THE DETERMINATION OF SURFACE MINE SOIL ERODIBILITY FACTORS FOR TWO SOILS IN SOUTHERN WEST VIRGINIA

By

Loren L. Rice

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APPROVED:

V.O. Shanholtz, Chairman

J.N. Jones, Jr.

D.F. Amos

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Chapter I

INTRODUCTION

Coal is one of our most abundant natural resources. Due to economic factors that have stemmed from dwindling supplies of petroleum products, coal will be needed to meet a significant fraction of the future energy needs of the Nation. A high percentage of this coal is expected to come from surface mines. The surface mine industry, however, is struggling through a period of transition because new federal and state regulatory laws are forcing operators to change traditional methods of mining and reclamation. For example, Federal water quality guidelines for suspended solids have forced both mine operators and regulatory officials to search for better methods to evaluate alternate mining practices for erosion control.

The massive earth-moving operations that are common practices in the surface mining of coal in Appalachia, make erosion control one of the major problems facing the coal industry. The absence of reliable procedures to estimate soil loss for each phase of the mining operation can result either in under-protection and potential adverse environmental impacts or in over-protection and unnecessary capital investments for erosion control. To minimize this problem, basic soil and management factors must be determined to provide design criteria for determining the optimal size of sediment detention structures.

The principal goal of this research was to determine surface mine soil erodibility factors using a grid type portable rainfall simulator to apply rainfall. Specific objectives included the following:

(1) Determine the soil erodibility factor for two significantly different mine soils.

(2) Assemble detailed data bases and determine the hydrologic response of each soil.

(3) Determine the effect of repeated rainfall applications on the particle size distributions of the eroded material.

(4) Evaluate a portable grid type rainfall simulator for field plot erosion studies.

Chapter II

LITERATURE REVIEW

2.1 Sediment Yield Prediction on Surface Mined Soils

Onstad, et al. (1977) stated that erosion and sedimentation are complex, naturally ocurring processes that involve soil detachment, entrainment, transport and deposition. Sediment yield is the total amount of sediment transported from a given watershed. Its relative magnitude depends on such factors as slope steepness, slope aspect and shape, soil type, land use, cover, area and rainfall characteristics. Estimates of sediment yield are required for designing water control structures and for evaluating alternate land-management controls using Best Management Practices (BMP). Effective erosion and sediment control must be based on sound management planning (Moody and Bergman, 1976). Few land management practices prevent the severe erosion problems encountered in surface mining when installed on an individual basis. The effectiveness of a particular erosion control system depends on the compatibility of the individual practices and how well these practices complement the proposed land use after mining.

Considerable research has been conducted to develop methods to predict sediment yield. These methods have been structured to simulate future conditions based on given mining and reclamation strategies. The primary purpose of these methods are to compare alternate erosion control practices to obtain the most efficient combination of engineering and agronomic techniques. Barfield and Haan (1978) reported that the models currently available can be divided into those which use erosion mechanics as a basis for prediction, and those which use the Universal Soil Loss Equation (USLE) as the basic component for modeling. Barfield, et al. (1979) further stated that even though the models which use fundamental erosion mechanics are conceptionally superior to USLE-based models, results often are no better, and results are sometimes worse than USLE-based models. Barfield (1979) lists the following advantages of USLE-based models:

(1) An extensive data base and considerable experience exist for determining and assigning values to factors of the USLE nationwide.

(2) The equation is not site specific. For example, Meyer and Ports (1976) stated that the USLE provides a realistic framework for comparing erosion control systems and describing the factors which

influence sediment yield.

(3) Models that use the USLE have had greater acceptability by users because of its conceptual simplicity and widespread use.

Meyer and Ports (1976) presented the equation as follows:

$$A = R*K*L*S*C*P \qquad (1)$$

where:

A---is the average soil loss in tons per acre.

R---is a rainfall factor, usually expressed as the product of rainfall energy times the maximum 30-minute intensity for a given rainstorm.

K---the soil erodibility factor, is the average soil loss in tons per acre per unit of R for a given soil on a "unit plot", which is defined as 72.6-feet in length with a 9-percent slope, continuously fallowed, and tilled parallel to the land slope.

L---the slope length factor, is the ratio of soil loss from a given length of slope to that from a 72.6-foot length, with all other conditions identical.

S---the slope-steepness factor, is the ratio of soil loss from a given percent-slope to that from a 9-percent slope with all other conditions identical. (In practice, factors L and S are usually combined in a single topographic factor denoted by LS).

C---the cover and management factor, is the ratio of the soil loss with specified cover and agronomic practices to soil loss for the condition which K is evaluated.

P---the practice factor, is the ratio of soil loss with supporting practices such as contouring or strip cropping to that with straight-row farming up and down the slope. (In practice, factors C and P are usually combined in a single factor denoted by CP).

Many sediment prediction models make use of some form or modification of the USLE (Onstad and Foster 1975; Williams, 1975; Williams and Berndt, 1977; Williams and Haan, 1979; Osborn, et al. 1976). Several researchers (King, 1979; Fogel, et al. 1979; Gilley, et al. 1977) have stated that modified forms of the USLE can be used to predict sediment yield from surfaced mined sites if soil and management factors are known.

Most of the surface mining in the Appalachian Region occurs in mountainous terrain where restoration to original contour often creates very steep man-made slopes and slope-lengths that exceed 200 feet. These conditions can result in severe erosion, which will prevent establishment of vegetation and leave permanent and growing scars. By using modifications of the USLE, alternate mining operations and reclamation methods can be planned and compared to minimize this problem. Evaluation of all possible combinations for erosion control will provide the engineer with the most efficient and economical combination of practices which will meet the requirements of the Surface Mining Control and Reclamation Act of 1977.

2.2 Definition and Scope of Erodibility Values

Research by Wischmeier and Mannering (1969) has shown that the inherent ability of a soil to resist erosive forces by rainfall and surface runoff represents one of the major factors affecting soil loss prediction and land-use planning. Soil erodibility (K) was used to describe the resistance of a soil to erosive forces. This erosion index was defined by Wischmeier and Smith (1978), as "the average soil loss in tons per acre per unit of erosion index (EI) from a particular soil in cultivated continous fallow with length and percent slope at unity or an arbitrarily selected base value". Soil erodibility values have been experimentally determined for many agricultural soils in the United States. Using basic soil properties to extrapolate from these bench-mark values, the Soil Conservation Service (SCS) personnel and other research soil scientists have estimated erodibility indexes for many agricultural soils. Because of the very limited data base which has been compiled for minesoils, Barfield, et al. (1979) and King (1979) state that the reliability of these techniques for mine soils is highly questionable. Therefore, the determination of erodibility factors for specific mine soils is a major need.

2.3 Factors Affecting Soil Erodibility

The soil erodibility index measures the degree to which the complex interactions between soil structure and basic soil properties resist detachment and transport of soil particles due to the rainfall impact energy and surface runoff. K-values are influenced by many interrelating factors which control the hydrologic response of a particular soil to a given storm. These factors include: soil structure, infiltration and permeability, organic matter content, particle size and distribution, and antecedent moisture.

2.3.1 Soil Structure

Soil structure is considered the most important factor influencing the resistance of a soil to erosion. Soil structure provides an indication of the porosity of a given soil profile. Because infiltration rates, moisture-holding capacity and permeability are a function of soil porosity, this parameter also affects the magnitude of surface runoff available to detach and transport soil particles. A soil with good structure will be well aerated with a low bulk density, stable soil aggregates and will exhibit higher infiltration rates and higher hydraulic conductivities. Additionally, these types of soils have a capacity to store significant amounts of water in the pore system, thus increasing plant-available water and further reducing potential surface runoff.

2.3.2 Soil Organic Matter

Soil organic matter content also plays a major role in influencing soil erodibility. Baver, et al. (1972) and Bradly, et al. (1974) report that organic matter is the major factor in the formation of granular-type porous aggregates. Contact-bridges formed between particles hold the soil in a loose, well-aerated structure. When the organic matter is removed, the soil structure collapses, and consolidation causes a significant reduction of void space and a higher bulk density. The result is a reduction in infiltration, hydraulic conductivity and plant-available water. This set of conditions induces higher runoff and increases the erosion potential for a given storm event.

2.3.3 Particle Size Distribution

The particle size and distribution of soil particles also affects soil erodibiltiy. Particle size is a function of the type of parent material and can range from large, sand size particles, to silts and very fine clays.

The relative distribution of soil particles determines the aeration and stability of the soil profile. Detachment and transport of soil, also, is a function of the particle size distribution. Wischmeier, et al. (1971) has shown that soil erodibility generally tends to increase with silt content and decreases with clay or sand content.

2.4 Prediction of Erodibility Index

2.4.1 Wischmeier Method

Early in the 1950's, the Federal government established a national runoff and soil loss data facility to compile data from previous research and to study soil loss from agricultural soils. Runoff and soil loss data were assembled from more than 1,200 field plots located in 24 states and statistically analyzed to determine the relationship of various physical and management factors on soil loss prediction (Wischmeier, 1960). All data were collected from natural rain events. These data were used by Wischmeier and Mannering (1969) to develop a 24-term regression equation to describe soil erodibility for a broad range of medium-textured soils. Wischmeier, et al. (1971) later simplified this complex relationship into a nomograph (Figure 1). The five soil parameters included were percent silt plus very fine sand, percent sand greater than 0.10-millimeter, organic matter content, structure and permeability. This nomograph has been widely accepted and used to predict K. Parameters required to use the nomograph can be easily obtained using conventional laboratory procedures and USDA soil survey manuals. Moresco and Grey (1977) and Young and Mutchler (1977) have shown that the nomograph gives good estimates for soil loss prediction for some medium-textured agricultural soils.

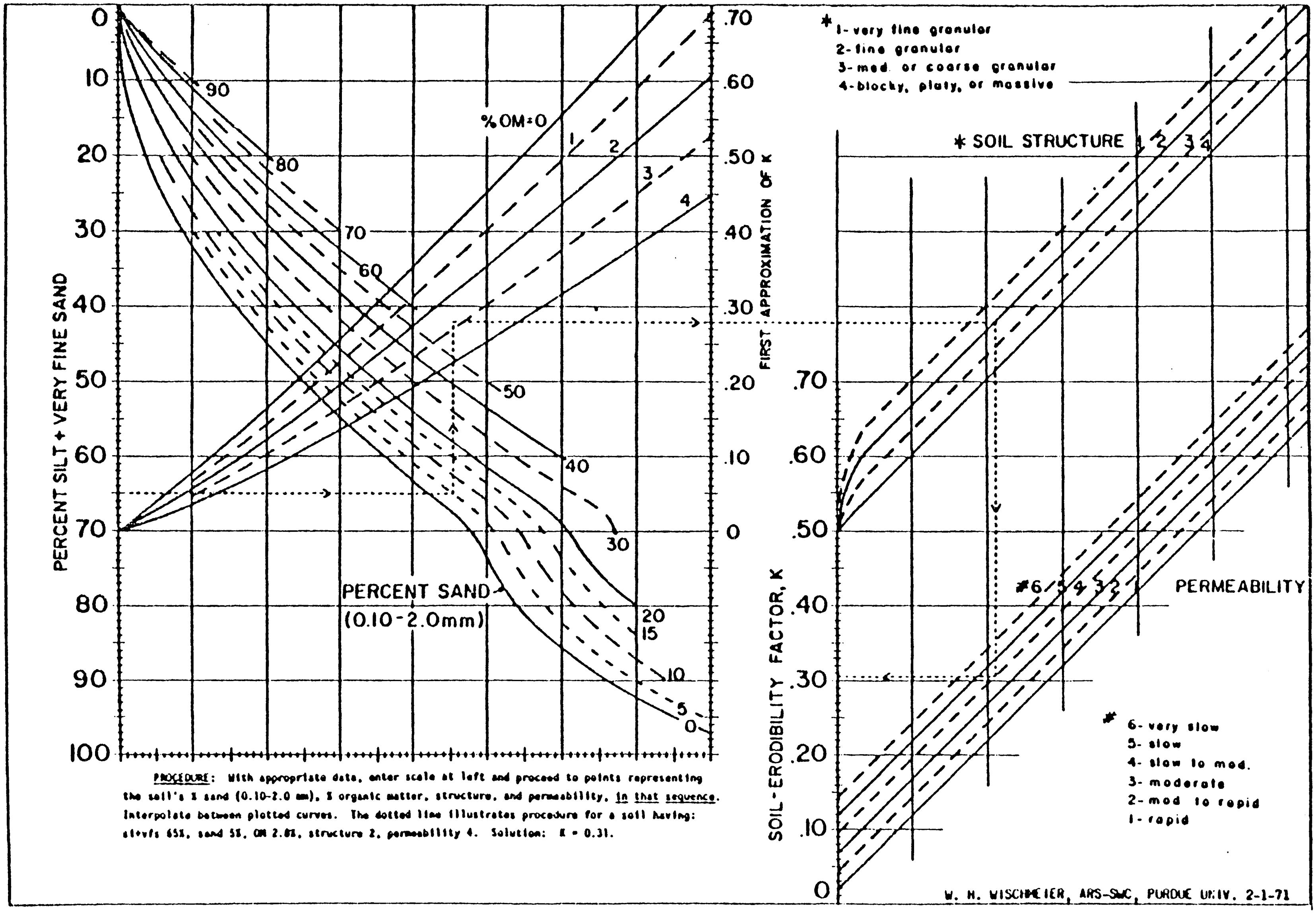


Figure 1. Wischmeier Nomograph for Predicting Soil Erodibility.

2.4.2 Roth-Romkins Method

Romkins, et al. (1975) found that Wischmeier's nomograph gave poor estimates of K for heavy textured clay subsoils. Differences were attributed to lower organic matter content, lower permeabilities and finer textures. Using statistical analysis and linear regression, Roth, et al. (1974) found that the following relationship accounted for the majority of the variation encountered in K for high-clay subsoils.

$$K = 0.32114 + 2.016\times10^{-4}\,M - 0.1444(Fe_2O + Al_2O) - 0.836\,(Si_2O) \qquad (2)$$

Where:

M = Soil Texture Factor
= (percent silt + fine sand) x (percent silt + sand)

Al_2O = percentage of CDB extractable aluminum oxide

Fe_2O = percentage of CDB extractable iron oxide

Si_2O = percentage of CDB extractable silica oxide

The percentage of iron and aluminum oxides were included because they were assumed to be the dominant binding agents in subsoils. A nomograph (Figure 2) similar to Wischmeier's surface soil nomograph was developed from equation (2).

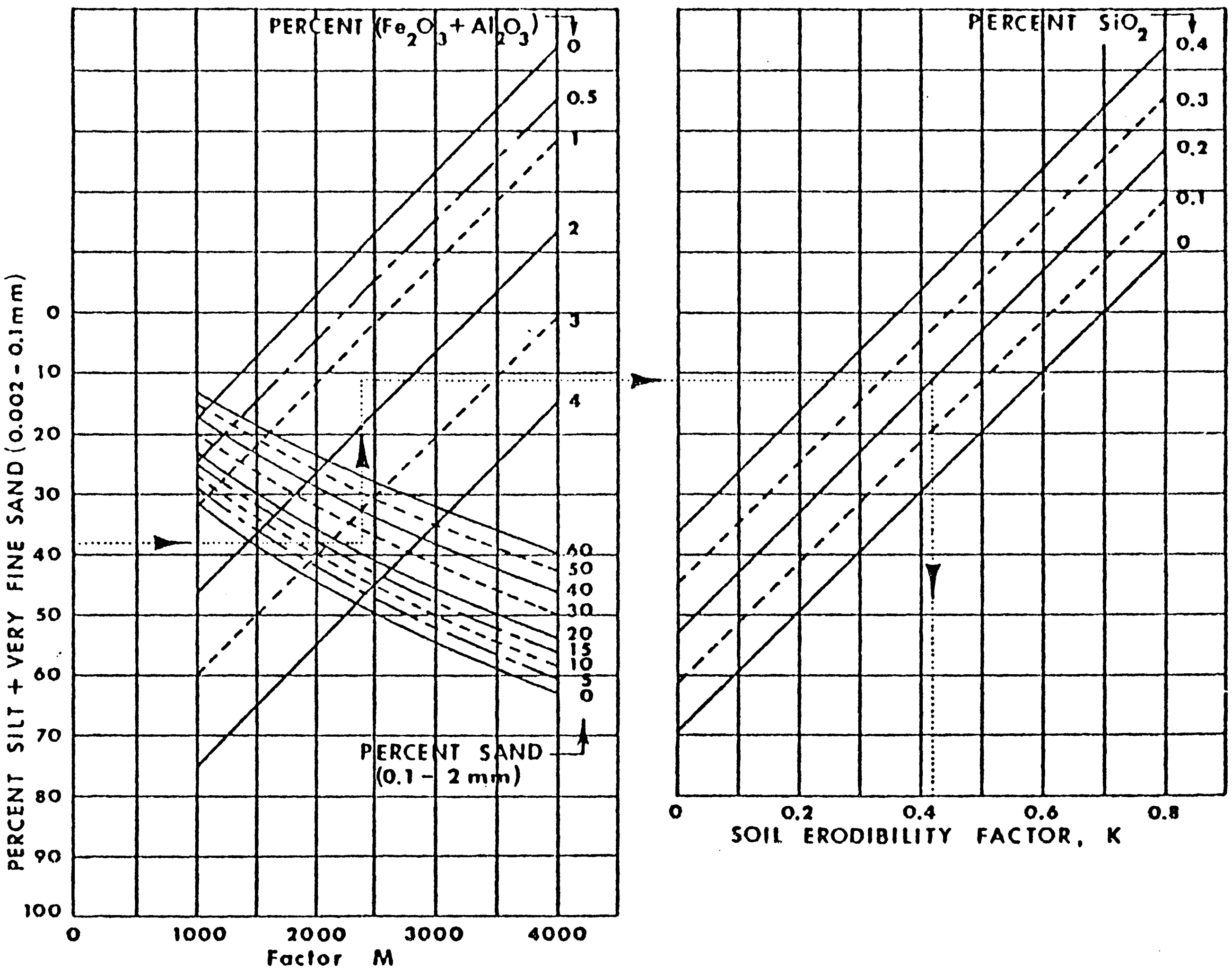


Figure 2. Nomograph for Estimating the Erodibility Factor, K, of High Clay Subsoils

2.5 Field Determination of Erodibility Values

The erosiveness of soil is a major consideration in developing sound management practices for erosion control on either agricultural or surface mined areas. Erodibility indexes have been determined for many agricultural soils using standard procedures reported by Wischmeier and Smith (1978). The numerical expression of soil erodibility under standard conditions of slope, slope length and cultural practice is defined (Equation 3) as the total soil loss in tons per acre per unit of rainfall-erosion index (EI).

$$K = \text{Soil Loss} / \text{EI unit} \qquad (3)$$

The capability of a given rainstorm to erode soil depends on the total energy of raindrops at impact, and on the amount and velocity of runoff available to detach and/or transport soil particles (Wischmeier, 1971). The energy-intensity interaction (EI) gives an index of rainfall erosivity (R). Individual storm erosivities EI can be summed to obtain an annual rainfall erosivity index R for a given location. Values for naturally-occurring rainfall have been determined on a average annual basis and published by Wischmeier and Smith (1978).

2.5.1 Rainfall Simulators

Early runoff-erosion research depended on natural rainfall to provide storm data. This proved to be restricting because of the time required to obtain an adequate sample of storm events. Additionally, it was difficult to quantify EI on a per storm basis. This led to the development of portable rainfall simulators to accelerate data collection. Rainfall simulators offer the advantages of (a) controlled rainfall application, (b) standardized protocol for the application and sequence of events and (c) more systematic and standardized program of runoff-erosion research. Barnett and Dooley (1976) stated that properly calibrated rainfall simulators exhibited little statistical difference in soil loss per EI unit for simulated vs natural rainfall when used for prediction purposes. Procedures for calibration and adjustments to deviations from design intensity for simulated rainstorms have been established (Meyer and McClure, 1958; Meyer, et al. 1971). The majority of current field erosion research is being conducted with some type of rainfall simulator.

2.5.2 Standardized Plot Layout

The standardized plot layout for field determination of soil erodibility is based on early work by Wischmeier and Mannering (1969). K-indexes are calculated based on the soil loss from a standardized plot with dimensions of 72.6-feet long, 13.4-feet wide and a 9-percent slope. Plots must be in a fallow condition and tilled and harrowed parallel to the slope just prior to rainfall application. This provides vertical smoothing to compensate for minor plot surface irregularities, minimizes meander, and affords a reproducible plot surface from site to site (Barnett and Dooley, 1976). K-indexes thus determined represent the worse management practice for erosion control. This procedure becomes the base for defining the effect of other factors on soil loss, which include vegetative cover, mulch, slope length and slope gradient. Research has been conducted on field plots with different geometric configurations (Gilley, et al. 1977; Wischmeier and Mannering 1969; Young and Mutchler 1977; Romkins, et al. 1977; Barnett, et al. 1965). Data collected from these plots were standardized using procedures suggested by Wischmeier and Smith (1978). This procedure was adopted to provide a standard for defining and comparing factors of the USLE.

2.5.3 Standard Storm Characteristics

Standard storm characteristics also have been adopted for erosion-runoff research. The most common rainfall application rate is 2.5-inches per hour. Tests using this application rate usually consist of an initial 60-minute rainfall application at existing low field moisture conditions (dry run), followed 24 hours later by another 60-minute rainfall application conducted at existing higher field moisture conditions (wet run). Wischmeier and Mannering (1969) and Romkins, et al. (1975) conducted the second rainfall application as two, 30-minute storms each separated by 30-minutes. For minesoils, Gilley, et al. (1977) used a 60-minute continuous rainfall application for the second storm, which was followed in one hour by a 30-minute rainfall application conducted at existing saturated field moisture conditions (very wet run). Barnett and Rogers (1966), applied four 30-minute storms. The first two events were separated by 10 minutes and the second two events were applied identically, but 24 hours later. Deviations from the design intensity are usually corrected based on the ratio of the square of the design intensity to the square of the applied intensity.

2.6 Summary and Research Needs

Soil erodibility factors for surface-mined soils are currently based on agriculture soils. Sopper, et al. (1979) and Griebel, et al. (1979) have shown that surface-mined soils are much lower in organic matter content, nutrient availability and plant-available water, and often exhibit poor structure when compared to agriculture soils. Research based on the limited field data that is now available indicates that the erodibility of naturally occurring topsoil increases when it is removed, stockpiled and redistributed over the same area (King, 1979; Gee, et al. 1976). These apparent differences are attributed to the destruction of structure and reduction in organic matter due to severe mixing and compressive forces, which the soil is subjected to during and after mining. For these reasons, research is needed to quantify mine soil erodibility factors and to determine the variation from factors predicted using current methods.

Chapter III

Materials and Methods

The portable grid type rainfall simulator, built by the Virginia Tech Agricultural Engineering Department was used at two different surface mine locations in southern West Virginia to determine soil erodibility factors. The plots at the Sullivan site located near Beckley, West Virginia were constructed on a 16-percent slope during the period of July - September, 1981. The plots at the Glen Jean site located near Oak Hill, West Virginia were constructed and tested on a 9-percent slope during the period of September - November, 1981. These two sites were chosen because of the availability of an adequate water source for the rainfall simulator, the distinct differences in soil type and the willingness of mine operators to cooperate in the research program.

Basic soil properties for each plot were determined with the coordinated efforts of several federal and state agencies. Soil Conservation Service (SCS) agronomists developed detailed soil descriptions to determine and quantify each soil type. The Department of Agronomy - Physical Characterization Laboratory at Virginia Tech determined particle size distributions for each plot. The

Department of Agronomy - Soil Testing Laboratory at Virginia Tech determined chemical descriptions for each plot so that soil erodibility predictions using Wischmeier's nomograph could be made. These physical and chemical determinations characterized variability among plots and provided a detailed data base for modeling research (Wolfe, 1982).

Basic hydrologic properties which effect soil loss for each test-run-plot combination were monitored so that an adequate data base quantifying soil loss could be built. Factors which were included in this study were rainfall distributions, initial and final moistures and total sediment loss. Particle size distributions from the plot surfaces were determined to quantify the effects of tillage and repeated rainfall applications. Particle size distributions of the eroded soil material were determined so that general trends could be identified describing how the size class of the transported material changed during testing. These basic hydrologic data will be used in future soil loss prediction and sediment control design.

3.1 Rainfall Application Sequence

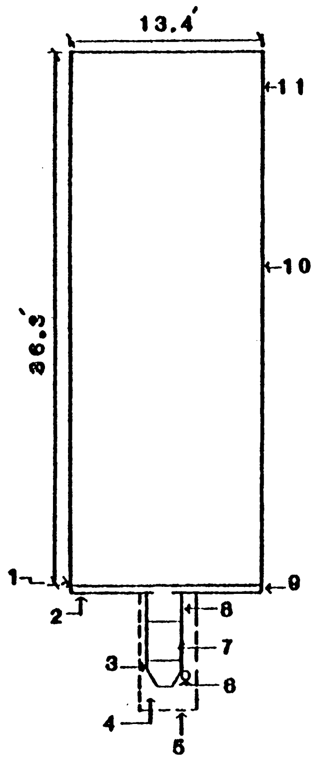
Rainfall application sequences at each site were standardized according to the work conducted by Gilley, et al. (1977) on North Dakota mine sites. Four tests with three rainfall applications were conducted at each site. Each rainfall application (run) within a test included the simultaneous application of a 2.3-inch per hour "storm" to three replicated plots. The first run (dry run) had a 60-minute duration and was conducted under existing soil moisture conditions. The second run (wet run) was then conducted 24 hours later, and also had a 60-minute duration. This was followed with the third run (very wet run) with a 30-minute duration.

3.2 Field Plots

3.2.1 Plot Layout and Construction

The plot and simulator layout is shown in Figure 3. A three-plot system was chosen to provide replicated data and to reduce the time required to build an adequate data base for each site or soil type. Field plots (Figure 4) were constructed on two distinctly different soil types. Each plot was 13.4-feet wide and 36.3-feet long. The plot borders were constructed from 8-foot long by 12-inch wide 18-guage sheet metal. A wedge bar was used to open a 5-inch deep, narrow trench and the sheet metal was placed in this groove. The sections were attached with bolts and the joints were sealed with an asphalt-based tar. After all sections were connected, the border was sealed and stablized by filling the trench on the plot side with a standard mortar mix. Soil material was placed in the trench on the outside of the plot borders, tamped and sloped so that water collected between plots could not enter the plot area (Figure 5). After the mortar dried, an expansion crack developed between the metal and concrete because of different coefficients of expansion and was sealed with a caulking compound. A 2" x 12 " treated spruce cut off wall was placed at the bottom of each plot flush with the plot surface as shown in Figure 6. Mortar mix was placed on the plot side of the wall to prevent piping. Standard house guttering was attached to the cut off wall (Figure 6) at a 5-percent slope to collect and carry runoff to a 0.5-foot H-Flume. The gutters were stabilized on the down slope side by 1" x 6" splashboard (Figure 6). A sheet metal cover was hinged to the splash board to prevent rainfall from entering the gutter (Figure 6).

Figure 3: Plot and Simulator Layout



1 — 2"x12"CUTOFF WALL SEALED WITH MORTOR AND CAULKING TO PREVENT PIPING.

2 — 1"x6" SPLASH BOARD WITH SHEET METAL COVER.

3 — 0.5' H-FLUME.

4 — MANUAL SAMPLING POINT

5 — SHELTER FOR MONITERING EQUIPMENT. 3-4'x8' SHEETS OF PLYWOOD HINGED TO FOLD FLAT.

6 — INSTRUMENT WELL WITH FW-1 WATER STAGE RECORDER.

7 — 3'x3'x1'SLOPED APPROACH FLOOR SLOPE 18%.

8 — 3'x2'x1'FLUME APPROACH FLOOR SLOPE LESS THAN 1/2%.

9 — STANDARD HOUSE COATED GUTTERING 5-6% SLOPE.

10 — 1'x8' SHEET METAL BORDER MATERIAL JOINTS BOLTED AND SEALED WITH ASPHALT TAR.

11 — BORDER SEALED WITH MORTOR AND CAULKING AT MORTOR INTERFACE (FIGURE 5).

FIGURE 4: PLOT DETAIL

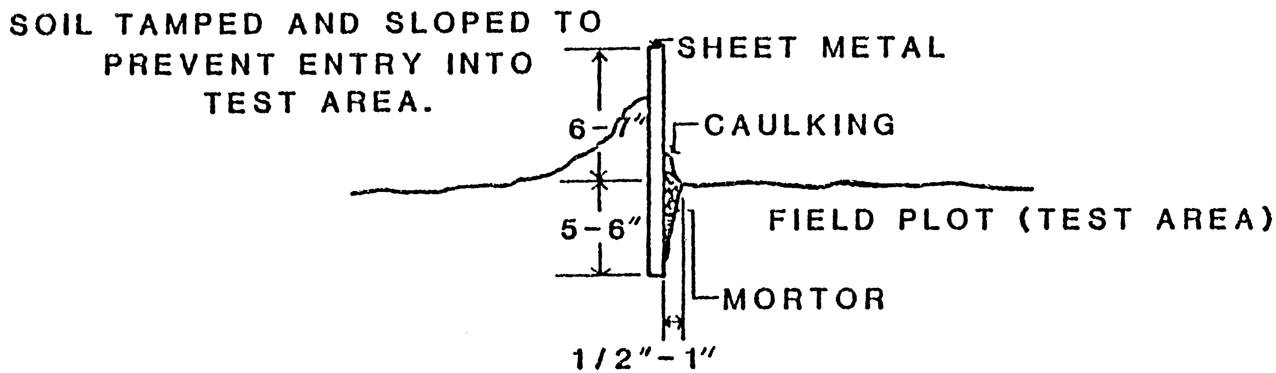


FIGURE 5: SIDEWALL DETAIL

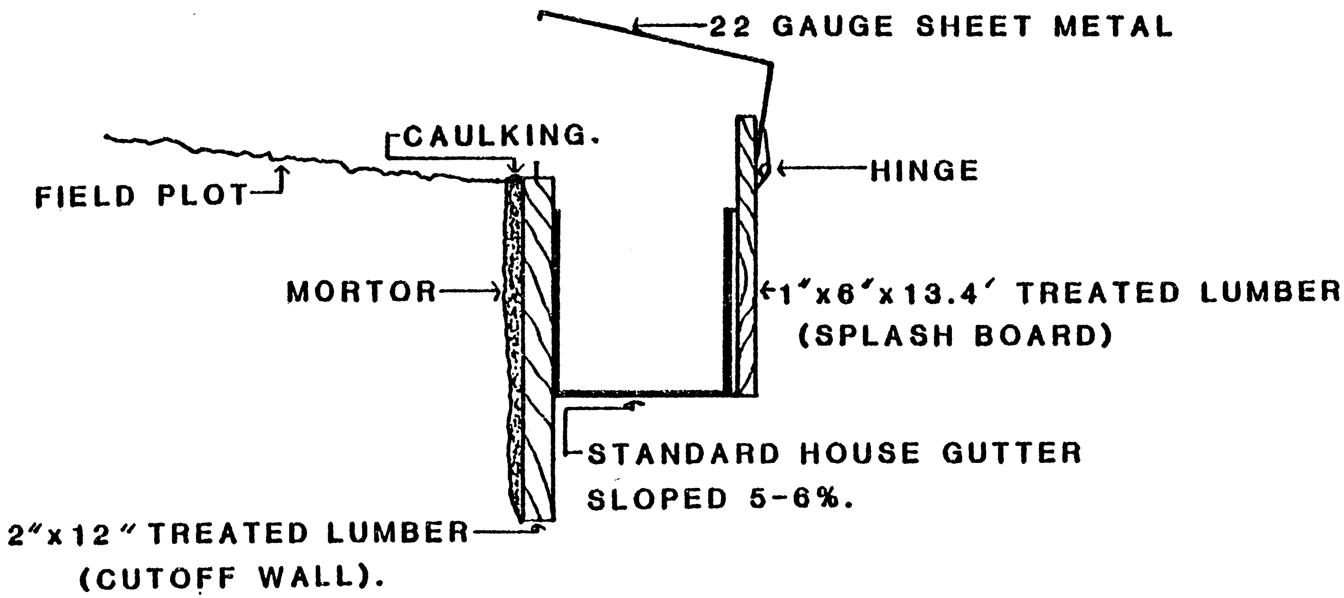


FIGURE 6: COLLECTION TROUGH DETAIL

3.2.2 Plot Monitoring and Instrumentation

Surface runoff was collected in the guttering and transported to the approach section of a 0.5-foot H-flume as shown in Figure 7. Upon entering the horizontal section of the flume approach, some deposition occurred because flow velocity was reduced. A sloping approach was attached between the horizontal section and the H-Flume. This increased flow velocities and minimized soil deposition in the H-flume. The stage of flow vs time was recorded on a strip chart with a FW-1 water stage recorder. The recorder was mounted on a stilling well, which was attached to the H-Flume. Three 4x8 foot sheets of plywood were hinged to unfold and form a structure to cover the approach box and H-Flume station as shown in Figure 8. Each H-flume was calibrated after installation. The calibrations for Sullivan and Glen Jean are shown in Figures 9 and 10, respectively.

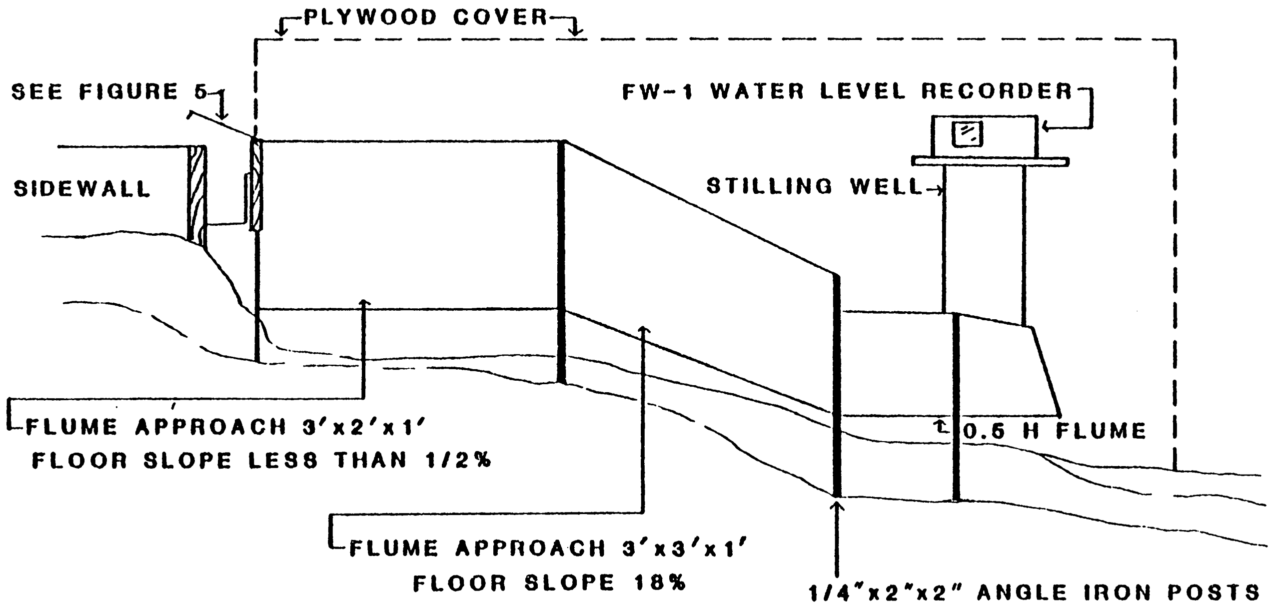


FIGURE 7: FLOW RECORDING AND SEDIMENT DEPOSITION SYSTEM

Figure 8: Picture Looking Into House.

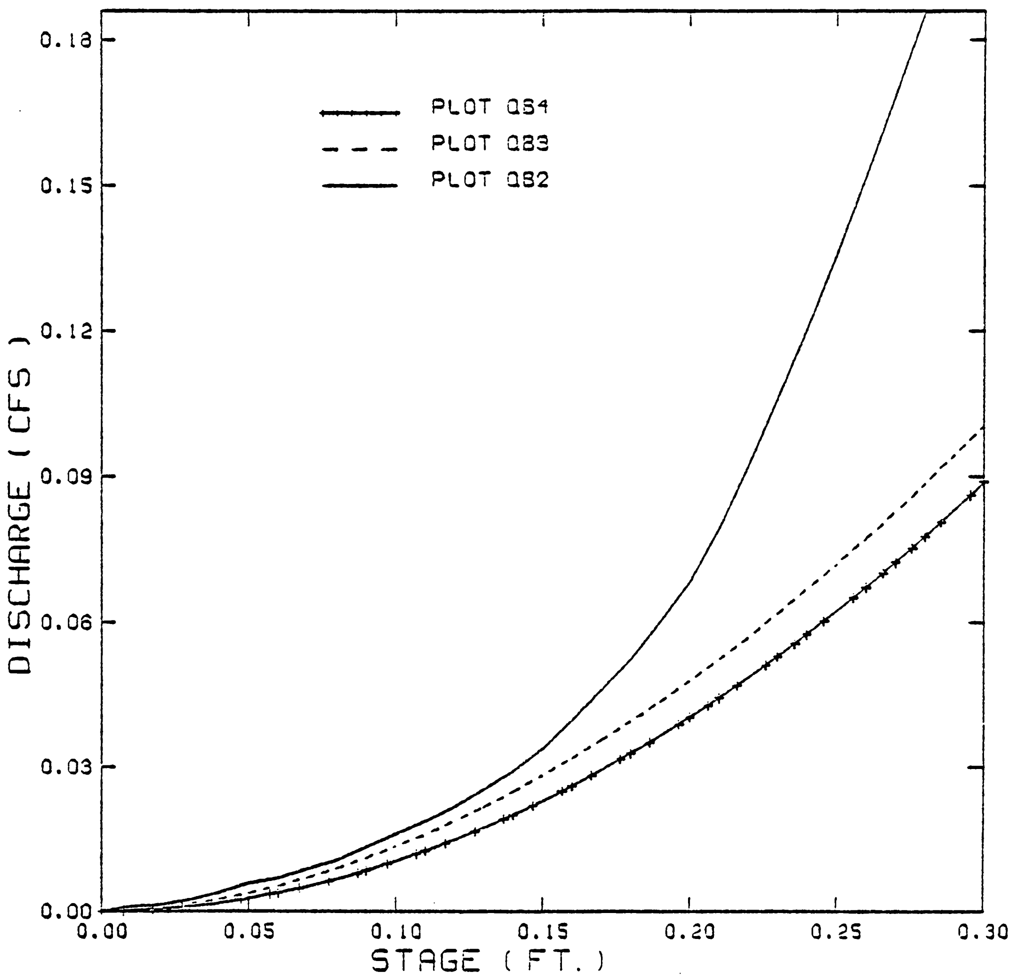


FIGURE 9. SULLIVAN FLUME CALIBRATION

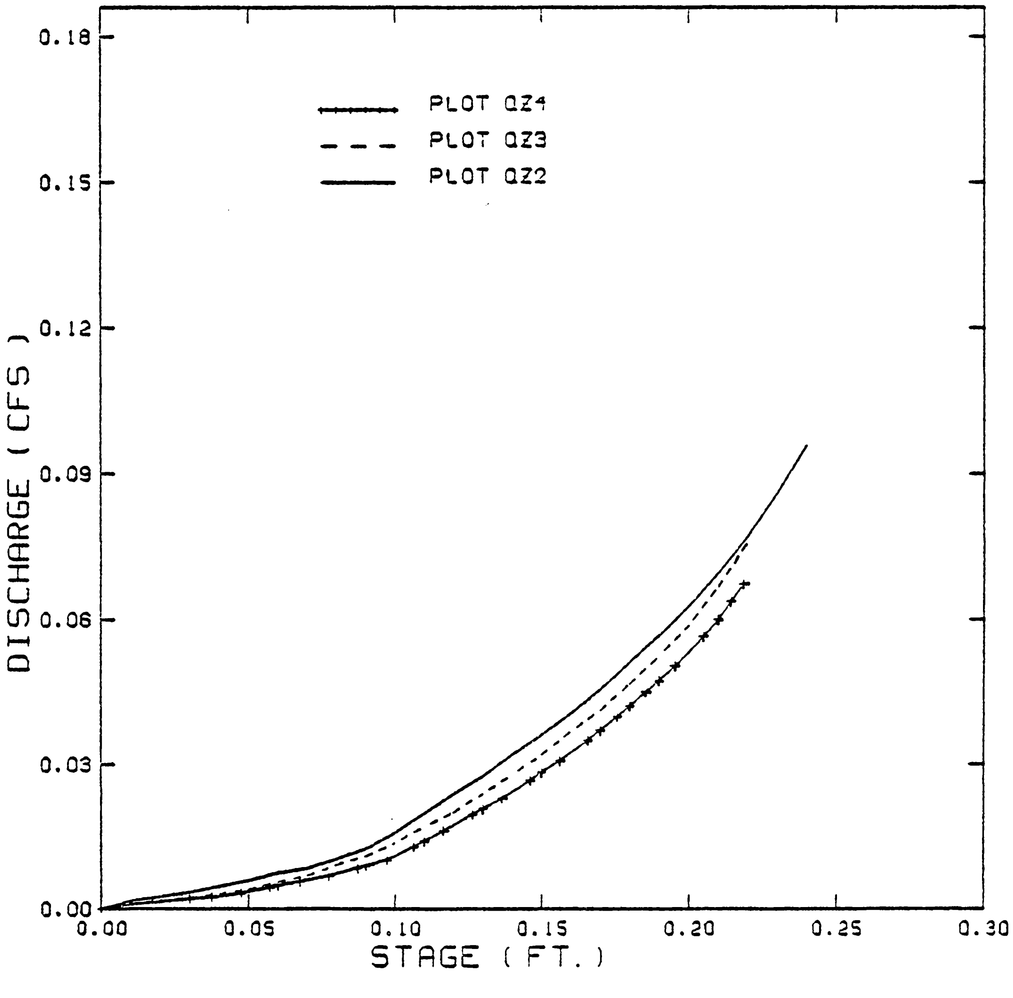


FIGURE 10. GLEN JEAN FLUME CALIBRATION

3.3 Field and Laboratory Procedures

Field procedures were designed to collect sufficient data from each field plot to characterize initial and final moisture conditions, to define the rainfall distribution and to calculate total soil loss. Additionally, soil samples were collected from the soil surface to quantify the effects of rock-mulching and changes in particle size distribution.

3.3.1 Soil Moisture Data

Soil moisture was determined before and after each rainfall event using the gravimetric method described by Brakensiek, et al. (1979). Core samples were taken at approximately a 4-inch depth with a standard soil probe. Three samples were taken and composited from the top and bottom of each plot before and after each storm application. Large coarse fragments were removed from each of these samples before being transported to the Soil and Water Conservation Research Facility (USDA Lab), near Beckley, West Virginia for laboratory analysis.

3.3.2 Total Sediment Load Data

Total sediment transport or soil loss was determined for each plot by the summation of the dry weights of the heavy sediment deposited in the approach box and the suspended sediment transported through the flume. After each run, all material was removed from the flume and dry weights were determined by oven drying. Approximately 200-ml water samples were manually taken at one minute intervals for the rising and falling limb of each storm hydrograph. After the flow reached steady-state, samples were taken in two or four minute intervals.

Sediment concentrations were determined using methods described by Brakensiek, et al. (1979). After each run, samples were immediately taken to the USDA Laboratory. The total wet weight was determined for each aliquot sample. For these data, 24 hours was found to be sufficient time for suspended material to settle. After settling had occurred, water was removed carefully until 100 milliliters remained. The samples were oven-dried, removed and the dry weight of the sediment was determined immediately. The correction factors for dissolved solids were determined from the water supply source. Dissolved solids, also, were determined for the water removed from the samples. No differences were encountered. These data were used to calculate sample sediment concentrations in milligrams per liter for each time increment.

3.3.3 Soil Particle Size Distribution Data

Surface soil samples were taken at the begining and end of each test. Each field plot was divided into 2-foot square grids and six sampling locations were selected randomly before and after each tillage operation. The samples obtained from each 2-foot square grid were limited to a 6-inch square area and a depth of one inch. The material from these locations were composited to give two samples for each plot.

The particle size distribution was determined by wet sieving (ASTM Standards, 1981). This involved the placing of the samples on a 2-mm mesh screen and submerging the screen in water. After the soil aggregates had become saturated, smaller particles were washed through the screen by gentle up and down agitation of the screen. The percentage of coarse fragments was determined after oven drying. The particle size distribution also was determined for the soil material deposited in the flume and the sediment from the 200-ml samples. These samples were prepared using standard dry sieving procedures. The sand fractions were determined by sieving while the silt and clay fractions were determined by the pipette method.

3.3.4 Rainfall Distribution Data

The rainfall distribution for each plot was determined by collecting rainfall at seven selected locations (Figure 11). Each collection container was located on a stand approximately 18 inches above the ground. Each stand consisted of a wood platform mounted on a thin rod. After each rainfall application the volume of water in each cup was measured in a graduated cylinder and recorded on a standard coding form.

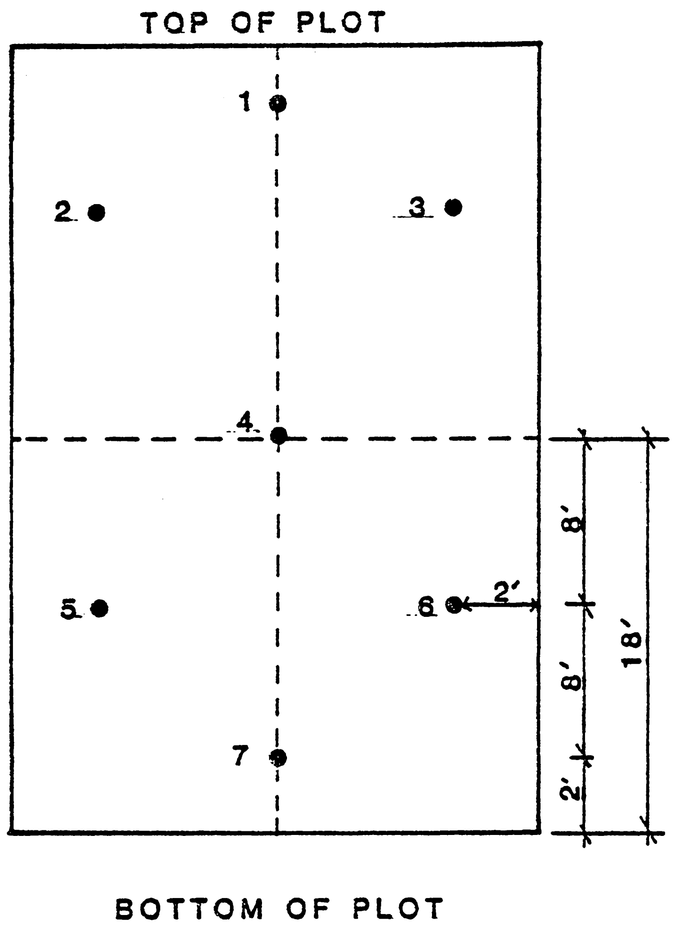


FIGURE 11: RAINFALL SAMPLING LOCATION.

3.4 Data Reduction

Data reduction procedures that were used to determine sediment concentrations, total sediment loads and runoff volumes are outlined in the next section of this report. The Virginia Tech rainfall simulator was calibrated using methods and procedures recommended in the literature so that the results could be compared with those obtained from other studies with rainfall simulators. Details concerning system calibration and the methods used to calculate storm erodibility parameters are presented below.

3.4.1 Calculation of Runoff Volumes and Sediment Loads

Computer software was developed to calculate the discharge hydrograph, sediment concentrations and total sediment load from the basic field data. The three basic components of this software package were subroutines to calculate sediment concentrations for the 200-ml samples, discharge (rate and volume) and total sediment load (Appendix A). The sediment sample concentrations were determined by subroutine CONC following methods outlined by Brakensiek (1979). The total flow was calculated in subroutine QVOL for each time increment corresponding to sediment concentrations determined by subroutine CONC. In subroutine FLOW, the data generated by subroutines CONC and QVOL were used to calculate suspended sediment loads for each time interval, accumulated discharge and accumulated sediment load. Calculations were performed for 72 test-run-plot combinations.

3.4.2 System Calibration of the Virginia Tech Rainfall Simulator

Two rainfall parameters are used to define the erosive potential of a given rainfall event. The interaction of these two parameters, the storm kinetic energy (E) and the storm intensity (I), are combined to form a rainfall parameter called the rainfall erosivity index (EI). Storm EI-factors have been used in erosion studies to index the affect of different rainfall patterns on soil erodibility and to compare differences between rainfall simulators and natural rainfall.

The first step in system calibration was to determine the intensity and energy distributions. Design intensity was determined by setting up a single riser-sprinkler head assembly in an airplane hanger and measuring rainfall volume as shown in Figure 12. Drop size distributions were determined using the same system setup and following methods developed by Laws and Parsons (1943). Based on the drop size and rainfall distributions, and an observed 14-foot drop height, kinetic energy was determined using procedures developed by Chow and Harbaugh (1964). The design parameters are presented in Table 1.

The second step of the system calibration was to determine the average intensity and energy delivered to each plot. The data from Table 1 were assumed to apply for a given sprinkler distribution as shown in Figure 13 . For example, a 0.272 rate (first rate from Table 1) was assumed to apply to the area defined by a circle with radius of 6 feet (one half the distance between Ring A and Ring B). To determine the actual rate delivered to the plot, a sketch was made of the areal coverage of each sprinkler. From this sketch, 373-unique sprinkler combinations were identified. The amount of rain collected on each sub-area was determined and the average volume calculated by linear weighting the rainfall collected on each sub-area as a function of the total areal coverage. The storm energy was determined following similar procedures. The calculated design data compared favorably with data reported in the literature for this type simulator. These data were used to calculate the individual storm EI for each test-run-plot combination used in this study. The procedure for determining each storm EI will be outlined in the next section.

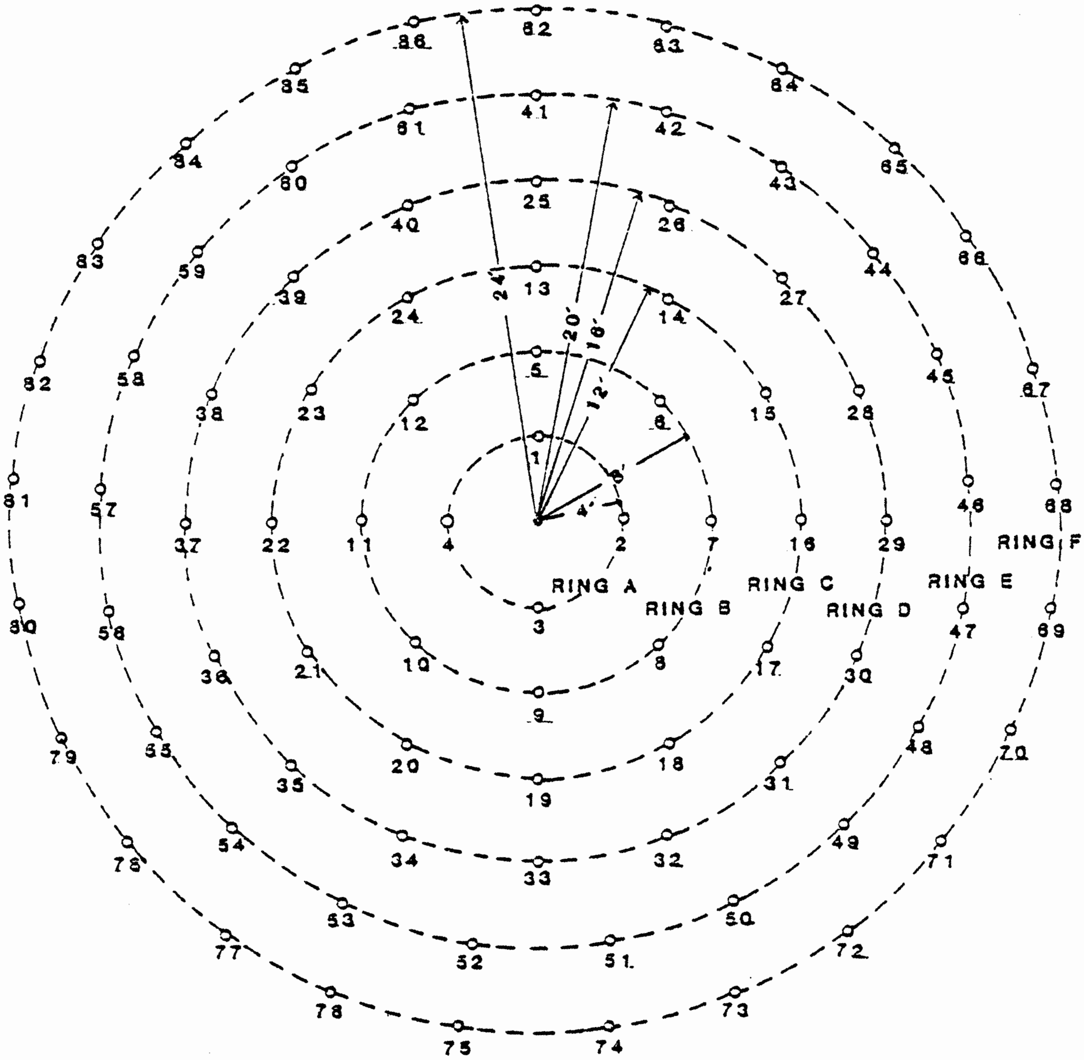


FIGURE 12: SPRINKLER CALIBRATION

Table 1: Calibrated Design Parameters for the Virginia Tech Rainfall Simulator.

Ring	------Distribution------ Rainfall (in/hr)	Kinetic Energy (ft-lbs/ml)
A	0.272	0.140
B	0.379	0.242
C	0.453	0.263
D	0.481	0.326
E	0.464	0.388
F	0.229	0.465

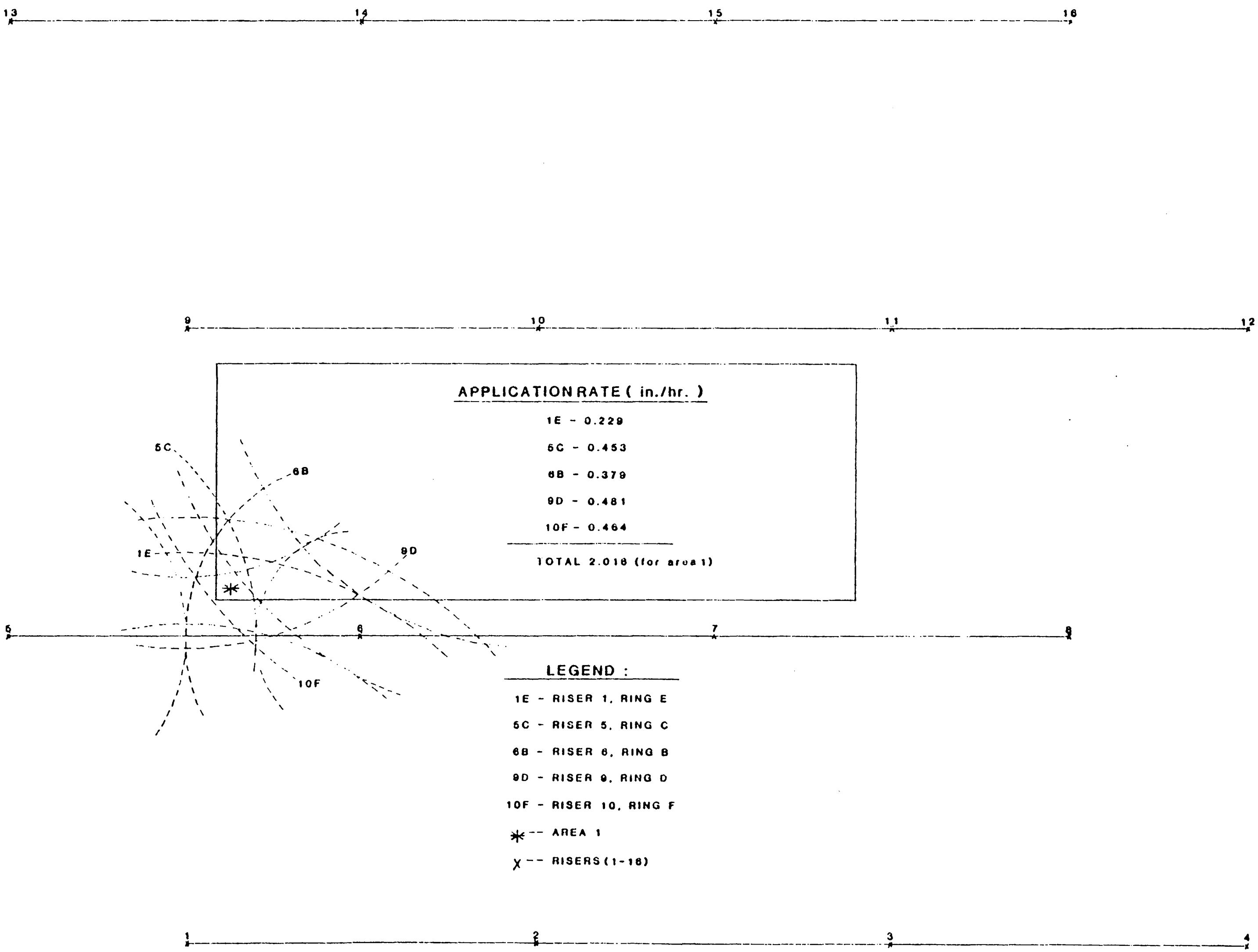


Figure 13. Sprinkler - Overlap on Plot Surface.

3.4.3 Determination of Individual Storm EI

The calibrated design intensity and kinetic energy for the simulator were based on data collected with no wind effects. During the field experiments, rainfall application rates and distributions varied because of wind effects and pressure variation within the system, which required adjustments to the system calibration to determine the actual storm EI. This was accomplished by adjusting the calibrated rainfall distribution by a constant increment until a rainfall distribution was found that was equal to the observed plot rainfall distribution. The adjusted distribution was used with the data from Table 1 to obtain the kinetic energy for the plot. The plot intensity and kinetic energy were multiplied to form the storm EI for each test-run-plot combination.

3.4.4 Soil Erodibility Calculations Based on Field Data

After the sediment load and individual storm EI-data were determined, the calculations of soil erodibility parameters for each test-run-plot combination were based on the following forms of the Universal Soil Loss Equation:

$$A=K*EI*LS*CP \quad (4)$$

$$LSADJ=A/LS \quad (5)$$

$$K=A/EI*LS*CP \quad (6)$$

$$K=LSADJ/EI*CP \quad (7)$$

where:

A = Observed total soil loss (suspended + bedload) for each plot;

K = Storm erodibility value;

LS = Length - slope adjustment factor;

EI = Individual storm erosion index based on system calibration;

CP = Cover - practice factor; and

LSADJ = Soil loss adjusted for length slope.

The soil loss data were adjusted for length and slope based on equation (5) to facilitate statistical analysis between runs at each site and between sites. The soil loss for the 30-minute test-run combinations (run 3) were doubled to allow comparison between all runs at each site. The sediment loads for each test-run-plot combination were adjusted to the standard plot (9-percent slope and 72.6-foot slope length) to compare sites with different slopes. Length - Slope conversion factors for each plot were determined based on field surveys and work done by Wischmeier and Smith (1978).

It should be noted that any comparison between sites with different slopes is dependent on the accuracy of the LS conversion factors developed by Wischmeier and Smith (1978). Because these values were defined from research conducted on agricultural soils, the applicability of the LS conversions for mine soils has been questioned. Current research in various parts of the country (for example, North Dakota, Kentucky, Ohio, Colorado) hopefully, will provide a definitive answer to this question. Until this research is completed Wischmeier's method appears to be the most appropriate procedure available.

Early research by Wischmeier and Mannering (1969) established the procedure for determining the soil erodibility factor K. The test areas were tilled and raked parallel with the slope. This condition represented the soil conservation practice with the highest erosion potential. With no vegetative cover and tillage parallel to the slope, both the C and P factor were assumed equal to one. Therefore, storm erodibility values were calculated from the field data using the following relationship:

$$K = LSADJ/EI \qquad (8)$$

The individual storm K-indexes represented the resistance of the soil to artifically applied rainfall. Because the kinetic energy from most rainfall simulators are less than that of natural rainfall, soil loss data traditionally have been adjusted to be consistent with an average natural rainfall event. The basis of this adjustment is the following regression equation developed by Wischmeier and Smith (1961):

$$E = 916 + 331 \text{ Log } I \qquad (9)$$

where:

E = Predicted natural storm energy.

I = Average storm intensity.

3.4.5 Statistical Analysis

Statistical analysis were performed using the Statistical Analysis System (SAS) software package available at Virginia Tech. Analysis were based on the test-run-plot experimental design outlined in the Rainfall Application Sequence section of this chapter. The statistical layout is presented in Table 2. Statistical methods were used to determine the variability in initial soil moisture, plot rainfall distribution, suspended sediment concentrations and total loads for each test-run-plot combination for both sites. Analysis of Variance (ANOVA) techniques were used to determine differences between each test-run, test-plot and run-plot combination for all variables included in the study. Multiple comparison procedures, such as Duncan's Multiple Range Test, were used to identify significant differences in treatment combinations.

Table 2: Experimental Design Used at Each Site.

		Moisture Condition	Storm Duration (min)
Test 1[1]	Run 1[2]	dry	60
	Run 2	wet	60
	Run 3	very wet	30
Test 2	Run 1	dry	60
	Run 2	wet	60
	Run 3	very wet	30
Test 3	Run 1	dry	60
	Run 2	wet	60
	Run 3	very wet	30
Test 4	Run 1	dry	60
	Run 2	wet	60
	Run 3	very wet	30

[1] Each test-run combination was replicated on 3 plots.

[2] Each plot was tilled immediately before each dry run.

Chapter IV

Results and Discussion Sullivan Site

This chapter contains a detailed description and discussion of the results for all factors studied at the Sullivan site. These factors included basic soil properties, rainfall characteristics, soil moisture characteristics, soil erodibility, basic hydrologic properties and the particle size distribution of material at the plot surface and material collected from aliquot samples. The results and discussion for the Glen Jean Site are given in Chapter V and a comparison between the results for both sites is presented in Chapter VI.

4.1 Plot Description

This study area was on a 300-acre active "Mountain Top Removal" surface mine operation, also, utilized by Hockman (1981) for erosion studies with natural rainfall. Field erosion plots were constructed on slopes at the edge of active mining operations. Topsoil and subsoil material were transported and spread using conventional mining equipment and methods. The plot area was disk-plowed to a depth of approximately 10-inches prior to installation of field plots. The parent material for the three plots used in this study was classified as acid sandstone and siltstone with mildly alkaline siltstone from the New River Geologic Formation by the SCS. The site was well drained with a northwest aspect located on a sloping 16-percent ridgetop relief at an approximate 2700-foot elevation. Field estimates of permeability and erosion potential were both classified as moderate. Detailed profile descriptions are included in Appendix B, Section 1.

4.1.1 Particle Size Distribution

Data on particle size distribution are summarized in Table 3. The complete data base used to build this summary table is located in Appendix B, Section 2. Comparisions of the standard deviation (S.D.) for the five samples collected from each plot show that little variability existed in the particle size distribution among plot surfaces. The sand was in the fine and very fine range with a fairly even distribution of total sand and clay. Approximately 50-percent of the surface material, which passed a 2-mm sieve, was in the silt range. The mean of all the samples placed the soil in the silt silt-loam textural class.

An analysis of the particle size distribution showed a distinct difference between the topsoiled first and second layer and the underlying material. The light-colored topsoiled material had a relatively even distribution of total sand and clay, while the darker underlying material contained more sand and much less clay. In general, the percentage of coarse fragments and total sand increased while the percentage of clay decreased from top to bottom of the soil profile.

Topsoiling with a 1 to 2-foot thick layer of fine material over coarser lower horizons is required by law. The interface between the topsoiled and subsoil layers has a significant effect on infiltration and the hydraulic conductivity of the soil horizon. This condition, when coupled with layered traffic pans most always results in low final infiltration rates, surface puddling and high runoff volumes. These factors, when combined, tend to cause an increase in soil erosion.

Table 3: Physical Properties of the Sullivan Plots.

Plot [1]		% C.F. >2 mm	Sand [2] VC	C	M	F	VF	Total	Silt [3]	Clay [3]
QB2	Mean	11.66	1.16	0.96	0.78	6.90	18.36	28.18	49.14	22.68
	S.D.	4.015	.358	.134	.192	1.83	3.148	4.808	2.867	5.541
QB3	Mean	15.74	1.10	1.18	1.18	9.58	19.12	32.20	46.12	21.68
	S.D.	5.557	.235	.432	1.03	3.79	3.159	6.233	6.161	1.215
QB4	Mean	16.88	0.94	1.00	0.72	6.30	17.24	26.24	50.34	23.40
	S.D.	7.325	.300	.283	.084	1.08	1.757	2.886	2.628	4.031
All	Mean	14.76	1.07	1.05	.839	7.59	18.24	28.87	48.53	22.59
	S.D.	5.843	.294	.302	.598	2.75	2.684	5.166	4.306	3.791

Pit Samples

Layer	% C.F. >2 mm	VC	C	M	F	VF	Total	Silt	Clay
1	17.77	1.90	1.10	1.40	9.90	16.50	30.90	45.30	23.80
2	5.87	1.30	1.90	2.30	11.0	17.70	34.30	49.20	16.50
3	62.63	11.6	7.50	5.80	7.40	10.20	42.40	46.90	10.60
4	62.79	8.10	7.20	7.00	10.5	10.90	43.60	45.80	10.60

[1] Five samples from each plot were analysed by the Physical Characterization Laboratory at Virginia Tech.

[2] Determined by sieving.

[3] Determined by pipette.

4.1.2 Chemical Properties

The soil chemical properties are summarized in Table 4 and complete listings are given in Appendix B, Section 3. The chemical properties of the plots were reasonably consistent with the exceptions of settleable solids, nitrogen, zinc and manganese concentrations. The organic matter (OM), however, which is assumed to have a major influence on erodibility did not vary greatly but was very low. The pit samples (layers 1-4, Table 4) show a significant difference between surface and lower layers. The surface (layers 1-2) were very acidic and contained low levels of plant-available nutrients. The lower layers (3-4), however, were characterized by much higher pH and higher levels of plant-available nutrients.

Table 4: Chemical Properties of the Sullivan Plots.

Plot [1]			ppm								%
		pH	P	K	Ca	Mg	SS	NO3-N	Zn	Mn	OM
QB2	Mean	4.26	5.40	35.8	74.4	34.0	94.8	13.2	.520	12.7	.720
	S.D.	.114	1.14	1.10	10.0	5.39	67.1	6.65	.217	1.86	.045
QB3	Mean	4.22	6.40	33.4	76.8	31.6	82.2	11.6	.460	9.34	.680
	S.D.	.084	1.14	1.82	13.7	11.5	72.9	5.94	.182	2.85	.045
QB4	Mean	4.44	3.00	29.0	60.0	30.0	13.6	5.80	1.30	6.48	.700
	S.D.	.089	0.0	3.0	16.9	7.18	28.2	3.11	1.37	.634	0.0
All	Mean	4.31	4.93	32.7	70.4	31.9	63.5	10.2	.760	9.50	.700
	S.D.	.133	1.71	3.52	14.9	7.96	66.3	6.03	.844	3.21	.038

Pit Samples

Layer		pH	P	K	Ca	Mg	SS	NO3-N	Zn	Mn	OM
1		4.4	5	44	132	60	166	5	.7	8.6	.8
2		4.6	3	26	96	42	1	3	.5	3.5	.7
3		7.3	60	51	708	120	154	3	1.4	11.2	.5
4		7.5	60	55	696	120	192	3	1.9	16.0	.6

[1] Five samples from each plot were analysed by the Cooperative Extension Laboratory at Virginia Tech.

4.1.3 Desorption Characteristics

Desorption curves were determined for each plot using standard methods. The results are summarized in Table 5 and Figure 14. Close agreement was found within and between plots for each point on the desorption curve. These data were collected to quantify initial soil moisture conditions and for use in a soil erosion modeling research project, which was independent of this study.

Table 5: Desorption Data of the Sullivan Plots.

Location [1]	Tension [2] .06 (mb)	.10 (mb)	.33 (mb)	15 (mb)
QB2-1	32.81	29.69	23.73	17.82
QB2-3	30.73	28.09	21.55	16.12
QB2-5	30.20	27.48	20.71	15.36
Mean	31.25	28.42	22.00	16.43
QB3-1	33.54	29.25	22.90	17.13
QB3-3	28.89	25.95	19.43	13.70
QB3-5	31.20	28.68	21.89	16.16
Mean	31.21	27.96	21.41	15.66
QB4-1	33.16	30.26	23.03	17.39
QB4-3	31.14	27.89	21.79	15.78
QB4-5	31.75	28.42	21.39	15.65
Mean	32.02	28.86	22.07	16.27
Total Mean	31.49	28.41	21.82	16.12

[1] Three Samples from each plot were taken; 1 => top, 3 => middle, 5 => bottom.

[2] Each value shown is the average of two replications. Data analyzed by the Physical Characterization Laboratory at Virginia Tech.

