20.0000	-0.003
22.0000	-0.006
24.0000	0.000
26.0000	-0.006
28.0000	-0.006
30.0000	-0.009
32.0000	-0.012
34.0000	-0.012
36.0000	-0.006
38.0000	-0.003
40.0000	0.000
42.0000	-0.009
44.0000	0.003
46.0000	-0.012
48.0000	-0.003
50.0000	-0.003
52.0000	0.003
54.0000	0.000
56.0000	-0.009
58.0000	-0.006
60.0000	-0.015
62.0000	-0.003
64.0000	-0.025
66.0000	-0.006
68.0000	-0.012
70.0000	-0.006
72.0000	-0.009
74.0000	-0.022
76.0000	-0.006
78.0000	0.000
80.0000	0.006
82.0000	-0.006
84.0000	-0.015
86.0000	-0.009
88.0000	-0.022
90.0000	-0.009

92.0000	-0.006
94.0000	-0.015
96.0000	-0.015
98.0000	0.000
100.000	-0.003
110.000	-0.006
120.000	-0.009
130.000	-0.015
140.000	-0.012
150.000	-0.015
160.000	-0.012
170.000	-0.025
180.000	-0.018
190.000	-0.018
200.000	-0.009
210.000	-0.031
220.000	-0.006
230.000	-0.028
240.000	-0.028
250.000	-0.031
260.000	-0.012
270.000	-0.012
280.000	-0.018
290.000	-0.028
300.000	-0.015
310.000	-0.012
320.000	-0.018
330.000	-0.009
340.000	-0.018
350.000	-0.028
360.000	-0.025
370.000	-0.031
380.000	-0.056
390.000	-0.025
400.000	-0.031
410.000	-0.053
420.000	-0.025
430.000	-0.031
440.000	-0.022
450.000	-0.018
460.000	-0.025
470.000	-0.018
480.000	-0.022
490.000	-0.022
500.000	-0.022
510.000	-0.018
520.000	-0.022
530.000	-0.022
540.000	-0.025
550.000	-0.022
560.000	-0.022
570.000	-0.025
580.000	-0.025
590.000	-0.025

600.000	-0.025
610.000	-0.025
620.000	-0.022
630.000	-0.022
640.000	-0.025
650.000	-0.025
660.000	-0.022
670.000	-0.022
680.000	-0.018
690.000	-0.018
700.000	-0.018
710.000	-0.018
720.000	-0.018
730.000	-0.018
740.000	-0.018
750.000	-0.018
760.000	-0.018
770.000	-0.018
780.000	-0.015
790.000	-0.018
800.000	-0.018
810.000	-0.018
820.000	-0.022
830.000	-0.018
840.000	-0.018
850.000	-0.018
860.000	-0.018
870.000	-0.022
880.000	-0.022
890.000	-0.022
900.000	-0.022
910.000	-0.022
920.000	-0.025
930.000	-0.025
940.000	-0.025
950.000	-0.028
960.000	-0.031
970.000	-0.031
980.000	-0.034
990.000	-0.034
1000.00	-0.037
1100.00	-0.031
1200.00	-0.028
1300.00	-0.006
1400.00	0.009

END

HSB 69A
MAY 1, 1990
TEST ONE
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	0.006
0.0083	0.006
0.0166	0.009
0.0250	0.009
0.0333	0.009
0.0416	0.009
0.0500	0.009
0.0583	0.009
0.0666	0.009
0.0750	0.012
0.0833	0.009
0.1000	0.012
0.1166	0.009
0.1333	0.009
0.1500	0.012
0.1666	0.012
0.1833	0.012
0.2000	0.012
0.2166	0.012
0.2333	0.012
0.2500	0.015
0.2666	0.012
0.2833	0.012
0.3000	0.012
0.3166	0.012
0.3333	0.015
0.4166	0.015
0.5000	0.015
0.5833	0.015
0.6666	0.022
0.7500	0.025
0.8333	0.031
0.9166	0.037
1.0000	0.044
1.0833	0.056
1.1666	0.066
1.2500	0.078
1.3333	0.091
1.4166	0.107
1.5000	0.119
1.5833	0.132
1.6666	0.148
1.7500	0.164
1.8333	0.179
1.9166	0.195
2.0000	0.211
2.5000	0.299

3.0000	0.391
3.5000	0.473
4.0000	0.549
4.5000	0.621
5.0000	0.681
5.5000	0.744
6.0000	0.798
6.5000	0.855
7.0000	0.909
7.5000	0.946
8.0000	0.991
8.5000	1.025
9.0000	1.060
9.5000	1.095
10.0000	1.126
12.0000	1.234
14.0000	1.328
16.0000	1.411
18.0000	1.477
20.0000	1.537
22.0000	1.594
24.0000	1.647
26.0000	1.691
28.0000	1.736
30.0000	1.774
32.0000	1.808
34.0000	1.843
36.0000	1.881
38.0000	1.916
40.0000	1.947
42.0000	1.969
44.0000	2.004
46.0000	2.020
48.0000	2.054
50.0000	2.077
52.0000	2.099
54.0000	2.121
56.0000	2.137
58.0000	2.162
60.0000	2.171
62.0000	2.197
64.0000	2.206
66.0000	2.231
68.0000	2.244
70.0000	2.263
72.0000	2.279
74.0000	2.288
76.0000	2.310
78.0000	2.329
80.0000	2.345
82.0000	2.354
84.0000	2.364
86.0000	2.376
88.0000	2.386

90.0000	2.402
92.0000	2.414
94.0000	2.424
96.0000	2.433
98.0000	2.455
100.000	2.468
110.000	2.500
120.000	2.544
130.000	2.582
140.000	2.620
150.000	2.651
160.000	2.689
170.000	2.717
180.000	2.743
190.000	2.777
200.000	2.809
210.000	2.822
220.000	2.859
230.000	2.869
240.000	2.891
250.000	2.916
260.000	2.951
270.000	2.973
280.000	2.992
290.000	3.001
300.000	3.027
310.000	3.046
320.000	3.058
330.000	3.077
340.000	3.090
350.000	3.093
360.000	3.109
370.000	3.118
380.000	3.106
390.000	3.140
400.000	3.144
410.000	3.134
420.000	3.162
430.000	3.172
440.000	3.185
450.000	3.197
460.000	3.204
470.000	3.216
480.000	3.222
490.000	3.232
500.000	3.241
510.000	3.251
520.000	3.260
530.000	3.267
540.000	3.276
550.000	3.286
560.000	3.295
570.000	3.301
580.000	3.311

590.000	3.320
600.000	3.327
610.000	3.333
620.000	3.342
630.000	3.349
640.000	3.355
650.000	3.361
660.000	3.368
670.000	3.377
680.000	3.383
690.000	3.390
700.000	3.396
710.000	3.402
720.000	3.412
730.000	3.415
740.000	3.424
750.000	3.431
760.000	3.437
770.000	3.443
780.000	3.450
790.000	3.453
800.000	3.456
810.000	3.462
820.000	3.466
830.000	3.472
840.000	3.475
850.000	3.481
860.000	3.488
870.000	3.491
880.000	3.497
890.000	3.500
900.000	3.507
910.000	3.513
920.000	3.519
930.000	3.522
940.000	3.525
950.000	3.529
960.000	3.532
970.000	3.535
980.000	3.541
990.000	3.544
1000.00	3.548
1100.00	3.595
1200.00	3.627
1300.00	3.639
1400.00	1.265

END

WELL NO.: HSB 86ADISTANCE FROM PUMPING WELL: 996 FtDATE: May 1, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
10:15	0	95.56	0			1013.9
11:07	52	95.67	0.11			
11:42	87	95.78	0.22			
12:42	147	95.92	0.36			
13:13	178	96.01	0.45			
14:03	228	96.08	0.52			
14:45	270	96.14	0.58			
15:29	314	96.20	0.64			
16:17	362	96.25	0.69			
17:02	407	96.30	0.74			
18:05	470	96.36	0.80			
19:01	526	96.40	0.84			
20:07	592	96.45	0.89			
20:58	643	96.50	0.94			
22:08	713	96.50	0.94			
23:03	768	96.57	1.01			
00:24	849	96.60	1.04			
01:35	920	96.64	1.08			
03:17	1022	96.67	1.11			
05:13	1138	96.72	1.16			
07:34	1279	96.77	1.21			

May 2

WELL NO.: HSB 118ADISTANCE FROM PUMPING WELL: 1244DATE: May 1, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
10:15	0	81.41				1013.9
11:12	57	81.46	0.05			
11:46	91	81.52	0.11			
12:46	151	81.64	0.23			
13:17	187	81.68	0.27			
14:08	233	81.74	0.33			
14:51	276	81.80	0.39			
15:34	319	81.84	0.43			
16:22	367	81.88	0.47			
17:08	413	81.93	0.52			
18:09	474	81.97	0.56			
19:05	530	82.05	0.64			
20:11	596	82.05	0.64			
21:03	648	82.10	0.69			
22:12	717	82.15	0.74			
23:08	773	82.17	0.76			
00:29	854	82.20	0.79			
01:42	927	82.23	0.82			
03:23	1028	82.27	0.86			
05:20	1145	82.32	0.91			
07:40	1285	82.35	0.94			

May 2

WELL NO.: HSB 68A

PAGE 5 OF 5

DISTANCE FROM PUMPING WELL: 545 FT

DATE: May 1, 1990

TIME (Min.)	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
10:15	0	79.40	0			1013.9
11:18	63	79.99	0.59			
11:51	96	80.15	0.75			
12:51	156	80.35	0.95			
13:22	187	80.40	1.00			
14:14	239	80.51	1.11			
14:57	282	80.58	1.18			
15:41	326	80.65	1.25			
16:28	373	80.71	1.31			
17:14	419	80.75	1.35			
18:15	480	80.82	1.42			
19:13	538	80.87	1.47			
20:16	601	80.95	1.55			
21:09	654	80.99	1.59			
22:17	722	81.04	1.64			
23:15	780	81.10	1.71			
00:33	858	81.10	1.71			
01:50	935	81.13	1.73			
03:31	1036	81.17	1.77			
05:27	1152	81.22	1.82			
07:48	1293	81.25	1.85			

MAY 2

WELL NO.: HSB 139ADISTANCE FROM PUMPING WELL: 1116 FTDATE: May 1, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
10:15	0	62.00	0			1013.9
11:22	67	62.08	0.08			
11:56	101	62.17	0.17			
12:55	160	62.30	0.30			
13:26	191	62.37	0.37			
14:19	244	62.46	0.46			
15:02	287	62.52	0.52			
15:46	331	62.58	0.58			
16:33	378	62.63	0.63			
17:19	424	62.69	0.69			
18:20	485	62.75	0.75			
19:19	544	62.81	0.81			
20:20	605	62.87	0.87			
21:15	660	62.90	0.90			
22:23	728	62.95	0.95			
23:20	785	63.00	1.00			
00:38	863	63.03	1.03			
01:56	941	63.06	1.06			
03:38	1043	63.11	1.11			
05:33	1158	63.16	1.16			
07:55	1300	63.20	1.20			

MAY 2

WELL NO.: HSB 83ADISTANCE FROM PUMPING WELL: 2253 FTDATE: May 1, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
10:15	0	65.87	0			1013.9
11:28	73	65.88	0.01			
12:02	107	65.90	0.03			
12:59	164	65.96	0.09			
13:32	197	66.00	0.13			
14:26	251	66.01	0.14			
15:52	337	66.06	0.19			
17:26	431	66.12	0.25			
18:26	491	66.17	0.30			
19:25	550	66.20	0.33			
20:27	612	66.28	0.41			
21:21	666	66.30	0.43			
22:29	734	66.30	0.43			
00:43	868	66.35	0.48			
03:46	1051	66.40	0.53			
05:42	1167	66.42	0.55			
08:05	1310	66.45	0.58			

APPENDIX B

**TEST ONE
LEAKY AND NON-LEAKY SOLUTIONS
AQTESOLVTM PLOTS**

HSB69A TEST ONE DRAWDOWN

AQTESOLV

 GERAGHTY
 & MILLER, INC.
 Modeling Group

HSB86A: TEST ONE

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

HSB 118A: TEST ONE

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

hsb 68a: test one

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

HSB 139A: TEST ONE

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

HSB 83A: TEST ONE

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

APPENDIX C

**TEST TWO
DRAWDOWN AND RECOVERY DATA**

WELL NO.: HSB 84ADISTANCE FROM PUMPING WELL: 0DATE: May 8, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
12:30	0	59.17	0	96790		
12:31	1			96852	62	
12:32	2			96915	63	
12:33	3			96977	62	
12:34	4			97039	61	
12:35	5			97100	61	
12:36	6			97162	62	
12:37	7			97224	62	
12:38	8			97284	60	
12:39	9			97346	62	
12:40	10			97406	60	
12:41	11			97467	61	
12:42	12			97527	60	
12:43	13			97586	59	
12:44	14			97647	61	
12:45	15			97706	59	
12:46	16			97766	60	
12:47	17			97825	59	
12:48	18			97884	59	
12:49	19			97943	59	
12:50	20			98001	58	
13:48	78	90.1	30.93	101407	59	1020.7

WELL NO.: HSB 84ADISTANCE FROM PUMPING WELL: 0DATE: May 8, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
14:08	98	~ 90.5	31.33	102580	58.7	1020.45
14:37	127	~ 90.5	31.33	104300	59.3	
15:15	165	~ 91.05	31.88	106556	59.4	1020.0
16:32	242	~ 91.34	32.17	111020	58.0	1018.9
17:30	300	~ 91.91	32.74	114266	55.9	1018.8
18:31	361	~ 91.30	32.13	118022	61.6	1018.24
19:22	412	~ 89.6	30.43	121074	59.8	1018.3
20:10	460	NR		123749	55.7	1018.15
21:00	510	~ 87.7	28.53	126399	53.0	1018.35
22:14	584	~ 89.7	30.53	130427	54.4	1019.3
23:15	645	89.92	30.75	133913	57.1	1019.3
00:14	704	89.25	30.08	137202	55.7	1018.65
02:07	817	89.82	30.69	143639	57.0	1017.8
03:55	925	~ 89.0	29.83	149580	59.0	1016.7
05:59	1049	~ 89.9	30.73	156324	54.4	1017.4
07:57	1167	~ 92.17	33.0	163025	56.8	1018.30
09:00	1230	~ 92.15	32.98	166790	59.8	1018.37
		Pump shut off at 0:00 A. M.				
		RECOVERY				
10:33	33	60.97	1.8			1017.78
10:55	55	60.70	1.53			1017.91
11:14	74	60.50	1.33			1017.69

MAY 9

WELL NO.: HSB 84ADISTANCE FROM PUMPING WELL: 0DATE: May 9, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
11:40	100	60.37	1.2			1017.5
12:53	173	60.12	0.95			1016.96
13:14	194	60.05	0.88			1016.80
13:36	216	60.05	0.88			1016.54
14:29	269	59.90	0.73			1015.83
15:30	330	59.85	0.68			1014.18
16:30	390	59.78	0.61			1013.45
17:32	492	59.72	0.55			1012.29
18:33	513	59.67	0.50			1012.45
19:27	567	59.64	0.47			1012.0
23:49	829	59.48	0.31			1008.8
03:59	1079	59.40	0.23			1009.95
07:42	1302	59.36	0.19			1006.1
09:47	1427	59.33	0.16			1005.7

MAY 10

HSB 84A
MAY 8, 1990
TEST TWO
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	8.423
0.0083	0.914
0.0166	4.511
0.0250	4.275
0.0333	5.600
0.0416	6.262
0.0500	7.414
0.0583	8.408
0.0666	8.565
0.0750	9.906
0.0833	10.458
0.1000	11.626
0.1166	13.156
0.1333	14.497
0.1500	15.380
0.1666	16.374
0.1833	17.415
0.2000	19.371
0.2166	18.267
0.2333	20.649
0.2500	19.529
0.2666	21.043
0.2833	22.242
0.3000	21.075
0.3166	23.236
0.3333	22.337
0.4166	25.066
0.5000	26.092
0.5833	29.247
0.6666	29.625
0.7500	28.631
0.8333	30.335
0.9166	28.379
1.0000	29.215
1.0833	30.303
1.1666	30.934
1.2500	28.836
1.3333	30.430
1.4166	29.909
1.5000	30.934
1.5833	31.613
1.6666	30.240
1.7500	30.351
1.8333	29.688
1.9166	31.171
2.0000	31.408
2.5000	31.644
3.0000	31.818

3.5000	30.382
4.0000	31.266
4.5000	30.808
5.0000	31.376
5.5000	31.424
6.0000	30.950
6.5000	30.903
7.0000	31.644
7.5000	32.512
8.0000	32.323
8.5000	31.865
9.0000	31.960
9.5000	30.856
10.0000	31.218
12.0000	30.098
14.0000	29.499
16.0000	31.392
18.0000	30.982
20.0000	30.682
22.0000	30.982
24.0000	30.130
26.0000	31.944
28.0000	31.991
30.0000	30.193
32.0000	32.291
34.0000	31.392
36.0000	31.203
38.0000	32.307
40.0000	30.698
42.0000	31.234
44.0000	32.433
46.0000	30.083
48.0000	29.956
50.0000	30.272
52.0000	31.250
54.0000	31.629
56.0000	31.502
58.0000	31.597
60.0000	30.272
62.0000	30.919
64.0000	30.635
66.0000	31.502
68.0000	31.613
70.0000	30.603
72.0000	30.083
74.0000	30.745
76.0000	32.433
78.0000	31.786
80.0000	29.941
82.0000	30.998
84.0000	31.439
86.0000	32.165
88.0000	30.887
90.0000	31.234

92.0000	30.572
94.0000	30.840
96.0000	31.360
98.0000	31.360
100.000	30.840
110.000	32.496
120.000	31.234
130.000	31.045
140.000	31.771
150.000	32.938
160.000	30.303
170.000	31.913
180.000	31.676
190.000	31.991
200.000	31.471
210.000	31.518
220.000	31.865
230.000	31.771
240.000	33.080
250.000	33.253
260.000	32.338
270.000	31.960
280.000	32.922
290.000	31.203
300.000	33.001
310.000	33.190
320.000	33.159
330.000	32.149
340.000	33.206
350.000	31.802
360.000	32.338
370.000	31.613
380.000	32.544
390.000	32.275
400.000	31.045
410.000	31.124
420.000	30.319
430.000	31.218
440.000	29.909
450.000	30.714
460.000	29.530
470.000	29.373
480.000	27.716
490.000	27.322
500.000	28.174
510.000	27.038
520.000	29.530
530.000	27.716
540.000	28.000
550.000	28.805
560.000	29.657
570.000	30.761
580.000	30.556
590.000	30.256