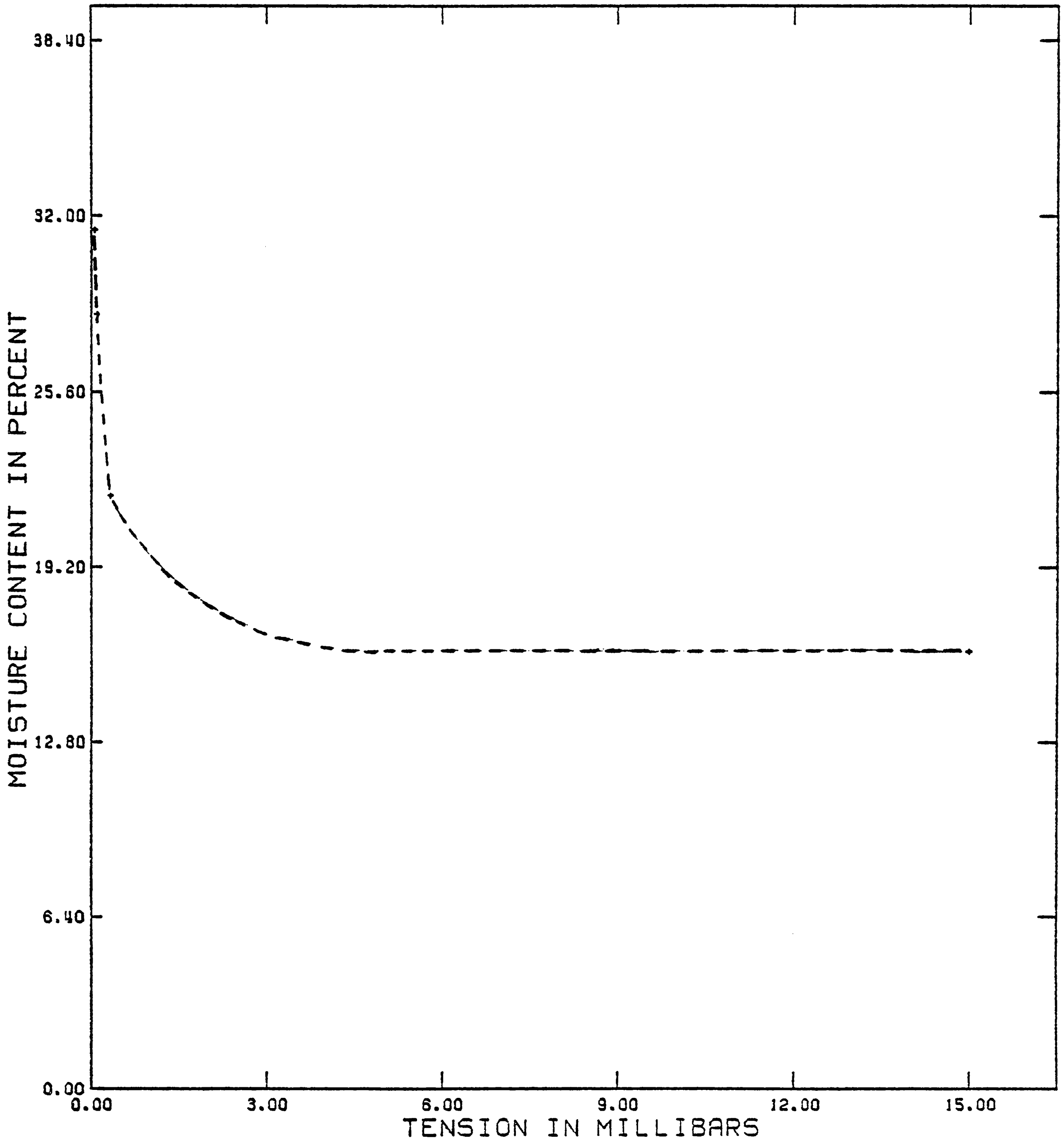


FIGURE 14. DESORPTION CURVE FOR SULLIVAN

4.2 Rainfall Characteristics

4.2.1 Rainfall Distribution

The rainfall application rate from each plot was determined from an average of seven volume measurements. These data are given in Appendix B, Section 4 for each test-run-plot combination. A summary by plot is tabulated in Table 6 and shown in Figure 15. The volumes for the third run (30-minute) were converted to equivalent volumes for a 60-minute duration (volumes doubled) to facilitate statistical analysis. The results of statistical analysis are summarized in Tables 7 - 10. Tests for significance were made at the 0.05-test level.

The data presented in Figure 15 and Table 7 show little significant variation between rainfall application rates over each plot during a given run. In general, plot QB4 recieved more rainfall than either plots QB2 or QB3. The data presented in Table 8 represent the data pooled across all tests by plots, and the statistical analysis indicated significance at the 0.05-test level. One possible explanation is that pressure variation due to the location of the inlet side of the main line from the pump had a minor effect on plot application rates. No significance occurred across runs within plots.

The results in Table 9 show that 75-percent of the time no significant variation occurred in the application rates across runs for each test-plot combination. This demonstrated that the simulator was applying a similar rainfall distribution over each plot during each run. Based on this analysis and an analysis of wind movement (Table 11) it can be seen that the significant variations were due to a change in wind direction. Application rates were higher when the direction of wind movement was from the top to bottom of the plots.

The results in Table 10 show that over 75-percent of the time no significant variation occurred in the application rates across tests for each run-plot combination. During test 3 - run 1, the application rates were significantly lower than the remaining test-run combinations. These data show that a uniform application rate was applied to each plot at various times during the three month period. Most importantly, the effect of rainfall distribution should have little impact on the determination of the erodibility index.

Table 6: Rainfall Application Rates for the Sullivan Plots.

Test	Run	--------Plot [1]----- QB2	QB3	QB4	Run Mean	Run S.D.	Test Mean
		(in/hr)	(in/hr)	(in/hr)	(in/hr)		(in/hr)
2	1	2.04	2.03	2.20	2.09	.095	
	2	2.08	2.15	2.15	2.13	.040	2.15
	3	2.18	2.24	2.30	2.24	.060	
	Mean	2.10	2.14	2.22			
3	1	1.93	1.85	1.95	1.91	.053	
	2	1.97	2.08	2.16	2.07	.095	2.08
	3	2.18	2.20	2.42	2.27	.133	
	Mean	2.03	2.04	2.18			
4	1	2.16	2.16	2.16	2.16	0.0	
	2	2.00	2.03	2.14	2.06	.074	2.12
	3	2.04	2.16	2.26	2.15	.110	
	Mean	2.07	2.12	2.19			
5	1	2.07	2.13	2.22	2.14	.075	
	2	1.86	1.98	2.00	1.95	.076	2.01
	3	1.94	2.02	1.98	1.98	.095	
	Mean	1.96	2.04	2.07			

[1] Each value in this table is the average of seven observations. All values are based on 60-minute durations.

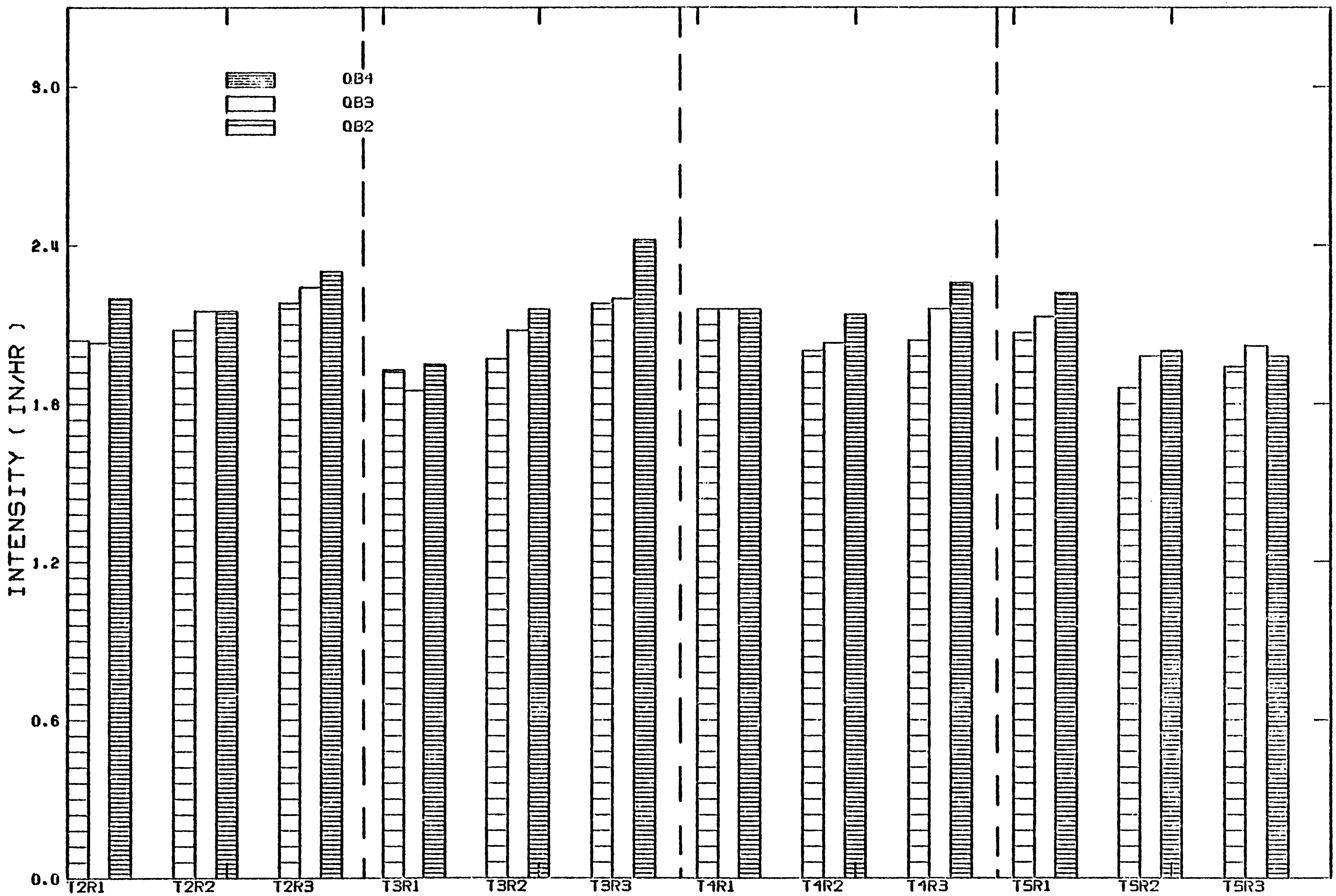


Figure 15. Rainfall Application Rates for Each Test (T)-Run (R) Combination on the Sullivan Plots.

Table 7: Variation of the Rainfall Application Rates from Table 6 Between the Sullivan Plots.

Test	Run	Plot QB2	Plot QB3	Plot QB4	Significant Variance
2	1	2.04(b)	2.03(b)	2.20(a)	*[1]
	2	2.08(a)	2.15(a)	2.15(a)	
	3	2.18(a)	2.24(a)	2.30(a)	
3	1	1.93(a)	1.85(a)	1.95(a)	
	2	1.97(a)	2.08(a)	2.16(a)	
	3	2.18(b)	2.20(b)	2.42(a)	*
4	1	2.16(a)	2.16(a)	2.16(a)	
	2	2.00(a)	2.03(a)	2.14(a)	
	3	2.04(a)	2.16(a)	2.26(a)	
5	1	2.07(a)	2.13(a)	2.22(a)	
	2	1.86(b)	1.98(a)	2.00(a)	*
	3	1.94(a)	2.02(a)	1.98(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Fisher's Least Significant Difference Procedure at a Test Level of 0.05.

Table 8: Variation of the Rainfall Application Rates from Table 6 Averaged Over All Tests for the Sullivan Plots.

Run	Plot QB2	Plot QB3	Plot QB4	Significant Variance
1	2.05(b)	2.04(b)	2.13(a)	*[1]
2	1.98(b)	2.06(b)	2.11(a)	*
3	2.09(b)	2.16(b)	2.24(a)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Fisher's Least Significant Difference Procedure at a Test Level of 0.05.

Table 9: Variation of the Rainfall Application Rates from Table 6 Between Runs for the Sullivan Plots.

Test	Plot	Run 1	Run 2	Run 3	Significant Variance
2	QB2	2.04(a)	2.08(a)	2.18(a)	
	QB3	2.03(a)	2.15(a)	2.24(a)	
	QB4	2.20(a)	2.15(a)	2.30(a)	
3	QB2	1.93(a)	1.97(a)	2.18(a)	
	QB3	1.85(b)	2.08(a)	2.20(a)	*[1]
	QB4	1.95(c)	2.16(b)	2.42(a)	*
4	QB2	2.16(a)	2.20(a)	2.04(a)	
	QB3	2.16(a)	2.03(a)	2.16(a)	
	QB4	2.16(a)	2.14(a)	2.26(a)	
5	QB2	2.07(a)	1.86(b)	1.94(b)	*
	QB3	2.13(a)	1.98(a)	2.02(a)	
	QB4	2.22(a)	2.00(b)	1.98(b)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Fisher's Least Significant Difference Procedure at a Test Level of 0.05.

Table 10: Variation of the Rainfall Application Rates from Table 6 Between Tests for the Sullivan Plots.

Run	Plot	Test 2	Test 3	Test 4	Test 5	Significant Variance
1	QB2	2.04(a)	1.93(a)	2.16(a)	2.07(a)	
	QB3	2.03(a)	1.85(b)	2.16(a)	2.13(a)	*[1]
	QB4	2.20(a)	1.95(b)	2.16(a)	2.22(a)	*
2	QB2	2.08(a)	1.97(a)	2.00(a)	1.86(a)	
	QB3	2.15(a)	2.08(a)	2.03(a)	1.98(a)	
	QB4	2.15(a)	2.16(a)	2.14(a)	2.00(a)	
3	QB2	2.18(a)	2.18(a)	2.04(a)	1.94(a)	
	QB3	2.24(a)	2.20(a)	2.16(a)	2.02(a)	
	QB4	2.30(a)	2.42(a)	2.26(a)	1.98(b)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Fisher's Least Significant Difference Procedure at a Test Level of 0.05.

Table 11: Summary of Wind Speed and Direction on the Sullivan Plots.

Test	Run	Average Speed (mph)	Average Direction [1]
2	1	1.7	↖
	2	1.6	→
	3	1.6	→
3	1	4.0	↑
	2	3.8	↓
	3	3.2	↓
4	1	4.1	↘
	2	3.3	→
	3	3.8	→
5	1	3.2	↙
	2	5.0	↖
	3	9.0	↖

[1] Direction related to the plot surface. Top of the page represents the top of the plot.

4.2.2 Storm EI Distributions

The data summarizing the rainfall factors utilized for system calibration are presented in Table 12. Analysis of these data in the "Ratio" column show that the kinetic energy of rain applied by the rainfall simulator ranged between 40 and 45-percent of the energy of natural rainfall.

The individual storm EI data are given in Table 13 and Figure 16. As expected, a comparison of Figures 15 and 16 show similar trends. A summary of the statistical analysis of the EI data are given in Tables 14 and 15. It is apparent from an inspection of the data in Table 14 that there is little significant variation between plots for either tests or runs. Analysis of the data in Table 15 show significant differences in the storm EI-index between run 1 and runs 2 and 3 for test three and test five. This difference also, occurred in the rainfall application rate and was attributed to changes in wind direction. The similarities between these analyses show that the storm EI-index follows the same trends as the rainfall distribution.

Table 12: Rainfall and Energy Factors for the Sullivan Plots.

Test	Run	Plot	Rainfall (in/hr)	Calib. Energy	Wischmeier Equation	Ratio	Storm EI[1]
2	1	QB2	2.04	4.34	10.18	.426	8.85
		QB3	2.03	4.32	10.18	.424	8.75
		QB4	2.20	4.67	10.29	.454	10.26
	2	QB2	2.08	4.42	10.21	.433	9.19
		QB3	2.15	4.57	10.26	.445	9.79
		QB4	2.15	4.58	10.26	.446	9.83
	3	QB2	2.19	4.66	10.29	.453	10.19
		QB3	2.23	4.75	10.31	.461	10.60
		QB4	2.30	4.91	10.36	.473	11.30
3	1	QB2	1.93	4.10	10.10	.406	7.90
		QB3	1.85	3.94	10.05	.392	7.30
		QB4	1.95	4.15	10.12	.410	8.10
	2	QB2	1.97	4.19	10.14	.414	8.28
		QB3	2.08	4.43	10.21	.434	9.24
		QB4	2.16	4.59	10.27	.448	9.91
	3	QB2	2.18	4.63	10.28	.451	10.08
		QB3	2.21	4.69	10.30	.456	10.35
		QB4	2.41	5.13	10.42	.492	12.36
4	1	QB2	2.16	4.60	10.27	.448	9.93
		QB3	2.11	4.48	10.23	.438	9.44
		QB4	2.16	4.61	10.27	.448	9.96
	2	QB2	1.99	4.26	10.16	.419	8.51
		QB3	2.03	4.32	10.18	.424	8.76
		QB4	2.14	4.56	10.26	.445	9.78
	3	QB2	2.05	4.36	10.19	.428	8.93
		QB3	2.16	4.59	10.27	.448	9.92
		QB4	2.26	4.81	10.33	.467	10.88
5	1	QB2	2.07	4.40	10.20	.431	9.09
		QB3	2.13	4.53	10.24	.442	9.62
		QB4	2.22	4.72	10.30	.458	10.44
	2	QB2	1.86	3.96	10.05	.394	7.35
		QB3	1.98	4.22	10.14	.416	8.37
		QB4	1.99	4.25	10.15	.419	8.49
	3	QB2	1.93	4.11	10.11	.407	7.94
		QB3	2.02	4.30	10.17	.423	8.70
		QB4	1.98	4.22	10.14	.416	8.35

[1] units (100 foot-ton/acre)(in/hr)

Table 13: Storm EI Data for the Sullivan Plots. [1]

Test	Run	Plot QB2	Plot QB3	Plot QB4	Run Mean	Run S.D	Test Mean
2	1	8.85	8.75	10.26	9.29	.844	
	2	9.19	9.79	9.83	9.60	.359	9.86
	3	10.19	10.60	11.30	10.70	.561	
	Mean	9.41	9.71	10.46			
3	1	7.90	7.30	8.10	7.77	.416	
	2	8.28	9.24	9.91	9.14	.819	9.28
	3	10.08	10.35	12.36	10.93	1.25	
	Mean	8.75	8.96	10.12			
4	1	9.93	9.44	9.96	9.78	.292	
	2	8.51	8.76	9.78	9.02	.673	9.57
	3	8.93	9.91	10.88	9.91	.975	
	Mean	9.12	9.37	10.21			
5	1	9.10	9.62	10.44	9.72	.676	
	2	7.35	8.37	8.49	8.07	.626	8.71
	3	7.94	8.70	8.35	8.33	.380	
	Mean	8.13	8.90	9.09			

Plot	Run 1	Run 2	Run 3	Plot Mean
QB2	8.95	8.33	9.29	8.66
QB3	8.78	9.04	9.89	9.24
QB4	9.69	9.50	10.72	9.97
Mean	9.14	8.96	9.97	

[1] EI units = (100 foot-ton/ac)(in/hr)

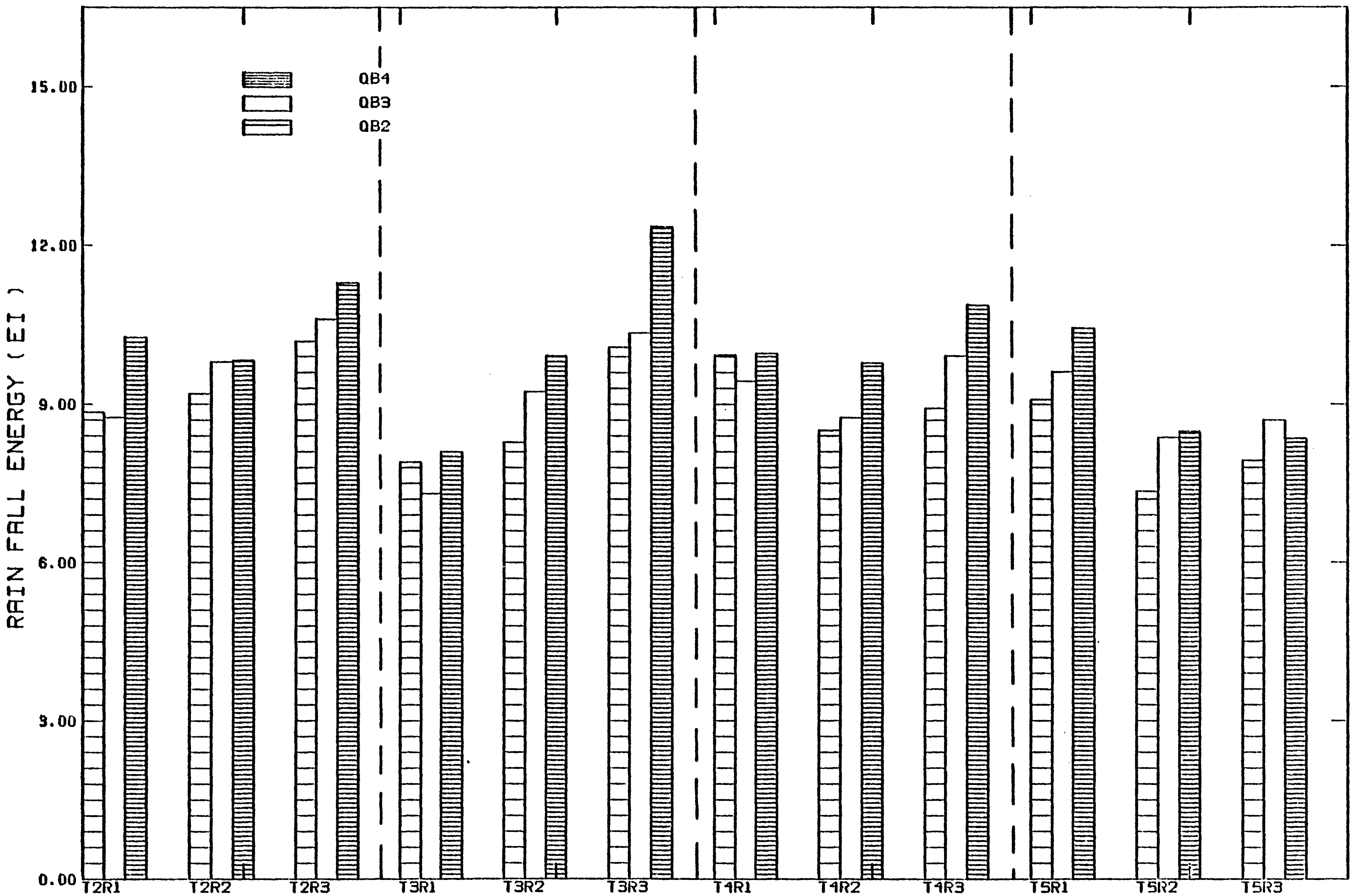


Figure 16. Storm EI Data for Each Test (T) - Run (R) Combination on the Sullivan Plots.

Table 14: Variation of Storm EI Data from Table 13 Between the Sullivan Plots.

Test	QB2 (Plot)	QB3 (Plot)	QB4 (Plot)	Significant Variance
2	9.41(a)	9.71(a)	10.46(a)	[1]
3	8.75(a)	8.96(a)	10.12(a)	
4	9.12(a)	9.37(a)	10.21(a)	
5	8.13(a)	8.90(a)	9.09(a)	

Run	QB2 (Plot)	QB3 (Plot)	QB4 (Plot)	Significant Variance
1	8.95(a)	8.78(a)	9.69(a)	
2	8.33(a)	9.04(a)	9.50(a)	
3	9.29(a)	9.89(a)	10.72(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

Table 15: Variation of Storm EI Data from Table 13 Between Tests and Runs for the Sullivan Plots.

Test	Run 1	Run 2	Run 3	Significant Variance
2	9.29(a)	9.60(a)	10.70(a)	
3	7.77(b)	9.14(ab)	10.93(a)	*[1]
4	9.78(a)	9.02(a)	9.91(a)	
5	9.72(a)	8.07(b)	8.33(b)	*

Run	Test 2	Test 3	Test 4	Test 5	Significant Variance
1	9.29(a)	7.77(b)	9.78(a)	9.72(a)	*
2	9.60(a)	9.14(a)	9.02(a)	8.07(a)	
3	10.70(a)	10.93(a)	9.91(ab)	8.33(b)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

4.2.3 Summary

In general, statistical analyses showed that the rainfall application rates and the storm EI-indexes followed similar trends and that rainfall factors were relatively uniform for each plot across tests and within test (runs). These results were desirable because wide fluctuations in the rainfall application rates would have made interpretation of soil loss data more difficult.

4.3 Moisture Characteristics

A summary of the soil moisture data is presented in Table 16 and the complete data base is given in Appendix B, Section 5. In Table 16 the column heading, change column, represents the increase in soil moisture content. Negative values represent sampling errors. These data show that the initial soil moisture content was significantly different within tests (i.e. runs 1,2 and 3). There was little difference between the soil moisture content after each rainfall application suggesting that saturation had occurred by the termination of each run.

Initial soil moisture conditions are one of the major factors affecting the initiation and volume of runoff produced by a given storm. Because the infiltration must be exceeded and retention storage capacity satisfied before runoff can occur, a soil with a low moisture content often will absorb more rainfall, therefore, reducing runoff and sediment loss. To evaluate the variablity of initial soil moisture data, statistical analysis was performed using the soil moisture data and is summarized in Table 17. A significant difference in initial moisture content was found between runs (Table

18). The initial run (run 1) was always the driest followed by run 2 and run 3. No significant differences were found between the three plots for each run combination. Statistical analysis for each run-test combination showed that the soil moisture for test 2, run 1 was significantly higher than run 1 for tests 3 and 5. No significant differences were found for any other test-run combination. This lack of significant difference suggests that soil moisture variation did not significantly affect soil loss variations in this experiment.

Table 16: Summary of the Gravimetric Soil Moisture Conditions for the Sullivan Plots.

Test	Run	Plot	Soil Moisture [1] Before Run	Soil Moisture [1] After Run	Soil Moisture [1] Change
			(%)	(%)	(%)
2	1	QB2	20.27	25.08	4.81
		QB3	19.91	23.73	3.82
		QB4	20.86	25.01	4.15
	2	QB2	21.60	22.69	1.09
		QB3	18.79	22.38	3.59
		QB4	19.51	22.06	2.55
	3	QB2	22.69	24.24	1.55
		QB3	22.38	23.81	1.43
		QB4	22.06	22.64	.58
3	1	QB2	17.10	21.18	4.08
		QB3	16.94	20.91	3.97
		QB4	16.63	22.19	5.56
	2	QB2	21.61	23.46	1.85
		QB3	20.31	21.30	.99
		QB4	20.76	21.74	.98
	3	QB2	23.46	23.26	-.20
		QB3	21.30	23.16	1.86
		QB4	21.74	23.00	1.26
4	1	QB2	17.03	23.57	6.54
		QB3	17.61	21.57	3.96
		QB4	16.85	21.89	5.04
	2	QB2	21.07	23.61	2.54
		QB3	21.66	23.33	1.67
		QB4	21.56	23.00	1.44
	3	QB2	23.61	23.01	-.60
		QB3	23.33	22.63	-.70
		QB4	23.00	22.72	-.28
5	1	QB2	17.05	21.44	4.39
		QB3	16.46	21.49	5.03
		QB4	16.19	21.61	5.42
	2	QB2	21.34	22.43	1.09
		QB3	22.31	23.21	.90
		QB4	20.70	22.96	2.26
	3	QB2	22.43	22.73	0.30
		QB3	23.21	26.93	3.72
		QB4	22.96	23.69	0.73

[1] Soil moisture samples taken from the top and the bottom of each plot were averaged to produce the values shown in this table.

Table 17: Comparison the of Gravimetric Soil Moisture Contents Before Rainfall Application for the Sullivan Plots.

Test	Run	Plot [1] QB2	QB3	QB4	Test Mean	Test S.D.	Run Mean
		(%)	(%)	(%)	(%)		(%)
2	1	20.27	19.91	20.86	20.35	.480	
3	1	17.10	16.94	16.63	16.89	.239	
4	1	17.03	17.61	16.85	17.16	.397	17.74
5	1	17.05	16.46	16.19	16.57	.440	
	Run Mean	17.86	17.73	17.63			
2	2	21.60	18.79	19.51	19.97	1.46	
3	2	21.61	20.31	20.76	20.89	.660	
4	2	21.07	21.66	21.56	21.43	.316	20.94
5	2	21.34	22.31	20.70	21.45	.811	
	Run Mean	21.41	20.77	20.63			
2	3	22.69	22.38	22.06	22.38	.315	
3	3	23.46	21.30	21.74	22.17	1.14	
4	3	23.61	23.33	23.00	23.31	.305	22.68
5	3	22.43	23.21	22.96	22.87	.398	
	Run Mean	23.05	22.56	22.44			

[1] All values are the average of samples taken from the top and bottom of each plot.

Table 18: Variation of the Soil Moisture Contents Between Plots, Tests and Runs for the Sullivan Plots.

Run	Plot 2	Plot 3	Plot 4	Significant Variance
1	17.86(a)	17.73(a)	17.63(a)	
2	21.41(a)	20.77(a)	20.63(a)	
3	23.05(a)	22.56(a)	22.44(a)	

Run	Test 2	Test 3	Test 4	Test 5	Significant Variance
1	20.35(a)	16.89(b)	17.16(b)	16.57(b)	*[1]
2	19.97(a)	20.89(a)	21.43(a)	21.45(a)	
3	22.38(a)	22.17(a)	23.31(a)	22.87(a)	

Test	Run 1	Run 2	Run 3	Significant Variance
2	20.35(b)	19.97(b)	22.38(a)	*
3	16.89(b)	20.89(a)	22.17(a)	*
4	17.16(c)	21.43(b)	23.31(a)	*
5	16.57(c)	21.45(b)	23.31(a)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

4.4 Soil Loss Characteristics

The hydrologic response observed for each of the 36 test-run-plot combinations for the Sullivan site is discussed in the following sections of this chapter. A summary of these data are presented in Table 19. The observed soil loss data were adjusted for slope length and slope gradient and the storm erodibility indexes were calculated using the methods outlined in Chapter III. Appendix B, Section 6 contains the basic field data and sediment load summaries.

4.4.1 Soil Loss Adjusted for Length Slope

The soil loss data, adjusted to the standard plot condition for plot length and slope are tabulated in Table 20 and displayed in Figure 17. Only the plot length and slope had to be corrected and as expected the observed soil loss data (Table 19) were reduced due to a slope correction from 16-percent to the standard 9-percent slope an the plot length increased to 72.6-feet.

The results from the statistical analysis are presented in Tables 21 and 22. The data in Table 21 and Figure 17 show that the soil loss in all four tests were significantly higher during the dry run. This would suggest that tillage and/or the dry initial moisture conditions contributed to the high erosion losses. Further analysis showed that test 3 - runs 2 and 3 were significantly higher than all similar test-run combinations. This difference, also, was found in the rainfall distribution. The increased application rates were due to wind effects. Wind effects, also, caused significantly lower soil loss from test 5 - runs 2 and 3.

The data in Table 22 demonstrates that no significant differences existed between any run-plot or test-plot combination. This substantiates that factors affecting soil loss, in general, were similar for each run and test combination.

Table 19: Summary of the Rainfall, Runoff and Soil Loss Data for the Sullivan Plots.

Test	Run	Plot	Rain (in)	Discharge (in)	Infilt. (in)	- Soil (lb/ac)	Loss [1]- (t/ac)
2	1	QB2	2.04	1.59	.45	180.1	8.12
		QB3	2.03	1.58	.45	140.6	6.34
		QB4	2.20	1.74	.46	165.2	7.45
	2	QB2	2.08	2.04	.04	130.4	5.88
		QB3	2.15	2.11	.04	117.5	5.30
		QB4	2.15	2.15	0.0	117.8	5.31
	3	QB2	1.09	1.09	0.0	62.3	2.81
		QB3	1.12	1.09	.03	53.4	2.41
		QB4	1.15	1.13	.02	52.4	2.37
3	1	QB2	1.93	1.61	.32	249.2	11.24
		QB3	1.85	1.49	.36	187.5	8.46
		QB4	1.95	1.61	.34	239.5	10.80
	2	QB2	1.97	1.80	.17	173.4	7.82
		QB3	2.08	1.93	.15	161.0	7.26
		QB4	2.16	1.95	.21	182.3	8.22
	3	QB2	1.09	1.09	0.0	73.3	3.30
		QB3	1.10	1.10	0.0	65.8	2.97
		QB4	1.21	1.18	.03	68.1	3.07
4	1	QB2	2.16	1.86	.30	217.8	9.82
		QB3	2.16	1.80	.36	180.4	8.14
		QB4	2.16	1.86	.30	217.8	7.77
	2	QB2	2.00	1.97	.03	125.0	5.64
		QB3	2.03	1.99	.04	113.2	5.11
		QB4	2.14	2.10	.04	110.5	4.98
	3	QB2	1.02	1.00	.02	48.8	2.20
		QB3	1.08	1.08	0.0	46.2	2.08
		QB4	1.13	1.10	.03	45.7	2.06
5	1	QB2	2.07	1.78	.29	220.9	9.96
		QB3	2.13	1.81	.32	196.1	8.84
		QB4	2.22	1.89	.33	193.8	8.74
	2	QB2	1.86	1.80	.06	97.2	4.38
		QB3	1.98	1.96	.02	90.0	4.06
		QB4	2.00	1.84	.16	91.0	4.10
	3	QB2	0.97	0.88	.09	38.6	1.74
		QB3	1.01	0.99	.02	35.6	1.60
		QB4	0.99	0.97	.02	33.6	1.51

[1] Actual field data not adjusted for storm duration or Slope-Length.

Table 20: Summary of the Soil Loss Data Adjusted for Plot Length and Slope for the Sullivan Plots.

Test	Run	--------Plot------- QB2	QB3	QB4	Run Mean	Run S.D	Test Mean
		(t/ac)	(t/ac)	(t/ac)	(t/ac)		(t/ac)
2	1	4.97	3.62	4.29	4.29	.675	
	2	3.60	3.03	3.06	3.23	.321	3.50
	3	3.44	2.75	2.72	2.97	.407	
	Mean	4.00	3.13	3.36			
3	1	6.88	4.83	6.23	5.98	1.05	
	2	4.79	4.14	4.74	4.56	.362	4.73
	3	4.05	3.39	3.54	3.66	.346	
	Mean	5.24	4.12	4.84			
4	1	6.02	4.64	4.48	5.05	.847	
	2	3.45	2.91	2.87	3.08	.324	3.54
	3	2.70	2.38	2.38	2.49	.185	
	Mean	4.06	3.31	3.24			
5	1	6.10	5.05	5.04	5.40	.609	
	2	2.68	2.32	2.37	2.46	.195	3.25
	3	2.13	1.83	1.75	1.90	.200	
	Mean	3.64	3.07	3.05			

Plot	Run 1	Run 2	Run 3	Plot Mean
QB2	14.29	8.92	7.12	10.11
QB3	10.91	7.30	5.81	8.01
QB4	11.54	7.48	5.57	8.20
Mean	12.25	7.90	6.17	

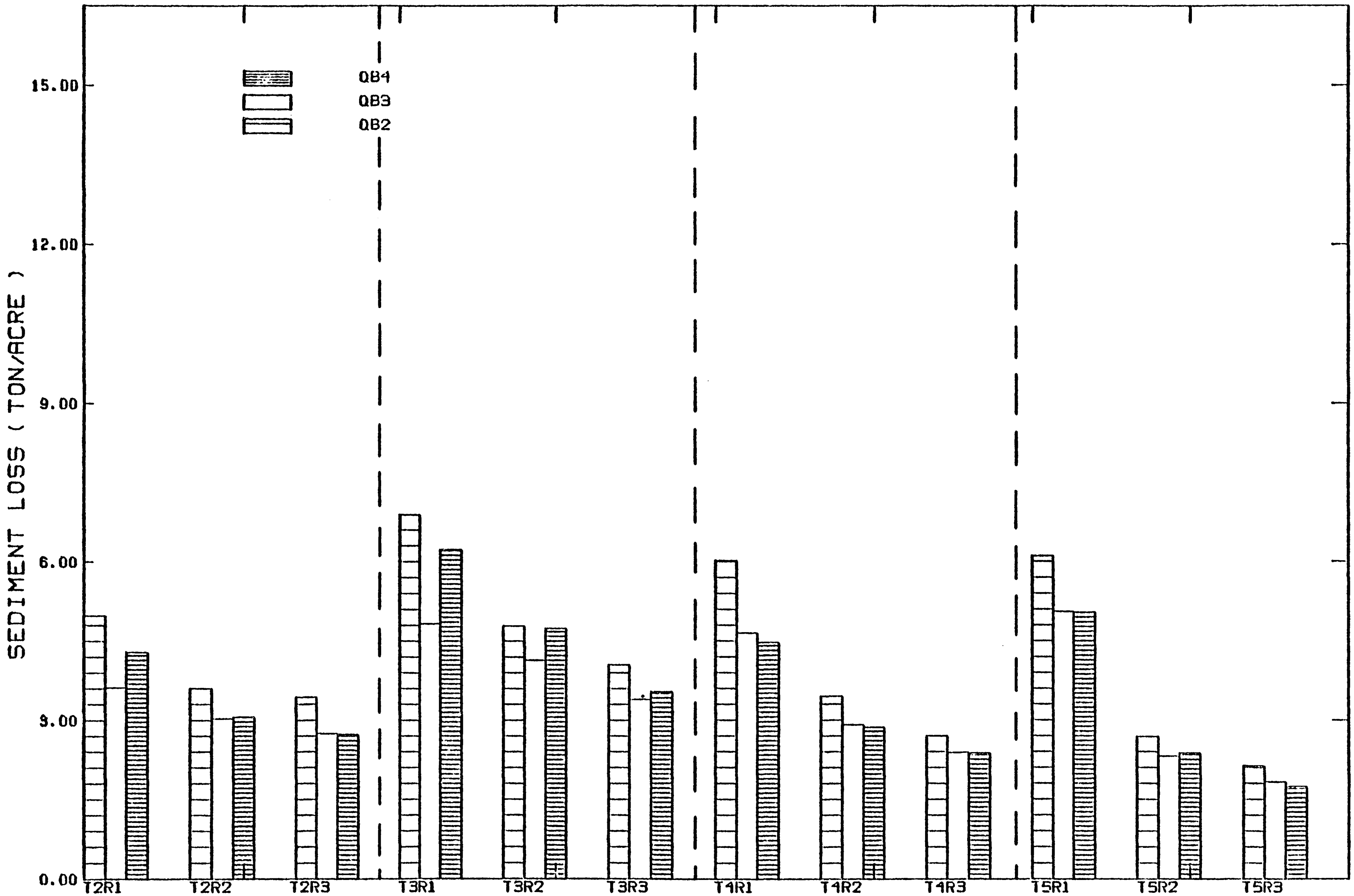


Figure 17. Soil Loss Adjusted for Plot Length and Slope for Each Test (T) - Run (R) Combination on the Sullivan Plots.

Table 21: Variation of the Soil Loss Data Adjusted for Plot Length and Slope Across and Within Tests for the Sullivan Plots.

	Run			
Test	1	2	3	Significant Variance
2	4.29(a)	3.23(b)	2.97(b)	*[1]
3	5.98(a)	4.56(b)	3.66(b)	*
4	5.05(a)	3.08(b)	2.49(b)	*
5	5.40(a)	2.46(b)	1.90(b)	*

	Test				
Run	2	3	4	5	Significant Variance
1	4.29(a)	5.98(a)	5.05(a)	5.40(a)	
2	3.23(b)	4.56(a)	3.08(b)	2.46(c)	*
3	2.97(b)	3.66(a)	2.49(b)	1.90(c)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

Table 22: Variation of the Soil Loss Data Adjusted for Length and Slope Between the Sullivan Plots.

Test	Plot QB2	Plot QB3	Plot QB4	Significant Variance
2	4.00(a)	3.13(a)	3.36(a)	[1]
3	5.24(a)	4.12(a)	4.84(a)	
4	4.06(a)	3.31(a)	3.24(a)	
5	3.64(a)	3.07(a)	3.05(a)	

Run	Plot QB2	Plot QB3	Plot QB4	Significant Variance
1	14.29(a)	10.91(a)	11.54(a)	
2	8.92(a)	7.30(a)	7.48(a)	
3	7.12(a)	5.81(a)	5.57(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

4.4.2 Soil Erodibility Factors

Soil erodibility factors are summarized in Table 23 and displayed graphically in Figure 18. Analysis of this data showed that the K-factor for plot QB2 was consistently larger than those for either plot QB3 or QB4. The mean for all the K-factors was 0.408.

Based on the data in Figure 18 and the statistical analysis presented in Table 24, the soil erodibility factor for this soil type decreased during each test. The K-factor for run 1 was significantly different from those obtained from runs 2 or 3. In general, the K-factor for run 2 and 3 was not significantly different. Additionally, the erodibility index did not change significantly from test to test for each run. These results suggest that the K-factor for this silt silt-loam soil type will approach a steady state value after repeated rainfall applications.

It should be noted that the K-factors for test 3 - run 1 and 2 are both significantly larger than for any other similar test-run combination. Analysis of the rainfall data for test 3-run 1 indicate that the rainfall distribution and storm EI-factor for this run were significantly smaller than all initial runs. The adjusted soil loss for this test-run combination was larger than the soil loss from any other run 1 although the differences were not statistically significant at the 0.05 level. Analysis of the soil moisture data show that this run was not significantly different than any other test-run 1 combination. This combination of low rainfall and high soil loss produced the highest K-value for run 1 on all tests. Analysis of the test 3-run 2 data indicate that the distribution and storm EI-factor and initial soil moisture for this combination were not significantly different from any other test-run 2 combination. Analysis of the soil loss data adjusted for length-slope show that this test-run 2 combination had a significantly higher soil loss than any other test-run 2 combination. This would suggest that significant differences in either rainfall application rates or tillage affected the calculated K-index.

An analysis of the initial soil moisture data show test 4-run 1 as the driest run 1 combination and test 2-run 1 was the wettest combination. Both of these test-run 1 combinations recieved equal rainfall applications. The observed soil loss and computed K-factor for these conditions were not statistically different. Analysis of the test 3-run 1 data show that the initial soil moisture content was not significantly different from any other test-run 1 combination but the rainfall application was the least. Because the observed LS-values were not significantly different and the K-factor for this test-run 1 combination were significantly larger, the data indicates that the K-factors are more sensitive to rainfall application than to the initial soil moisture. This is probably due, in part, to surface puddling and crusting which takes place under higher application rates.

Analysis of the statistical results presented in Table 25 show no significant differences for any test-plot or run-plot combination.

Table 23: Summary of the Soil Erodibility Factors for the Sullivan Plots.

		--------Plot-------			Run	Run	Test
Test	Run	QB2	QB3	QB4	Mean	S.D	Mean
2	1	.562	.414	.419	.465	.084	
	2	.392	.309	.311	.337	.047	.361
	3	.338	.259	.241	.279	.052	
	mean	.431	.327	.324			
3	1	.871	.661	.768	.767	.105	
	2	.578	.449	.478	.502	.068	.536
	3	.402	.327	.286	.338	.059	
	mean	.617	.479	.511			
4	1	.606	.492	.449	.516	.081	
	2	.406	.333	.294	.344	.057	.371
	3	.302	.240	.218	.253	.044	
	mean	.438	.355	.320			
5	1	.671	.525	.482	.559	.099	
	2	.365	.277	.279	.307	.050	.365
	3	.269	.211	.209	.230	.034	
	mean	.435	.337	.323			

Plot	Run 1	Run 2	Run 3	Plot Mean
QB2	.678	.435	.328	.480
QB3	.523	.342	.259	.375
QB4	.530	.341	.239	.370
Mean	.577	.373	.275	

Total Site Mean = 0.408

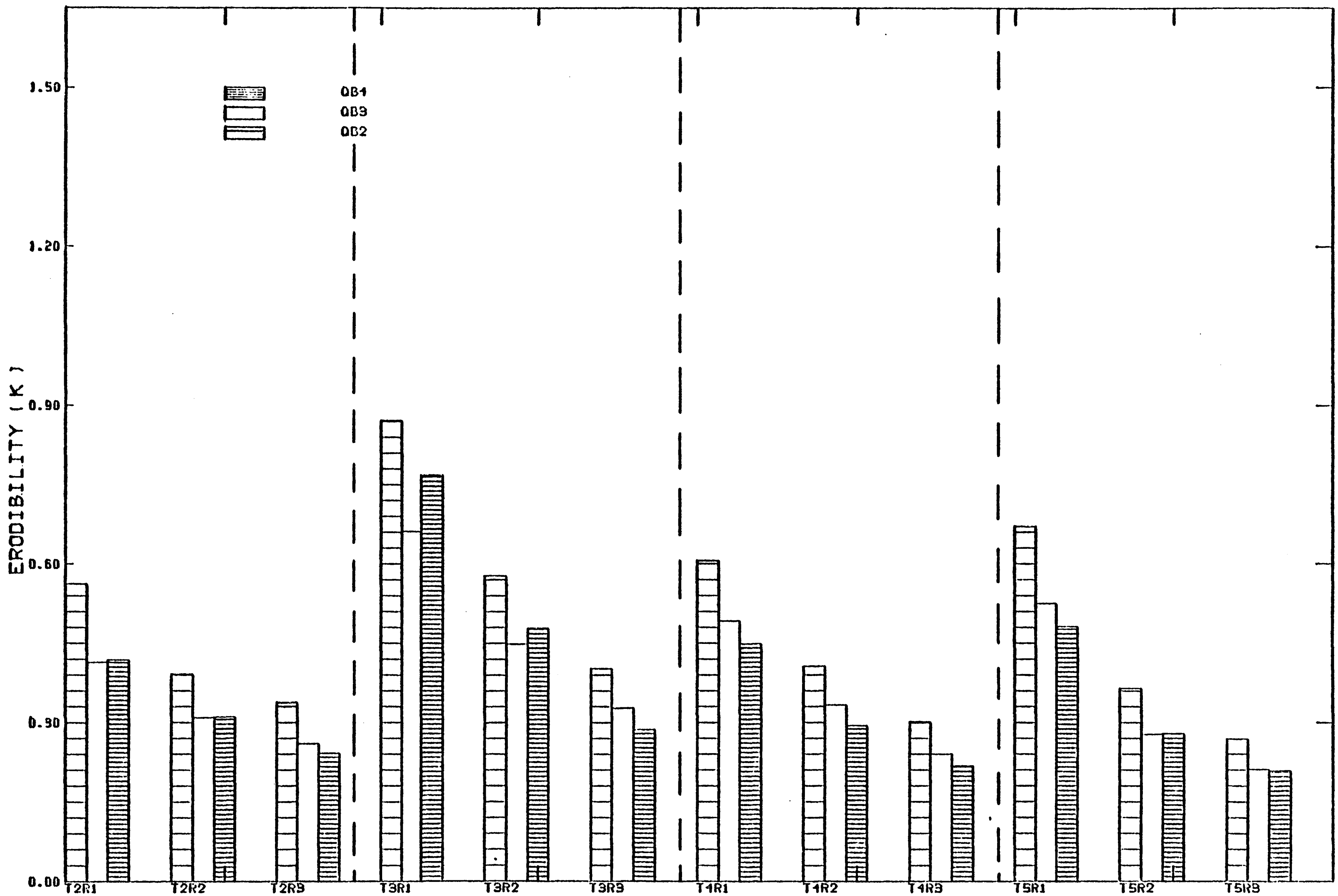


Figure 18. Soil Erodibility Values for Each Test (T) - Run (R) Combination on the Sullivan Plots.

Table 24: Variation of the Soil Erodibility Data Across and Within Tests for the Sullivan Plots.

Test	Run 1	Run 2	Run 3	Significant Variance
2	.465(a)	.337(b)	.279(b)	*[1]
3	.767(a)	.502(b)	.338(c)	*
4	.516(a)	.344(b)	.253(b)	*
5	.559(a)	.307(b)	.230(b)	*

Run	Test 2	Test 3	Test 4	Test 5	Significant Variance
1	.465(b)	.767(a)	.516(b)	.559(b)	*
2	.337(b)	.502(a)	.344(b)	.307(b)	*
3	.279(a)	.338(a)	.253(a)	.230(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

Table 25: Variation of the Soil Erodibility Data Between the Sullivan Plots.

Test	Plot QB2	Plot QB3	Plot QB4	Significant Variance[1]
2	.431(a)	.327(a)	.324(a)	
3	.617(a)	.479(a)	.511(a)	
4	.438(a)	.355(a)	.320(a)	
5	.435(a)	.337(a)	.323(a)	

Run	Plot QB2	Plot QB3	Plot QB4	Significant Variance
1	.678(a)	.523(a)	.530(a)	
2	.435(a)	.342(a)	.341(a)	
3	.328(a)	.259(a)	.239(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

4.4.3 Summary

The soil erodibility index was significantly higher for the tilled, dry antecedent conditions. The soil erodibility index determined from the wet and very wet antecedent conditions (runs 2 and 3), in general, were statistically the same. From statistical analysis, in general, the soil erodibility index followed the same trends as the rainfall application rates and the soil loss data adjusted for plot length and slope. Significant variability in either of these factors caused a significant change in the soil erodibility index. The results from this study suggest that experimentally determined K-factors are more sensitive to low rainfall application rates than to initial soil moisture conditions.

4.5 Eroded Material Characteristics

4.5.1 Suspended Sediment Analysis

The purpose of this section was to determine how suspended sediment concentrations varied with initial tillage conditions and repeated rainfall applications. In an attempt to reduce the large number of actual data points and the variability found in the data, sediment concentrations were averaged across each test-run-plot combination for each successive sample point. For example, all plot QB2 - run 1 values for the first sample increment were averaged across test 2, 3, 4 and 5. Then all plot QB2-run 1 values for the second sample increment were averaged across test 2, 3, 4 and 5. Following this procedure, a string of averaged concentration values were calculated for each run-plot combination and displayed in Figures 19 - 24.

A statistical analysis was designed to identify significant variations by comparing the slope of each concentration curve during steady state discharge. The slope for each plot-run combination was determined by linear regression and the results for each combination compared for statistical significance using Analysis of Variance techniques. These results are summarized in

Table 26.

A visual inspection of the data in Figures 19 - 21 indicates that erosion rates from run 1 were higher than the erosion rates for runs 2 or 3. A statistical analysis of the data confirmed this indication (Table 26). The sediment concentrations for the dry run (run 1) peaked very early (approximately 10 minutes) and steadily decreased until the end of the storm. Statistical analysis, however, showed that for all three plots, the slope of the sediment concentration curve for run 2 was not significantly different from run 3. From this result, it was concluded that the rate of soil erosion for the second two rainfall applications was relatively constant. Figures 19-21, also, suggest that the sediment concentration curves for all three runs were approaching a constant soil loss rate. In all three plots, the magnitude of the sediment concentration for each succesive run decreases. These results, also, suggest that soil loss for the bare condition tends to stabilize and that long-term erosion on this type of soil, after high initial losses, may not be a major problem, particularily, after vegetative establishment.

The sediment concentrations are compared by run in Figures 22-24. From a statistical analysis, based on the slopes of these curves, plot QB2 was found to have significantly higher sediment concentrations for all three runs. Plots QB3 and QB4 were not significantly different for any run. In general all three plots reacted consistently, which suggests that experimental procedures were consistent and that relevant soil physical properties did not vary significantly.

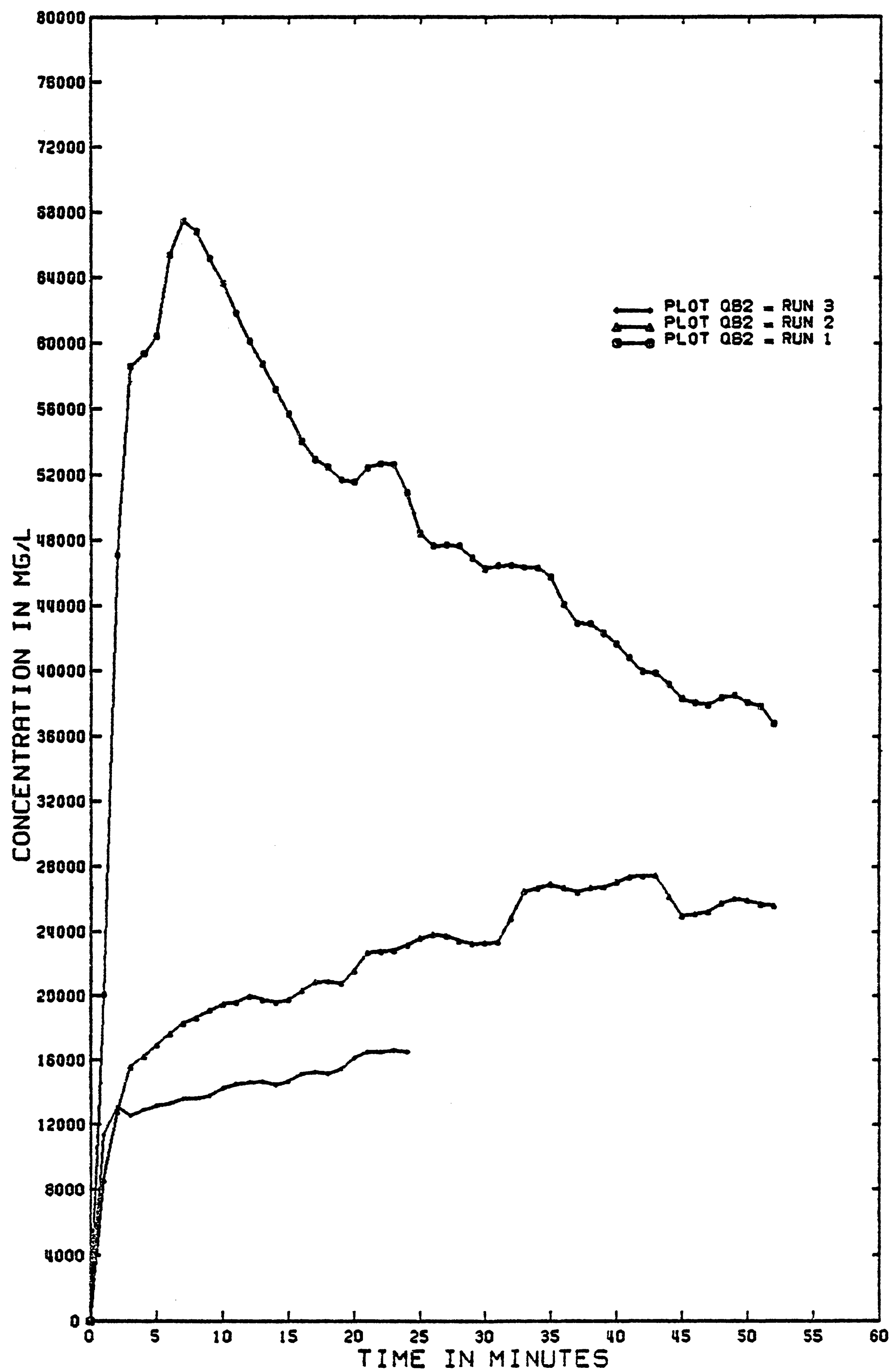


FIGURE 19. SEDIMENT CONCENTRATIONS FOR SULLIVAN PLOT QB2

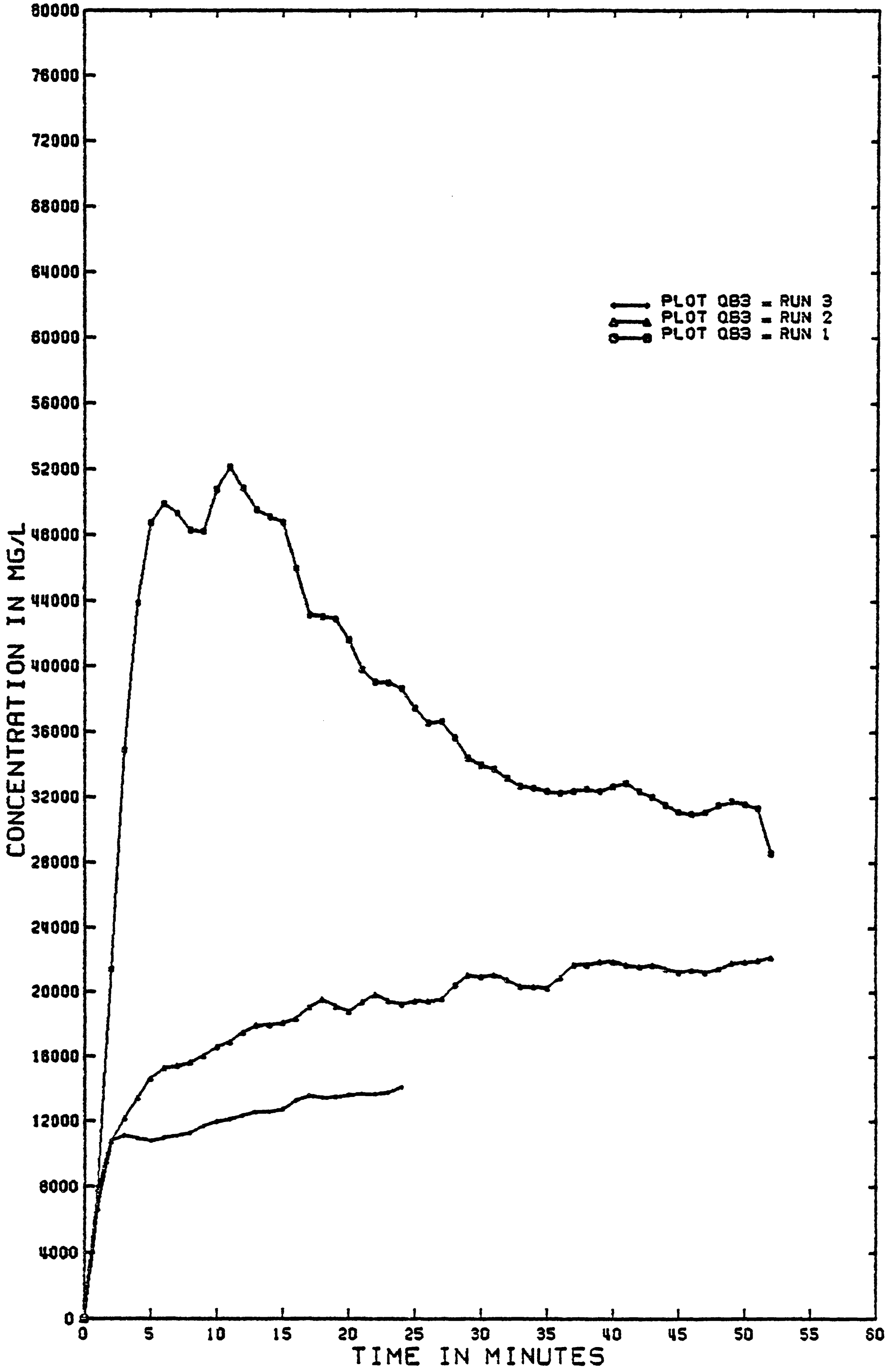


FIGURE 20. SEDIMENT CONCENTRATIONS FOR SULLIVAN PLOT QB3

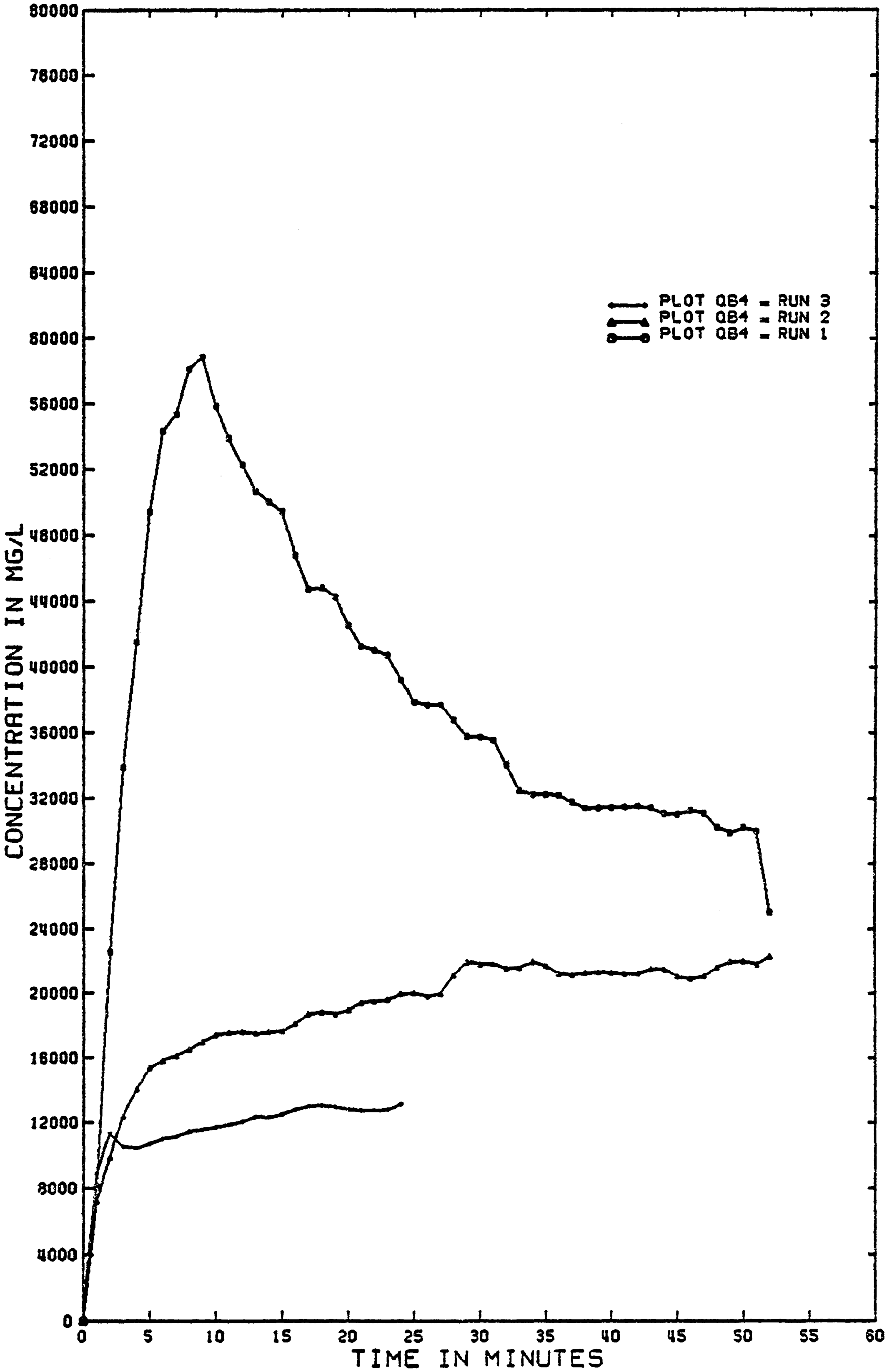


FIGURE 21. SEDIMENT CONCENTRATIONS FOR SULLIVAN PLOT QB4

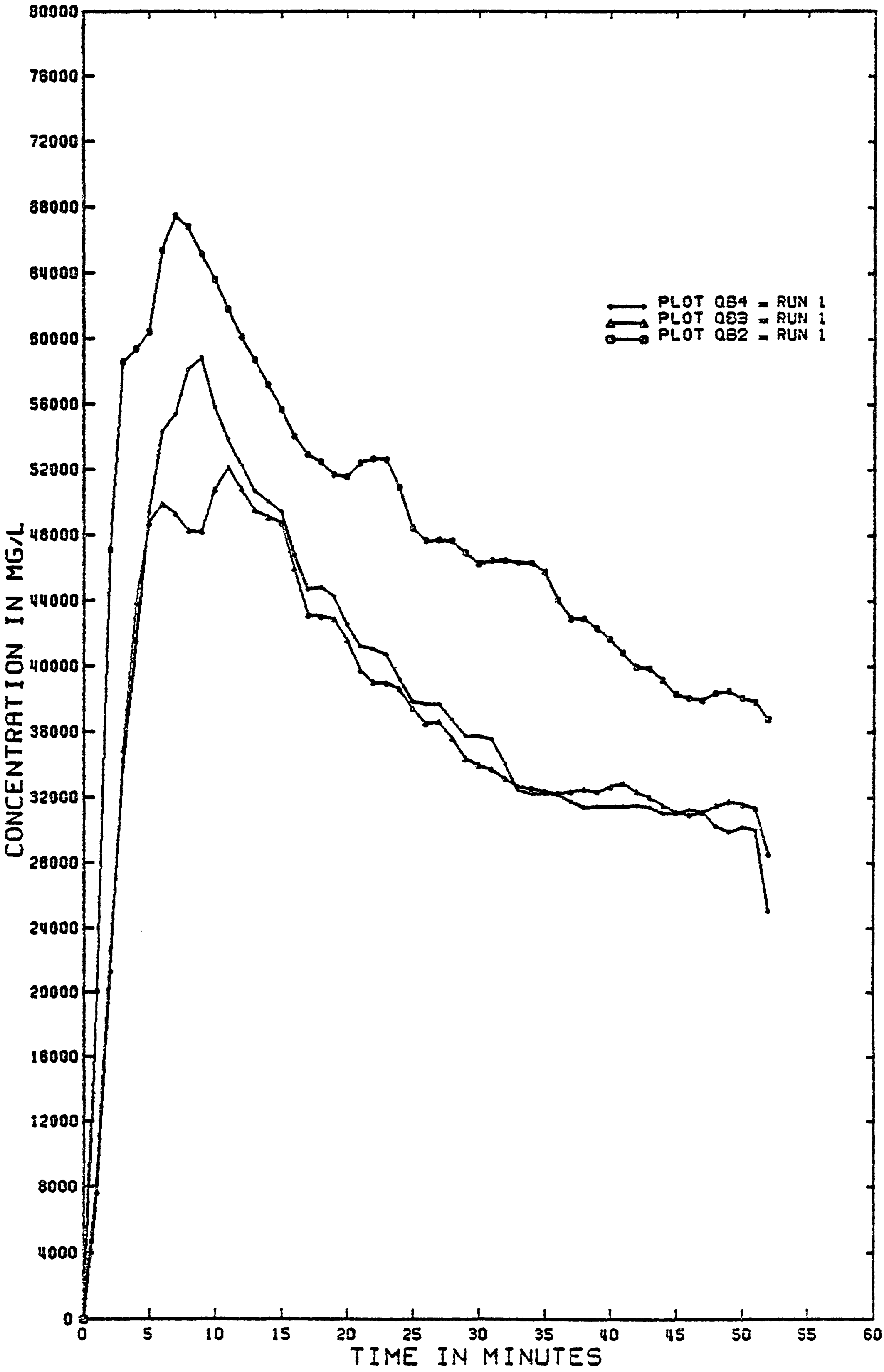


FIGURE 22. SEDIMENT CONCENTRATIONS FOR SULLIVAN RUN 1

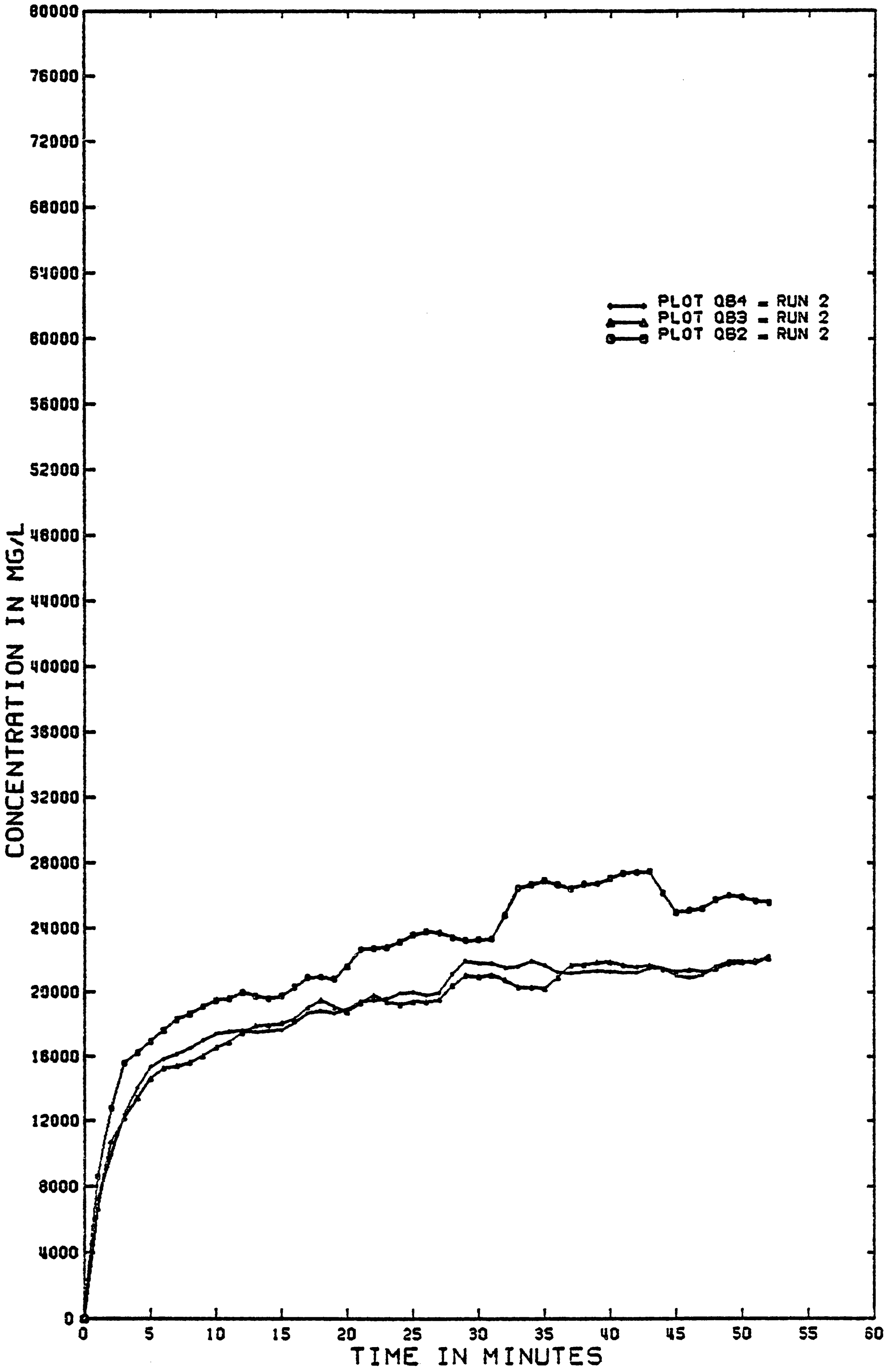


FIGURE 23. SEDIMENT CONCENTRATIONS FOR SULLIVAN RUN 2

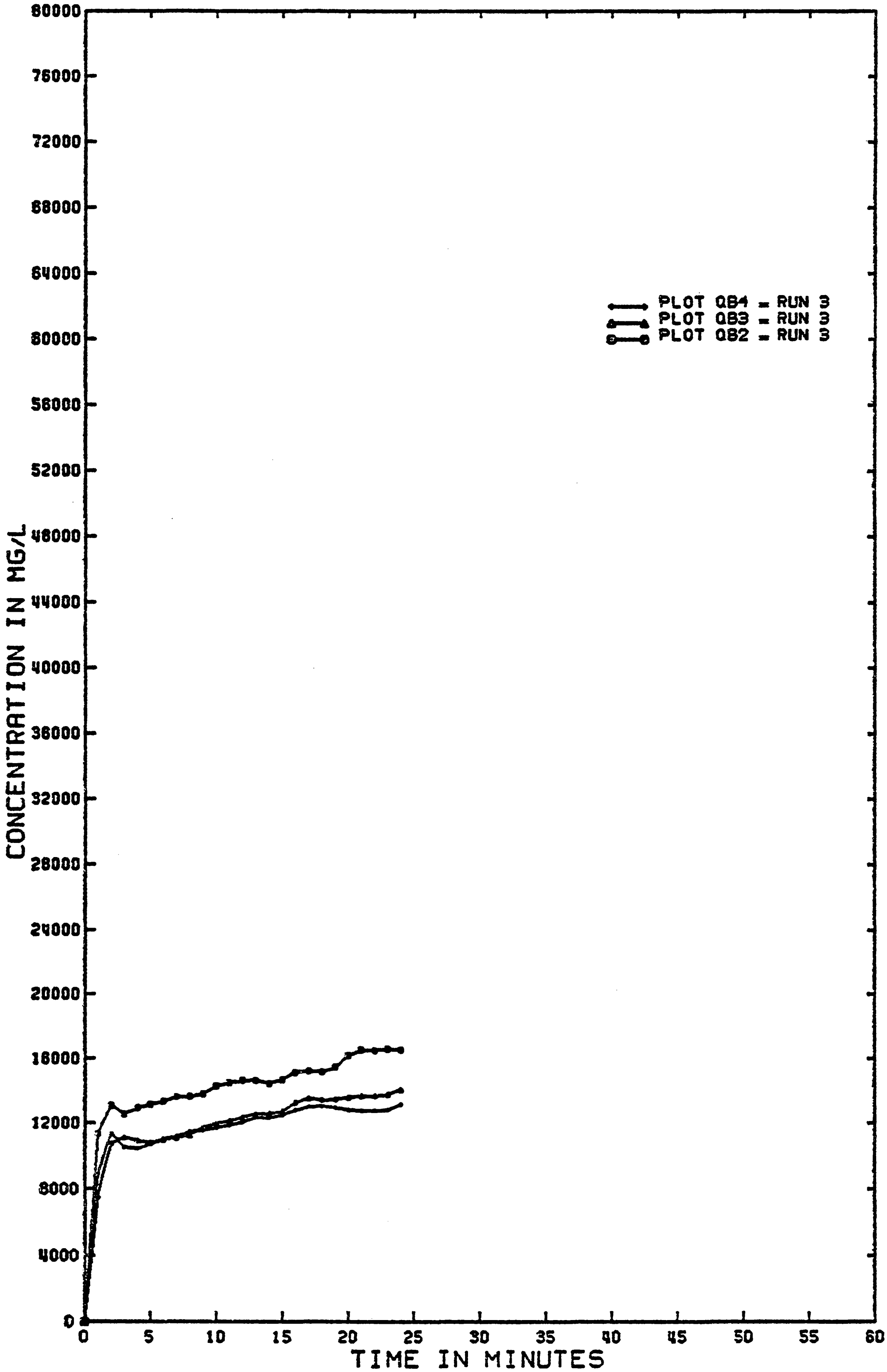


FIGURE 24. SEDIMENT CONCENTRATIONS FOR SULLIVAN RUN 3

Table 26: Variation of the Sample Concentrations Between Runs and Plots When Averaged Over All Tests for the Sullivan Plots.

Plot	Run 1	Run 2	Run 3	Significant Variance
QB2	a	b	b	*[1]
QB3	a	b	b	*
QB4	a	b	b	*

Run	Plot QB2	Plot QB3	Plot QB4	Significant Variance
1	a	b	b	*
2	a	b	b	*
3	a	b	b	*

[1] Differences between letters on the same line indicate a significant difference between the measured values at a Test Level = 0.05. Where significant differences occur, (a) represents the largest value and (b) represents the smallest value.

Cumulative sediment loads for each test-run-plot combination were determined using the methods outlined in Chapter III. These data, for each plot-run combination, were averaged across tests for each time increment following the same procedures used in the previous analysis and are displayed in Figures 25 - 27. Analysis of this data suggests that the soil loss for run 1 was significantly larger than the soil loss from runs 2 and 3. Little difference existed between runs 2 and 3. Analysis of Figures 28 - 30 indicate that little variability existed between plots.

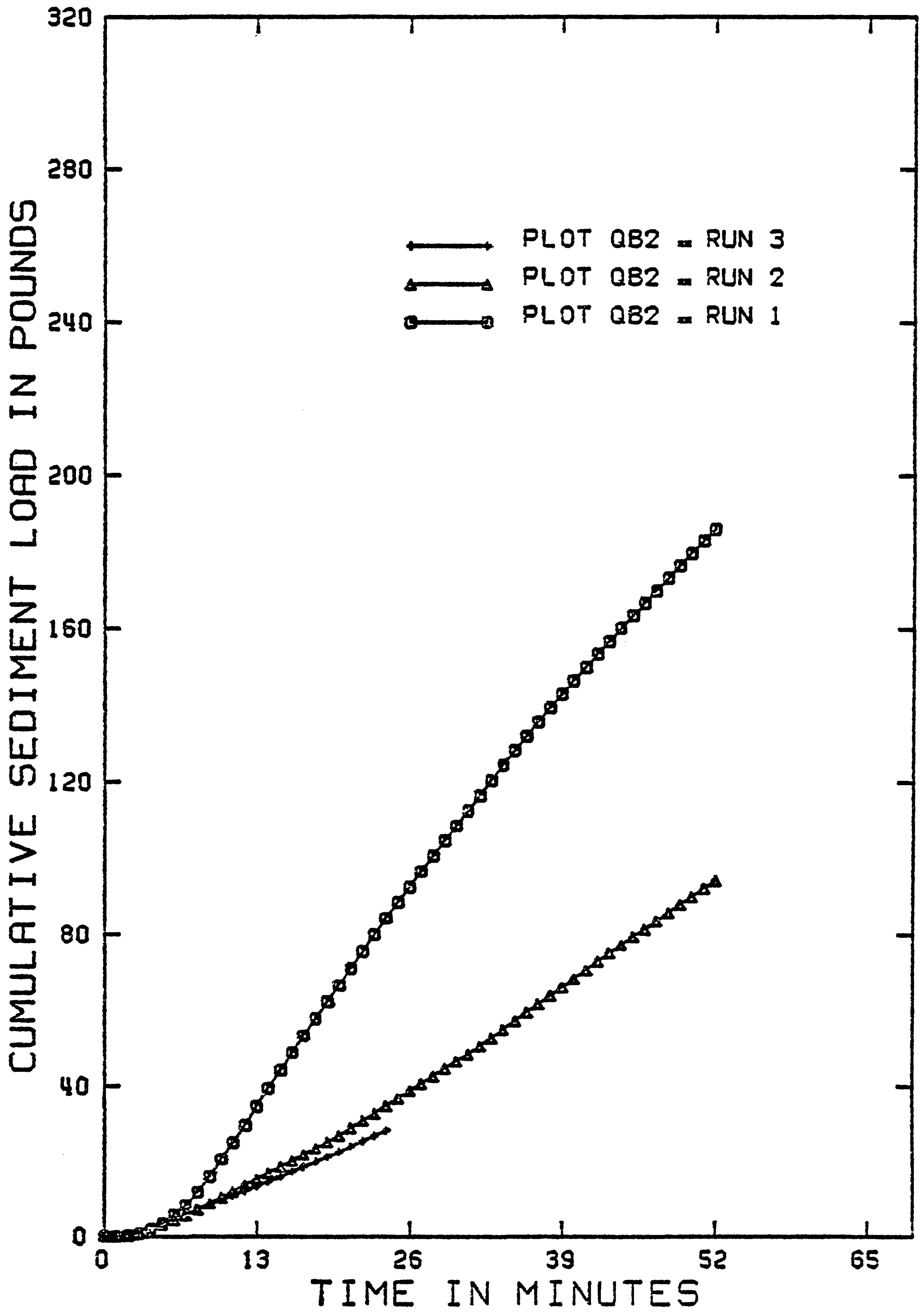


FIGURE 25. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR PLOT QB2, SULLIVAN, WEST VIRGINIA.

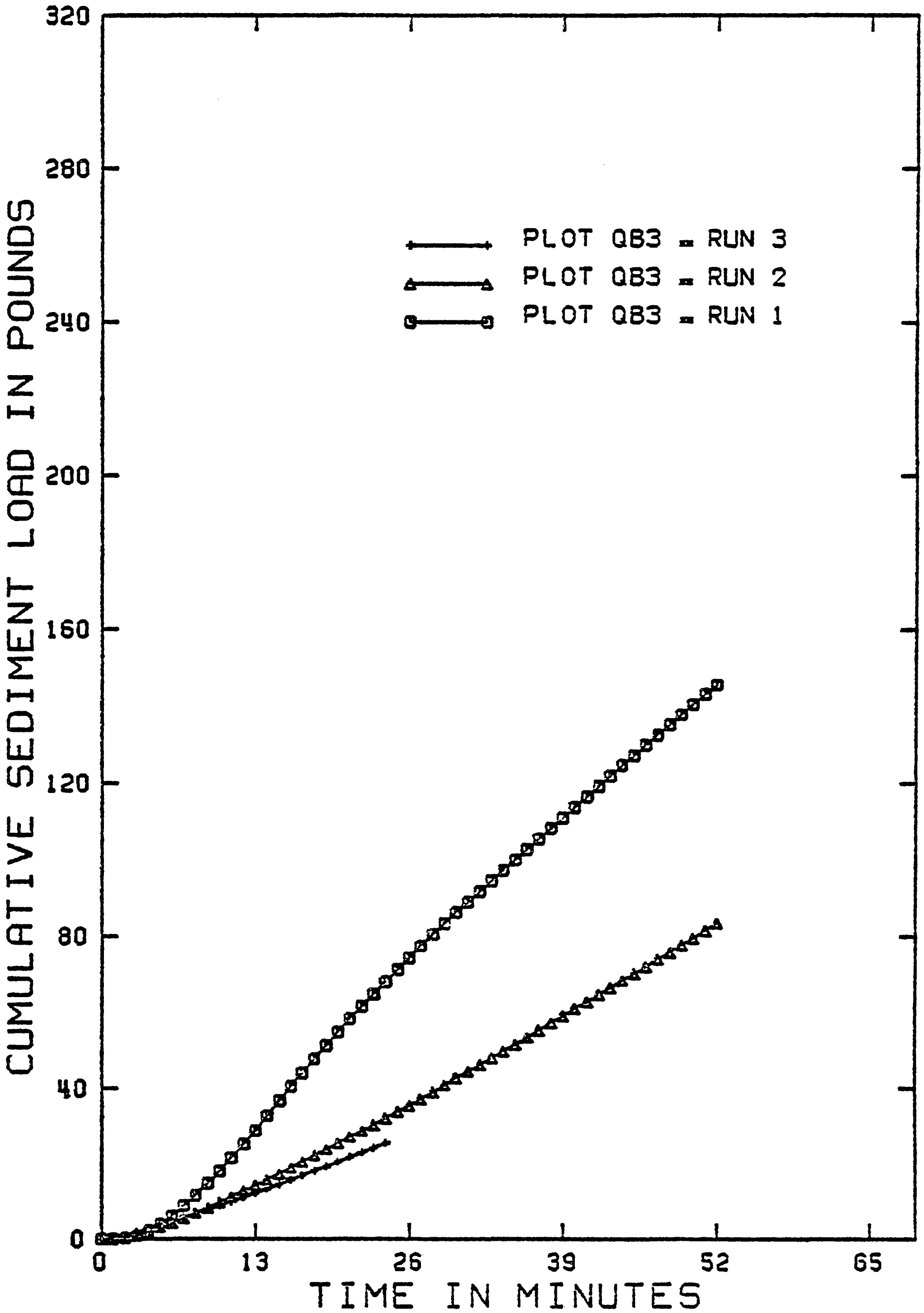


FIGURE 26. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR PLOT QB3, SULLIVAN, WEST VIRGINIA.

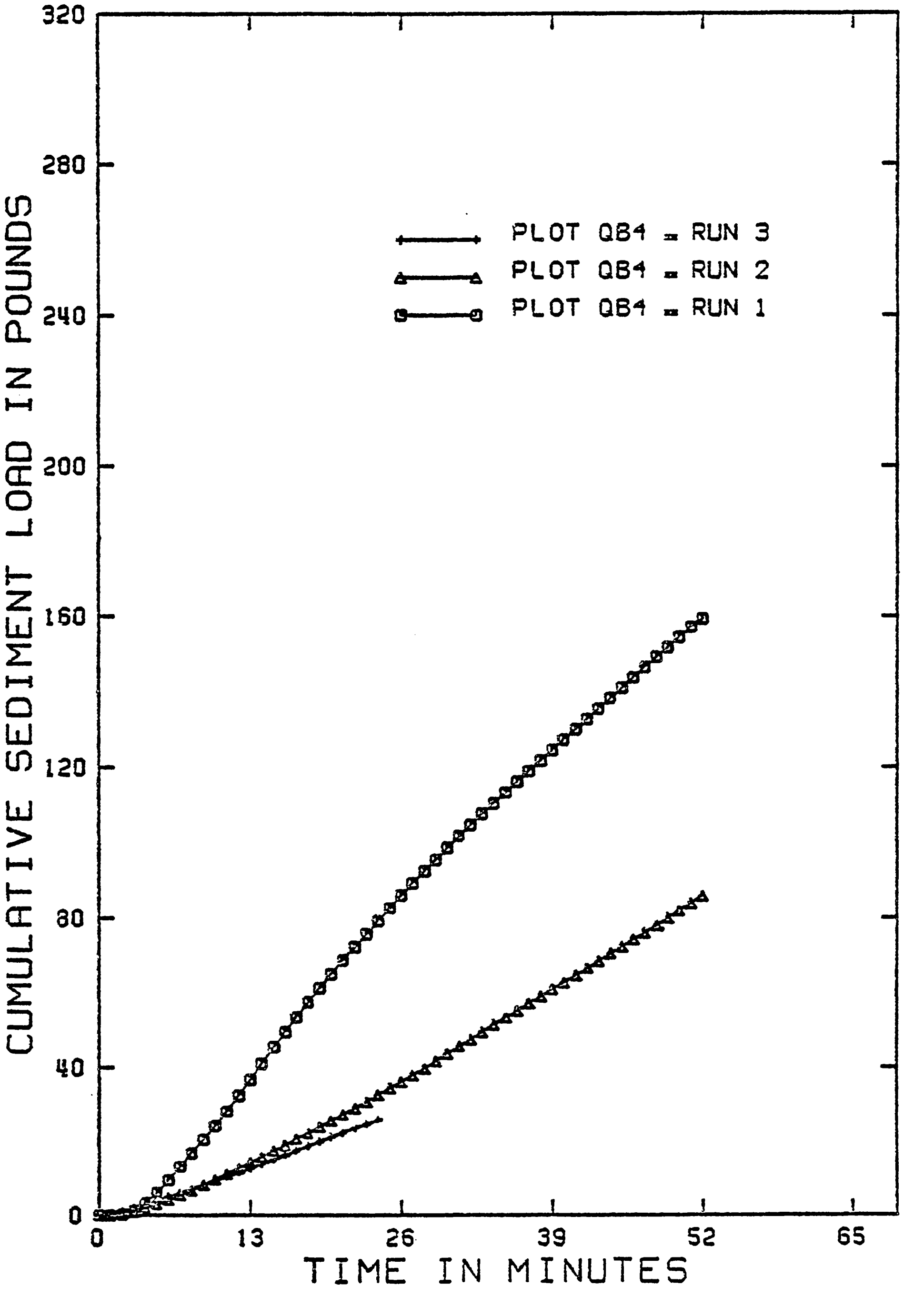


FIGURE 27. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR PLOT QB4, SULLIVAN, WEST VIRGINIA.

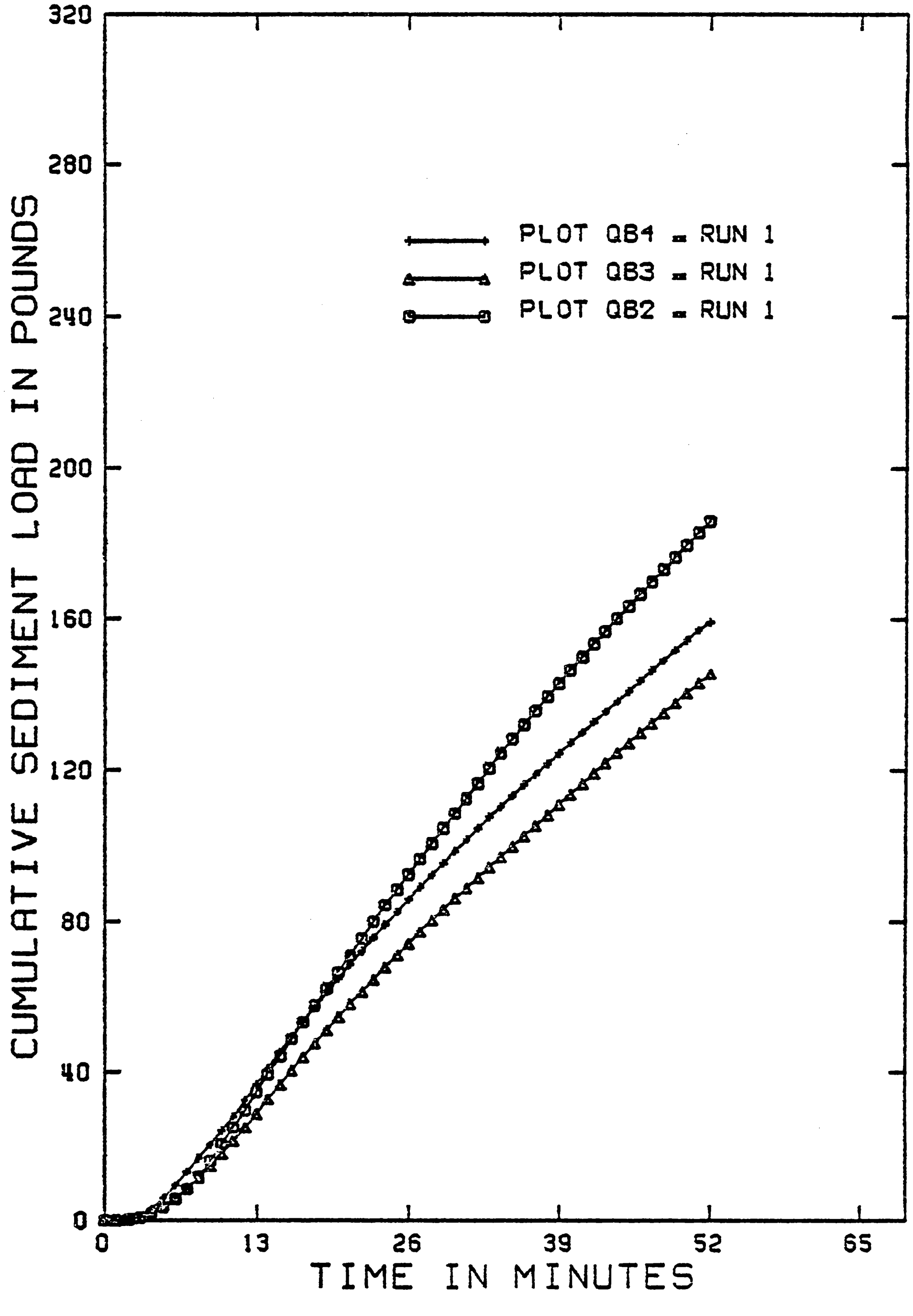


FIGURE 28. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR RUN 1. SULLIVAN, WEST VIRGINIA.

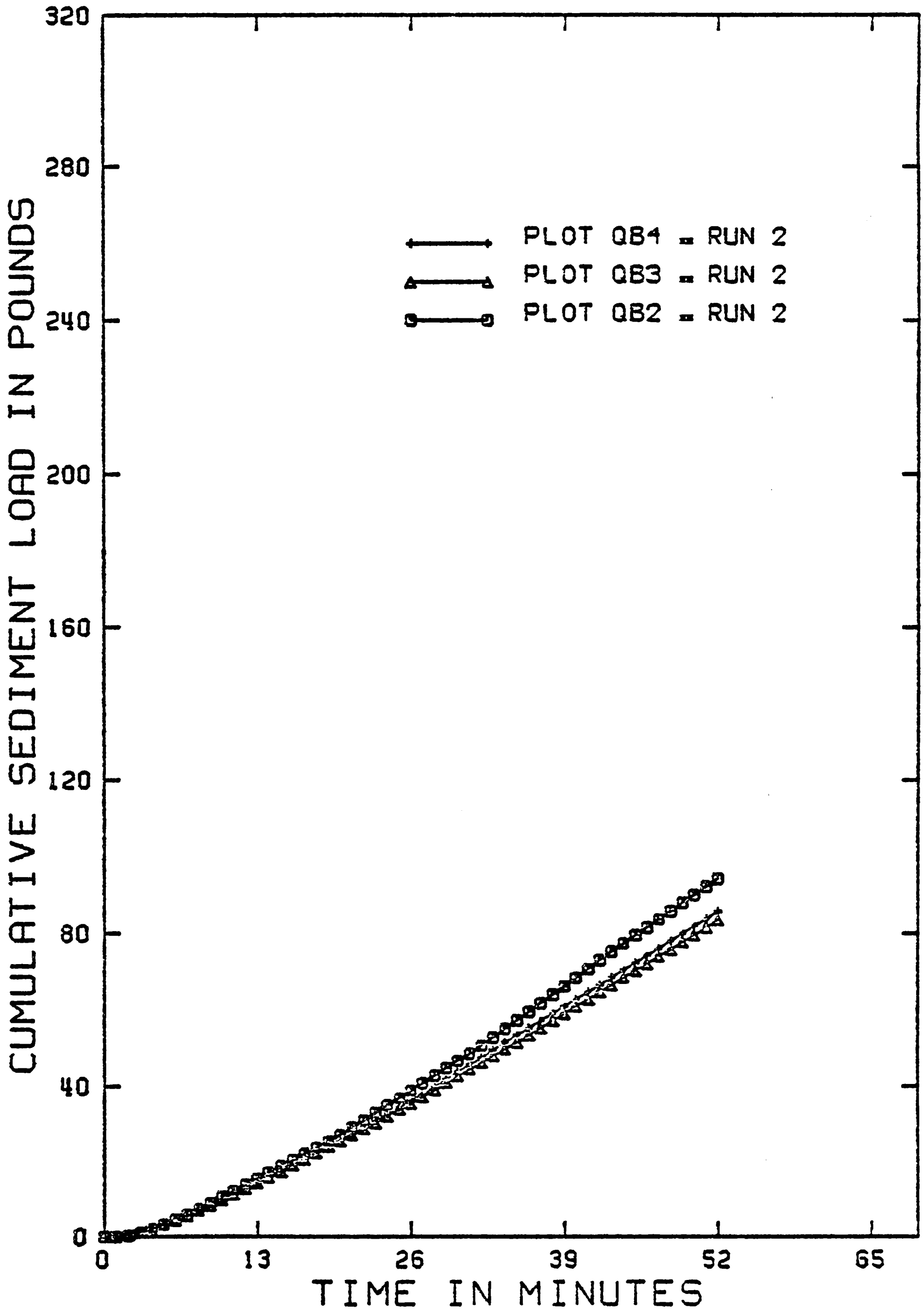


FIGURE 29. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR RUN 2, SULLIVAN, WEST VIRGINIA.

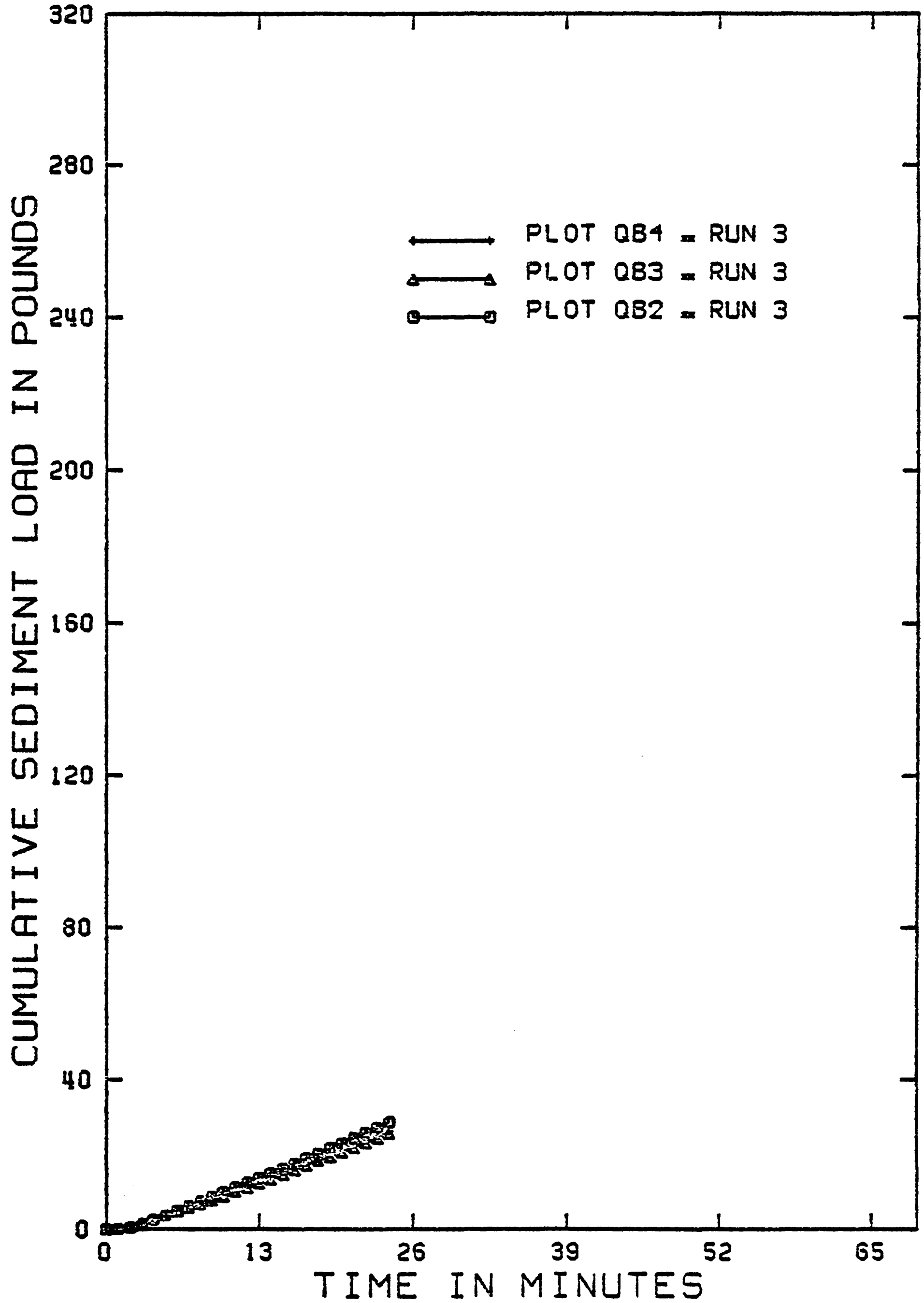


FIGURE 30. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR RUN 3. SULLIVAN, WEST VIRGINIA.

4.5.2 Particle Size Distribution of the Surface Material

In an effort to quantify the effect of repeated tillage and rainfall on changes in the particle size distribution of the soil material at the plot surface, samples from two plots were analyzed to determine the relative percentages of rock material greater than 2-mm. A wet sieve analysis, ASTM Standard, 1981 was used to prevent small sandstone fragments, which react in the field as rocks, from being crushed during preparation. This is a common problem with the standard dry sieve analysis and can cause large errors when soft sandstone and shale fragments are present.

The data are presented in Table 27. When the before tillage and after tillage conditions are compared, tillage appears to decrease the coarse fragments at the soil surface. This implies that fines are being brought to the surface by the tillage operation before the next test sequence, which consists of three rainfall applications. The after tillage data for each successive test-plot combination indicate that the percentage of coarse fragments at the plot surface increased with repeated rainfall applications. This conclusion was substantiated by field observations. A comparison of the data obtained after tillage and the data collected after the three storms, also, suggest that repeated rainfall applications increased the percentage of coarse fragments at the surface. These results suggest that a rock-mulching effect developed during each test. The variability of the data in Table 27 are consistent with the rapid changes observed during the field study.

4.5.3 Particle Size Distribution of the Eroded Material

One of the major factors used in the design of sediment control facilities is the particle size distribution of the incoming sediment loads. These distributions control the potential travel distance and settling time for each size class of soil. Soil samples from each plot surface for Test 3 were analyzed to identify general trends and are summarized at the top of Table 28. The complete data base for this summary table is given in Appendix B, Section 7.

Analysis of the data for the surface material indicate that the particle size distribution for the three plots were reasonably uniform before and after each test. Due to repeated rainfall and erosion, the data indicates that the coarse fragments and sand percentages at the plot surface increased while the total percentage of silt and clay decreased for each plot combination. This suggests that a rock-mulching effect was present and the silt and clay size fractions were eroded more rapidly than the sands.

Soil samples for each plot-run combination were taken from aliquot samples and material deposited in the flume approaches and analyzed to identify general trends. This data is presented at the bottom of Table 28. Analysis of the suspended sediment from the aliquot samples revealed that the majority of the suspended (aliquot) material was silt. In general, the relative percentage of sand-silt-clay for each plot did not significantly change between runs. The only possible exception was that the clay percentage appeared to decrease after run 1 and then remained relatively stable during runs 2 and 3.

Analysis of the composited samples deposited in the approach flume and the suspended material showed a significant difference. As expected, more coarse material and much higher percentages of sand were found in the deposited material. For each set of plot-run combinations, the percentages of sand increased while the percentage of silt and clay decreased with successive runs.

Table 27: Percentage of Coarse Fragments at the Plot Surface for the Sullivan Plots.

Test	Condition	----Plot---- QB3	QB4
		(%)	(%)
2	Before Till [1]	30.2	24.9
	After Till	28.4	20.0
	After 3 Storms	28.6	37.4
3	Before Till	28.6	37.4
	After Till	20.7	30.4
	After 3 Storms	39.8	42.4
4	Before Till	39.8	42.4
	After Till	39.7	36.9
	After 3 Storms	49.5	38.6
5	Before Till	49.5	38.6
	After Till	33.8	40.1
	After 3 Storms	37.7	42.5
Average	Before Till	37.0	35.8
	After Till	30.7	31.9
	After 3 Storms	38.9	40.2

[1] Data were determined by wet sieving.

Table 28: Particle Size Distribution for Test Three for the Sullivan Plots.

	Plot	Run	C.F. > 2mm	Sand	Silt	Clay
Surface Material [1]			(%)	(%)	(%)	(%)
Before Test	QB2		21.90	26.7	49.1	24.2
	QB3		28.40	30.2	47.1	22.7
	QB4		19.60	26.3	51.3	22.4
After Test	QB2		26.80	28.9	51.1	20.0
	QB3		26.60	32.1	44.8	23.2
	QB4		23.42	30.5	47.6	21.9
Transported Material [1]						
Suspended Sediment	QB2	1	0	10.1	57.3	32.6
		2	0	19.5	52.3	28.2
		3	0	15.7	56.5	27.8
	QB3	1	0	13.6	55.1	31.3
		2	0	17.8	56.0	26.2
		3	0	20.9	52.4	26.7
	QB4	1	0	10.9	58.2	30.9
		2	0	16.2	55.9	27.9
		3	0	12.9	59.3	27.8
Flume Deposition	QB2	1	0.3	45.5	39.1	15.4
		2	1.3	59.9	28.8	11.3
		3	0.9	63.3	27.0	9.7
	QB3	1	0.1	53.3	32.2	14.5
		2	0.3	69.3	22.1	8.7
		3	1.6	65.0	24.2	10.8
	QB4	1	0.7	45.5	40.5	14.0
		2	0.6	50.3	37.5	12.2
		3	1.5	60.3	28.6	11.1

[1] Data analyzed by the Physical Characterization Laboratory at Virginia Tech. Dry sieve method used.

4.5.5 Summary

The level of sediment concentration in the runoff followed the same trends as the soil erodibility index K. Sediment loads were significantly higher for the tilled, dry conditions while the soil loss during the wet and very wet runs were more stable, and in general, statistically the same. Sediment concentrations peaked early in run 1 and decreased with time.

Particle size analysis of soil samples from the plot surface showed that repeated tillage increased the percentage of fine material. Repeated rainfall applications removed these fines and increased the percentage of coarse fragments at the plot surface. This produced a rock-mulching effect within and between each test. This change resulted in a lower soil erodibility index.

A particle size analysis of material from the aliquot samples showed that a wide range of particle sizes were removed during each test. The suspended sediment (material passing through the flume) consisted mainly of silt and clay. The material deposited in the approach to the flume consisted mainly of sand. The percentage of silt and clay decreased while the percentage of sand increased with repeated rainfall application.

Chapter V

Results and Discussion Glen Jean Site

5.1 Plot Description

The Glen Jean site was on a "second cut" contour surface mine operation located approximatly 1.3 miles southeast of Oak Hill in Fayette County, West Virginia. Field plots were constructed in an area which was being prepared for revegetation. The soil material was transported and spread using conventional mining methods and equipment to develop a standard 9-percent slope. The parent material for the three plots used in this study was classified by the SCS soil scientists as mixed acid and neutral sandstones and siltstones from the New River Geologic Formation. The site was well drained with a north aspect located at an approximate 1740-foot elevation. Field estimates of permeability and erosion potential were both classified as moderate. Detailed profile descriptions are included in Appendix C, Section 1.

5.1.1 Particle Size Distribution

Data on particle size distribution is summarized in Table 29 and the complete data base is given in Appendix C, Section 2. Comparisions of the standard deviation (S.D.) for the five samples taken from each plot show little variability in the particle size distribution among plot surfaces. The majority of the soil material was sand (>63 percent) with a high percentage of silt (>26 percent) and a low percentage of clay (<12 percent). The mean of all the samples placed the soil in the sandy loam textural class. This light-colored topsoil material overlayed a darker coarse subsoil.

Table 29: Physical Properties of the Glen Jean Plots.

Plot [1]		% C.F. >2 mm	Sand [2] VC	C	M	F	VF	Total	Silt [3]	Clay [3]
QZ2	Mean	11.61	1.08	1.84	10.46	38.08	10.72	62.26	26.44	11.30
	S.D.	6.03	.390	.321	.902	3.99	.550	2.818	1.254	2.214
QZ3	Mean	14.01	1.04	1.86	10.84	38.58	12.60	64.98	25.40	9.62
	S.D.	6.278	.055	.251	.594	1.784	1.221	1.956	2.153	0.563
QZ4	Mean	20.43	1.24	2.10	10.20	37.60	11.88	63.04	26.66	10.28
	S.D.	5.40	.270	.394	.752	2.923	1.291	3.490	2.746	0.733
All	Mean	15.35	1.12	1.93	10.50	38.09	11.73	63.43	26.17	10.40
	S.D.	6.694	.270	.327	.754	2.839	1.277	2.871	2.062	1.468

[1] Five samples from each plot were analysed by the Physical Characterization Laboratory, Department of Agronomy at Virginia Tech.

[2] Determined by sieving.

[3] Determined by pipette.

5.1.2 Chemical Properties

The soil chemical properties are summarized in Table 30 and complete listings are given in Appendix C, Section 3. The chemical properties of the plots were reasonably consistant with the exceptions of settleable solids. The organic matter (OM) did not vary greatly but was very low. The surface (layers 1-2) were very acidic and contained low levels of plant-available nutrients.

Table 30: Chemical Properties of the Glen Jean Plots.

		ppm									%
Plot [1]		pH	P	K	Ca	Mg	SS	NO3-N	Zn	Mn	OM
QZ2	Mean	4.90	3.20	31.6	144	55.4	43.8	3.0	1.44	16.1	.620
	S.D.	.187	.447	3.58	22.4	9.10	43.3	0	.416	0	.084
QZ3	Mean	4.98	2.80	33.8	117	45.4	1.0	3.0	1.04	16.1	.620
	S.D.	.110	.447	3.49	13.2	5.55	0	0	.358	0	.045
QZ4	Mean	4.94	3.40	36.4	117	52.2	13.6	3.0	1.28	16.1	.680
	S.D.	.134	.548	5.13	13.2	9.86	28	0	.295	0	.045
All	Mean	4.94	3.13	33.9	126	51.0	19.4	3.0	1.25	16.1	.640
	S.D.	.140	.516	4.33	20.2	8.88	33.3	0	.374	0	.063

[1] Five samples from each plot were analysed by the Coorperative Extension Laboratory at Virginia Tech.

5.1.3 Desorption Characteristics

Desorption curves were determined for each plot using standard methods. The results are summarized in Table 31 and Figure 31. Close agreement was found within and between plots for each point on the desorption curve. These data were collected to quantify initial soil moisture conditions and for use in an independent modeling research effort.

Table 31: Desorption Data of the Glen Jean Plots.

Location[1]	Tension[2] .06 (mb)	.10 (mb)	.33 (mb)	15 (mb)
QZ2-1	25.74	20.80	13.40	6.43
QZ2-3	25.92	21.10	14.17	6.60
QZ2-5	24.77	20.15	12.93	5.74
Mean	25.48	20.68	13.50	6.26
QZ3-1	25.84	21.11	13.20	5.85
QZ3-3	26.05	20.34	13.27	6.24
QZ3-5	25.02	19.11	11.56	5.68
Mean	25.64	20.19	12.68	5.92
QZ4-1	25.46	20.06	12.67	6.22
QZ4-3	25.57	20.39	13.06	6.53
QZ4-5	26.00	21.33	13.41	6.97
Mean	25.68	20.59	13.05	6.57
Site Mean	25.60	20.49	13.07	6.25

[1] Three Samples from each plot were taken; 1 => top, 3 => middle, 5 => bottom.

[2] Each value shown is the average of two replications. Data analyzed by the Physical Characterization Laboratory - Department of Agronomy at Virginia Tech.

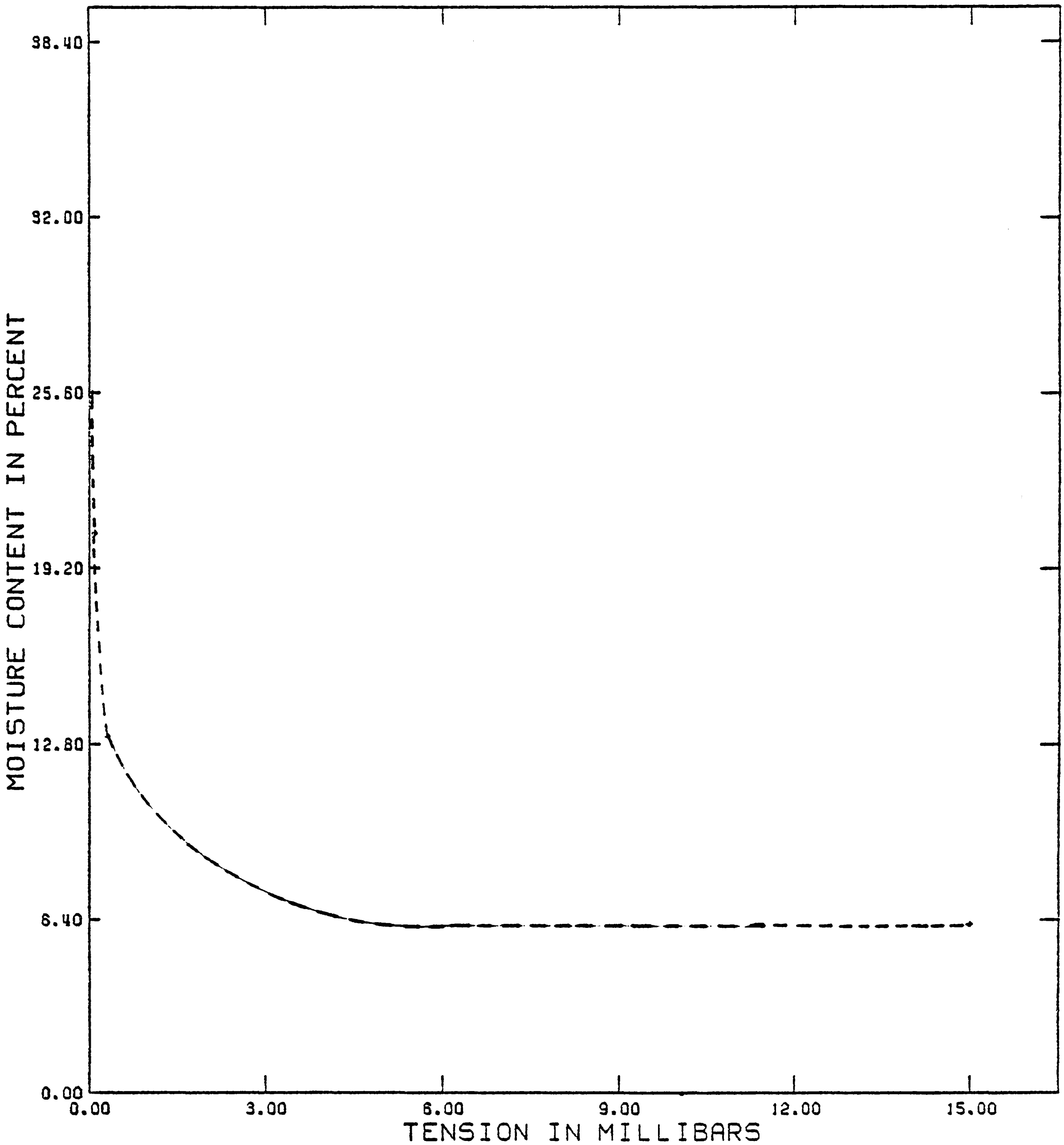


FIGURE 31. DESORPTION CURVE FOR GLEN JEAN

5.2 Rainfall Characteristics

5.2.1 Rainfall Distribution

A summary of the rainfall application rates by plot are presented in Table 32 and displayed in Figure 32. The complete data base is given in Appendix C, Section 4 for each test-run-plot combination. The rainfall volumes for the third run (30-minute) were converted to a 60-minute duration (volumes doubled) to facilitate statistical analysis. The results of the statistical analysis are sumarized in Tables 33 - 36. Tests for significance were made at the 0.05 level.

The data presented in Figure 32 and Table 34 show that for tests 1,2 and 3 there was little significant variation between rainfall application rates over each plot during a given run. However, in general, significant variations were observed between plots for test 4. When significant variations occurred between plots within a run, plot QZ4 recieved less rainfall. One possible explanation is that a variation in riser pressure existed at plot QZ4, even though pressure control valves were built into the system. The variation existed because plot QZ4 was located the greatest distance from the water supply. When the data was pooled across tests, no statistical significance at the 0.05 percent level was found (Table 34).

The results in Table 35 and Figure 32 show statistically significant variation in the application rates across runs for each test-plot combination. In general, the differences were between run 1 and runs 2 and 3. An analysis of the wind movement (Table 37) show that the significant variations were due primarily to changes in wind direction.

The results in Table 36 and Figure 32 show that significant variation occurred in the application rates across tests for each run-plot combination. In all cases, application rates for test 1 were significantly lower than the remaining tests. No logical explanation for the lower rates is offered because the pressure at the control point on all tests was maintained at a constant value. The water supply for test one was from a different source, which required a different system configuration.

Table 32: Rainfall Application Rates for the Glen Jean Plots.

Test	Run	Plot[1] QZ2 (in/hr)	QZ3 (in/hr)	QZ4 (in/hr)	Run Mean (in/hr)	Run S.D.	Test Mean (in/hr)
1	1	1.81	1.78	1.79	1.79	.015	
	2	1.67	1.69	1.66	1.67	.015	1.74
	3	1.74	1.76	1.80	1.77	.031	
	Mean	1.74	1.74	1.75			
2	1	2.34	2.32	2.27	2.31	.036	
	2	2.30	2.30	2.25	2.28	.029	2.32
	3	2.40	2.38	2.30	2.36	.053	
	Mean	2.35	2.33	2.27			
3	1	2.37	2.34	2.27	2.33	.051	
	2	2.20	2.22	2.15	2.19	.036	2.25
	3	2.26	2.30	2.18	2.25	.061	
	Mean	2.28	2.29	2.20			
4	1	2.37	2.39	2.25	2.34	.076	
	2	2.49	2.48	2.28	2.42	.118	2.42
	3	2.56	2.56	2.40	2.51	.092	
	Mean	2.47	2.48	2.31			

[1] Each value in table is the average of seven observations. All values based on 60-minute durations.

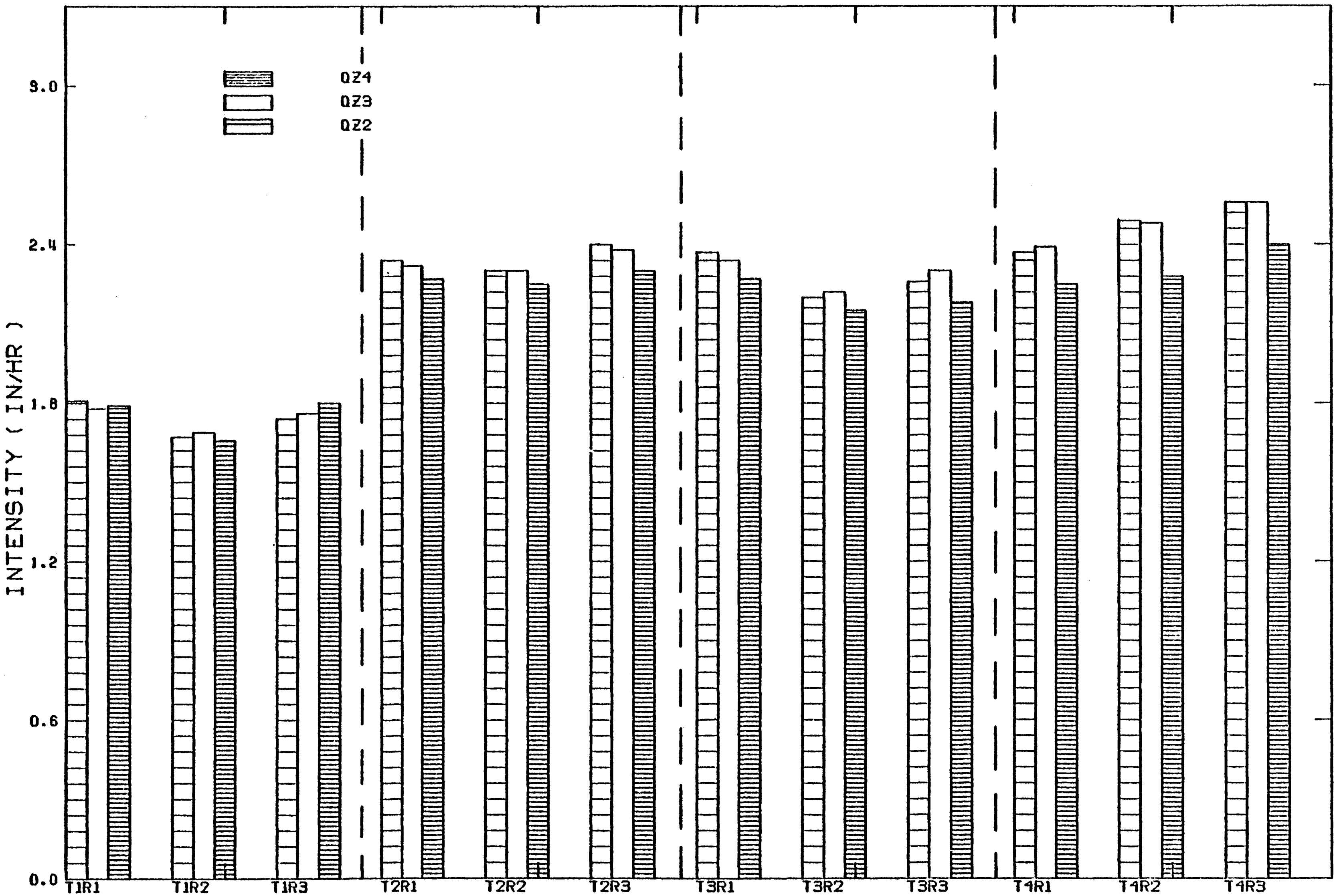


Figure 32. Rainfall Application Rates for Each Test (T) - Run (R) Combination on the Glen Jean Plots.

Table 33: Variation of the Rainfall Application Rates from Table 32 Between the Glen Jean Plots.

Test	Run	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	1	1.81(a)	1.78(a)	1.79(a)	
	2	1.67(a)	1.69(a)	1.66(a)	
	3	1.74(a)	1.76(a)	1.80(a)	
2	1	2.34(a)	2.32(a)	2.27(a)	
	2	2.30(a)	2.30(a)	2.25(a)	
	3	2.40(a)	2.38(a)	2.30(a)	
3	1	2.37(a)	2.34(b)	2.27(b)	*[1]
	2	2.20(a)	2.22(a)	2.15(a)	
	3	2.26(a)	2.30(a)	2.18(a)	
4	1	2.37(a)	2.39(a)	2.25(b)	*
	2	2.49(a)	2.48(a)	2.28(b)	*
	3	2.56(a)	2.56(a)	2.40(b)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

Table 34: Variation of the Rainfall Application Rates from Table 32 Averaged Over All Tests for the Glen Jean Plots.

	Plot			
Run	QZ2	QZ3	QZ4	Significant Variance
1	2.22(a)	2.21(a)	2.15(a)	[1]
2	2.17(a)	2.17(a)	2.09(a)	
3	2.24(a)	2.25(a)	2.17(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Fisher's Least Significant Difference Procedure at a Test Level of 0.05.

Table 35: Variation of the Rainfall Application Rates from Table 32 Between Runs for the Glen Jean Plots.

Test	Plot	Run 1	Run 2	Run 3	Significant Variance
1	QZ2	1.81(a)	1.67(b)	1.74(b)	*[1]
	QZ3	1.78(a)	1.69(b)	1.76(b)	*
	QZ4	1.79(a)	1.66(b)	1.80(a)	*
2	QZ2	2.34(a)	2.30(a)	2.40(a)	
	QZ3	2.32(a)	2.30(a)	2.38(a)	
	QZ4	2.27(a)	2.25(a)	2.30(a)	
3	QZ2	2.37(a)	2.20(b)	2.26(b)	*
	QZ3	2.34(a)	2.22(b)	2.30(b)	*
	QZ4	2.27(a)	2.15(a)	2.18(a)	
4	QZ2	2.37(b)	2.49(a)	2.56(a)	*
	QZ3	2.39(b)	2.48(b)	2.56(a)	*
	QZ4	2.25(a)	2.28(a)	2.40(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Fisher's Least Significant Difference Procedure at a Test Level of 0.05.

Table 36: Variation of the Rainfall Application Rates from Table 32 Between Tests for the Glen Jean Plots.

		Test				Significant
Run	Plot	1	2	3	4	Variance
1	QZ2	1.81(b)	2.34(a)	2.37(a)	2.37(a)	*[1]
	QZ3	1.78(c)	2.32(b)	2.34(ab)	2.39(a)	*
	QZ4	1.79(b)	2.27(a)	2.27(a)	2.25(a)	*
2	QZ2	1.67(c)	2.30(b)	2.20(b)	2.49(a)	*
	QZ3	1.69(c)	2.30(b)	2.22(b)	2.48(a)	*
	QZ4	1.66(b)	2.25(a)	2.15(a)	2.28(a)	*
3	QZ2	1.74(d)	2.40(b)	2.26(c)	2.56(a)	*
	QZ3	1.76(c)	2.38(b)	2.30(b)	2.56(a)	*
	QZ4	1.80(d)	2.30(b)	2.18(c)	2.40(a)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Fisher's Least Significant Difference Procedure at a Test Level of 0.05.

Table 37: Summary of the Wind Speed and Direction on the Glen Jean Plots.

Test	Run	Average Speed (mph)	Average Direction [1]
1	1	0.8	↙
	2	1.0	←
	3	1.0	←
2	1	1.9	←
	2	1.9	↖
	3	1.4	↗
3	1	1.8	↘
	2	3.6	↑
	3	2.6	↖
4	1	2.0	→
	2	3.1	←
	3	2.4	←

[1] Direction relative to the plot surface. Top of the page represents the top of the plot.

5.2.2 Storm EI Values

The data summarizing the rainfall factors utilized for system calibration are presented in Table 38. Analysis of the data with the column heading "Ratio" show that the kinetic energy of rain applied by the rainfall simulator ranged between 35 and 52 percent of the energy of natural rainfall.

The individual storm EI-data are given in Table 39 and Figure 33. As expected, a comparison of Figures 32 and 33 show similar trends. A summary of the statistical analysis of the EI-data are given in Tables 40 and 41. It is apparent from an inspection of the data in Table 40 that there was little significant variation between plots for either tests or runs. Analysis of the data in Table 41, however, show significant differences between runs for each test and between tests for each run. As was noted during the discussion of the rainfall distributions, test 1 recieved the least rainfall while test 4 recieved the highest rainfall application. The similarities between these analysis show that the storm EI-index follows the same trends as the rainfall distribution and can be used as a rainfall index.

Table 38: Rainfall and Energy Factors for the Glen Jean Plots.

Test	Run	Plot	Rainfall (in/hr)	Calib. Energy	Wischmeier Equation	Ratio	EI [1]
1	1	QZ2	1.81	3.85	10.01	.384	6.95
		QZ3	1.78	3.80	9.99	.380	6.78
		QZ4	1.79	3.81	10.00	.381	6.83
	2	QZ2	1.67	3.55	9.89	.358	5.91
		QZ3	1.69	3.59	9.91	.362	6.04
		QZ4	1.65	3.52	9.88	.356	5.83
	3	QZ2	1.74	3.71	9.96	.372	6.45
		QZ3	1.76	3.74	9.97	.374	6.56
		QZ4	1.79	3.81	10.00	.381	6.82
2	1	QZ2	2.34	4.98	10.38	.479	11.63
		QZ3	2.32	4.94	10.37	.476	11.46
		QZ4	2.27	4.83	10.34	.467	10.96
	2	QZ2	2.30	4.89	10.36	.473	11.25
		QZ3	2.30	4.89	10.36	.472	11.23
		QZ4	2.25	4.78	10.32	.463	10.75
	3	QZ2	2.41	5.12	10.42	.492	12.33
		QZ3	2.38	5.08	10.41	.488	12.10
		QZ4	2.29	4.88	10.35	.472	11.20
3	1	QZ2	2.37	5.05	10.40	.485	11.98
		QZ3	2.34	4.98	10.38	.480	11.67
		QZ4	2.27	4.82	10.34	.467	10.93
	2	QZ2	2.20	4.68	10.29	.455	10.29
		QZ3	2.22	4.72	10.30	.458	10.44
		QZ4	2.15	4.58	10.26	.447	9.87
	3	QZ2	2.26	4.81	10.33	.466	10.87
		QZ3	2.30	4.90	10.36	.473	11.26
		QZ4	2.18	4.64	10.28	.451	10.10
4	1	QZ2	2.37	5.05	10.40	.485	11.97
		QZ3	2.39	5.08	10.41	.488	12.13
		QZ4	2.25	4.79	10.32	.464	10.76
	2	QZ2	2.49	5.29	10.47	.506	13.17
		QZ3	2.48	5.29	10.47	.505	13.13
		QZ4	2.28	4.85	10.34	.469	11.04
	3	QZ2	2.56	5.45	10.51	.518	13.94
		QZ3	2.56	5.46	10.51	.514	13.98
		QZ4	2.40	5.11	10.42	.490	12.26

[1] units (100 ft-tons/acre)(in/hr)

Table 39: Storm EI Data for the Glen Jean Plots.

Test	Run	Plot QZ2	Plot QZ3	Plot QZ4	Run Mean	Run S.D	Test Mean
1	1	6.95	6.78	6.83	6.85	.087	
	2	5.91	6.04	5.83	5.93	.106	6.46
	3	6.45	6.56	6.82	6.61	.190	
	Mean	6.44	6.46	6.49			
2	1	11.63	11.46	10.96	11.35	.348	
	2	11.25	11.23	10.75	11.08	.283	11.43
	3	12.33	12.10	11.20	11.88	.597	
	Mean	11.74	11.60	10.97			
3	1	11.98	11.67	10.93	11.53	.539	
	2	10.29	10.44	9.87	10.20	.295	10.82
	3	10.87	11.26	10.10	10.74	.590	
	Mean	11.05	11.12	10.30			
4	1	11.97	12.13	10.76	11.62	.749	
	2	13.17	13.12	11.04	12.44	1.22	12.49
	3	13.94	13.98	12.26	13.39	.981	
	Mean	13.03	13.08	11.35			

Plot	Run 1	Run 2	Run 3	Plot Mean
QZ2	10.63	10.16	10.90	10.56
QZ3	10.53	10.21	10.98	10.57
QZ4	9.87	9.37	10.10	9.78
Mean	10.34	9.91	10.66	

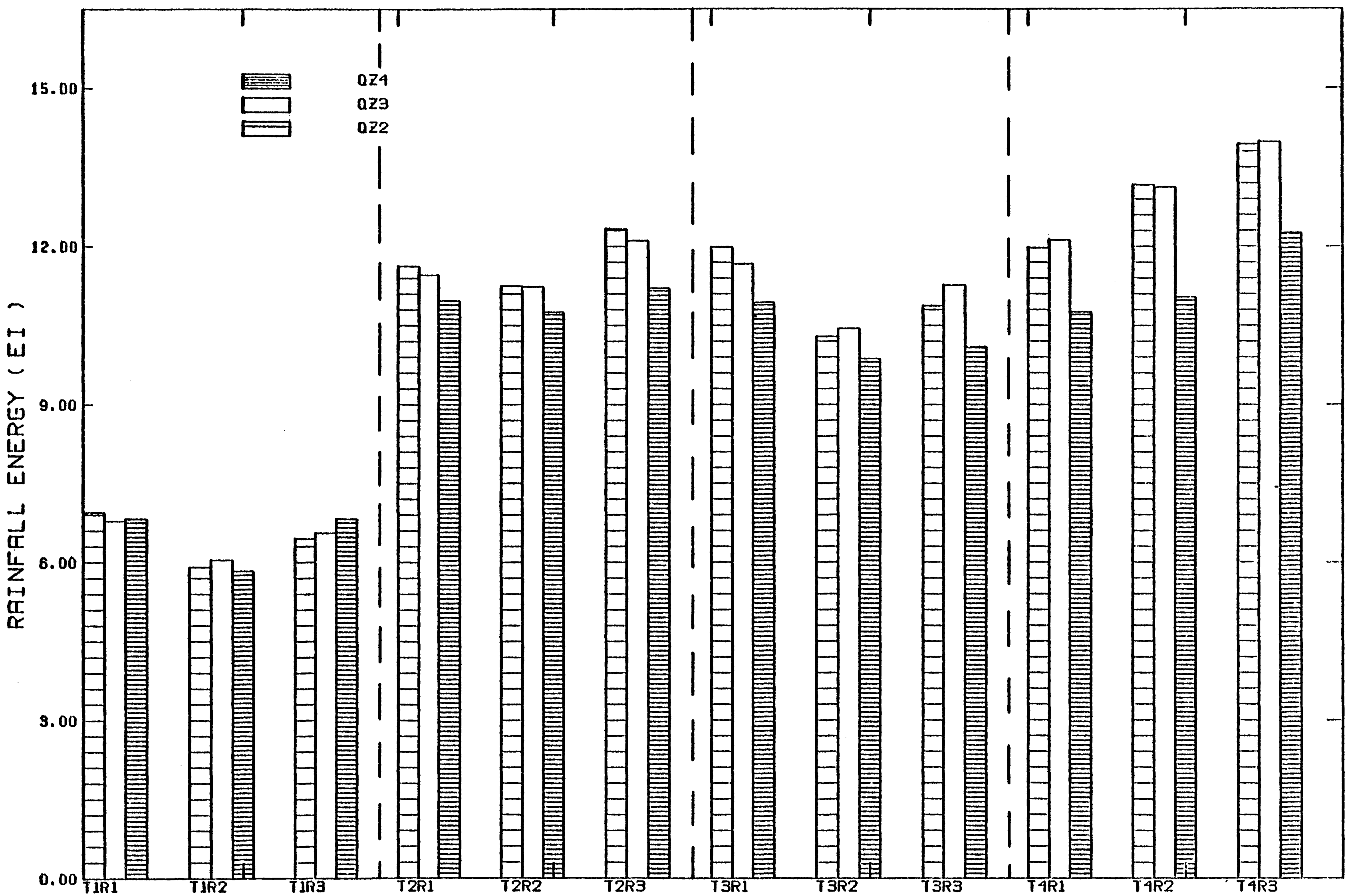


Figure 33. Storm EI Data for Each Test (T) - Run (R) Combination on the Glen Jean Plots.

Table 40: Variation of the Storm EI Data from Table 39 Between the Glen Jean Plots.

Test	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	6.44(a)	6.46(a)	6.49(a)	[1]
2	11.74(a)	11.60(a)	10.97(a)	
3	11.05(a)	11.12(a)	10.30(a)	
4	13.03(a)	13.08(a)	11.35(a)	

Run	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	10.63(a)	10.53(a)	9.87(a)	
2	10.16(a)	10.21(a)	9.37(a)	
3	10.90(a)	10.98(a)	10.10(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

Table 41: Variation of the Storm EI Data from Table 39 Between Tests and Runs for the Glen Jean Plots.

Test	Run 1	Run 2	Run 3	Significant Variance
1	6.85(a)	5.93(b)	6.61(a)	*[1]
2	11.35(a)	11.08(a)	11.88(a)	
3	11.53(a)	10.20(b)	10.74(a)	*
4	11.62(a)	12.44(a)	13.39(a)	

Run	Test 1	Test 2	Test 3	Test 4	Significant Variance
1	6.85(b)	11.35(a)	11.53(a)	11.62(a)	*
2	5.93(c)	11.08(b)	10.20(b)	12.44(a)	*
3	6.61(c)	11.88(b)	10.74(b)	13.39(a)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

5.2.3 Summary

In general, statistical analysis show that the rainfall application rates and the storm EI-indexes follow similar trends. These results were desirable because storm EI will be used to modify the soil loss data to account for the wide fluctations in rainfall applications. For this site, when significant variations did occur, the system configuration would seem to be more of a controlling factor than the affects due to wind variation.

5.3 Moisture Characteristics

A summary of the soil moisture data is presented in Table 42 and the complete data base is given in Appendix C, Section 5. In Table 42 the data listed under the column heading, "change" represents the increase in soil moisture content. Negative values represent sampling errors. From an analysis of this data the initial soil moisture content was significantly different within tests (i.e. runs 1,2 and 3). There was little difference between the soil moisture content after each rainfall application suggesting that saturation had occurred by the termination of each run.

Initial soil moisture conditions are one of the major factors affecting soil loss produced by a given storm. Because the infiltration rate must be exceeded and retention storage capacity satisfied before runoff can occur, a soil with a low moisture content often will absorb more rainfall, therefore, reducing runoff and sediment loss. To evaluate the variability of initial soil moisture data, a statistical analysis was performed with the soil moisture data summarized in Table 43. A significant difference in initial moisture content was found between runs (Table 44). The initial run (run 1) was always the driest followed by run 2 and run 3. No significant differences were found between the three plots for each run combination. This suggests that the data can be considered as a normal population. Statistical analysis for each run-test combination showed that the soil moisture for test 1-runs 1 and 2 were the driest test-run combinations. This suggests that variations in soil moisture did not heavily influence soil loss variation between runs.

Table 42: Summary of the Gravimetric Soil Moisture Conditions for the Glen Jean Plots.

Test	Run	Plot	Soil Moisture Content [1] Before Run (%)	After Run (%)	Change (%)
1	1	QZ2	2.82	9.99	7.17
		QZ3	3.96	9.59	5.65
		QZ4	3.16	8.68	5.52
	2	QZ2	8.50	9.96	1.46
		QZ3	7.74	10.48	2.74
		QZ4	6.93	9.31	2.38
	3	QZ2	9.96	10.24	.28
		QZ3	10.48	11.92	1.44
		QZ4	9.31	10.87	1.56
2	1	QZ2	7.97	11.47	3.68
		QZ3	7.92	11.14	3.22
		QZ4	6.20	10.54	4.34
	2	QZ2	9.56	11.28	1.72
		QZ3	10.03	11.78	1.75
		QZ4	8.75	10.47	1.72
	3	QZ2	11.28	10.92	-.36
		QZ3	11.78	12.16	0.38
		QZ4	10.47	11.17	0.70
3	1	QZ2	9.64	11.84	2.20
		QZ3	9.49	12.18	2.69
		QZ4	7.82	10.06	2.24
	2	QZ2	10.67	12.29	1.62
		QZ3	9.36	10.99	1.63
		QZ4	9.85	10.74	0.89
	3	QZ2	12.29	10.69	-1.60
		QZ3	10.99	9.98	-1.01
		QZ4	10.74	10.93	0.20
4	1	QZ2	9.03	11.66	2.63
		QZ3	7.41	12.19	4.78
		QZ4	8.14	11.91	3.78
	2	QZ2	10.27	11.31	1.04
		QZ3	10.64	11.96	1.32
		QZ4	9.88	11.22	1.34
	3	QZ2	11.31	11.84	0.53
		QZ3	11.96	11.60	-0.36
		QZ4	11.22	11.19	-0.03

[1] Soil moisture samples taken from the top and the bottom of each plot were averaged to produce the values in this table.

Table 43: Comparison of the Gravimetric Soil Moisture Contents Before Rainfall Application for the Glen Jean Plots.

		---------Plot [1]----			Run	Run	Test
Test	Run	QZ2 (%)	QZ3 (%)	QZ4 (%)	Mean (%)	S.D.	Mean (%)
1	1	2.82	3.96	3.16	3.31	.585	
2	1	7.79	7.92	6.20	7.30	.958	
3	1	9.64	9.49	7.82	8.98	1.01	6.95
4	1	9.03	7.41	8.14	8.19	.811	
	Mean	7.32	7.20	6.33			
1	2	8.50	7.74	6.93	7.72	.785	
2	2	9.56	10.03	8.75	9.45	.647	
3	2	10.67	9.36	9.85	9.96	.662	9.35
4	2	10.27	10.64	9.88	10.26	.380	
	Mean	9.75	9.44	8.85			
1	3	9.96	10.48	9.31	9.92	.586	
2	3	11.28	11.78	10.47	11.18	.661	
3	3	12.29	10.99	10.74	11.34	.832	10.98
4	3	11.31	11.96	11.22	11.50	.404	
	Mean	11.21	11.30	10.44			

[1] All values are the average of samples from the top and bottom of each plot.

Table 44: Variations of the Soil Moisture Contents Between Plots, Tests and Runs for the Glen Jean Plots.

Run	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	7.32(a)	7.20(a)	6.33(a)	
2	9.75(a)	9.44(a)	8.85(a)	
3	11.21(a)	11.30(a)	10.44(a)	

Run	Test 1	Test 2	Test 3	Test 4	Significant Variance
1	3.31(b)	7.30(a)	8.98(a)	8.19(a)	*[1]
2	7.72(b)	9.45(a)	9.96(a)	10.26(a)	*
3	9.92(a)	11.18(a)	11.34(a)	11.50(a)	

Test	Run 1	Run 2	Run 3	Significant Variance
1	3.31(c)	7.72(b)	9.92(a)	*
2	7.30(c)	9.45(b)	11.18(a)	*
3	8.98(c)	9.96(ab)	11.34(a)	*
4	8.19(c)	10.26(b)	11.50(a)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

5.4 Soil Loss Characteristics

The hydrologic response observed for each of the 36 test-run-plot combinations for the Glen Jean site are discussed in the following sections of this chapter. A summary of these data are presented in Table 45. Observed soil loss adjusted for slope length and storm erodibility values were calculated using the methods outlined in Chapter III. Appendix C, Section 6 contains the basic field data and sediment load summaries.

5.4.1 Soil Loss Adjusted to Standard Slope Length

Soil loss, adjusted for slope length are summarized in Table 46. As expected, the observed soil loss given in Table 45 were increased due to the correction of plot length from 36.3-feet to the standard 72.6-feet. It was not necessary to adjust the soil loss for slope gradient since the plot slope equalled the standard 9-percent.

Statistical results are presented in Tables 47 and 48. The data in Table 47 and Figure 34 show that except for test 1, the soil loss was not significantly different between runs within a test. Further analysis, however, show that test 1-runs 1 and 3 had significantly less soil loss than any similar test-run combination. Test 2-run 3 had the highest soil loss.

The data in Table 48 demonstrates that no significant differences existed between any run-plot or test-plot combination. Trends in the data (Figure 34) suggest that plot QZ4, in general, produced much less soil loss than either plots QZ2 or QZ3. This was attributed to much lower rainfall application rates.

Table 45: Summary of the Rainfall, Runoff and Soil Loss for the Glen Jean Plots.

Test	Run	Plot	Rain Inches	Discharge Inches	Infilt. Inches	-Soil Loss [1]- (lb/ac)	(T/ac)
1	1	QZ2	1.81	1.64	.17	60.5	2.73
		QZ3	1.78	1.64	.14	58.9	2.66
		QZ4	1.79	1.64	.15	48.1	2.17
	2	QZ2	1.67	1.65	.02	94.7	4.27
		QZ3	1.69	1.65	.04	95.3	4.30
		QZ4	1.66	1.65	.01	61.1	2.76
	3	QZ2	0.87	0.87	0.0	56.3	2.54
		QZ3	0.88	0.85	.03	49.8	2.25
		QZ4	0.90	0.89	.01	45.3	2.04
2	1	QZ2	2.34	1.93	.41	147.7	6.66
		QZ3	2.32	1.96	.36	122.1	5.51
		QZ4	2.27	1.82	.45	78.8	3.55
	2	QZ2	2.30	2.26	.04	144.6	6.52
		QZ3	2.30	2.24	.06	116.3	5.25
		QZ4	2.25	2.22	.03	98.3	4.43
	3	QZ2	1.20	1.14	.06	78.5	3.54
		QZ3	1.19	1.17	.02	71.7	3.23
		QZ4	1.15	1.14	.01	62.5	2.82
3	1	QZ2	2.37	2.01	.36	167.8	7.57
		QZ3	2.34	1.90	.44	150.5	6.79
		QZ4	2.27	1.86	.41	117.3	5.29
	2	QZ2	2.20	2.14	.06	134.4	6.06
		QZ3	2.22	2.20	.02	113.4	5.11
		QZ4	2.15	2.13	.02	96.6	4.36
	3	QZ2	1.13	1.08	.05	57.8	2.61
		QZ3	1.15	1.13	.02	56.0	2.53
		QZ4	1.09	1.09	0.0	59.0	2.66
4	1	QZ2	2.37	1.98	.39	156.1	7.04
		QZ3	2.39	1.99	.40	154.0	6.95
		QZ4	2.25	1.83	.42	109.9	4.96
	2	QZ2	2.49	2.47	.02	157.2	7.09
		QZ3	2.48	2.42	.06	133.4	6.02
		QZ4	2.28	2.28	0.0	111.6	5.03
	3	QZ2	1.28	1.26	.02	72.5	3.27
		QZ3	1.28	1.24	.04	63.3	2.86
		QZ4	1.20	1.18	.02	60.8	2.74

[1] Actual field data not adjusted to 60-minute duration or for Length-Slope.

Table 46: Summary of the Soil Loss Data Adjusted for Plot Length for the Glen Jean Plots.