600.000	29.846
610.000	31.439
620.000	31.360
630.000	30.761
640.000	30.934
650.000	30.777
660.000	31.360
670.000	31.250
680.000	29.893
690.000	29.199
700.000	28.332
710.000	29.830
720.000	29.310
730.000	33.127
740.000	32.039
750.000	32.985
760.000	31.755
770.000	30.729
780.000	30.777
790.000	30.240
800.000	30.430
810.000	29.925
820.000	30.351
830.000	31.203
840.000	29.688
850.000	29.783
860.000	29.672
870.000	30.461
880.000	29.404
890.000	30.477
900.000	30.272
910.000	29.105
920.000	28.205
930.000	29.120
940.000	28.805
950.000	29.294
960.000	28.947
970.000	28.773
980.000	28.663
990.000	28.963
1000.00	29.389
1100.00	31.550
1200.00	32.654

END

HSB 84B
MAY 8, 1990
TEST TWO
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	-0.015
0.0083	-0.015
0.0166	-0.015
0.0250	-0.015
0.0333	-0.015
0.0416	-0.015
0.0500	-0.015
0.0583	-0.015
0.0666	-0.015
0.0750	-0.015
0.0833	-0.015
0.1000	-0.015
0.1166	-0.015
0.1333	-0.015
0.1500	-0.015
0.1666	-0.015
0.1833	-0.015
0.2000	-0.015
0.2166	-0.015
0.2333	-0.015
0.2500	-0.015
0.2666	-0.015
0.2833	-0.015
0.3000	-0.015
0.3166	-0.015
0.3333	0.000
0.4166	-0.015
0.5000	-0.015
0.5833	-0.015
0.6666	0.000
0.7500	-0.015
0.8333	-0.015
0.9166	-0.015
1.0000	-0.015
1.0833	-0.015
1.1666	-0.015
1.2500	-0.015
1.3333	-0.015
1.4166	0.000
1.5000	-0.015
1.5833	0.000
1.6666	0.000
1.7500	0.000
1.8333	-0.015
1.9166	-0.015
2.0000	-0.015
2.5000	0.000
3.0000	0.000

3.5000	0.000
4.0000	-0.015
4.5000	-0.015
5.0000	-0.031
5.5000	-0.031
6.0000	-0.031
6.5000	-0.031
7.0000	-0.031
7.5000	-0.047
8.0000	-0.047
8.5000	-0.031
9.0000	-0.031
9.5000	-0.031
10.0000	-0.031
12.0000	0.000
14.0000	-0.015
16.0000	-0.031
18.0000	-0.031
20.0000	-0.031
22.0000	-0.031
24.0000	-0.031
26.0000	-0.047
28.0000	-0.047
30.0000	-0.063
32.0000	-0.063
34.0000	-0.063
36.0000	-0.047
38.0000	-0.063
40.0000	-0.063
42.0000	-0.063
44.0000	-0.063
46.0000	-0.063
48.0000	-0.063
50.0000	-0.078
52.0000	-0.063
54.0000	-0.063
56.0000	-0.078
58.0000	-0.063
60.0000	-0.078
62.0000	-0.047
64.0000	-0.063
66.0000	-0.063
68.0000	-0.063
70.0000	-0.047
72.0000	-0.063
74.0000	-0.063
76.0000	-0.078
78.0000	-0.078
80.0000	-0.063
82.0000	-0.078
84.0000	-0.078
86.0000	-0.063
88.0000	-0.078
90.0000	-0.078

92.0000	-0.063
94.0000	-0.063
96.0000	-0.063
98.0000	-0.063
100.000	-0.047
110.000	-0.078
120.000	-0.047
130.000	-0.078
140.000	-0.063
150.000	-0.078
160.000	-0.078
170.000	-0.094
180.000	-0.063
190.000	-0.078
200.000	-0.078
210.000	-0.078
220.000	-0.078
230.000	-0.078
240.000	-0.078
250.000	-0.078
260.000	-0.078
270.000	-0.078
280.000	-0.078
290.000	-0.078
300.000	-0.078
310.000	-0.094
320.000	-0.078
330.000	-0.094
340.000	-0.078
350.000	-0.078
360.000	-0.078
370.000	-0.078
380.000	-0.094
390.000	-0.078
400.000	-0.078
410.000	-0.078
420.000	-0.078
430.000	-0.078
440.000	-0.094
450.000	-0.078
460.000	-0.078
470.000	-0.078
480.000	-0.078
490.000	-0.078
500.000	-0.078
510.000	-0.078
520.000	-0.078
530.000	-0.078
540.000	-0.078
550.000	-0.078
560.000	-0.078
570.000	-0.078
580.000	-0.078
590.000	-0.078

600.000	-0.063
610.000	-0.078
620.000	-0.078
630.000	-0.078
640.000	-0.078
650.000	-0.063
660.000	-0.063
670.000	-0.063
680.000	-0.063
690.000	-0.063
700.000	-0.063
710.000	-0.063
720.000	-0.063
730.000	-0.063
740.000	-0.063
750.000	-0.063
760.000	-0.063
770.000	-0.063
780.000	-0.063
790.000	-0.063
800.000	-0.063
810.000	-0.063
820.000	-0.063
830.000	-0.063
840.000	-0.063
850.000	-0.063
860.000	-0.063
870.000	-0.063
880.000	-0.063
890.000	-0.063
900.000	-0.063
910.000	-0.063
920.000	-0.063
930.000	-0.063
940.000	-0.063
950.000	-0.063
960.000	-0.063
970.000	-0.063
980.000	-0.063
990.000	-0.063
1000.00	-0.063
1100.00	-0.047
1200.00	-0.047

END

HSB 84C
MAY 8, 1990
TEST TWO
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	-0.031
0.0083	-0.031
0.0166	-0.031
0.0250	-0.031
0.0333	-0.031
0.0416	-0.031
0.0500	-0.015
0.0583	-0.015
0.0666	-0.015
0.0750	-0.015
0.0833	-0.015
0.1000	-0.015
0.1166	-0.015
0.1333	-0.015
0.1500	-0.015
0.1666	-0.015
0.1833	-0.015
0.2000	-0.015
0.2166	-0.015
0.2333	-0.015
0.2500	-0.015
0.2666	0.000
0.2833	0.000
0.3000	0.000
0.3166	0.000
0.3333	0.000
0.4166	0.000
0.5000	0.000
0.5833	0.000
0.6666	0.000
0.7500	0.000
0.8333	0.000
0.9166	0.000
1.0000	0.000
1.0833	0.000
1.1666	0.000
1.2500	0.000
1.3333	0.015
1.4166	0.015
1.5000	0.015
1.5833	0.015
1.6666	0.015
1.7500	0.015
1.8333	0.015
1.9166	0.015
2.0000	0.015
2.5000	0.031
3.0000	0.031

3.5000	0.031
4.0000	0.031
4.5000	0.031
5.0000	0.047
5.5000	0.047
6.0000	0.031
6.5000	0.047
7.0000	0.047
7.5000	0.047
8.0000	0.047
8.5000	0.078
9.0000	0.078
9.5000	0.078
10.0000	0.078
12.0000	0.126
14.0000	0.126
16.0000	0.126
18.0000	0.126
20.0000	0.126
22.0000	0.141
24.0000	0.126
26.0000	0.126
28.0000	0.141
30.0000	0.126
32.0000	0.141
34.0000	0.126
36.0000	0.141
38.0000	0.141
40.0000	0.126
42.0000	0.126
44.0000	0.126
46.0000	0.126
48.0000	0.126
50.0000	0.110
52.0000	0.126
54.0000	0.126
56.0000	0.110
58.0000	0.110
60.0000	0.110
62.0000	0.126
64.0000	0.126
66.0000	0.110
68.0000	0.110
70.0000	0.126
72.0000	0.110
74.0000	0.110
76.0000	0.094
78.0000	0.094
80.0000	0.110
82.0000	0.094
84.0000	0.094
86.0000	0.094
88.0000	0.078
90.0000	0.094

92.0000	0.094
94.0000	0.094
96.0000	0.094
98.0000	0.094
100.000	0.094
110.000	0.063
120.000	0.047
130.000	0.015
140.000	0.015
150.000	0.015
160.000	0.015
170.000	-0.015
180.000	0.015
190.000	0.000
200.000	0.000
210.000	0.000
220.000	0.000
230.000	0.000
240.000	0.000
250.000	0.000
260.000	0.000
270.000	0.000
280.000	0.000
290.000	-0.015
300.000	0.000
310.000	-0.015
320.000	0.000
330.000	-0.015
340.000	-0.015
350.000	-0.015
360.000	-0.015
370.000	-0.015
380.000	-0.015
390.000	-0.015
400.000	-0.015
410.000	-0.015
420.000	-0.015
430.000	-0.015
440.000	-0.015
450.000	-0.015
460.000	-0.015
470.000	-0.015
480.000	-0.015
490.000	-0.015
500.000	-0.015
510.000	-0.015
520.000	-0.031
530.000	-0.031
540.000	-0.015
550.000	-0.015
560.000	-0.015
570.000	-0.015
580.000	-0.015
590.000	-0.015

600.000	-0.015
610.000	-0.015
620.000	-0.015
630.000	-0.015
640.000	-0.015
650.000	-0.015
660.000	-0.015
670.000	-0.015
680.000	-0.015
690.000	-0.015
700.000	-0.015
710.000	-0.015
720.000	-0.015
730.000	-0.015
740.000	-0.015
750.000	0.000
760.000	-0.015
770.000	-0.015
780.000	-0.015
790.000	0.000
800.000	0.000
810.000	-0.015
820.000	-0.015
830.000	-0.015
840.000	-0.015
850.000	0.000
860.000	-0.015
870.000	0.000
880.000	0.000
890.000	0.000
900.000	-0.015
910.000	0.000
920.000	0.000
930.000	0.000
940.000	0.000
950.000	0.000
960.000	0.000
970.000	0.000
980.000	0.000
990.000	0.000
1000.00	0.000
1100.00	-0.078
1200.00	-0.063

END

HSB 84D
MAY 9, 1990
TEST TWO
RECOVERY DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	11.794
0.0083	11.794
0.0166	11.794
0.0250	11.794
0.0333	11.794
0.0416	11.794
0.0500	11.794
0.0583	11.794
0.0666	11.794
0.0750	11.794
0.0833	11.794
0.1000	11.794
0.1166	11.794
0.1333	11.794
0.1500	11.794
0.1666	11.794
0.1833	11.794
0.2000	11.794
0.2166	11.794
0.2333	11.794
0.2500	11.794
0.2666	11.794
0.2833	11.794
0.3000	11.794
0.3166	11.794
0.3333	11.794
0.4166	11.794
0.5000	11.794
0.5833	11.794
0.6666	11.794
0.7500	11.794
0.8333	11.794
0.9166	11.794
1.0000	11.794
1.0833	11.794
1.1666	11.794
1.2500	11.794
1.3333	11.794
1.4166	11.794
1.5000	11.794
1.5833	11.794
1.6666	11.794
1.7500	11.794
1.8333	11.794
1.9166	11.794
2.0000	11.794
2.5000	11.794
3.0000	11.794

3.5000	11.794
4.0000	11.794
4.5000	11.794
5.0000	11.794
5.5000	11.794
6.0000	11.794
6.5000	11.794
7.0000	11.794
7.5000	11.794
8.0000	11.794
8.5000	11.794
9.0000	11.794
9.5000	11.794
10.0000	11.794
12.0000	11.794
14.0000	11.794
16.0000	11.794
18.0000	11.794
20.0000	11.794
22.0000	11.794
24.0000	11.794
26.0000	11.794
28.0000	11.794
30.0000	11.794
32.0000	11.794
34.0000	11.794
36.0000	11.794
38.0000	11.794
40.0000	11.794
42.0000	11.794
44.0000	11.794
46.0000	11.794
48.0000	11.794
50.0000	11.794
52.0000	11.794
54.0000	11.794
56.0000	11.794
58.0000	11.794
60.0000	11.794
62.0000	11.794
64.0000	11.794
66.0000	11.794
68.0000	11.794
70.0000	11.794
72.0000	11.794
74.0000	11.794
76.0000	11.794
78.0000	11.794
80.0000	11.794
82.0000	11.794
84.0000	11.794
86.0000	11.794
88.0000	11.794
90.0000	11.794

92.0000	11.794
94.0000	11.794
96.0000	11.794
98.0000	11.794
100.000	11.794
110.000	11.794
120.000	11.794
130.000	11.794
140.000	11.794
150.000	11.794
160.000	11.794
170.000	11.794
180.000	11.794
190.000	11.794
200.000	11.794
210.000	11.794
220.000	11.794
230.000	11.794
240.000	11.794
250.000	11.794
260.000	11.794
270.000	11.794
280.000	11.794
290.000	11.794
300.000	11.794
310.000	11.794
320.000	11.794
330.000	11.794
340.000	11.794
350.000	11.794
360.000	11.794
370.000	11.794
380.000	11.794
390.000	11.794
400.000	11.794
410.000	11.794
420.000	11.794
430.000	11.794
440.000	11.794
450.000	11.794
460.000	11.794
470.000	11.794
480.000	11.794
490.000	11.794
500.000	11.794
510.000	11.794
520.000	11.794
530.000	11.794
540.000	11.794
550.000	11.794
560.000	11.794
570.000	11.794
580.000	11.794
590.000	11.794

600.000	11.794
610.000	11.794
620.000	11.794
630.000	11.794
640.000	11.794
650.000	11.794
660.000	11.794
670.000	11.794
680.000	11.794
690.000	11.794
700.000	11.794
710.000	11.794
720.000	11.794
730.000	11.794
740.000	11.794
750.000	11.794
760.000	11.794
770.000	11.794
780.000	11.794
790.000	11.794
800.000	11.794
810.000	11.794
820.000	11.794
830.000	11.794
840.000	11.794
850.000	11.794
860.000	11.794
870.000	11.794
880.000	11.794
890.000	11.794
900.000	11.794
910.000	11.794
920.000	11.794
930.000	11.794
940.000	11.794
950.000	11.794
960.000	11.794
970.000	11.794
980.000	11.794
990.000	11.794
1000.00	11.794
1100.00	11.794
1200.00	11.794

END

HSB 69
MAY 8, 1990
TEST TWO
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	-0.012
0.0083	-0.012
0.0166	-0.012
0.0250	-0.012
0.0333	-0.012
0.0416	-0.012
0.0500	-0.012
0.0583	-0.012
0.0666	-0.012
0.0750	-0.012
0.0833	-0.009
0.1000	-0.009
0.1166	-0.009
0.1333	-0.009
0.1500	-0.009
0.1666	-0.009
0.1833	-0.009
0.2000	-0.009
0.2166	-0.006
0.2333	-0.006
0.2500	-0.006
0.2666	-0.006
0.2833	-0.006
0.3000	-0.006
0.3166	-0.006
0.3333	-0.006
0.4166	-0.006
0.5000	-0.006
0.5833	-0.003
0.6666	-0.003
0.7500	-0.003
0.8333	-0.003
0.9166	-0.006
1.0000	-0.006
1.0833	-0.006
1.1666	-0.003
1.2500	-0.003
1.3333	0.000
1.4166	0.000
1.5000	0.000
1.5833	0.000
1.6666	-0.003
1.7500	-0.003
1.8333	-0.003
1.9166	-0.006
2.0000	-0.006
2.5000	0.000
3.0000	0.006

3.5000	0.009
4.0000	0.006
4.5000	0.003
5.0000	0.003
5.5000	0.006
6.0000	0.006
6.5000	0.006
7.0000	0.006
7.5000	0.009
8.0000	0.006
8.5000	0.009
9.0000	0.015
9.5000	0.015
10.0000	0.015
12.0000	0.022
14.0000	0.015
16.0000	0.006
18.0000	0.009
20.0000	0.006
22.0000	0.015
24.0000	0.009
26.0000	0.003
28.0000	0.012
30.0000	0.006
32.0000	0.000
34.0000	0.003
36.0000	0.006
38.0000	0.006
40.0000	0.006
42.0000	0.006
44.0000	-0.003
46.0000	0.003
48.0000	-0.009
50.0000	0.000
52.0000	-0.003
54.0000	-0.003
56.0000	-0.003
58.0000	-0.003
60.0000	-0.012
62.0000	0.009
64.0000	-0.003
66.0000	0.003
68.0000	0.003
70.0000	0.009
72.0000	0.006
74.0000	0.009
76.0000	-0.006
78.0000	0.003
80.0000	0.000
82.0000	0.003
84.0000	-0.006
86.0000	0.000
88.0000	-0.012
90.0000	0.000

92.0000	-0.003
94.0000	0.000
96.0000	0.000
98.0000	0.006
100.000	0.009
110.000	-0.015
120.000	-0.009
130.000	-0.018
140.000	-0.015
150.000	-0.012
160.000	-0.012
170.000	-0.034
180.000	-0.015
190.000	-0.022
200.000	-0.022
210.000	-0.031
220.000	-0.028
230.000	-0.025
240.000	-0.028
250.000	-0.028
260.000	-0.025
270.000	-0.028
280.000	-0.028
290.000	-0.025
300.000	-0.022
310.000	-0.028
320.000	-0.025
330.000	-0.031
340.000	-0.025
350.000	-0.028
360.000	-0.028
370.000	-0.025
380.000	-0.025
390.000	-0.025
400.000	-0.025
410.000	-0.028
420.000	-0.028
430.000	-0.028
440.000	-0.031
450.000	-0.028
460.000	-0.031
470.000	-0.028
480.000	-0.028
490.000	-0.028
500.000	-0.028
510.000	-0.025
520.000	-0.025
530.000	-0.025
540.000	-0.022
550.000	-0.022
560.000	-0.022
570.000	-0.018
580.000	-0.018
590.000	-0.018

600.000	-0.018
610.000	-0.018
620.000	-0.018
630.000	-0.018
640.000	-0.022
650.000	-0.018
660.000	-0.018
670.000	-0.022
680.000	-0.022
690.000	-0.022
700.000	-0.022
710.000	-0.022
720.000	-0.022
730.000	-0.022
740.000	-0.025
750.000	-0.025
760.000	-0.025
770.000	-0.025
780.000	-0.028
790.000	-0.028
800.000	-0.028
810.000	-0.031
820.000	-0.031
830.000	-0.031
840.000	-0.034
850.000	-0.034
860.000	-0.037
870.000	-0.037
880.000	-0.037
890.000	-0.040
900.000	-0.040
910.000	-0.037
920.000	-0.040
930.000	-0.040
940.000	-0.040
950.000	-0.040
960.000	-0.044
970.000	-0.044
980.000	-0.040
990.000	-0.040
1000.00	-0.040
1100.00	-0.034
1200.00	-0.028

END

HSB 69A
MAY 8, 1990
TEST TWO
DRAWDOWN DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	0.050
0.0083	0.053
0.0166	0.053
0.0250	0.053
0.0333	0.053
0.0416	0.056
0.0500	0.056
0.0583	0.056
0.0666	0.056
0.0750	0.056
0.0833	0.056
0.1000	0.059
0.1166	0.059
0.1333	0.059
0.1500	0.059
0.1666	0.059
0.1833	0.063
0.2000	0.063
0.2166	0.063
0.2333	0.063
0.2500	0.066
0.2666	0.066
0.2833	0.066
0.3000	0.066
0.3166	0.066
0.3333	0.066
0.4166	0.069
0.5000	0.072
0.5833	0.075
0.6666	0.078
0.7500	0.085
0.8333	0.091
0.9166	0.101
1.0000	0.110
1.0833	0.119
1.1666	0.132
1.2500	0.145
1.3333	0.157
1.4166	0.170
1.5000	0.183
1.5833	0.198
1.6666	0.211
1.7500	0.227
1.8333	0.243
1.9166	0.255
2.0000	0.271
2.5000	0.372
3.0000	0.467

3.5000	0.555
4.0000	0.637
4.5000	0.710
5.0000	0.776
5.5000	0.839
6.0000	0.896
6.5000	0.950
7.0000	1.000
7.5000	1.044
8.0000	1.085
8.5000	1.130
9.0000	1.167
9.5000	1.202
10.0000	1.234
12.0000	1.344
14.0000	1.429
16.0000	1.496
18.0000	1.565
20.0000	1.622
22.0000	1.679
24.0000	1.729
26.0000	1.770
28.0000	1.821
30.0000	1.859
32.0000	1.890
34.0000	1.922
36.0000	1.957
38.0000	1.988
40.0000	2.010
42.0000	2.036
44.0000	2.058
46.0000	2.086
48.0000	2.099
50.0000	2.121
52.0000	2.140
54.0000	2.162
56.0000	2.184
58.0000	2.203
60.0000	2.212
62.0000	2.238
64.0000	2.250
66.0000	2.272
68.0000	2.288
70.0000	2.307
72.0000	2.320
74.0000	2.335
76.0000	2.342
78.0000	2.364
80.0000	2.376
82.0000	2.389
84.0000	2.395
86.0000	2.408
88.0000	2.418
90.0000	2.433

92.0000	2.446
94.0000	2.459
96.0000	2.468
98.0000	2.484
100.000	2.496
110.000	2.519
120.000	2.566
130.000	2.597
140.000	2.638
150.000	2.670
160.000	2.698
170.000	2.721
180.000	2.755
190.000	2.784
200.000	2.809
210.000	2.831
220.000	2.859
230.000	2.885
240.000	2.900
250.000	2.919
260.000	2.942
270.000	2.967
280.000	2.986
290.000	2.995
300.000	3.020
310.000	3.033
320.000	3.052
330.000	3.068
340.000	3.087
350.000	3.087
360.000	3.090
370.000	3.090
380.000	3.093
390.000	3.106
400.000	3.102
410.000	3.096
420.000	3.084
430.000	3.080
440.000	3.077
450.000	3.074
460.000	3.068
470.000	3.065
480.000	3.052
490.000	3.017
500.000	2.992
510.000	2.995
520.000	3.008
530.000	3.017
540.000	3.030
550.000	3.052
560.000	3.087
570.000	3.106
580.000	3.128
590.000	3.147

600.000	3.166
610.000	3.194
620.000	3.204
630.000	3.216
640.000	3.229
650.000	3.235
660.000	3.248
670.000	3.248
680.000	3.241
690.000	3.232
700.000	3.226
710.000	3.226
720.000	3.219
730.000	3.254
740.000	3.311
750.000	3.339
760.000	3.346
770.000	3.339
780.000	3.339
790.000	3.333
800.000	3.339
810.000	3.330
820.000	3.323
830.000	3.330
840.000	3.327
850.000	3.317
860.000	3.311
870.000	3.311
880.000	3.320
890.000	3.327
900.000	3.311
910.000	3.295
920.000	3.282
930.000	3.279
940.000	3.282
950.000	3.279
960.000	3.286
970.000	3.295
980.000	3.298
990.000	3.292
1000.00	3.292
1100.00	3.418
1200.00	3.560

HSB 84A
MAY 9, 1990
TEST TWO
RECOVERY DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	30.367
0.0083	29.010
0.0166	28.300
0.0250	27.306
0.0333	26.391
0.0416	25.539
0.0500	24.640
0.0583	23.804
0.0666	23.000
0.0750	22.148
0.0833	21.406
0.1000	19.892
0.1166	18.551
0.1333	17.194
0.1500	15.932
0.1666	15.033
0.1833	13.960
0.2000	13.077
0.2166	12.257
0.2333	11.531
0.2500	10.869
0.2666	10.269
0.2833	9.733
0.3000	9.291
0.3166	8.865
0.3333	8.487
0.4166	7.083
0.5000	6.246
0.5833	5.742
0.6666	5.347
0.7500	5.111
0.8333	4.890
0.9166	4.700
1.0000	4.543
1.0833	4.432
1.1666	4.306
1.2500	4.227
1.3333	4.148
1.4166	4.054
1.5000	3.959
1.5833	3.912
1.6666	3.849
1.7500	3.801
1.8333	3.722
1.9166	3.691
2.0000	3.644
2.5000	3.423
3.0000	3.249

3.5000	3.123
4.0000	3.013
4.5000	2.918
5.0000	2.839
5.5000	2.792
6.0000	2.713
6.5000	2.665
7.0000	2.634
7.5000	2.587
8.0000	2.555
8.5000	2.539
9.0000	2.508
9.5000	2.476
10.0000	2.460
12.0000	2.382
14.0000	2.334
16.0000	2.287
18.0000	2.240
20.0000	2.176
22.0000	2.113
24.0000	2.066
26.0000	2.019
28.0000	1.971
30.0000	1.940
32.0000	1.893
34.0000	1.861
36.0000	1.829
38.0000	1.798
40.0000	1.766
42.0000	1.751
44.0000	1.719
46.0000	1.687
48.0000	1.672
50.0000	1.640
52.0000	1.624
54.0000	1.609
56.0000	1.577
58.0000	1.561
60.0000	1.545
62.0000	1.530
64.0000	1.514
66.0000	1.498
68.0000	1.482
70.0000	1.467
72.0000	1.451
74.0000	1.435
76.0000	1.419
78.0000	1.403
80.0000	1.388
82.0000	1.388
84.0000	1.372
86.0000	1.356
88.0000	1.340
90.0000	1.340

92.0000	1.325
94.0000	1.309
96.0000	1.309
98.0000	1.293
100.000	1.293
110.000	1.230
120.000	1.198
130.000	1.151
140.000	1.120
150.000	1.088
160.000	1.056
170.000	1.025
180.000	0.993
190.000	0.962
200.000	0.946
210.000	0.930
220.000	0.899
230.000	0.883
240.000	0.851
250.000	0.836
260.000	0.820
270.000	0.804
280.000	0.788
290.000	0.772
300.000	0.757
310.000	0.741
320.000	0.725
330.000	0.709
340.000	0.709
350.000	0.694
360.000	0.678
370.000	0.662
380.000	0.662
390.000	0.646
400.000	0.646
410.000	0.646
420.000	0.631
430.000	0.615
440.000	0.615
450.000	0.599
460.000	0.599
470.000	0.583
480.000	0.583
490.000	0.567
500.000	0.567
510.000	0.552
520.000	0.552
530.000	0.536
540.000	0.536
550.000	0.520
560.000	0.520
570.000	0.520
580.000	0.504
590.000	0.504

600.000	0.489
610.000	0.489
620.000	0.489
630.000	0.473
640.000	0.473
650.000	0.473
660.000	0.457
670.000	0.457
680.000	0.457
690.000	0.441
700.000	0.441
710.000	0.441
720.000	0.441
730.000	0.425
740.000	0.425
750.000	0.410
760.000	0.410
770.000	0.410
780.000	0.394
790.000	0.394
800.000	0.394
810.000	0.378
820.000	0.378
830.000	0.378
840.000	0.378
850.000	0.378
860.000	0.362
870.000	0.362
880.000	0.347
890.000	0.347
900.000	0.347
910.000	0.331
920.000	0.331
930.000	0.315
940.000	0.315
950.000	0.315
960.000	0.315
970.000	0.315
980.000	0.299
990.000	0.299
1000.00	0.299
1100.00	0.268
1200.00	0.236
1300.00	0.220
1400.00	0.236
1500.00	0.236
1600.00	0.220
1700.00	0.205
1800.00	0.189
1900.00	0.173
2000.00	0.157
2100.00	0.126
2200.00	0.110
2300.00	0.094

2400.00	0.078
2500.00	0.063
2600.00	0.047
2700.00	0.047
2800.00	0.094
2900.00	0.126
3000.00	0.126
3100.00	0.126
3200.00	0.126
3300.00	0.126
3400.00	0.110
3500.00	0.078
3600.00	0.047
3700.00	0.031
3800.00	0.031
3900.00	0.031
4000.00	0.031
4100.00	0.031
4200.00	0.031
4300.00	0.078
4400.00	0.094
4500.00	0.094
4600.00	0.094
4700.00	0.078
4800.00	0.063
4900.00	0.031
5000.00	0.015
5100.00	0.000
5200.00	0.000
5300.00	-0.015
5400.00	-0.015
5500.00	-0.031
5600.00	-0.047
5700.00	-0.047
5800.00	0.000
5900.00	0.015
6000.00	0.000
6100.00	0.000
6200.00	-0.015
6300.00	-0.015
6400.00	-0.031
6500.00	-0.047
6600.00	-0.063
6700.00	-0.063
6800.00	-0.078
6900.00	-0.078
7000.00	-0.078
7100.00	-0.063
7200.00	-0.031
7300.00	-0.015
7400.00	0.015
7500.00	0.015
7600.00	0.000
7700.00	0.000

7800.00	-0.015
7900.00	-0.031
8000.00	-0.047
8100.00	-0.047
8200.00	-0.047
8300.00	-0.047
8400.00	-0.063
8500.00	-0.031
8600.00	0.000
8700.00	60.749
8800.00	60.844
8900.00	67.485
9000.00	67.485
9100.00	67.485
9200.00	67.485
9300.00	67.485
9400.00	67.485
9500.00	67.485
9600.00	67.485
9700.00	67.485
9800.00	67.485
9900.00	67.485
10000.0	67.485
10500.0	67.485
11000.0	67.485
11500.0	67.485
12000.0	67.485
12500.0	67.485
13000.0	67.485
13500.0	67.485
14000.0	67.485
14500.0	67.485
15000.0	67.485
15500.0	67.485
16000.0	67.485
16500.0	67.485
17000.0	67.485
17500.0	67.485
18000.0	67.485
18500.0	67.485
19000.0	67.485
19500.0	67.485
20000.0	67.485
20500.0	67.485
21000.0	67.485
21500.0	67.485
22000.0	67.485
22500.0	67.485
23000.0	67.485
23500.0	67.485
24000.0	67.485
24500.0	67.485
25000.0	67.485
25500.0	67.485

26000.0	67.485
26500.0	67.485
27000.0	67.485
27500.0	67.485
28000.0	67.485
28500.0	67.485
29000.0	67.485
29500.0	67.485
30000.0	67.485
30500.0	67.485
31000.0	67.485
31500.0	67.485
32000.0	67.485
32500.0	67.485
33000.0	67.485
33500.0	67.485
34000.0	67.485
34500.0	67.485
35000.0	67.485
35500.0	67.485
36000.0	67.485
36500.0	67.485
37000.0	67.485
37500.0	67.485
38000.0	67.485
38500.0	67.485
39000.0	67.485
39500.0	67.485
40000.0	67.485
40500.0	67.485
41000.0	67.485
41500.0	67.485

END

HSB 84B
MAY 9, 1990
TEST TWO
RECOVERY DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	-0.047
0.0083	-0.063
0.0166	-0.047
0.0250	-0.047
0.0333	-0.063
0.0416	-0.063
0.0500	-0.047
0.0583	-0.063
0.0666	-0.047
0.0750	-0.063
0.0833	-0.047
0.1000	-0.047
0.1166	-0.047
0.1333	-0.047
0.1500	-0.047
0.1666	-0.047
0.1833	-0.047
0.2000	-0.047
0.2166	-0.047
0.2333	-0.063
0.2500	-0.047
0.2666	-0.047
0.2833	-0.047
0.3000	-0.047
0.3166	-0.047
0.3333	-0.047
0.4166	-0.047
0.5000	-0.063
0.5833	-0.047
0.6666	-0.063
0.7500	-0.047
0.8333	-0.047
0.9166	-0.047
1.0000	-0.047
1.0833	-0.047
1.1666	-0.047
1.2500	-0.047
1.3333	-0.047
1.4166	-0.047
1.5000	-0.047
1.5833	-0.047
1.6666	-0.047
1.7500	-0.047
1.8333	-0.047
1.9166	-0.047
2.0000	-0.047
2.5000	-0.047
3.0000	-0.047

3.5000	-0.031
4.0000	-0.031
4.5000	-0.031
5.0000	-0.031
5.5000	-0.031
6.0000	-0.031
6.5000	-0.015
7.0000	-0.015
7.5000	-0.015
8.0000	-0.015
8.5000	-0.015
9.0000	-0.015
9.5000	-0.015
10.0000	0.000
12.0000	0.015
14.0000	0.015
16.0000	0.031
18.0000	0.031
20.0000	0.031
22.0000	0.031
24.0000	0.047
26.0000	0.047
28.0000	0.047
30.0000	0.047
32.0000	0.047
34.0000	0.047
36.0000	0.047
38.0000	0.047
40.0000	0.063
42.0000	0.063
44.0000	0.063
46.0000	0.063
48.0000	0.063
50.0000	0.063
52.0000	0.063
54.0000	0.063
56.0000	0.063
58.0000	0.063
60.0000	0.063
62.0000	0.063
64.0000	0.063
66.0000	0.063
68.0000	0.078
70.0000	0.063
72.0000	0.078
74.0000	0.078
76.0000	0.063
78.0000	0.063
80.0000	0.063
82.0000	0.063
84.0000	0.078
86.0000	0.078
88.0000	0.078
90.0000	0.078

92.0000	0.078
94.0000	0.078
96.0000	0.078
98.0000	0.078
100.000	0.078
110.000	0.063
120.000	0.078
130.000	0.063
140.000	0.078
150.000	0.078
160.000	0.078
170.000	0.078
180.000	0.078
190.000	0.063
200.000	0.078
210.000	0.078
220.000	0.078
230.000	0.078
240.000	0.063
250.000	0.063
260.000	0.063
270.000	0.063
280.000	0.063
290.000	0.063
300.000	0.063
310.000	0.063
320.000	0.063
330.000	0.063
340.000	0.063
350.000	0.047
360.000	0.063
370.000	0.063
380.000	0.047
390.000	0.063
400.000	0.047
410.000	0.047
420.000	0.047
430.000	0.047
440.000	0.031
450.000	0.047
460.000	0.047
470.000	0.047
480.000	0.047
490.000	0.047
500.000	0.047
510.000	0.047
520.000	0.047
530.000	0.031
540.000	0.047
550.000	0.031
560.000	0.031
570.000	0.031
580.000	0.031
590.000	0.031

600.000	0.031
610.000	0.031
620.000	0.031
630.000	0.031
640.000	0.031
650.000	0.015
660.000	0.031
670.000	0.031
680.000	0.015
690.000	0.015
700.000	0.015
710.000	0.015
720.000	0.015
730.000	0.015
740.000	0.015
750.000	0.015
760.000	0.000
770.000	0.000
780.000	0.000
790.000	0.000
800.000	0.000
810.000	0.000
820.000	0.000
830.000	0.000
840.000	0.000
850.000	0.000
860.000	0.000
870.000	-0.015
880.000	-0.015
890.000	-0.015
900.000	-0.015
910.000	-0.015
920.000	-0.031
930.000	-0.031
940.000	-0.031
950.000	-0.031
960.000	-0.031
970.000	-0.031
980.000	-0.031
990.000	-0.031
1000.00	-0.047
1100.00	-0.047
1200.00	-0.047
1300.00	-0.047
1400.00	-0.015
1500.00	-0.031
1600.00	-0.031
1700.00	-0.031
1800.00	-0.047
1900.00	-0.047
2000.00	-0.031
2100.00	-0.047
2200.00	-0.047
2300.00	-0.063

2400.00	-0.063
2500.00	-0.063
2600.00	-0.078
2700.00	-0.078
2800.00	-0.031
2900.00	-0.015
3000.00	0.000
3100.00	0.000
3200.00	-0.015
3300.00	-0.015
3400.00	-0.015
3500.00	-0.031
3600.00	-0.047
3700.00	-0.047
3800.00	-0.047
3900.00	-0.047
4000.00	-0.047
4100.00	-0.047
4200.00	-0.031
4300.00	0.000
4400.00	0.015
4500.00	0.000
4600.00	0.015
4700.00	0.000
4800.00	0.000
4900.00	-0.015
5000.00	-0.031
5100.00	-0.031
5200.00	-0.031
5300.00	-0.031
5400.00	-0.031
5500.00	-0.031
5600.00	-0.047
5700.00	-0.047
5800.00	-0.047
5900.00	-0.015
6000.00	-0.015
6100.00	-0.015
6200.00	-0.015
6300.00	-0.015
6400.00	-0.015
6500.00	-0.031
6600.00	-0.031
6700.00	-0.031
6800.00	-0.031
6900.00	-0.031
7000.00	-0.031
7100.00	-0.015
7200.00	0.000
7300.00	0.015
7400.00	0.094
7500.00	0.063
7600.00	0.000
7700.00	0.015

7800.00	0.015
7900.00	0.000
8000.00	0.000
8100.00	-0.015
8200.00	-0.015
8300.00	-0.015
8400.00	-0.015
8500.00	0.000
8600.00	0.031
8700.00	0.047
8800.00	10.438
8900.00	16.982
9000.00	16.982
9100.00	16.982
9200.00	16.982
9300.00	16.982
9400.00	16.982
9500.00	16.982
9600.00	16.982
9700.00	16.982
9800.00	16.982
9900.00	16.982
10000.0	16.982
10500.0	16.982
11000.0	16.982
11500.0	16.982
12000.0	16.982
12500.0	16.982
13000.0	16.982
13500.0	16.982
14000.0	16.982
14500.0	16.982
15000.0	16.982
15500.0	16.982
16000.0	16.982
16500.0	16.982
17000.0	16.982
17500.0	16.982
18000.0	16.982
18500.0	16.982
19000.0	16.982
19500.0	16.982
20000.0	16.982
20500.0	16.982
21000.0	16.982
21500.0	16.982
22000.0	16.982
22500.0	16.982
23000.0	16.982
23500.0	16.982
24000.0	16.982
24500.0	16.982
25000.0	16.982
25500.0	16.982

26000.0	16.982
26500.0	16.982
27000.0	16.982
27500.0	16.982
28000.0	16.982
28500.0	16.982
29000.0	16.982
29500.0	16.982
30000.0	16.982
30500.0	16.982
31000.0	16.982
31500.0	16.982
32000.0	16.982
32500.0	16.982
33000.0	16.982
33500.0	16.982
34000.0	16.982
34500.0	16.982
35000.0	16.982
35500.0	16.982
36000.0	16.982
36500.0	16.982
37000.0	16.982
37500.0	16.982
38000.0	16.982
38500.0	16.982
39000.0	16.982
39500.0	16.982
40000.0	16.982
40500.0	16.982
41000.0	16.982
41500.0	16.982