Test	Run	Plot QZ2 (t/ac)	Plot QZ3 (t/ac)	Plot QZ4 (t/ac)	Run Mean (t/ac)	Run S.D	Test Mean (t/ac)
1	1	3.88	3.78	3.09	3.58	.430	
	2	6.08	6.11	3.92	5.37	1.26	5.14
	3	7.22	6.39	5.81	6.47	.709	
	mean	5.73	5.43	4.27			
2	1	9.48	7.83	5.06	7.46	2.23	
	2	9.28	7.46	6.31	7.68	1.50	8.08
	3	10.07	9.20	8.03	9.10	1.02	
	mean	9.61	8.16	6.47			
3	1	10.77	9.66	7.53	9.32	1.65	
	2	8.62	7.28	6.20	7.37	1.21	8.03
	3	7.42	7.19	7.57	7.39	.191	
	mean	8.94	8.04	7.10			
4	1	10.01	9.88	7.05	8.98	1.67	
	2	10.09	8.56	7.16	8.60	1.47	8.66
	3	9.30	8.12	7.80	8.41	.790	
	mean	9.80	8.85	7.34			

Plot	Run 1	Run 2	Run 3	Plot Mean
QZ2	8.53	7.79	5.68	7.33
QZ3	8.52	7.35	5.90	7.26
QZ4	8.50	7.73	7.30	7.84
Mean	8.52	7.62	6.29	

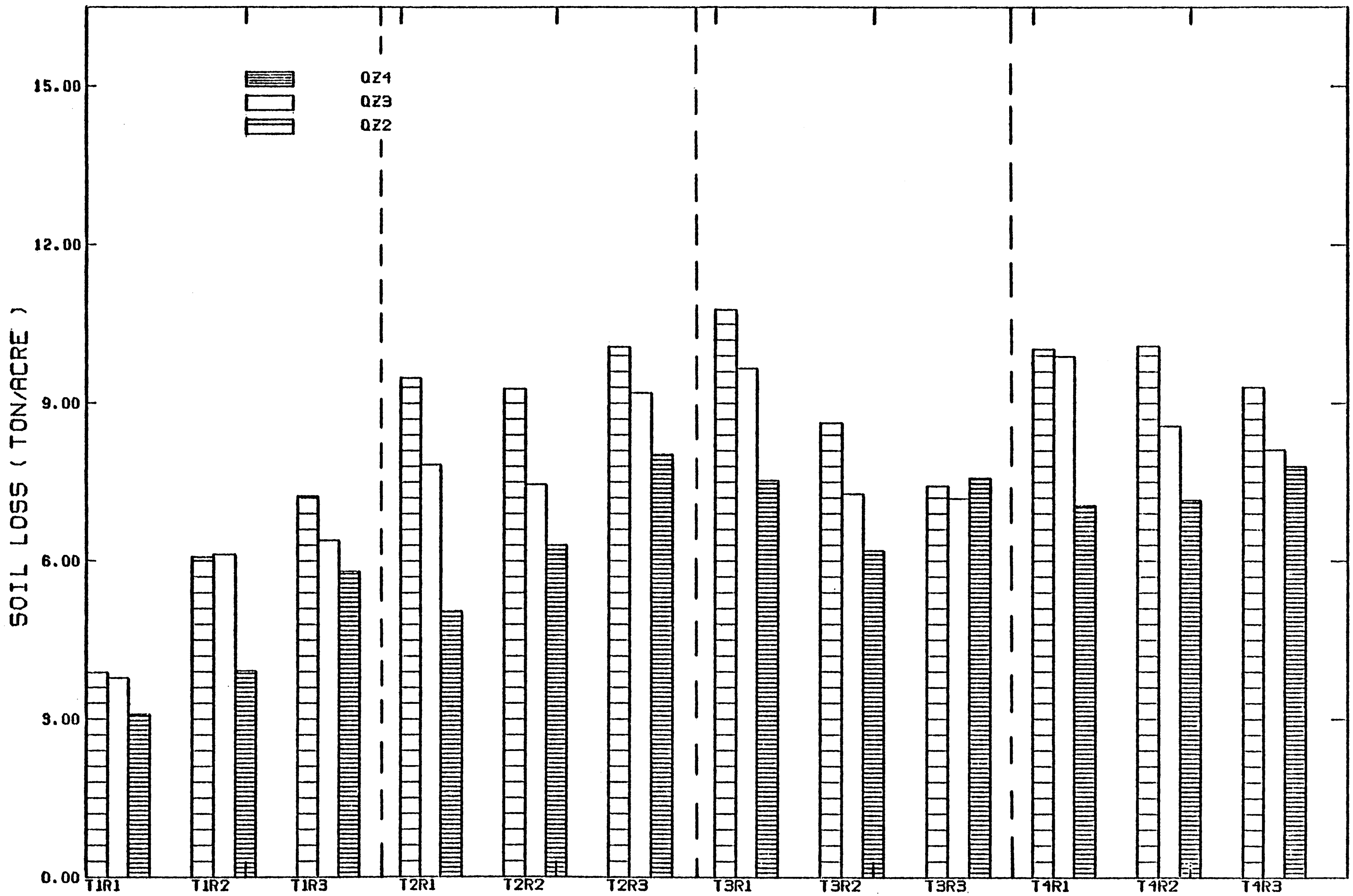


Figure 34. Soil Loss Adjusted for Plot Length for Each Test (T) - Run (R) Combination on the Glen Jean Plots.

Table 47: Variation of the Soil Loss Data Adjusted for Plot Length Across and Within Tests for the Glen Jean Plots.

	Run			
Test	1	2	3	Significant Variance
1	3.58(b)	5.37(a)	6.47(a)	*[1]
2	7.46(a)	7.68(a)	9.10(a)	
3	9.32(a)	7.37(a)	7.39(a)	
4	8.98(a)	8.60(a)	8.41(a)	

	Test				
Run	1	2	3	4	Significant Variance
1	3.58(b)	7.46(a)	9.32(a)	9.98(a)	*
2	5.37(a)	7.68(a)	7.37(a)	8.60(a)	
3	6.47(c)	9.10(a)	7.39(cb)	8.41(ab)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

Table 48: Variation of the Soil Loss Data Adjusted for Plot Length Between the Glen Jean Plots.

Test	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	5.73(a)	5.43(a)	4.27(a)	
2	9.61(a)	8.16(ab)	6.47(b)	*[1]
3	8.94(a)	8.04(a)	7.10(a)	
4	9.80(a)	8.85(a)	7.34(b)	*

Run	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	8.53(a)	7.79(a)	5.68(a)	
2	8.52(a)	7.35(a)	5.90(a)	
3	8.50(a)	7.73(a)	7.30(a)	

[1] Difference between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

5.4.2 Soil Erodibility Values

Soil erodibility factors are summarized in Table 49 and displayed graphically in Figure 35. Visual inspection of this data show that the K-factor for plot QZ4 was consistently smaller than those for either plot QZ2 or QZ3, however, from statistical analysis the difference was not significant at the 0.05 level. The mean K-factor for all tests was 0.735.

Inspection of Figure 35 and Table 50 show that K determined from test 1 increased sharply but was relatively constant for the remainder of the tests. Additionally, the soil erodibility factor was not significantly different within tests. These results suggest that the K-index for this soil type is relatively high (0.735) and that an increase in coarse fragments at the soil surface had little impact on the calculation of K.

The initial soil moisture conditions and rainfall application rates were significanly different for test 1 than for the remaining tests. The lowest rainfall rates were applied, which as expected, resulted in the lowest soil loss after adjusting for plot length and slope.

Additionally, runs 1 and 2 had the lowest soil moisture contents. For the dry, tilled condition (run 1), the combined effect of low rainfall and initial moisture produced the lowest K. However, for the wet conditions (runs 2 and 3), this combination produced the largest K. One possible explanation for this wide variation is that initially the erosion potential was reduced because of the much lower bulk density (no data for confirmation) when the soil was in a very dry-tilled state. As the soil moisture content increased and consolidation occurred (bulk density increased) due to repeated rainfall applications during runs 2 and 3, higher erosion rates resulted because the erosion resistance of the soil was reduced. These results suggest that low rainfall intensities and initial moisture content can have a very pronounced effect on K. Due to the composition of the data, it was not possible to isolate the affects of these two variables.

Further analysis of the data indicates that test 4-runs 2 and 3 had the highest rainfall rates and soil loss which produced a low K. However, this factor was not significantly different from the K-indexes for corresponding runs from tests 1, 2 and 3. This suggests that K is more sensitive to lower rainfall application rates than to higher initial moisture contents. This is possible because the higher application rates seal the soil surface which reduces the affect of rainfall impact and transport. This condition was demonstrated in test 1.

Analysis of the data presented in Table 51 show that there was little significant variation between K for the plots within either tests or runs. Results were consistent when appliciation rates were similar.

Table 49: Soil Erodibility Factors for the Glen Jean Plots.

Test	Run	Plot QZ2	Plot QZ3	Plot QZ4	Run Mean	Run S.D	Test Mean
1	1	.558	.558	.452	.523	.061	
	2	1.028	1.012	.672	.904	.201	.803
	3	1.119	.975	.852	.982	.134	
	Mean	.902	.848	.659			
2	1	.815	.684	.461	.653	.179	
	2	.824	.664	.587	.692	.121	.703
	3	.816	.760	.717	.764	.050	
	Mean	.818	.703	.588			
3	1	.899	.828	.688	.805	.107	
	2	.838	.697	.628	.721	.107	.739
	3	.683	.639	.750	.691	.056	
	Mean	.807	.721	.689			
4	1	.837	.815	.655	.769	.099	
	2	.766	.652	.649	.689	.067	.695
	3	.667	.581	.636	.628	.044	
	Mean	.757	.683	.647			

Plot	Run 1	Run 2	Run 3	Plot Mean
QZ2	.777	.864	.821	.821
QZ3	.721	.756	.739	.739
QZ4	.564	.634	.739	.646
Mean	.687	.751	.766	

Total Site Mean = 0.735

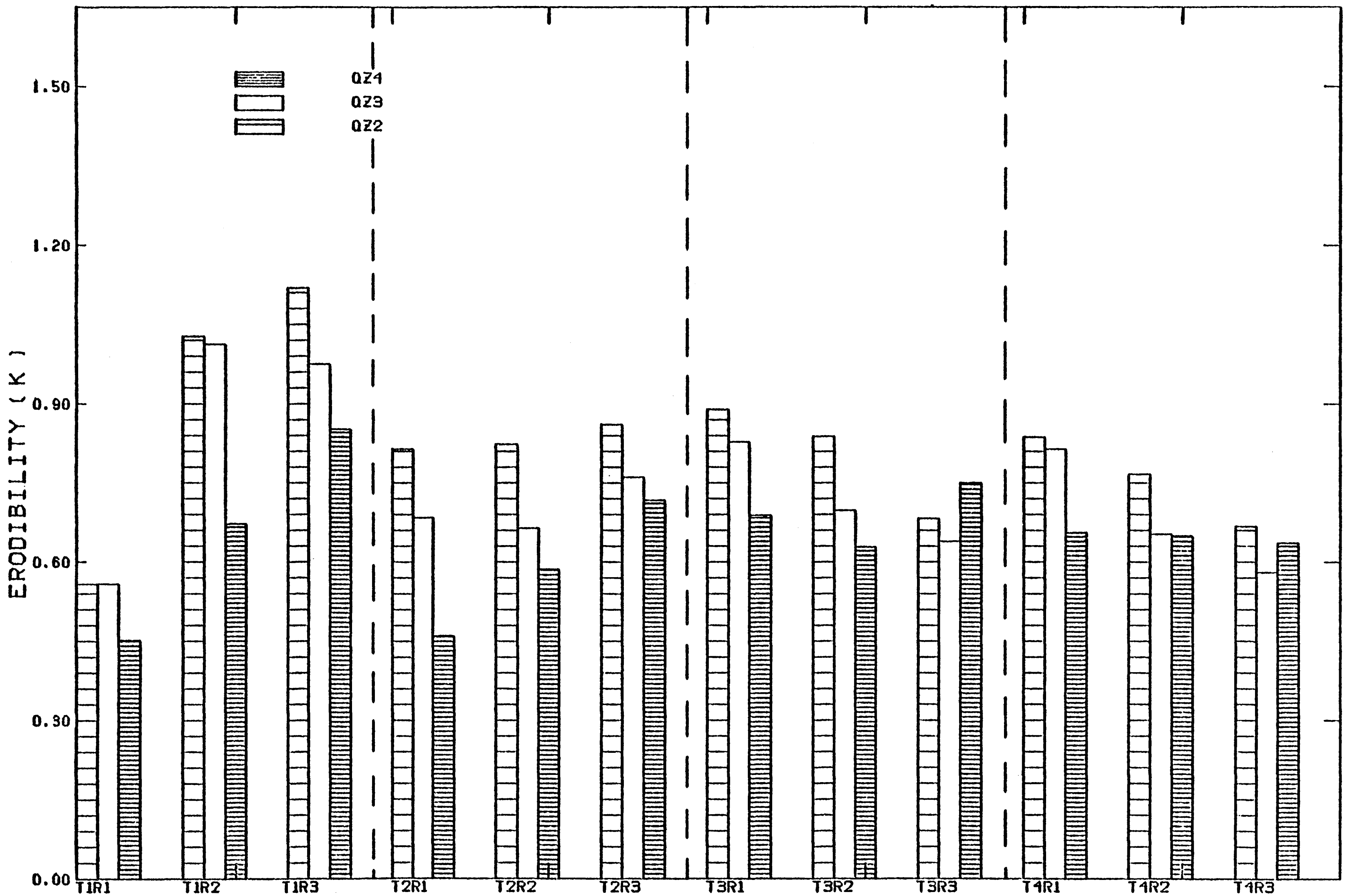


Figure 35. Soil Erodibility Values for Each Test (T) - Run (R) Combination on the Glen Jean Plots.

Table 50: Variation of the Soil Erodibility Factors Across and Within Tests for the Glen Jean Plots.

Test	Run 1	Run 2	Run 3	Significant Variance
1	.523(b)	.904(a)	.982(a)	*[1]
2	.653(a)	.692(a)	.764(a)	
3	.805(a)	.721(a)	.691(a)	
4	.769(a)	.689(a)	.628(a)	

Run	Test 1	Test 2	Test 3	Test 4	Significant Variance
1	.523(b)	.653(ab)	.805(a)	.769(a)	*
2	.904(a)	.692(a)	.721(a)	.689(a)	
3	.982(a)	.764(b)	.691(b)	.628(b)	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

Table 51: Variation of the Soil Erodibility Factors Between the Glen Jean Plots.

Test	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	.902(a)	.848(a)	.659(a)	
2	.818(a)	.703(ab)	.588(b)	*[1]
3	.807(a)	.721(a)	.689(a)	
4	.757(a)	.683(a)	.647(a)	

Run	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	.777(a)	.721(a)	.564(a)	
2	.864(a)	.756(a)	.634(a)	
3	.821(a)	.739(a)	.739(a)	

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

5.4.3 Summary

The erodibility index for this sandy loam soil increased sharply to a high value and remained relatively constant with repeated rainfall applications. In general, there was no significant difference between runs within a test or between tests after K stabilized. Statistical analysis indicated that K followed the same trends found for the rainfall and soil loss data. The results suggest that experimentally determined K-factors are more sensitive to rainfall application rates than to initial soil moisture conditions.

5.5 Eroded Material Characteristics

5.5.1 Suspended Sediment Analysis

The purpose of this section was to determine how suspended sediment concentrations varied with initial tillage conditions and repeated rainfall applications. To reduce the large number of actual data points and the variability in the data, sediment concentrations were averaged across each test-run-plot combination for each successive sample point, as outlined in section 4.5.1. Following this procedure, a string of averaged concentration values were constructed for each run-plot combination and the results presented in Figures 36 - 41.

A statistical analysis designed to identify significant variations was performed by comparing the slope of each concentration curve during steady state discharge. The slope for each run-plot combination was determined by linear regression and the results for each combination compared for statistical significance using Analysis of Variance.

A visual analysis of the data presented in Figures 36 - 41 and the results from the statistical analysis (Table 52) show that erosion rates for all three runs were significantly different. The sediment concentrations for the dry run (run 1) peak very early (approximately 7 minutes) and decrease to a relatively constant rate at the end of the storm. Statistical analysis indicates that for all three plots, the slope of the sediment concentration curve for run 2 is significantly different from run 3. This implies that the rate of soil erosion has not stabilized after three rainfall applications and the long-term soil loss for this type of soil could be a major problem if soil conservation practices are not effectively implemented.

The sediment concentration curves given in Figures 39-41 were generated by run. From the statistical analysis based on the slopes of these curves, plot QZ4 was found to have significantly lower sediment concentrations for runs 1 and 3. In general, all three plots reacted relatively consistently, which suggests that experimental procedures were consistent and that variations in relevant soil physical properties were not significant.

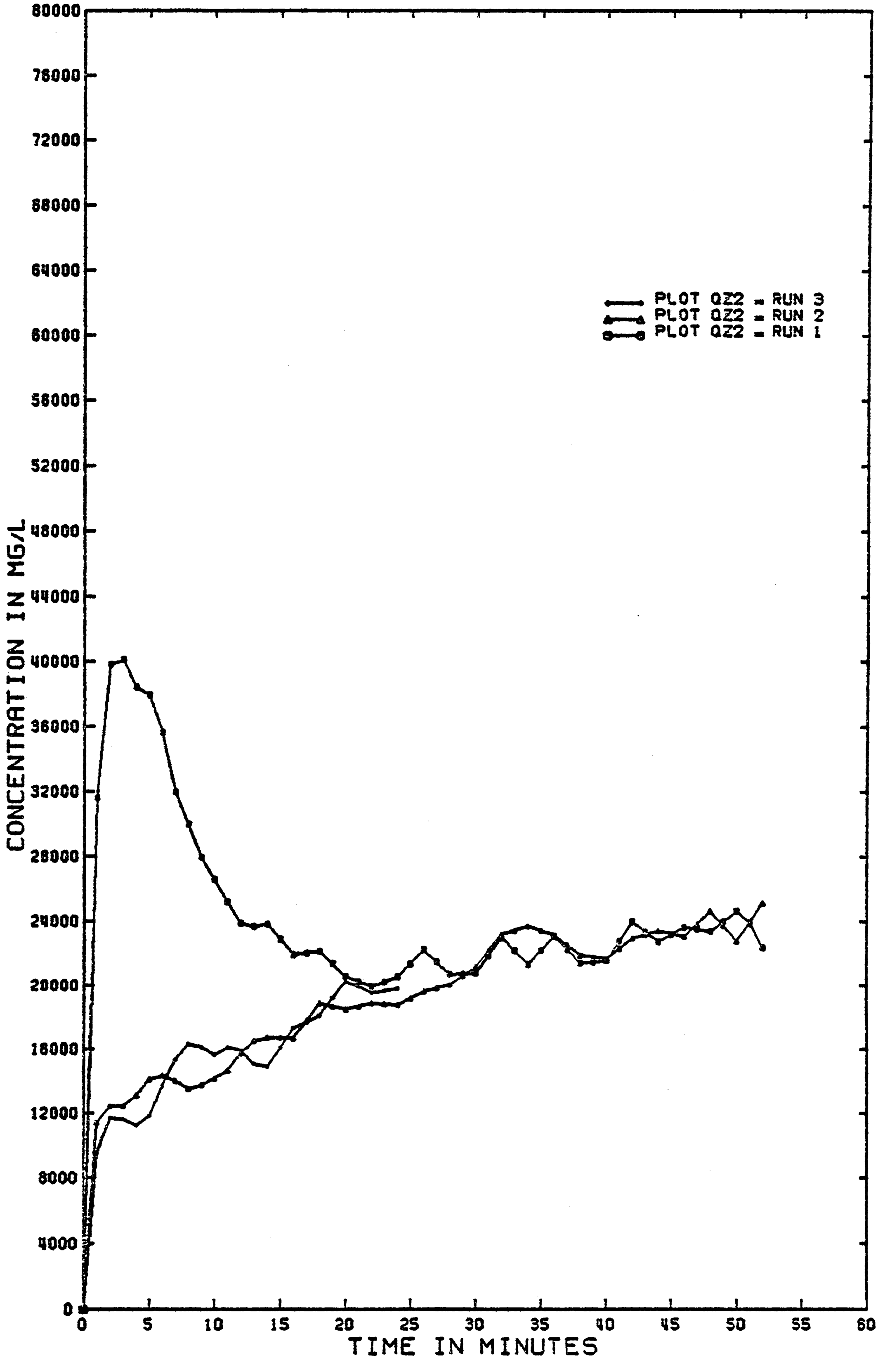


FIGURE 36. SEDIMENT CONCENTRATIONS FOR GLEN JEAN. PLOT QZ2

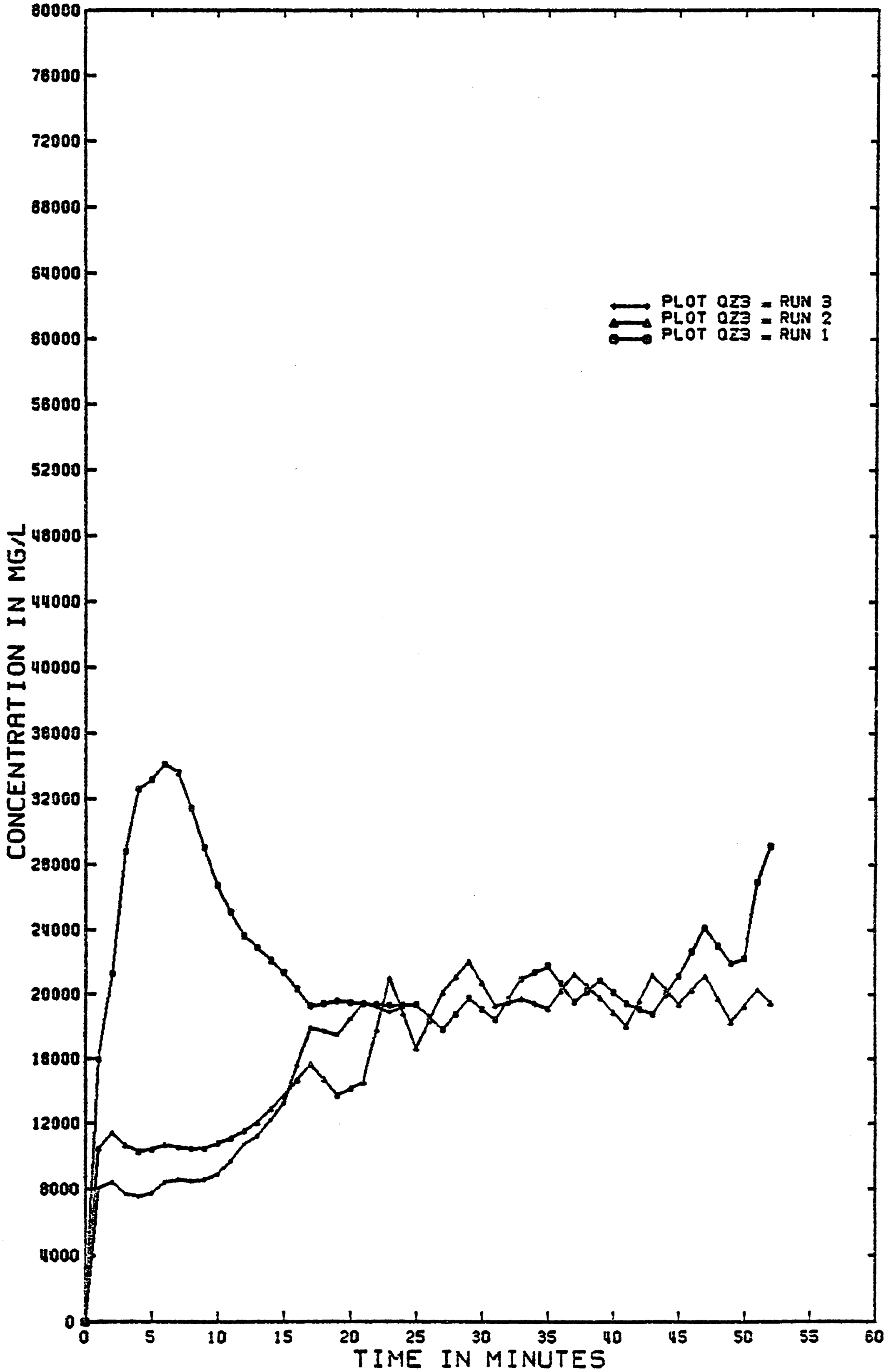


FIGURE 37. SEDIMENT CONCENTRATIONS FOR GLEN JEAN. PLOT QZ3

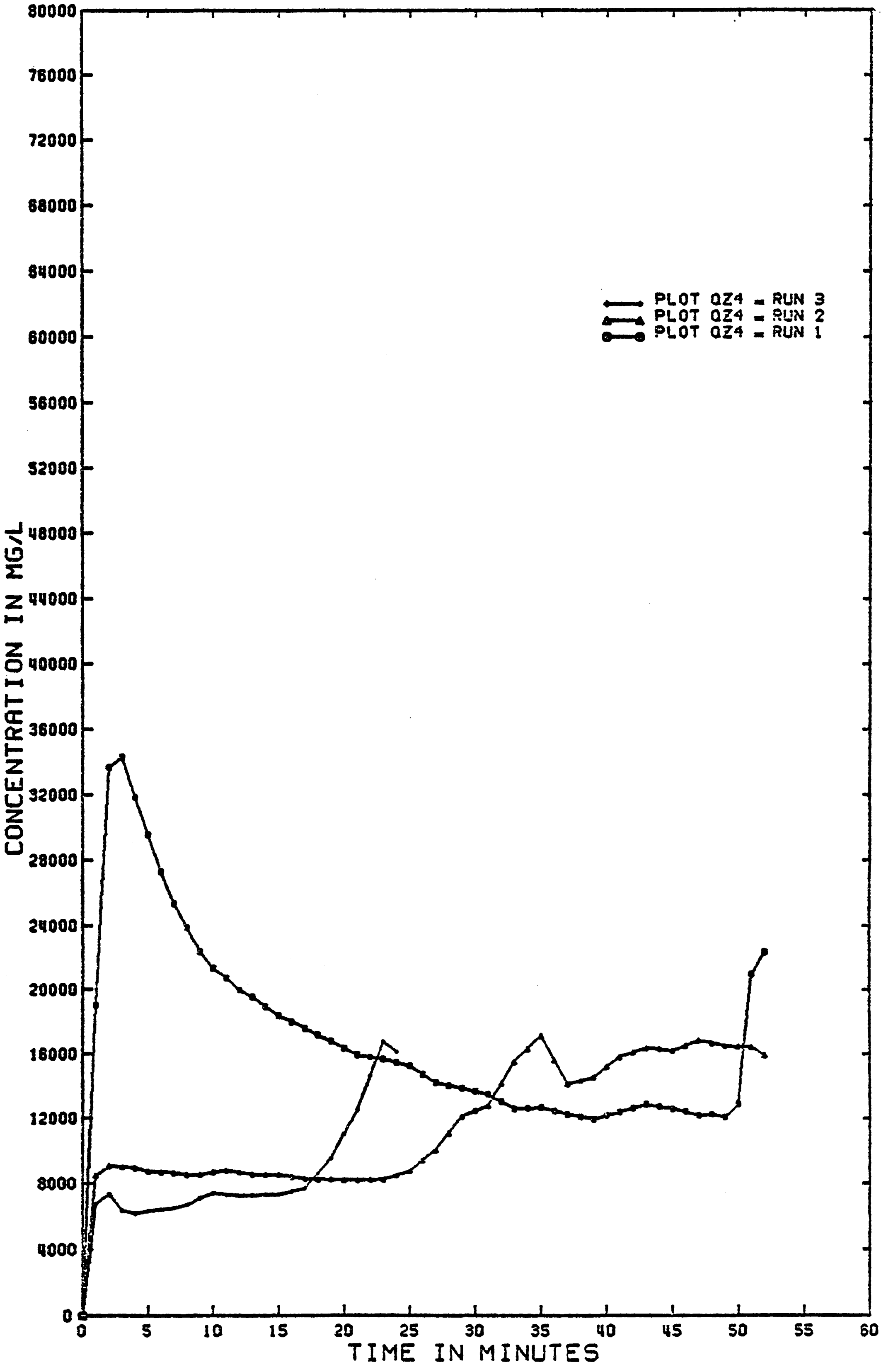


FIGURE 38. SEDIMENT CONCENTRATIONS FOR GLEN JEAN. PLOT QZ4

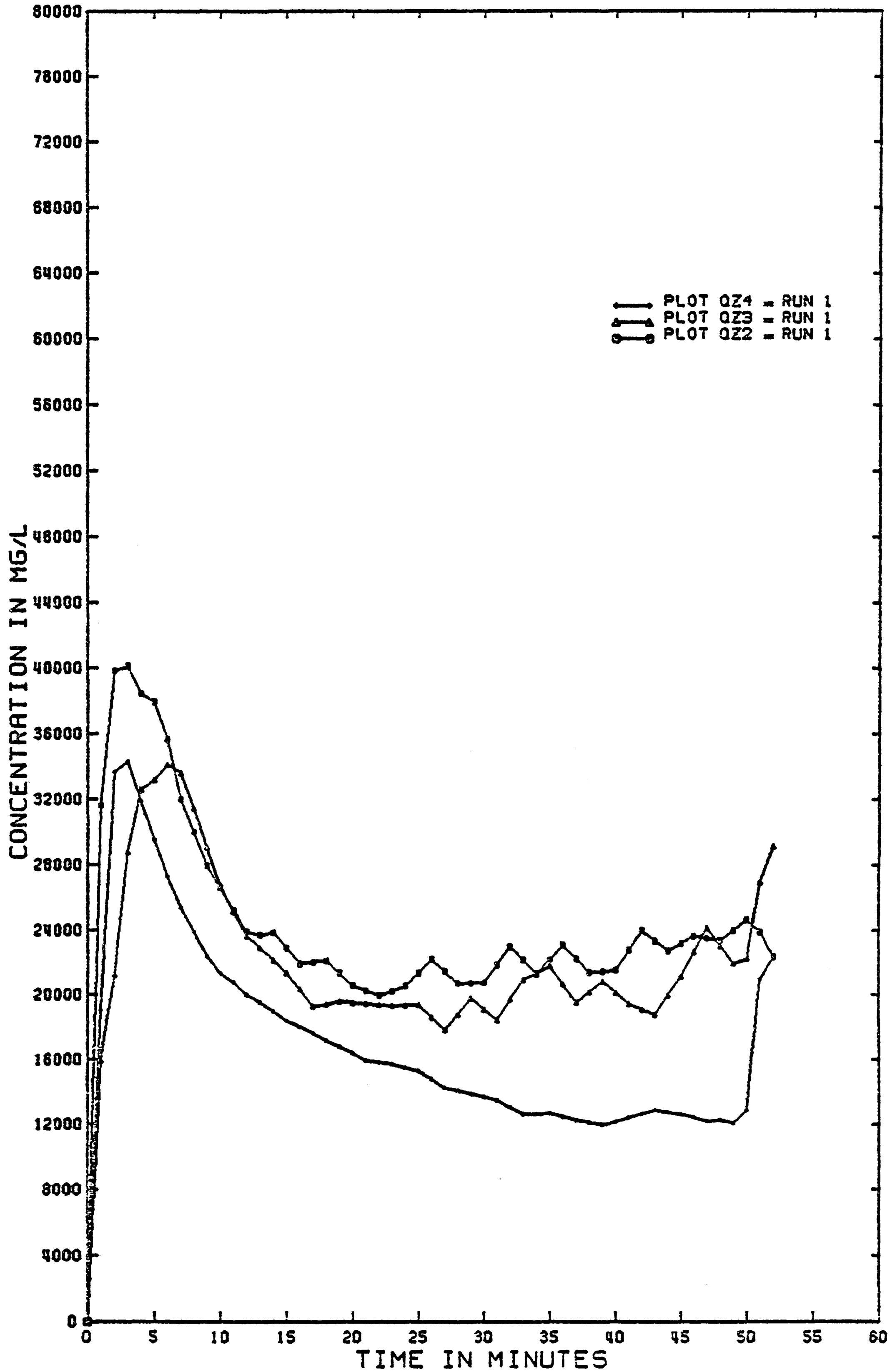


FIGURE 39. SEDIMENT CONCENTRATIONS FOR GLEN JEAN. RUN 1

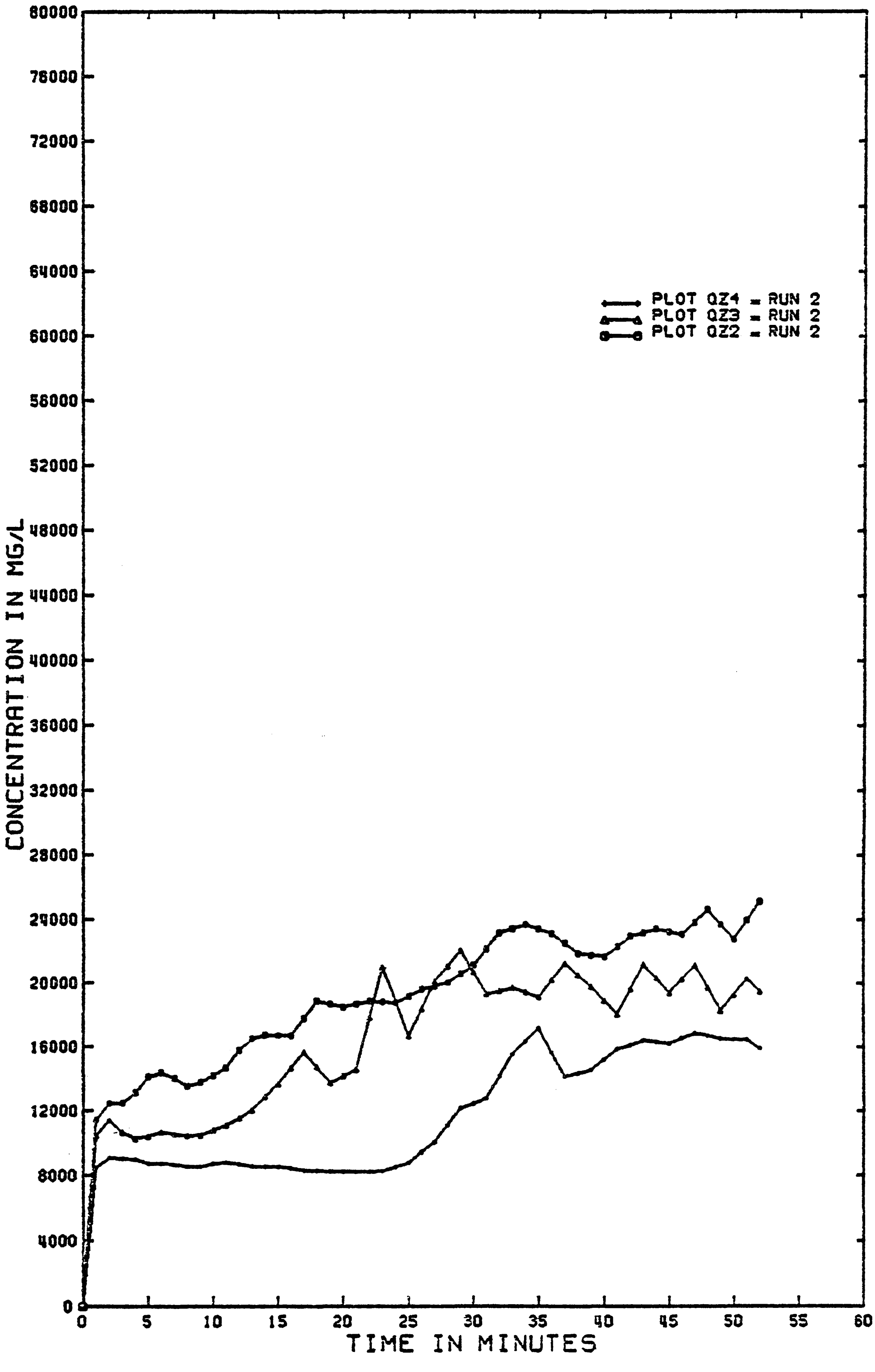


FIGURE 40. SEDIMENT CONCENTRATIONS FOR GLEN JEAN. RUN 2

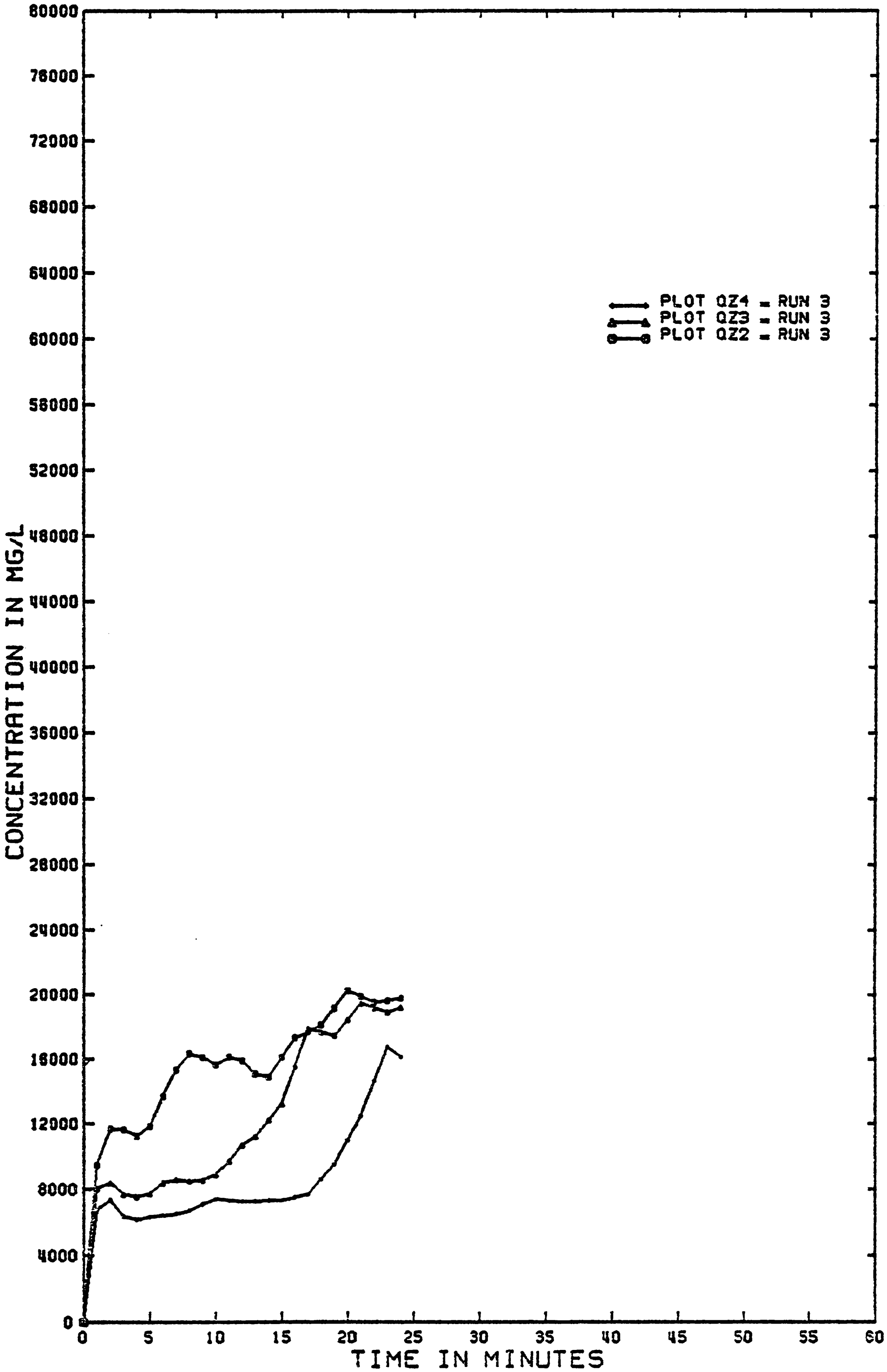


FIGURE 41. SEDIMENT CONCENTRATIONS FOR GLEN JEAN. RUN 3

Table 52: Variation of the Sample Concentrations Between Runs and Plots When Averaged Over All Tests for the Glen Jean Plots.

Plot	Run 1	Run 2	Run 3	Significant Variance
QZ2	a	b	c	*[1]
QZ3	a	b	c	*
QZ4	a	b	c	*

Run	Plot QZ2	Plot QZ3	Plot QZ4	Significant Variance
1	a	a	b	*
2	a	a	a	.
3	a	b	ab	*

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

Cumulative sediment loads for each test-run-plot combination were determined using the methods outlined in Chapter III. These data, for each plot-run combination, were averaged across tests for each time increment following the same procedures used in the previous analysis. The cumulative average sediment loads for each plot-run combination are given in Figures 42 - 44. Analysis of this data indicates that the soil loss from run 1 was significantly larger than the soil loss from runs 2 or 3. Little difference existed between the soil loss from runs 2 and 3. Inspection of Figures 45 -47 indicate that plot QZ2 had the largest soil loss.

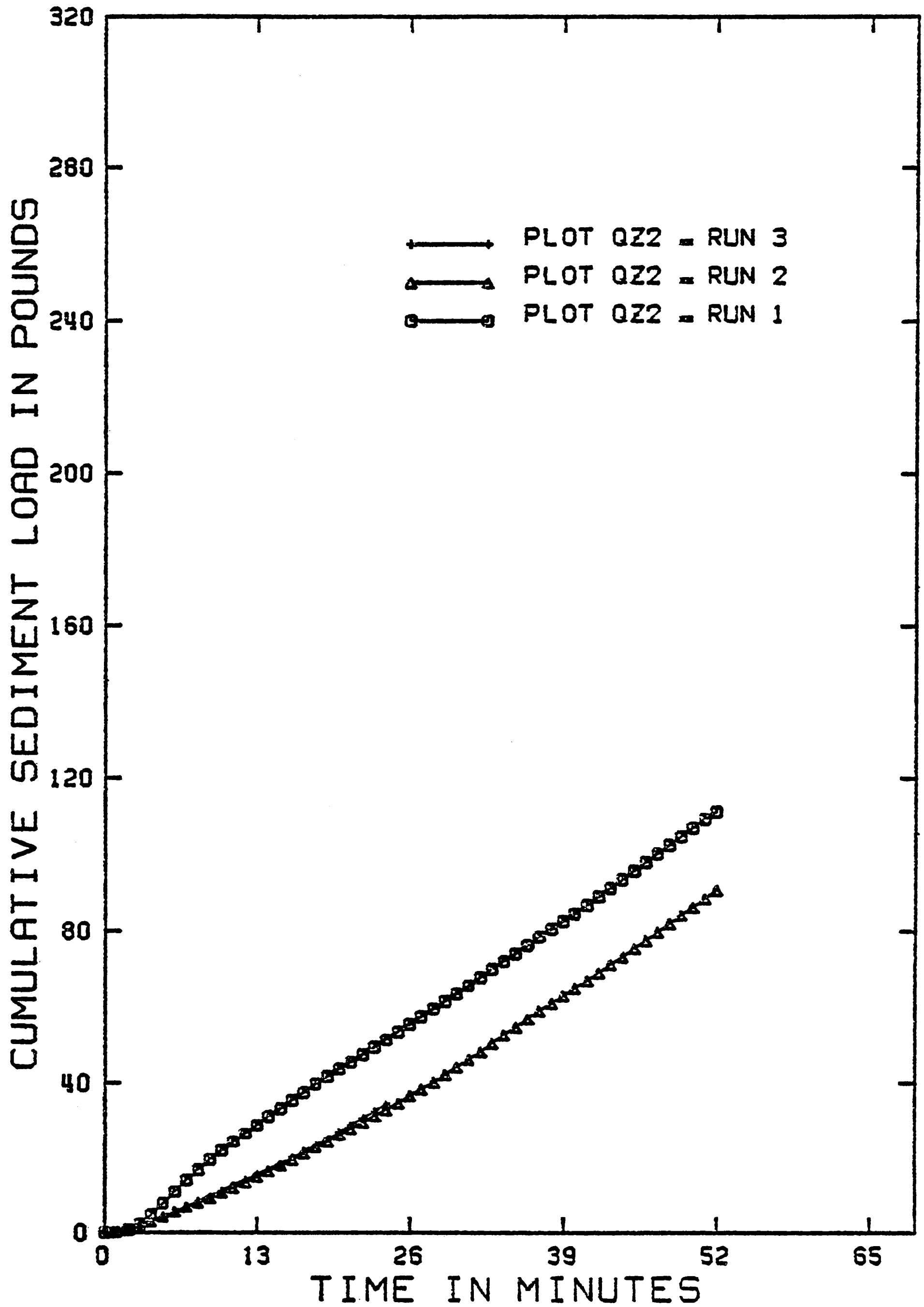


FIGURE 42. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR PLOT QZ2. GLEN JEAN, WEST VIRGINIA.

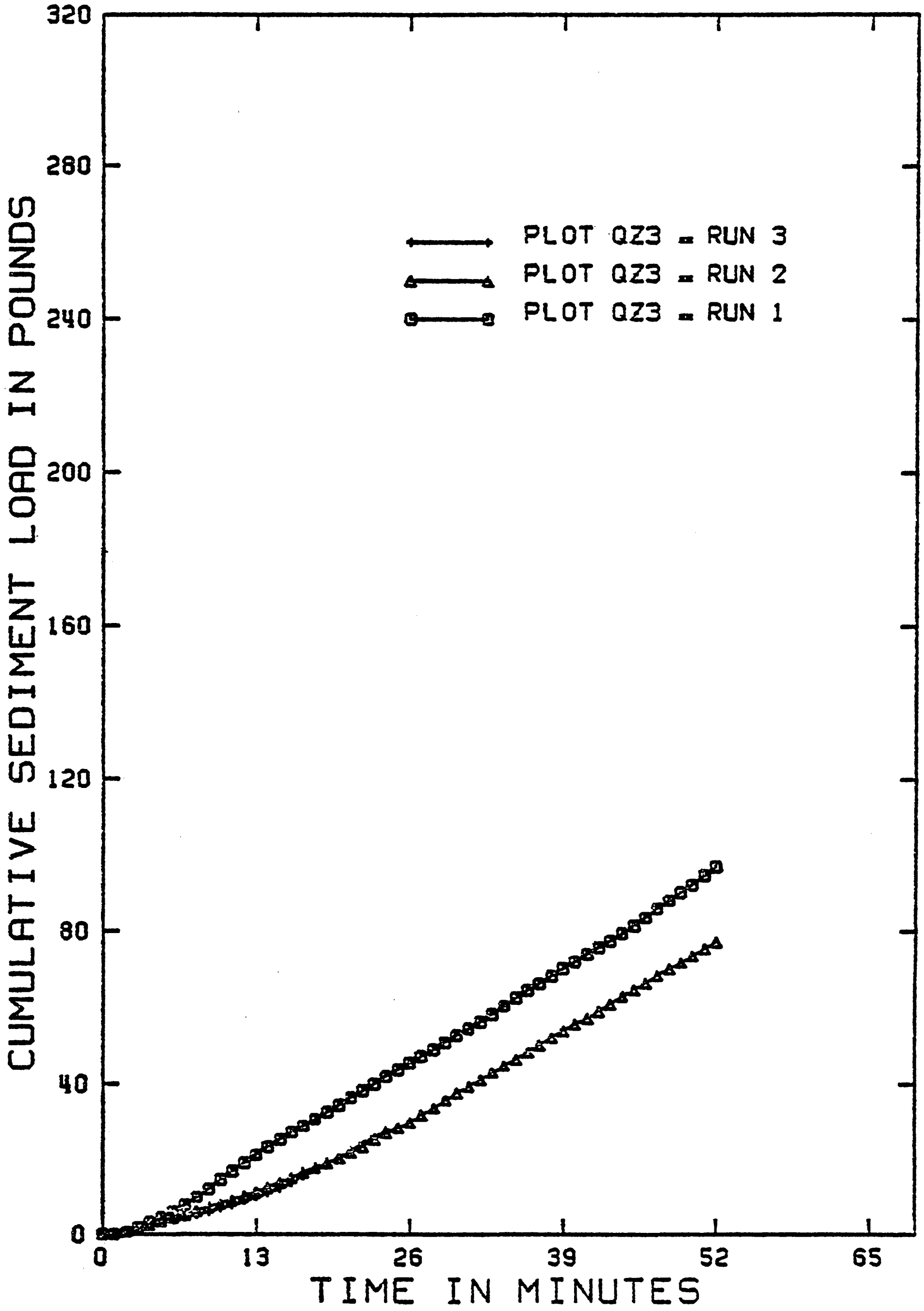


FIGURE 43. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR PLOT QZ3. GLEN JEAN, WEST VIRGINIA.

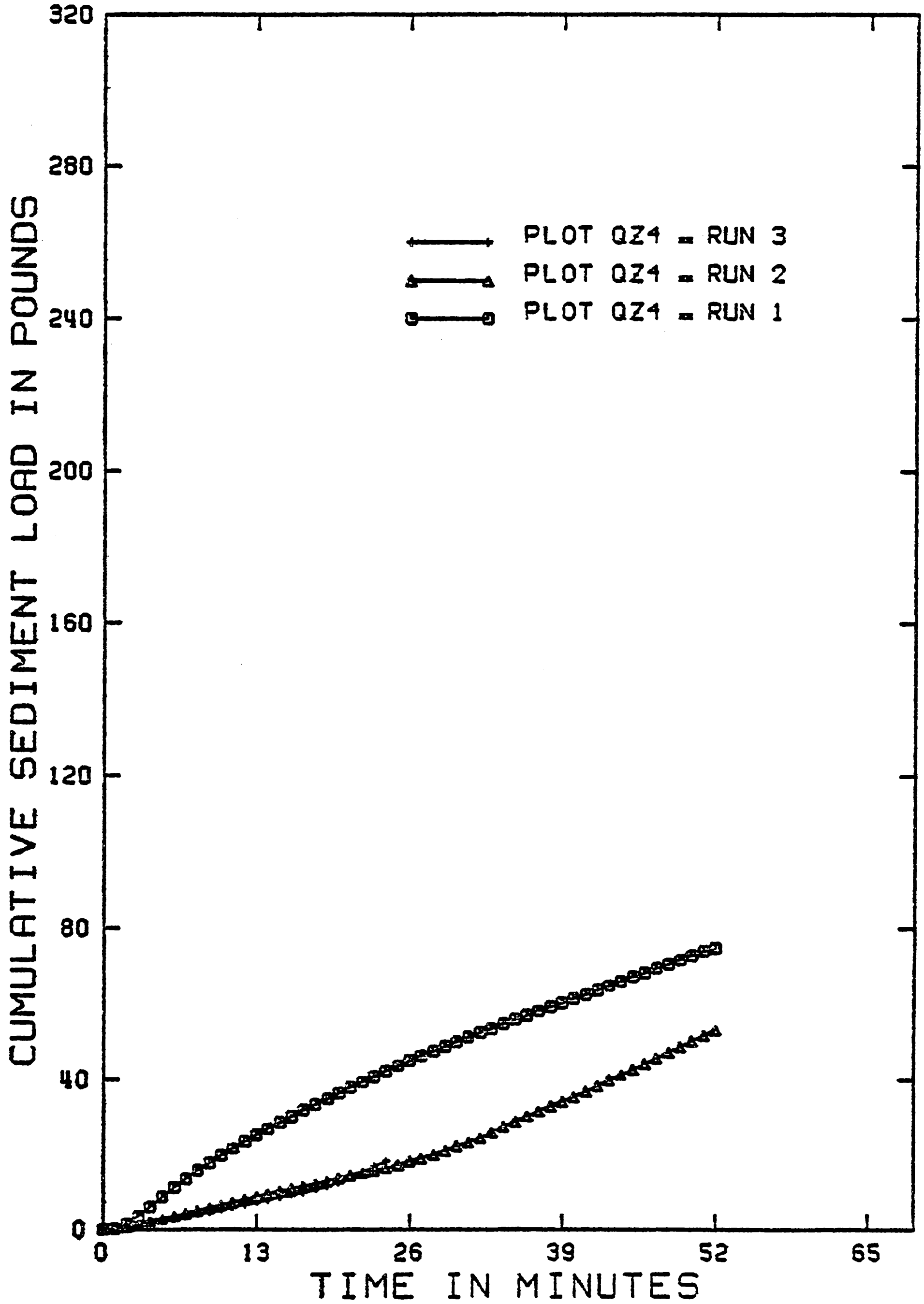


FIGURE 44. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR PLOT QZ4, GLEN JEAN, WEST VIRGINIA.

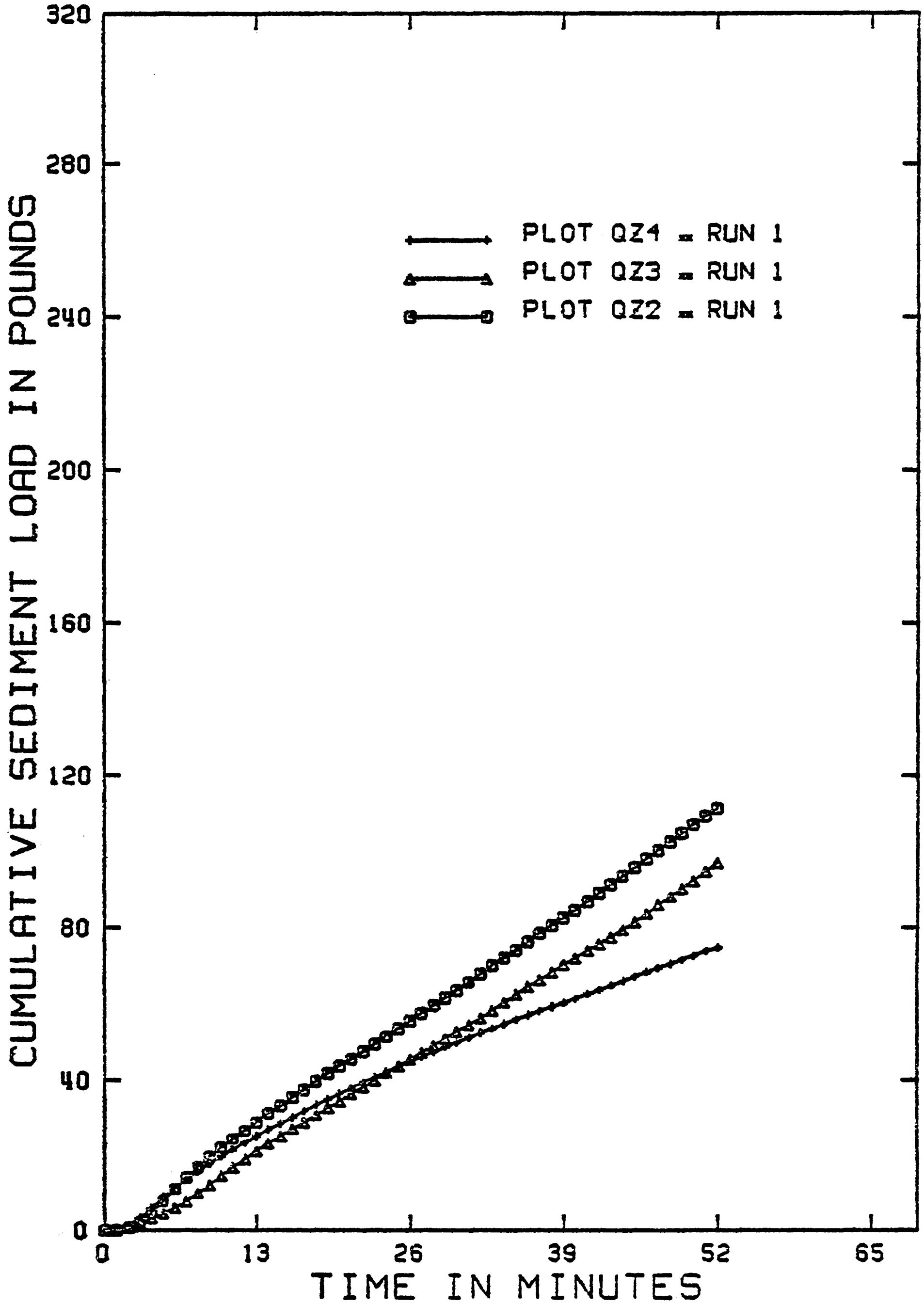


FIGURE 45. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR RUN 1. GLEN JEAN, WEST VIRGINIA.

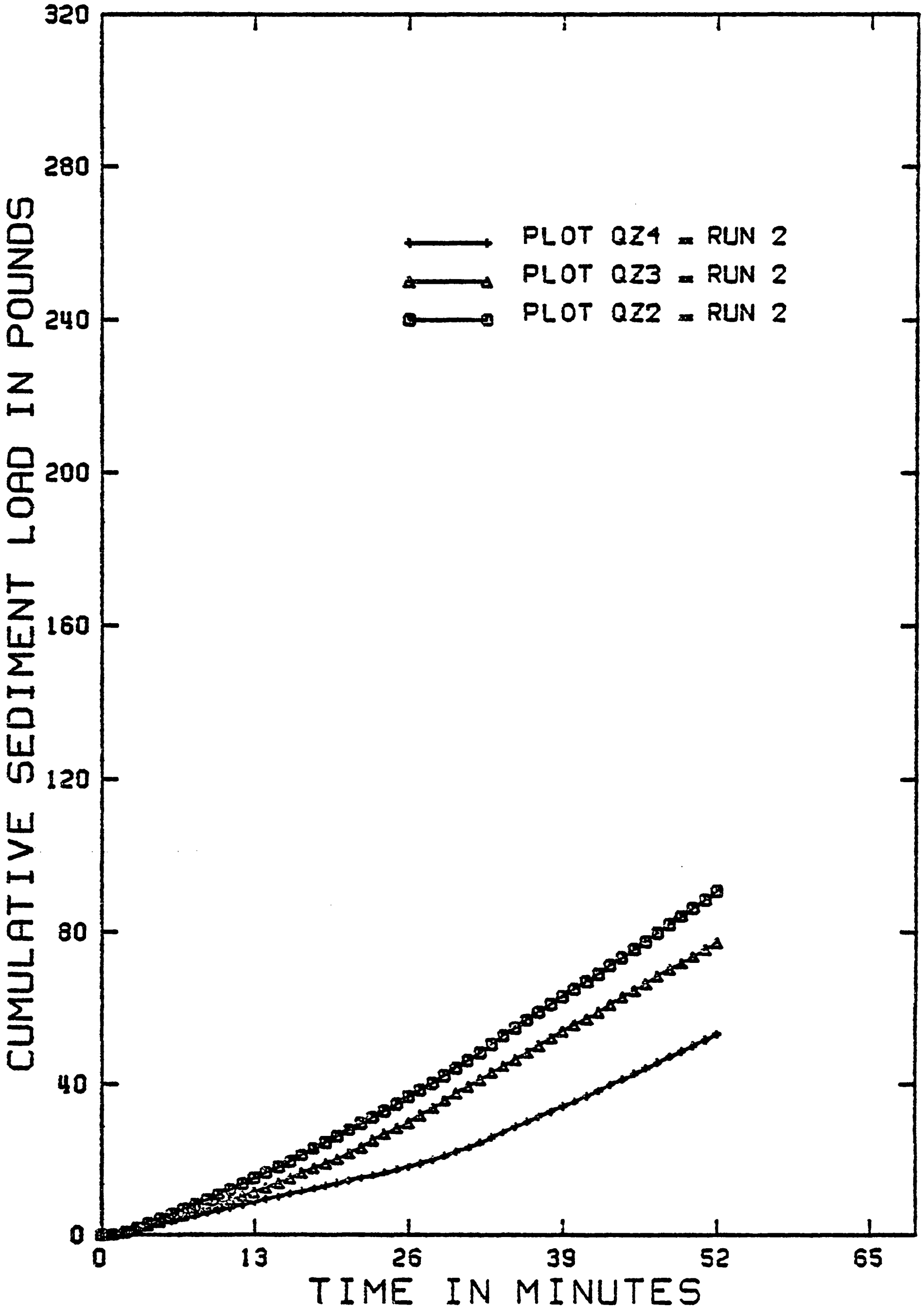


FIGURE 46. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR RUN 2, GLEN JEAN, WEST VIRGINIA.

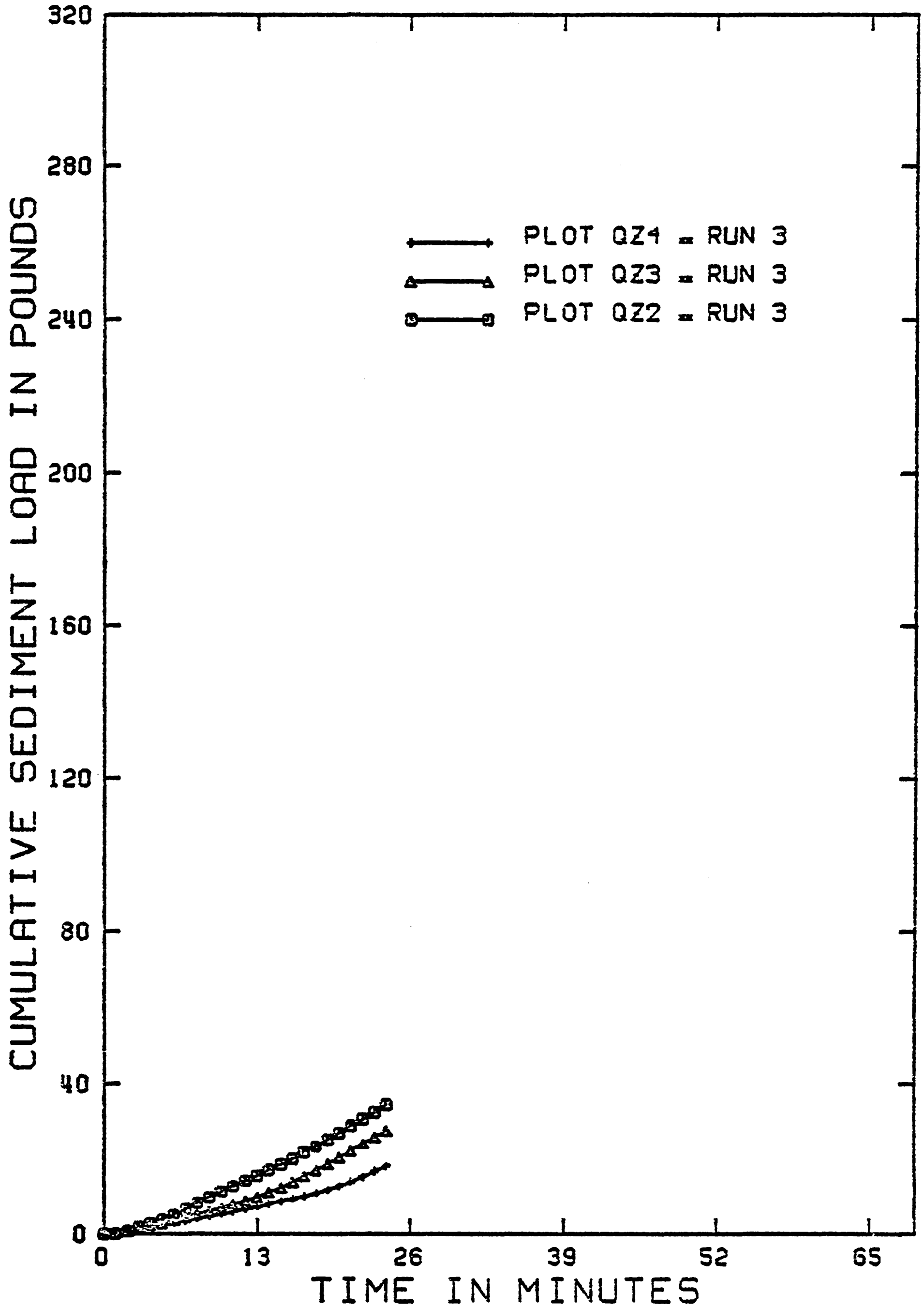


FIGURE 47. COMPARISON OF CUMULATIVE SEDIMENT LOADS FOR RUN 3. GLEN JEAN, WEST VIRGINIA.

5.5.2 Particle Size Distribution of the Surface Material

In an effort to quantify the effect of repeated tillage and rainfall on changes in the particle size distribution of material at the plot surface, samples from three plots at this site were analyzed to determine the relative percentages of rock material greater than 2-mm. A wet sieve analysis, ASTM Standards, 1981 was used to prevent small sandstone fragments, which react in the field as rocks, from being crushed during preparation. This is a common problem with the standard dry sieve analysis and can cause large errors when soft sandstone and shale fragments are present.

The data are presented in Table 53. When the before tillage and after tillage condition for each test-plot combination are compared, tillage appears to decrease the coarse fragments at the soil surface. This implies that fines are being brought to the surface by the tillage operation before the next test sequence, which consisted of three rainfall applications. The after tillage data for each test, across plots, show that the plots were reacting similarly before each test was preformed. A comparison of the data after tillage and the data collected after the three storms, also, suggest that the repeated rainfall applications increased the percentage of coarse fragments at the surface. These results suggest that a rock-mulching effect developed during each test. This was substantiated by field observations during testing. The variability of the data in Table 53 are consistent with the rapid changes observed during the field study.

Table 53: Percentage of Coarse Fragments at the Plot Surface for the Glen Jean Plots.

Test	Condition	Plot QZ2 (%)	Plot QZ3 (%)	Plot QZ4 (%)
1	Before Till[1]	35.5	56.2	32.1
	After Till	38.6	42.9	40.9
	After 3 Storms	57.8	43.5	45.2
2	Before Till	57.8	43.5	45.2
	After Till	45.2	47.1	39.1
	After 3 Storms	32.1	32.5	36.9
3	Before Till	32.1	32.5	36.9
	After Till	21.0	27.1	34.8
	After 3 Storms	32.7	37.3	38.1
4	Before Till	32.7	37.3	38.1
	After Till	30.0	28.4	36.9
	After 3 Storms	27.3	31.5	34.1
Average	Before Till	39.5	42.4	38.1
	After Till	33.7	36.4	37.9
	After 3 Storms	37.5	36.2	38.6

[1] Data were determined by wet sieving.

5.5.3 Particle Size Distribution of the Eroded Material

One of the major factors used in the design of sediment control facilities is the particle size distribution of the incoming sediment loads. These distributions control the potential travel distance and settling time for each size class of soil. Soil samples from each plot surface for Test 1 were analyzed to identify general trends and are summarized at the top of Table 54. The complete data base for this summary table is given in Appendix C, Section 7.

Analysis of the data for the surface material indicate that the particle size distribution for the three plots were reasonably uniform before and after each test. Due to repeated rainfall and erosion, the data indicates that sand percentages increased while silt percentages decreased. This suggests that the smaller size fractions were eroded more rapidly than the sands.

Soil samples for each plot-run combination were taken from aliquot samples and material deposited in the flume approaches. These samples were analyzed to identify general trends. These data are presented at the bottom of

Table 54. Analysis of the suspended sediment from the aliquot samples revealed that the majority of the suspended (aliquot) material for the first two runs was silt. The third run had a fairly even distribution of sand and silt with low clay contents. The percentage of clay present in the samples decreased with repeated rainfall application.

The composited samples from the material deposited in the approach flume were significantly different from the suspended samples. As expected, much higher percentages of sand were found in the deposited material. For each set of plot-run combinations, the percentages of sand increased while the percentage of silt and clay decreased with successive runs.

Table 54: Particle Size Distribution for Test One for the Glen Jean Plots.

	Plot	Run	> 2mm (%)	Sand (%)	Silt (%)	Clay (%)
Surface Samples [1]						
Before Test	QZ2		20.96	64.0	23.7	12.3
	QZ3		48.55	63.2	24.7	12.1
	QZ4		36.26	63.7	24.7	11.5
After Test	QZ2		40.01	66.3	23.5	10.2
	QZ3		43.65	65.4	21.7	12.8
	QZ4		29.77	64.4	22.3	13.3
Transported Material [1]						
Suspended Sediment	QZ2	1	0	22.9	51.6	25.6
		2	0	5.0	71.7	23.3
		3	0	51.5	32.4	16.1
	QZ3	1	0	10.0	56.8	33.2
		2	0	38.1	37.6	24.3
		3	0	43.6	36.9	19.5
	QZ4	1	0	31.7	30.2	38.1
		2	0	10.8	54.4	34.8
		3	0	36.8	39.3	23.9
Flume Deposition	QZ2	1	0	77.6	13.9	8.5
		2	0	83.0	9.6	7.3
		3	0	87.3	8.9	3.8
	QZ3	1	0	76.7	13.9	9.5
		2	0	83.7	9.6	6.7
		3	0	87.3	6.9	5.8
	QZ4	1	0	66.7	23.9	9.4
		2	0	81.3	10.4	8.2
		3	0	88.4	6.8	4.8

[1] Data analyzed by the Physical Characterization Laboratory. Dry sieve method used.

5.5.5 Summary

The level of sediment concentration in the runoff was significantly higher for the tilled-dry conditions while the soil loss was relatively stable during the wet and very wet runs. Sediment concentrations peaked early in run 1 and decreased with time. There is considerable variation in sediment loads with time for each run-plot combination. This is probably due to rill formations during each storm.

Particle size analysis of soil samples from the plot surface showed that repeated tillage increased the percentage of fine material. Repeated rainfall applications removed these fines and increased the percentage of coarse fragments at the plot surface. This produced a rock-mulching effect within each test.

A particle size analysis of the material from the aliquot samples showed that a wide range of particle sizes were removed during each test. The suspended sediment (material passing through the flume) consisted mainly of silt for the first two runs with fairly even percentages of sand and silt during the third run. The material deposited in the flume consisted mainly of sand. The percentage of silt and clay decreased while the percentage of sand increased with repeated rainfall application.

Chapter VI

Comparison of Sullivan and Glen Jean Sites

The purpose of this chapter is to compare the results obtained at the Sullivan and Glen Jean sites. The section includes a discussion of the field plot characteristics, rainfall characteristics, soil loss characteristics and soil particle size distribution characteristics.

6.1 Plot Characteristics

Soil descriptions for each site are given in Chapters IV and V for Sullivan and Glen Jean, respectively. These data show that the soils at both sites had blocky, massive structures and moderate permeabilities. Sullivan was classified as a silt silt-loam with a high percentage of silt + very fine sand (67 percent) and an approximately even percentage of sand (28 percent) and clay (22 percent). The organic matter (OM) at the Sullivan site averaged 0.70 percent. Glen Jean was classified as a sandy loam with high percentages of silt + very fine sand (40 percent), total sand (64 percent) and low percentages of clay (10 percent). The organic matter (OM) at this site averaged 0.64 percent. Both sites were topsoiled with the upper layers being strongly acidic and low in plant-available nutrients. The lower layers were, in general, darker with a higher percentage of coarse material and exhibited higher soil pH and plant-available nutrients. These data were used to predict site K-values based on Wischmeier's nomograph. The results are presented in Section 6.3.

6.2 Rainfall Characteristics

Storm EI-factors were computed as outlined in Chapter III and were presented in Chapters IV and V for the Sullivan and Glen Jean sites, respectively. The data showed that, in general, little significant variation occurred between plots within runs at each site. Where significant variations occurred, wind effects and changes in system configuration were considered the major cause. The data for the statistical analysis has been presented in Table 55. These data show that there was no significant difference by run between the storm EI for each site. This suggests that variations in storm EI pooled by run, should have little effect on the comparisons of K between sites. These data were then pooled across all runs to examine the overall variability of the storm EI between sites. These data, presented in Table 55 (All), show that Sullivan had a significantly lower storm EI average than Glen Jean. This can be attributed to differences in slope (16-percent at Sullivan, 9-percent at Glen Jean) and/or system configuration (pump above plots at Sullivan, pump below plots at Glen Jean).

In an effort to quantify the affects of the slope and configuration, average intensities were determined from the data in Appendix B and C, Section 4 for each sampling location (Figure 11) at each site. A summary of these data has been presented, by position, in Table 56. Statistical analysis was performed to determine where significant differences occurred within each site. The results from this analysis has been summarized in Table 57. These data show that there was significant variation in intensity within the plots at Sullivan. Observed intensities were low at the top of the plot with intensities increasing significantly from top to bottom. Further analysis showed no significant differences in intensities within the plots at the Glen Jean site. This indicates that the rainfall distribution within the plots were much more uniform at the smaller slope. Statistical analysis of the "All" values found in Table 57 indicate that Glen Jean had a significantly higher application rate which is consistent with the results based on an analysis of the storm EI-data.