END

HSB 84C
MAY 9, 1990
TEST TWO
RECOVERY DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	0.000
0.0083	0.000
0.0166	0.000
0.0250	0.000
0.0333	0.000
0.0416	0.000
0.0500	0.000
0.0583	0.000
0.0666	0.000
0.0750	0.000
0.0833	0.015
0.1000	0.015
0.1166	0.015
0.1333	0.015
0.1500	0.015
0.1666	0.015
0.1833	0.015
0.2000	0.015
0.2166	0.015
0.2333	0.015
0.2500	0.015
0.2666	0.015
0.2833	0.015
0.3000	0.015
0.3166	0.015
0.3333	0.015
0.4166	0.015
0.5000	0.015
0.5833	0.015
0.6666	0.015
0.7500	0.015
0.8333	0.015
0.9166	0.015
1.0000	0.015
1.0833	0.031
1.1666	0.015
1.2500	0.015
1.3333	0.031
1.4166	0.015
1.5000	0.015
1.5833	0.031
1.6666	0.031
1.7500	0.031
1.8333	0.031
1.9166	0.031
2.0000	0.031
2.5000	0.031
3.0000	0.031

3.5000	0.031
4.0000	0.031
4.5000	0.031
5.0000	0.047
5.5000	0.047
6.0000	0.047
6.5000	0.047
7.0000	0.047
7.5000	0.047
8.0000	0.063
8.5000	0.063
9.0000	0.063
9.5000	0.063
10.0000	0.078
12.0000	0.094
14.0000	0.094
16.0000	0.110
18.0000	0.110
20.0000	0.110
22.0000	0.126
24.0000	0.126
26.0000	0.126
28.0000	0.126
30.0000	0.126
32.0000	0.126
34.0000	0.126
36.0000	0.126
38.0000	0.126
40.0000	0.141
42.0000	0.126
44.0000	0.141
46.0000	0.126
48.0000	0.141
50.0000	0.141
52.0000	0.141
54.0000	0.141
56.0000	0.141
58.0000	0.141
60.0000	0.141
62.0000	0.141
64.0000	0.141
66.0000	0.141
68.0000	0.141
70.0000	0.126
72.0000	0.141
74.0000	0.141
76.0000	0.141
78.0000	0.141
80.0000	0.141
82.0000	0.141
84.0000	0.141
86.0000	0.141
88.0000	0.141
90.0000	0.141

92.0000	0.141
94.0000	0.141
96.0000	0.141
98.0000	0.141
100.000	0.141
110.000	0.110
120.000	0.094
130.000	0.094
140.000	0.094
150.000	0.094
160.000	0.094
170.000	0.094
180.000	0.094
190.000	0.094
200.000	0.094
210.000	0.094
220.000	0.094
230.000	0.094
240.000	0.094
250.000	0.094
260.000	0.094
270.000	0.094
280.000	0.094
290.000	0.094
300.000	0.094
310.000	0.094
320.000	0.094
330.000	0.094
340.000	0.094
350.000	0.094
360.000	0.094
370.000	0.094
380.000	0.110
390.000	0.110
400.000	0.094
410.000	0.094
420.000	0.094
430.000	0.094
440.000	0.094
450.000	0.110
460.000	0.094
470.000	0.094
480.000	0.094
490.000	0.094
500.000	0.094
510.000	0.094
520.000	0.094
530.000	0.094
540.000	0.094
550.000	0.094
560.000	0.094
570.000	0.094
580.000	0.078
590.000	0.078

600.000	0.078
610.000	0.078
620.000	0.078
630.000	0.078
640.000	0.078
650.000	0.078
660.000	0.078
670.000	0.078
680.000	0.078
690.000	0.078
700.000	0.078
710.000	0.078
720.000	0.078
730.000	0.078
740.000	0.078
750.000	0.078
760.000	0.063
770.000	0.063
780.000	0.063
790.000	0.063
800.000	0.063
810.000	0.063
820.000	0.063
830.000	0.047
840.000	0.063
850.000	0.063
860.000	0.047
870.000	0.047
880.000	0.047
890.000	0.047
900.000	0.047
910.000	0.047
920.000	0.031
930.000	0.031
940.000	0.031
950.000	0.031
960.000	0.031
970.000	0.031
980.000	0.031
990.000	0.031
1000.00	0.031
1100.00	-0.063
1200.00	-0.047
1300.00	-0.031
1400.00	-0.015
1500.00	0.000
1600.00	-0.015
1700.00	0.015
1800.00	-0.031
1900.00	-0.031
2000.00	-0.015
2100.00	-0.031
2200.00	-0.047
2300.00	-0.047

2400.00	-0.047
2500.00	-0.063
2600.00	-0.063
2700.00	-0.063
2800.00	-0.031
2900.00	0.000
3000.00	0.015
3100.00	0.015
3200.00	0.015
3300.00	0.015
3400.00	0.015
3500.00	-0.015
3600.00	-0.031
3700.00	-0.031
3800.00	-0.031
3900.00	-0.031
4000.00	-0.031
4100.00	-0.031
4200.00	-0.031
4300.00	0.000
4400.00	0.031
4500.00	0.031
4600.00	0.031
4700.00	0.015
4800.00	0.015
4900.00	0.000
5000.00	0.000
5100.00	-0.015
5200.00	-0.015
5300.00	-0.015
5400.00	-0.015
5500.00	-0.015
5600.00	-0.031
5700.00	-0.031
5800.00	-0.015
5900.00	0.000
6000.00	0.000
6100.00	0.000
6200.00	0.000
6300.00	0.000
6400.00	-0.015
6500.00	-0.015
6600.00	-0.015
6700.00	-0.031
6800.00	-0.031
6900.00	-0.031
7000.00	-0.031
7100.00	0.000
7200.00	0.015
7300.00	0.031
7400.00	0.078
7500.00	0.063
7600.00	0.031
7700.00	0.031

7800.00	0.031
7900.00	0.015
8000.00	0.000
8100.00	0.000
8200.00	0.000
8300.00	0.000
8400.00	0.000
8500.00	0.015
8600.00	0.031
8700.00	0.047
8800.00	10.106
8900.00	16.901
9000.00	16.901
9100.00	16.901
9200.00	16.901
9300.00	16.901
9400.00	16.901
9500.00	16.901
9600.00	16.901
9700.00	16.901
9800.00	16.901
9900.00	16.901
10000.0	16.901
10500.0	16.901
11000.0	16.901
11500.0	16.901
12000.0	16.901
12500.0	16.901
13000.0	16.901
13500.0	16.901
14000.0	16.901
14500.0	16.901
15000.0	16.901
15500.0	16.901
16000.0	16.901
16500.0	16.901
17000.0	16.901
17500.0	16.901
18000.0	16.901
18500.0	16.901
19000.0	16.901
19500.0	16.901
20000.0	16.901
20500.0	16.901
21000.0	16.901
21500.0	16.901
22000.0	16.901
22500.0	16.901
23000.0	16.901
23500.0	16.901
24000.0	16.901
24500.0	16.901
25000.0	16.901
25500.0	16.901

26000.0	16.901
26500.0	16.901
27000.0	16.901
27500.0	16.901
28000.0	16.901
28500.0	16.901
29000.0	16.901
29500.0	16.901
30000.0	16.901
30500.0	16.901
31000.0	16.901
31500.0	16.901
32000.0	16.901
32500.0	16.901
33000.0	16.901
33500.0	16.901
34000.0	16.901
34500.0	16.901
35000.0	16.901
35500.0	16.901
36000.0	16.901
36500.0	16.901
37000.0	16.901
37500.0	16.901
38000.0	16.901
38500.0	16.901
39000.0	16.901
39500.0	16.901
40000.0	16.901
40500.0	16.901
41000.0	16.901
41500.0	16.901

END

HSB 84D
MAY 9, 1990
TEST TWO
RECOVERY DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	11.794
0.0083	11.794
0.0166	11.794
0.0250	11.794
0.0333	11.794
0.0416	11.794
0.0500	11.794
0.0583	11.794
0.0666	11.794
0.0750	11.794
0.0833	11.794
0.1000	11.794
0.1166	11.794
0.1333	11.794
0.1500	11.794
0.1666	11.794
0.1833	11.794
0.2000	11.794
0.2166	11.794
0.2333	11.794
0.2500	11.794
0.2666	11.794
0.2833	11.794
0.3000	11.794
0.3166	11.794
0.3333	11.794
0.4166	11.794
0.5000	11.794
0.5833	11.794
0.6666	11.794
0.7500	11.794
0.8333	11.794
0.9166	11.794
1.0000	11.794
1.0833	11.794
1.1666	11.794
1.2500	11.794
1.3333	11.794
1.4166	11.794
1.5000	11.794
1.5833	11.794
1.6666	11.794
1.7500	11.794
1.8333	11.794
1.9166	11.794
2.0000	11.794
2.5000	11.794
3.0000	11.794

3.5000	11.794
4.0000	11.794
4.5000	11.794
5.0000	11.794
5.5000	11.794
6.0000	11.794
6.5000	11.794
7.0000	11.794
7.5000	11.794
8.0000	11.794
8.5000	11.794
9.0000	11.794
9.5000	11.794
10.0000	11.794
12.0000	11.794
14.0000	11.794
16.0000	11.794
18.0000	11.794
20.0000	11.794
22.0000	11.794
24.0000	11.794
26.0000	11.794
28.0000	11.794
30.0000	11.794
32.0000	11.794
34.0000	11.794
36.0000	11.794
38.0000	11.794
40.0000	11.794
42.0000	11.794
44.0000	11.794
46.0000	11.794
48.0000	11.794
50.0000	11.794
52.0000	11.794
54.0000	11.794
56.0000	11.794
58.0000	11.794
60.0000	11.794
62.0000	11.794
64.0000	11.794
66.0000	11.794
68.0000	11.794
70.0000	11.794
72.0000	11.794
74.0000	11.794
76.0000	11.794
78.0000	11.794
80.0000	11.794
82.0000	11.794
84.0000	11.794
86.0000	11.794
88.0000	11.794
90.0000	11.794

92.0000	11.794
94.0000	11.794
96.0000	11.794
98.0000	11.794
100.000	11.794
110.000	11.794
120.000	11.794
130.000	11.794
140.000	11.794
150.000	11.794
160.000	11.794
170.000	11.794
180.000	11.794
190.000	11.794
200.000	11.794
210.000	11.794
220.000	11.794
230.000	11.794
240.000	11.794
250.000	11.794
260.000	11.794
270.000	11.794
280.000	11.794
290.000	11.794
300.000	11.794
310.000	11.794
320.000	11.794
330.000	11.794
340.000	11.794
350.000	11.794
360.000	11.794
370.000	11.794
380.000	11.794
390.000	11.794
400.000	11.794
410.000	11.794
420.000	11.794
430.000	11.794
440.000	11.794
450.000	11.794
460.000	11.794
470.000	11.794
480.000	11.794
490.000	11.794
500.000	11.794
510.000	11.794
520.000	11.794
530.000	11.794
540.000	11.794
550.000	11.794
560.000	11.794
570.000	11.794
580.000	11.794
590.000	11.794

600.000	11.794
610.000	11.794
620.000	11.794
630.000	11.794
640.000	11.794
650.000	11.794
660.000	11.794
670.000	11.794
680.000	11.794
690.000	11.794
700.000	11.794
710.000	11.794
720.000	11.794
730.000	11.794
740.000	11.794
750.000	11.794
760.000	11.794
770.000	11.794
780.000	11.794
790.000	11.794
800.000	11.794
810.000	11.794
820.000	11.794
830.000	11.794
840.000	11.794
850.000	11.794
860.000	11.794
870.000	11.794
880.000	11.794
890.000	11.794
900.000	11.794
910.000	11.794
920.000	11.794
930.000	11.794
940.000	11.794
950.000	11.794
960.000	11.794
970.000	11.794
980.000	11.794
990.000	11.794
1000.00	11.794
1100.00	11.794
1200.00	11.794
1300.00	11.794
1400.00	11.794
1500.00	11.794
1600.00	11.794
1700.00	11.794
1800.00	11.794
1900.00	11.794
2000.00	11.794
2100.00	11.794
2200.00	11.794
2300.00	11.794

2400.00	11.794
2500.00	11.794
2600.00	11.794
2700.00	11.794
2800.00	11.794
2900.00	11.794
3000.00	11.794
3100.00	11.794
3200.00	11.794
3300.00	11.794
3400.00	11.794
3500.00	11.794
3600.00	11.794
3700.00	11.794
3800.00	11.794
3900.00	11.794
4000.00	11.794
4100.00	11.794
4200.00	11.794
4300.00	11.794
4400.00	11.794
4500.00	11.794
4600.00	11.794
4700.00	11.794
4800.00	11.794
4900.00	11.794
5000.00	11.794
5100.00	11.794
5200.00	11.794
5300.00	11.794
5400.00	11.794
5500.00	11.794
5600.00	11.794
5700.00	11.794
5800.00	11.794
5900.00	11.794
6000.00	11.794
6100.00	11.794
6200.00	11.794
6300.00	11.794
6400.00	11.794
6500.00	11.794
6600.00	11.794
6700.00	11.794
6800.00	11.794
6900.00	11.794
7000.00	11.794
7100.00	11.794
7200.00	11.794
7300.00	11.794
7400.00	11.794
7500.00	11.794
7600.00	11.794
7700.00	11.794

7800.00	11.794
7900.00	11.794
8000.00	11.794
8100.00	11.794
8200.00	11.794
8300.00	11.794
8400.00	11.794
8500.00	11.794
8600.00	11.794
8700.00	11.794
8800.00	11.794
8900.00	11.794
9000.00	11.794
9100.00	11.794
9200.00	11.794
9300.00	11.794
9400.00	11.794
9500.00	11.794
9600.00	11.794
9700.00	11.794
9800.00	11.794
9900.00	11.794
10000.0	11.794
10500.0	11.794
11000.0	11.794
11500.0	11.794
12000.0	11.794
12500.0	11.794
13000.0	11.794
13500.0	11.794
14000.0	11.794
14500.0	11.794
15000.0	11.794
15500.0	11.794
16000.0	11.794
16500.0	11.794
17000.0	11.794
17500.0	11.794
18000.0	11.794
18500.0	11.794
19000.0	11.794
19500.0	11.794
20000.0	11.794
20500.0	11.794
21000.0	11.794
21500.0	11.794
22000.0	11.794
22500.0	11.794
23000.0	11.794
23500.0	11.794
24000.0	11.794
24500.0	11.794
25000.0	11.794
25500.0	11.794

26000.0	11.794
26500.0	11.794
27000.0	11.794
27500.0	11.794
28000.0	11.794
28500.0	11.794
29000.0	11.794
29500.0	11.794
30000.0	11.794
30500.0	11.794
31000.0	11.794
31500.0	11.794
32000.0	11.794
32500.0	11.794
33000.0	11.794
33500.0	11.794
34000.0	11.794
34500.0	11.794
35000.0	11.794
35500.0	11.794
36000.0	11.794
36500.0	11.794
37000.0	11.794
37500.0	11.794
38000.0	11.794
38500.0	11.794
39000.0	11.794
39500.0	11.794
40000.0	11.794
40500.0	11.794
41000.0	11.794
41500.0	11.794

END

HSB 69
MAY 9, 1990
TEST TWO
RECOVERY DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	-0.028
0.0083	-0.028
0.0166	-0.028
0.0250	-0.028
0.0333	-0.028
0.0416	-0.028
0.0500	-0.028
0.0583	-0.028
0.0666	-0.028
0.0750	-0.028
0.0833	-0.028
0.1000	-0.028
0.1166	-0.028
0.1333	-0.028
0.1500	-0.028
0.1666	-0.028
0.1833	-0.028
0.2000	-0.028
0.2166	-0.028
0.2333	-0.025
0.2500	-0.025
0.2666	-0.025
0.2833	-0.025
0.3000	-0.028
0.3166	-0.025
0.3333	-0.025
0.4166	-0.025
0.5000	-0.025
0.5833	-0.025
0.6666	-0.025
0.7500	-0.022
0.8333	-0.022
0.9166	-0.018
1.0000	-0.018
1.0833	-0.018
1.1666	-0.015
1.2500	-0.015
1.3333	-0.015
1.4166	-0.012
1.5000	-0.012
1.5833	-0.012
1.6666	-0.012
1.7500	-0.009
1.8333	-0.009
1.9166	-0.009
2.0000	-0.006
2.5000	-0.006
3.0000	-0.003

3.5000	0.000
4.0000	0.003
4.5000	0.003
5.0000	0.006
5.5000	0.006
6.0000	0.009
6.5000	0.009
7.0000	0.009
7.5000	0.009
8.0000	0.009
8.5000	0.012
9.0000	0.012
9.5000	0.012
10.0000	0.012
12.0000	0.009
14.0000	0.009
16.0000	0.003
18.0000	0.000
20.0000	0.000
22.0000	-0.003
24.0000	-0.003
26.0000	-0.003
28.0000	-0.006
30.0000	-0.006
32.0000	-0.009
34.0000	-0.006
36.0000	-0.009
38.0000	-0.009
40.0000	-0.009
42.0000	-0.009
44.0000	-0.009
46.0000	-0.009
48.0000	-0.009
50.0000	-0.009
52.0000	-0.009
54.0000	-0.009
56.0000	-0.009
58.0000	-0.006
60.0000	-0.009
62.0000	-0.009
64.0000	-0.009
66.0000	-0.006
68.0000	-0.009
70.0000	-0.009
72.0000	-0.006
74.0000	-0.009
76.0000	-0.012
78.0000	-0.012
80.0000	-0.012
82.0000	-0.012
84.0000	-0.012
86.0000	-0.012
88.0000	-0.012
90.0000	-0.012

92.0000	-0.012
94.0000	-0.015
96.0000	-0.012
98.0000	-0.015
100.000	-0.012
110.000	-0.025
120.000	-0.034
130.000	-0.031
140.000	-0.028
150.000	-0.031
160.000	-0.031
170.000	-0.034
180.000	-0.034
190.000	-0.037
200.000	-0.034
210.000	-0.031
220.000	-0.031
230.000	-0.031
240.000	-0.034
250.000	-0.037
260.000	-0.034
270.000	-0.037
280.000	-0.037
290.000	-0.040
300.000	-0.044
310.000	-0.040
320.000	-0.044
330.000	-0.044
340.000	-0.044
350.000	-0.047
360.000	-0.047
370.000	-0.047
380.000	-0.044
390.000	-0.047
400.000	-0.050
410.000	-0.056
420.000	-0.053
430.000	-0.053
440.000	-0.050
450.000	-0.050
460.000	-0.050
470.000	-0.050
480.000	-0.050
490.000	-0.047
500.000	-0.047
510.000	-0.047
520.000	-0.044
530.000	-0.044
540.000	-0.047
550.000	-0.047
560.000	-0.047
570.000	-0.047
580.000	-0.047
590.000	-0.044

600.000	-0.044
610.000	-0.044
620.000	-0.044
630.000	-0.044
640.000	-0.044
650.000	-0.044
660.000	-0.044
670.000	-0.044
680.000	-0.044
690.000	-0.044
700.000	-0.044
710.000	-0.044
720.000	-0.044
730.000	-0.044
740.000	-0.040
750.000	-0.044
760.000	-0.047
770.000	-0.050
780.000	-0.050
790.000	-0.053
800.000	-0.053
810.000	-0.056
820.000	-0.059
830.000	-0.059
840.000	-0.059
850.000	-0.059
860.000	-0.063
870.000	-0.066
880.000	-0.069
890.000	-0.072
900.000	-0.075
910.000	-0.078
920.000	-0.081
930.000	-0.081
940.000	-0.081
950.000	-0.085
960.000	-0.088
970.000	-0.088
980.000	-0.094
990.000	-0.097
1000.00	-0.097
1100.00	-0.097
1200.00	-0.091
1300.00	-0.078
1400.00	-0.069
1500.00	-0.066
1600.00	-0.072
1700.00	-0.066
1800.00	-0.078
1900.00	-0.059
2000.00	-0.050
2100.00	-0.037
2200.00	-0.025
2300.00	-0.028

2400.00	-0.034
2500.00	-0.034
2600.00	-0.037
2700.00	-0.025
2800.00	-0.009
2900.00	-0.003
3000.00	-0.003
3100.00	-0.009
3200.00	-0.009
3300.00	-0.006
3400.00	-0.018
3500.00	-0.018
3600.00	-0.009
3700.00	-0.006
3800.00	-0.018
3900.00	-0.018
4000.00	-0.015
4100.00	-0.006
4200.00	0.000
4300.00	0.012
4400.00	0.018
4500.00	0.009
4600.00	0.009
4700.00	-0.003
4800.00	-0.012
4900.00	-0.003
5000.00	-0.003
5100.00	0.003
5200.00	-0.003
5300.00	0.000
5400.00	0.003
5500.00	-0.018
5600.00	-0.022
5700.00	-0.022
5800.00	-0.006
5900.00	0.006
6000.00	0.006
6100.00	0.000
6200.00	0.003
6300.00	0.006
6400.00	0.015
6500.00	0.018
6600.00	0.015
6700.00	0.015
6800.00	0.009
6900.00	0.009
7000.00	0.022
7100.00	0.034
7200.00	0.037
7300.00	0.040
7400.00	0.069
7500.00	0.066
7600.00	0.028
7700.00	0.034

7800.00	0.034
7900.00	0.040
8000.00	0.044
8100.00	0.040
8200.00	0.031
8300.00	0.034
8400.00	0.037
8500.00	0.053
8600.00	0.059
8700.00	0.063
8800.00	8.285
8900.00	9.508
9000.00	9.508
9100.00	9.508
9200.00	9.508
9300.00	9.508
9400.00	9.508
9500.00	9.508
9600.00	9.508
9700.00	9.508
9800.00	9.508
9900.00	9.508
10000.0	9.508
10500.0	9.508
11000.0	9.508
11500.0	9.508
12000.0	9.508
12500.0	9.508
13000.0	9.508
13500.0	9.508
14000.0	9.508
14500.0	9.508
15000.0	9.508
15500.0	9.508
16000.0	9.508
16500.0	9.508
17000.0	9.508
17500.0	9.508
18000.0	9.508
18500.0	9.508
19000.0	9.508
19500.0	9.508
20000.0	9.508
20500.0	9.508
21000.0	9.508
21500.0	9.508
22000.0	9.508
22500.0	9.508
23000.0	9.508
23500.0	9.508
24000.0	9.508
24500.0	9.508
25000.0	9.508
25500.0	9.508

26000.0	9.508
26500.0	9.508
27000.0	9.508
27500.0	9.508
28000.0	9.508
28500.0	9.508
29000.0	9.508
29500.0	9.508
30000.0	9.508
30500.0	9.508
31000.0	9.508
31500.0	9.508
32000.0	9.508
32500.0	9.508
33000.0	9.508
33500.0	9.508
34000.0	9.508
34500.0	9.508
35000.0	9.508
35500.0	9.508
36000.0	9.508
36500.0	9.508
37000.0	9.508
37500.0	9.508
38000.0	9.508
38500.0	9.508
39000.0	9.508
39500.0	9.508
40000.0	9.508
40500.0	9.508
41000.0	9.508
41500.0	9.508

END

HSB 69A
MAY 9, 1990
TEST TWO
RECOVERY DATA

<u>ELAPSED TIME</u>	<u>DRAWDOWN</u>
0.0000	3.671
0.0083	3.671
0.0166	3.671
0.0250	3.674
0.0333	3.674
0.0416	3.674
0.0500	3.674
0.0583	3.674
0.0666	3.677
0.0750	3.677
0.0833	3.677
0.1000	3.677
0.1166	3.677
0.1333	3.680
0.1500	3.680
0.1666	3.680
0.1833	3.680
0.2000	3.680
0.2166	3.680
0.2333	3.680
0.2500	3.683
0.2666	3.683
0.2833	3.683
0.3000	3.683
0.3166	3.683
0.3333	3.683
0.4166	3.683
0.5000	3.683
0.5833	3.680
0.6666	3.677
0.7500	3.674
0.8333	3.668
0.9166	3.661
1.0000	3.655
1.0833	3.645
1.1666	3.636
1.2500	3.627
1.3333	3.614
1.4166	3.604
1.5000	3.592
1.5833	3.579
1.6666	3.567
1.7500	3.551
1.8333	3.538
1.9166	3.522
2.0000	3.510
2.5000	3.415
3.0000	3.330

3.5000	3.248
4.0000	3.169
4.5000	3.099
5.0000	3.033
5.5000	2.976
6.0000	2.919
6.5000	2.869
7.0000	2.822
7.5000	2.781
8.0000	2.739
8.5000	2.702
9.0000	2.664
9.5000	2.632
10.0000	2.601
12.0000	2.477
14.0000	2.376
16.0000	2.298
18.0000	2.225
20.0000	2.165
22.0000	2.108
24.0000	2.058
26.0000	2.010
28.0000	1.966
30.0000	1.925
32.0000	1.887
34.0000	1.852
36.0000	1.818
38.0000	1.786
40.0000	1.758
42.0000	1.729
44.0000	1.704
46.0000	1.679
48.0000	1.654
50.0000	1.631
52.0000	1.609
54.0000	1.587
56.0000	1.565
58.0000	1.549
60.0000	1.530
62.0000	1.512
64.0000	1.493
66.0000	1.477
68.0000	1.461
70.0000	1.445
72.0000	1.433
74.0000	1.417
76.0000	1.401
78.0000	1.385
80.0000	1.373
82.0000	1.360
84.0000	1.347
86.0000	1.335
88.0000	1.325
90.0000	1.313

92.0000	1.300
94.0000	1.291
96.0000	1.281
98.0000	1.268
100.000	1.259
110.000	1.196
120.000	1.149
130.000	1.111
140.000	1.076
150.000	1.041
160.000	1.013
170.000	0.984
180.000	0.962
190.000	0.934
200.000	0.915
210.000	0.896
220.000	0.877
230.000	0.858
240.000	0.839
250.000	0.820
260.000	0.808
270.000	0.792
280.000	0.776
290.000	0.760
300.000	0.748
310.000	0.735
320.000	0.722
330.000	0.713
340.000	0.700
350.000	0.688
360.000	0.675
370.000	0.666
380.000	0.659
390.000	0.647
400.000	0.637
410.000	0.621
420.000	0.618
430.000	0.606
440.000	0.606
450.000	0.593
460.000	0.587
470.000	0.577
480.000	0.568
490.000	0.561
500.000	0.558
510.000	0.549
520.000	0.542
530.000	0.536
540.000	0.530
550.000	0.524
560.000	0.517
570.000	0.511
580.000	0.505
590.000	0.501

600.000	0.495
610.000	0.492
620.000	0.486
630.000	0.482
640.000	0.479
650.000	0.473
660.000	0.470
670.000	0.464
680.000	0.460
690.000	0.454
700.000	0.451
710.000	0.445
720.000	0.441
730.000	0.438
740.000	0.432
750.000	0.426
760.000	0.416
770.000	0.413
780.000	0.410
790.000	0.404
800.000	0.397
810.000	0.394
820.000	0.391
830.000	0.385
840.000	0.381
850.000	0.378
860.000	0.372
870.000	0.366
880.000	0.359
890.000	0.356
900.000	0.350
910.000	0.347
920.000	0.337
930.000	0.331
940.000	0.331
950.000	0.325
960.000	0.318
970.000	0.315
980.000	0.312
990.000	0.306
1000.00	0.306
1100.00	0.274
1200.00	0.252
1300.00	0.236
1400.00	0.230
1500.00	0.214
1600.00	0.192
1700.00	0.176
1800.00	0.148
1900.00	0.142
2000.00	0.138
2100.00	0.132
2200.00	0.132
2300.00	0.126

2400.00	0.116
2500.00	0.110
2600.00	0.101
2700.00	0.097
2800.00	0.104
2900.00	0.104
3000.00	0.101
3100.00	0.091
3200.00	0.088
3300.00	0.075
3400.00	0.063
3500.00	0.056
3600.00	0.059
3700.00	0.063
3800.00	0.059
3900.00	0.056
4000.00	0.053
4100.00	0.050
4200.00	0.050
4300.00	0.059
4400.00	0.059
4500.00	0.056
4600.00	0.047
4700.00	0.034
4800.00	0.015
4900.00	0.012
5000.00	0.009
5100.00	0.006
5200.00	0.003
5300.00	0.000
5400.00	-0.003
5500.00	-0.025
5600.00	-0.031
5700.00	-0.037
5800.00	-0.031
5900.00	-0.028
6000.00	-0.034
6100.00	-0.041
6200.00	-0.047
6300.00	-0.050
6400.00	-0.050
6500.00	-0.050
6600.00	-0.050
6700.00	-0.053
6800.00	-0.059
6900.00	-0.063
7000.00	-0.063
7100.00	-0.053
7200.00	-0.053
7300.00	-0.050
7400.00	-0.034
7500.00	-0.037
7600.00	-0.056
7700.00	-0.053

7800.00	-0.050
7900.00	-0.044
8000.00	-0.037
8100.00	-0.034
8200.00	-0.037
8300.00	-0.037
8400.00	-0.034
8500.00	-0.028
8600.00	-0.018
8700.00	-0.015
8800.00	8.595
8900.00	9.924
9000.00	9.924
9100.00	9.924
9200.00	9.924
9300.00	9.924
9400.00	9.924
9500.00	9.924
9600.00	9.924
9700.00	9.924
9800.00	9.924
9900.00	9.924
10000.0	9.924
10500.0	9.924
11000.0	9.924
11500.0	9.924
12000.0	9.924
12500.0	9.924
13000.0	9.924
13500.0	9.924
14000.0	9.924
14500.0	9.924
15000.0	9.924
15500.0	9.924
16000.0	9.924
16500.0	9.924
17000.0	9.924
17500.0	9.924
18000.0	9.924
18500.0	9.924
19000.0	9.924
19500.0	9.924
20000.0	9.924
20500.0	9.924
21000.0	9.924
21500.0	9.924
22000.0	9.924
22500.0	9.924
23000.0	9.924
23500.0	9.924
24000.0	9.924
24500.0	9.924
25000.0	9.924
25500.0	9.924

26000.0	9.924
26500.0	9.924
27000.0	9.924
27500.0	9.924
28000.0	9.924
28500.0	9.924
29000.0	9.924
29500.0	9.924
30000.0	9.924
30500.0	9.924
31000.0	9.924
31500.0	9.924
32000.0	9.924
32500.0	9.924
33000.0	9.924
33500.0	9.924
34000.0	9.924
34500.0	9.924
35000.0	9.924
35500.0	9.924
36000.0	9.924
36500.0	9.924
37000.0	9.924
37500.0	9.924
38000.0	9.924
38500.0	9.924
39000.0	9.924
39500.0	9.924
40000.0	9.924
40500.0	9.924
41000.0	9.924
41500.0	9.924

END

WELL NO.: 86ADISTANCE FROM PUMPING WELL: 996 FTDATE: May 8, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
12:30	0	95.70	0			
13:24	54	95.82	0.12			
13:51	81	95.91	0.21			
14:15	105	95.96	0.21			
15:00	150	96.06	0.36			
15:28	178	96.11	0.41			
16:42	252	96.22	0.52			
17:33	303	96.30	0.60			
18:38	368	96.38	0.68			
19:30	420	96.43	0.73			
20:16	466	96.45	0.75			
21:14	524	96.48	0.78			
22:25	595	96.53	0.83			
23:26	656	96.57	0.87			
00:23	713	96.59	0.89			
02:14	824	96.64	0.94			
04:04	934	96.68	0.98			
06:06	1056	96.72	1.02			
08:02	1170	96.78	1.06			
09:04	1232	96.85	1.13			
		Pump turned off at 10:00 A. M.				

May 9

WELL NO.: HSB 86ADISTANCE FROM PUMPING WELL: 996 FTDATE: May 9, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
10:00	0	?				
10:37	37	96.80	1.10			
10:58	58	96.74	1.04			
11:20	80	96.70	1.0			
11:45	105	96.65	0.95			
12:55	175	96.46	0.76			
13:17	197	96.44	0.74			
13:39	219	96.44				
14:33	273	96.37	0.67			
15:33	333	96.31	0.61			
16:35	395	96.24	0.54			
17:36	456	96.21	0.51			
18:36	516	96.17	0.47			
19:31	571	96.15	0.45			
23:57	837	96.03	0.33			
04:05	1085	95.94	0.24			
07:48	1308	95.90	0.20			
09:53	1433	95.88	0.18			

57 gpm

WELL NO.: HSB 118A

DISTANCE FROM PUMPING WELL: 1244 Ft

DATE: May 8, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
12:30	0	81.50	0			
12:35	5	81.50	0			
12:40	10	81.51	.01			
12:50	20	81.51	.01			
13:00	30	81.52	.02			
13:10	40	81.53	.03			
13:20	50	81.55	.05			
13:26	56	81.99	.05			
13:29	59	81.58	.08			
13:59	89	81.64	0.14			
14:18	108	81.67	0.17			
15:03	153c	81.75	0.25			
15:32	182	81.78	0.28			
16:46	256	81.88	0.38			
17:36	306	81.95	0.45			
18:42	372	81.99	0.49			
19:34	424	82.05	0.55			
20:19	469	82.07	0.57			
21:18	528	82.12	0.62			
22:30	600	82.16	0.66			
23:30	660	82.17	0.67			
00:27	717	82.21	0.71			

MAY 9

WELL NO.: HSB 118ADISTANCE FROM PUMPING WELL: 1244 FTDATE: May 9, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
02:18	828	82.26	0.76			
04:08	938	82.29	0.79			
06:09	1059	82.32	0.82			
08:06	1176	82.38	0.88			
09:08	1238	82.40	0.90			
		Stopped pumping at 10:00 A. M.				
		RECOVERY				
10:00	0	?	?			
10:39	39	82.40	0.9			
11:00	60	82.38	0.88			
11:23	83	82.34	0.84			
11:48	108	82.31	0.81			
11:58	118 (178)	82.20	0.70			
13:20	200	82.18	0.68			
13:41	221	82.18	0.68			
14:36	276	82.11	0.61			
15:36	336	82.05	0.55			
16:38	398	82.01	0.51			
17:39	459	81.98	0.48			
18:39	519	81.95	0.45			
19:33	573	81.93	0.43			
00:01	841	81.83	0.33			

12:58

AY 10

WELL NO.: HSB 118A

DISTANCE FROM PUMPING WELL: 1244 FT

DATE: May 10, 1990

[illegible]

WELL NO.: HSB 68ADISTANCE FROM PUMPING WELL: 549 FTDATE: May 8, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
12:30	0	79.56	0			
12:31	1	79.56	0			
12:32	2	79.58	0.02			
12:33	3	79.59	0.03			
12:34	4	79.59	0.03			
12:35	5	79.60	0.04			
12:40	10	79.65	0.09			
12:45	15	79.73	0.17			
12:50	20	79.80	0.24			
12:55	25	79.87	0.31			
13:00	30	79.92	0.36			
13:05	35	79.95	0.39			
13:10	40	79.99	0.43			
13:20	50	80.06	0.50			
13:33	63	80.12	0.56			
14:02	92	80.25	0.69			
14:22	112	80.32	0.76			
15:08	158	80.46	0.90			
15:36	186	80.51	0.95			
16:52	262	80.66	1.10			
17:42	312	80.74	1.18			
18:49	379	80.82	1.26			

WELL NO.: HSB 68ADISTANCE FROM PUMPING WELL: 545 FTDATE: May 8, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
		80.82				
19:38	428	80.85	1.29			
20:23	473	80.88	1.32			
21:24	534	80.89	1.33			
22:36	606	80.97	1.41			
23:35	665	81.0	1.44			
00:32	722	81.04	1.48			
02:23	833	81.11	1.55			
04:13	943	81.13	1.57			
06:13	1063	81.18	1.62			
08:08	1178	81.29	1.73			
09:13	1243	81.31	1.75			
		Stopped pumping at 10:00 A. M.				
		RECOVERY				
10:00	0	?	?			

MAY 9

WELL NO.: HSB 68A - RecoveryDISTANCE FROM PUMPING WELL: 545 FTDATE: May 9, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
10:01	• 1	81.40	1.84			
10:05	5	81.33	1.77			
10:10	10	81.28	1.72			
10:15	15	81.23	1.67			
10:20	20	81.14	1.98			
10:25	25	81.07	1.91			
10:30	30	81.02	1.46			
10:42	42	80.92	1.36			
11:04	64	80.78	1.22			
11:27	87	80.67	1.11			
11:51	111	80.62	1.06			
13:01	181	80.43	0.87			
13:24	204	80.39	0.83			
13:44	224	80.35	0.79			
14:40	280	80.30	0.74			
15:39	339	80.21	0.65			
16:42	402	80.15	0.59			
17:43	463	80.10	0.54			
18:43	523	80.07	0.51			
19:37	597	80.04	0.48			
00:06	845	79.92	0.36			
04:15	1099	79.83	0.2			

WELL NO.: HSB 68A

DISTANCE FROM PUMPING WELL: 545 FT

DATE: May 10, 1990

[illegible]

WELL NO.: HSB 139ADISTANCE FROM PUMPING WELL: 1116 FTDATE: May 8, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
12:30	0	62.12	0			
13:37	67	62.22	0.10			
14:05	95	62.28	0.16			
14:25	115	62.32	0.20			
15:12	162	62.42	0.30			
15:39	189	62.47	0.35			
16:56	266	62.60	0.48			
17:44	314	62.66	0.54			
18:51	381	62.76	0.64			
19:43	433	62.81	0.69			
20:27	477	62.84	0.72			
21:28	538	62.88	0.76			
22:41	611	62.93	0.81			
23:39	669	62.96	0.84			
00:36	726	63.01	0.89			
02:29	839	63.07	0.95			
04:17	947	63.11	0.99			
06:17	1067	63.16	1.05			
08:11	1181	63.24	1.13			
09:17	1247	63.25	1.14			
		Pumping stopped at 10:00 A. M.				