Table 55: Comparisons of the Storm EI Values Between Sites.

Run	Site: Sullivan	Site: Glen Jean	Significant Difference
1	9.14	10.34	
2	8.76	9.91	
3	9.97	10.30	
All	9.35	10.30	*[1]

[1] indicates that there is a significant difference between sites. Test Level = 0.05.

Table 56: Rainfall Intensity by Sampling Location for Each Site.

	----------Site----------	
Position	Sullivan (in/hr)	Glen Jean (in/hr)
1	1.83	2.19
2	2.04	2.17
3	2.08	2.19
4	2.13	2.22
5	2.14	2.24
6	2.18	2.21
7	2.23	2.14
All	2.09	2.19

Table 57: Variation of the Rainfall Intensity by Sampling Location for Each Site.

	Position in Plot						
Site	1	2	3	4	5	6	7
Sullivan	e	d	cd	bcd	bc	ab	a [1]
Glen Jean	a	a	a	a	a	a	a

Range Sullivan 1.83 - 2.23

Range Glen Jean 2.14 - 2.24

[1] Differences between letters on the same line indicate a significant difference between the measured values using Duncan's Multiple Range at a Test Level of 0.05.

6.3 Soil Loss Characteristics

The erodibility index was computed as outlined in Chapter III and presented in Chapters IV and V for Sullivan and Glen Jean, respectively. These data were pooled, by run, for each site and the resulting means were tested to determine if significant differences between sites existed. A summary of this data is presented in Table 58. The data showed that there was no significant difference for the dry-tilled conditions (run 1) between sites. Further analysis, also, show that Glen Jean had a significantly higher K for the wet and very wet conditions (runs 2 and 3). It is apparent from the data that K decreased with repeated rainfall applications for the silt silt-loam soil at Sullivan, and remained relatively constant with repeated rainfall applications for the sandy loam soil at Glen Jean. Average K-values for each site were determined by pooling the data across all runs. This data is presented in Table 58 and show that the soil at Glen Jean was significantly more erosive than the soil at Sullivan.

One of the objectives of this study was to determine how existing methods used to predict K compared with the values determined in the field experiments. Based on the data presented in Section 6.1, Wischmeier's nomograph (Figure 1) was used to predict K for each site. The results are presented at the bottom of Table 58. Analysis of the data indicates that Wischmeier's prediction for Sullivan (silt silt-loam) under estimated K for both the dry-tilled condition and the average condition, while overestimating K for the very wet (run 3) condition. For the Glen Jean site (sandy loam), the Wischmeier estimate of K was grossly underestimated for all conditions. The Roth-Romkens method for estimating K was not used because it was developed for use on high clay-heavy textured soils. Because both of the soils tested were low in clay content the applicability of this method was not evaluated.

Table 58: Comparisons of the Soil Erodibility Values for Each Site.

Run	Site: Sullivan	Site: Glen Jean	Significant Difference
1	.577	.688	
2	.373	.751	*[1]
3	.275	.766	*
All	.408	.735	*
Wischmeier	.370	.380	

[1] indicates that there is a significant difference between sites at the Test Level = 0.05.

Rainfall energy or the individual storm EI-factor represents one of the most difficult variables to quantify in erosion studies. In this study, the storm EI-factors were dependent on the system calibration as outlined in Chapter III. In an effort to show the effect that the system calibration had on reported storm erodibility values, the design rainfall distribution and kenetic energy values (Table 1) were increased and decreased by 10 percent and the K-values for test 1 at Glen Jean were calculated. The results are presented in Figure 48. These data show that the K-index was linearly dependent on the system calibration. It should be noted, however, that the relative comparisons within this report are not affected because errors should be consistent throughout. Since the system calibration was based on standard methods outlined in the literature, relative comparisons can be made between the data presented in this report and similar research results.

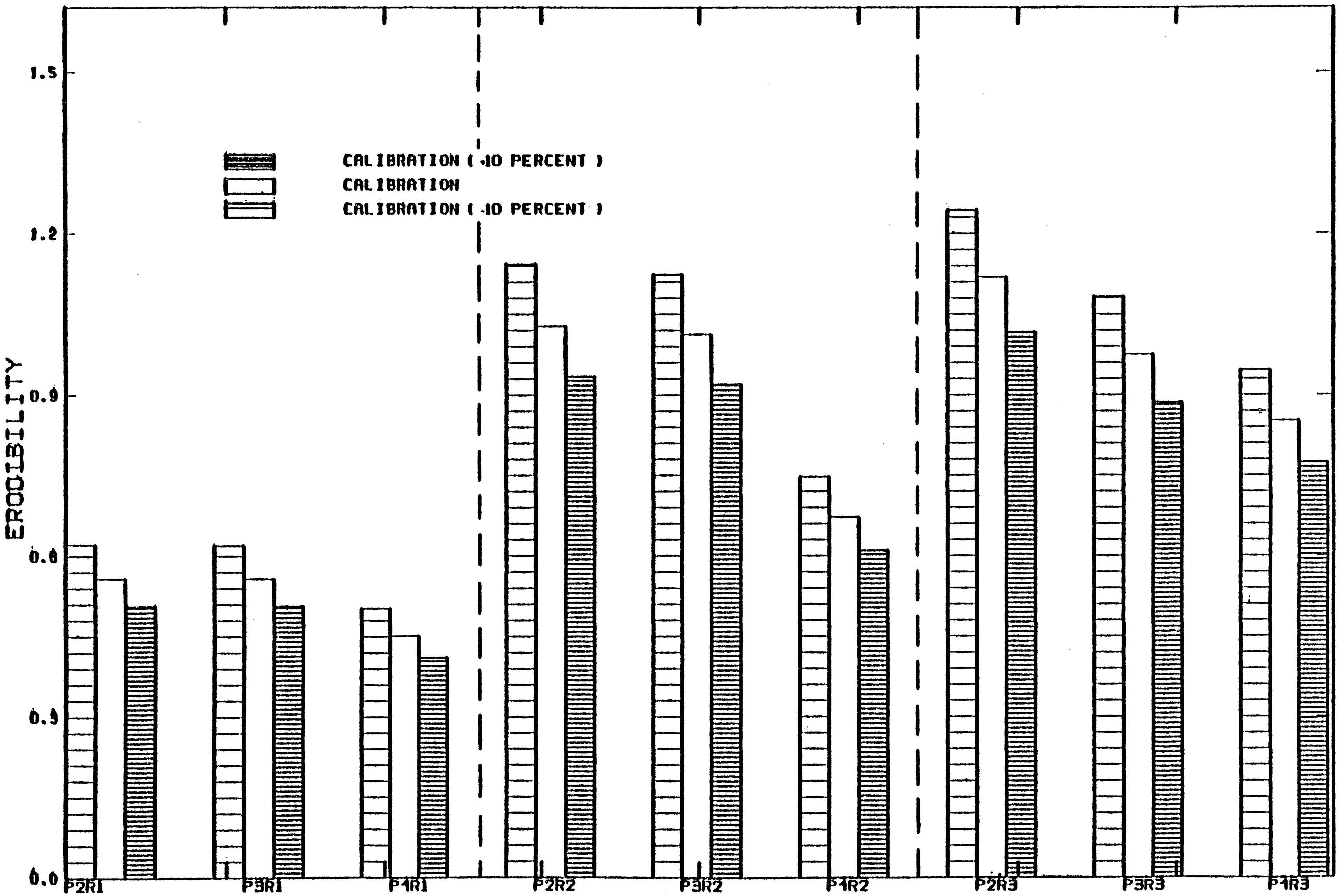


Figure 40: Sensitivity Analysis of the System Calibration

6.4 Eroded Material Characteristics

Sediment concentrations from the aliquot samples were computed as outlined in Chapter III and presented in Chapters IV and V for Sullivan and Glen Jean, respectively. In an effort to determine where differences occurred between sites, sediment concentrations were averaged for each time increment by run as outlined in Section 4.5.1. These data are presented in Figures 49-53. Linear regression was used to determine the slope of each sediment concentration curve, and statistical analysis was preformed on these slopes after steady state discharge had been reached. The results from the statistical analysis are summarized in Table 59.

The results in Figure 49 for the Sullivan site show that run 1 values are much higher than either runs 2 or 3, implying that the concentrations decrease with repeated rainfall applications. The results in Figure 50 for the Glen Jean site show that the sample concentrations are much higher for run 1 and that all three runs reached a relatively steady state condition at the end of each storm. The data in Figures 51-53 and Table 59 show that significant differences occurred in the concentration values between sites for each run. It should be noted that the concentrations at the Sullivan site were always higher, which was due, in part, to the steeper slope. In general, the changes in sediment concentrations with time followed the same trends, by run, for both sites.

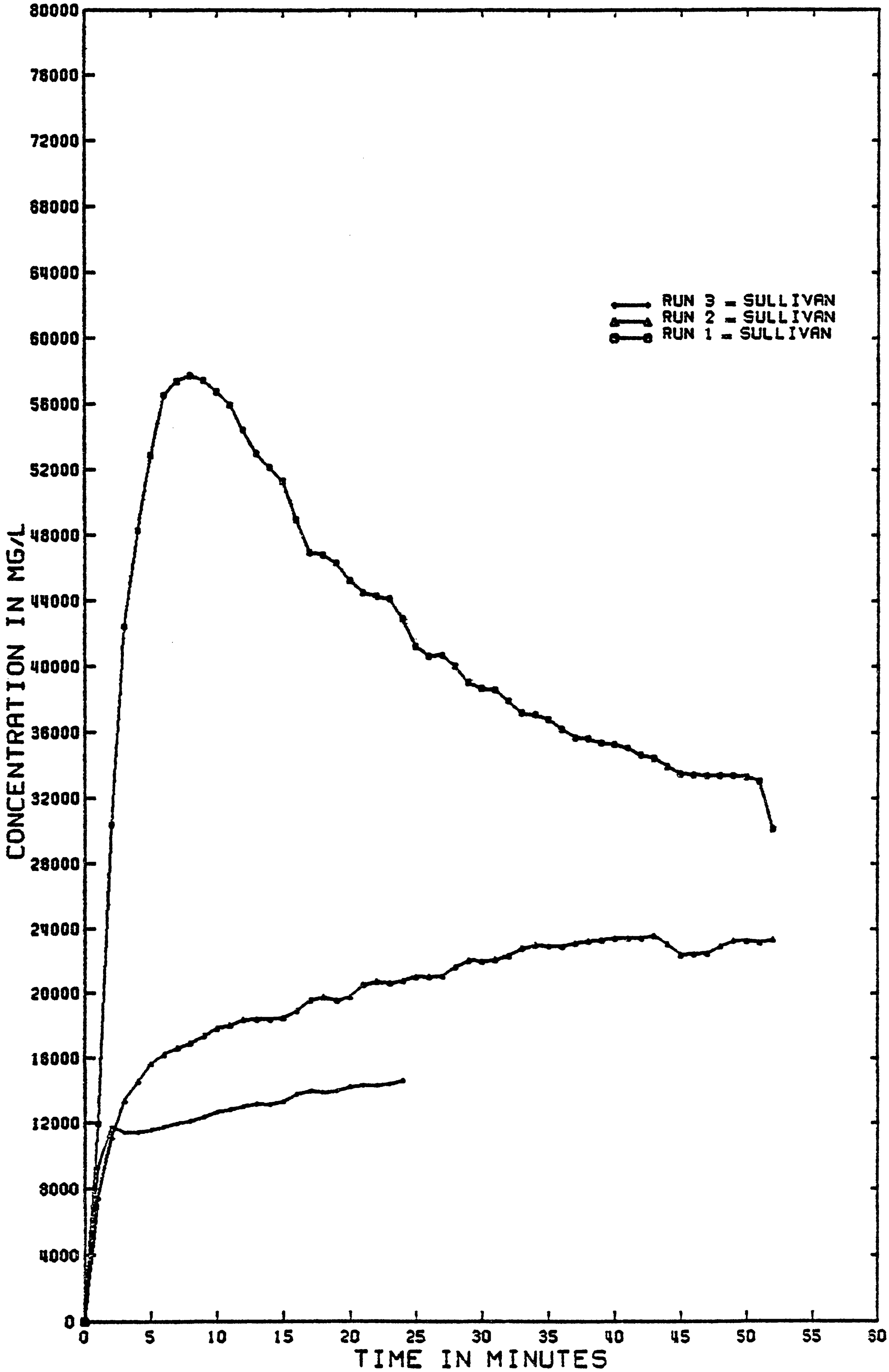


FIGURE 49. SEDIMENT CONCENTRATIONS FOR RUN AVERAGES SULLIVAN

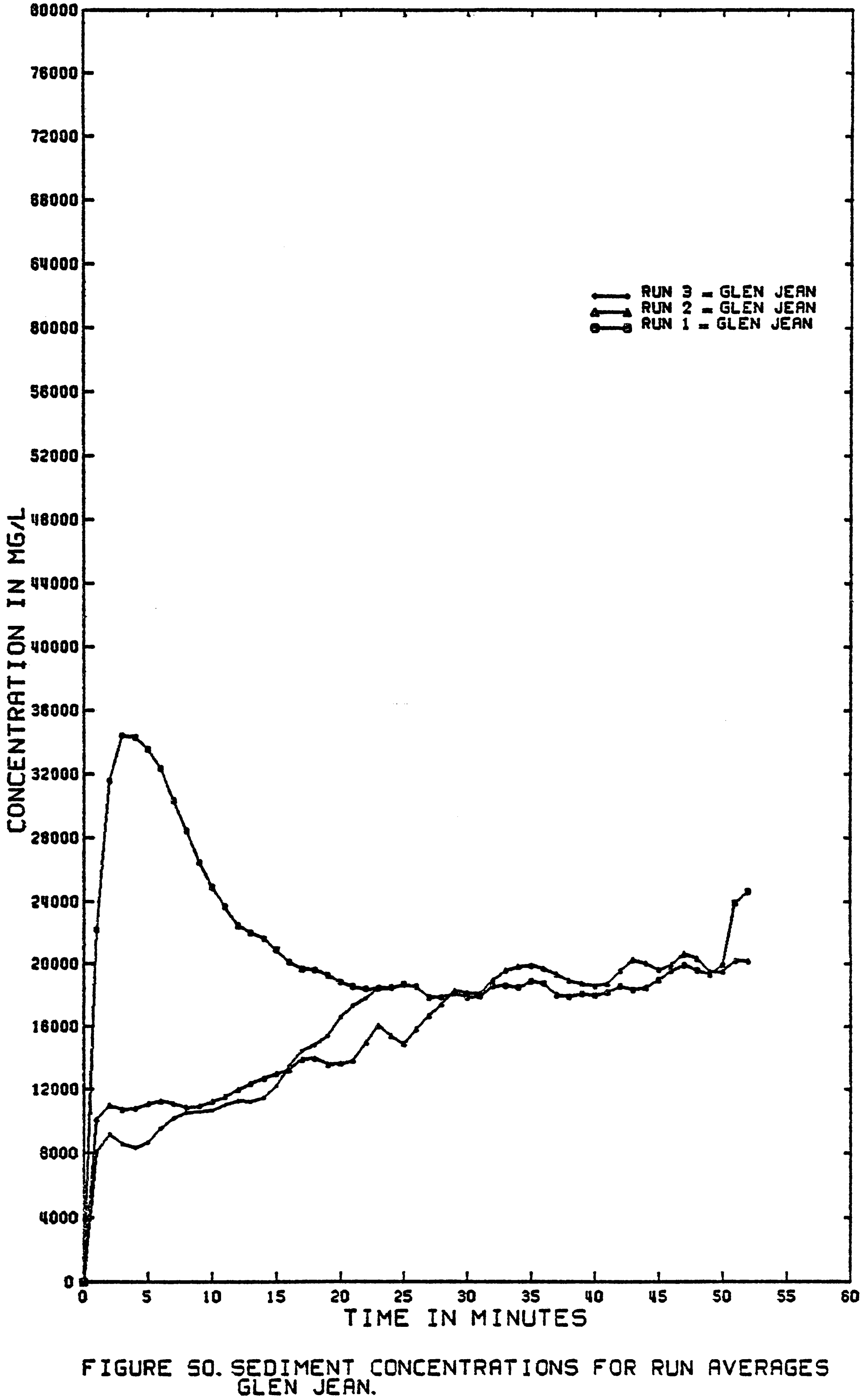


FIGURE 50. SEDIMENT CONCENTRATIONS FOR RUN AVERAGES GLEN JEAN.

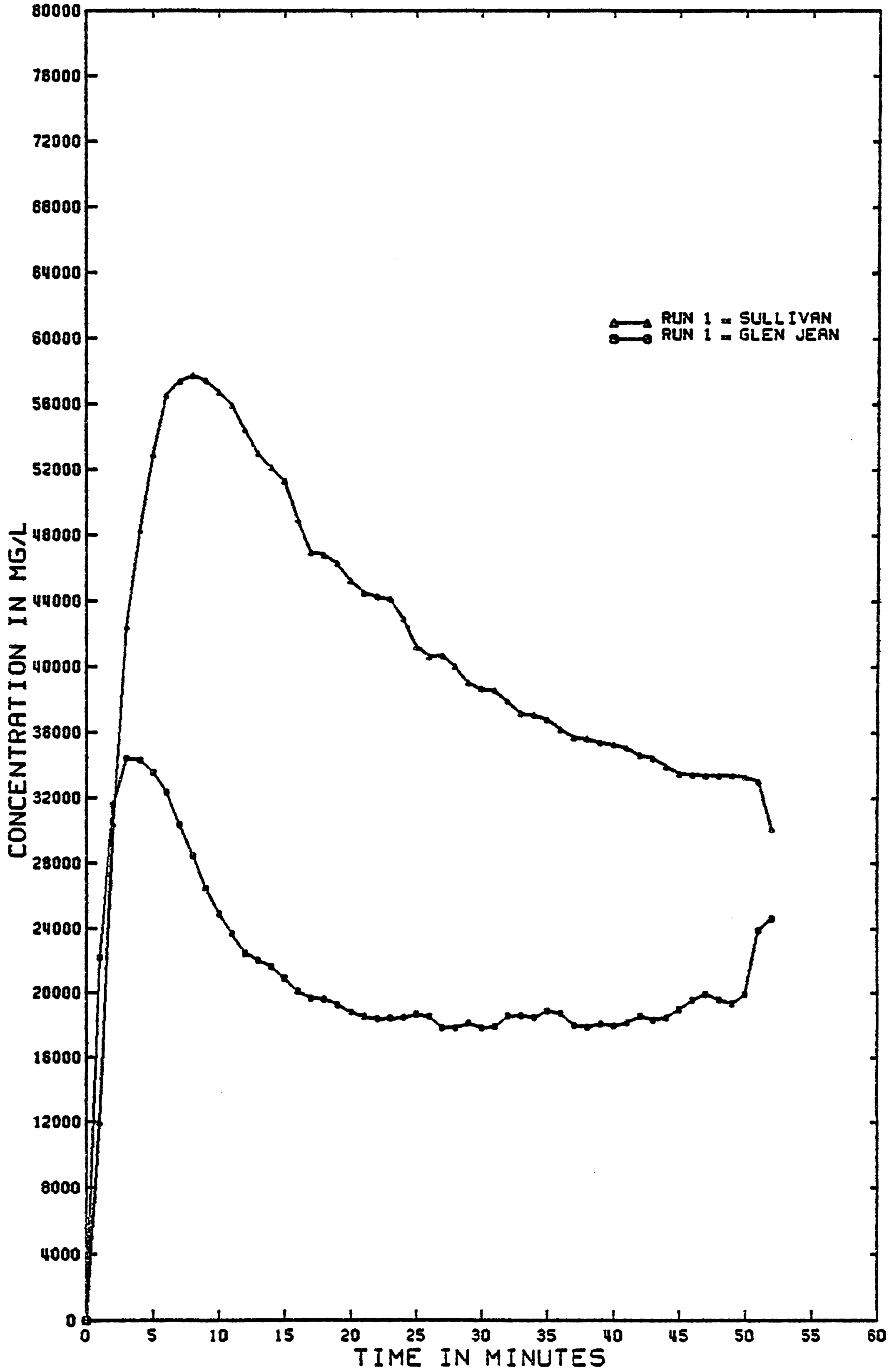


FIGURE 51. SEDIMENT CONCENTRATIONS FOR RUN 1 AVERAGES BOTH SITES.

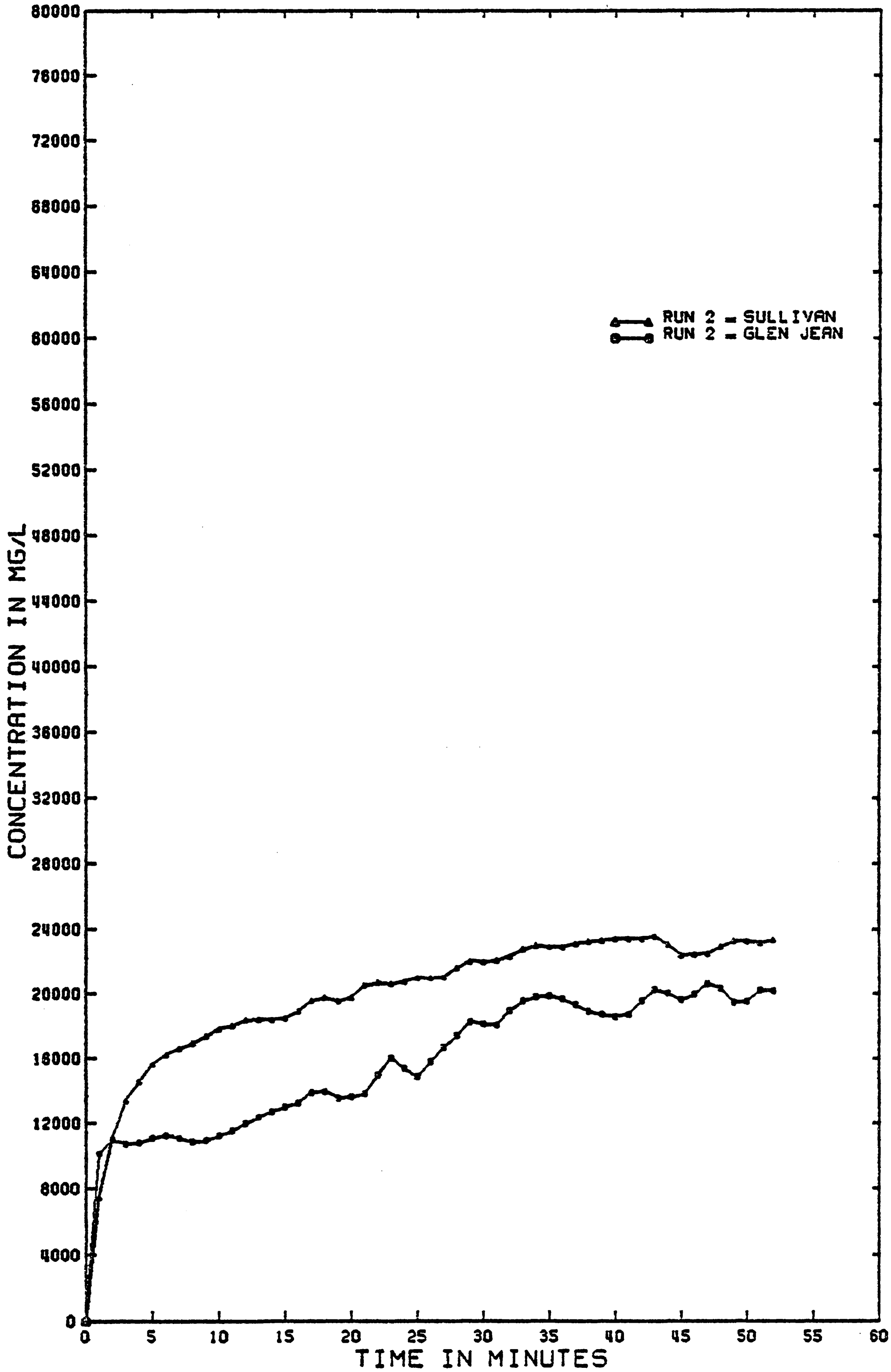


FIGURE 52. SEDIMENT CONCENTRATIONS FOR RUN 2 AVERAGES BOTH SITES

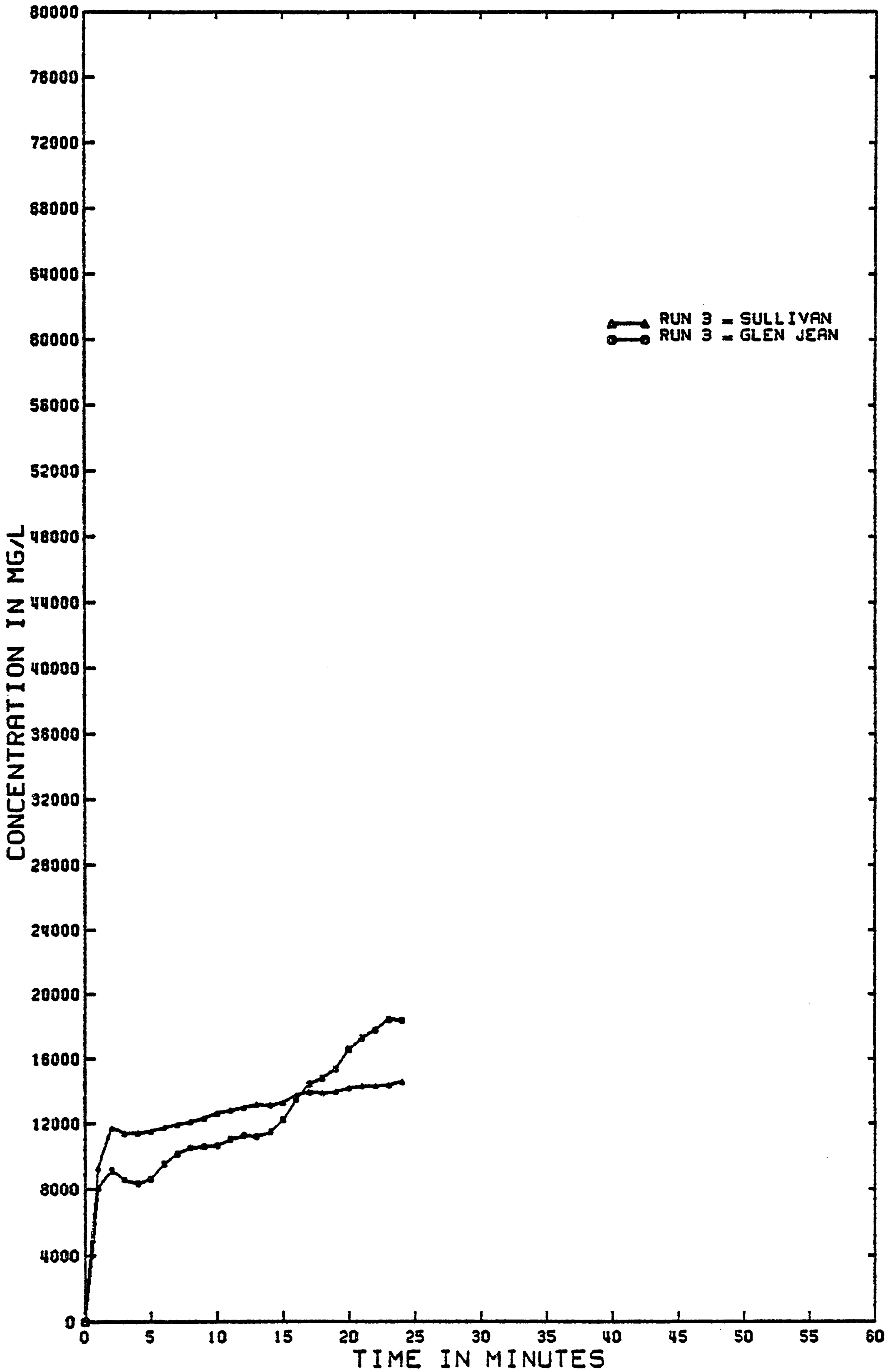


FIGURE 53. SEDIMENT CONCENTRATIONS FOR RUN 3 AVERAGES BOTH SITES

Table 59: Variation of the Run Averaged Sediment Concentration Curves for Both Sites.

	Site		Significant
Run	Sullivan	Glen Jean	Difference
1	a	b	*[1]
2	a	b	*
3	a	b	*

[1] * indicates that there is a significant difference between sites. Test Level = 0.05.

Analysis of the surface samples for percentage of coarse fragments, Tables 27 and 53, showed that at both sites the tillage operation brought fines to the surface. Repeated rainfall applications caused a rock-mulching effect within a test at both sites. Analysis of the particle size distributions of the aliquot samples in Tables 28 and 54, show that the suspended sediment from the aliquot samples consisted mainly of silt and clay while the majority of the sediment deposited in the flume was sand. The silt silt-loam soil at Sullivan had higher percentages of silt while the sandy loam had higher percentages of sand in both the aliquot and flume samples. Coarse fragments were moved from the Sullivan site, due to the steeper slope. In general, the percentage of silt and clay decreased while the percentage of sand increased with repeated rainfall applications.

Chapter VII

Summary and Conclusions

Detailed data bases were developed for two distinctly different mine soils. The data bases included SCS descriptions of each soil layer, particle size distributions, chemical properties and desorption characteristics of the surface materials. From these data, the two soil types were classified as a silt silt-loam and a sandy loam. Both soils were acidic, low in plant-available nutrients, organic matter and had moderate permeabilities. Both sites were considered to be topsoiled with the lower layers being darker, coarser and exhibited higher soil pH and plant-available nutrients.

Rainfall distribution data were collected to evaluate the performance of the Virginia Tech portable rainfall simulator and to quantify the affects of application variations on soil loss. Significant variations existed between sites and between runs in a test. Most importantly, however, little variation was found between rainfall applications on the three plots for each particular simulator run. Significant variations were attributed to changes in wind direction and system configuration. Differences in slope effected application rates within a plot. Increased slope resulted in lower application rates at the top with higher rates at the bottom of the plot. Increased slope, also, significantly decreased the average rainfall application rates.

Storm erosivity factors were computed based on recorded rainfall application rates and the system calibration. Individual storm EI-factors were determined so that observed soil loss could be modified to include the effects of variations in plot rainfall application rates. The EI-factors followed the same general trends as the rainfall distributions. These values, also, compared favorably with results reported in the literature for similar types of rainfall simulators.

Soil loss was determined based on the dry weights of the soil material deposited in the approach flumes and the soil material from the aliquot samples. Soil loss values were adjusted to the standard 9-percent, 72.6-foot long field test plot, based on methods reported in the literature. The adjusted soil loss data ranged from 1.7 to 6.9 tons per acre for the silt silt-loam soil and from 3.1 to 10.8 tons per acre for the sandy loam soil. Soil loss values followed the same general trends as the rainfall applications.

Storm erodibility indexes were determined based on the interaction of the soil loss and rainfall application rates. When these values were compared for the dry-tilled condition, the wet condition and the very wet condition the K-values followed the same trends as the adjusted soil loss data except when significant variations in either application rates or initial soil moisture occurred. Erodibility values for the silt silt-loam soil (Sullivan) decreased with successive rainfall applications. The average values were 0.577, 0.373 and 0.275 for run 1, run 2 and run 3, respectively. The site average for all runs was 0.408. Erodibility values for the sandy loam soil (Glen Jean) remained relatively constant with successive rainfall applications. The average values were 0.688, 0.751 and 0.756 for runs 1, 2 and 3, respectively. The site average was 0.735. The sandy loam was significantly more erosive than the silt silt-loam.

Soil erodibility values for each of these soil types were predicted based on soil properties and Wischmeier's nomograph. Predicted K for the silt silt-loam (Sullivan) was 0.370. This value underestimated both the observed run 1 and the average value while overestimating the run 2 value. The predicted K for the sandy loam (Glen Jean) was 0.380. This value underestimated the observed values for all conditions.

The greatest sediment losses occurred during run 1.

The rate of soil loss peaked early in the run (approximatly 10 minutes) and then steadly decreased. For the silt silt-loam soil (Sullivan), the sediment concentrations decreased with repeated rainfall applications. For the sandy loam soil (Glen Jean), the sediment concentrations approached a relatively steady state and remained constant with repeated rainfall application.

Coarse material (> 2-mm) from surface samples indicated that the particle size distribution changed due to tillage and repeated rainfall applications. In general, fines were brought to the surface by the tillage operation and were removed during the subsequent test sequence. These data substantiated field observations, which showed an increase in rock-mulching following each test.

Particle size distribution of the eroded material from flow samples indicated that the majority of the suspended (aliquot) material was silt and clay for both sites. The percentage of clay decreased after the first run. The material deposited in the flume consisted mainly of sand. The percentage of silt and clay decreased, while the percentage of sand increased with repeated rainfall applications.

Evaluation of the Virginia Tech grid type rainfall simulator indicated that it was well suited for field erosion studies. The system was easily transported using two trucks and assembled in approximatly two days by three people. The system applied uniform rainfall rates over three plots on two slopes and required little maintenance, with the exception of occasional cleaning of the riser nozzels.

Chapter VIII

Research Recommendations

Due to limited funds and manpower, not all areas presented in this report were covered in as much detail as the author would have wished. From experience gained during this research a list of recommendations for improving future studies follows:

a) Bulk density determinations should be taken throughout the testing at each site. These data would quantify the effects of tillage and soil consolidation due to repeated rainfall applications.

b) Better methods need to be developed to quantify changes in the plot surface after each run and test. These changes include the effects of inter-rill and rill formations and the extent of the rock-mulching, which was observed to occur. The surface sampling procedures utilized in this study provided limited data to meet this need due to the significant variability within and between plots and the rapid changes that were observed within each run. Some type of photographic procedure would be desirable because of the need for speed, ease and reproducibility of the results. Before and after comparisons of data obtained from the same locations within the plot would provide more reliable estimates of the rock-mulching.

c) Different instrumentation would be desirable to assure accuracy in the stage of flow and sediment concentrations. Necessary equipment would include drop-box weirs and higher resolution recording instruments.

d) One of the major weaknesses of this project was the determination of the particle size distributions of the eroded materials. Additional flow samples of sufficient volume for this determination should be collected at preselected time interval during the storm event. These samples would be processed using wet sieve and pipette methods to quantify the changes in particle size distribution with time during each run. These data would be helpful in determining the effect of accumulated storm time on the clay and silt percentage of the eroded materials.

e) Determination of the storm EI-index was the most difficult and error prone aspect of this study. Methods need to be developed which allow field determination of the kinetic energy of raindrops at impact (research on an electronic sensor is currently underway in the Agricultural Engineering Department). As was shown by the K-factor sensitivity analysis, errors in the energy determination are also present in the K-values.

Based on the data and experience which has been gained during this project, there are several additional areas that should be addressed in future research. The list presented below is not all inclusive, but represents four areas in erosion prediction and control where research is needed to provide mine operators, design engineers and regulatory agencies with the information necessary for sound environmental planning of surface mining activities.

Erodibility indexes for benchmark surface mine soil types need to be determined. A high clay or low sand soil type combined with the two soil types presented in this report would cover the basic soil types at the three extremes of the USDA classification system. It is important that these K-indexes be determined using the same methods that were used for agricultural soils so that relative comparisons can be made concerning the effects of surface mining on soil erosion properties. This would establish a baseline so that comparable data bases can be constructed that would, hopefully, reduce the number of soils which would have to be studied in order to build an adequate data base for understanding and predicting the interdependence of erosion control factors for surface mine soils.

A second need is to determine the erosion control provided by "tracking in" the soil surface. Because this practice is a common regrading operation and is used extensively in surface mine reclamation, the determination of actual benefits would generate strong operator and reglatory support. Determination of this practice factor is necessary to simulate (predict) the erosion from surface mined areas for the critical period between regrading and vegetative or cover establishment. Determination of this practice factor, also, is important because it is unique to surface mining and, consequently, has not been evaluated for agricultural soils.

A third need is to determine the affects of soil loss due to variations in slope and slope length. These factors are especially important for the extreme cases encountered on contour type operations. With reliable data on soil loss, responsible decisions could be made concerning guidelines outlining the spacing requirements of LS reductions such as berm and sediment ditch placement on steep outslopes. Because these values have been determined for agricultural soils, they are less important to the state-of-the-art design than the K and "tracking in" P-practice.

A fourth need is to determine vegetative cover C-factors. Reliable factors are needed to describe both short-term and long-term stabilization benefits for erosion control. However, this research need has lower priority because the most critical period for erosion control is the interval between seedbed preparation and the establishment of a vegetative cover. During this period the only controls are "tracking in" and mulching from hydro-seeding. Trends identified by research on agricultural soils should provide a reasonable first approximation for surface mine soils.

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APPENDIX A

COMPUTER PROGRAMS FOR DATA REDUCTION

Three Subroutines were developed to analyze the hydrologic data. These three subroutines, QVOL, CONC and FLOW, are presented along with the exec RICESED which was developed to facilitate ease of operator use. These programs are presented below:

```
SUBROUTINE QVOL

C   PROGRAM TO COMPUTE DISCHARGE VOLUME FOR SELECTED TIME INTERVALS
C   IN LITERS AND INCHES.
C    WRITTEN BY V.O.S ---- 8/23/81.
C
C****    CONTROL INFORMATION ******
C
C** MC = BEGINNING MONTH.
C** NDC = BEGINNING DAY.
C** NYC = BEGINNING YEAR.
C** LMINS = TIME INTERVAL FOR OUTPUT.
C** NOUTB = BEGINNING OF RUNOFF IN MILITARY TIME (E.G. 1508).
C** NOUTE = DURATION OF RUNOFF EVENT IN MINUTES (EG 65).
C**
      DIMENSION T(1500),Q(1500),QV(1500),IDENT(20)
2     CONTINUE
C
C ***** ENTER CONTROL INFORMATION *******
C
      READ(2,200,END=999)MC,NDC,NYC,LMINS,NOUTB,NOUTE
      WRITE(4,200)MC,NDC,NYC,LMINS,NOUTB,NOUTE
200   FORMAT(9I5)
      NOUTB=(NOUTB/100*60)+(NOUTB-(NOUTB/100)*100)+1
      NOUTE=NOUTE+NOUTB-1
      WRITE(4,203)NOUTB,NOUTE
203   FORMAT(' NOUTB =',I6/' NOUTE =',I6)
C
C ***** ENTER JOB IDENTIFICATION *******
C
      READ(2,201)IDENT
201   FORMAT(20A4)
      WRITE(4,202)IDENT
202   FORMAT(1X,19A4)
      WRITE(9,201)IDENT
```

```
&IF &MI LT 3 &MIX = &CONCAT 0 &MIX
&IF &MI LT 2 &MIX = &CONCAT 0 &MIX
&NX = 1
EXSERV WRITE &FNC &FTX Z 1 ( 4 MO 9 ND 14 NY 20 NX 22 TIME 27 MIX 32 IDT
&TX = TEST#
&RX = RUN#
&DX = ----DATE
&DU = DURATION
&MX = MIN.
&TXX = TIME
EXSERV WRITE &FNC &FTX Z 2 ( SITE TX TEST RX RUN DX DATE TXX TIME DU MIN MX
&IF &ZAP EQ 2 &GOTO -PT9B
FI 01 DISK &FNI &FT &FM
FI 02 DISK &FNC &FTX Z
FI 04 DISK &FN1 &FTX A
FI 08 DISK &FN2 &FTX A
FI 09 DISK &FNO &FTX A
LOAD QVOLTI ( START
TYPE &FN2 &FTX A 1 4
EXSERV FD &FN2 &FTX A ( % % % % % NREC
&NREC = &NREC - 1
TYPE &FN2 &FTX A &NREC *
*PRINT &FN1 &FTX A
*PRINT &FN2 &FTX A
*PRINT &FNO &FTX A
*&TYPE OUTPUT FILES SENT TO PRINT
ERASE &FN1 &FTX A
ERASE &FN2 &FTX A
&TYPE &FNO &FTX A --- OUTPUT PERM. ON CMS
&GOTO -PT4A
*
* FLOW
*
-PT9
TYPEALL .NONL ENTER_ MERGE_ INDENTIF ICATION _ AS_ A1,A2, ETC____
&READ VARS &IDT
&IF .&IDT EQ . &GOTO -PT9
&FNI = &CONCAT &SITE CONC
&FT = &CONCAT T &TEST R &RUN
&FNI1 = &CONCAT &SITE VOLS
&FNC = &CONCAT &SITE CONT
&FNO = &CONCAT &SITE SEDI
&FTX = &FT
&ZAP = 2
&FNM = &CONCAT &SITE MERGE
&FTM = &CONCAT &FT &IDT
&GOTO -PT8B
-PT9B
EXSERV FD &FNI1 &FT * ( % % FM1
&IF &RETCODE NE 28 &GOTO -PT9C
&FNI = &FNI1
&GOTO -PT7A
-PT9C
FI 08 DISK &FNM &FTM A
FI 01 DISK &FNI &FT &FM
FI 02 DISK &FNI1 &FT &FM1
FI 03 DISK &FNC &FTX Z
FI 04 DISK &FNO &FT A
FI 06 TERM
LOAD FLOWSD ( START
TYPE &FNO &FT A 1 1
EXSERV FD &FNO &FT A ( % % % % % NREC
&NRECX = &NREC - 5
TYPE &FNO &FT A &NRECX *
&TYPE
TYPEALL .NONL DO_ YOU_ WANT_ FILES_ SENT_ TO_ PRINT_ <Y/N> ___
```

```
&READ VARS &ANS
&IF .&ANS EQ . &GOTO -NOP
&IF .&ANS EQ .N &GOTO -NOP
&IF .&ANS EQ .NO &GOTO -NOP
PRINT &FNO &FT A
PRINT &FNM &FTM A
&TYPE OUTPUT FILE &FNO &FT A SENT TO PRINT
&TYPE OUTPUT FILE &FNM &FTM A SENT TO PRINT
-NOP
&TYPE
TYPEALL .NONL YOU_ WANT_ CONC_ AND_ VOLS_ FILES_ ERASED _<Y/N> ___
&READ VARS &ANS
&IF .&ANS EQ . &GOTO -QUIT
&IF .&ANS EQ .N &GOTO -QUIT
&IF .&ANS EQ .NO &GOTO -QUIT
ERASE &FNI &FT &FM
ERASE &FNI1 &FT &FM1
&GOTO -PT4A
-QUIT
CP SET IMSG ON
CP SET EMSG ON
CP SET MSG ON
&EXIT
```

```
TYPEALL .NONL ENTER: _ RUNOFF _ DURATION _ IN_ MINUTES _ (EX.=63) ____
&READ VARS &MIN
&IF .&MIN EQ . &GOTO -PT3B
&IF &MIN EQ QUIT &GOTO -QUIT
&IF &MIN GT 1440 &GOTO -PT3B
&IF &MIN LT 1 &GOTO -PT3B
&IF .&PROG NE . &GOTO -PT5
-PT4A
&TYPE ENTER ONE OF NEXT OPTIONS-
TYPEALL .NONL (EDIT | LOREN | QVOL | FLOW | HELP | NEW | EXIT ) _____
&READ VARS &PROG
&IF .&PROG EQ . &GOTO -PT4A
-PT5
&NEW = 1
&IF &PROG EQ EXIT &GOTO -QUIT
&IF &PROG EQ HELP &GOTO -PT4
&IF &PROG EQ EDIT &GOTO -PT6
&IF &PROG EQ LOREN &GOTO -PT7
&IF &PROG EQ QVOL &GOTO -PT8
&IF &PROG EQ FLOW &GOTO -PT9
&IF &PROG EQ NEW &GOTO -PT1
&TYPE OPTION = &PROG NOT UNDER STOOD TRY AGAIN !
&GOTO -PT4A
-PT4
&BEGTYPE

OPTIONS ARE:::
(EDIT)- EXEC ENTERS EDIT MODE SO YOU MAY INPUT DATA FROM SAMPLE SHEETS.
        THE EXEC WILL INPUT IDENT RECORD (1ST) IN FILE FOR YOU.
(LOREN)- COMPUTE SEDIMENT CONC. FROM SUSPENDED SEDIMENT (SAMPLE SHEET DATA)
         MUST HAVE A FILE OF DATA GENERATED BY "EDIT" OPTION.
(QVOL)- COMPUTE DISCHARGE FOR 1 MINUTE INTERVALS FROM CHART DATA.
        MUST HAVE DIGITIZED CHART AND "HAS" REDUCED DATA.
(FLOW)- COMPUTE SEDIMENT LOADS GIVEN DISCHARGE AND CONC.
        MUST HAVE DATA SETS FORM OPTIONS: LOREN AND QVOL ABOVE.
(NEW)- OPERATE ON A NEW (DIFFERENT) SITE -- START OVER --
(EXIT)- EXIT RICESED EXEC.

&END
&GOTO -PT4A
*
* EDIT
*
-PT6
&FNI = &CONCAT &SITE SSWT
&FTI = &CONCAT T &TEST R &RUN
&ANS = NEW
EXSERV STATE &FNI &FTI A
&IF &RETCODE EQ 28 &GOTO -PT6A
-PT6B
&TYPE INPUT FILE &FNI &FTI A ALREADY EXISTS !
&TYPE DO YOU WANT TO ADD TO IT OR REPLACE IT?
TYPEALL .NONL ENTER: _ (ADD |REP | QUIT ) ____
&READ VARS &ANS
&IF .&ANS EQ . &GOTO -PT6B
&IF &ANS EQ QUIT &GOTO -QUIT
-PT6A
&IF &ANS EQ ADD &GOTO -PT6C
&IF &ANS EQ NEW &GOTO -PT6D
-PT6E
&TYPE YOU HAVE REQUEST TO REPLACE FILE - &FNI &FTI A
&BEGTYPE
WARNING :::::
WILL DELETE THE FILE FIRST, THEN
EDIT NEW FILE AND INPUT IDENT AS 1ST RECORD, THEN
LEAVE YOU IN EDIT FOR ENTRY OF SAMPLE DATA.
```

```
OK TO DO SO? ENTER: (Y|N)
&END
&READ VARS &ANX
&IF .&ANX EQ . &GOTO -PT6E
&IF &ANX EQ QUIT &GOTO -QUIT
&IF &ANX EQ N &GOTO -PT6B
&IF &ANX EQ NO &GOTO -PT6B
&STACK VERIFY OFF
&ZIP = 0
&STACK TOP
&STACK DELETE *
-PT6DA
&ZIP = 0
-PT6DB
&STACK TOP
&STACK I &SITE TEST# &TEST RUN# &RUN ----DATE &DATE TIME &TIME DURATION &MIN MIN.
&STACK VERIFY ON
&IF &ZIP EQ 1 &SKIP 2
&STACK NEXT
&STACK SAVE
&IF &ZIP EQ 1 &GOTO -PT6CA
&GOTO -PT6F
-PT6C
&ZIP = 1
&STACK VERIFY OFF
&STACK TOP
&STACK NEXT
&STACK DELETE
&GOTO -PT6DB
-PT6CA
&STACK BOTTOM
&GOTO -PT6F
-PT6D
&STACK VERIFY OFF
&GOTO -PT6DA
-PT6F
EDIT &FNI &FTI A
&GOTO -PT4A
*
* LOREN
*
-PT7
&ZAP = 1
&FNI = &CONCAT &SITE SSWT
&FT = &CONCAT T &TEST R &RUN
&FNO = &CONCAT &SITE CONC
&FN1 = &CONCAT &SITE COT1
&FN2 = &CONCAT &SITE COT2
EXSERV FD &FNI &FT * ( % % FM
&IF &RETCODE EQ 28 &GOTO -PT7A
EXSERV READ &FNI &FT &FM 1 ( A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 N11 A12
&AX = &SUBSTR &A1 1 1
&IF &AX EQ Q &GOTO -PT7B
&FMM = &SUBSTR &FM 1 1
&IF &FMM EQ A &GOTO -PT7C
-PT7D
&TYPE CAN NOT RUN &PROG ON &FNI &FT &FM BECAUSE ::
&BEGTYPE

THE FILE DOES NOT CONTAIN IDENTIFICATION IN FIRST RECORD AND
CAN NOT CORRECT FILE BECAUSE IT IS ON ANOTHER DISK.
YOU MUST LOGON THERE AND CORRECT THE FILE BY ADDING IDENT. TO 1ST RECORD.
WILL EXIT RICESED EXEC NOW.
&END
&GOTO -QUIT
-PT7B
```

```
&IF &SITE NE &A1 &GOTO -PT7E
&IF &TEST NE &A3 &GOTO -PT7E
&IF &RUN NE &A5 &GOTO -PT7E
&IF &DATE NE &A7 &GOTO -PT7E
&IF &TIME NE &A9 &GOTO -PT7E
&IF &MIN NE &N11 &GOTO -PT7E
&GOTO -PT7F
-PT7E
EXSERV WRITE &FNI &FT &FM 1 ( SITE A2 TEST A4 RUN A6 DATE A8 TIME A10 MIN A12
&GOTO -PT7F
-PT7C
&STACK VERIFY OFF
&STACK TOP
&STACK I &SITE TEST# &TEST RUN# &RUN ----DATE &DATE TIME &TIME DURATION &MIN MIN.
&STACK FILE
&STACK HT
EDIT &FNI &FT &FM
&STACK RT
&GOTO -PT7F
-PT7A
&TYPE CAN NOT RUN &PROG BECAUSE &FNI &FT  DOES NOT EXIST.
&BEGTYPE
THE FILE HAS NOT BEEN CREATED OR RESIDES ON ANOTHER DISK NOT ATTACHED.
CORRECT PROBLEM AND REENTER "RICESED" EXEC
WE WILL EXIT RICESED EXEC NOW!
&END
&GOTO -QUIT
-PT7F
FI 01 DISK &FNI &FT &FM
FI 02 DISK &FN1 &FT A
FI 03 DISK &FN2 &FT A
FI 10 DISK &FNO &FT A
LOAD LORENSD (START
TYPE &FNO &FT A 1 1
EXSERV FD &FNO &FT A ( % % % % % NREC
TYPE &FNO &FT A &NREC *
*PRINT &FNI &FT &FM
*PRINT &FN1 &FT A
*PRINT &FN2 &FT A
*PRINT &FNO &FT A
ERASE &FN1 &FT A
ERASE &FN2 &FT A
*&TYPE INPUT AND OUTPUT FILES SENT TO PRINT
&TYPE &FNO &FT A --- OUTPUT PERM. ON CMS
&GOTO -PT4A
*
* QVOL
*
-PT8
&ZAP = 1
&FNI = &CONCAT &SITE REDUC
&FT = &CONCAT R &DATE
&FNC = &CONCAT &SITE CONT
&FTX = &CONCAT T &TEST R &RUN
&FNO = &CONCAT &SITE VOLS
&FN1 = &CONCAT &SITE VOT1
&FN2 = &CONCAT &SITE VOT2
-PT8B
EXSERV FD &FNI &FT * ( % % FM
&IF &RETCODE EQ 28 &GOTO -PT7A
&MO = &SUBSTR &DATE 1 2
&ND = &SUBSTR &DATE 3 2
&NY = &SUBSTR &DATE 5 2
&MIX = &MIN
&MI = &LENGTH &MIN
&IF &MI LT 4 &MIX = &CONCAT 0 &MIX
```

```
C
C**           INPUT DATA REQUIRED *****
C
C** MON = MONTH
C** NDAY = DAY
C** NYEAR = YEAR
C** TDAY = TIME OF DAY IN MILITARY TIME.
C** DELTI = TIME INTERVAL IN HOURS.
C** VOL = DISCHARGE VOLUME IN INCHES .
C** KODE = INDEX CODE IDENTIFYING THE TYPE OF DATA BEING ENTERED.
C** DUM = DUMMY VARIABLE TO INSURE 131 CHARACTER INPUT.
C**
      LI=0
      KK=0
1     CONTINUE
      READ(1)ND1,ND2,MON,NDAY,NYEAR,TDAY,ND3,DUM1,DELTI,DUM4,DUM2,
     1DUM3,VOL,DUM5,DUM6,DUM7,ND4,KODE,ND5,ND6
      WRITE(4,222)MON,NDAY,NYEAR,TDAY,DELTI,VOL,KODE
222   FORMAT(3I3,3F12.5,I3)
      IF(KODE.NE.0)GO TO 1
      LTD=IFIX(TDAY)
      IF(MC.EQ.MON.AND.NDC.EQ.NDAY.AND.NYC.EQ.NYEAR)KK=1
      IF(KK.EQ.0)GO TO 1
      LI=LI+1
      T(LI)=DELTI
      IF(DELTI.GT.24.0)T(LI)=TDAY
      Q(LI)=VOL*1139.2637
      IF(LTD.NE.24)GO TO 1
      DO 10 I=1,1500
      QV(I)=0.0
10    CONTINUE
      LS=0
      NTR=0
      QREM=0.0
      DO 30 I=1,LI
      IF(I.GT.1)GO TO 16
      LTM=IFIX(T(I)*60.0+0.5)
      NUBI=LTM/LMINS
      VMIN=Q(I)*FLOAT(LTM)
      VINC=FLOAT(LMINS)*VMIN
      IF(NUBI.EQ.0)GO TO 6
      IF(Q(I).LE.0.0)GO TO 7
      DO 5 II=1,NUBI
      LS=LS+1
      QV(LS)=VINC
5     CONTINUE
      NTR=LTM-LMINS*NUBI
      QREM=Q(I)-FLOAT(NUBI)*VINC
      GO TO 30
6     CONTINUE
      NTR=LTM
      QREM=Q(I)
      GO TO 30
7     CONTINUE
      LS=NUBI
      QREM=0.0
      NTR=LTM-LMINS*NUBI
      GO TO 30
16    CONTINUE
      LTM=IFIX(T(I)*60.0+0.5)
      VMIN=Q(I)/FLOAT(LTM)
      NTOTT=LTM+NTR
      IF(NTOTT-LMINS)17,18,19
17    CONTINUE
      NTR=NTOTT
      QREM=QREM+Q(I)
```

```
      GO TO 30
18    CONTINUE
      LS=LS+1
      QV(LS)=QREM+Q(I)
      NTR=0
      QREM=0.0
      GO TO 30
19    CONTINUE
      LE=LMINS-NTR
      QN=LE*VMIN
      LS=LS+1
      QV(LS)=QN+QREM
      LTM=LTM-LE
      NUBI=LTM/LMINS
      IF(NUBI.EQ.0)GO TO 20
      VINC=LMINS*VMIN
      DO 21 II=1,NUBI
      LS=LS+1
      QV(LS)=VINC
21    CONTINUE
      NTR=LTM-LMINS*NUBI
      QREM=Q(I)-QN-(VINC*FLOAT(NUBI))
      GO TO 30
20    CONTINUE
      NTR=LTM
      QREM=Q(I)-QN
30    CONTINUE
      IF(NOUTB.EQ.0)NOUTB=1
      IF(NOUTE.EQ.0)NOUTE=1440
      NSUM=LMINS
      WRITE(8,299)IDENT
299   FORMAT('1',19A4)
      WRITE(8,300)
300   FORMAT('0',5X,'TIME FROM START OF RUNOFF          DISCHARGE'/
     114X,'(MINUTES)',12X,'(LITERS)    (INCHES)')
      NCT=0
      SUMIN=0.0
      DO 31 I=NOUTB,NOUTE
      NCT=NCT+1
      IF(MOD(NCT,50).NE.0)GO TO 32
      WRITE(8,299)IDENT
      WRITE(8,300)
      NCT=0
32    CONTINUE
      NCT=NCT+1
      QINCH=QV(I)/1139.2637
      SUMIN=SUMIN+QINCH
      WRITE(9,205)NSUM,QV(I),QINCH
      WRITE(8,205)NSUM,QV(I),QINCH
205   FORMAT(14X,I6,14X,F8.3,F12.5)
      NSUM=NSUM+LMINS
31    CONTINUE
      WRITE(8,206)SUMIN
206   FORMAT(1X,'STORM RUNOFF IN INCHES =',F12.6)
      GO TO 2
999   CONTINUE
      STOP
      END
```

```
SUBROUTINE CONC
.sp
C    **** COMPUTE SEDIMENT CONCENTRATION
C
      DIMENSION IDENT(20)
C **** READ IDENTIFICATION RECORD AND WRITE IN EACH OUTPUT FILE.
      NPASS=0
      READ(1,101) IDENT
101   FORMAT(20A4)
      WRITE(2,101)IDENT
      WRITE(3,101)IDENT
      WRITE(10,101)IDENT
C ***** CORRECTION FACTOR  *****
C
C     DISS = DISSOLVED SOLIDS FROM A VOLUME EQUAL TO VOLUME OF
C            SEDIMENT + WATER.
C
      READ(1,100)DISS
100   FORMAT(F10.2)
      WRITE(2,100)DISS
C
C     INPUT DATA
C
C   NSAM = SAMPLE NUMBER (COLS. 1-3)
C   TI   = TIME INCREMENT FOR SAMPLYING (4-6)
C  WTTOT = WEIGHT OF SEDIMENT + WATER + CONTAINER -- GRAMS (7-13)
C  WTDRY = WEIGHT OF DRY SEDIMENT + CONTAINER -- GRAMS (14-19)
C WTCONT = WEIGHT OF CONTAINER -- GRAMS (20-25)
C
30    CONTINUE
      READ(1,105,END=999)NSAM,TI,WTTOT,WTDRY,WTCONT,VOL
105   FORMAT(I3,F4.0,F7.2,4F6.2)
      WETWT=WTTOT-WTCONT
      DRY=WTDRY-WTCONT
      DRYCOR=DRY-DISS
      IF (DRYCOR.LT.0.0)DRYCOR=0.0
      RATIO=DRYCOR/WETWT*1000000.0
      IF(RATIO.LE.16000)GO TO 11
      IF(RATIO.GT.16000.0.AND.RATIO.LE.47000.0)GO TO 12
      IF(RATIO.GT.47000.0.AND.RATIO.LE.77000.0)GO TO 13
      IF(RATIO.GT.77000.0.AND.RATIO.LE.106000.0)GO TO 14
      IF(RATIO.GT.106000.0.AND.RATIO.LE.132000.0)GO TO 15
      B=1.10
      GO TO 20
11    CONTINUE
      B=1.00
      GO TO 20
12    CONTINUE
      B=1.02
      GO TO 20
13    CONTINUE
      B=1.04
      GO TO 20
14    CONTINUE
      B=1.06
      GO TO 20
15    CONTINUE
      B=1.08
20    CONTINUE
      WRITE(2,110)NSAM,TI,WTTOT,WTDRY,WTCONT,VOL,B
110   FORMAT(I3,F4.1,6F10.2)
      CONC=B*RATIO
      NCONC=CONC+0.5
```

```
      NTI=TI
      NVOL=VOL+0.5
      WRITE(3,200)NSAM,NTI,NCONC,NVOL
200   FORMAT(I3,I4,I8,I6)
      GO TO 30
999   CONTINUE
      REWIND 3
      NTI=1
      NSAMB=1
      NUMB=0
      KK=0
35    CONTINUE
      IF (NPASS.EQ.0) READ(3,101) IDENT
      NPASS=1
      READ(3,200,END=900)NSAM,LTI,NCONC
      IF(KK.EQ.0)GO TO 40
      IF((NSAM-1).EQ.NSAMB)GO TO 40
      KK=1
      N=NSAM-NSAMB
      NN=N*LTI
      DO 41 I=1,NN
      NUMB=NUMB+1
      WRITE(10,200)NUMB,NTI,NCONC
41    CONTINUE
      NSAMB=NSAM
      GO TO 35
40    CONTINUE
      KK=1
      DO 42 I=1,LTI
      NUMB=NUMB+1
      WRITE(10,200)NUMB,NTI,NCONC
42    CONTINUE
      NSAMB=NSAM
      GO TO 35
900   CONTINUE
      STOP
      END
```

```
SUBROUTINE FLOW

C **** SEDIMENT LOADS GIVEN CONCENTRATION AND DISCHARGE.
C
C  WRITTEN BY V.O.S **** ( 8/21/81 )  CORRECTED ON 1/8/82 BY V.O.S.
C
C  CONCENTRATIONS FOUND ON UNIT 1.
C  DISCHARGE FOUND ON UNIT 2.
C
      DIMENSION IDENT(20),Q(500),C(500),TCON(500)
      DIMENSION QINCH(500)
      DIMENSION IDTN(3),QLITER(500)
      DATA NDTN/' '/
C
C  PROGRAM IDENTIFICATION FOUND ON UNIT 3.
C
C  IDENT = IDENTIFICATION FOR RUN.
C          (TEST #; RUN #; SITE OR LOCATION).
C
      READ(3,300) IDTN
300   FORMAT(31X,3A1)
C  WRITE HEADER IN MERGE FILE
      IF(IDTN(3).NE.NDTN) GOTO 303
      WRITE(8,301) (IDTN(I),I=1,2)
301   FORMAT('DATA ',2A1,';'/'INPUT INT TIME CONC DIS ACCDIS SED ACCSED;
     1'/'CARDS;')
      GO TO 304
303   WRITE(8,302) IDTN
302   FORMAT('DATA ',3A1,';'/'INPUT INT TIME CONC DIS ACCDIS SED ACCSED;
     1'/'CARDS;')
304   CONTINUE
      READ(3,100)IDENT
100   FORMAT(20A4)
      WRITE(4,101) IDENT
101   FORMAT(20A4/)
      WRITE(4,102)
102   FORMAT('TIME ACC.  CONC.  DISCHARGE  ACC.        ACC.       SEDI
     1MENT  ACC.'/'INT. TIME                     DISCHARGE  DISCHARGE
     2 LOAD       SEDIMENT'/'MIN. MIN.   (MG/L) (LITERS)   (LITERS)
     3(INCHES)    (GRAMS)    (GRAMS)'/)
C
C
C READ 1ST RECORD OUT OF THE WAY ON UNIT 1 AND UNIT 2
      READ(1,100) DUM
      READ(2,100) DUM
C     ENTER DISCHARGE DATA
C
      LL=0
      SUMIN=0.0
      SUMLI=0.
3     CONTINUE
C
C***** SQ = VOLUME OF RUNOFF FOR 1-MINUTE INTERVAL IN LITERS.
C
      READ(2,222,END=225)SQ,QI
222   FORMAT(34X,F8.3,F12.5)
      LL=LL+1
      SUMIN=SUMIN+QI
      SUMLI=SUMLI+SQ
      QINCH(LL)=SUMIN
      Q(LL)=SQ
      QLITER(LL)=SUMLI
```

```
      GO TO 3
225   CONTINUE
      LC=0
10    CONTINUE
C
C *** ENTER CONCENTRATION DATA
C
C  NSAM = SAMPLE NUMBER.
C  TI   = TIME INCREMENT BETWEEN SAMPLING (MINUTES)
C         NOTE: SAMPLYING BEGAN IMMEDIATELY WITH RUNOFF.
C
C NCONC = CONCENTRATION IN MG/L.
C
      READ(1,120,END=226)NSAM,TI,NCONC
120   FORMAT(I3,F4.1,I8)
      CONC=FLOAT(NCONC)
      LC=LC+1
      C(LC)=CONC*0.001
      GO TO 10
226   CONTINUE
      IF(LL.EQ.LC)GO TO 12
      WRITE(6,110)LL,LC
110   FORMAT(1X,'DATASETS DO NOT MATCH'/1X,'RUNOFF ENTRIES =',I3/
     11X,'CONCENTRATION ENTRIES =',I3/1X,'EXECUTION TERMINATED')
      STOP
12    CONTINUE
      SED=0.0
      TCON(1)=(C(1)+C(2))/2.
      TCX=TCON(1)*1000.
      SQC=TCON(1)*Q(1)
      SED=SQC
      L=1
      WRITE(4,202)L,L,TCX,Q(1),QLITER(1),QINCH(1),SQC,SED
      WRITE(8,200)L,L,TCX,Q(1),QINCH(1),SQC,SED
202   FORMAT(2I4,F9.1,2F11.3,F12.3,2F11.3)
      L2=LL-1
      DO 15 I=2,L2
      TCON(I)=(C(I)+C(I+1))/2.
      TCX=TCON(I)*1000.
      SQC=TCON(I)*Q(I)
      SED=SED+SQC
      WRITE(4,202)L,I,TCX,Q(I),QLITER(I),QINCH(I),SQC,SED
      WRITE(8,200)L,I,TCX,Q(I),QINCH(I),SQC,SED
200   FORMAT(2I4,F8.1,4F16.5)
15    CONTINUE
      TCON(LL)=C(LL)/2.
      TCX=TCON(LL)*1000.
      SQC=TCON(LL)*Q(LL)
      SED=SED+SQC
      WRITE(4,202)L,LL,TCX,Q(LL),QLITER(LL),QINCH(LL),SQC,SED
      WRITE(8,200)L,LL,TCX,Q(LL),QINCH(LL),SQC,SED
      POUNDS=SED/453.597
      TONS=POUNDS/2000.0*90.225564
      WRITE(4,201)POUNDS,TONS
201   FORMAT(//' TOTAL SEDIMENT LOAD IN POUNDS/PLOT =',F12.4/
     1//' TOTAL SEDIMENT LOAD IN TONS/ACRE =',F12.4)
      STOP
      END
```

RICESED EXEC

```
* RICESED EXEC  J.C. CARR                DO NOT ERASE
&CONTROL OFF NOMSG
CP SET MSG OFF
*CP SPOOL PRINT CLASS A NOCONT NOHOLD FOR *
&IF .&1 NE .HELP &GOTO -NOHELP
&BEGTYPE

  EXEC HAS 4 OPTIONS:::
  OPTION # 1
  ENTER EDIT MODE TO INPUT SUSPENDED SEDIMENT DATA FROM SIMULATOR RUNS.
  OPTION # 2
  RUN PROGRAM "LOREN" FOR SEDIMENT CONC. FROM SUSPENDED SEDIMENT DATA.
  OPTION # 3
  RUN PROGRAM "QVOL" TO COMPUTE 1 MIN. INTERVAL DISCHARGE FROM PLOTS.
  OPTION # 4
  RUN PROGRAM "FLOW" TO COMPUTE SEDIMENT LOADS GIVEN CONC AND DISCHRG.

&END
&GOTO -QUIT
-NOHELP
CP SET IMSG OFF
CP SET EMSG OFF
&PROG = &1
&PASS = 0
&IF &DISKZ NE NA &SKIP 2
&TYPE WAIT FOR LINK TO WORK SPACE ON "Z" DISK.
EXEC TDISK 6 Z
&NEW = 0
-PT1
&IDT = XX
&IF &NEW EQ 1 &PROG =
TYPEALL .NONL ENTER: _ SITE_ CODE_ (EX.=QB4 ) ____
&READ VARS &SITE
&IF .&SITE EQ . &GOTO -PT1
&IF &SITE EQ QUIT &GOTO -QUIT
-PT2
TYPEALL .NONL ENTER: _ TEST#_ AND_ RUN#_ _ (EX.= _ 1_ 2_ ) ___
&READ VARS &TEST &RUN
&IF .&RUN NE . &GOTO -PT3
&IF .&TEST EQ .QUIT &GOTO -QUIT
&TYPE TEST AND RUN NOS. MUST BE SEPERATE BY A BLANK (EX. 1 2)
&GOTO -PT2
-PT3
TYPEALL .NONL  ENTER:_ TEST _ DATE_ (EX.= 010181 ) ___
&READ VARS &DATE
&IF .&DATE EQ . &GOTO -PT3
&IF &DATE EQ QUIT &GOTO -QUIT
&NX = &LENGTH &DATE
&IF &NX LT 6 &GOTO -PT3
-PT3A
TYPEALL .NONL  ENTER:_ RUNOFF _ START _ TIME_ (MILIT ARY) _ (EX.= 0930 ) ___
&READ VARS &TIME
&IF .&TIME EQ . &GOTO -PT3A
&IF &TIME EQ QUIT &GOTO -QUIT
&IF &TIME GT 2400 &GOTO -PT3A
&IF &TIME LT 1 &GOTO -PT3A
&NX = &LENGTH &TIME
&IF &NX EQ 4 &GOTO -PT3B
&TYPE &TIME MUST BE 4 DIGITS EX.= 0125 TRY AGAIN
&GOTO -PT3A
-PT3B
```

Appendix B

Data Base for Sullivan, West Virginia

Section 1: Soil Conservation Service Soil Description.

Section 2: Particle Size Analysis Plot Surface.

Section 3: Chemical Properties Plot Surface.

Section 4: Distribution Data.

Section 5: Moisture Data.

Section 6: Hydrologic Data.

Section 7: Particle Size Analysis Eroded Material.

Section 1: Soil Conservation Service Soil Description.

Classification: Udorthents,mudstone and sandstone, high base.

Date : 9/11/81

Location : Veccillio and Grogan surface mine, North of Sullivan, approximately 0.8 miles west of Sullivan Road and 0.2 miles south of I-77, Raleigh County, West Virginia. Crab Orchard quadrangle.

Vegetation : none

Described by : Wolfe, Doonan, Bell, Rice

Layers :

1. 0-7.5 cm — Yellowish brown (10yr5/6) mixed loam and silt loam; weak fine subangular blocky structure; friable; few fine distinct strong brown (7.5yr5/8) and pinkish gray (7.5yr6/2) mottles; 15 percent sandstone coarse fragments; few roots strongly acid (ph 5.0); abrupt wavy boundary.

2. 7.5-23 cm — Yellowish brown (10yr5/6) mixed channery loam and silt loam; weak coarse subangular blocky structure; friable; common common fine and medium distinct strong brown (7.5yr5/8), common coarse distinct light brownish gray (10yr6/2), and few medium prominent reddish brown (2.5yr4/4) mottles; 30 percent sandstone coarse fragments; few roots; strongly acid (ph 5.0); abrupt wavy boundary.

3. 23-60 cm — Very dark gray (10yr3/1) very channery light loam; massive; firm; 65 percent siltstone coarse fragments; few roots ending at 30 cm; mildly alkaline (ph 7.8); gradual wavy boundary.

4. 60-100 cm — Very dark gray (10yr3/1) very channery light loam; massive; very friable; 65 percent siltstone coarse fragments; mildly

alkaline (ph 7.8).

notes : Depth to the dark materials ranges from 18 to 41 cm in the area. Horizons 1 and 2 are dominated by sandstone; horizon 3 is dominated by siltstone with some sandstone. Vegetation had been removed from the area prior to description.

Parent material : Acid sandstone and siltstone and mildly alkaline siltstone.