WELL NO.: HSB 139ADISTANCE FROM PUMPING WELL: 1116 FTDATE: May 9, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
		RECOVERY				
10:00	0	?	?			
10:45	45	63.24	1.12			
11:06	66	63.20	1.08			
11:30	90	63.15	1.03			
11:54	114	63.10	0.98			
13:04	184	62.96	0.84			
13:26	206	62.95	0.83			
13:47	227	62.91	0.79			
14:43	283	62.85	0.73			
15:43	343	62.79	0.67			
16:45	405	62.72	0.60			
17:46	466	62.69	0.57			
18:46	526	62.65	0.53			
19:39	579	62.61	0.49			
00:11	851	62.47	0.35			
04:19	1099	62.39	0.27			
08:11	1331	62.34	0.22			
10:04	1444	62.33	0.21			

MAY 10

WELL NO.: HSB 83ADISTANCE FROM PUMPING WELL: 2253 FTDATE: May 8, 1990

TIME	ELAPSED TIME (MIN)	DEPTH TO WATER (TOC)	DRAWDOWN	FLOW- METER READING	Q (GPM)	MBAR
12:30	0	65.99	0			
13:41	71	66.02	0.03			
14:30	120	66.04	0.05			
15:49	199	66.10	0.11			
17:00	280	66.15	0.16			
17:49	329	66.18	0.19			
18:56	386	66.22	0.23			
19:49	439	66.25	0.26			
21:35	545	66.30	0.31			
22:51	621	66.33	0.34			
23:44	674	66.34	0.35			
00:41	731	66.37	0.38			
02:39	849	66.42	0.42			
04:22	952	66.47	0.47			
06:22	1072	66.51	0.51			
08:17	1187	66.55	0.55			
09:21	1251	66.57	0.57			
		PUMPING STOPPED AT 10.00 A. M.				
		RECOVERY				
10:00	0	?	?			
10:49	49	66.59	0.6			
11:10	70	66.59	0.6			

May 9

APPENDIX D

**TEST TWO
AQTESOLVTM DRAWDOWN PLOTS**

Test 2

HSB 69A LEAKY

AQTESOLV

GERAGHTY
& MILLER, INC.

Modeling Group

HSB86A

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

HSB118A2

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

HSB68A

AQTESOLV

GERAGHTY
& MILLER, INC.

Modeling Group

HSB139A.DAT

AQTESOLV

HSB83A

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

APPENDIX E

TEST TWO
AQTESOLVTM RECOVERY PLOTS

Test 2

HSB 69A RECOVERY

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

86ARECOV

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

118RECOV.DAT

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

68ARECOV

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

139RECOV

AQTESOLV

GERAGHTY
& MILLER, INC.

Modeling Group

83ARECOV

AQTESOLV

GERAGHTY
& MILLER, INC.
Modeling Group

APPENDIX F

**HSB 84A PUMPING TEST
CHEMICAL DATA**

APPENDIX F LEGEND

<u>USER ID</u>	<u>TIME</u>	<u>DATE</u>
HSB 84A S1	10:40	5/1/90
HSB 84A S2	12:35	5/1/90
HSB 84A S3	16:00	5/1/90
HSB 84A S4	18:00	5/1/90
HSB 84A S5	20:00	5/1/90
HSB 84A S6	22:00	5/1/90
HSB 84A S7	00:15	5/2/90
HSB 84A S8	04:00	5/2/90
HSB 84A S9	09:01	5/8/90
HSB 84A S10	13:00	5/8/90
HSB 84A S11	14:20	5/8/90
HSB 84A S12	16:46	5/8/90
HSB 84A S13	18:37	5/8/90
HSB 84A S14	20:05	5/8/90
HSB 84A S15	22:10	5/8/90
HSB 84A S16	00:15	5/9/90
HSB 84A S17	04:00	5/9/90
HSB 84A S18	08:00	5/9/90

>>> Analytical Services: Customer Sample RESULTS Report V1.15.9 <<<<

Saturday May 5, 1990 3:0 am

Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter: ALBENESIUS_PM

Address: ~~Unknown~~

703-H ; Rm. 133

ISB-84A-51

ADS Sample: 200042362

Study: H/F GROUND WATER

CustomDG: WASTE MGMT

SampleType: H/F-LIQ-TRITIUM

LoggedBy: RHINEHART_RH

SubmissionId: 100009480

SubmitDate: 05/04/90

LoggerPhone: X5-2034

Results Section

Method Results.

eration 1: TRITIUM PREP

Analyst: THOMPSON_MR

Component	Value
TRITIUM	2/20
TRITIUM PREP	105

Units	R	V
ML	1	1
PAGE NUMBER	1	1

eration 2: BETA LIQ SCINT

ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS P 189

Analyst: FULMER_GT

Component	Value
TRITIUM	1.50 E-3 UCI/ML

Units	R	V
TEXT	1	1

15

.0015 uCi

10L

15

15

>>>> Analytical Services: Customer Sample RESULTS Report V1.15.9 <<<<

Saturday May 5, 1990 3:0 am

Group by Submitter Ordered By Sample Type, User Id, Method, Sequence

Submitter : ALBENESIUS_PW

Address : Unknown

SB-84A-52

ADS Sample: 200042363
Study : H/F GROUND WATER

CustomDG : WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
LoggedBy : RHINEHART_RH

SubmissionId: 100009480
SubmitDate : 05/04/90
LoggerPhone : X5-2034

Results Section

Method Results.
ration 1 : TRITIUM PREP

Analyst: THOMPSON_MR

Component
TRITIUM
TRITIUM PREP

Value
2/20
105

Units
ML
PAGE NUMBER

R V
1 1
1 1

ration 2 : BETA LIQ SCINT
ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS P 189

Analyst: FULMER_GT

Component
TRITIUM

Value
1.64 E-3 UCI/ML

Units
TEXT

R V
1 1
R V
1 1

>>> Analytical Services: Customer Sample RESULTS Report V1.15.9 <<< Saturday May 5, 1990 3:0 am

Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIUS_PW

Address : Unknown

45B-84A-53

ADS SampleId: 200042364
Study : H/F GROUND WATER

CustomDG : WASTE MGMT
SampleType: H/F-LI0-TRITIUM
LoggedBy : RHINEHART_RH

SubmissionId: 100009480
SubmitDate : 05/04/90
LoggerPhone : 35-2034

Results Section

Method Results.
eration 1 : TRITIUM PREP

Component
TRITIUM
TRITIUM PREP

Value
2/20
105

Analyst: THOMPSON_MR

Units
ML
PAGE NUMBER
R V
R V
1 1
1 1

eration 2 : BETA LI0 SCINT
ADP FILE/NOTEBOOK REF: BETA LI0 SCINT COMMENTS P 189

Component
TRITIUM

Value
1.80 E-3 UCI/ML

Analyst: FULMER_GT

Units
TEXT
R V
1 1

=====

> > > Analytical Services: Customer Sample RESULTS Report V1.15.9 < < <

Saturday May 5, 1990 3:0 am

Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIUS_PW

Address : Unknown

ISB-84A-54

ADS SampleId: 200042365
Study : H/F GROUND WATER

CustomDG : WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
LoggedBy : RHINEHART_RH

SubmissionId: 100009480
SubmitDate : 05/04/90
LoggerPhone : X5-2034

Results Section

Method Results.

ration 1 : TRITIUM PREP

Analyst: THOMPSON_MR

R V

Component	Value
TRITIUM	2/60
TRITIUM PREP	105

Units	R V
ML	1 1
PAGE NUMBER	1 1

ration 2 : BETA LIQ SCINT

ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS P 189

Analyst: FULMER_GT

R V

Component	Value
TRITIUM	1.89 E-3 UCI/ML

Units	R V
TEXT	1 1

ISB-84A-55

>>> Analytical Services: Customer Sample RESULTS Report V1.15.9 <<<
Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIUS_PW

Address : Unknown

ISB-84A-55

ADS SampleId: 200042366
Study : H/F GROUND WATER

CustomDC : WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
LoggedBy : RHINEHART_RH

SubmissionId: 100009480
SubmitDate : 05/04/90
LoggerPhone : X5-2034

Results Section

Method Results.
Fraction 1 : TRITIUM PREP

Analyst: THOMPSON_MR

Component
TRITIUM
TRITIUM PREP

Value
2/60
105

R V

Units
ML
PAGE NUMBER
1 1
1 1

Fraction 2 : BETA LIQ SCINT
ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS P 189

Analyst: FULMER_GT

Component
TRITIUM

Value
1.92 E-3 UCI/ML

R V
1 1

Units
TEXT
1 1

=====

> > > Analytical Services: Customer Sample RESULTS Report V1.15.9 < < <

Saturday May 5, 1990 3:0 am

Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIUS_PW

Address : Unknown

HSB-84A-56

ADS SampleId: 200042367
Study : H/F GROUND WATER

CustomDG : WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
LoggedBy : RHINEHART_RH

SubmissionId: 100009480
SubmitDate : 05/04/90
LoggerPhone : X5-2034

Results Section

Method Results.

eration 1 : TRITIUM PREP

Analyst: THOMPSON_MR

R V

Component	Value
TRITIUM	2/60
TRITIUM PREP	105

Units	R V
ML	1 1
PAGE NUMBER	1 1

eration 2 : BETA LIQ SCINT

ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS P 189

Analyst: FULMER_GT

R V

1 1

Component	Value
TRITIUM	1.96 E-3 UCI/ML

Units	R V
TEXT	1 1

>>> Analytical Services: Customer Sample RESULTS Report V1.15.9 <<<<

Saturday May 5, 1990 3:0 am

Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIUS_PW

Address : Unknown

MSB-B4A-57

ADS Sample: 200042368
Study : H/F GROUND WATER

CustomDG : WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
LoggedBy : RHINEHART_RH

SubmissionId: 100009480
SubmitDate : 05/04/90
LoggerPhone : X5-2034

Results Section

Method Results.
eration 1 : TRITIUM PREP

Component
TRITIUM
TRITIUM PREP

Value
2/60
105

Analyst: THOMPSON_MR

Units
ML
PAGE NUMBER

R V
1 1
1 1

eration 2 : BETA LIQ SCINT
ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS P 189

Component
TRITIUM

Value
1.95 E-3 UCI/ML

Analyst: FULMER_GT

Units
TEXT

R V
1 1
1 1

Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIUS_PW

Address : Unknown

HSB-84A-58

ADS SampleId: 200042369
Study : H/F GROUND WATER

CustomDG : WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
LoggedBy : RHINEHART_RH

SubmissionId: 100009480
SubmitDate : 05/04/90
LoggerPhone : X5-2034

Results Section

Method Results.

Operation 1 : TRITIUM PREP

Analyst: THOMPSON_MR

R V

Component	Value
TRITIUM	2/60
TRITIUM PREP	105

Units	R V
ML	1 1
PAGE NUMBER	1 1

Operation 2 : BETA LIQ SCINT

ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS P 189

Analyst: FULMER_CT

R V

Component	Value
TRITIUM	1.96 E-3 UCI/ML

Units	R V
TEXT	1 1

=====

Analytical Services: Customer Sample Results Report V1.15.9 <<<
 Name By Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter: ALBENSIUS FW 7-1543

49B84A59 ALPINES 5/11/90

ADS SampleId: 200942528

Study : H/F GROUND WATER

Address : Unknown

Attachments : WASTE MGMT

Supplet, Jr.: H/F-LQ-FILUM

Log Date: 3533MEN

SubmissionId: 100009535

SubmitDate : 05/11/90

LoggerPhone : 32352

Resullat: Seidi:

Method Results.
eration 1 : TRITIUM PREP

Component	Value
TRITIUM	2/20
TRITIUM PREP	PAGE 105

Analyst: THOMPSON MR

Units	R	V
ML	1	1
PAGE NUMBER	1	1

eration 2 : BETA L13 SCINT
ADP FILE/NOTEBOOK REF:

BETA LIO SCINT COMMENTS PAGE 155

Analyst: FULLMER, CT

VI
RI

Com: nert
TRITIUM

2000

Units
TEXT

21

9.01

Tuesday May 15, 1990 3:0 am

Customer Sample RESULTS Report VI-15.9 <<<<
Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIUS_PW 7-1543 703-H

19884A510 ALBENESIUS 5/11/90

ADS SampleId: 200042589

Study : H/F GROUND WATER

Address : Unknown

Customer : WASTE MGMT

SampleType: H/F LIQ-TRITIUM

LoggedBy : DEWESE_BM

SubmissionId: 100009536

SubmitDate : 05/11/90

LoggerPhone : 52352

Results Section

Method Results.
eration 1 : TRITIUM PREP

Component	Value
TRITIUM	2/20
TRITIUM PREP	PGE 105

Analyst: THOMPSON_MR

R V

Units
ML
PAGE NUMBER

R V
1 1
1 1

eration 2 : BETA LIQ SCINT
ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS PAGE 195

Analyst: FULMER_DT

R V
1 1

Component	Value
TRITIUM	1.54E+06 CPM/ML

Units
TEXT

R V
1 1

13:00

Tuesday May 15, 1990 3:0 am

Analytical Services: Customer Sample Analysis Report VI.15.9 <<<<
Group by Submitter: Ordered by Sample Type, User Id, Method, Sequence

Submitter: ALBENESIUS_FW 7-1543 703-H
ADS Sample: 208042590
Study: H/F GROUND WATER
Address: Unknown
CUSTOMER: WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
Loggedby: DEWESE_BN
SubmissionId: 100009536
SubmitDate: 05/11/90
LoggerPhone: 52352

Results Section

Method Results.
Iteration 1: TRITIUM PREP

Component	Value	Units	R	V
TRITIUM	2720	ML	1	1
TRITIUM PREP	PAGE 105	PAGE NUMBER	1	1

Iteration 2: BETA LIQ SCINT
ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS PAGE 195

Component	Value	Units	R	V
TRITIUM	1.37E+004.1 ML	TEXT	1	1

14.20

Tuesday May 15, 1990 3:0 am

Customer Sample Results Report VI-15.9 <<<<<
Group By Submitter Ordered By Sample Type, User Id, Method, Sequence

Submitter: ALBENESIUS_PW 7-1543 703-H

ADS SampleId: 200042591
Study: H/F GROUND WATER

Address: Unknown

Customer: WASTE MGMT
SampleType: H/F LID-TRITIUM
LoggedBy: DEWESE_BM

SubmissionId: 100009536
SubmitDate: 05/11/90
LoggerPhone: 52352

Results Section

Method Results:
eration 1: TRITIUM PREP

Component
TRITIUM
TRITIUM PREP

Value
2/20
PAGE 105

Analyst: THOMPSON_MR

Units
ML
PAGE NUMBER
RV
1 1
1 1

eration 2: BETA LID SCINT
ADP FILE/NOTEBOOK REF:

BETA LID SCINT COMMENTS PAGE 195

Component
TRITIUM

Value
1.55E-3001/ML

Analyst: FULMER_GT

Units
TEXT
RV
1 1
1 1

16.46

Tuesday May 15, 1990 3:0 am

Customer Sample Results Report VI.15.9 <<<<<<
Group by Submitted Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIOS_PW 7-1543 703-H

Address : Unknown

HS884A513 ALBENESIOS 5/11/90

ADS SampleId: 200042592

Study : H/F GROUND WATER

Customer : WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
LoggedBy : DEMESE_BM

SubmissionId: 100009336
SubmitDate : 05/11/90
LoggerPhone : 52352

Results Section

Method Results.
Iteration 1 : TRITIUM PREP

Component
TRITIUM
TRITIUM PREP

Value
2/20
PAGE 105

Analyst: THOMPSON_MR

R V
R V
1 1
1 1

Iteration 2 : BETA LIQ SCINT
ADP FILE/NOTEBOOK REF:

BETA LIQ SCINT COMMENTS PAGE 195

Component
TRITIUM

Value
1.93E-000100L

Analyst: FULMER_GT

R V
1 1
R V
1 1

18:37

=====

Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALLENESIOS_PW 7-1543 703-H

Address : Unknown

ISB84A514 ALLENESIOS 5/11/90

ADS Sample: 200042593

Study : H/F GROUND WATER

CustomDS : WASTE MGMT

SampleType: H/F-LIQ-TRITIUM

LoggedBy : DEWEESE_BM

SubmissionId: 100009536

SubmitDate : 05/11/90

LoggerPhone : 52352

Results Section

Method Results.

ration 1 : TRITIUM PREP

Analyst: THOMPSON_MR

Component
TRITIUM
TRITIUM PREPValue
2/20
PAGE 105Units
ML
PAGE NUMBER

R V

R V
1 1
1 1

ration 2 : BETA LIQ SCINT

ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS PAGE 195

Analyst: FULMER_CT

Component
TRITIUMValue
1.90E-3001/MLUnits
TEXTR V
1 1R V
1 1

20:05

Tuesday May 15, 1990 3:0 am

Analytical Services: Customer Sample RESULTS Report VI.15.9
Group by Submitter: Generated by Sample Type, User Id, Method, Sequence

Submitter: ALBENESIUS_PW 7-1543 701-R Address: Unknown

HSB84A515 ALBENESIUS 5/11/90

ADS SampleId: 200042594

Study: H/F GROUND WATER

Customer: WASTE MGMT
SampleType: H/F-LIQ-TRITIUM
LogEntry: DENESEE_BM

SubmissionId: 100009536
SubmitDate: 05/11/90
LoggerPhone: 52352

Results Section

Method Results:
Iteration 1: TRITIUM PREP

Component
TRITIUM
TRITIUM PREP

Value:
2/20
PAGE 105

Analyst: THOMPSON_MR

Units
ML
PAGE NUMBER
RV
1 1
1 1

Iteration 2: BETA LIQ SCINT
ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS PAGE 125

Component
TRITIUM

Value:
1.39E-3001.ML

Analyst: FULMER_GT

Units
TEXT
RV
1 1
RV
1 1

22:10

Group by Submitter Ordered by Sample Type, User Id, Method, Sequence

Submitter : ALBENESIOS_FW 7-1543 703-H

Address : Unknown

HSB84A516 ALBENESIOS 5/11/90

ADS Sample: 200042595

Study : H/F GROUND WATER

Customer: WASTE MGMT

SampleType: H/F-LI9-TRITIUM

LoggedBy : DEWEESE_BM

SubmissionId: 100009536

SubmitDate : 05/11/90

LoggerPhone : 52352

Results Section

Method Results.

Iteration 1 : TRITIUM PREP

Analyst: THOMPSON_MR

R V

Component	Value
TRITIUM	2/20
TRITIUM PREP	PAGE 105

Units	R V
ML	1 1
PAGE NUMBER	1 1

Iteration 2 : BETA LI9 SCINT

Analyst: FULMER_GT

R V

ADP FILE/NOTEBOOK REF: BETA LI9 SCINT COMMENTS PAGE 195

1 1

Component	Value
TRITIUM	1.01E-3031ML

Units	R V
TEXT	1 1

00:15

Tuesday May 15, 1990 3:0 am

Customer Sample RESULTS Report

VI.15.9

Analytical Services:

Group by Submitter

Submitter : ALBENESIOS_FW 7-1540 703-R

Address : Unknown

HSB84A517 ALBENESIOS 5/11/90

ADS_SampId: 200042597

Study : H/F GROUND WATER

Customer : WASTE MGMT

SampleType: H/F-LIQ-TRITIUM

LoggedBy : DEWESE_BM

SubmissionId: 100009536

SubmitDate : 05/11/90

LoggerPhone : 52352

Results Section

Method Results.

eration 1 : TRITIUM PREP

Component

TRITIUM

TRITIUM PREP

Value

2/20

PAGE 105

Analyst: THOMPSON_MR

R V

Units

ML

PAGE NUMBER

R V

1 1

1 1

eration 2 : BETA LIQ SCINT

ADP FILE/NOTEBOOK REF: BETA LIQ SCINT COMMENTS PAGE 175

Component

TRITIUM

Analyst: FULMER_CT

R V

1 1

Units

TEXT

R V

1 1

Value

1.07E-0001 ML

04:00

APPENDIX G

**HSB 84A PUMPING TEST
PRE-TEST WATER LEVEL DATA**

HSB 84A
APRIL 27, 1990
PRE-TEST WATER LEVEL CHANGES

<u>ELAPSED TIME</u>	<u>CHANGE</u>
0.0000	0.000
15.0000	-0.015
30.0000	-0.015
45.0000	-0.015
60.0000	-0.015
75.0000	-0.031
90.0000	-0.031
105.000	-0.031
120.000	-0.047
135.000	-0.047
150.000	-0.047
165.000	-0.047
180.000	-0.063
195.000	-0.063
210.000	-0.063
225.000	-0.063
240.000	-0.078
255.000	-0.078
270.000	-0.078
285.000	-0.094
300.000	-0.094
315.000	-0.094
330.000	-0.110
345.000	-0.110
360.000	-0.110
375.000	-0.110
390.000	-0.110
405.000	-0.110
420.000	-0.126
435.000	-0.126
450.000	-0.126
465.000	-0.126
480.000	-0.126
495.000	-0.126
510.000	-0.141
525.000	-0.141
540.000	-0.141
555.000	-0.141
570.000	-0.141
585.000	-0.141
600.000	-0.141
615.000	-0.141
630.000	-0.141
645.000	-0.141
660.000	-0.141
675.000	-0.141
690.000	-0.157
705.000	-0.157
720.000	-0.157

735.000	-0.157
750.000	-0.157
765.000	-0.157
780.000	-0.157
795.000	-0.157
810.000	-0.157
825.000	-0.157
840.000	-0.157
855.000	-0.157
870.000	-0.157
885.000	-0.157
900.000	-0.157
915.000	-0.157
930.000	-0.157
945.000	-0.157
960.000	-0.157
975.000	-0.157
990.000	-0.157
1005.00	-0.157
1020.00	-0.157
1035.00	-0.157
1050.00	-0.157
1065.00	-0.141
1080.00	-0.157
1095.00	-0.157
1110.00	-0.157
1125.00	-0.141
1140.00	-0.157
1155.00	-0.157
1170.00	-0.141
1185.00	-0.141
1200.00	-0.141
1215.00	-0.141
1230.00	-0.157
1245.00	-0.157
1260.00	-0.157
1275.00	-0.141
1290.00	-0.141
1305.00	-0.141
1320.00	-0.157
1335.00	-0.157
1350.00	-0.141
1365.00	-0.141
1380.00	-0.141
1395.00	-0.141
1410.00	-0.141
1425.00	-0.141
1440.00	-0.141
1455.00	-0.141
1470.00	-0.141
1485.00	-0.141
1500.00	-0.141
1515.00	-0.141
1530.00	-0.157

1545.00	-0.141
1560.00	-0.141
1575.00	-0.157
1590.00	-0.141
1605.00	-0.141
1620.00	-0.157
1635.00	-0.157
1650.00	-0.157
1665.00	-0.157
1680.00	-0.157
1695.00	-0.157
1710.00	-0.157
1725.00	-0.173
1740.00	-0.205
1755.00	-0.205
1770.00	-0.205
1785.00	-0.205
1800.00	-0.205
1815.00	-0.220
1830.00	-0.220
1845.00	-0.236
1860.00	-0.236
1875.00	-0.236
1890.00	-0.236
1905.00	-0.236
1920.00	-0.236
1935.00	-0.236
1950.00	-0.252
1965.00	-0.252
1980.00	-0.252
1995.00	-0.252
2010.00	-0.252
2025.00	-0.252
2040.00	-0.252
2055.00	-0.252
2070.00	-0.252
2085.00	-0.252
2100.00	-0.252
2115.00	-0.252
2130.00	-0.252
2145.00	-0.252
2160.00	-0.252
2175.00	-0.252
2190.00	-0.252
2205.00	-0.252
2220.00	-0.252
2235.00	-0.252
2250.00	-0.252
2265.00	-0.252
2280.00	-0.252
2295.00	-0.252
2310.00	-0.252
2325.00	-0.252
2340.00	-0.252

2355.00	-0.252
2370.00	-0.252
2385.00	-0.252
2400.00	-0.252
2415.00	-0.252
2430.00	-0.252
2445.00	-0.252
2460.00	-0.252
2475.00	-0.252
2490.00	-0.236
2505.00	-0.236
2520.00	-0.220
2535.00	-0.220
2550.00	-0.220
2565.00	-0.220
2580.00	-0.220
2595.00	-0.205
2610.00	-0.220
2625.00	-0.205
2640.00	-0.189
2655.00	-0.205
2670.00	-0.189
2685.00	-0.189
2700.00	-0.189
2715.00	-0.189
2730.00	-0.189
2745.00	-0.189
2760.00	-0.189
2775.00	-0.189
2790.00	-0.189
2805.00	-0.189
2820.00	-0.189
2835.00	-0.189
2850.00	-0.189
2865.00	-0.189
2880.00	-0.189
2895.00	-0.189
2910.00	-0.189
2925.00	-0.189
2940.00	-0.189
2955.00	-0.189
2970.00	-0.189
2985.00	-0.189
3000.00	-0.189
3015.00	-0.205
3030.00	-0.189
3045.00	-0.205
3060.00	-0.205
3075.00	-0.205
3090.00	-0.205
3105.00	-0.205
3120.00	-0.220
3135.00	-0.220
3150.00	-0.220

HSB 84B
APRIL 27, 1990
PRE-TEST WATER LEVEL CHANGES

<u>ELAPSED TIME</u>	<u>CHANGE</u>
0.0000	0.015
15.0000	0.031
30.0000	0.047
45.0000	0.031
60.0000	0.031
75.0000	0.031
90.0000	0.047
105.000	0.047
120.000	0.031
135.000	0.031
150.000	0.031
165.000	0.031
180.000	0.031
195.000	0.031
210.000	0.031
225.000	0.031
240.000	0.015
255.000	0.015
270.000	0.015
285.000	0.015
300.000	0.000
315.000	0.000
330.000	0.000
345.000	0.000
360.000	0.000
375.000	0.000
390.000	0.000
405.000	0.000
420.000	-0.015
435.000	-0.015
450.000	-0.015
465.000	-0.015
480.000	-0.015
495.000	-0.015
510.000	-0.015
525.000	-0.015
540.000	-0.015
555.000	-0.015
570.000	-0.015
585.000	-0.015
600.000	-0.015
615.000	-0.015
630.000	-0.015
645.000	-0.015
660.000	-0.015
675.000	-0.015
690.000	-0.015
705.000	-0.015
720.000	-0.015

735.000	-0.015
750.000	-0.015
765.000	-0.015
780.000	-0.015
795.000	-0.015
810.000	-0.015
825.000	-0.015
840.000	-0.015
855.000	-0.015
870.000	-0.015
885.000	-0.015
900.000	-0.015
915.000	-0.015
930.000	-0.015
945.000	-0.015
960.000	-0.015
975.000	-0.015
990.000	-0.015
1005.00	-0.015
1020.00	-0.015
1035.00	-0.015
1050.00	-0.015
1065.00	0.000
1080.00	-0.015
1095.00	-0.015
1110.00	0.000
1125.00	-0.015
1140.00	0.000
1155.00	0.000
1170.00	0.000
1185.00	0.000
1200.00	0.000
1215.00	-0.015
1230.00	0.000
1245.00	0.000
1260.00	0.000
1275.00	0.015
1290.00	0.015
1305.00	0.000
1320.00	0.000
1335.00	-0.031
1350.00	0.015
1365.00	0.000
1380.00	0.047
1395.00	0.015
1410.00	0.015
1425.00	0.000
1440.00	0.000
1455.00	0.000
1470.00	0.000
1485.00	0.000
1500.00	0.000
1515.00	0.000
1530.00	-0.015

1545.00	0.000
1560.00	0.015
1575.00	-0.015
1590.00	0.000
1605.00	0.000
1620.00	0.000
1635.00	0.000
1650.00	0.000
1665.00	0.000
1680.00	0.000
1695.00	0.000
1710.00	-0.047
1725.00	-0.015
1740.00	-0.047
1755.00	-0.063
1770.00	-0.063
1785.00	-0.063
1800.00	-0.063
1815.00	-0.063
1830.00	-0.063
1845.00	-0.063
1860.00	-0.063
1875.00	-0.063
1890.00	-0.063
1905.00	-0.063
1920.00	-0.063
1935.00	-0.063
1950.00	-0.063
1965.00	-0.063
1980.00	-0.063
1995.00	-0.063
2010.00	-0.063
2025.00	-0.063
2040.00	-0.063
2055.00	-0.063
2070.00	-0.063
2085.00	-0.063
2100.00	-0.063
2115.00	-0.063
2130.00	-0.063
2145.00	-0.063
2160.00	-0.063
2175.00	-0.063
2190.00	-0.063
2205.00	-0.063
2220.00	-0.063
2235.00	-0.063
2250.00	-0.063
2265.00	-0.063
2280.00	-0.063
2295.00	-0.063
2310.00	-0.063
2325.00	-0.063
2340.00	-0.063

2355.00	-0.063
2370.00	-0.063
2385.00	-0.063
2400.00	-0.047
2415.00	-0.047
2430.00	-0.047
2445.00	-0.047
2460.00	-0.047
2475.00	-0.047
2490.00	-0.047
2505.00	-0.015
2520.00	-0.031
2535.00	-0.031
2550.00	-0.015
2565.00	-0.031
2580.00	-0.031
2595.00	-0.015
2610.00	-0.031
2625.00	0.000
2640.00	0.000
2655.00	-0.015
2670.00	0.000
2685.00	0.031
2700.00	0.000
2715.00	0.000
2730.00	0.000
2745.00	0.015
2760.00	0.000
2775.00	0.000
2790.00	0.000
2805.00	0.000
2820.00	0.031
2835.00	-0.015
2850.00	-0.015
2865.00	0.000
2880.00	0.000
2895.00	0.000
2910.00	0.015
2925.00	0.000
2940.00	0.000
2955.00	-0.015
2970.00	0.000
2985.00	0.000
3000.00	0.000
3015.00	-0.031
3030.00	0.000
3045.00	-0.015
3060.00	0.000
3075.00	0.000
3090.00	-0.015
3105.00	-0.015
3120.00	-0.015
3135.00	-0.015
3150.00	-0.015

3165.00	-0.015
3180.00	-0.015
3195.00	-0.031
3210.00	-0.031
3225.00	-0.031
3240.00	-0.031
3255.00	-0.031
3270.00	-0.031
3285.00	-0.031
3300.00	-0.031
3315.00	-0.031
3330.00	-0.047
3345.00	-0.047
3360.00	-0.047
3375.00	-0.047
3390.00	-0.047
3405.00	-0.047
3420.00	-0.047
3435.00	-0.047
3450.00	-0.047
3465.00	-0.047
3480.00	-0.047
3495.00	-0.047
3510.00	-0.047
3525.00	-0.047
3540.00	-0.047
3555.00	-0.047
3570.00	-0.047
3585.00	-0.047
3600.00	-0.047
3615.00	-0.047
3630.00	-0.047
3645.00	-0.063
3660.00	-0.047
3675.00	-0.063
3690.00	-0.047
3705.00	-0.047
3720.00	-0.047
3735.00	-0.047
3750.00	-0.047
3765.00	-0.047
3780.00	-0.047
3795.00	-0.047
3810.00	-0.047
3825.00	-0.047
3840.00	-0.047
3855.00	-0.031
3870.00	-0.031
3885.00	-0.031
3900.00	-0.015
3915.00	-0.015
3930.00	-0.015
3945.00	0.000
3960.00	0.000

3975.00

0.000

HSB 84C
APRIL 27, 1990
PRE-TEST WATER LEVEL CHANGES

<u>ELAPSED TIME</u>	<u>CHANGE</u>
0.0000	0.047
15.0000	0.031
30.0000	0.047
45.0000	0.015
60.0000	0.015
75.0000	0.031
90.0000	0.031
105.000	0.031
120.000	0.015
135.000	0.015
150.000	0.015
165.000	0.031
180.000	0.015
195.000	0.031
210.000	0.015
225.000	0.015
240.000	0.015
255.000	0.015
270.000	0.015
285.000	0.000
300.000	0.000
315.000	0.000
330.000	0.000
345.000	0.000
360.000	0.000
375.000	0.000
390.000	0.000
405.000	0.000
420.000	-0.015
435.000	-0.015
450.000	-0.015
465.000	-0.015
480.000	-0.015
495.000	-0.015
510.000	-0.015
525.000	-0.015
540.000	-0.015
555.000	-0.015
570.000	-0.015
585.000	-0.015
600.000	-0.015
615.000	-0.015
630.000	-0.015
645.000	-0.015
660.000	-0.015
675.000	-0.015
690.000	-0.015
705.000	-0.015
720.000	-0.015

735.000	-0.015
750.000	-0.015
765.000	-0.015
780.000	-0.015
795.000	-0.015
810.000	-0.015
825.000	-0.015
840.000	-0.015
855.000	-0.015
870.000	-0.015
885.000	-0.015
900.000	-0.015
915.000	0.000
930.000	-0.015
945.000	0.000
960.000	0.000
975.000	0.000
990.000	0.000
1005.00	0.000
1020.00	0.000
1035.00	0.000
1050.00	0.000
1065.00	0.015
1080.00	0.000
1095.00	0.000
1110.00	0.000
1125.00	0.000
1140.00	0.015
1155.00	0.000
1170.00	0.015
1185.00	0.015
1200.00	0.015
1215.00	0.000
1230.00	0.015
1245.00	0.015
1260.00	0.015
1275.00	0.015
1290.00	0.031
1305.00	0.015
1320.00	0.015
1335.00	0.000
1350.00	0.031
1365.00	0.015
1380.00	0.047
1395.00	0.015
1410.00	0.031
1425.00	0.031
1440.00	0.031
1455.00	0.015
1470.00	0.015
1485.00	0.015
1500.00	0.015
1515.00	0.031
1530.00	0.015

1545.00	0.031
1560.00	0.031
1575.00	0.031
1590.00	0.015
1605.00	0.031
1620.00	0.031
1635.00	0.015
1650.00	0.031
1665.00	0.015
1680.00	0.015
1695.00	0.031
1710.00	0.031
1725.00	0.047
1740.00	0.078
1755.00	0.015
1770.00	0.031
1785.00	-0.015
1800.00	-0.047
1815.00	-0.063
1830.00	-0.063
1845.00	-0.063
1860.00	-0.063
1875.00	-0.063
1890.00	-0.063
1905.00	-0.063
1920.00	-0.047
1935.00	-0.047
1950.00	-0.047
1965.00	-0.047
1980.00	-0.047
1995.00	-0.047
2010.00	-0.047
2025.00	-0.047
2040.00	-0.047
2055.00	-0.047
2070.00	-0.031
2085.00	-0.031
2100.00	-0.047
2115.00	-0.031
2130.00	-0.031
2145.00	-0.031
2160.00	-0.031
2175.00	-0.031
2190.00	-0.031
2205.00	-0.031
2220.00	-0.031
2235.00	-0.031
2250.00	-0.031
2265.00	-0.031
2280.00	-0.031
2295.00	-0.031
2310.00	-0.031
2325.00	-0.031
2340.00	-0.031

2355.00	-0.031
2370.00	-0.031
2385.00	-0.031
2400.00	-0.031
2415.00	-0.031
2430.00	-0.015
2445.00	-0.015
2460.00	-0.015
2475.00	-0.015
2490.00	-0.015
2505.00	0.000
2520.00	0.000
2535.00	0.000
2550.00	0.015
2565.00	0.000
2580.00	0.000
2595.00	0.015
2610.00	0.015
2625.00	0.015
2640.00	0.031
2655.00	0.015
2670.00	0.031
2685.00	0.031
2700.00	0.031
2715.00	0.031
2730.00	0.031
2745.00	0.031
2760.00	0.031
2775.00	0.031
2790.00	0.031
2805.00	0.031
2820.00	0.047
2835.00	0.031
2850.00	0.031
2865.00	0.031
2880.00	0.031
2895.00	0.047
2910.00	0.047
2925.00	0.047
2940.00	0.031
2955.00	0.031
2970.00	0.031
2985.00	0.047
3000.00	0.047
3015.00	0.031
3030.00	0.047
3045.00	0.031
3060.00	0.031
3075.00	0.031
3090.00	0.031
3105.00	0.031
3120.00	0.031
3135.00	0.031
3150.00	0.031

3165.00	0.031
3180.00	0.015
3195.00	0.015
3210.00	0.015
3225.00	0.015
3240.00	0.015
3255.00	0.015
3270.00	0.015
3285.00	0.015
3300.00	0.015
3315.00	0.015
3330.00	0.015
3345.00	0.015
3360.00	0.000
3375.00	0.015
3390.00	0.000
3405.00	0.000
3420.00	0.000
3435.00	0.000
3450.00	0.000
3465.00	0.000
3480.00	0.000
3495.00	0.000
3510.00	0.000
3525.00	0.000
3540.00	0.000
3555.00	0.000
3570.00	0.000
3585.00	0.000
3600.00	0.000
3615.00	0.000
3630.00	0.000
3645.00	0.000
3660.00	0.000
3675.00	0.000
3690.00	0.000
3705.00	0.000
3720.00	0.000
3735.00	0.000
3750.00	0.000
3765.00	0.000
3780.00	0.000
3795.00	0.000
3810.00	0.000
3825.00	0.000
3840.00	0.000
3855.00	0.015
3870.00	0.015
3885.00	0.015
3900.00	0.015
3915.00	0.031
3930.00	0.031
3945.00	0.047
3960.00	0.047