Geologic formation : New River

Drainage : well drained

Permeability : moderate (field estimate)

Erosion : moderate

Elevation : 2700'

Slope : 11 percent

Aspect : Northwest

Relief : sloping ridgetop

Coal Seam mined : Sewell

Section 2: Particle Size Analysis Plot Surface

Five Samples from each plot were analyzed by the Virginia Tech Department of Agronomy's Physical Characterization Laboratory. The complete data base for this analysis is presented below:

Table B1: Particle Size Distribution Plot Surface

	% CO.FRG. >2MM	SAND VC	SAND C	SAND M	SAND F	SAND VF	SAND TOTAL	SILT	CLAY
2-1	8.01	0.9	0.9	0.7	5.7	15.9	24.1	46.0	29.9
2-2	17.28	0.9	0.9	0.8	4.8	15.2	22.6	50.6	26.8
2-3	11.16	1.6	0.9	0.6	7.4	17.8	28.4	52.0	19.6
2-4	7.90	0.9	1.2	1.1	9.6	20.0	32.7	51.0	16.3
2-5	13.94	1.5	0.9	0.7	7.0	22.9	32.1	46.1	20.8
3-1	15.91	1.0	0.7	0.6	4.5	15.2	22.1	56.6	21.4
3-2	6.88	1.1	1.8	3.0	13.8	16.2	35.9	41.6	22.4
3-3	21.79	1.5	1.4	0.8	12.3	21.8	37.8	41.7	20.5
3-4	18.63	0.9	1.1	0.9	10.2	21.5	34.6	44.7	20.7
3-5	15.50	1.0	0.9	0.6	7.1	20.9	30.6	46.0	23.4
4-1	10.71	0.5	0.7	0.7	5.7	15.3	23.0	51.1	25.9
4-2	25.73	1.2	1.1	0.6	4.7	15.6	23.2	48.9	27.9
4-3	21.92	0.8	0.7	0.7	7.1	19.3	28.6	46.5	24.9
4-4	17.65	1.0	1.2	0.8	7.2	17.5	27.8	52.7	19.4
4-5	8.38	1.2	1.3	0.8	6.8	18.5	28.6	52.5	18.9
Pit Samples									
1	17.77	1.9	1.1	1.4	9.9	16.5	30.9	45.3	23.8
2	5.87	1.3	1.9	2.3	11.0	17.7	34.3	49.2	16.5
3	62.63	11.6	7.5	5.8	7.4	10.2	42.4	46.9	10.6
4	62.79	8.1	7.2	7.0	10.5	10.9	43.6	45.8	10.6

Section 3: Chemical Properties Analysis Plot Surface

Five Samples from each plot were analyzed by the Virginia Tech Department of Agronomy's Cooperative Extension Laboratory. The complete data base for this analysis is presented below:

Table B2: Chemical Properties of the Soil Surface.

		ppm				%	ppm			
	pH	P	K	Ca	Mg	OM	SS	NO3-N	Zn	Mn
2-1	4.3	5	36	84	41	0.8	102	10	0.7	12.4
2-2	4.4	4	34	60	33	0.7	1	5	0.4	13.6
2-2	4.2	6	36	84	29	0.7	128	15	0.3	9.6
2-3	4.1	7	37	72	38	0.7	179	23	0.8	13.4
2-5	4.3	5	36	72	29	0.7	64	13	0.4	14.4
3-1	4.2	5	34	72	21	0.7	77	15	0.3	6.6
3-2	4.1	7	33	72	32	0.6	179	20	0.6	7.1
3-3	4.2	6	31	60	20	0.7	1	10	0.4	8.5
3-4	4.3	6	33	96	38	0.7	26	8	0.3	13.3
3-5	4.3	8	36	84	47	0.7	128	5	0.7	11.2
4-1	4.5	3	28	48	24	0.7	1	5	1.1	6.7
4-2	4.5	3	26	48	25	0.7	1	3	0.4	7.2
4-3	4.4	3	28	48	29	0.7	1	3	0.6	6.3
4-4	4.5	3	34	72	30	0.7	1	10	3.7	6.7
4-5	4.3	3	29	84	42	0.7	64	8	0.7	5.5
				Layer						
1	4.4	5	44	132	60	0.8	166	5	0.7	8.6
2	4.6	3	26	96	42	0.7	1	3	0.5	3.5
3	7.3	60	51	708	120	2.5	154	3	1.4	16.1
4	7.5	60	55	696	120	4.1	192	3	1.9	16.0

Section 4: Distribution Data

The rainfall distribution for each plot was monitored by placing containers at seven selected locations. After each simulated rainfall application, the volume in each container was measured in a graduated cylinder converted to rainfall rates (inch/hour) for each test-run-plot-position. The results are summarized in the following table.

Table B3: Rainfall Application Rates for Each Cup Position.

TEST	RUN	POS	QB2	QB3	QB4
			Plots (inch/hour)		
2	1	1	1.8460	1.9596	2.1300
2	1	2	2.0277	1.9312	2.1016
2	1	3	1.9084	1.9596	2.1584
2	1	4	2.0732	1.9596	2.2152
2	1	5	2.0277	2.2436	2.1300
2	1	6	2.2152	2.0164	2.3969
2	1	7	2.1868	2.1300	2.2436
2	2	1	1.8573	1.9198	1.9823
2	2	2	1.9936	2.0448	2.1413
2	2	3	2.0902	2.2492	2.1697
2	2	4	2.1016	2.2208	2.0050
2	2	5	2.0675	2.1527	2.1470
2	2	6	2.3117	2.1981	2.3288
2	2	7	2.1356	2.2436	2.2776
2	3	1	0.9656	1.0053	0.9940
2	3	2	1.0110	1.0394	1.1360
2	3	3	1.0962	1.1644	1.1757
2	3	4	1.1360	1.1644	1.1360
2	3	5	1.1246	1.1360	1.1360
2	3	6	1.1644	1.1360	1.2212
2	3	7	1.1644	1.1700	1.2723
3	1	1	1.8403	1.7892	1.9198
3	1	2	1.7721	1.7494	1.8346
3	1	3	1.9368	1.7664	1.8460
3	1	4	1.8005	1.7948	1.9766
3	1	5	1.9368	2.0334	2.1129

TEST	RUN	POS	QB2	QB3	QB4
			Plots (inch/hour)		
3	1	6	2.0164	1.9880	2.1016
3	1	7	2.1981	2.1981	1.8744
3	2	1	1.5620	1.7721	1.8687
3	2	2	1.9993	2.1016	2.1981
3	2	3	1.8403	2.2492	2.1016
3	2	4	2.1016	2.1754	2.2095
3	2	5	2.1356	2.1016	2.2152
3	2	6	2.0618	2.0845	2.2152
3	2	7	2.1129	2.1072	2.3117
3	3	1	0.8463	1.0224	1.1928
3	3	2	1.1644	1.0451	1.3348
3	3	3	1.0337	1.1984	1.2155
3	3	4	1.1814	1.1984	1.1587
3	3	5	1.1189	1.0167	1.1019
3	3	6	1.1473	1.1076	1.1814
3	3	7	1.1303	1.1360	1.2552
4	1	1	1.8346	1.7778	1.7324
4	1	2	2.2038	1.9936	2.1413
4	1	3	2.0391	2.1754	2.1356
4	1	4	2.2492	2.1697	2.1697
4	1	5	2.2265	2.1924	2.3401
4	1	6	2.2265	2.2379	2.3401
4	1	7	2.3515	2.2038	2.2947
4	2	1	1.6869	1.7096	1.7835
4	2	2	2.0164	1.9482	2.0504
4	2	3	1.9368	2.0902	2.1186
4	2	4	2.0845	2.1243	2.2606
4	2	5	1.9709	2.0788	2.2095
4	2	6	2.1186	2.0845	2.2833
4	2	7	2.1868	2.1697	2.3060
4	3	1	0.8122	0.8406	0.8520
4	3	2	0.8860	0.9656	1.0564
4	3	3	0.9940	1.1076	1.0792
4	3	4	1.1019	1.1076	1.1871
4	3	5	1.0848	1.1530	1.1814
4	3	6	1.1360	1.1644	1.2552
4	3	7	1.1587	1.2212	1.3064
5	1	1	1.8460	1.8062	2.1300
5	1	2	2.2152	2.0504	2.1413
5	1	3	2.0050	2.1243	2.3060
5	1	4	2.1527	2.1129	2.1584
5	1	5	2.0561	2.2720	2.2095
5	1	6	1.9993	2.3572	2.1868
5	1	7	2.2038	2.1697	2.3856
5	2	1	1.7664	1.7948	2.0732
5	2	2	1.7892	2.0277	1.9539
5	2	3	1.9028	2.0334	1.8516
5	2	4	1.8800	1.9709	1.9880

TEST	RUN	POS	Plots QB2	QB3	QB4
			inch/hour		
5	2	5	1.9539	1.8460	2.1186
5	2	6	1.9312	2.0675	1.9028
5	2	7	1.7892	2.1527	2.1016
5	3	1	0.8804	0.9258	1.0224
5	3	2	0.9088	1.0508	0.9940
5	3	3	0.9826	1.0224	0.9201
5	3	4	1.0224	1.0224	0.9996
5	3	5	1.0224	0.9542	1.0792
5	3	6	0.9599	1.0508	0.8974
5	3	7	0.9883	1.0564	1.0224

Section 5: Moisture Data

Soil moisture was determined before and after each rainfall event from both the top and the bottom of each plot. The complete data base for this analysis is presented below:

Table B4: Soil Moisture Data for Each Test-Run-Plot Combination.

Test-Run	Plot	Location	Before	After	Change
T2R1	QB2	T	21.33	26.44	5.12
T2R1	QB2	B	19.21	23.72	4.50
T2R1	QB3	T	19.79	22.75	2.95
T2R1	QB3	B	20.02	24.70	4.69
T2R1	QB4	T	20.65	24.05	3.39
T2R1	QB4	B	21.06	25.96	4.90
T2R2	QB2	T	22.79	22.52	-0.27
T2R2	QB2	B	20.41	22.85	2.44
T2R2	QB3	T	14.72	22.44	7.72
T2R2	QB3	B	22.86	22.31	-0.55
T2R2	QB4	T	22.53	22.14	-0.39
T2R2	QB4	B	16.48	21.97	5.49
T2R3	QB2	T	22.52	25.98	3.46
T2R3	QB2	B	22.85	22.49	-0.36
T2R3	QB3	T	22.44	24.09	1.65
T2R3	QB3	B	22.31	23.53	1.23
T2R3	QB4	T	22.14	21.66	-0.48
T2R3	QB4	B	21.97	23.61	1.64
T3R1	QB2	T	18.00	22.99	4.99
T3R1	QB2	B	16.19	19.37	3.17
T3R1	QB3	T	17.33	21.47	4.14
T3R1	QB3	B	16.55	20.34	3.79
T3R1	QB4	T	16.01	19.82	3.81
T3R1	QB4	B	17.25	24.56	7.31
T3R2	QB2	T	21.77	24.41	2.63
T3R2	QB2	B	21.57	22.51	0.95
T3R2	QB3	T	20.62	21.98	1.36
T3R2	QB3	B	19.99	20.62	0.64

Test-Run	Plot	Location	Before	After	Change
T3R2	QB4	T	19.52	20.06	0.54
T3R2	QB4	B	22.00	23.42	1.42
T3R3	QB2	T	24.41	24.22	-0.18
T3R3	QB2	B	22.51	22.30	-0.22
T3R3	QB3	T	21.98	23.85	1.87
T3R3	QB3	B	20.62	22.47	1.85
T3R3	QB4	T	20.06	21.88	1.81
T3R3	QB4	B	23.42	24.12	0.71
T4R1	QB2	T	17.51	24.46	6.95
T4R1	QB2	B	16.54	22.67	6.13
T4R1	QB3	T	18.47	21.86	3.39
T4R1	QB3	B	16.75	21.27	4.52
T4R1	QB4	T	15.22	21.24	6.02
T4R1	QB4	B	18.47	22.54	4.07
T4R2	QB2	T	22.25	25.60	3.35
T4R2	QB2	B	19.89	21.61	1.72
T4R2	QB3	T	22.23	22.75	0.52
T4R2	QB3	B	21.09	23.90	2.81
T4R2	QB4	T	20.51	22.49	1.98
T4R2	QB4	B	22.61	23.51	0.90
T4R3	QB2	T	25.60	14.65	-10.94
T4R3	QB2	B	21.61	23.01	1.39
T4R3	QB3	T	22.75	22.98	0.24
T4R3	QB3	B	23.90	22.27	-1.63
T4R3	QB4	T	22.49	21.74	-0.75
T4R3	QB4	B	23.51	23.69	0.18
T5R1	QB2	T	16.60	21.95	5.35
T5R1	QB2	B	17.49	20.92	3.43
T5R1	QB3	T	15.78	21.19	5.41
T5R1	QB3	B	17.13	21.79	4.66
T5R1	QB4	T	15.43	19.54	4.11
T5R1	QB4	B	16.95	23.68	6.74
T5R2	QB2	T	22.05	22.68	0.63
T5R2	QB2	B	20.62	22.18	1.55
T5R2	QB3	T	12.68	23.95	11.27
T5R2	QB3	B	22.31	22.46	0.15
T5R2	QB4	T	19.74	22.95	3.21
T5R2	QB4	B	21.68	22.96	1.28
T5R3	QB2	T	22.68	23.63	0.95
T5R3	QB2	B	22.18	21.83	-0.35
T5R3	QB3	T	23.95	26.60	2.64
T5R3	QB3	B	22.46	27.26	4.80
T5R3	QB4	T	22.95	22.34	-0.61
T5R3	QB4	B	22.96	25.03	2.07

Section 6: Hydrology Data

This section contains the data which was used to calculate total sediment loads for each test-run-plot combination at this site. General time information is presented in Table B5. Tables B6 through B41 contain the basic field data which was used in the computer programs presented in Appendix A. Tables B42 through B77 contain the reduced soil loss data for each sampling time increment as output from the programs.

Table B5: General Time Information for Sullivan Plots.

Site	Test	Run	Date	----minutes---- Time	Duration	Merge #
QB2	2	1	8/13/81	1116	63	A1
	2	2	8/14/81	1008	69	A4
	2	3	8/14/81	1219	37	A7
	3	1	8/25 81	1717	60	A10
	3	2	8/26/81	1613	64	A13
	3	3	8/26/81	1813	36	A16
	4	1	9/ 1/81	1519	60	A19
	4	2	9/ 2/81	1318	64	A22
	4	3	9/ 2/81	1518	36	A25
	5	1	9/22/81	1507	59	A28
	5	2	9/23/81	1244	63	A31
	5	3	9/23/81	1449	35	A34
QB3	2	1	8/13/81	1116	63	A2
	2	2	8/14/81	1008	65	A5
	2	3	8/14/81	1219	35	A8
	3	1	8/25/81	1719	58	A11
	3	2	8/26/81	1613	63	A14
	3	3	8/26/81	1813	34	A17
	4	1	9/ 1/81	1520	59	A20
	4	2	9/ 2/81	1318	62	A23
	4	3	9/ 2/81	1518	36	A26
	5	1	9/22/81	1507	59	A29
	5	2	9/23/81	1244	64	A32
	5	3	9/23/81	1449	33	A35
QB4	2	1	8/13/81	1116	61	A3
	2	2	8/14/81	1008	64	A6
	2	3	8/14/81	1219	36	A9
	3	1	8/25/81	1722	56	A12
	3	2	8/26/81	1613	64	A15
	3	3	8/26/81	1813	35	A18
	4	1	9/ 1/81	1520	63	A21
	4	2	9/ 2/81	1318	65	A24
	4	3	9/ 2/81	1518	35	A27
	5	1	9/22/81	1505	61	A30
	5	2	9/23/81	1244	63	A33
	5	3	9/23/81	1449	32	A36

TABLE B6: QB2 TEST# 2 RUN# 1 ----DATE 081481 TIME 1008
DURATION 69 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	291.08	18.18	17.80	208.
2	1	299.90	18.27	17.92	208.
3	1	291.86	17.72	17.40	208.
4	1	294.93	18.53	18.18	208.
5	1	305.06	18.07	17.72	208.
6	1	292.75	22.42	17.74	208.
7	1	303.48	25.97	17.37	208.
8	1	270.03	27.75	17.45	208.
9	1	306.48	29.54	17.46	208.
10	1	301.15	28.42	17.36	208.
11	1	302.14	30.80	17.91	208.
12	1	304.41	30.16	17.76	208.
13	1	305.12	30.53	17.71	208.
14	1	299.88	30.74	17.82	208.
15	1	296.87	29.01	17.30	208.
16	2	308.45	30.12	17.98	208.
17	2	313.36	30.52	17.82	208.
18	2	305.77	30.32	18.04	208.
19	2	299.44	29.75	17.74	208.
20	2	290.14	29.28	17.52	208.
21	2	296.97	29.13	17.80	208.
22	2	296.63	28.92	17.56	208.
23	2	294.27	28.41	17.29	208.
24	2	275.01	27.96	17.31	208.
25	2	291.73	28.43	17.31	208.
26	2	293.48	28.56	17.31	208.
27	2	290.69	29.11	17.78	208.
28	2	276.87	28.40	17.25	208.
29	2	297.38	29.02	17.73	208.
30	2	297.82	27.93	17.70	208.
31	2	295.53	27.79	17.61	208.
32	2	288.28	28.10	17.27	208.
33	2	296.03	28.30	17.25	208.
34	2	298.47	28.75	17.44	208.
35	2	292.04	28.05	17.55	208.
36	2	276.71	27.59	17.12	208.
37	2	299.64	31.57	17.44	208.
38	2	301.72	26.62	17.52	208.
39	2	205.91	17.59	17.13	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.10

TABLE B7: QB3 TEST# 2 RUN# 1 ----DATE 081381 TIME 1116
DURATION 63 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
2	2	295.82	18.31	17.96	208.
3	1	299.27	17.81	17.48	208.
4	1	302.18	18.19	17.86	208.
5	1	301.07	17.98	17.68	208.
6	1	297.44	18.10	17.82	208.
7	1	303.69	18.00	17.72	208.
8	1	298.42	17.96	17.66	208.
9	1	302.41	17.93	17.45	208.
10	1	294.14	22.69	17.70	208.
11	1	294.67	27.15	17.70	208.
12	1	286.99	29.12	18.16	208.
13	1	290.70	29.27	17.58	208.
14	1	291.73	29.06	17.48	208.
15	1	299.47	28.56	17.44	208.
16	2	305.79	29.21	17.85	208.
17	2	296.34	28.53	17.76	208.
18	2	298.53	28.36	17.86	208.
19	2	302.20	27.88	17.84	208.
20	2	303.84	27.71	17.70	208.
21	2	296.51	26.32	17.46	208.
22	2	301.93	27.09	17.91	208.
23	2	301.03	26.71	18.00	208.
24	2	304.74	26.49	17.74	208.
25	2	306.63	26.38	17.56	208.
26	2	304.94	26.60	18.16	208.
27	2	302.13	26.48	17.88	208.
28	2	302.40	25.70	17.41	208.
29	2	291.92	25.15	17.76	208.
30	2	290.35	25.30	18.16	208.
31	2	289.65	24.52	17.46	208.
32	2	297.77	25.19	17.39	208.
33	2	295.11	25.70	17.80	208.
34	2	293.92	25.37	17.48	208.
35	2	237.75	25.44	17.49	208.
36	2	292.96	25.73	17.47	208.
37	2	308.00	25.04	17.51	208.
38	2	304.61	20.89	17.32	208.
39	2	297.30	18.73	17.77	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.10

TABLE B8: QB4 TEST# 2 RUN# 1 ----DATE 081381 TIME 1116
DURATION 61 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	287.53	17.79	17.37	208.
3	1	270.44	17.65	17.36	208.
4	1	278.03	17.55	17.26	208.
5	1	264.13	17.87	17.56	208.
6	1	310.30	18.88	17.78	208.
7	1	312.00	22.55	17.78	208.
8	1	269.00	24.97	17.13	208.
9	1	222.83	28.92	17.30	208.
10	1	307.93	32.60	17.75	208.
11	1	318.91	31.91	17.77	208.
12	1	299.05	31.43	17.67	208.
13	1	292.11	30.92	17.43	208.
14	1	264.60	29.31	17.86	208.
15	1	276.84	28.95	17.31	208.
16	2	281.91	28.14	17.16	208.
17	2	254.85	27.26	17.17	208.
18	2	276.14	27.02	17.26	208.
19	2	272.41	26.56	17.35	208.
20	2	288.99	26.55	17.46	208.
21	2	280.51	25.59	17.12	208.
22	2	278.08	25.78	17.35	208.
23	2	276.47	25.50	17.20	208.
24	2	293.78	26.45	18.03	208.
25	2	299.16	25.69	17.64	208.
26	2	287.76	25.15	17.38	208.
27	2	280.25	23.99	17.17	208.
28	2	289.09	25.12	18.02	208.
29	2	291.16	24.78	17.51	208.
30	2	296.72	24.34	17.13	208.
31	2	294.87	25.59	17.93	208.
32	2	289.96	25.32	18.18	208.
33	2	291.04	25.27	17.38	208.
34	2	285.59	25.27	18.06	208.
35	2	274.29	24.92	17.72	208.
36	2	299.93	26.22	17.47	208.
37	2	299.44	33.77	17.75	208.
38	1	295.50	29.46	17.27	208.
39	1	298.19	22.77	17.84	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.10

TABLE B9: QB2 TEST# 2 RUN# 2 ----DATE 081481 TIME 1008
DURATION 69 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
40	1	277.07	20.08	17.65	208.
41	1	299.12	23.16	17.44	208.
42	1	291.15	22.11	17.19	208.
43	1	279.91	22.37	17.59	208.
44	1	279.76	22.58	17.75	208.
45	1	279.72	22.94	17.66	208.
46	1	279.13	22.56	17.63	208.
47	1	281.86	22.29	17.22	208.
48	1	273.33	22.65	17.41	208.
49	1	265.97	22.29	17.40	208.
50	1	280.05	22.43	17.47	208.
51	1	249.66	22.25	17.63	208.
52	1	291.18	22.76	17.27	208.
53	1	245.60	21.62	17.31	208.
54	1	246.17	22.04	17.39	208.
55	2	246.14	22.29	17.68	208.
56	2	232.13	22.20	17.80	208.
57	2	245.06	21.96	17.56	208.
58	2	251.16	22.11	17.55	208.
59	2	243.75	22.04	17.50	208.
60	2	283.95	22.85	17.29	208.
61	2	230.77	21.70	17.34	208.
62	2	244.35	22.25	17.50	208.
63	2	253.26	22.64	17.62	208.
64	2	237.39	22.20	17.57	208.
65	2	224.79	22.24	17.51	208.
66	2	249.72	23.14	17.54	208.
67	2	225.69	22.38	17.29	208.
68	2	216.12	22.06	17.22	208.
69	2	229.79	22.97	17.77	208.
70	2	216.87	22.30	17.31	208.
71	2	226.85	22.81	17.38	208.
72	2	236.15	23.23	17.69	208.
73	2	264.54	23.68	17.89	208.
74	2	230.63	23.28	17.65	208.
75	2	232.76	22.95	17.77	208.
76	2	250.60	23.93	17.92	208.
77	2	230.17	23.02	17.72	208.
78	2	220.37	27.36	17.17	208.
79	2	201.40	19.90	17.79	208.
80	2	184.37	17.81	17.47	208.
81	2	184.14	17.47	17.36	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.10

TABLE B10: QB3 TEST# 2 RUN# 2 ----DATE 081481 TIME 1008
DURATION 65 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
41	1	308.64	18.64	17.56	208.
42	1	271.78	21.42	17.37	208.
43	1	250.99	21.21	17.66	208.
44	1	264.89	21.03	17.57	208.
45	1	216.76	20.40	17.29	208.
46	1	227.99	20.47	17.13	208.
47	1	236.08	20.77	17.18	208.
48	1	258.46	20.88	17.16	208.
49	1	256.94	20.90	17.17	208.
50	1	256.62	21.79	17.92	208.
51	1	278.54	21.85	17.83	208.
52	1	268.46	21.27	17.33	208.
53	1	264.41	21.43	17.31	208.
54	1	279.65	21.75	17.52	208.
55	1	256.30	21.38	17.35	208.
56	2	275.42	22.38	18.02	208.
57	2	253.26	22.09	17.23	208.
58	2	276.24	22.22	17.79	208.
59	2	227.02	21.82	17.45	208.
60	2	286.81	22.53	17.84	208.
61	2	274.16	21.68	17.26	208.
62	2	302.42	23.23	18.03	208.
63	2	268.70	21.80	17.35	208.
64	2	267.70	21.98	17.31	208.
65	2	268.53	22.23	17.54	208.
66	2	262.12	21.75	17.35	208.
67	2	276.30	22.17	17.52	208.
68	2	261.31	21.88	17.16	208.
69	2	276.27	22.68	17.86	208.
70	2	278.08	23.20	18.14	208.
71	2	266.53	22.48	17.33	208.
72	2	260.77	22.12	17.34	208.
73	2	303.70	23.75	18.07	208.
74	2	290.30	23.74	18.08	208.
75	2	269.13	22.54	17.57	208.
76	2	283.68	23.63	17.98	208.
77	2	290.35	22.74	17.44	208.
78	2	282.44	25.96	17.78	208.
79	2	254.31	18.34	17.49	208.
80	2	271.17	17.61	17.40	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.10

TABLE B11: QB4 TEST# 2 RUN# 2 ----DATE 081481 TIME 1008
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
41	2	233.26	20.29	17.33	208.
42	1	242.43	20.83	17.93	208.
43	1	225.36	20.42	17.71	208.
44	1	225.61	19.86	17.17	208.
46	1	222.28	19.98	17.17	208.
47	1	226.60	20.55	17.46	208.
48	1	223.91	20.63	17.63	208.
49	1	233.77	20.45	17.14	208.
50	1	237.55	20.63	17.38	208.
51	1	232.39	21.14	17.89	208.
52	1	225.02	20.63	17.37	208.
53	1	253.21	21.65	17.92	208.
54	1	231.15	21.36	17.86	208.
55	2	245.80	21.18	17.49	208.
56	2	245.01	21.57	17.77	208.
57	2	241.31	20.93	17.39	208.
58	2	236.71	21.09	17.52	208.
59	2	242.49	21.13	17.35	208.
60	2	252.80	21.09	17.47	208.
61	2	248.90	21.68	17.85	208.
62	2	240.50	20.83	17.30	208.
63	2	255.95	21.15	17.38	208.
64	2	210.96	20.85	17.27	208.
65	2	246.71	21.05	17.29	208.
66	2	246.73	21.30	17.39	208.
67	2	248.52	21.60	17.58	208.
68	2	244.63	21.33	17.33	208.
69	2	228.69	21.75	17.52	208.
70	2	259.52	22.60	18.03	208.
71	2	238.89	22.39	17.88	208.
72	2	247.90	22.56	17.86	208.
73	2	250.11	22.39	17.98	208.
74	2	261.53	23.68	18.22	208.
75	2	252.50	22.31	17.32	208.
76	2	258.81	22.93	17.65	208.
77	1	261.46	22.01	17.15	208.
78	1	265.07	32.10	17.61	208.
79	1	238.79	27.37	17.85	208.
80	1	242.76	21.75	17.51	208.
81	1	242.26	19.28	17.47	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.10

TABLE B12: QB2 TEST# 2 RUN# 3 ----DATE 081481 TIME 1219
DURATION 37 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
82	1	242.34	19.08	17.26	208.
83	1	235.51	21.05	17.84	208.
84	1	249.86	20.94	17.91	208.
85	1	242.81	20.99	17.91	208.
86	1	242.08	20.62	17.62	208.
87	1	224.84	20.53	17.64	208.
88	1	241.37	20.55	17.48	208.
89	1	245.68	20.83	17.54	208.
90	1	256.66	21.15	17.75	208.
91	1	226.62	20.67	17.50	208.
92	1	256.39	20.98	17.38	208.
93	1	218.40	20.94	17.81	208.
94	1	242.08	21.11	17.61	208.
95	1	241.80	21.27	17.86	208.
96	1	249.86	21.58	18.04	208.
97	2	262.26	21.94	17.82	208.
98	2	237.35	20.97	17.50	208.
99	2	238.75	21.87	17.90	208.
100	2	251.86	21.72	17.83	208.
101	2	273.23	22.06	17.60	208.
102	2	224.25	21.41	17.65	208.
103	2	248.01	21.63	17.74	208.
104	2	257.40	21.85	17.69	208.
105	2	246.37	26.59	17.94	208.
106	2	227.51	19.61	17.68	208.
107	2	205.22	18.33	17.28	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.10

TABLE B13: QB3 TEST# 2 RUN# 3 ----DATE 081481 TIME 1219
DURATION 35 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
81	1	281.56	18.84	17.66	208.
82	1	264.30	20.27	17.34	208.
83	1	267.50	20.22	17.35	208.
84	1	274.47	20.64	17.68	208.
85	1	258.84	20.52	17.80	208.
86	1	288.71	20.86	17.86	208.
87	1	271.08	20.21	17.28	208.
88	1	282.96	20.46	17.43	208.
89	1	272.41	21.06	17.99	208.
90	1	255.71	20.42	17.31	208.
91	1	276.37	21.40	17.96	208.
92	1	260.44	20.58	17.39	208.
93	1	268.40	20.64	17.35	208.
94	1	272.43	20.73	17.31	208.
95	1	257.79	20.52	17.29	208.
96	2	256.58	20.78	17.28	208.
97	2	279.91	21.11	17.53	208.
98	2	266.32	20.80	17.32	208.
99	2	276.52	21.36	17.76	208.
100	2	265.74	21.34	17.69	208.
101	2	277.20	21.48	17.78	208.
102	2	265.65	21.41	17.76	208.
103	2	268.88	20.56	17.41	208.
104	2	286.00	25.50	17.52	208.
105	2	257.33	18.99	17.28	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.08

TABLE B14: QB4 TEST# 2 RUN# 3 ----DATE 081481 TIME 1219
DURATION 36 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
82	1	254.06	18.87	17.48	208.
83	1	266.20	20.40	17.58	208.
84	1	260.04	20.08	17.51	208.
85	1	244.36	20.12	17.64	208.
86	1	253.77	20.09	17.53	208.
87	1	244.32	20.00	17.47	208.
88	1	240.07	20.30	17.70	208.
89	1	235.66	20.68	18.01	208.
90	1	256.52	20.69	17.83	208.
91	1	272.81	21.01	17.91	208.
92	1	255.56	20.56	17.68	208.
93	1	252.31	20.12	17.30	208.
94	1	244.28	20.33	17.39	208.
95	1	240.54	20.25	17.43	208.
96	1	264.07	20.50	17.35	208.
97	2	262.15	21.22	17.81	208.
98	2	233.18	20.46	17.39	208.
99	2	275.65	21.45	18.00	208.
100	2	254.93	20.93	17.74	208.
101	2	269.05	21.02	17.54	208.
102	2	282.41	21.82	18.07	208.
103	2	265.20	20.91	17.45	208.
104	2	262.21	21.08	18.07	208.
105	1	254.51	22.18	18.04	208.
106	1	234.85	21.75	17.81	208.
107	1	228.77	21.12	17.49	208.
108	1	235.46	19.46	17.64	208.
109	1	226.13	18.20	17.57	208.

CORRECTION FOR DISSOLVED SOLIDS = 0.08

TABLE B15: QB2 TEST# 3 RUN# 1 ----DATE 082581 TIME 1717
DURATION 60 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	284.39	18.87	17.53	100.
2	1	281.82	31.85	17.66	100.
3	1	288.84	36.10	17.89	100.
4	1	283.23	36.44	17.56	100.
5	1	288.78	34.62	17.63	100.
6	1	297.23	37.68	17.72	100.
7	1	293.98	38.57	17.45	100.
8	1	292.83	37.37	17.36	100.
9	1	296.20	38.15	17.63	100.
10	1	297.02	38.87	17.84	100.
11	1	297.11	38.33	17.70	100.
12	1	302.34	37.86	17.50	100.
13	4	294.04	36.70	17.70	100.
14	4	292.05	35.10	17.54	100.
15	4	293.78	36.46	17.45	100.
16	4	297.02	33.11	17.47	100.
17	4	297.42	33.20	17.82	100.
18	4	275.71	31.52	17.59	100.
19	4	310.14	31.10	17.60	100.
20	4	278.67	29.68	17.73	100.
21	4	287.26	28.64	17.60	100.
22	4	287.32	29.71	17.44	100.
23	4	295.33	28.52	17.66	100.
24	4	277.87	19.18	17.77	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B16: QB3 TEST# 3 RUN# 1 ----DATE 082581 TIME 1719
DURATION 58 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	277.24	17.90	17.54	100.
2	1	276.08	17.87	17.61	100.
3	1	274.83	17.83	17.55	100.
4	1	282.73	25.14	17.61	100.
5	1	286.74	30.34	17.91	100.
6	1	292.57	34.82	17.39	100.
7	1	287.13	34.15	17.26	100.
8	1	283.27	35.16	17.65	100.
9	1	297.67	36.71	18.01	100.
10	1	288.25	35.28	17.31	100.
11	1	284.58	34.75	17.68	100.
12	1	303.09	35.59	17.67	100.
13	4	283.81	32.19	17.50	100.
14	4	273.39	30.39	17.53	100.
15	4	294.82	30.53	17.51	100.
16	4	300.47	31.05	17.78	100.
17	4	281.67	28.36	17.41	100.
18	4	304.93	28.87	17.65	100.
19	4	295.88	28.60	17.71	100.
20	4	276.27	28.30	17.57	100.
21	4	293.99	28.71	17.75	100.
22	4	283.43	28.75	17.74	100.
23	4	300.42	23.79	17.73	100.
24	1	279.74	22.81	17.62	100.
25	1	266.69	18.56	17.73	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B17: QB4 TEST# 3 RUN# 1 ----DATE 082581 TIME 1722
DURATION 56 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	217.75	17.92	17.73	100.
2	1	231.31	29.50	17.42	100.
3	1	261.56	36.40	17.37	100.
4	1	248.42	37.24	17.45	100.
5	1	272.02	38.00	17.28	100.
6	1	271.41	36.38	17.59	100.
7	1	253.22	34.25	17.54	100.
8	1	257.53	33.42	17.32	100.
9	1	264.93	33.43	17.61	100.
10	1	264.93	33.31	17.51	100.
11	1	253.58	31.66	17.55	100.
12	1	264.04	31.62	17.30	100.
13	4	260.07	31.54	17.73	100.
14	4	272.75	32.14	17.48	100.
15	4	273.57	31.98	17.46	100.
16	4	240.63	29.72	17.74	100.
17	4	255.08	29.87	17.82	100.
18	4	254.74	28.06	17.43	100.
19	4	272.48	28.14	17.23	100.
20	4	255.52	28.34	17.59	100.
21	4	261.85	28.24	17.58	100.
22	4	250.51	26.69	17.66	100.
23	4	238.91	18.05	17.41	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B18: QB2 TEST# 3 RUN# 2 ----DATE 082681 TIME 1613
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
25	1	252.89	18.24	17.68	100.
26	1	241.37	18.49	17.75	100.
27	1	239.57	21.94	17.50	100.
28	1	254.93	22.78	17.74	100.
29	1	269.44	23.55	17.92	100.
30	1	262.65	23.36	17.72	100.
31	1	264.60	23.51	17.80	100.
32	1	269.06	24.25	17.73	100.
33	1	258.00	23.21	17.57	100.
34	1	262.64	24.24	17.54	100.
35	1	277.35	24.40	17.58	100.
36	1	262.04	24.06	17.59	100.
37	4	252.78	23.53	17.54	100.
38	4	268.68	25.27	17.94	100.
39	4	271.73	26.79	17.67	100.
40	4	266.19	27.26	17.79	100.
41	4	255.36	26.03	17.62	100.
42	4	277.15	28.58	17.71	100.
43	4	253.97	26.58	17.96	100.
44	4	256.38	27.98	17.68	100.
45	4	268.48	25.76	17.51	100.
46	4	271.91	26.91	17.78	100.
47	4	265.60	26.26	17.76	100.
48	4	271.22	25.72	17.98	100.
49	4	242.75	21.56	17.50	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.04

TABLE B19: QB3 TEST# 3 RUN# 2 ----DATE 082681 TIME 1613
DURATION 63 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
26	1	299.50	18.27	17.69	100.
27	1	273.44	18.58	17.59	100.
28	1	278.53	20.31	17.50	100.
29	1	271.27	21.87	17.77	100.
30	1	262.79	22.42	17.64	100.
31	1	273.45	22.95	17.55	100.
32	1	269.50	23.04	17.66	100.
33	1	274.61	23.58	17.89	100.
34	1	278.71	23.35	17.57	100.
35	1	281.99	23.67	17.67	100.
36	1	287.31	24.57	17.75	100.
37	1	279.07	24.07	17.75	100.
38	4	281.67	24.38	17.54	100.
39	4	295.71	25.28	17.88	100.
40	4	294.55	25.25	17.81	100.
41	4	291.76	25.74	17.69	100.
42	4	285.56	26.24	17.50	100.
43	4	288.57	25.99	17.94	100.
44	4	283.44	26.40	17.77	100.
45	4	290.66	26.22	17.60	100.
46	4	286.73	25.23	17.51	100.
47	4	296.29	26.60	17.74	100.
48	4	284.24	25.80	17.73	100.
49	4	279.35	26.49	17.80	100.
50	1	283.56	22.10	17.74	100.
51	1	272.25	22.23	17.71	100.
52	1	274.95	18.05	17.72	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.04

TABLE B20: QB4 TEST# 3 RUN# 2 ----DATE 082681 TIME 1613
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
24	1	246.07	18.47	17.66	100.
25	1	266.45	19.13	17.51	100.
26	1	258.41	21.63	17.81	100.
27	1	256.60	22.68	17.66	100.
28	1	263.89	23.98	17.74	100.
29	1	256.28	24.26	17.93	100.
30	1	255.87	23.31	17.38	100.
31	1	260.14	24.03	17.65	100.
32	1	270.24	24.07	17.47	100.
33	1	258.43	24.12	17.69	100.
34	1	252.02	24.04	17.68	100.
35	1	251.02	24.23	17.63	100.
36	4	264.36	24.22	17.71	100.
37	4	250.07	24.05	17.51	100.
38	4	250.09	24.66	17.45	100.
39	4	243.74	25.08	17.73	100.
40	4	255.69	26.63	17.59	100.
41	4	254.58	26.40	17.66	100.
42	4	248.53	25.85	17.68	100.
43	4	231.68	25.15	17.68	100.
44	4	244.56	24.92	17.51	100.
45	4	226.71	24.08	17.09	100.
46	4	258.98	25.40	17.57	100.
47	4	249.86	26.11	17.92	100.
48	1	232.63	21.36	17.69	100.
49	1	247.13	18.41	17.63	100.
50	1	226.75	18.13	17.86	100.
51	1	204.68	17.86	17.74	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.04

TABLE B21: QB2 TEST# 3 RUN# 3 ----DATE 082681 TIME 1813
DURATION 36 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
50	1	255.14	20.59	17.71	100.
51	1	259.81	21.99	17.62	100.
52	1	267.59	21.93	17.71	100.
53	1	276.50	22.09	17.84	100.
54	1	243.18	21.58	17.65	100.
55	1	269.14	21.99	17.58	100.
56	1	261.45	21.98	17.69	100.
57	1	253.61	21.97	17.84	100.
58	1	258.78	21.93	17.62	100.
59	1	260.69	21.94	17.47	100.
60	1	261.56	22.27	17.66	100.
61	1	264.05	22.35	17.85	100.
62	4	259.06	22.44	17.78	100.
63	4	230.07	21.80	17.45	100.
64	4	256.08	23.25	17.86	100.
65	4	242.93	22.46	17.59	100.
66	4	261.34	23.76	17.61	100.
67	4	221.17	18.03	17.78	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B22: QB3 TEST# 3 RUN# 3 ----DATE 082681 TIME 1813
DURATION 34 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
53	1	274.95	18.59	17.55	100.
54	1	293.98	21.98	17.55	100.
55	1	284.76	21.83	17.71	100.
56	1	284.12	21.67	17.74	100.
57	1	286.73	21.54	17.65	100.
58	1	279.68	21.13	17.50	100.
59	1	274.08	21.51	17.69	100.
60	1	271.60	21.46	17.98	100.
61	1	281.71	21.80	17.77	100.
62	1	282.56	21.39	17.51	100.
63	1	280.67	21.68	17.67	100.
64	1	279.65	21.77	17.71	100.
65	4	279.54	22.28	17.92	100.
66	4	284.55	22.49	17.51	100.
67	4	282.62	22.62	17.77	100.
68	4	286.59	22.91	17.59	100.
69	4	277.69	23.47	17.74	100.
70	1	257.55	20.70	17.77	100.
71	1	272.29	18.51	17.77	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B23: QB4 TEST# 3 RUN# 3 ----DATE 082681 TIME 1813
DURATION 35 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
52	1	257.52	19.27	17.60	100.
53	1	257.78	21.67	17.76	100.
54	1	264.81	21.22	17.57	100.
55	1	239.36	20.99	17.80	100.
56	1	255.58	20.70	17.50	100.
57	1	244.64	21.05	17.76	100.
58	1	248.92	21.12	17.72	100.
59	1	249.19	20.69	17.41	100.
60	1	253.00	21.26	17.75	100.
61	1	242.59	21.31	17.88	100.
62	1	251.99	21.29	17.60	100.
63	1	254.16	21.35	17.72	100.
64	4	272.62	21.70	17.69	100.
65	4	262.92	21.43	17.39	100.
66	4	256.92	21.56	17.59	100.
67	4	264.82	22.13	17.83	100.
68	4	253.48	22.02	17.72	100.
69	1	235.25	19.01	17.68	100.
70	1	227.82	18.42	17.73	100.
71	1	232.39	17.73	17.58	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B24: QB2 TEST# 4 RUN# 1 ----DATE 090181 TIME 1519
DURATION 60 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	252.68	18.03	17.65	100.
2	1	253.09	34.45	17.80	100.
3	1	290.03	39.81	17.54	100.
4	1	284.19	39.58	17.50	100.
5	1	284.14	37.74	17.51	100.
6	1	273.43	36.99	17.64	100.
7	1	277.92	36.76	17.61	100.
8	1	273.14	35.55	17.55	100.
9	1	269.05	34.60	17.72	100.
10	1	260.62	33.71	17.87	100.
11	1	265.15	32.81	17.72	100.
12	4	275.78	32.44	17.77	100.
13	4	270.99	29.83	17.37	100.
14	4	268.36	28.85	17.71	100.
15	4	257.95	27.65	17.18	100.
16	4	265.88	28.37	17.48	100.
17	4	284.82	29.29	17.51	100.
18	4	272.82	27.67	17.60	100.
19	4	265.83	25.67	17.37	100.
20	4	269.20	27.16	17.95	100.
21	4	265.49	25.51	17.50	100.
22	4	267.96	24.91	17.44	100.
23	1	244.35	23.48	17.21	100.
24	1	248.97	19.87	17.37	100.
25	1	251.13	19.65	17.60	100.
26	1	234.69	18.25	17.90	100.
27	1	192.25	17.64	17.53	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.05

TABLE B25: QB3 TEST# 4 RUN# 1 ----DATE 090181 TIME 1520
DURATION 59 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	250.02	18.33	17.93	100.
2	1	248.99	17.98	17.66	100.
3	1	262.85	28.04	17.56	100.
4	1	259.99	30.86	17.54	100.
5	1	262.44	33.30	17.62	100.
6	1	253.68	32.77	17.54	100.
7	1	251.15	31.75	17.27	100.
8	1	261.10	32.83	17.94	100.
9	1	250.66	30.77	17.81	100.
10	1	241.34	29.55	17.78	100.
11	1	247.82	29.51	17.64	100.
12	1	249.07	28.64	17.32	100.
13	4	238.56	28.15	17.92	100.
14	4	239.99	26.44	17.68	100.
15	4	253.79	25.75	17.45	100.
16	4	246.15	25.11	17.68	100.
17	4	254.64	24.43	17.36	100.
18	4	253.89	24.29	17.62	100.
19	4	243.50	24.01	17.60	100.
20	4	265.84	25.06	17.68	100.
21	4	253.30	24.13	17.41	100.
22	4	251.27	24.10	17.55	100.
23	3	255.78	23.88	17.54	100.
24	1	244.55	25.87	17.72	100.
25	1	236.59	25.24	17.49	100.
26	1	269.29	24.72	17.73	100.
27	1	234.40	20.92	17.46	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.05

TABLE B26: QB4 TEST# 4 RUN# 1 ----DATE 090181 TIME 1520
DURATION 63 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	223.58	17.55	17.32	100.
2	1	242.90	18.14	17.88	100.
3	1	243.46	17.96	17.69	100.
4	1	231.37	17.77	17.53	100.
5	1	239.42	22.72	17.29	100.
6	1	269.09	32.35	17.24	100.
7	1	260.36	31.98	17.72	100.
8	1	260.00	31.27	17.38	100.
9	1	275.54	31.41	17.36	100.
10	1	236.26	28.95	17.56	100.
11	1	248.03	29.82	17.85	100.
12	1	244.04	28.59	17.34	100.
13	4	253.34	28.44	17.54	100.
14	4	266.56	26.94	17.77	100.
15	4	245.61	25.23	17.67	100.
16	4	226.33	23.87	17.55	100.
17	4	238.97	23.55	17.46	100.
18	4	253.78	23.37	17.23	100.
19	4	243.38	23.31	17.48	100.
20	4	252.24	23.41	17.80	100.
21	4	251.29	23.41	17.52	100.
22	4	245.27	23.38	17.51	100.
23	4	234.40	23.42	17.57	100.
24	2	241.02	23.47	17.72	100.
25	1	250.55	23.95	17.50	100.
26	1	252.70	26.02	17.65	100.
27	1	220.23	25.64	17.58	100.
28	1	209.92	20.43	17.32	100.
29	1	218.42	18.44	17.66	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.05

TABLE B27: QB2 TEST# 4 RUN# 2 ----DATE 090281 TIME 1318
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
28	1	262.84	20.61	17.58	100.
29	1	263.29	21.12	17.74	100.
30	1	245.97	21.06	17.69	100.
31	1	256.42	21.05	17.49	100.
32	1	261.27	21.20	17.67	100.
33	1	260.49	21.00	17.39	100.
34	1	265.03	21.12	17.32	100.
35	1	253.32	21.19	17.51	100.
36	1	257.67	21.33	17.43	100.
37	1	265.78	21.41	17.20	100.
38	1	265.82	22.18	17.90	100.
39	1	266.12	21.89	17.37	100.
40	4	261.07	21.91	17.57	100.
41	4	260.20	21.92	17.40	100.
42	4	272.63	22.67	17.66	100.
43	4	272.53	22.83	17.87	100.
44	4	254.99	22.35	17.52	100.
45	4	255.29	23.35	17.46	100.
46	4	245.03	23.45	17.45	100.
48	4	270.47	23.44	17.91	100.
49	4	237.63	22.03	17.15	100.
50	4	248.71	23.34	17.60	100.
51	3	254.79	23.73	17.50	100.
52	1	255.39	28.15	17.42	100.
53	1	248.39	24.82	17.63	100.
54	1	239.82	19.40	17.51	100.
55	1	227.56	18.12	17.39	100.
56	1	237.27	18.04	17.68	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.06

TABLE B28: QB3 TEST# 4 RUN# 2 ----DATE 090281 TIME 1318
DURATION 62 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
28	1	233.88	18.19	17.40	100.
29	1	249.12	20.41	17.43	100.
30	1	222.45	20.10	17.48	100.
31	1	240.39	20.15	17.35	100.
32	1	232.47	20.34	17.58	100.
33	1	231.49	20.75	17.83	100.
34	1	226.24	20.20	17.40	100.
35	1	242.35	20.65	17.57	100.
36	1	232.97	20.85	17.74	100.
37	1	228.90	20.78	17.70	100.
38	1	241.36	20.81	17.47	100.
39	1	235.79	21.28	17.87	100.
40	4	265.62	21.52	17.58	100.
41	4	247.53	21.36	17.40	100.
42	4	232.70	21.32	17.49	100.
43	4	248.28	21.75	17.81	100.
44	4	241.18	21.63	17.46	100.
45	4	253.04	21.91	17.57	100.
46	4	232.31	21.63	17.29	100.
47	4	255.62	22.41	17.61	100.
48	4	229.06	21.71	17.42	100.
49	4	245.35	22.31	17.81	100.
50	4	269.95	22.79	17.67	100.
51	2	242.86	22.23	17.50	100.
52	1	242.01	22.76	17.62	100.
53	1	250.07	23.96	17.25	100.
54	1	258.74	20.77	17.30	100.
55	1	249.66	19.14	17.64	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.06

TABLE B29: QB4 TEST# 4 RUN# 2 ----DATE 090281 TIME 1318
DURATION 65 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
30	1	219.12	18.50	17.38	100.
31	1	246.51	19.69	17.53	100.
32	1	224.98	19.68	17.34	100.
33	1	243.70	20.02	17.53	100.
34	1	251.93	20.38	17.63	100.
35	1	229.89	20.14	17.42	100.
36	1	233.95	20.59	17.72	100.
37	1	250.17	20.38	17.28	100.
38	1	238.67	20.48	17.42	100.
39	1	228.92	20.69	17.56	100.
40	1	232.82	20.49	17.35	100.
41	1	257.05	20.93	17.42	100.
42	4	251.88	21.12	17.55	100.
43	4	244.65	21.19	17.56	100.
44	4	243.02	21.45	17.47	100.
45	4	270.80	22.04	17.84	100.
46	4	257.77	21.76	17.31	100.
47	4	235.25	21.69	17.74	100.
48	4	222.92	21.35	17.56	100.
49	4	222.02	21.07	17.41	100.
50	4	249.20	21.83	17.86	100.
51	4	222.47	21.63	17.56	100.
52	4	226.61	22.30	17.43	100.
53	4	237.16	22.33	17.45	100.
54	1	220.63	28.54	17.44	100.
55	1	212.60	23.95	17.50	100.
56	1	243.76	21.08	17.49	100.
57	1	210.24	18.30	17.74	100.
58	1	191.44	17.83	17.66	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.06

TABLE B30: QB2 TEST# 4 RUN# 3 ----DATE 090281 TIME 1518
DURATION 36 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
57	1	250.57	19.78	17.77	100.
58	1	252.85	20.17	17.23	100.
59	1	264.16	20.24	17.38	100.
60	1	251.88	19.92	17.35	100.
61	1	236.70	20.37	17.74	100.
62	1	246.32	20.05	17.47	100.
63	1	257.43	20.38	17.40	100.
64	1	274.68	21.00	17.85	100.
65	1	264.37	20.73	17.61	100.
66	1	262.10	20.73	17.58	100.
67	1	255.76	20.59	17.50	100.
68	1	254.82	20.91	17.70	100.
69	4	277.86	20.89	17.52	100.
70	4	267.57	20.72	17.37	100.
71	4	266.86	21.11	17.58	100.
72	4	253.24	20.64	17.41	100.
73	2	262.91	20.99	17.52	100.
74	1	252.54	23.36	17.49	100.
75	1	249.23	23.92	17.73	100.
76	1	261.28	20.67	17.51	100.
77	1	248.24	19.08	17.76	100.
78	1	242.94	17.92	17.47	100.
79	1	244.20	17.92	17.64	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.06

TABLE B31: QB3 TEST# 4 RUN# 3 ----DATE 090281 TIME 1518
DURATION 36 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
56	1	253.65	18.26	17.59	100.
57	1	249.80	18.54	17.41	100.
58	1	240.24	19.86	17.36	100.
59	1	242.42	19.76	17.48	100.
60	1	250.79	20.24	17.96	100.
61	1	250.73	20.08	17.75	100.
62	1	251.21	19.93	17.48	100.
63	1	234.10	19.86	17.64	100.
64	1	249.93	20.11	17.64	100.
65	1	239.82	20.32	17.85	100.
66	1	255.52	20.10	17.52	100.
67	1	250.69	20.38	17.75	100.
68	4	249.13	20.23	17.60	100.
69	4	233.64	20.40	17.72	100.
70	4	263.33	20.72	17.69	100.
71	4	260.39	20.75	17.71	100.
72	2	244.58	20.37	17.55	100.
73	1	253.62	20.16	17.51	100.
74	1	233.02	21.01	17.61	100.
75	1	217.01	20.06	17.55	100.
76	1	244.57	19.80	17.80	100.
77	1	229.75	18.38	17.75	100.
78	1	252.68	18.12	17.86	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.06

TABLE B32: QB4 TEST# 4 RUN# 3 ----DATE 090281 TIME 1518
DURATION 35 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
59	1	240.46	18.45	17.31	100.
60	1	240.80	20.03	17.66	100.
61	1	227.12	19.97	17.85	100.
62	1	220.03	19.48	17.59	100.
63	1	230.34	19.70	17.44	100.
64	1	248.08	20.03	17.64	100.
65	1	240.26	19.78	17.39	100.
66	1	231.78	19.66	17.41	100.
67	1	232.22	20.07	17.65	100.
68	1	247.28	20.11	17.61	100.
69	1	250.97	20.21	17.53	100.
70	1	236.81	20.03	17.52	100.
71	4	243.84	20.13	17.53	100.
72	4	236.15	20.28	17.64	100.
73	4	238.30	20.54	17.92	100.
74	4	263.86	20.49	17.43	100.
75	2	243.68	20.48	17.72	100.
76	1	253.62	20.39	17.68	100.
77	1	246.51	20.07	17.46	100.
78	1	259.98	19.86	17.75	100.
79	1	236.16	19.42	17.91	100.
80	1	247.91	17.97	17.43	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.06

TABLE B33: QB2 TEST# 5 RUN# 1 ----DATE 092281 TIME 1507
DURATION 59 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	250.36	17.90	17.60	100.
2	1	247.23	22.72	17.71	100.
3	1	250.48	32.70	17.56	100.
4	1	271.18	37.07	17.41	100.
5	1	276.24	38.54	17.47	100.
6	1	270.98	37.49	17.57	100.
7	1	261.52	37.07	17.58	100.
8	1	266.74	36.67	17.47	100.
9	1	271.64	36.37	17.64	100.
10	1	263.77	34.70	17.82	100.
11	1	264.08	33.55	17.64	100.
12	1	257.53	32.76	17.70	100.
13	1	254.65	31.88	17.37	100.
14	4	254.12	30.01	17.66	100.
15	4	260.62	28.72	17.19	100.
16	4	265.10	29.64	17.42	100.
17	4	256.29	28.65	17.51	100.
18	4	256.43	27.69	17.59	100.
19	4	259.32	27.75	17.35	100.
20	4	261.21	28.09	17.85	100.
21	4	255.60	26.56	17.50	100.
22	4	258.99	26.09	17.41	100.
23	4	256.36	25.07	17.23	100.
24	2	264.69	27.46	17.35	100.
25	1	254.73	23.83	17.60	100.
26	1	246.81	20.65	17.87	100.
27	1	230.84	18.34	17.52	100.
28	1	231.89	17.87	17.57	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.05

TABLE B34: QB3 TEST# 5 RUN# 1 ----DATE 092281 TIME 1507
DURATION 59 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	251.68	18.29	17.87	100.
2	1	245.06	29.26	17.61	100.
3	1	252.25	33.41	17.48	100.
4	1	262.64	35.64	17.46	100.
5	1	260.89	34.85	17.61	100.
6	1	247.28	32.83	17.52	100.
7	1	246.09	32.07	17.26	100.
8	1	263.96	33.24	17.82	100.
9	1	265.65	32.04	17.67	100.
10	1	240.46	29.68	17.68	100.
11	1	246.59	29.65	17.57	100.
12	1	262.32	29.41	17.30	100.
13	4	263.30	29.86	17.82	100.
14	5	263.05	27.53	17.62	100.
15	4	247.45	25.84	17.44	100.
16	5	236.72	24.88	17.65	100.
17	4	237.72	24.25	17.37	100.
18	4	216.22	23.62	17.54	100.
19	4	241.16	24.44	17.60	100.
20	4	242.59	24.06	17.62	100.
21	4	247.38	23.78	17.38	100.
22	4	252.92	23.59	17.53	100.
23	1	250.35	22.93	17.48	100.
24	1	249.62	23.01	17.63	100.
25	1	252.54	21.36	17.42	100.
26	1	251.19	19.64	17.65	100.
27	1	207.23	17.94	17.44	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.05

TABLE B35: QB4 TEST# 5 RUN# 1 ----DATE 092281 TIME 1505
DURATION 61 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	243.48	17.56	17.33	100.
2	1	245.59	17.91	17.65	100.
3	1	259.05	25.68	17.29	100.
4	1	236.77	29.79	17.25	100.
5	1	240.94	32.55	17.70	100.
6	1	256.08	34.04	17.39	100.
7	1	254.45	33.23	17.37	100.
8	1	226.89	30.28	17.53	100.
9	1	255.86	31.69	17.75	100.
10	1	258.88	30.38	17.33	100.
11	1	240.89	29.17	17.53	100.
12	1	240.86	28.83	17.75	100.
13	4	240.14	28.13	17.63	100.
14	4	220.40	25.31	17.41	100.
15	4	244.00	25.14	17.24	100.
16	4	251.10	24.83	17.47	100.
17	4	261.28	25.01	17.76	100.
18	4	276.81	24.72	17.48	100.
19	4	220.65	23.50	17.48	100.
20	4	256.45	24.44	17.56	100.
21	4	257.21	24.21	17.73	100.
22	4	259.09	23.78	17.49	100.
23	4	266.88	23.61	17.65	100.
24	1	224.29	23.17	17.55	100.
25	1	259.88	24.06	17.32	100.
26	1	232.99	22.35	17.64	100.
27	1	249.83	21.91	17.36	100.
28	1	207.62	17.94	17.52	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.05

TABLE B36: QB2 TEST# 5 RUN# 2 ----DATE 092381 TIME 1244
DURATION 63 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
29	1	247.93	18.61	17.72	100.
30	1	245.34	18.72	17.63	100.
31	1	226.44	19.16	17.50	100.
32	1	244.99	19.85	17.56	100.
33	1	243.26	19.73	17.38	100.
34	1	226.41	19.83	17.32	100.
35	1	236.03	20.53	17.50	100.
36	1	248.14	20.75	17.41	100.
37	1	258.98	20.54	17.21	100.
38	1	238.41	21.10	17.87	100.
39	1	252.41	20.74	17.38	100.
40	1	228.62	20.71	17.58	100.
41	1	249.30	21.18	17.40	100.
42	4	245.18	21.07	17.61	100.
43	4	230.59	21.04	17.83	100.
44	4	239.12	20.96	17.52	100.
46	4	230.27	20.89	17.46	100.
47	4	245.33	21.65	17.56	100.
48	4	237.35	22.02	17.90	100.
49	4	248.98	21.63	17.16	100.
50	4	253.37	22.19	17.54	100.
51	4	236.57	21.67	17.45	100.
52	4	246.70	22.01	17.43	100.
53	3	241.97	21.92	17.63	100.
54	1	261.91	28.91	17.50	100.
55	1	241.47	18.04	17.38	100.
56	1	220.45	17.82	17.66	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B37: QB3 TEST# 5 RUN# 2 ----DATE 092381 TIME 1244
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
28	1	231.33	18.60	17.37	100.
29	1	224.57	18.97	17.43	100.
30	1	227.34	19.26	17.43	100.
31	1	224.88	19.15	17.34	100.
32	1	234.71	19.53	17.52	100.
33	1	241.11	20.17	17.80	100.
34	1	233.71	19.74	17.38	100.
35	1	232.35	19.93	17.53	100.
36	1	238.20	20.20	17.68	100.
37	1	240.65	20.35	17.62	100.
38	1	241.70	20.27	17.54	100.
39	1	240.67	20.66	17.82	100.
40	4	226.69	20.43	17.57	100.
41	4	239.84	20.35	17.39	100.
42	4	243.24	20.47	17.41	100.
43	4	226.47	20.62	17.77	100.
44	4	216.88	20.37	17.47	100.
45	4	226.92	20.44	17.50	100.
46	4	250.98	20.98	17.27	100.
47	4	229.28	20.91	17.60	100.
48	4	240.97	20.94	17.43	100.
49	4	238.79	21.20	17.74	100.
50	4	252.40	21.58	17.64	100.
51	2	214.37	20.55	17.48	100.
52	1	224.12	21.03	17.62	100.
53	1	222.84	22.96	17.24	100.
54	1	235.67	21.08	17.31	100.
55	1	236.60	18.69	17.58	100.
56	1	227.34	18.16	17.57	100.
57	1	218.02	17.62	17.40	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B38: QB4 TEST# 5 RUN# 2 ----DATE 092381 TIME 1244
DURATION 63 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
32	1	237.66	18.02	17.36	100.
33	1	226.68	18.43	17.52	100.
34	1	254.45	19.21	17.54	100.
35	1	215.25	19.06	17.37	100.
36	1	247.88	20.00	17.68	100.
37	1	228.82	19.61	17.30	100.
38	1	238.94	20.03	17.38	100.
39	1	227.48	20.08	17.55	100.
40	1	219.40	19.83	17.35	100.
41	1	212.09	20.06	17.44	100.
42	1	219.17	20.30	17.54	100.
43	1	237.83	20.46	17.54	100.
44	4	259.89	20.66	17.47	100.
45	4	246.08	21.07	17.73	100.
46	4	237.97	20.24	17.34	100.
47	4	254.02	21.18	17.71	100.
48	4	241.80	20.86	17.50	100.
49	4	245.96	20.66	17.43	100.
50	4	233.19	20.76	17.74	100.
51	4	238.67	20.73	17.57	100.
52	4	217.80	20.32	17.39	100.
53	4	239.81	20.56	17.44	100.
54	4	239.34	21.04	17.39	100.
55	4	235.93	23.47	17.50	100.
56	1	222.97	24.64	17.45	100.
57	1	216.58	21.09	17.74	100.
58	1	239.75	19.25	17.61	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.03

TABLE B39: QB2 TEST# 5 RUN# 3 ----DATE 092381 TIME 1449
DURATION 35 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
57	1	236.91	19.42	17.68	100.
58	1	239.03	19.53	17.24	100.
59	1	243.36	19.37	17.35	100.
60	1	247.61	19.54	17.24	100.
61	1	238.91	20.15	17.75	100.
62	1	255.05	19.87	17.48	100.
63	1	247.66	19.99	17.39	100.
64	1	243.57	20.23	17.78	100.
65	1	240.11	19.91	17.59	100.
66	1	250.39	19.90	17.57	100.
67	1	246.19	20.21	17.47	100.
68	1	238.98	20.08	17.67	100.
69	1	247.50	20.28	17.50	100.
70	4	254.98	19.96	17.39	100.
71	4	237.50	20.12	17.57	100.
72	4	231.77	20.14	17.41	100.
73	4	230.18	20.36	17.53	100.
74	1	241.88	20.07	17.45	100.
75	1	245.30	22.66	17.74	100.
76	1	224.81	19.79	17.51	100.
77	1	240.43	19.23	17.76	100.
78	1	228.26	18.21	17.49	100.
79	1	226.75	17.75	17.58	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.04

TABLE B40: QB3 TEST# 5 RUN# 3 ----DATE 092381 TIME 1449
DURATION 33 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
58	1	244.86	19.32	17.31	100.
59	1	231.70	19.37	17.37	100.
60	1	231.55	19.43	17.81	100.
61	1	235.04	19.53	17.69	100.
62	1	238.81	19.30	17.41	100.
63	1	245.03	19.61	17.60	100.
64	1	238.95	19.53	17.60	100.
65	1	245.38	19.92	17.80	100.
66	1	221.47	19.30	17.46	100.
67	1	237.28	19.77	17.70	100.
68	1	229.68	19.60	17.54	100.
69	1	230.75	19.71	17.66	100.
70	4	220.05	19.55	17.65	100.
71	4	230.75	19.61	17.59	100.
72	4	226.87	19.63	17.41	100.
73	4	245.46	19.85	17.42	100.
74	1	254.63	20.15	17.55	100.
75	1	233.16	19.47	17.35	100.
76	1	239.10	18.97	17.73	100.
77	1	239.82	18.15	17.67	100.
78	1	224.53	18.14	17.80	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.04

TABLE B41: QB4 TEST# 5 RUN# 3 ----DATE 092381 TIME 1449
DURATION 32 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
59	1	217.30	18.59	17.31	100.
60	1	251.36	20.05	17.66	100.
61	1	227.02	19.55	17.84	100.
62	1	236.93	19.18	17.50	100.
63	1	194.95	18.84	17.40	100.
64	1	210.39	19.18	17.54	100.
65	1	220.27	19.01	17.36	100.
66	1	230.70	19.18	17.24	100.
67	1	242.59	19.79	17.67	100.
68	1	207.64	19.20	17.60	100.
69	1	226.12	19.49	17.51	100.
70	1	227.05	19.38	17.50	100.
71	4	213.11	19.53	17.52	100.
72	4	233.01	19.79	17.62	100.
73	4	233.26	19.91	17.81	100.
74	2	261.81	19.99	17.40	100.
75	1	245.78	19.75	17.42	100.
76	1	243.48	19.45	17.62	100.
77	1	227.63	18.26	17.37	100.
78	1	230.84	18.08	17.69	100.
79	1	241.76	17.75	17.60	100.
80	1	221.44	17.52	17.42	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.04

TABLE B42: QB2 TEST# 2 RUN# 1 ----DATE 081381 TIME 1116 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	956.0	0.934	0.934	0.001	0.893	0.893
1	2	844.5	0.934	1.868	0.002	0.789	1.682
1	3	852.5	0.934	2.802	0.002	0.796	2.478
1	4	886.5	2.039	4.841	0.004	1.808	4.285
1	5	8928.5	2.039	6.880	0.006	18.205	22.491
1	6	23645.0	3.143	10.023	0.009	74.316	96.807
1	7	35747.0	3.143	13.166	0.012	112.353	209.160
1	8	41735.0	5.352	18.518	0.016	223.366	432.525
1	9	40836.0	8.240	26.758	0.023	336.488	769.013
1	10	42646.0	12.403	39.161	0.034	528.938	1297.951
1	11	44833.5	18.774	57.935	0.051	841.704	2139.655
1	12	44455.0	24.891	82.826	0.073	1106.529	3246.185
1	13	45751.0	32.885	115.711	0.102	1504.521	4750.703
1	14	44359.5	38.585	154.296	0.135	1711.611	6462.312
1	15	42319.0	38.585	192.881	0.169	1632.878	8095.187
1	16	42279.0	38.585	231.466	0.203	1631.335	9726.520
1	17	42883.0	38.585	270.051	0.237	1654.640	11381.156
1	18	43487.0	38.585	308.636	0.271	1677.946	13059.102
1	19	43332.5	38.585	347.221	0.305	1671.984	14731.086
1	20	43178.0	38.585	385.806	0.339	1666.023	16397.105
1	21	43151.5	38.585	424.391	0.373	1665.000	18062.105
1	22	43125.0	38.585	462.976	0.406	1663.978	19726.082
1	23	43375.5	38.585	501.561	0.440	1673.643	21399.723
1	24	43626.0	38.585	540.146	0.474	1683.309	23083.031
1	25	42328.5	38.585	578.730	0.508	1633.245	24716.273
1	26	41031.0	38.585	617.315	0.542	1583.181	26299.453
1	27	41093.0	38.585	655.900	0.576	1585.573	27885.023
1	28	41155.0	38.585	694.485	0.610	1587.965	29472.988
1	29	40868.5	38.585	733.070	0.643	1576.911	31049.898
1	30	40582.0	38.585	771.655	0.677	1565.856	32615.754
1	31	41170.0	38.585	810.240	0.711	1588.544	34204.297
1	32	41758.0	38.585	848.825	0.745	1611.232	35815.527
1	33	41359.5	38.585	887.410	0.779	1595.856	37411.383
1	34	40961.0	38.585	925.995	0.813	1580.480	38991.859
1	35	41071.0	38.585	964.580	0.847	1584.724	40576.582
1	36	41181.0	38.585	1003.165	0.881	1588.969	42165.547
1	37	41576.5	38.585	1041.750	0.914	1604.229	43769.773
1	38	41972.0	38.585	1080.335	0.948	1619.489	45389.262
1	39	42692.5	38.585	1118.920	0.982	1647.290	47036.551
1	40	43413.0	38.585	1157.505	1.016	1675.091	48711.641
1	41	42114.0	38.585	1196.090	1.050	1624.968	50336.605
1	42	40815.0	38.585	1234.675	1.084	1574.846	51911.449
1	43	38850.5	38.585	1273.260	1.118	1499.046	53410.492
1	44	36886.0	38.585	1311.845	1.152	1423.246	54833.734
1	45	36940.5	38.585	1350.430	1.185	1425.349	56259.082
1	46	36995.0	38.585	1389.015	1.219	1427.452	57686.531
1	47	38690.0	38.585	1427.600	1.253	1492.853	59179.383
1	48	40385.0	38.585	1466.185	1.287	1558.255	60737.637
1	49	40224.5	38.585	1504.770	1.321	1552.062	62289.695
1	50	40064.0	38.585	1543.354	1.355	1545.869	63835.562
1	51	40375.5	38.585	1581.939	1.389	1557.888	65393.449
1	52	40687.0	38.585	1620.524	1.422	1569.908	66963.312
1	53	39666.5	38.585	1659.109	1.456	1530.531	68493.812
1	54	38646.0	38.585	1697.694	1.490	1491.156	69984.937
1	55	39696.5	35.179	1732.873	1.521	1396.483	71381.375
1	56	40747.0	24.976	1757.849	1.543	1017.697	72399.062
1	57	46226.0	16.566	1774.415	1.558	765.779	73164.812
1	58	51705.0	12.403	1786.818	1.568	641.297	73806.062
1	59	42003.0	6.966	1793.784	1.575	292.593	74098.625
1	60	32301.0	6.966	1800.750	1.581	225.009	74323.625
1	61	17104.0	3.143	1803.892	1.583	53.758	74377.375
1	62	1907.0	2.039	1805.931	1.585	3.888	74381.250
1	63	953.5	0.934	1806.865	1.586	0.891	74382.125

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 163.9829
TOTAL SEDIMENT LOAD IN TONS/ACRE = 7.3977

TABLE B43: QB3 TEST# 2 RUN# 1 ----DATE 081381 TIME 1116 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	900.0	0.169	0.169	0.000	0.152	0.152
1	2	858.0	0.338	0.507	0.000	0.290	0.442
1	3	812.5	0.771	1.278	0.001	0.626	1.069
1	4	757.5	1.203	2.481	0.002	0.911	1.980
1	5	675.0	1.203	3.684	0.003	0.812	2.792
1	6	636.5	1.203	4.887	0.004	0.766	3.558
1	7	670.5	1.203	6.090	0.005	0.807	4.364
1	8	1023.0	1.203	7.293	0.006	1.231	5.595
1	9	9688.5	1.865	9.158	0.008	18.069	23.664
1	10	26238.0	4.479	13.637	0.012	117.520	141.184
1	11	37819.0	7.706	21.343	0.019	291.433	432.617
1	12	42244.5	13.919	35.262	0.031	588.001	1020.618
1	13	42990.5	23.043	58.305	0.051	990.630	2011.248
1	14	41276.0	27.227	85.532	0.075	1123.821	3135.069
1	15	39871.0	27.227	112.759	0.099	1085.567	4220.633
1	16	39887.0	29.577	142.336	0.125	1179.737	5400.367
1	17	39477.0	34.444	176.780	0.155	1359.745	6760.109
1	18	39067.0	37.660	214.440	0.188	1471.263	8231.371
1	19	38431.0	38.358	252.798	0.222	1474.136	9705.504
1	20	37795.0	38.358	291.156	0.256	1449.740	11155.242
1	21	36725.0	38.358	329.514	0.289	1408.697	12563.937
1	22	35655.0	38.358	367.872	0.323	1367.654	13931.590
1	23	35490.5	38.358	406.229	0.357	1361.344	15292.934
1	24	35326.0	38.358	444.587	0.390	1355.034	16647.965
1	25	33673.0	38.358	482.945	0.424	1291.628	17939.590
1	26	32020.0	38.358	521.303	0.458	1228.223	19167.812
1	27	32314.5	38.358	559.661	0.491	1239.519	20407.328
1	28	32609.0	38.358	598.019	0.525	1250.816	21658.141
1	29	31819.0	38.358	636.377	0.559	1220.512	22878.652
1	30	31029.0	38.358	674.735	0.592	1190.210	24068.859
1	31	30885.5	38.358	713.093	0.626	1184.705	25253.562
1	32	30742.0	38.358	751.451	0.660	1179.201	26432.762
1	33	30755.5	38.358	789.809	0.693	1179.719	27612.480
1	34	30769.0	38.358	828.167	0.727	1180.237	28792.715
1	35	30216.0	38.358	866.524	0.761	1159.025	29951.738
1	36	29663.0	38.358	904.882	0.794	1137.813	31089.551
1	37	30082.0	38.358	943.240	0.828	1153.885	32243.434
1	38	30501.0	38.358	981.598	0.862	1169.957	33413.391
1	39	29907.0	38.358	1019.956	0.895	1147.172	34560.562
1	40	29313.0	38.358	1058.314	0.929	1124.387	35684.949
1	41	28217.5	38.358	1096.672	0.963	1082.366	36767.312
1	42	27122.0	38.358	1135.030	0.996	1040.345	37807.656
1	43	26752.0	38.358	1173.388	1.030	1026.153	38833.809
1	44	26382.0	38.358	1211.746	1.064	1011.960	39845.766
1	45	26232.0	38.358	1250.104	1.097	1006.206	40851.969
1	46	26082.0	38.358	1288.461	1.131	1000.453	41852.418
1	47	27047.0	38.358	1326.819	1.165	1037.468	42889.883
1	48	28012.0	38.358	1365.177	1.198	1074.484	43964.363
1	49	28351.0	38.358	1403.535	1.232	1087.487	45051.848
1	50	28690.0	38.358	1441.893	1.266	1100.490	46152.336
1	51	28716.5	38.358	1480.251	1.299	1101.507	47253.840
1	52	28743.0	38.358	1518.609	1.333	1102.524	48356.363
1	53	32547.5	38.358	1556.967	1.367	1248.456	49604.816
1	54	36352.0	38.358	1595.325	1.400	1394.390	50999.203
1	55	33282.0	38.358	1633.683	1.434	1276.630	52275.832
1	56	30212.0	38.358	1672.041	1.468	1158.871	53434.703
1	57	28150.5	38.358	1710.398	1.501	1079.796	54514.496
1	58	26089.0	38.358	1748.756	1.535	1000.721	55515.215
1	59	19083.5	28.609	1777.365	1.560	545.959	56061.172
1	60	12078.0	13.919	1791.284	1.572	168.114	56229.285
1	61	7577.5	7.706	1798.990	1.579	58.392	56287.676
1	62	3077.0	4.479	1803.469	1.583	13.782	56301.457
1	63	1538.5	1.263	1804.732	1.584	1.943	56303.398

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 124.1265
TOTAL SEDIMENT LOAD IN TONS/ACRE = 5.5997

TABLE B44: Q84 TEST# 2 RUN# 1 ----DATE 081381 TIME 1116 DURATION 61 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	967.5	0.099	0.099	0.000	0.096	0.096
1	2	751.0	0.483	0.582	0.001	0.363	0.459
1	3	740.0	0.768	1.350	0.001	0.568	1.027
1	4	790.5	0.768	2.118	0.002	0.607	1.634
1	5	2135.5	1.231	3.349	0.003	2.629	4.263
1	6	9645.5	2.332	5.681	0.005	22.493	26.756
1	7	23608.5	3.780	9.461	0.008	89.240	115.996
1	8	44818.5	3.780	13.241	0.012	169.414	285.410
1	9	55578.0	9.513	22.754	0.020	528.713	814.123
1	10	50209.5	17.893	40.647	0.036	898.398	1712.521
1	11	49021.5	21.350	61.997	0.054	1046.609	2759.130
1	12	50593.0	25.461	87.458	0.077	1288.148	4047.278
1	13	48809.0	31.870	119.328	0.105	1555.542	5602.816
1	14	46137.0	36.630	155.958	0.137	1689.998	7292.812
1	15	43635.5	40.322	196.280	0.172	1759.470	9052.281
1	16	41917.0	40.322	236.602	0.208	1690.177	10742.457
1	17	42394.5	41.554	278.156	0.244	1761.660	12504.117
1	18	42872.0	41.554	319.710	0.281	1781.503	14285.617
1	19	40466.5	41.554	361.264	0.317	1681.544	15967.160
1	20	38061.0	41.554	402.818	0.354	1581.586	17548.746
1	21	37246.0	41.554	444.372	0.390	1547.720	19096.465
1	22	36431.0	41.554	485.926	0.426	1513.853	20610.316
1	23	35101.0	41.554	527.480	0.463	1458.586	22068.902
1	24	33771.0	41.554	569.034	0.499	1403.320	23472.219
1	25	33092.5	41.554	610.588	0.536	1375.125	24847.344
1	26	32414.0	41.554	652.142	0.572	1346.931	26194.273
1	27	32501.0	41.554	693.696	0.609	1350.546	27544.816
1	28	32588.0	41.554	735.250	0.645	1354.162	28898.977
1	29	32424.0	41.554	776.803	0.682	1347.347	30246.320
1	30	32260.0	41.554	818.357	0.718	1340.532	31586.852
1	31	31518.0	41.554	859.911	0.755	1309.698	32896.547
1	32	30776.0	41.554	901.465	0.791	1278.865	34175.410
1	33	29790.0	41.554	943.019	0.828	1237.893	35413.301
1	34	28804.0	41.554	984.573	0.864	1196.921	36610.219
1	35	28869.5	41.554	1026.127	0.901	1199.643	37809.859
1	36	28935.0	41.554	1067.681	0.937	1202.365	39012.223
1	37	27494.5	41.554	1109.235	0.974	1142.506	40154.727
1	38	26054.0	41.554	1150.789	1.010	1082.647	41237.371
1	39	26197.0	41.554	1192.343	1.046	1088.590	42325.957
1	40	26340.0	41.554	1233.897	1.083	1094.532	43420.488
1	41	26532.5	41.554	1275.451	1.119	1102.531	44523.016
1	42	26725.0	41.554	1317.005	1.156	1110.530	45633.543
1	43	26332.0	41.554	1358.559	1.192	1094.199	46727.742
1	44	25939.0	41.554	1400.113	1.229	1077.869	47805.609
1	45	26891.5	41.554	1441.667	1.265	1117.449	48923.055
1	46	27844.0	41.554	1483.221	1.302	1157.029	50080.082
1	47	27132.5	41.554	1524.775	1.338	1127.463	51207.543
1	48	26421.0	41.554	1566.329	1.375	1097.898	52305.437
1	49	27728.0	41.554	1607.883	1.411	1152.208	53457.645
1	50	29035.0	41.554	1649.437	1.448	1206.520	54664.164
1	51	28071.5	41.554	1690.990	1.484	1166.482	55830.645
1	52	27108.0	41.554	1732.544	1.521	1126.445	56957.086
1	53	27667.0	41.554	1774.098	1.557	1149.674	58106.758
1	54	28226.0	41.554	1815.652	1.594	1172.903	59279.660
1	55	29731.0	41.554	1857.206	1.630	1235.441	60515.102
1	56	31236.0	41.554	1898.760	1.666	1297.980	61813.078
1	57	45006.5	37.862	1936.622	1.700	1704.035	63517.113
1	58	58777.0	25.949	1962.571	1.722	1525.204	65042.316
1	59	51549.5	12.139	1974.710	1.733	625.759	65668.062
1	60	30947.5	4.121	1978.831	1.737	127.535	65795.562
1	61	8786.5	0.847	1979.678	1.737	7.442	65803.000

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 145.0693
TOTAL SEDIMENT LOAD IN TONS/ACRE = 6.5445

TABLE B45: QB2 TEST# 2 RUN# 2 ----DATE 081481 TIME 1008 DURATION 69 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	14666.5	2.039	2.039	0.002	29.905	29.905
1	2	19148.5	21.688	23.727	0.021	415.292	445.197
1	3	18072.0	39.299	63.026	0.055	710.211	1155.408
1	4	18306.0	39.299	102.325	0.090	719.407	1874.815
1	5	19288.0	39.299	141.624	0.124	757.998	2632.813
1	6	19501.0	39.299	180.923	0.159	766.369	3399.182
1	7	18998.0	39.299	220.222	0.193	746.602	4145.781
1	8	19821.0	39.299	259.521	0.228	778.945	4924.723
1	9	20071.0	39.299	298.820	0.262	788.769	5713.488
1	10	19267.5	39.299	338.118	0.297	757.193	6470.680
1	11	19374.5	39.299	377.417	0.331	761.398	7232.074
1	12	19971.0	39.299	416.716	0.366	784.840	8016.914
1	13	19441.0	39.299	456.015	0.400	764.011	8780.922
1	14	19548.0	39.299	495.314	0.435	768.216	9549.137
1	15	20211.0	39.299	534.613	0.469	794.271	10343.406
1	16	20136.0	39.299	573.911	0.504	791.324	11134.727
1	17	20300.0	39.299	613.210	0.538	797.769	11932.492
1	18	20464.0	39.299	652.509	0.573	804.214	12736.703
1	19	19871.5	39.299	691.808	0.607	780.929	13517.629
1	20	19279.0	39.299	731.107	0.642	757.645	14275.273
1	21	19376.0	39.299	770.406	0.676	761.457	15036.727
1	22	19473.0	39.299	809.704	0.711	765.269	15801.992
1	23	19745.0	39.299	849.003	0.745	775.958	16577.949
1	24	20017.0	39.299	888.302	0.780	786.648	17364.594
1	25	20451.0	39.299	927.601	0.814	803.703	18168.297
1	26	20885.0	39.299	966.900	0.849	820.759	18989.055
1	27	20622.0	39.299	1006.198	0.883	810.424	19799.477
1	28	20359.0	39.299	1045.497	0.918	800.088	20599.562
1	29	20633.5	39.299	1084.796	0.952	810.875	21410.437
1	30	20908.0	39.299	1124.095	0.987	821.663	22232.098
1	31	21102.5	39.299	1163.394	1.021	829.307	23061.402
1	32	21297.0	39.299	1202.693	1.056	836.950	23898.352
1	33	21158.5	39.299	1241.991	1.090	831.507	24729.855
1	34	21020.0	39.299	1281.290	1.125	826.064	25555.918
1	35	21902.0	39.299	1320.589	1.159	860.726	26416.641
1	36	22784.0	39.299	1359.888	1.193	895.388	27312.027
1	37	23473.0	39.299	1399.187	1.228	922.465	28234.492
1	38	24162.0	39.299	1438.486	1.262	949.542	29184.031
1	39	24292.5	39.299	1477.784	1.297	954.670	30138.699
1	40	24423.0	39.299	1517.083	1.331	959.799	31098.496
1	41	24365.5	39.299	1556.382	1.366	957.539	32056.031
1	42	24308.0	39.299	1595.681	1.400	955.279	33011.309
1	43	24421.5	39.299	1634.980	1.435	959.740	33971.047
1	44	24535.0	39.299	1674.279	1.469	964.200	34935.246
1	45	24764.5	39.299	1713.577	1.504	973.219	35908.465
1	46	24994.0	39.299	1752.876	1.538	982.239	36890.703
1	47	25474.0	39.299	1792.175	1.573	1001.102	37891.805
1	48	25954.0	39.299	1831.474	1.607	1019.966	38911.770
1	49	25677.0	39.299	1870.773	1.642	1009.080	39920.848
1	50	25400.0	39.299	1910.072	1.676	998.194	40919.039
1	51	24465.0	39.299	1949.370	1.711	961.449	41880.484
1	52	23530.0	39.299	1988.669	1.745	924.705	42805.187
1	53	25007.0	39.299	2027.968	1.780	982.750	43787.934
1	54	26484.0	39.299	2067.267	1.814	1040.794	44828.727
1	55	25293.0	39.299	2106.566	1.849	993.989	45822.715
1	56	24102.0	39.299	2145.865	1.883	947.184	46769.898
1	57	25005.0	39.299	2185.163	1.918	982.671	47752.566
1	58	25908.0	39.299	2224.462	1.952	1018.158	48770.723
1	59	25437.0	39.299	2263.761	1.987	999.648	49770.367
1	60	24966.0	25.512	2289.273	2.009	636.932	50407.297
1	61	38304.0	11.723	2300.996	2.019	449.038	50856.332
1	62	51642.0	9.175	2310.171	2.027	473.815	51330.145
1	63	31294.5	5.352	2315.522	2.032	167.488	51497.629
1	64	10947.0	4.078	2319.600	2.036	44.642	51542.270
1	65	6192.5	3.143	2322.743	2.039	19.463	51561.730
1	66	1438.0	2.039	2324.782	2.040	2.932	51564.660
1	67	749.0	1.869	2326.651	2.042	1.400	51566.059
1	68	60.0	0.934	2327.585	2.043	0.056	51566.113
1	69	30.0	0.934	2328.519	2.044	0.028	51566.141

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 113.6827
TOTAL SEDIMENT LOAD IN TONS/ACRE = 5.1285

TABLE B46: QB3 TEST# 2 RUN# 2 ----DATE 081481 TIME 1008 DURATION 65 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9446.5	0.169	0.169	0.000	1.596	1.596
1	2	15156.0	20.476	20.645	0.018	310.334	311.930
1	3	14186.0	20.476	41.121	0.036	290.472	602.403
1	4	14338.0	40.613	81.734	0.072	582.309	1184.712
1	5	15228.0	40.613	122.347	0.107	618.455	1803.167
1	6	15654.5	40.613	162.960	0.143	635.776	2438.942
1	7	15472.5	40.613	203.573	0.179	628.385	3067.327
1	8	15070.5	40.613	244.186	0.214	612.058	3679.385
1	9	15466.5	40.613	284.799	0.250	628.141	4307.523
1	10	15415.0	40.613	325.412	0.286	626.049	4933.570
1	11	15163.5	40.613	366.024	0.321	615.835	5549.402
1	12	15942.5	40.613	406.637	0.357	647.472	6196.871
1	13	16175.0	40.613	447.250	0.393	656.915	6853.785
1	14	16266.0	40.613	487.863	0.428	660.611	7514.395
1	15	16828.5	40.613	528.476	0.464	683.456	8197.848
1	16	16881.0	40.613	569.088	0.500	685.588	8883.434
1	17	18725.5	40.613	609.701	0.535	760.499	9643.930
1	18	20570.0	40.613	650.314	0.571	835.409	10479.336
1	19	18829.5	40.613	690.927	0.606	764.722	11244.055
1	20	17089.0	40.613	731.540	0.642	694.035	11938.090
1	21	18936.0	40.613	772.152	0.678	769.047	12707.137
1	22	20783.0	40.613	812.765	0.713	844.060	13551.195
1	23	19094.5	40.613	853.378	0.749	775.484	14326.676
1	24	17406.0	40.613	893.991	0.785	706.909	15033.582
1	25	17279.0	40.613	934.604	0.820	701.752	15735.332
1	26	17152.0	40.613	975.216	0.856	696.594	16431.926
1	27	17722.0	40.613	1015.829	0.892	719.743	17151.668
1	28	18292.0	40.613	1056.442	0.927	742.893	17894.559
1	29	17972.5	40.613	1097.055	0.963	729.917	18624.473
1	30	17653.0	40.613	1137.667	0.999	716.941	19341.410
1	31	18135.0	40.613	1178.280	1.034	736.516	20077.926
1	32	18617.0	40.613	1218.893	1.070	756.092	20834.016
1	33	18635.0	40.613	1259.506	1.106	756.823	21590.836
1	34	18653.0	40.613	1300.119	1.141	757.554	22348.387
1	35	18286.0	40.613	1340.731	1.177	742.648	23091.035
1	36	17919.0	40.613	1381.344	1.213	727.744	23818.777
1	37	17926.5	40.613	1421.957	1.248	728.048	24546.824
1	38	17934.0	40.613	1462.570	1.284	728.353	25275.176
1	39	18617.5	40.613	1503.183	1.319	756.112	26031.285
1	40	19301.0	40.613	1543.795	1.355	783.871	26815.156
1	41	18966.0	40.613	1584.408	1.391	770.266	27585.422
1	42	18631.0	40.613	1625.021	1.426	756.661	28342.082
1	43	19047.0	40.613	1665.634	1.462	773.556	29115.637
1	44	19463.0	40.613	1706.247	1.498	790.451	29906.086
1	45	20066.5	40.613	1746.859	1.533	814.961	30721.043
1	46	20670.0	40.613	1787.472	1.569	839.471	31560.512
1	47	20140.0	40.613	1828.085	1.605	817.945	32378.453
1	48	19610.0	40.613	1868.698	1.640	796.420	33174.871
1	49	19768.0	40.613	1909.311	1.676	802.837	33977.707
1	50	19926.0	40.613	1949.923	1.712	809.254	34786.961
1	51	20379.5	40.613	1990.536	1.747	827.672	35614.633
1	52	20833.0	40.613	2031.149	1.783	846.090	36460.723
1	53	20289.5	40.613	2071.762	1.819	824.017	37284.738
1	54	19746.0	40.613	2112.375	1.854	801.944	38086.680
1	55	20526.0	40.613	2152.987	1.890	833.622	38920.301
1	56	21306.0	40.613	2193.600	1.926	865.300	39785.598
1	57	20370.5	40.613	2234.213	1.961	827.306	40612.902
1	58	19435.0	40.613	2274.826	1.997	789.313	41402.215
1	59	25287.5	40.613	2315.438	2.032	1027.001	42429.215
1	60	31140.0	40.613	2356.051	2.068	1264.688	43693.902
1	61	17153.5	27.907	2383.958	2.093	478.702	44172.602
1	62	3167.0	9.739	2393.697	2.101	30.843	44203.441
1	63	1800.0	2.740	2396.437	2.104	4.932	44208.371
1	64	433.0	2.740	2399.177	2.106	1.186	44209.555
1	65	216.5	0.601	2399.778	2.106	0.130	44209.684

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 97.4647
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.3969

TABLE B47: QB4 TEST# 2 RUN# 2 ----DATE 081481 TIME 1008 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	13245.0	5.737	5.737	0.005	75.987	75.987
1	2	12858.5	22.821	28.558	0.025	293.444	369.430
1	3	12520.5	37.495	66.053	0.058	469.456	838.885
1	4	12497.5	40.820	106.873	0.094	510.148	1349.033
1	5	12819.0	40.820	147.693	0.130	523.271	1872.304
1	6	13212.0	40.820	188.513	0.165	539.314	2411.618
1	7	13754.5	40.820	229.333	0.201	561.458	2973.077
1	8	14178.0	40.820	270.153	0.237	578.746	3551.822
1	9	14438.5	40.820	310.973	0.273	589.379	4141.199
1	10	14562.5	40.820	351.792	0.309	594.441	4735.637
1	11	14496.0	40.820	392.612	0.345	591.727	5327.363
1	12	14951.5	40.820	433.432	0.380	610.320	5937.680
1	13	15323.0	40.820	474.252	0.416	625.485	6563.164
1	14	15684.5	40.820	515.072	0.452	640.241	7203.402
1	15	15832.5	40.820	555.892	0.488	646.282	7849.684
1	16	15724.0	40.820	596.711	0.524	641.853	8491.535
1	17	16166.0	40.820	637.531	0.560	659.896	9151.430
1	18	16608.0	40.820	678.351	0.595	677.938	9829.367
1	19	15985.5	40.820	719.171	0.631	652.528	10481.895
1	20	15363.0	40.820	759.991	0.667	627.117	11109.012
1	21	15597.0	40.820	800.811	0.703	636.669	11745.680
1	22	15831.0	40.820	841.630	0.739	646.221	12391.898
1	23	16251.5	40.820	882.450	0.775	663.386	13055.281
1	24	16672.0	40.820	923.270	0.810	680.551	13735.832
1	25	15815.0	40.820	964.090	0.846	645.568	14381.398
1	26	14958.0	40.820	1004.910	0.882	610.585	14991.980
1	27	15712.5	40.820	1045.729	0.918	641.384	15633.363
1	28	16467.0	40.820	1086.549	0.954	672.183	16305.543
1	29	15917.0	40.820	1127.369	0.990	649.732	16955.273
1	30	15367.0	40.820	1168.189	1.025	627.281	17582.551
1	31	15375.0	40.820	1209.009	1.061	627.607	18210.156
1	32	15383.0	40.820	1249.829	1.097	627.934	18838.090
1	33	16854.5	40.820	1290.648	1.133	688.000	19526.090
1	34	18326.0	40.820	1331.468	1.169	748.067	20274.156
1	35	17139.5	40.820	1372.288	1.205	699.634	20973.789
1	36	15953.0	40.820	1413.108	1.240	651.201	21624.988
1	37	16449.0	40.820	1453.928	1.276	671.448	22296.434
1	38	16945.0	40.820	1494.748	1.312	691.695	22988.125
1	39	17129.5	40.820	1535.567	1.348	699.226	23687.348
1	40	17314.0	40.820	1576.387	1.384	706.757	24394.102
1	41	17407.5	40.820	1617.207	1.420	710.573	25104.672
1	42	17501.0	40.820	1658.027	1.455	714.390	25819.059
1	43	18725.0	40.820	1698.847	1.491	764.354	26583.410
1	44	19949.0	40.820	1739.667	1.527	814.318	27397.727
1	45	19414.5	40.820	1780.486	1.563	792.500	28190.223
1	46	18880.0	40.820	1821.306	1.599	770.681	28960.902
1	47	19616.5	40.820	1862.126	1.634	800.745	29761.645
1	48	20353.0	40.820	1902.946	1.670	830.809	30592.453
1	49	20374.5	40.820	1943.766	1.706	831.687	31424.137
1	50	20396.0	40.820	1984.585	1.742	832.565	32256.699
1	51	19667.5	40.820	2025.405	1.778	802.827	33059.523
1	52	18939.0	40.820	2066.225	1.814	773.090	33832.613
1	53	20704.5	40.820	2107.045	1.849	845.157	34677.770
1	54	22470.0	40.820	2147.865	1.885	917.225	35594.992
1	55	21839.0	40.820	2188.685	1.921	891.468	36486.457
1	56	21208.0	40.820	2229.504	1.957	865.710	37352.164
1	57	21558.5	40.820	2270.324	1.993	880.018	38232.180
1	58	21909.0	40.820	2311.144	2.029	894.325	39126.504
1	59	20891.0	40.820	2351.964	2.064	852.770	39979.273
1	60	40175.0	40.820	2392.784	2.100	1639.943	41619.215
1	61	51983.0	20.410	2413.194	2.118	1060.973	42680.187
1	62	31118.0	20.410	2433.604	2.136	635.118	43315.305
1	63	13177.0	20.410	2454.013	2.154	268.942	43584.246
1	64	3803.5	20.410	2474.423	2.172	77.629	43661.875

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 96.2570
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.3424

TABLE B48: QB2 TEST# 2 RUN# 3 ----DATE 081481 TIME 1219 DURATION 37 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	10965.0	0.934	0.934	0.001	10.241	10.241
1	2	13460.0	14.527	15.461	0.014	195.533	205.775
1	3	12941.0	34.312	49.773	0.044	444.031	649.806
1	4	13085.0	41.439	91.212	0.080	542.229	1192.034
1	5	13192.5	41.439	132.651	0.116	546.684	1738.718
1	6	13365.0	41.439	174.090	0.153	553.832	2292.550
1	7	13624.0	41.439	215.529	0.189	564.564	2857.115
1	8	13898.0	41.439	256.968	0.226	575.919	3433.033
1	9	14247.0	41.439	298.407	0.262	590.381	4023.415
1	10	14662.5	41.439	339.846	0.298	607.599	4631.012
1	11	14874.5	41.439	381.285	0.335	616.384	5247.395
1	12	15126.0	41.439	422.724	0.371	626.806	5874.199
1	13	14964.0	41.439	464.163	0.407	620.093	6494.289
1	14	14810.0	41.439	505.602	0.444	613.711	7108.000
1	15	15807.0	41.439	547.041	0.480	655.026	7763.023
1	16	16775.0	41.439	588.479	0.516	695.139	8458.160
1	17	16052.0	41.439	629.918	0.553	665.178	9123.336
1	18	15329.0	41.439	671.357	0.589	635.218	9758.551
1	19	16601.5	41.439	712.796	0.626	687.949	10446.496
1	20	17874.0	41.439	754.235	0.662	740.680	11187.176
1	21	17196.0	41.439	795.674	0.698	712.584	11899.758
1	22	16518.0	41.439	837.113	0.735	684.489	12584.246
1	23	16957.5	41.439	878.552	0.771	702.701	13286.945
1	24	17397.0	41.439	919.991	0.807	720.914	14007.855
1	25	17733.5	41.439	961.430	0.844	734.858	14742.711
1	26	18070.0	41.439	1002.869	0.880	748.802	15491.512
1	27	17429.0	41.439	1044.308	0.917	722.240	16213.750
1	28	16788.0	41.439	1085.747	0.953	695.677	16909.426
1	29	17032.0	41.439	1127.186	0.989	705.788	17615.211
1	30	17276.0	41.439	1168.625	1.026	715.899	18331.109
1	31	27727.0	41.439	1210.064	1.062	1148.979	19480.086
1	32	38178.0	36.606	1246.670	1.094	1397.544	20877.629
1	33	23449.5	23.362	1270.032	1.115	547.827	21425.453
1	34	8721.0	7.476	1277.508	1.121	65.198	21490.648
1	35	6888.0	7.476	1284.983	1.128	51.495	21542.141
1	36	5055.0	7.476	1292.459	1.134	37.791	21579.930
1	37	2527.5	7.476	1299.935	1.141	18.896	21598.824

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 47.6168
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.1481

TABLE B49: QB3 TEST# 2 RUN# 3 ----DATE 081481 TIME 1219 DURATION 35 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	7854.0	0.601	0.601	0.001	4.720	4.720
1	2	11346.5	21.713	22.314	0.020	246.366	251.087
1	3	11184.0	42.224	64.538	0.057	472.233	723.320
1	4	11084.0	42.224	106.762	0.094	468.010	1191.330
1	5	10867.0	42.224	148.986	0.131	458.848	1650.178
1	6	11005.0	42.224	191.210	0.168	464.675	2114.853
1	7	11169.5	42.224	233.434	0.205	471.621	2586.473
1	8	11431.0	42.224	275.658	0.242	482.662	3069.135
1	9	12231.0	42.224	317.882	0.279	516.441	3585.577
1	10	12856.5	42.224	360.106	0.316	542.853	4128.426
1	11	12899.5	42.224	402.330	0.353	544.668	4673.094
1	12	12791.0	42.224	444.553	0.390	540.087	5213.180
1	13	12939.0	42.224	486.777	0.427	546.336	5759.516
1	14	13095.0	42.224	529.001	0.464	552.923	6312.437
1	15	13695.0	42.224	571.225	0.501	578.257	6890.691
1	16	14292.0	42.224	613.449	0.538	603.465	7494.156
1	17	13815.5	42.224	655.673	0.575	583.345	8077.500
1	18	13339.0	42.224	697.897	0.613	563.226	8640.723
1	19	13497.0	42.224	740.121	0.650	569.897	9210.617
1	20	13655.0	42.224	782.344	0.687	576.569	9787.184
1	21	13629.0	42.224	824.568	0.724	575.471	10362.652
1	22	13603.0	42.224	866.792	0.761	574.373	10937.023
1	23	13997.5	42.224	909.016	0.798	591.030	11528.051
1	24	14392.0	42.224	951.240	0.835	607.687	12135.738
1	25	14173.0	42.224	993.464	0.872	598.440	12734.176
1	26	13954.0	42.224	1035.688	0.909	589.193	13323.367
1	27	14178.0	42.224	1077.912	0.946	598.651	13922.016
1	28	14402.0	42.224	1120.135	0.983	608.110	14530.125
1	29	13305.0	42.224	1162.359	1.020	561.790	15091.914
1	30	12208.0	42.224	1204.583	1.057	515.470	15607.383
1	31	21110.5	25.602	1230.185	1.080	540.471	16147.852
1	32	30013.0	6.628	1236.813	1.086	198.926	16346.777
1	33	18401.5	2.740	1239.553	1.088	50.420	16397.195
1	34	6790.0	0.601	1240.154	1.088	4.081	16401.273
1	35	3395.0	0.601	1240.755	1.089	2.040	16403.312

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 36.1628
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.6314

TABLE B50: QB4 TEST# 2 RUN# 3 ----DATE 081481 TIME 1219 DURATION 36 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	8279.0	0.384	0.384	0.000	3.179	3.179
1	2	10644.0	22.183	22.567	0.020	236.116	239.295
1	3	10426.5	43.599	66.166	0.058	454.585	693.879
1	4	10542.0	43.599	109.765	0.096	459.620	1153.500
1	5	10649.0	43.599	153.364	0.135	464.285	1617.785
1	6	11066.0	43.599	196.963	0.173	482.466	2100.251
1	7	11616.0	43.599	240.562	0.211	506.446	2606.697
1	8	11773.5	43.599	284.161	0.249	513.313	3120.010
1	9	11747.5	43.599	327.760	0.288	512.179	3632.188
1	10	11809.5	43.599	371.359	0.326	514.882	4147.070
1	11	11715.0	43.599	414.958	0.364	510.762	4657.832
1	12	12132.0	43.599	458.556	0.403	528.943	5186.773
1	13	12443.0	43.599	502.155	0.441	542.502	5729.273
1	14	12362.0	43.599	545.754	0.479	538.970	6268.242
1	15	13036.0	43.599	589.353	0.517	568.356	6836.598
1	16	13629.0	43.599	632.952	0.556	594.210	7430.805
1	17	13742.5	43.599	676.551	0.594	599.159	8029.961
1	18	13856.0	43.599	720.150	0.632	604.107	8634.066
1	19	13468.0	43.599	763.749	0.670	587.191	9221.254
1	20	13080.0	43.599	807.347	0.709	570.274	9791.527
1	21	13096.0	43.599	850.946	0.747	570.972	10362.496
1	22	13112.0	43.599	894.545	0.785	571.670	10934.164
1	23	13315.0	43.599	938.144	0.823	580.520	11514.684
1	24	13518.0	43.599	981.743	0.862	589.371	12104.055
1	25	13701.0	43.599	1025.342	0.900	597.350	12701.402
1	26	13884.0	43.599	1068.941	0.938	605.328	13306.730
1	27	13763.5	43.599	1112.540	0.977	600.074	13906.805
1	28	13643.0	43.599	1156.138	1.015	594.821	14501.625
1	29	12822.0	43.599	1199.737	1.053	559.026	15060.648
1	30	12001.0	43.599	1243.336	1.091	523.231	15583.879
1	31	14757.0	27.536	1270.872	1.116	406.348	15990.227
1	32	17826.5	9.011	1279.883	1.123	160.634	16150.859
1	33	17639.0	4.759	1284.642	1.128	83.944	16234.801
1	34	12563.0	2.332	1286.974	1.130	29.297	16264.098
1	35	5312.5	0.946	1287.919	1.131	5.026	16269.121
1	36	1318.5	0.099	1288.018	1.131	0.131	16269.250

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 35.8672
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.6181

TABLE B51: QB2 TEST# 3 RUN# 1 ----DATE 082581 TIME 1717 DURATION 60 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	30328.5	1.104	1.104	0.001	33.483	33.483
1	2	62764.5	4.417	5.521	0.005	277.230	310.713
1	3	71785.9	8.240	13.761	0.012	591.516	902.229
1	4	69420.4	12.403	26.164	0.023	861.022	1763.251
1	5	69602.4	12.403	38.567	0.034	863.279	2626.531
1	6	76735.9	18.774	57.341	0.050	1440.641	4067.172
1	7	77374.4	22.597	79.938	0.070	1748.431	5815.602
1	8	75963.9	24.891	104.829	0.092	1890.820	7706.418
1	9	77362.4	31.848	136.677	0.120	2463.841	10170.258
1	10	77452.4	36.512	173.189	0.152	2827.945	12998.199
1	11	75451.9	36.512	209.701	0.184	2754.902	15753.098
1	12	72810.4	36.512	246.213	0.216	2658.456	18411.551
1	13	71392.9	36.512	282.725	0.248	2606.700	21018.250
1	14	71392.9	36.512	319.237	0.280	2606.700	23624.949
1	15	71392.9	36.512	355.749	0.312	2606.700	26231.648
1	16	68903.4	36.512	392.261	0.344	2515.803	28747.449
1	17	66413.9	36.512	428.773	0.376	2424.907	31172.355
1	18	66413.9	36.512	465.285	0.408	2424.907	33597.262
1	19	66413.9	36.512	501.797	0.440	2424.907	36022.168
1	20	68923.4	36.512	538.309	0.473	2516.533	38538.699
1	21	71432.9	36.512	574.821	0.505	2608.160	41146.859
1	22	71432.9	36.512	611.333	0.537	2608.160	43755.020
1	23	71432.9	36.512	647.844	0.569	2608.160	46363.180
1	24	64753.0	36.512	684.356	0.601	2364.260	48727.437
1	25	58073.0	36.512	720.868	0.633	2120.360	50847.797
1	26	58073.0	36.512	757.380	0.665	2120.360	52968.156
1	27	58073.0	36.512	793.892	0.697	2120.360	55088.516
1	28	57584.5	36.512	830.404	0.729	2102.524	57191.039
1	29	57096.0	36.512	866.916	0.761	2084.688	59275.727
1	30	57096.0	36.512	903.428	0.793	2084.688	61360.414
1	31	57096.0	36.512	939.940	0.825	2084.688	63445.102
1	32	56550.5	36.512	976.452	0.857	2064.771	65509.871
1	33	56005.0	36.512	1012.964	0.889	2044.854	67554.687
1	34	56005.0	36.512	1049.476	0.921	2044.854	69599.500
1	35	56005.0	36.512	1085.988	0.953	2044.854	71644.312
1	36	51485.5	36.512	1122.500	0.985	1879.838	73524.125
1	37	46966.0	36.512	1159.012	1.017	1714.822	75238.937
1	38	46966.0	36.512	1195.524	1.049	1714.822	76953.750
1	39	46966.0	36.512	1232.036	1.081	1714.822	78668.562
1	40	46780.5	36.512	1268.548	1.114	1708.049	80376.562
1	41	46595.0	36.512	1305.060	1.146	1701.276	82077.812
1	42	46595.0	36.512	1341.572	1.178	1701.276	83779.062
1	43	46595.0	36.512	1378.084	1.210	1701.276	85480.312
1	44	44120.5	36.512	1414.596	1.242	1610.927	87091.187
1	45	41646.0	36.512	1451.108	1.274	1520.578	88611.750
1	46	41646.0	36.512	1487.620	1.306	1520.578	90132.312
1	47	41646.0	36.512	1524.132	1.338	1520.578	91652.875
1	48	43953.5	36.512	1560.644	1.370	1604.829	93257.687
1	49	46261.0	36.512	1597.156	1.402	1689.081	94946.750
1	50	46261.0	36.512	1633.667	1.434	1689.081	96635.812
1	51	46261.0	36.512	1670.179	1.466	1689.081	98324.875
1	52	43022.0	36.512	1706.691	1.498	1570.818	99895.687
1	53	39783.0	36.512	1743.203	1.530	1452.556	101348.187
1	54	39783.0	31.849	1775.052	1.558	1267.048	102615.187
1	55	39783.0	22.682	1797.734	1.578	902.358	103517.500
1	56	22544.5	14.951	1812.685	1.591	337.062	103854.562
1	57	5306.0	9.175	1821.860	1.599	48.683	103903.187
1	58	5306.0	5.352	1827.212	1.604	28.398	103931.562
1	59	5306.0	3.143	1830.354	1.607	16.677	103948.187
1	60	2653.0	1.104	1831.458	1.608	2.929	103951.062

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 229.1706
TOTAL SEDIMENT LOAD IN TONS/ACRE = 10.3385

TABLE B52: QB3 TEST# 3 RUN# 1 ----DATE 082581 TIME 1719 DURATION 58 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	1080.5	0.0	0.0	0.0	0.0	0.0
1	2	931.0	0.169	0.169	0.000	0.157	0.157
1	3	14913.5	0.338	0.507	0.000	5.041	5.198
1	4	37951.5	0.338	0.845	0.001	12.828	18.026
1	5	56404.5	4.659	5.504	0.005	262.788	280.814
1	6	65367.0	4.659	10.163	0.009	304.545	585.359
1	7	66706.9	13.919	24.082	0.021	928.494	1513.853
1	8	68935.4	20.864	44.946	0.039	1438.270	2952.123
1	9	69145.9	25.048	69.994	0.061	1731.969	4684.090
1	10	67629.9	29.577	99.571	0.087	2000.292	6684.379
1	11	65792.4	33.488	133.059	0.117	2203.259	8887.637
1	12	61219.0	33.488	166.547	0.146	2050.102	10937.738
1	13	57251.0	35.049	201.596	0.177	2006.590	12944.324
1	14	57251.0	35.049	236.645	0.208	2006.590	14950.910
1	15	57251.0	35.049	271.694	0.238	2006.590	16957.496
1	16	54700.5	35.049	306.743	0.269	1917.197	18874.691
1	17	52150.0	35.049	341.792	0.300	1827.805	20702.496
1	18	52150.0	35.049	376.840	0.331	1827.805	22530.301
1	19	52150.0	35.049	411.889	0.362	1827.805	24358.105
1	20	49965.0	35.049	446.938	0.392	1751.222	26109.324
1	21	47780.0	35.049	481.987	0.423	1674.640	27783.961
1	22	47780.0	35.049	517.036	0.454	1674.640	29458.598
1	23	47780.0	35.049	552.084	0.485	1674.640	31133.234
1	24	47776.5	35.049	587.133	0.515	1674.518	32807.750
1	25	47773.0	35.049	622.182	0.546	1674.396	34482.145
1	26	47773.0	35.049	657.231	0.577	1674.396	36156.539
1	27	47773.0	35.049	692.280	0.608	1674.396	37830.934
1	28	44961.0	35.049	727.329	0.638	1575.837	39406.770
1	29	42149.0	35.049	762.377	0.669	1477.280	40884.047
1	30	42149.0	35.049	797.426	0.700	1477.280	42361.324
1	31	42149.0	35.049	832.475	0.731	1477.280	43838.602
1	32	40940.0	35.049	867.524	0.761	1434.905	45273.504
1	33	39731.0	35.049	902.573	0.792	1392.531	46666.031
1	34	39731.0	35.049	937.622	0.823	1392.531	48058.559
1	35	39731.0	35.049	972.670	0.854	1392.531	49451.086
1	36	39776.5	35.049	1007.719	0.884	1394.126	50845.211
1	37	39822.0	35.049	1042.768	0.915	1395.721	52240.930
1	38	39822.0	35.049	1077.817	0.946	1395.721	53636.648
1	39	39822.0	35.049	1112.866	0.977	1395.721	55032.367
1	40	41005.0	35.049	1147.915	1.007	1437.184	56469.551
1	41	42188.0	35.049	1182.963	1.038	1478.646	57948.195
1	42	42188.0	35.049	1218.012	1.069	1478.646	59426.840
1	43	42188.0	35.049	1253.061	1.100	1478.646	60905.484
1	44	41273.0	35.049	1288.110	1.131	1446.576	62352.059
1	45	40358.0	35.049	1323.159	1.161	1414.507	63766.562
1	46	40358.0	35.049	1358.208	1.192	1414.507	65181.066
1	47	40358.0	35.049	1393.256	1.223	1414.507	66595.562
1	48	41255.5	35.049	1428.305	1.254	1445.963	68041.500
1	49	42153.0	35.049	1463.354	1.284	1477.420	69518.875
1	50	42153.0	35.049	1498.403	1.315	1477.420	70996.250
1	51	42153.0	35.049	1533.452	1.346	1477.420	72473.625
1	52	31955.0	35.049	1568.500	1.377	1119.990	73593.562
1	53	21757.0	35.049	1603.549	1.407	762.561	74356.062
1	54	21757.0	35.049	1638.598	1.438	762.561	75118.562
1	55	21757.0	28.959	1667.557	1.464	630.061	75748.562
1	56	20918.0	17.388	1684.945	1.479	363.722	76112.250
1	57	11646.0	8.092	1693.037	1.486	94.239	76206.437
1	58	1606.5	2.138	1695.175	1.488	3.435	76209.812

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 168.0122
TOTAL SEDIMENT LOAD IN TONS/ACRE = 7.5795

TABLE B53: QB4 TEST# 3 RUN# 1 ----DATE 082581 TIME 1722 DURATION 56 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	29695.5	0.847	0.847	0.001	25.152	25.152
1	2	70533.9	6.584	7.431	0.007	464.396	489.547
1	3	86580.9	16.412	23.843	0.021	1420.967	1910.514
1	4	88388.9	29.137	52.980	0.047	2575.389	4485.902
1	5	81479.9	36.925	89.905	0.079	3008.648	7494.551
1	6	75235.9	36.925	126.830	0.111	2778.089	10272.637
1	7	71590.4	36.925	163.755	0.144	2643.479	12916.113
1	8	67986.9	36.925	200.680	0.176	2510.419	15426.531
1	9	66342.4	36.925	237.605	0.209	2449.696	17876.227
1	10	64163.5	36.925	274.530	0.241	2369.237	20245.461
1	11	61136.0	36.925	311.455	0.273	2257.446	22502.906
1	12	59684.5	36.925	348.379	0.306	2203.850	24706.754
1	13	59137.0	36.925	385.304	0.338	2183.634	26890.387
1	14	59137.0	36.925	422.229	0.371	2183.634	29074.020
1	15	59137.0	36.925	459.154	0.403	2183.634	31257.652
1	16	59370.5	36.925	496.079	0.435	2192.255	33449.906
1	17	59604.0	36.925	533.003	0.468	2200.877	35650.781
1	18	59604.0	36.925	569.928	0.500	2200.877	37851.656
1	19	59604.0	36.925	606.853	0.533	2200.877	40052.531
1	20	59222.0	36.925	643.778	0.565	2186.772	42239.301
1	21	58840.0	36.925	680.703	0.597	2172.666	44411.965
1	22	58840.0	36.925	717.627	0.630	2172.666	46584.629
1	23	58840.0	36.925	754.552	0.662	2172.666	48757.293
1	24	57299.0	36.925	791.477	0.695	2115.765	50873.055
1	25	55758.0	36.925	828.402	0.727	2058.864	52931.918
1	26	55758.0	36.925	865.327	0.760	2058.864	54990.781
1	27	55758.0	36.925	902.251	0.792	2058.864	57049.645
1	28	54223.0	36.925	939.176	0.824	2002.184	59051.828
1	29	52688.0	36.925	976.101	0.857	1945.504	60997.332
1	30	52688.0	36.925	1013.026	0.889	1945.504	62942.836
1	31	52688.0	36.925	1049.951	0.922	1945.504	64888.340
1	32	49124.5	36.925	1086.875	0.954	1813.921	66702.250
1	33	45561.0	36.925	1123.800	0.986	1682.340	68384.562
1	34	45561.0	36.925	1160.725	1.019	1682.340	70066.875
1	35	45561.0	36.925	1197.650	1.051	1682.340	71749.187
1	36	44519.0	36.925	1234.575	1.084	1643.864	73393.000
1	37	43477.0	36.925	1271.500	1.116	1605.388	74998.375
1	38	43477.0	36.925	1308.424	1.148	1605.388	76603.750
1	39	43477.0	36.925	1345.349	1.181	1605.388	78209.125
1	40	44716.5	36.925	1382.274	1.213	1651.156	79860.250
1	41	45956.0	36.925	1419.199	1.246	1696.925	81557.125
1	42	45956.0	36.925	1456.124	1.278	1696.925	83254.000
1	43	45956.0	36.925	1493.048	1.310	1696.925	84950.875
1	44	45172.0	36.925	1529.973	1.343	1667.975	86618.812
1	45	44388.0	36.925	1566.898	1.375	1639.026	88257.812
1	46	44388.0	36.925	1603.823	1.408	1639.026	89896.812
1	47	44388.0	36.925	1640.748	1.440	1639.026	91535.812
1	48	41906.5	36.925	1677.672	1.473	1547.397	93083.187
1	49	39425.0	36.925	1714.597	1.505	1455.768	94538.937
1	50	39425.0	36.925	1751.522	1.537	1455.768	95994.687
1	51	39425.0	36.925	1788.447	1.570	1455.768	97450.437
1	52	21089.5	25.681	1814.128	1.592	541.599	97992.000
1	53	2754.0	11.640	1825.768	1.603	32.057	98024.000
1	54	2754.0	6.716	1832.483	1.608	18.496	98042.437
1	55	2754.0	2.679	1835.162	1.611	7.378	98049.812
1	56	1377.0	0.384	1835.546	1.611	0.529	98050.312

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 216.1618
TOTAL SEDIMENT LOAD IN TONS/ACRE = 9.7517

TABLE B54: OB2 TEST# 3 RUN# 2 ----DATE 082681 TIME 1613 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	2670.5	0.934	0.934	0.001	2.494	2.494
1	2	11670.0	5.862	6.796	0.006	68.409	70.904
1	3	20856.0	12.403	19.199	0.017	258.677	329.580
1	4	22085.5	14.951	34.150	0.030	330.200	659.780
1	5	22995.0	18.774	52.924	0.046	431.708	1091.488
1	6	23377.5	22.597	75.521	0.066	528.261	1619.749
1	7	24866.5	24.891	100.412	0.088	618.952	2238.701
1	8	25028.0	32.409	132.821	0.117	811.132	3049.833
1	9	25736.5	37.634	170.455	0.150	968.567	4018.399
1	10	27169.0	37.634	208.089	0.183	1022.478	5040.875
1	11	26726.0	37.634	245.723	0.216	1005.806	6046.680
1	12	26314.5	37.634	283.357	0.249	990.319	7036.996
1	13	25799.0	37.634	320.991	0.282	970.919	8007.914
1	14	25799.0	37.634	358.625	0.315	970.919	8978.832
1	15	25799.0	37.634	396.258	0.348	970.919	9949.750
1	16	27727.0	37.634	433.892	0.381	1043.478	10993.227
1	17	29655.0	37.634	471.526	0.414	1116.036	12109.262
1	18	29655.0	37.634	509.160	0.447	1116.036	13225.297
1	19	29655.0	37.634	546.793	0.480	1116.036	14341.332
1	20	33054.5	37.634	584.427	0.513	1243.973	15585.305
1	21	36454.0	37.634	622.061	0.546	1371.910	16957.211
1	22	36454.0	37.634	659.695	0.579	1371.910	18329.117
1	23	36454.0	37.634	697.329	0.612	1371.910	19701.023
1	24	37588.0	37.634	734.962	0.645	1414.586	21115.609
1	25	38722.0	37.634	772.596	0.678	1457.263	22572.871
1	26	38722.0	37.634	810.230	0.711	1457.263	24030.133
1	27	38722.0	37.634	847.864	0.744	1457.263	25487.395
1	28	37316.5	37.634	885.498	0.777	1404.368	26891.762
1	29	35911.0	37.634	923.131	0.810	1351.474	28243.234
1	30	35911.0	37.634	960.765	0.843	1351.474	29594.707
1	31	35911.0	37.634	998.399	0.876	1351.474	30946.180
1	32	39245.0	37.634	1036.033	0.909	1476.946	32423.125
1	33	42579.0	37.634	1073.667	0.942	1602.418	34025.543
1	34	42579.0	37.634	1111.300	0.975	1602.418	35627.961
1	35	42579.0	37.634	1148.934	1.008	1602.418	37230.379
1	36	39830.0	37.634	1186.568	1.041	1498.962	38729.340
1	37	37081.0	37.634	1224.202	1.074	1395.506	40124.844
1	38	37081.0	37.634	1261.835	1.107	1395.506	41520.348
1	39	37081.0	37.634	1299.469	1.141	1395.506	42915.852
1	40	40462.0	37.634	1337.103	1.174	1522.747	44438.598
1	41	43843.0	37.634	1374.737	1.207	1649.987	46088.582
1	42	43843.0	37.634	1412.371	1.240	1649.987	47738.566
1	43	43843.0	37.634	1450.004	1.273	1649.987	49388.551
1	44	38605.0	37.634	1487.638	1.306	1452.860	50841.410
1	45	33367.0	37.634	1525.272	1.339	1255.733	52097.141
1	46	33367.0	37.634	1562.906	1.372	1255.733	53352.871
1	47	33367.0	37.634	1600.540	1.405	1255.733	54608.602
1	48	34926.0	37.634	1638.173	1.438	1314.404	55923.004
1	49	36485.0	37.634	1675.807	1.471	1373.076	57296.078
1	50	36485.0	37.634	1713.441	1.504	1373.076	58669.152
1	51	36485.0	37.634	1751.075	1.537	1373.076	60042.227
1	52	35651.5	37.634	1788.708	1.570	1341.708	61383.934
1	53	34818.0	37.634	1826.342	1.603	1310.340	62694.273
1	54	34818.0	37.634	1863.976	1.636	1310.340	64004.613
1	55	34818.0	37.634	1901.610	1.669	1310.340	65314.953
1	56	32916.0	37.634	1939.244	1.702	1238.760	66553.687
1	57	31014.0	37.634	1976.877	1.735	1167.181	67720.812
1	58	31014.0	32.409	2009.286	1.763	1005.132	68725.937
1	59	31014.0	19.454	2028.740	1.781	603.346	69329.250
1	60	24609.0	10.789	2039.529	1.790	265.506	69594.750
1	61	18204.0	6.966	2046.495	1.796	126.809	69721.500
1	62	18204.0	3.143	2049.638	1.799	57.215	69778.687
1	63	18204.0	2.039	2051.677	1.801	37.118	69815.750
1	64	9102.0	0.934	2052.610	1.802	8.501	69824.250

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 153.9346
TOTAL SEDIMENT LOAD IN TONS/ACRE = 6.9444

TABLE B55: QB3 TEST# 3 RUN# 2 ----DATE 082681 TIME 1613 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	2814.5	0.601	0.601	0.001	1.692	1.692
1	2	7162.5	5.091	5.692	0.005	36.464	38.156
1	3	13474.0	13.919	19.611	0.017	187.544	225.700
1	4	18029.0	20.864	40.475	0.036	376.157	601.857
1	5	20543.5	25.048	65.523	0.058	514.573	1116.430
1	6	21496.5	27.227	92.750	0.081	585.285	1701.715
1	7	22038.5	29.577	122.327	0.107	651.832	2353.547
1	8	22434.5	35.787	158.114	0.139	802.863	3156.410
1	9	22709.5	39.647	197.761	0.174	900.363	4056.773
1	10	24327.0	39.647	237.408	0.208	964.492	5021.262
1	11	25084.0	39.647	277.055	0.243	994.505	6015.766
1	12	25386.5	39.647	316.702	0.278	1006.498	7022.262
1	13	26260.0	39.647	356.349	0.313	1041.130	8063.391
1	14	26260.0	39.647	395.996	0.348	1041.130	9104.520
1	15	26260.0	39.647	435.643	0.382	1041.130	10145.648
1	16	26640.5	39.647	475.290	0.417	1056.215	11201.863
1	17	27021.0	39.647	514.937	0.452	1071.302	12273.164
1	18	27021.0	39.647	554.584	0.487	1071.302	13344.465
1	19	27021.0	39.647	594.231	0.522	1071.302	14415.766
1	20	27148.0	39.647	633.878	0.556	1076.336	15492.102
1	21	27275.0	39.647	673.525	0.591	1081.372	16573.473
1	22	27275.0	39.647	713.172	0.626	1081.372	17654.844
1	23	27275.0	39.647	752.819	0.661	1081.372	18736.215
1	24	28543.0	39.647	792.466	0.696	1131.644	19867.855
1	25	29811.0	39.647	832.113	0.730	1181.916	21049.770
1	26	29811.0	39.647	871.760	0.765	1181.916	22231.684
1	27	29811.0	39.647	911.406	0.800	1181.916	23413.598
1	28	31458.0	39.647	951.053	0.835	1247.215	24660.812
1	29	33105.0	39.647	990.700	0.870	1312.514	25973.324
1	30	33105.0	39.647	1030.347	0.904	1312.514	27285.836
1	31	33105.0	39.647	1069.994	0.939	1312.514	28598.348
1	32	31647.5	39.647	1109.641	0.974	1254.728	29853.074
1	33	30190.0	39.647	1149.288	1.009	1196.942	31050.016
1	34	30190.0	39.647	1188.935	1.044	1196.942	32246.957
1	35	30190.0	39.647	1228.582	1.078	1196.942	33443.898
1	36	31585.0	39.647	1268.229	1.113	1252.250	34696.148
1	37	32980.0	39.647	1307.876	1.148	1307.558	36003.703
1	38	32980.0	39.647	1347.523	1.183	1307.558	37311.258
1	39	32980.0	39.647	1387.170	1.218	1307.558	38618.812
1	40	32515.0	39.647	1426.817	1.252	1289.122	39907.934
1	41	32050.0	39.647	1466.464	1.287	1270.686	41178.617
1	42	32050.0	39.647	1506.111	1.322	1270.686	42449.301
1	43	32050.0	39.647	1545.758	1.357	1270.686	43719.984
1	44	30573.5	39.647	1585.405	1.392	1212.147	44932.129
1	45	29097.0	39.647	1625.052	1.426	1153.608	46085.734
1	46	29097.0	39.647	1664.699	1.461	1153.608	47239.340
1	47	29097.0	39.647	1704.346	1.496	1153.608	48392.945
1	48	30697.0	39.647	1743.993	1.531	1217.043	49609.988
1	49	32297.0	39.647	1783.640	1.566	1280.479	50890.465
1	50	32297.0	39.647	1823.287	1.600	1280.479	52170.941
1	51	32297.0	39.647	1862.934	1.635	1280.479	53451.418
1	52	31515.0	39.647	1902.581	1.670	1249.475	54700.891
1	53	30733.0	39.647	1942.228	1.705	1218.471	55919.359
1	54	30733.0	39.647	1981.875	1.740	1218.471	57137.828
1	55	30733.0	39.647	2021.522	1.774	1218.471	58356.297
1	56	32233.5	39.647	2061.169	1.809	1277.961	59634.258
1	57	33734.0	39.647	2100.816	1.844	1337.452	60971.707
1	58	33734.0	39.647	2140.463	1.879	1337.452	62309.156
1	59	33734.0	31.258	2171.720	1.906	1054.457	63363.609
1	60	25155.5	17.388	2189.108	1.921	437.404	63801.012
1	61	17264.5	8.092	2197.200	1.929	139.704	63940.715
1	62	9539.5	2.740	2199.940	1.931	26.138	63966.852
1	63	563.5	0.601	2200.541	1.932	0.339	63967.187

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 141.0221
TOTAL SEDIMENT LOAD IN TONS/ACRE = 6.3619

TABLE B56: Q84 TEST# 3 RUN# 2 ----DATE 082681 TIME 1613 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	4859.0	5.737	5.737	0.005	27.876	27.876
1	2	11029.0	5.737	11.474	0.010	63.273	91.149
1	3	18485.0	12.955	24.429	0.021	239.473	330.622
1	4	23475.5	17.893	42.322	0.037	420.047	750.669
1	5	26305.0	23.324	65.646	0.058	613.537	1364.206
1	6	26054.5	27.435	93.081	0.082	714.805	2079.011
1	7	25929.5	31.870	124.951	0.110	826.373	2905.384
1	8	26570.0	31.870	156.821	0.138	846.785	3752.168
1	9	26773.0	35.399	192.220	0.169	947.737	4699.902
1	10	27291.5	35.399	227.619	0.200	966.091	5665.992
1	11	28089.5	38.725	266.344	0.234	1087.765	6753.754
1	12	27713.0	40.820	307.164	0.270	1131.244	7884.996
1	13	26756.0	40.820	347.984	0.305	1092.180	8977.176
1	14	26756.0	40.820	388.803	0.341	1092.180	10069.355
1	15	26756.0	40.820	429.623	0.377	1092.180	11161.535
1	16	27632.5	40.820	470.443	0.413	1127.958	12289.492
1	17	28509.0	40.820	511.263	0.449	1163.737	13453.227
1	18	28509.0	40.820	552.083	0.485	1163.737	14616.961
1	19	28509.0	40.820	592.903	0.520	1163.737	15780.695
1	20	29973.0	40.820	633.722	0.556	1223.498	17004.191
1	21	31437.0	40.820	674.542	0.592	1283.258	18287.449
1	22	31437.0	40.820	715.362	0.628	1283.258	19570.707
1	23	31437.0	40.820	756.182	0.664	1283.258	20853.965
1	24	32214.0	40.820	797.002	0.700	1314.975	22168.937
1	25	32991.0	40.820	837.822	0.735	1346.693	23515.629
1	26	32991.0	40.820	878.641	0.771	1346.693	24862.320
1	27	32991.0	40.820	919.461	0.807	1346.693	26209.012
1	28	35773.0	40.820	960.281	0.843	1460.254	27669.266
1	29	38555.0	40.820	1001.101	0.879	1573.815	29243.078
1	30	38555.0	40.820	1041.921	0.915	1573.815	30816.891
1	31	38555.0	40.820	1082.740	0.950	1573.815	32390.703
1	32	38005.5	40.820	1123.560	0.986	1551.384	33942.086
1	33	37456.0	40.820	1164.380	1.022	1528.954	35471.039
1	34	37456.0	40.820	1205.200	1.058	1528.954	36999.992
1	35	37456.0	40.820	1246.020	1.094	1528.954	38528.945
1	36	36689.0	40.820	1286.840	1.130	1497.645	40026.590
1	37	35922.0	40.820	1327.659	1.165	1466.336	41492.926
1	38	35922.0	40.820	1368.479	1.201	1466.336	42959.262
1	39	35922.0	40.820	1409.299	1.237	1466.336	44425.598
1	40	35668.0	40.820	1450.119	1.273	1455.967	45881.562
1	41	35414.0	40.820	1490.939	1.309	1445.599	47327.160
1	42	35414.0	40.820	1531.759	1.345	1445.599	48772.758
1	43	35414.0	40.820	1572.578	1.380	1445.599	50218.355
1	44	34261.5	40.820	1613.398	1.416	1398.554	51616.906
1	45	33109.0	40.820	1654.218	1.452	1351.509	52968.414
1	46	33109.0	40.820	1695.038	1.488	1351.509	54319.922
1	47	33109.0	40.820	1735.858	1.524	1351.509	55671.430
1	48	33463.5	40.820	1776.677	1.559	1365.979	57037.406
1	49	33818.0	40.820	1817.497	1.595	1380.451	58417.855
1	50	33818.0	40.820	1858.317	1.631	1380.451	59798.305
1	51	33818.0	40.820	1899.137	1.667	1380.451	61178.754
1	52	33366.0	40.820	1939.957	1.703	1362.000	62540.750
1	53	32914.0	40.820	1980.777	1.739	1343.549	63884.297
1	54	32914.0	40.820	2021.596	1.774	1343.549	65227.844
1	55	32914.0	40.820	2062.416	1.810	1343.549	66571.375
1	56	34377.5	40.820	2103.236	1.846	1403.289	67974.625
1	57	35841.0	40.820	2144.056	1.882	1463.029	69437.625
1	58	35841.0	40.820	2184.876	1.918	1463.029	70900.625
1	59	35841.0	23.684	2208.560	1.939	848.858	71749.437
1	60	26533.5	4.759	2213.318	1.943	126.273	71875.687
1	61	10225.0	2.332	2215.650	1.945	23.845	71899.500
1	62	2162.5	1.231	2216.881	1.946	2.662	71902.125
1	63	764.5	0.483	2217.364	1.946	0.369	71902.437
1	64	214.0	0.099	2217.463	1.946	0.021	71902.437

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 158.5161
TOTAL SEDIMENT LOAD IN TONS/ACRE = 7.1511

TABLE B57: Q82 TEST# 3 RUN# 3 ----DATE 082681 TIME 1813 DURATION 36 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	15140.5	9.090	9.090	0.008	137.627	137.627
1	2	17690.5	29.691	38.781	0.034	525.248	662.875
1	3	16872.0	41.202	79.983	0.070	695.160	1358.035
1	4	17139.5	41.202	121.185	0.106	706.181	2064.215
1	5	17699.0	41.202	162.387	0.143	729.234	2793.449
1	6	17793.0	41.202	203.589	0.179	733.106	3526.555
1	7	17782.0	41.202	244.791	0.215	732.653	4259.207
1	8	17920.0	41.202	285.993	0.251	738.339	4997.543
1	9	18361.0	41.202	327.195	0.287	756.510	5754.051
1	10	18887.0	41.202	368.397	0.323	778.182	6532.230
1	11	18836.5	41.202	409.599	0.360	776.101	7308.328
1	12	19046.0	41.202	450.801	0.396	784.733	8093.059
1	13	19573.0	41.202	492.002	0.432	806.447	8899.504
1	14	19573.0	41.202	533.204	0.468	806.447	9705.949
1	15	19573.0	41.202	574.406	0.504	806.447	10512.395
1	16	20148.5	41.202	615.608	0.540	830.158	11342.551
1	17	20724.0	41.202	656.810	0.577	853.869	12196.418
1	18	20724.0	41.202	698.012	0.613	853.869	13050.285
1	19	20724.0	41.202	739.214	0.649	853.869	13904.152
1	20	21837.0	41.202	780.416	0.685	899.728	14803.879
1	21	22950.0	41.202	821.618	0.721	945.585	15749.461
1	22	22950.0	41.202	862.820	0.757	945.585	16695.043
1	23	22950.0	41.202	904.021	0.794	945.585	17640.625
1	24	22429.0	41.202	945.223	0.830	924.119	18564.742
1	25	21908.0	41.202	986.425	0.866	902.653	19467.395
1	26	21908.0	41.202	1027.627	0.902	902.653	20370.047
1	27	21908.0	41.202	1068.829	0.938	902.653	21272.699
1	28	23760.0	41.202	1110.031	0.974	978.958	22251.656
1	29	25612.0	41.202	1151.233	1.011	1055.265	23306.918
1	30	25612.0	36.487	1187.720	1.043	934.504	24241.422
1	31	25612.0	24.976	1212.696	1.065	639.685	24881.105
1	32	13347.0	14.952	1227.647	1.078	199.564	25080.668
1	33	1082.0	10.789	1238.436	1.087	11.674	25092.340
1	34	1082.0	6.966	1245.402	1.093	7.537	25099.875
1	35	1082.0	3.143	1248.545	1.096	3.401	25103.273
1	36	541.0	1.104	1249.649	1.097	0.597	25103.867

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 55.3440
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.4967

TABLE B58: QB3 TEST# 3 RUN# 3 ----DATE 082681 TIME 1813 DURATION 34 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9920.5	11.434	11.434	0.010	113.431	113.431
1	2	15616.0	32.332	43.766	0.038	504.896	618.327
1	3	14978.0	41.794	85.560	0.075	625.990	1244.318
1	4	14493.0	41.794	127.354	0.112	605.720	1850.038
1	5	14038.0	41.794	169.148	0.148	586.704	2436.742
1	6	14256.5	41.794	210.942	0.185	595.836	3032.578
1	7	14192.5	41.794	252.736	0.222	593.161	3625.739
1	8	14379.0	41.794	294.530	0.259	600.956	4226.691
1	9	14840.5	41.794	336.324	0.295	620.243	4846.934
1	10	14829.5	41.794	378.118	0.332	619.784	5466.715
1	11	15259.0	41.794	419.912	0.369	637.734	6104.449
1	12	16133.5	41.794	461.706	0.405	674.283	6778.730
1	13	16882.0	41.794	503.500	0.442	705.566	7484.293
1	14	16882.0	41.794	545.294	0.479	705.566	8189.855
1	15	16882.0	41.794	587.088	0.515	705.566	8895.418
1	16	17894.5	41.794	628.882	0.552	747.882	9643.297
1	17	18907.0	41.794	670.676	0.589	790.199	10433.492
1	18	18907.0	41.794	712.469	0.625	790.199	11223.687
1	19	18907.0	41.794	754.263	0.662	790.199	12013.883
1	20	18735.0	41.794	796.057	0.699	783.010	12796.891
1	21	18563.0	41.794	837.851	0.736	775.822	13572.711
1	22	18563.0	41.794	879.645	0.772	775.822	14348.531
1	23	18563.0	41.794	921.439	0.809	775.822	15124.352
1	24	19311.0	41.794	963.233	0.846	807.083	15931.434
1	25	20059.0	41.794	1005.027	0.882	838.345	16769.777
1	26	20059.0	41.794	1046.821	0.919	838.345	17608.121
1	27	20059.0	41.794	1088.615	0.956	838.345	18446.465
1	28	21212.5	41.794	1130.409	0.992	886.555	19333.020
1	29	22366.0	41.794	1172.203	1.029	934.764	20267.781
1	30	22366.0	41.794	1213.997	1.066	934.764	21202.543
1	31	22366.0	30.327	1244.324	1.092	678.293	21880.836
1	32	17230.0	12.646	1256.970	1.103	217.891	22098.723
1	33	7442.0	3.818	1260.788	1.107	28.414	22127.133
1	34	1395.0	0.601	1261.388	1.107	0.838	22127.969

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 48.7833
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.2008

TABLE B59: QB4 TEST# 3 RUN# 3 ----DATE 082681 TIME 1813 DURATION 35 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	11662.5	10.675	10.675	0.009	124.497	124.497
1	2	15565.5	33.481	44.156	0.039	521.148	645.646
1	3	14452.5	45.612	89.768	0.079	659.207	1304.853
1	4	13789.0	45.612	135.380	0.119	628.943	1933.796
1	5	13842.0	45.612	180.992	0.159	631.361	2565.157
1	6	14472.5	45.612	226.604	0.199	660.119	3225.276
1	7	14299.0	45.612	272.216	0.239	652.206	3877.482
1	8	14407.5	45.612	317.828	0.279	657.155	4534.633
1	9	14962.0	45.612	363.439	0.319	682.447	5217.078
1	10	15373.0	45.612	409.051	0.359	701.193	5918.270
1	11	15420.5	45.612	454.663	0.399	703.359	6621.629
1	12	15419.0	45.612	500.275	0.439	703.291	7324.918
1	13	15612.0	45.612	545.887	0.479	712.094	8037.012
1	14	15612.0	45.612	591.499	0.519	712.094	8749.105
1	15	15612.0	45.612	637.110	0.559	712.094	9461.199
1	16	16135.5	45.612	682.722	0.599	735.971	10197.168
1	17	16659.0	45.612	728.334	0.639	759.850	10957.016
1	18	16659.0	45.612	773.946	0.679	759.850	11716.863
1	19	16659.0	45.612	819.558	0.719	759.850	12476.711
1	20	16725.5	45.612	865.169	0.759	762.883	13239.594
1	21	16792.0	45.612	910.781	0.800	765.916	14005.508
1	22	16792.0	45.612	956.393	0.840	765.916	14771.422
1	23	16792.0	45.612	1002.005	0.880	765.916	15537.336
1	24	17213.0	45.612	1047.617	0.920	785.118	16322.453
1	25	17634.0	45.612	1093.229	0.960	804.321	17126.773
1	26	17634.0	45.612	1138.840	1.000	804.321	17931.094
1	27	17634.0	45.612	1184.452	1.040	804.321	18735.414
1	28	18054.0	45.612	1230.064	1.080	823.478	19558.891
1	29	18474.0	45.612	1275.676	1.120	842.635	20401.523
1	30	18474.0	35.456	1311.132	1.151	655.013	21056.535
1	31	18474.0	19.868	1331.000	1.168	367.041	21423.574
1	32	12224.5	10.492	1341.491	1.178	128.259	21551.832
1	33	4558.5	4.759	1346.250	1.182	21.694	21573.523
1	34	1850.5	1.584	1347.834	1.183	2.931	21576.453
1	35	279.5	0.099	1347.933	1.183	0.028	21576.480

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 47.5675
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.1459

TABLE B60: QB2 TEST# 4 RUN# 1 ----DATE 090181 TIME 1519 DURATION 60 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	37388.5	0.0	0.0	0.0	0.0	0.0
1	2	79904.9	0.934	0.934	0.001	74.631	74.631
1	3	86999.4	2.973	3.907	0.003	258.649	333.281
1	4	83137.4	6.966	10.873	0.010	579.135	912.416
1	5	78591.9	12.403	23.276	0.020	974.776	1887.192
1	6	77389.9	14.951	38.227	0.034	1157.058	3044.250
1	7	74673.9	18.774	57.001	0.050	1401.929	4446.176
1	8	71340.4	27.185	84.186	0.074	1939.391	6385.566
1	9	68644.9	34.405	118.591	0.104	2361.731	8747.297
1	10	65432.0	37.039	155.630	0.137	2423.535	11170.832
1	11	61073.5	37.039	192.669	0.169	2262.101	13432.930
1	12	58931.0	38.971	231.640	0.203	2296.599	15729.527
1	13	58931.0	38.971	270.611	0.238	2296.599	18026.125
1	14	58931.0	40.904	311.515	0.273	2410.513	20436.637
1	15	54910.0	40.904	352.418	0.309	2246.038	22682.672
1	16	50889.0	40.904	393.322	0.345	2081.563	24764.234
1	17	50889.0	40.904	434.226	0.381	2081.563	26845.797
1	18	50889.0	40.904	475.130	0.417	2081.563	28927.359
1	19	48009.5	40.904	516.034	0.453	1963.781	30891.137
1	20	45130.0	40.904	556.937	0.489	1845.997	32737.133
1	21	45130.0	40.904	597.841	0.525	1845.997	34583.129
1	22	45130.0	40.904	638.745	0.561	1845.997	36429.125
1	23	44636.5	40.904	679.649	0.597	1825.811	38254.934
1	24	44143.0	40.904	720.553	0.632	1805.625	40060.559
1	25	44143.0	40.904	761.457	0.668	1805.625	41866.184
1	26	44143.0	40.904	802.360	0.704	1805.625	43671.809
1	27	44327.5	40.904	843.264	0.740	1813.172	45484.977
1	28	44512.0	40.904	884.168	0.776	1820.719	47305.695
1	29	44512.0	40.904	925.072	0.812	1820.719	49126.414
1	30	44512.0	40.904	965.976	0.848	1820.719	50947.133
1	31	44635.5	40.904	1006.879	0.884	1825.770	52772.902
1	32	44759.0	40.904	1047.783	0.920	1830.822	54603.723
1	33	44759.0	40.904	1088.687	0.956	1830.822	56434.543
1	34	44759.0	40.904	1129.591	0.991	1830.822	58265.363
1	35	42402.0	40.904	1170.495	1.027	1734.411	59999.773
1	36	40045.0	40.904	1211.398	1.063	1638.000	61637.773
1	37	40045.0	40.904	1252.302	1.099	1638.000	63275.773
1	38	40045.0	40.904	1293.206	1.135	1638.000	64913.773
1	39	36957.0	40.904	1334.110	1.171	1511.689	66425.437
1	40	33869.0	40.904	1375.014	1.207	1385.377	67810.812
1	41	33869.0	40.904	1415.917	1.243	1385.377	69196.187
1	42	33869.0	40.904	1456.821	1.279	1385.377	70581.562
1	43	35528.0	40.904	1497.725	1.315	1453.237	72034.750
1	44	37187.0	40.904	1538.629	1.350	1521.097	73555.812
1	45	37187.0	40.904	1579.533	1.386	1521.097	75076.875
1	46	37187.0	40.904	1620.437	1.422	1521.097	76597.937
1	47	34963.5	40.904	1661.340	1.458	1430.146	78028.062
1	48	32740.0	40.904	1702.244	1.494	1339.197	79367.250
1	49	32740.0	40.904	1743.148	1.530	1339.197	80706.437
1	50	32740.0	40.904	1784.052	1.566	1339.197	82045.625
1	51	31475.5	40.904	1824.956	1.602	1287.473	83333.062
1	52	30211.0	40.904	1865.859	1.638	1235.750	84568.812
1	53	30211.0	40.904	1906.763	1.674	1235.750	85804.562
1	54	30211.0	40.904	1947.667	1.709	1235.750	87040.312
1	55	29071.5	40.904	1988.571	1.745	1189.140	88229.437
1	56	19255.5	40.904	2029.475	1.781	787.627	89017.062
1	57	9571.5	40.904	2070.378	1.817	391.512	89408.562
1	58	4974.0	29.542	2099.920	1.843	146.942	89555.500
1	59	863.5	11.129	2111.049	1.853	9.610	89565.062
1	60	171.5	2.039	2113.088	1.855	0.350	89565.375