3975.00

0.047

HSB 84D
APRIL 27, 1990
PRE-TEST WATER LEVEL CHANGES

<u>ELAPSED TIME</u>	<u>CHANGE</u>
0.0000	-0.015
15.0000	0.000
30.0000	0.015
45.0000	0.000
60.0000	0.000
75.0000	0.015
90.0000	0.015
105.000	0.015
120.000	0.000
135.000	0.015
150.000	0.015
165.000	0.015
180.000	0.015
195.000	0.015
210.000	0.015
225.000	0.000
240.000	0.000
255.000	0.000
270.000	0.000
285.000	-0.015
300.000	-0.015
315.000	-0.015
330.000	-0.015
345.000	-0.031
360.000	-0.015
375.000	-0.031
390.000	-0.031
405.000	-0.031
420.000	-0.031
435.000	-0.031
450.000	-0.031
465.000	-0.031
480.000	-0.031
495.000	-0.031
510.000	-0.031
525.000	-0.047
540.000	-0.047
555.000	-0.047
570.000	-0.047
585.000	-0.047
600.000	-0.047
615.000	-0.047
630.000	-0.047
645.000	-0.047
660.000	-0.062
675.000	-0.062
690.000	-0.062
705.000	-0.062
720.000	-0.062

735.000	-0.062
750.000	-0.062
765.000	-0.062
780.000	-0.062
795.000	-0.062
810.000	-0.062
825.000	-0.062
840.000	-0.062
855.000	-0.062
870.000	-0.062
885.000	-0.062
900.000	-0.062
915.000	-0.062
930.000	-0.062
945.000	-0.062
960.000	-0.062
975.000	-0.062
990.000	-0.062
1005.00	-0.062
1020.00	-0.062
1035.00	-0.062
1050.00	-0.062
1065.00	-0.047
1080.00	-0.062
1095.00	-0.062
1110.00	-0.047
1125.00	-0.062
1140.00	-0.047
1155.00	-0.047
1170.00	-0.047
1185.00	-0.047
1200.00	-0.047
1215.00	-0.062
1230.00	-0.062
1245.00	-0.062
1260.00	-0.047
1275.00	-0.047
1290.00	-0.047
1305.00	-0.062
1320.00	-0.062
1335.00	-0.078
1350.00	-0.047
1365.00	-0.062
1380.00	-0.047
1395.00	-0.047
1410.00	-0.047
1425.00	-0.047
1440.00	-0.062
1455.00	-0.062
1470.00	-0.062
1485.00	-0.047
1500.00	-0.062
1515.00	-0.047
1530.00	-0.062

1545.00	-0.047
1560.00	-0.047
1575.00	-0.062
1590.00	-0.047
1605.00	-0.047
1620.00	-0.062
1635.00	-0.047
1650.00	-0.047
1665.00	-0.047
1680.00	-0.047
1695.00	-0.047
1710.00	-0.031
1725.00	-0.047
1740.00	-0.062
1755.00	-0.094
1770.00	-0.094
1785.00	-0.110
1800.00	-0.110
1815.00	-0.125
1830.00	-0.125
1845.00	-0.110
1860.00	-0.110
1875.00	-0.110
1890.00	-0.110
1905.00	-0.110
1920.00	-0.110
1935.00	-0.110
1950.00	-0.110
1965.00	-0.125
1980.00	-0.125
1995.00	-0.110
2010.00	-0.110
2025.00	-0.110
2040.00	-0.125
2055.00	-0.110
2070.00	-0.110
2085.00	-0.125
2100.00	-0.125
2115.00	-0.125
2130.00	-0.125
2145.00	-0.125
2160.00	-0.110
2175.00	-0.125
2190.00	-0.125
2205.00	-0.110
2220.00	-0.125
2235.00	-0.125
2250.00	-0.110
2265.00	-0.110
2280.00	-0.110
2295.00	-0.110
2310.00	-0.110
2325.00	-0.110
2340.00	-0.110

2355.00	-0.110
2370.00	-0.110
2385.00	-0.110
2400.00	-0.110
2415.00	-0.110
2430.00	-0.110
2445.00	-0.094
2460.00	-0.094
2475.00	-0.094
2490.00	-0.078
2505.00	-0.078
2520.00	-0.078
2535.00	-0.078
2550.00	-0.062
2565.00	-0.078
2580.00	-0.078
2595.00	-0.062
2610.00	-0.062
2625.00	-0.062
2640.00	-0.047
2655.00	-0.062
2670.00	-0.047
2685.00	-0.031
2700.00	-0.047
2715.00	-0.047
2730.00	-0.047
2745.00	-0.047
2760.00	-0.047
2775.00	-0.047
2790.00	-0.047
2805.00	-0.047
2820.00	-0.031
2835.00	-0.047
2850.00	-0.047
2865.00	-0.047
2880.00	-0.047
2895.00	-0.047
2910.00	-0.047
2925.00	-0.047
2940.00	-0.047
2955.00	-0.047
2970.00	-0.047
2985.00	-0.047
3000.00	-0.047
3015.00	-0.062
3030.00	-0.047
3045.00	-0.047
3060.00	-0.047
3075.00	-0.047
3090.00	-0.047
3105.00	-0.062
3120.00	-0.062
3135.00	-0.062
3150.00	-0.062

3165.00	-0.062
3180.00	-0.062
3195.00	-0.062
3210.00	-0.078
3225.00	-0.062
3240.00	-0.078
3255.00	-0.062
3270.00	-0.078
3285.00	-0.078
3300.00	-0.078
3315.00	-0.078
3330.00	-0.078
3345.00	-0.078
3360.00	-0.094
3375.00	-0.094
3390.00	-0.094
3405.00	-0.078
3420.00	-0.078
3435.00	-0.094
3450.00	-0.078
3465.00	-0.078
3480.00	-0.078
3495.00	-0.078
3510.00	-0.094
3525.00	-0.094
3540.00	-0.094
3555.00	-0.094
3570.00	-0.094
3585.00	-0.094
3600.00	-0.094
3615.00	-0.094
3630.00	-0.094
3645.00	-0.094
3660.00	-0.094
3675.00	-0.094
3690.00	-0.094
3705.00	-0.094
3720.00	-0.094
3735.00	-0.094
3750.00	-0.094
3765.00	-0.094
3780.00	-0.094
3795.00	-0.094
3810.00	-0.094
3825.00	-0.094
3840.00	-0.078
3855.00	-0.078
3870.00	-0.078
3885.00	-0.062
3900.00	-0.062
3915.00	-0.062
3930.00	-0.047
3945.00	-0.047
3960.00	-0.047

3975.00

-0.031

HSB 69
APRIL 27, 1990
PRE-TEST WATER LEVEL CHANGES

<u>ELAPSED TIME</u>	<u>CHANGE</u>
0.0000	-0.006
15.0000	-0.012
30.0000	-0.012
45.0000	-0.015
60.0000	-0.018
75.0000	-0.018
90.0000	-0.022
105.000	-0.025
120.000	-0.031
135.000	-0.034
150.000	-0.031
165.000	-0.028
180.000	-0.037
195.000	-0.034
210.000	-0.034
225.000	-0.037
240.000	-0.037
255.000	-0.037
270.000	-0.037
285.000	-0.037
300.000	-0.040
315.000	-0.034
330.000	-0.034
345.000	-0.034
360.000	-0.034
375.000	-0.034
390.000	-0.034
405.000	-0.031
420.000	-0.031
435.000	-0.028
450.000	-0.031
465.000	-0.031
480.000	-0.028
495.000	-0.031
510.000	-0.031
525.000	-0.031
540.000	-0.034
555.000	-0.034
570.000	-0.034
585.000	-0.037
600.000	-0.034
615.000	-0.034
630.000	-0.034
645.000	-0.040
660.000	-0.040
675.000	-0.040
690.000	-0.044
705.000	-0.044
720.000	-0.044

735.000	-0.044
750.000	-0.047
765.000	-0.044
780.000	-0.044
795.000	-0.044
810.000	-0.044
825.000	-0.044
840.000	-0.047
855.000	-0.044
870.000	-0.040
885.000	-0.040
900.000	-0.037
915.000	-0.037
930.000	-0.037
945.000	-0.034
960.000	-0.034
975.000	-0.034
990.000	-0.034
1005.00	-0.037
1020.00	-0.031
1035.00	-0.037
1050.00	-0.037
1065.00	-0.031
1080.00	-0.037
1095.00	-0.040
1110.00	-0.037
1125.00	-0.037
1140.00	-0.034
1155.00	-0.037
1170.00	-0.034
1185.00	-0.034
1200.00	-0.031
1215.00	-0.044
1230.00	-0.044
1245.00	-0.044
1260.00	-0.044
1275.00	-0.037
1290.00	-0.040
1305.00	-0.056
1320.00	-0.050
1335.00	-0.063
1350.00	-0.047
1365.00	-0.053
1380.00	-0.031
1395.00	-0.044
1410.00	-0.037
1425.00	-0.047
1440.00	-0.047
1455.00	-0.053
1470.00	-0.050
1485.00	-0.050
1500.00	-0.053
1515.00	-0.047
1530.00	-0.056

1545.00	-0.047
1560.00	-0.040
1575.00	-0.047
1590.00	-0.044
1605.00	-0.034
1620.00	-0.050
1635.00	-0.047
1650.00	-0.047
1665.00	-0.040
1680.00	-0.034
1695.00	-0.028
1710.00	-0.015
1725.00	-0.031
1740.00	-0.040
1755.00	-0.047
1770.00	-0.047
1785.00	-0.053
1800.00	-0.056
1815.00	-0.056
1830.00	-0.053
1845.00	-0.050
1860.00	-0.044
1875.00	-0.047
1890.00	-0.044
1905.00	-0.047
1920.00	-0.050
1935.00	-0.056
1950.00	-0.056
1965.00	-0.056
1980.00	-0.059
1995.00	-0.056
2010.00	-0.053
2025.00	-0.056
2040.00	-0.053
2055.00	-0.056
2070.00	-0.056
2085.00	-0.056
2100.00	-0.059
2115.00	-0.059
2130.00	-0.059
2145.00	-0.059
2160.00	-0.056
2175.00	-0.059
2190.00	-0.056
2205.00	-0.056
2220.00	-0.059
2235.00	-0.056
2250.00	-0.053
2265.00	-0.056
2280.00	-0.053
2295.00	-0.053
2310.00	-0.050
2325.00	-0.047
2340.00	-0.050

2355.00	-0.050
2370.00	-0.047
2385.00	-0.044
2400.00	-0.044
2415.00	-0.044
2430.00	-0.044
2445.00	-0.040
2460.00	-0.044
2475.00	-0.037
2490.00	-0.034
2505.00	-0.025
2520.00	-0.031
2535.00	-0.034
2550.00	-0.028
2565.00	-0.034
2580.00	-0.037
2595.00	-0.031
2610.00	-0.031
2625.00	-0.022
2640.00	-0.015
2655.00	-0.028
2670.00	-0.028
2685.00	-0.018
2700.00	-0.034
2715.00	-0.040
2730.00	-0.037
2745.00	-0.031
2760.00	-0.037
2775.00	-0.037
2790.00	-0.037
2805.00	-0.040
2820.00	-0.028
2835.00	-0.047
2850.00	-0.053
2865.00	-0.050
2880.00	-0.053
2895.00	-0.047
2910.00	-0.047
2925.00	-0.047
2940.00	-0.037
2955.00	-0.056
2970.00	-0.053
2985.00	-0.053
3000.00	-0.050
3015.00	-0.063
3030.00	-0.050
3045.00	-0.056
3060.00	-0.056
3075.00	-0.056
3090.00	-0.059
3105.00	-0.063
3120.00	-0.059
3135.00	-0.063
3150.00	-0.063

3165.00	-0.059
3180.00	-0.059
3195.00	-0.056
3210.00	-0.056
3225.00	-0.053
3240.00	-0.053
3255.00	-0.050
3270.00	-0.053
3285.00	-0.056
3300.00	-0.053
3315.00	-0.053
3330.00	-0.056
3345.00	-0.056
3360.00	-0.059
3375.00	-0.056
3390.00	-0.059
3405.00	-0.056
3420.00	-0.056
3435.00	-0.056
3450.00	-0.053
3465.00	-0.050
3480.00	-0.050
3495.00	-0.050
3510.00	-0.050
3525.00	-0.053
3540.00	-0.053
3555.00	-0.056
3570.00	-0.056
3585.00	-0.063
3600.00	-0.059
3615.00	-0.059
3630.00	-0.063
3645.00	-0.063
3660.00	-0.059
3675.00	-0.059
3690.00	-0.056
3705.00	-0.059
3720.00	-0.056
3735.00	-0.056
3750.00	-0.053
3765.00	-0.053
3780.00	-0.053
3795.00	-0.050
3810.00	-0.050
3825.00	-0.047
3840.00	-0.044
3855.00	-0.037
3870.00	-0.037
3885.00	-0.034
3900.00	-0.031
3915.00	-0.031
3930.00	-0.031
3945.00	-0.028
3960.00	-0.028

3975.00

-0.025

HSB 69A
APRIL 27, 1990
PRE-TEST WATER LEVEL CHANGES

<u>ELAPSED TIME</u>	<u>CHANGE</u>
0.0000	15.975
15.0000	15.956
30.0000	15.953
45.0000	15.947
60.0000	15.937
75.0000	15.937
90.0000	15.934
105.000	15.928
120.000	15.925
135.000	15.922
150.000	15.922
165.000	15.922
180.000	15.919
195.000	15.915
210.000	15.915
225.000	15.915
240.000	15.912
255.000	15.912
270.000	15.912
285.000	15.912
300.000	15.912
315.000	15.915
330.000	15.915
345.000	15.915
360.000	15.915
375.000	15.915
390.000	15.915
405.000	15.915
420.000	15.915
435.000	15.919
450.000	15.915
465.000	15.919
480.000	15.919
495.000	15.919
510.000	15.919
525.000	15.919
540.000	15.915
555.000	15.919
570.000	15.919
585.000	15.919
600.000	15.919
615.000	15.919
630.000	15.919
645.000	15.915
660.000	15.915
675.000	15.915
690.000	15.915
705.000	15.915
720.000	15.915

735.000	15.915
750.000	15.915
765.000	15.915
780.000	15.915
795.000	15.915
810.000	15.915
825.000	15.915
840.000	15.912
855.000	15.912
870.000	15.915
885.000	15.912
900.000	15.915
915.000	15.912
930.000	15.915
945.000	15.915
960.000	15.915
975.000	15.915
990.000	15.915
1005.00	15.915
1020.00	15.919
1035.00	15.915
1050.00	15.915
1065.00	15.919
1080.00	15.919
1095.00	15.915
1110.00	15.915
1125.00	15.915
1140.00	15.915
1155.00	15.915
1170.00	15.915
1185.00	15.919
1200.00	15.922
1215.00	15.915
1230.00	15.912
1245.00	15.915
1260.00	15.915
1275.00	15.919
1290.00	15.922
1305.00	15.906
1320.00	15.909
1335.00	15.906
1350.00	15.912
1365.00	15.909
1380.00	15.925
1395.00	15.915
1410.00	15.919
1425.00	15.915
1440.00	15.909
1455.00	15.903
1470.00	15.906
1485.00	15.909
1500.00	15.906
1515.00	15.906
1530.00	15.900

1545.00	15.906
1560.00	15.912
1575.00	15.906
1590.00	15.903
1605.00	15.909
1620.00	15.896
1635.00	15.906
1650.00	15.903
1665.00	15.906
1680.00	15.912
1695.00	15.925
1710.00	15.950
1725.00	15.919
1740.00	15.925
1755.00	15.893
1770.00	15.890
1785.00	15.859
1800.00	15.862
1815.00	15.852
1830.00	15.846
1845.00	15.846
1860.00	15.849
1875.00	15.849
1890.00	15.849
1905.00	15.849
1920.00	15.849
1935.00	15.849
1950.00	15.846
1965.00	15.846
1980.00	15.846
1995.00	15.849
2010.00	15.849
2025.00	15.849
2040.00	15.849
2055.00	15.849
2070.00	15.849
2085.00	15.849
2100.00	15.846
2115.00	15.846
2130.00	15.846
2145.00	15.846
2160.00	15.846
2175.00	15.846
2190.00	15.846
2205.00	15.846
2220.00	15.846
2235.00	15.846
2250.00	15.846
2265.00	15.846
2280.00	15.846
2295.00	15.846
2310.00	15.843
2325.00	15.846
2340.00	15.843

2355.00	15.846
2370.00	15.843
2385.00	15.846
2400.00	15.846
2415.00	15.846
2430.00	15.849
2445.00	15.852
2460.00	15.849
2475.00	15.852
2490.00	15.852
2505.00	15.862
2520.00	15.855
2535.00	15.849
2550.00	15.859
2565.00	15.852
2580.00	15.849
2595.00	15.852
2610.00	15.855
2625.00	15.865
2640.00	15.865
2655.00	15.859
2670.00	15.859
2685.00	15.868
2700.00	15.855
2715.00	15.852
2730.00	15.855
2745.00	15.859
2760.00	15.855
2775.00	15.855
2790.00	15.852
2805.00	15.852
2820.00	15.862
2835.00	15.846
2850.00	15.843
2865.00	15.843
2880.00	15.840
2895.00	15.846
2910.00	15.846
2925.00	15.849
2940.00	15.859
2955.00	15.843
2970.00	15.840
2985.00	15.836
3000.00	15.840
3015.00	15.833
3030.00	15.840
3045.00	15.836
3060.00	15.836
3075.00	15.833
3090.00	15.830
3105.00	15.830
3120.00	15.830
3135.00	15.827
3150.00	15.827

3165.00	15.827
3180.00	15.830
3195.00	15.830
3210.00	15.830
3225.00	15.830
3240.00	15.830
3255.00	15.830
3270.00	15.827
3285.00	15.827
3300.00	15.827
3315.00	15.827
3330.00	15.824
3345.00	15.824
3360.00	15.824
3375.00	15.824
3390.00	15.824
3405.00	15.824
3420.00	15.824
3435.00	15.824
3450.00	15.824
3465.00	15.821
3480.00	15.824
3495.00	15.824
3510.00	15.821
3525.00	15.821
3540.00	15.821
3555.00	15.821
3570.00	15.818
3585.00	15.818
3600.00	15.814
3615.00	15.814
3630.00	15.814
3645.00	15.814
3660.00	15.814
3675.00	15.814
3690.00	15.814
3705.00	15.814
3720.00	15.814
3735.00	15.814
3750.00	15.814
3765.00	15.814
3780.00	15.814
3795.00	15.818
3810.00	15.818
3825.00	15.818
3840.00	15.821
3855.00	15.824
3870.00	15.827
3885.00	15.827
3900.00	15.827
3915.00	15.827
3930.00	15.830
3945.00	15.830
3960.00	15.830

3975.00

15.830