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 197.4559
TOTAL SEDIMENT LOAD IN TONS/ACRE = 8.9078

TABLE B61: QB3 TEST# 4 RUN# 1 ----DATE 090181 TIME 1520 DURATION 59 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	1337.5	0.169	0.169	0.000	0.226	0.226
1	2	22269.0	0.338	0.507	0.000	7.527	7.753
1	3	50146.5	0.771	1.278	0.001	38.663	46.416
1	4	61659.5	5.091	6.369	0.006	313.908	360.324
1	5	66625.9	13.919	20.288	0.018	927.367	1287.691
1	6	65510.5	18.859	39.147	0.034	1235.462	2523.153
1	7	63818.5	23.043	62.190	0.055	1470.569	3993.722
1	8	60566.0	23.043	85.233	0.075	1395.622	5389.344
1	9	56091.0	29.577	114.810	0.101	1659.003	7048.344
1	10	53963.0	29.577	144.387	0.127	1596.063	8644.406
1	11	51990.0	34.444	178.831	0.157	1790.743	10435.148
1	12	48818.0	38.922	217.753	0.191	1900.093	12335.238
1	13	47061.0	38.922	256.675	0.225	1831.708	14166.945
1	14	47061.0	40.882	297.557	0.261	1923.948	16090.891
1	15	47061.0	40.882	338.438	0.297	1923.948	18014.836
1	16	43512.0	40.882	379.320	0.333	1778.857	19793.691
1	17	39963.0	40.882	420.202	0.369	1633.767	21427.457
1	18	39963.0	40.882	461.084	0.405	1633.767	23061.223
1	19	39963.0	40.882	501.966	0.441	1633.767	24694.988
1	20	37784.5	40.882	542.848	0.476	1544.705	26239.691
1	21	35606.0	40.882	583.729	0.512	1455.644	27695.332
1	22	35606.0	40.882	624.611	0.548	1455.644	29150.973
1	23	35606.0	40.882	665.493	0.584	1455.644	30606.613
1	24	34277.0	40.882	706.375	0.620	1401.312	32007.922
1	25	32948.0	40.882	747.257	0.656	1346.979	33354.898
1	26	32948.0	40.882	788.139	0.692	1346.979	34701.875
1	27	32948.0	40.882	829.021	0.728	1346.979	36048.852
1	28	31562.5	40.882	869.902	0.763	1290.337	37339.187
1	29	30177.0	40.882	910.784	0.799	1233.696	38572.883
1	30	30177.0	40.882	951.666	0.835	1233.696	39806.578
1	31	30177.0	40.882	992.548	0.871	1233.696	41040.273
1	32	29378.0	40.882	1033.430	0.907	1201.031	42241.301
1	33	28579.0	40.882	1074.312	0.943	1168.366	43409.664
1	34	28579.0	40.882	1115.193	0.979	1168.366	44578.027
1	35	28579.0	40.882	1156.075	1.015	1168.366	45746.391
1	36	28648.0	40.882	1196.957	1.051	1171.187	46917.574
1	37	28717.0	40.882	1237.839	1.086	1174.008	48091.582
1	38	28717.0	40.882	1278.721	1.122	1174.008	49265.590
1	39	28717.0	40.882	1319.603	1.158	1174.008	50439.598
1	40	29422.5	40.882	1360.484	1.194	1202.850	51642.445
1	41	30128.0	40.882	1401.366	1.230	1231.693	52874.137
1	42	30128.0	40.882	1442.248	1.266	1231.693	54105.828
1	43	30128.0	40.882	1483.130	1.302	1231.693	55337.520
1	44	29484.5	40.882	1524.012	1.338	1205.385	56542.902
1	45	28841.0	40.882	1564.894	1.373	1179.077	57721.977
1	46	28841.0	40.882	1605.775	1.409	1179.077	58901.051
1	47	28841.0	40.882	1646.657	1.445	1179.077	60080.125
1	48	28604.0	40.882	1687.539	1.481	1169.388	61249.512
1	49	28367.0	40.882	1728.421	1.517	1159.699	62409.211
1	50	28367.0	40.882	1769.303	1.553	1159.699	63568.910
1	51	28367.0	40.882	1810.185	1.589	1159.699	64728.609
1	52	27648.5	40.882	1851.066	1.625	1130.325	65858.875
1	53	26930.0	40.882	1891.948	1.660	1100.952	66959.812
1	54	26930.0	40.882	1932.830	1.696	1100.952	68060.750
1	55	31677.0	40.882	1973.712	1.732	1295.019	69355.750
1	56	36135.5	40.882	2014.594	1.768	1477.291	70833.000
1	57	31993.5	28.042	2042.636	1.793	897.161	71730.125
1	58	21929.5	9.739	2052.375	1.801	213.571	71943.687
1	59	7859.5	2.138	2054.512	1.803	16.804	71960.437

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 158.6440
TOTAL SEDIMENT LOAD IN TONS/ACRE = 7.1569

TABLE B62: QB4 TEST# 4 RUN# 1 ----DATE 090181 TIME 1520 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	903.0	0.0	0.0	0.0	0.0	0.0
1	2	953.5	0.0	0.0	0.0	0.0	0.0
1	3	931.5	0.099	0.099	0.000	0.092	0.092
1	4	12796.5	2.394	2.493	0.002	30.635	30.727
1	5	43446.5	11.159	13.652	0.012	484.819	515.546
1	6	61548.0	11.159	24.811	0.022	686.814	1202.360
1	7	60116.5	19.540	44.351	0.039	1174.676	2377.036
1	8	57860.5	21.350	65.701	0.058	1235.322	3612.357
1	9	55160.5	23.324	89.025	0.078	1286.563	4898.918
1	10	53891.5	27.435	116.460	0.102	1478.513	6377.430
1	11	52619.0	35.248	151.708	0.133	1854.714	8232.141
1	12	49157.5	40.925	192.633	0.169	2011.770	10243.910
1	13	46934.0	40.925	233.558	0.205	1920.774	12164.684
1	14	46934.0	40.925	274.483	0.241	1920.774	14085.457
1	15	46934.0	40.925	315.408	0.277	1920.774	16006.230
1	16	42162.5	40.925	356.333	0.313	1725.500	17731.730
1	17	37391.0	40.925	397.257	0.349	1530.226	19261.953
1	18	37391.0	40.925	438.182	0.385	1530.226	20792.176
1	19	37391.0	40.925	479.107	0.421	1530.226	22322.398
1	20	35498.5	40.925	520.032	0.456	1452.776	23775.172
1	21	33606.0	40.925	560.957	0.492	1375.325	25150.496
1	22	33606.0	40.925	601.881	0.528	1375.325	26525.820
1	23	33606.0	40.925	642.806	0.564	1375.325	27901.145
1	24	32119.0	40.925	683.731	0.600	1314.469	29215.613
1	25	30632.0	40.925	724.656	0.636	1253.614	30469.227
1	26	30632.0	40.925	765.581	0.672	1253.614	31722.840
1	27	30632.0	40.925	806.505	0.708	1253.614	32976.453
1	28	29222.5	40.925	847.430	0.744	1195.930	34172.383
1	29	27813.0	40.925	888.355	0.780	1138.247	35310.629
1	30	27813.0	40.925	929.280	0.816	1138.247	36448.875
1	31	27813.0	40.925	970.205	0.852	1138.247	37587.121
1	32	27036.5	40.925	1011.129	0.887	1106.468	38693.586
1	33	26260.0	40.925	1052.054	0.923	1074.690	39768.273
1	34	26260.0	40.925	1092.979	0.959	1074.690	40842.961
1	35	26260.0	40.925	1133.904	0.995	1074.690	41917.648
1	36	26179.0	40.925	1174.829	1.031	1071.375	42989.023
1	37	26098.0	40.925	1215.753	1.067	1068.060	44057.082
1	38	26098.0	40.925	1256.678	1.103	1068.060	45125.141
1	39	26098.0	40.925	1297.603	1.139	1068.060	46193.199
1	40	25144.0	40.925	1338.528	1.175	1029.017	47222.215
1	41	24190.0	40.925	1379.453	1.211	989.975	48212.187
1	42	24190.0	40.925	1420.377	1.247	989.975	49202.160
1	43	24190.0	40.925	1461.302	1.283	989.975	50192.133
1	44	24835.5	40.925	1502.227	1.319	1016.392	51208.523
1	45	25481.0	40.925	1543.152	1.354	1042.809	52251.332
1	46	25481.0	40.925	1584.077	1.390	1042.809	53294.141
1	47	25481.0	40.925	1625.001	1.426	1042.809	54336.949
1	48	25772.5	40.925	1665.926	1.462	1054.739	55391.687
1	49	26064.0	40.925	1706.851	1.498	1066.669	56458.355
1	50	26064.0	40.925	1747.776	1.534	1066.669	57525.023
1	51	26064.0	40.925	1788.701	1.570	1066.669	58591.691
1	52	26674.0	40.925	1829.625	1.606	1091.633	59683.324
1	53	27284.0	40.925	1870.550	1.642	1116.597	60799.918
1	54	27284.0	40.925	1911.475	1.678	1116.597	61916.512
1	55	27284.0	40.925	1952.400	1.714	1116.597	63033.105
1	56	26660.5	40.925	1993.325	1.750	1091.081	64124.184
1	57	26037.0	40.925	2034.250	1.785	1065.564	65189.746
1	58	27024.0	40.925	2075.174	1.821	1105.957	66295.687
1	59	32058.0	26.199	2101.373	1.844	839.887	67135.562
1	60	38211.0	9.011	2110.384	1.852	344.319	67479.875
1	61	28102.5	5.569	2115.953	1.857	156.503	67636.375
1	62	9762.0	2.679	2118.632	1.860	26.152	67662.500
1	63	1818.0	0.384	2119.016	1.860	0.698	67663.187

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 149.1703
TOTAL SEDIMENT LOAD IN TONS/ACRE = 6.7295

TABLE B63: QB2 TEST# 4 RUN# 2 ----DATE 090281 TIME 1318 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	12815.5	0.0	0.0	0.0	0.0	0.0
1	2	14010.5	4.927	4.927	0.004	69.030	69.030
1	3	14574.5	23.833	28.760	0.025	347.354	416.383
1	4	14447.0	37.812	66.572	0.058	546.270	962.653
1	5	14424.0	37.812	104.384	0.092	545.400	1508.053
1	6	14850.5	37.812	142.196	0.125	561.527	2069.580
1	7	15224.5	37.812	180.008	0.158	575.668	2645.248
1	8	15667.5	37.812	217.820	0.191	592.419	3237.667
1	9	16506.5	37.812	255.632	0.224	624.143	3861.810
1	10	17195.5	37.812	293.444	0.258	650.195	4512.004
1	11	17825.0	37.812	331.256	0.291	673.998	5186.000
1	12	18108.5	37.812	369.067	0.324	684.718	5870.715
1	13	17929.0	37.812	406.879	0.357	677.931	6548.645
1	14	17929.0	37.812	444.691	0.390	677.931	7226.574
1	15	17929.0	37.812	482.503	0.424	677.931	7904.504
1	16	18332.5	37.812	520.314	0.457	693.188	8597.691
1	17	18736.0	37.812	558.126	0.490	708.445	9306.133
1	18	18736.0	37.812	595.938	0.523	708.445	10014.574
1	19	18736.0	37.812	633.750	0.556	708.445	10723.016
1	20	19269.0	37.812	671.562	0.589	728.599	11451.613
1	21	19802.0	37.812	709.373	0.623	748.752	12200.363
1	22	19802.0	37.812	747.185	0.656	748.752	12949.113
1	23	19802.0	37.812	784.997	0.689	748.752	13697.863
1	24	19714.0	37.812	822.809	0.722	745.425	14443.285
1	25	19626.0	37.812	860.620	0.755	742.098	15185.383
1	26	19626.0	37.812	898.432	0.789	742.098	15927.480
1	27	19626.0	37.812	936.244	0.822	742.098	16669.578
1	28	20057.0	37.812	974.056	0.855	758.395	17427.973
1	29	20488.0	37.812	1011.867	0.888	774.692	18202.664
1	30	20488.0	37.812	1049.679	0.921	774.692	18977.355
1	31	20488.0	37.812	1087.491	0.955	774.692	19752.047
1	32	22746.0	37.812	1125.303	0.988	860.071	20612.117
1	33	25004.0	37.812	1163.115	1.021	945.451	21557.566
1	34	25004.0	37.812	1200.926	1.054	945.451	22503.016
1	35	25004.0	37.812	1238.738	1.087	945.451	23448.465
1	36	25813.5	37.812	1276.550	1.121	976.060	24424.523
1	37	26623.0	37.812	1314.362	1.154	1006.668	25431.191
1	38	26623.0	37.812	1352.173	1.187	1006.668	26437.859
1	39	26623.0	37.812	1389.985	1.220	1006.668	27444.527
1	40	24357.0	37.812	1427.797	1.253	920.986	28365.512
1	41	22091.0	37.812	1465.609	1.286	835.304	29200.812
1	42	22091.0	37.812	1503.420	1.320	835.304	30036.113
1	43	22091.0	37.812	1541.232	1.353	835.304	30871.414
1	44	22091.0	37.812	1579.044	1.386	835.304	31706.715
1	45	22091.0	37.812	1616.856	1.419	835.304	32542.016
1	46	22091.0	37.812	1654.667	1.452	835.304	33377.316
1	47	22091.0	37.812	1692.479	1.486	835.304	34212.617
1	48	22195.0	37.812	1730.291	1.519	839.237	35051.852
1	49	22299.0	37.812	1768.103	1.552	843.169	35895.020
1	50	22299.0	37.812	1805.915	1.585	843.169	36738.187
1	51	22299.0	37.812	1843.726	1.618	843.169	37581.355
1	52	23684.0	37.812	1881.538	1.652	895.539	38476.891
1	53	25069.0	37.812	1919.350	1.685	947.908	39424.797
1	54	25069.0	37.812	1957.162	1.718	947.908	40372.703
1	55	25069.0	37.812	1994.973	1.751	947.908	41320.609
1	56	25795.5	37.812	2032.785	1.784	975.379	42295.984
1	57	26522.0	37.812	2070.597	1.817	1002.849	43298.832
1	58	26522.0	37.812	2108.409	1.851	1002.849	44301.680
1	59	36128.0	37.812	2146.220	1.884	1366.071	45667.750
1	60	38625.0	37.812	2184.032	1.917	1460.488	47128.234
1	61	19874.0	30.205	2214.237	1.944	600.294	47728.527
1	62	5710.0	17.160	2231.397	1.959	97.984	47826.508
1	63	2277.0	6.966	2238.363	1.965	15.862	47842.367
1	64	683.0	1.104	2239.467	1.966	0.754	47843.121

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 105.4750
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.7583

TABLE B64: Q83 TEST# 4 RUN# 2 ----DATE 090281 TIME 1318 DURATION 62 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	7987.5	7.601	7.601	0.007	60.713	60.713
1	2	12546.5	23.564	31.165	0.027	295.646	356.358
1	3	12387.5	35.142	66.307	0.058	435.321	791.680
1	4	12425.0	38.358	104.665	0.092	476.598	1268.278
1	5	12975.5	38.358	143.023	0.126	497.714	1765.991
1	6	13253.0	38.358	181.381	0.159	508.358	2274.350
1	7	13277.5	38.358	219.739	0.193	509.298	2783.648
1	8	13803.0	38.358	258.097	0.227	529.455	3313.103
1	9	14235.0	38.358	296.455	0.260	546.026	3859.129
1	10	14474.5	38.358	334.813	0.294	555.213	4414.340
1	11	15011.5	38.358	373.171	0.328	575.811	4990.148
1	12	15508.0	38.358	411.529	0.361	594.856	5585.004
1	13	15643.0	38.358	449.886	0.395	600.034	6185.035
1	14	15643.0	38.358	488.244	0.429	600.034	6785.066
1	15	15643.0	38.358	526.602	0.462	600.034	7385.098
1	16	16464.5	38.358	564.960	0.496	631.545	8016.641
1	17	17286.0	38.358	603.318	0.530	663.056	8679.695
1	18	17286.0	38.358	641.676	0.563	663.056	9342.750
1	19	17286.0	38.358	680.034	0.597	663.056	10005.805
1	20	17577.0	38.358	718.392	0.631	674.218	10680.020
1	21	17868.0	38.358	756.750	0.664	685.381	11365.398
1	22	17868.0	38.358	795.108	0.698	685.381	12050.777
1	23	17868.0	38.358	833.466	0.732	685.381	12736.156
1	24	17520.0	38.358	871.823	0.765	672.032	13408.187
1	25	17172.0	38.358	910.181	0.799	658.683	14066.867
1	26	17172.0	38.358	948.539	0.833	658.683	14725.547
1	27	17172.0	38.358	986.897	0.866	658.683	15384.227
1	28	17955.5	38.358	1025.255	0.900	688.737	16072.961
1	29	18739.0	38.358	1063.613	0.934	718.791	16791.750
1	30	18739.0	38.358	1101.971	0.967	718.791	17510.539
1	31	18739.0	38.358	1140.329	1.001	718.791	18229.328
1	32	18639.5	38.358	1178.687	1.035	714.974	18944.301
1	33	18540.0	38.358	1217.045	1.068	711.157	19655.457
1	34	18540.0	38.358	1255.403	1.102	711.157	20366.613
1	35	18540.0	38.358	1293.760	1.136	711.157	21077.770
1	36	19421.5	38.358	1332.118	1.169	744.969	21822.738
1	37	20303.0	38.358	1370.476	1.203	778.782	22601.520
1	38	20303.0	38.358	1408.834	1.237	778.782	23380.301
1	39	20303.0	38.358	1447.192	1.270	778.782	24159.082
1	40	20308.0	38.358	1485.550	1.304	778.974	24938.055
1	41	20313.0	38.358	1523.908	1.338	779.166	25717.219
1	42	20313.0	38.358	1562.266	1.371	779.166	26496.383
1	43	20313.0	38.358	1600.624	1.405	779.166	27275.547
1	44	20350.0	38.358	1638.982	1.439	780.585	28056.129
1	45	20387.0	38.358	1677.340	1.472	782.004	28838.133
1	46	20387.0	38.358	1715.698	1.506	782.004	29620.137
1	47	20387.0	38.358	1754.055	1.540	782.004	30402.141
1	48	20145.0	38.358	1792.413	1.573	772.721	31174.859
1	49	19903.0	38.358	1830.771	1.607	763.438	31938.297
1	50	19903.0	38.358	1869.129	1.641	763.438	32701.734
1	51	19903.0	38.358	1907.487	1.674	763.438	33465.172
1	52	20180.5	38.358	1945.845	1.708	774.083	34239.254
1	53	20458.0	38.358	1984.203	1.742	784.728	35023.980
1	54	20458.0	38.358	2022.561	1.775	784.728	35808.707
1	55	20458.0	38.358	2060.919	1.809	784.728	36593.434
1	56	20797.5	38.358	2099.277	1.843	797.750	37391.180
1	57	21137.0	38.358	2137.635	1.876	810.773	38201.949
1	58	22114.5	38.358	2175.992	1.910	848.267	39050.215
1	59	26113.0	38.358	2214.350	1.944	1001.642	40051.855
1	60	21629.0	30.614	2244.964	1.971	662.149	40714.004
1	61	10165.0	15.924	2260.888	1.985	161.867	40875.871
1	62	3103.0	4.490	2265.378	1.988	13.932	40889.801

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 90.1457
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.0667

TABLE B65: QB4 TEST# 4 RUN# 2 ----DATE 090281 TIME 1318 DURATION 65 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	7212.5	8.865	8.865	0.008	63.939	63.939
1	2	10076.0	23.650	32.515	0.029	238.297	302.236
1	3	10862.5	35.065	67.580	0.059	380.893	683.129
1	4	11112.5	40.558	108.138	0.095	450.700	1133.830
1	5	12000.0	40.558	148.696	0.131	486.696	1620.525
1	6	12757.0	40.558	189.254	0.166	517.398	2137.923
1	7	13024.0	40.558	229.812	0.202	528.227	2666.150
1	8	13306.0	40.558	270.370	0.237	539.664	3205.815
1	9	14042.0	40.558	310.928	0.273	569.515	3775.330
1	10	14409.5	40.558	351.486	0.309	584.420	4359.746
1	11	14345.5	40.558	392.043	0.344	581.824	4941.570
1	12	14688.0	40.558	432.601	0.380	595.716	5537.285
1	13	14979.0	40.558	473.159	0.415	607.518	6144.801
1	14	14979.0	40.558	513.717	0.451	607.518	6752.316
1	15	14979.0	40.558	554.275	0.487	607.518	7359.832
1	16	15350.0	40.558	594.833	0.522	622.565	7982.395
1	17	15721.0	40.558	635.391	0.558	637.612	8620.004
1	18	15721.0	40.558	675.948	0.593	637.612	9257.613
1	19	15721.0	40.558	716.506	0.629	637.612	9895.223
1	20	16724.0	40.558	757.064	0.665	678.291	10573.512
1	21	17727.0	40.558	797.622	0.700	718.971	11292.480
1	22	17727.0	40.558	838.180	0.736	718.971	12011.449
1	23	17727.0	40.558	878.738	0.771	718.971	12730.418
1	24	17210.5	40.558	919.296	0.807	698.022	13428.437
1	25	16694.0	40.558	959.854	0.843	677.074	14105.512
1	26	16694.0	40.558	1000.411	0.878	677.074	14782.586
1	27	16694.0	40.558	1040.969	0.914	677.074	15459.660
1	28	17658.0	40.558	1081.527	0.949	716.173	16175.832
1	29	18622.0	40.558	1122.085	0.985	755.271	16931.102
1	30	18622.0	40.558	1162.643	1.021	755.271	17686.371
1	31	18622.0	40.558	1203.201	1.056	755.271	18441.641
1	32	18432.0	40.558	1243.759	1.092	747.564	19189.203
1	33	18242.0	40.558	1284.316	1.127	739.858	19929.059
1	34	18242.0	40.558	1324.874	1.163	739.858	20668.914
1	35	18242.0	40.558	1365.432	1.199	739.858	21408.770
1	36	18384.5	40.558	1405.990	1.234	745.638	22154.406
1	37	18527.0	40.558	1446.548	1.270	751.418	22905.820
1	38	18527.0	40.558	1487.106	1.305	751.418	23657.234
1	39	18527.0	40.558	1527.664	1.341	751.418	24408.648
1	40	18236.5	40.558	1568.221	1.377	739.635	25148.281
1	41	17946.0	40.558	1608.779	1.412	727.853	25876.133
1	42	17946.0	40.558	1649.337	1.448	727.853	26603.984
1	43	17946.0	40.558	1689.895	1.483	727.853	27331.836
1	44	17593.0	40.558	1730.453	1.519	713.536	28045.371
1	45	17240.0	40.558	1771.011	1.555	699.219	28744.590
1	46	17240.0	40.558	1811.569	1.590	699.219	29443.809
1	47	17240.0	40.558	1852.126	1.626	699.219	30143.027
1	48	18600.5	40.558	1892.684	1.661	754.399	30897.426
1	49	19961.0	40.558	1933.242	1.697	809.578	31707.004
1	50	19961.0	40.558	1973.800	1.733	809.578	32516.582
1	51	19961.0	40.558	2014.358	1.768	809.578	33326.160
1	52	21707.5	40.558	2054.916	1.804	880.412	34206.570
1	53	23454.0	40.558	2095.474	1.839	951.247	35157.816
1	54	23454.0	40.558	2136.031	1.875	951.247	36109.062
1	55	23454.0	40.558	2176.589	1.911	951.247	37060.309
1	56	22915.5	40.558	2217.147	1.946	929.406	37989.711
1	57	22377.0	40.558	2257.705	1.982	907.565	38897.273
1	58	22377.0	40.558	2298.263	2.017	907.565	39804.836
1	59	22377.0	40.558	2338.821	2.053	907.565	40712.398
1	60	39442.0	29.144	2367.965	2.078	1149.497	41861.895
1	61	44957.0	13.286	2381.250	2.090	597.298	42459.191
1	62	24504.0	6.716	2387.966	2.096	164.569	42623.758
1	63	9099.0	3.142	2391.108	2.099	28.589	42652.344
1	64	1615.0	1.231	2392.339	2.100	1.988	42654.328
1	65	316.5	0.384	2392.723	2.100	0.122	42654.449

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 94.0360
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.2422

TABLE B66: QB2 TEST# 4 RUN# 3 ----DATE 090281 TIME 1518 DURATION 36 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	10299.5	1.104	1.104	0.001	11.371	11.371
1	2	11784.5	1.104	2.208	0.002	13.010	24.381
1	3	11024.0	14.697	16.905	0.015	162.020	186.400
1	4	11219.5	32.974	49.879	0.044	369.952	556.352
1	5	11374.5	38.763	88.642	0.078	440.909	997.261
1	6	11588.5	38.763	127.405	0.112	449.205	1446.466
1	7	12098.0	38.763	166.168	0.146	468.954	1915.420
1	8	12216.0	38.763	204.931	0.180	473.529	2388.949
1	9	12519.0	38.763	243.694	0.214	485.274	2874.222
1	10	12677.0	38.763	282.457	0.248	491.398	3365.621
1	11	13000.5	38.763	321.220	0.282	503.938	3869.559
1	12	12999.0	38.763	359.983	0.316	503.880	4373.437
1	13	12714.0	38.763	398.746	0.350	492.833	4866.270
1	14	12714.0	38.763	437.509	0.384	492.833	5359.102
1	15	12714.0	38.763	476.271	0.418	492.833	5851.934
1	16	12931.5	38.763	515.034	0.452	501.263	6353.195
1	17	13149.0	38.763	553.797	0.486	509.694	6862.887
1	18	13149.0	38.763	592.560	0.520	509.694	7372.578
1	19	13149.0	38.763	631.323	0.554	509.694	7882.270
1	20	13534.5	38.763	670.086	0.588	524.637	8406.906
1	21	13920.0	38.763	708.849	0.622	539.581	8946.484
1	22	13920.0	38.763	747.612	0.656	539.581	9486.062
1	23	13920.0	38.763	786.375	0.690	539.581	10025.641
1	24	13681.0	38.763	825.138	0.724	530.316	10555.953
1	25	13442.0	38.763	863.901	0.758	521.052	11077.004
1	26	13442.0	38.763	902.664	0.792	521.052	11598.055
1	27	13442.0	38.763	941.427	0.826	521.052	12119.105
1	28	13669.0	38.763	980.190	0.860	529.851	12648.953
1	29	13896.0	38.763	1018.953	0.894	538.650	13187.602
1	30	19554.0	38.763	1057.716	0.928	757.971	13945.570
1	31	26110.5	26.858	1084.573	0.952	701.275	14646.844
1	32	19863.0	26.857	1111.430	0.975	533.460	15180.301
1	33	9092.0	12.403	1123.833	0.986	112.768	15293.066
1	34	3598.5	8.240	1132.073	0.994	29.652	15322.715
1	35	1350.5	5.352	1137.425	0.998	7.228	15329.941
1	36	485.5	2.039	1139.464	1.000	0.990	15330.930

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 33.7986
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.5247

TABLE B67: QB3 TEST# 4 RUN# 3 ----DATE 090281 TIME 1518 DURATION 36 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	3594.0	4.490	4.490	0.004	16.137	16.137
1	2	7776.0	18.103	22.593	0.020	140.769	156.906
1	3	10408.5	34.027	56.620	0.050	354.170	511.075
1	4	9702.0	40.828	97.448	0.086	396.113	907.188
1	5	9639.0	40.828	138.276	0.121	393.541	1300.729
1	6	9984.0	40.828	179.104	0.157	407.626	1708.356
1	7	10102.0	40.828	219.932	0.193	412.444	2120.800
1	8	10177.0	40.828	260.760	0.229	415.506	2536.306
1	9	10616.0	40.828	301.588	0.265	433.430	2969.736
1	10	10722.5	40.828	342.416	0.301	437.778	3407.514
1	11	10810.5	40.828	383.243	0.336	441.371	3848.885
1	12	11066.5	40.828	424.071	0.372	451.823	4300.707
1	13	11100.0	40.828	464.899	0.408	453.191	4753.895
1	14	11100.0	40.828	505.727	0.444	453.191	5207.082
1	15	11100.0	40.828	546.555	0.480	453.191	5660.270
1	16	11617.0	40.828	587.383	0.516	474.299	6134.566
1	17	12134.0	40.828	628.211	0.551	495.407	6629.973
1	18	12134.0	40.828	669.039	0.587	495.407	7125.379
1	19	12134.0	40.828	709.866	0.623	495.407	7620.785
1	20	12112.5	40.828	750.694	0.659	494.529	8115.312
1	21	12091.0	40.828	791.522	0.695	493.651	8608.961
1	22	12091.0	40.828	832.350	0.731	493.651	9102.609
1	23	12091.0	40.828	873.178	0.766	493.651	9596.258
1	24	12185.5	40.828	914.006	0.802	497.509	10093.766
1	25	12280.0	40.828	954.834	0.838	501.368	10595.133
1	26	12280.0	40.828	995.662	0.874	501.368	11096.500
1	27	12280.0	40.828	1036.490	0.910	501.368	11597.867
1	28	12218.5	40.828	1077.317	0.946	498.857	12096.723
1	29	12157.0	40.828	1118.145	0.982	496.346	12593.066
1	30	11563.0	40.828	1158.973	1.017	472.094	13065.160
1	31	13237.0	31.849	1190.822	1.045	421.585	13486.742
1	32	13894.0	19.035	1209.857	1.062	264.472	13751.211
1	33	10419.0	12.090	1221.947	1.073	125.966	13877.176
1	34	5622.0	6.628	1228.575	1.078	37.263	13914.437
1	35	1770.5	2.740	1231.315	1.081	4.851	13919.285
1	36	426.0	0.601	1231.916	1.081	0.256	13919.539

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 30.6870
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.3844

TABLE B68: QB4 TEST# 4 RUN# 3 ----DATE 090281 TIME 1518 DURATION 35 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	7596.0	8.865	8.865	0.008	67.339	67.339
1	2	10098.0	30.271	39.136	0.034	305.676	373.015
1	3	9442.0	42.812	81.948	0.072	404.230	777.245
1	4	9686.5	42.812	124.760	0.110	414.698	1191.943
1	5	10222.0	42.812	167.572	0.147	437.624	1629.567
1	6	10283.0	42.812	210.384	0.185	440.236	2069.802
1	7	10335.5	42.812	253.196	0.222	442.483	2512.286
1	8	10607.5	42.812	296.008	0.260	454.128	2966.414
1	9	10811.5	42.812	338.820	0.297	462.862	3429.275
1	10	10923.5	42.812	381.631	0.335	467.656	3896.932
1	11	11197.5	42.812	424.443	0.373	479.387	4376.316
1	12	11198.0	42.812	467.255	0.410	479.408	4855.723
1	13	11224.0	42.812	510.067	0.448	480.522	5336.242
1	14	11224.0	42.812	552.878	0.485	480.522	5816.762
1	15	11224.0	42.812	595.690	0.523	480.522	6297.281
1	16	11515.5	42.812	638.502	0.560	493.001	6790.281
1	17	11807.0	42.812	681.314	0.598	505.481	7295.762
1	18	11807.0	42.812	724.125	0.636	505.481	7801.242
1	19	11807.0	42.812	766.937	0.673	505.481	8306.723
1	20	11711.5	42.812	809.749	0.711	501.392	8808.113
1	21	11616.0	42.812	852.561	0.748	497.304	9305.414
1	22	11616.0	42.812	895.373	0.786	497.304	9802.715
1	23	11616.0	42.812	938.184	0.824	497.304	10300.016
1	24	11895.0	42.812	980.996	0.861	509.249	10809.262
1	25	12174.0	42.812	1023.808	0.899	521.193	11330.453
1	26	12174.0	42.812	1066.620	0.936	521.193	11851.645
1	27	12174.0	42.812	1109.431	0.974	521.193	12372.836
1	28	12061.5	42.812	1152.243	1.011	516.376	12889.211
1	29	11949.0	42.812	1195.055	1.049	511.560	13400.770
1	30	11590.5	24.680	1219.735	1.071	286.053	13686.820
1	31	11182.5	24.680	1244.415	1.092	275.984	13962.801
1	32	9798.0	4.759	1249.174	1.097	46.629	14009.426
1	33	7553.5	1.869	1251.042	1.098	14.117	14023.543
1	34	4363.5	0.483	1251.525	1.099	2.108	14025.648
1	35	1041.5	0.099	1251.624	1.099	0.103	14025.750

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 30.9212
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.3949

TABLE B69: QB2 TEST# 5 RUN# 1 ----DATE 092281 TIME 1507 DURATION 59 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	11558.5	0.0	0.0	0.0	0.0	0.0
1	2	44710.5	0.934	0.934	0.001	41.760	41.760
1	3	74644.4	2.973	3.907	0.003	221.918	263.677
1	4	84007.4	6.966	10.873	0.010	585.196	848.874
1	5	84609.4	12.403	23.276	0.020	1049.411	1898.285
1	6	83793.9	14.951	38.227	0.034	1252.804	3151.089
1	7	82184.9	18.774	57.001	0.050	1542.941	4694.027
1	8	78190.9	27.185	84.186	0.074	2125.621	6819.648
1	9	73825.4	34.405	118.591	0.104	2539.966	9359.613
1	10	69048.4	37.039	155.630	0.137	2557.487	11917.098
1	11	66009.9	37.039	192.669	0.169	2444.944	14362.039
1	12	64233.5	38.080	230.749	0.203	2446.011	16808.047
1	13	58738.0	38.080	268.829	0.236	2236.743	19044.789
1	14	54098.0	39.120	307.949	0.270	2116.313	21161.102
1	15	54098.0	39.120	347.069	0.305	2116.313	23277.414
1	16	54098.0	39.120	386.188	0.339	2116.313	25393.727
1	17	51572.0	39.120	425.308	0.373	2017.496	27411.219
1	18	49046.0	39.120	464.428	0.408	1918.679	29329.895
1	19	49046.0	39.120	503.548	0.442	1918.679	31248.570
1	20	49046.0	39.120	542.668	0.476	1918.679	33167.246
1	21	50073.5	39.120	581.788	0.511	1958.875	35126.117
1	22	51101.0	39.120	620.908	0.545	1999.070	37125.184
1	23	51101.0	39.120	660.028	0.579	1999.070	39124.250
1	24	51101.0	39.120	699.147	0.614	1999.070	41123.316
1	25	49237.0	39.120	738.267	0.648	1926.150	43049.465
1	26	47373.0	39.120	777.387	0.682	1853.231	44902.695
1	27	47373.0	39.120	816.507	0.717	1853.231	46755.926
1	28	47373.0	39.120	855.627	0.751	1853.231	48609.156
1	29	45146.5	39.120	894.747	0.785	1766.130	50375.285
1	30	42920.0	39.120	933.867	0.820	1679.029	52054.312
1	31	42920.0	39.120	972.987	0.854	1679.029	53733.340
1	32	42920.0	39.120	1012.106	0.888	1679.029	55412.367
1	33	43274.5	39.120	1051.226	0.923	1692.897	57105.262
1	34	43629.0	39.120	1090.346	0.957	1706.765	58812.023
1	35	43629.0	39.120	1129.466	0.991	1706.765	60518.785
1	36	43629.0	39.120	1168.586	1.026	1706.765	62225.547
1	37	43169.5	39.120	1207.706	1.060	1688.790	63914.336
1	38	42710.0	39.120	1246.826	1.094	1670.814	65585.125
1	39	42710.0	39.120	1285.946	1.129	1670.814	67255.937
1	40	42710.0	39.120	1325.065	1.163	1670.814	68926.750
1	41	40654.0	39.120	1364.185	1.197	1590.384	70517.125
1	42	38598.0	39.120	1403.305	1.232	1509.953	72027.062
1	43	38598.0	39.120	1442.425	1.266	1509.953	73537.000
1	44	38598.0	39.120	1481.545	1.300	1509.953	75046.937
1	45	37518.0	39.120	1520.665	1.335	1467.703	76514.625
1	46	36438.0	39.120	1559.785	1.369	1425.454	77940.062
1	47	36438.0	39.120	1598.905	1.404	1425.454	79365.500
1	48	36438.0	39.120	1638.024	1.438	1425.454	80790.937
1	49	34833.0	39.120	1677.144	1.472	1362.666	82153.562
1	50	33228.0	39.120	1716.264	1.507	1299.879	83453.437
1	51	33228.0	39.120	1755.384	1.541	1299.879	84753.312
1	52	33228.0	39.120	1794.504	1.575	1299.879	86053.187
1	53	37357.0	39.120	1833.624	1.610	1461.405	87514.562
1	54	41486.0	39.120	1872.744	1.644	1622.932	89137.437
1	55	34034.5	39.120	1911.864	1.678	1331.429	90468.812
1	56	19254.0	39.120	1950.983	1.713	753.216	91222.000
1	57	7767.5	39.120	1990.103	1.747	303.865	91525.812
1	58	2388.0	28.650	2018.753	1.772	68.416	91594.187
1	59	583.0	9.090	2027.843	1.780	5.299	91599.437

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 201.9402
TOTAL SEDIMENT LOAD IN TONS/ACRE = 9.1101

TABLE B70: QB3 TEST# 5 RUN# 1 ----DATE 092281 TIME 1507 DURATION 59 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	27311.0	0.601	0.601	0.001	16.414	16.414
1	2	61693.0	5.091	5.692	0.005	314.079	330.493
1	3	73624.4	15.924	21.616	0.019	1172.396	1502.889
1	4	75194.4	27.398	49.014	0.043	2060.178	3563.067
1	5	71279.9	27.398	76.412	0.067	1952.928	5515.992
1	6	68077.9	36.082	112.494	0.099	2456.390	7972.379
1	7	66011.9	36.082	148.576	0.130	2381.844	10354.223
1	8	62499.0	36.082	184.658	0.162	2255.088	12609.309
1	9	57921.0	40.237	224.895	0.197	2330.567	14939.875
1	10	55207.5	40.237	265.132	0.233	2221.384	17161.258
1	11	52909.0	40.237	305.369	0.268	2128.898	19290.156
1	12	50993.0	40.237	345.605	0.303	2051.804	21341.957
1	13	50797.0	40.237	385.842	0.339	2043.918	23385.875
1	14	50797.0	40.237	426.079	0.374	2043.918	25429.793
1	15	50797.0	40.237	466.316	0.409	2043.918	27473.711
1	16	45887.5	40.237	506.553	0.445	1846.375	29320.082
1	17	40978.0	40.237	546.790	0.480	1648.832	30968.910
1	18	40978.0	40.237	587.026	0.515	1648.832	32617.738
1	19	40978.0	40.237	627.263	0.551	1648.832	34266.566
1	20	40978.0	40.237	667.500	0.586	1648.832	35915.395
1	21	39003.5	40.237	707.737	0.621	1569.384	37484.777
1	22	37029.0	40.237	747.974	0.657	1489.935	38974.711
1	23	37029.0	40.237	788.210	0.692	1489.935	40464.645
1	24	37029.0	40.237	828.447	0.727	1489.935	41954.578
1	25	35229.5	40.237	868.684	0.763	1417.529	43372.105
1	26	33430.0	40.237	908.921	0.798	1345.123	44717.227
1	27	33430.0	40.237	949.158	0.833	1345.123	46062.348
1	28	33430.0	40.237	989.395	0.868	1345.123	47407.469
1	29	33430.0	40.237	1029.631	0.904	1345.123	48752.590
1	30	32523.0	40.237	1069.868	0.939	1308.628	50061.215
1	31	31616.0	40.237	1110.105	0.974	1272.133	51333.348
1	32	31616.0	40.237	1150.342	1.010	1272.133	52605.480
1	33	31616.0	40.237	1190.579	1.045	1272.133	53877.613
1	34	31286.5	40.237	1230.815	1.080	1258.874	55136.484
1	35	30957.0	40.237	1271.052	1.116	1245.616	56382.098
1	36	30957.0	40.237	1311.289	1.151	1245.616	57627.711
1	37	30957.0	40.237	1351.526	1.186	1245.616	58873.324
1	38	30968.5	40.237	1391.763	1.222	1246.079	60119.402
1	39	30980.0	40.237	1432.000	1.257	1246.542	61365.941
1	40	30980.0	40.237	1472.236	1.292	1246.542	62612.480
1	41	30980.0	40.237	1512.473	1.328	1246.542	63859.020
1	42	29976.0	40.237	1552.710	1.363	1206.144	65065.160
1	43	28972.0	40.237	1592.947	1.398	1165.746	66230.875
1	44	28972.0	40.237	1633.184	1.434	1165.746	67396.562
1	45	28972.0	40.237	1673.420	1.469	1165.746	68562.250
1	46	28566.5	40.237	1713.657	1.504	1149.429	69711.625
1	47	28161.0	40.237	1753.894	1.540	1133.114	70844.687
1	48	28161.0	40.237	1794.131	1.575	1133.114	71977.750
1	49	28161.0	40.237	1834.368	1.610	1133.114	73110.812
1	50	27102.0	40.237	1874.604	1.646	1090.503	74201.312
1	51	26043.0	40.237	1914.841	1.681	1047.891	75249.187
1	52	26043.0	40.237	1955.078	1.716	1047.891	76297.062
1	53	26043.0	40.237	1995.315	1.751	1047.891	77344.937
1	54	24848.0	31.553	2026.868	1.779	784.028	78128.937
1	55	23544.0	19.035	2045.903	1.796	448.160	78577.062
1	56	20155.5	9.739	2055.642	1.804	196.294	78773.312
1	57	12591.5	2.740	2058.382	1.807	34.501	78807.812
1	58	5339.0	0.601	2058.982	1.807	3.209	78811.000
1	59	1185.5	0.601	2059.583	1.808	0.712	78811.687

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 173.7483
TOTAL SEDIMENT LOAD IN TONS/ACRE = 7.8383

TABLE B71: QB4 TEST# 5 RUN# 1 ----DATE 092281 TIME 1505 DURATION 61 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	858.5	0.384	0.384	0.000	0.330	0.330
1	2	18054.0	1.869	2.253	0.002	33.743	34.073
1	3	47180.0	5.907	8.160	0.007	278.692	312.765
1	4	64060.5	15.097	23.257	0.020	967.121	1279.886
1	5	70637.9	25.461	48.718	0.043	1798.513	3078.399
1	6	70840.9	35.746	84.464	0.074	2532.282	5610.680
1	7	66220.4	41.921	126.385	0.111	2776.029	8386.707
1	8	61877.5	41.921	168.306	0.148	2593.966	10980.672
1	9	58320.0	41.921	210.227	0.185	2444.832	13425.504
1	10	54968.5	41.921	252.148	0.221	2304.334	15729.836
1	11	52690.0	41.921	294.069	0.258	2208.817	17938.652
1	12	49659.0	41.921	335.990	0.295	2081.754	20020.406
1	13	47903.0	41.921	377.911	0.332	2008.141	22028.547
1	14	47903.0	41.921	419.832	0.369	2008.141	24036.687
1	15	47903.0	41.921	461.752	0.405	2008.141	26044.828
1	16	43674.0	41.921	503.673	0.442	1830.857	27875.684
1	17	39445.0	41.921	545.594	0.479	1653.573	29529.254
1	18	39445.0	41.921	587.515	0.516	1653.573	31182.824
1	19	39445.0	41.921	629.436	0.553	1653.573	32836.395
1	20	37377.5	41.921	671.357	0.589	1566.902	34403.293
1	21	35310.0	41.921	713.278	0.626	1480.230	35883.523
1	22	35310.0	41.921	755.199	0.663	1480.230	37363.754
1	23	35310.0	41.921	797.120	0.700	1480.230	38843.984
1	24	33612.5	41.921	839.041	0.737	1409.069	40253.051
1	25	31915.0	41.921	880.961	0.773	1337.908	41590.957
1	26	31915.0	41.921	922.882	0.810	1337.908	42928.863
1	27	31915.0	41.921	964.803	0.847	1337.908	44266.770
1	28	31036.5	41.921	1006.724	0.884	1301.081	45567.848
1	29	30158.0	41.921	1048.645	0.921	1264.253	46832.098
1	30	30158.0	41.921	1090.566	0.957	1264.253	48096.348
1	31	30158.0	41.921	1132.487	0.994	1264.253	49360.598
1	32	29219.0	41.921	1174.408	1.031	1224.889	50585.484
1	33	28280.0	41.921	1216.329	1.068	1185.525	51771.008
1	34	28280.0	41.921	1258.250	1.105	1185.525	52956.531
1	35	28280.0	41.921	1300.170	1.141	1185.525	54142.055
1	36	29126.0	41.921	1342.091	1.178	1220.990	55363.043
1	37	29972.0	41.921	1384.012	1.215	1256.456	56619.496
1	38	29972.0	41.921	1425.933	1.252	1256.456	57875.949
1	39	29972.0	41.921	1467.854	1.289	1256.456	59132.402
1	40	29567.0	41.921	1509.775	1.325	1239.478	60371.879
1	41	29162.0	41.921	1551.696	1.362	1222.500	61594.375
1	42	29162.0	41.921	1593.617	1.399	1222.500	62816.871
1	43	29162.0	41.921	1635.538	1.436	1222.500	64039.367
1	44	28274.5	41.921	1677.458	1.473	1185.295	65224.660
1	45	27387.0	41.921	1719.379	1.509	1148.090	66372.750
1	46	27387.0	41.921	1761.300	1.546	1148.090	67520.812
1	47	27387.0	41.921	1803.221	1.583	1148.090	68668.875
1	48	26865.5	41.921	1845.142	1.620	1126.228	69795.062
1	49	26344.0	41.921	1887.063	1.657	1104.367	70899.375
1	50	26344.0	41.921	1928.984	1.693	1104.367	72003.687
1	51	26344.0	41.921	1970.905	1.730	1104.367	73108.000
1	52	25265.5	41.921	2012.826	1.767	1059.155	74167.125
1	53	24187.0	41.921	2054.747	1.804	1013.943	75181.062
1	54	24187.0	41.921	2096.667	1.841	1013.943	76195.000
1	55	24187.0	31.636	2128.303	1.868	765.180	76960.125
1	56	25834.0	16.412	2144.715	1.883	423.987	77384.062
1	57	27806.5	8.031	2152.746	1.890	223.314	77607.375
1	58	25102.0	3.142	2155.888	1.893	78.870	77686.187
1	59	20908.0	1.231	2157.119	1.894	25.738	77711.875
1	60	10845.0	0.483	2157.602	1.894	5.238	77717.062
1	61	973.0	0.099	2157.701	1.894	0.096	77717.125

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 171.3352
TOTAL SEDIMENT LOAD IN TONS/ACRE = 7.7294

TABLE B72: QB2 TEST# 5 RUN# 2 ----DATE 092381 TIME 1244 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	4195.5	1.104	1.104	0.001	4.632	4.632
1	2	6228.0	6.032	7.136	0.006	37.567	42.199
1	3	8869.0	10.789	17.925	0.016	95.688	137.887
1	4	10104.0	19.454	37.379	0.033	196.563	334.450
1	5	11066.0	27.185	64.564	0.057	300.829	635.279
1	6	12794.5	29.478	94.042	0.083	377.156	1012.435
1	7	14037.0	33.457	127.499	0.112	469.636	1482.070
1	8	13997.5	35.143	162.642	0.143	491.914	1973.984
1	9	14079.5	35.143	197.785	0.174	494.796	2468.780
1	10	14339.0	35.143	232.928	0.204	503.915	2972.695
1	11	14428.5	35.143	268.071	0.235	507.061	3479.756
1	12	15591.5	35.143	303.214	0.266	547.932	4027.687
1	13	15783.0	35.143	338.356	0.297	554.662	4582.348
1	14	15072.0	35.143	373.499	0.328	529.675	5112.020
1	15	15072.0	35.143	408.642	0.359	529.675	5641.691
1	16	15072.0	35.143	443.785	0.390	529.675	6171.363
1	17	15009.0	35.143	478.928	0.420	527.461	6698.824
1	18	14946.0	35.143	514.071	0.451	525.247	7224.070
1	19	14946.0	35.143	549.213	0.482	525.247	7749.316
1	20	14946.0	35.143	584.356	0.513	525.247	8274.562
1	21	15167.0	35.143	619.499	0.544	533.014	8807.574
1	22	15388.0	35.143	654.642	0.575	540.780	9348.352
1	23	15388.0	35.143	689.785	0.606	540.780	9889.129
1	24	15388.0	35.143	724.927	0.636	540.780	10429.906
1	25	15682.5	35.143	760.070	0.667	551.130	10981.035
1	26	15977.0	35.143	795.213	0.698	561.479	11542.512
1	27	15977.0	35.143	830.356	0.729	561.479	12103.988
1	28	15977.0	35.143	865.499	0.760	561.479	12665.465
1	29	15977.0	35.143	900.642	0.791	561.479	13226.941
1	30	15977.0	35.143	935.784	0.821	561.479	13788.418
1	31	15977.0	35.143	970.927	0.852	561.479	14349.895
1	32	15977.0	35.143	1006.070	0.883	561.479	14911.371
1	33	17079.0	35.143	1041.213	0.914	600.207	15511.574
1	34	18181.0	35.143	1076.356	0.945	638.934	16150.508
1	35	18181.0	35.143	1111.499	0.976	638.934	16789.441
1	36	18181.0	35.143	1146.641	1.007	638.934	17428.375
1	37	18595.5	35.143	1181.784	1.037	653.501	18081.875
1	38	19010.0	35.143	1216.927	1.068	668.068	18749.941
1	39	19010.0	35.143	1252.070	1.099	668.068	19418.008
1	40	19010.0	35.143	1287.213	1.130	668.068	20086.074
1	41	19273.0	35.143	1322.355	1.161	677.311	20763.383
1	42	19536.0	35.143	1357.498	1.192	686.553	21449.934
1	43	19536.0	35.143	1392.641	1.223	686.553	22136.484
1	44	19536.0	35.143	1427.784	1.253	686.553	22823.035
1	45	19759.0	35.143	1462.927	1.284	694.390	23517.422
1	46	19982.0	35.143	1498.070	1.315	702.227	24219.648
1	47	19982.0	35.143	1533.212	1.346	702.227	24921.875
1	48	19982.0	35.143	1568.355	1.377	702.227	25624.102
1	49	19743.0	35.143	1603.498	1.408	693.828	26317.930
1	50	19504.0	35.143	1638.641	1.438	685.429	27003.355
1	51	19504.0	35.143	1673.784	1.469	685.429	27688.781
1	52	19504.0	35.143	1708.927	1.500	685.429	28374.207
1	53	19873.5	35.143	1744.069	1.531	698.414	29072.621
1	54	20243.0	35.143	1779.212	1.562	711.400	29784.020
1	55	20243.0	35.143	1814.355	1.593	711.400	30495.418
1	56	20243.0	35.143	1849.498	1.624	711.400	31206.816
1	57	19806.0	35.143	1884.641	1.654	696.042	31902.855
1	58	19369.0	35.143	1919.783	1.685	680.684	32583.539
1	59	19369.0	35.143	1954.926	1.716	680.684	33264.223
1	60	33430.5	35.143	1990.069	1.747	1174.847	34439.066
1	61	25151.5	31.164	2021.233	1.774	783.821	35222.887
1	62	1726.0	18.519	2039.752	1.791	31.964	35254.848
1	63	320.5	4.927	2044.678	1.795	1.579	35256.426

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 77.7263
TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.5064

TABLE B73: QB3 TEST# 5 RUN# 2 ----DATE 092381 TIME 1244 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	6449.5	4.490	4.490	0.004	28.958	28.958
1	2	7932.5	18.103	22.593	0.020	143.602	172.560
1	3	8576.0	29.577	52.170	0.046	253.652	426.212
1	4	8846.5	34.445	86.615	0.076	304.718	730.930
1	5	9797.5	34.445	121.060	0.106	337.475	1068.405
1	6	10625.0	37.231	158.291	0.139	395.579	1463.984
1	7	10901.5	37.499	195.790	0.172	408.795	1872.779
1	8	11162.0	37.499	233.289	0.205	418.563	2291.342
1	9	11699.0	37.499	270.788	0.238	438.700	2730.042
1	10	12075.5	37.499	308.287	0.271	452.819	3182.861
1	11	12327.0	37.499	345.785	0.304	462.250	3645.111
1	12	13071.0	37.499	383.284	0.336	490.149	4135.258
1	13	13533.0	37.499	420.783	0.369	507.474	4642.730
1	14	13533.0	37.499	458.282	0.402	507.474	5150.203
1	15	13533.0	37.499	495.781	0.435	507.474	5657.676
1	16	13352.5	37.499	533.279	0.468	500.705	6158.379
1	17	13172.0	37.499	570.778	0.501	493.937	6652.312
1	18	13172.0	37.499	608.277	0.534	493.937	7146.246
1	19	13172.0	37.499	645.776	0.567	493.937	7640.180
1	20	13294.5	37.499	683.274	0.600	498.530	8138.707
1	21	13417.0	37.499	720.773	0.633	503.124	8641.828
1	22	13417.0	37.499	758.272	0.666	503.124	9144.949
1	23	13417.0	37.499	795.771	0.699	503.124	9648.070
1	24	13464.5	37.499	833.270	0.731	504.905	10152.973
1	25	13512.0	37.499	870.768	0.764	506.686	10659.656
1	26	13512.0	37.499	908.267	0.797	506.686	11166.340
1	27	13512.0	37.499	945.766	0.830	506.686	11673.023
1	28	13952.0	37.499	983.265	0.863	523.186	12196.207
1	29	14392.0	37.499	1020.763	0.896	539.685	12735.891
1	30	14392.0	37.499	1058.262	0.929	539.685	13275.574
1	31	14392.0	37.499	1095.761	0.962	539.685	13815.258
1	32	14144.0	37.499	1133.260	0.995	530.385	14345.641
1	33	13896.0	37.499	1170.759	1.028	521.086	14866.723
1	34	13896.0	37.499	1208.257	1.061	521.086	15387.805
1	35	13896.0	37.499	1245.756	1.094	521.086	15908.887
1	36	14821.0	37.499	1283.255	1.127	555.772	16464.656
1	37	15746.0	37.499	1320.754	1.159	590.459	17055.113
1	38	15746.0	37.499	1358.252	1.192	590.459	17645.570
1	39	15746.0	37.499	1395.751	1.225	590.459	18236.027
1	40	15620.5	37.499	1433.250	1.258	585.753	18821.777
1	41	15495.0	37.499	1470.749	1.291	581.047	19402.820
1	42	15495.0	37.499	1508.248	1.324	581.047	19983.863
1	43	15495.0	37.499	1545.746	1.357	581.047	20564.906
1	44	15531.5	37.499	1583.245	1.390	582.415	21147.320
1	45	15568.0	37.499	1620.744	1.423	583.784	21731.102
1	46	15568.0	37.499	1658.243	1.456	583.784	22314.883
1	47	15568.0	37.499	1695.741	1.489	583.784	22898.664
1	48	15542.5	37.499	1733.240	1.522	582.828	23481.488
1	49	15517.0	37.499	1770.739	1.554	581.872	24063.359
1	50	15517.0	37.499	1808.238	1.587	581.872	24645.230
1	51	15517.0	37.499	1845.737	1.620	581.872	25227.102
1	52	16252.5	37.499	1883.235	1.653	609.452	25836.551
1	53	16988.0	37.499	1920.734	1.686	637.032	26473.582
1	54	16988.0	37.499	1958.233	1.719	637.032	27110.613
1	55	16988.0	37.499	1995.732	1.752	637.032	27747.645
1	56	16214.0	37.499	2033.230	1.785	608.008	28355.652
1	57	15440.0	37.499	2070.729	1.818	578.984	28934.633
1	58	16067.5	37.499	2108.228	1.851	602.515	29537.145
1	59	22462.0	37.499	2145.727	1.884	842.302	30379.445
1	60	22849.5	37.231	2182.958	1.916	850.709	31230.152
1	61	11200.5	27.911	2210.869	1.941	312.616	31542.766
1	62	3800.5	13.919	2224.788	1.953	52.899	31595.664
1	63	1808.5	4.490	2229.278	1.957	8.120	31603.781
1	64	473.5	4.490	2233.768	1.961	2.126	31605.906

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 69.6784
TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.1434

TABLE B74: Q84 TEST# 5 RUN# 2 ----DATE 092381 TIME 1244 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	3533.5	0.0	0.0	0.0	0.0	0.0
1	2	5565.0	2.295	2.295	0.002	12.772	12.772
1	3	7656.0	6.716	9.011	0.008	51.418	64.189
1	4	9168.5	15.097	24.108	0.021	138.417	202.606
1	5	10363.5	25.461	49.569	0.044	263.865	466.471
1	6	11302.0	33.691	83.260	0.073	380.775	847.246
1	7	11867.0	37.810	121.070	0.106	448.691	1295.937
1	8	12017.5	37.810	158.880	0.139	454.381	1750.318
1	9	12716.0	37.810	196.690	0.173	480.792	2231.110
1	10	13423.0	37.810	234.500	0.206	507.523	2738.634
1	11	13329.5	37.810	272.310	0.239	503.988	3242.622
1	12	13077.0	37.810	310.120	0.272	494.441	3737.063
1	13	13035.0	37.810	347.929	0.305	492.853	4229.914
1	14	13035.0	37.810	385.739	0.339	492.853	4722.766
1	15	13035.0	37.810	423.549	0.372	492.853	5215.617
1	16	13765.0	37.810	461.359	0.405	520.454	5736.070
1	17	14495.0	37.810	499.169	0.438	548.056	6284.125
1	18	14495.0	37.810	536.979	0.471	548.056	6832.180
1	19	14495.0	37.810	574.788	0.505	548.056	7380.234
1	20	13751.5	37.810	612.598	0.538	519.944	7900.176
1	21	13008.0	37.810	650.408	0.571	491.832	8392.008
1	22	13008.0	37.810	688.218	0.604	491.832	8883.840
1	23	13008.0	37.810	726.028	0.637	491.832	9375.672
1	24	13782.5	37.810	763.837	0.670	521.116	9896.785
1	25	14557.0	37.810	801.647	0.704	550.400	10447.184
1	26	14557.0	37.810	839.457	0.737	550.400	10997.582
1	27	14557.0	37.810	877.267	0.770	550.400	11547.980
1	28	14701.5	37.810	915.077	0.803	555.863	12103.844
1	29	14846.0	37.810	952.886	0.836	561.327	12665.168
1	30	14846.0	37.810	990.696	0.870	561.327	13226.492
1	31	14846.0	37.810	1028.506	0.903	561.327	13787.816
1	32	14424.5	37.810	1066.316	0.936	545.390	14333.203
1	33	14003.0	37.810	1104.126	0.969	529.453	14862.656
1	34	14003.0	37.810	1141.936	1.002	529.453	15392.109
1	35	14003.0	37.810	1179.745	1.036	529.453	15921.562
1	36	13940.5	37.810	1217.555	1.069	527.090	16448.652
1	37	13878.0	37.810	1255.365	1.102	524.727	16973.379
1	38	13878.0	37.810	1293.175	1.135	524.727	17498.105
1	39	13878.0	37.810	1330.985	1.168	524.727	18022.832
1	40	14017.0	37.810	1368.794	1.202	529.983	18552.812
1	41	14156.0	37.810	1406.604	1.235	535.238	19088.047
1	42	14156.0	37.810	1444.414	1.268	535.238	19623.281
1	43	14156.0	37.810	1482.224	1.301	535.238	20158.516
1	44	14313.0	37.810	1520.034	1.334	541.174	20699.687
1	45	14470.0	37.810	1557.844	1.367	547.110	21246.797
1	46	14470.0	37.810	1595.653	1.401	547.110	21793.906
1	47	14470.0	37.810	1633.463	1.434	547.110	22341.016
1	48	14183.0	37.810	1671.273	1.467	536.259	22877.273
1	49	13896.0	37.810	1709.083	1.500	525.407	23402.680
1	50	13896.0	37.810	1746.893	1.533	525.407	23928.086
1	51	13896.0	37.810	1784.702	1.567	525.407	24453.492
1	52	15266.0	37.810	1822.512	1.600	577.207	25030.699
1	53	16636.0	37.810	1860.322	1.633	629.007	25659.703
1	54	16636.0	37.810	1898.132	1.666	629.007	26288.707
1	55	16636.0	37.810	1935.942	1.699	629.007	26917.711
1	56	22187.0	37.810	1973.751	1.733	838.890	27756.598
1	57	27738.0	37.810	2011.561	1.766	1048.773	28805.367
1	58	27738.0	37.810	2049.371	1.799	1048.773	29854.137
1	59	27738.0	27.770	2077.141	1.823	770.284	30624.418
1	60	31636.5	11.159	2088.300	1.833	353.031	30977.449
1	61	26283.0	3.142	2091.442	1.836	82.581	31060.027
1	62	12139.5	0.946	2092.387	1.837	11.484	31071.508
1	63	3624.0	0.099	2092.486	1.837	0.359	31071.863

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 68.5010
TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.0903

TABLE B75: QB2 TEST# 5 RUN# 3 ----DATE 092381 TIME 1449 DURATION 35 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	8949.5	4.927	4.927	0.004	44.094	44.094
1	2	9453.0	4.927	9.854	0.009	46.575	90.669
1	3	9285.5	23.183	33.037	0.029	215.266	305.935
1	4	10240.5	36.512	69.549	0.061	373.901	679.835
1	5	10281.5	36.512	106.061	0.093	375.398	1055.233
1	6	10504.5	36.512	142.573	0.125	383.540	1438.773
1	7	10895.5	36.512	179.085	0.157	397.816	1836.589
1	8	10460.0	36.512	215.597	0.189	381.915	2218.504
1	9	10041.0	36.512	252.109	0.221	366.616	2585.120
1	10	10820.5	36.512	288.621	0.253	395.078	2980.198
1	11	11257.0	36.512	325.133	0.285	411.015	3391.213
1	12	11311.0	36.512	361.645	0.317	412.987	3804.200
1	13	11281.0	36.512	398.157	0.349	411.892	4216.090
1	14	10649.0	36.512	434.669	0.382	388.816	4604.902
1	15	10649.0	36.512	471.181	0.414	388.816	4993.715
1	16	10649.0	36.512	507.693	0.446	388.816	5382.527
1	17	11031.0	36.512	544.205	0.478	402.764	5785.289
1	18	11413.0	36.512	580.717	0.510	416.711	6202.000
1	19	11413.0	36.512	617.229	0.542	416.711	6618.711
1	20	11413.0	36.512	653.740	0.574	416.711	7035.422
1	21	11981.0	36.512	690.252	0.606	437.450	7472.871
1	22	12549.0	36.512	726.764	0.638	458.189	7931.059
1	23	12549.0	36.512	763.276	0.670	458.189	8389.246
1	24	12549.0	36.512	799.788	0.702	458.189	8847.434
1	25	12834.5	36.512	836.300	0.734	468.613	9316.043
1	26	13120.0	36.512	872.812	0.766	479.037	9795.078
1	27	13120.0	36.512	909.324	0.798	479.037	10274.113
1	28	13120.0	36.512	945.836	0.830	479.037	10753.148
1	29	12308.0	21.569	967.405	0.849	265.471	11018.617
1	30	16685.0	21.569	988.974	0.868	359.878	11378.492
1	31	16340.0	3.313	992.287	0.871	54.134	11432.625
1	32	8614.0	3.313	995.600	0.874	28.538	11461.160
1	33	4824.0	3.313	998.913	0.877	15.982	11477.141
1	34	1923.5	3.313	1002.226	0.880	6.373	11483.512
1	35	310.5	3.313	1005.539	0.883	1.029	11484.539

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 25.3188
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.1422

TABLE B76: QB3 TEST# 5 RUN# 3 ----DATE 092381 TIME 1449 DURATION 33 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	8901.0	13.613	13.613	0.012	121.169	121.169
1	2	8268.5	32.739	46.352	0.041	270.702	391.871
1	3	7837.0	38.251	84.603	0.074	299.773	691.644
1	4	8319.0	38.251	122.854	0.108	318.210	1009.854
1	5	8509.0	38.251	161.105	0.141	325.478	1335.332
1	6	8600.0	38.251	199.356	0.175	328.958	1664.290
1	7	8839.0	38.251	237.607	0.209	338.100	2002.390
1	8	8981.5	38.251	275.858	0.242	343.551	2345.942
1	9	9034.0	38.251	314.109	0.276	345.559	2691.501
1	10	9383.5	38.251	352.360	0.309	358.928	3050.429
1	11	9477.5	38.251	390.611	0.343	362.523	3412.952
1	12	9311.5	38.251	428.862	0.376	356.174	3769.126
1	13	9190.0	38.251	467.113	0.410	351.526	4120.652
1	14	9190.0	38.251	505.364	0.444	351.526	4472.176
1	15	9190.0	38.251	543.615	0.477	351.526	4823.699
1	16	9239.5	38.251	581.866	0.511	353.420	5177.117
1	17	9289.0	38.251	620.117	0.544	355.313	5532.430
1	18	9289.0	38.251	658.368	0.578	355.313	5887.742
1	19	9289.0	38.251	696.619	0.612	355.313	6243.055
1	20	9848.5	38.251	734.870	0.645	376.715	6619.770
1	21	10408.0	38.251	773.121	0.679	398.116	7017.883
1	22	10408.0	38.251	811.372	0.712	398.116	7415.996
1	23	10408.0	38.251	849.623	0.746	398.116	7814.109
1	24	10444.5	38.251	887.874	0.779	399.512	8213.621
1	25	10481.0	38.251	926.125	0.813	400.908	8614.527
1	26	10481.0	38.251	964.375	0.847	400.908	9015.434
1	27	10481.0	38.251	1002.626	0.880	400.908	9416.340
1	28	10639.5	38.251	1040.877	0.914	406.971	9823.309
1	29	10218.0	38.251	1079.128	0.947	390.848	10214.156
1	30	7529.5	28.555	1107.683	0.972	215.005	10429.160
1	31	3701.0	12.646	1120.329	0.984	46.803	10475.961
1	32	1716.0	4.479	1124.808	0.987	7.686	10483.645
1	33	725.5	1.263	1126.071	0.989	0.916	10484.559

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 23.1143
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.0427

TABLE B77: QB4 TEST# 5 RUN# 3 ----DATE 092381 TIME 1449 DURATION 32 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	8128.0	18.733	18.733	0.016	152.262	152.262
1	2	9020.0	37.466	56.199	0.049	337.943	490.205
1	3	7729.0	37.466	93.665	0.082	289.575	779.780
1	4	7679.5	37.466	131.131	0.115	287.720	1067.500
1	5	8091.0	37.466	168.597	0.148	303.137	1370.637
1	6	8116.0	37.466	206.063	0.181	304.074	1674.711
1	7	8418.0	37.466	243.529	0.214	315.388	1990.099
1	8	9074.5	37.466	280.995	0.247	339.985	2330.084
1	9	8728.5	37.466	318.461	0.280	327.022	2657.106
1	10	8754.5	37.466	355.927	0.312	327.996	2985.102
1	11	9040.5	37.466	393.392	0.345	338.711	3323.813
1	12	9426.5	37.466	430.858	0.378	353.173	3676.986
1	13	10072.0	37.466	468.324	0.411	377.357	4054.343
1	14	10072.0	37.466	505.790	0.444	377.357	4431.699
1	15	10072.0	37.466	543.256	0.477	377.357	4809.055
1	16	9980.5	37.466	580.721	0.510	373.929	5182.980
1	17	9889.0	37.466	618.187	0.543	370.501	5553.480
1	18	9889.0	37.466	655.653	0.576	370.501	5923.980
1	19	9889.0	37.466	693.119	0.608	370.501	6294.480
1	20	9725.0	37.466	730.585	0.641	364.357	6658.836
1	21	9561.0	37.466	768.051	0.674	358.212	7017.047
1	22	9561.0	37.466	805.516	0.707	358.212	7375.258
1	23	9561.0	37.466	842.982	0.740	358.212	7733.469
1	24	9997.0	37.466	880.448	0.773	374.547	8108.016
1	25	10433.0	37.466	917.914	0.806	390.883	8498.895
1	26	10230.5	37.466	955.380	0.839	383.295	8882.187
1	27	8976.5	37.466	992.845	0.872	336.313	9218.500
1	28	5984.0	37.466	1030.311	0.904	224.197	9442.695
1	29	2842.5	37.466	1067.777	0.937	106.497	9549.191
1	30	1066.5	27.598	1095.375	0.962	29.433	9578.621
1	31	392.5	11.159	1106.534	0.971	4.380	9583.000
1	32	147.0	2.295	1108.829	0.973	0.337	9583.336

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 21.1274
TOTAL SEDIMENT LOAD IN TONS/ACRE = 0.9531

Section 7: Particle Size Distribution of the Eroded Materials.

Soil Condition	Plot	Run	% C.F. >2MM	SAND VC	C	M	F	VF	TOTAL	SILT	CLAY
Before Test	2		21.9	1.2	0.7	0.6	7.5	16.7	26.7	49.1	24.2
	3		28.4	1.3	1.0	1.0	8.2	18.7	30.2	47.1	22.7
	4		19.6	0.6	0.9	0.7	5.6	18.4	26.3	51.3	22.4
After Test	2		26.8	1.1	0.9	0.9	7.4	18.5	28.9	51.1	20.0
	3		26.6	1.5	0.7	0.7	9.1	20.1	32.1	44.8	23.2
	4		23.4	0.9	0.8	0.8	7.8	20.3	30.5	47.6	21.9
Suspended	2	1	0	0.2	0.1	0.3	2.1	7.4	10.1	57.3	32.6
		2	0	0.5	0.2	0.5	5.6	12.7	19.5	52.3	28.2
		3	0	0.2	0.4	0.3	3.0	11.8	15.7	56.5	27.8
	3	1	0	0.2	0.4	0.5	4.3	8.2	13.6	55.1	31.3
		2	0	0.1	0.3	0.4	4.3	12.7	17.8	56.0	26.2
		3	0	0.4	0.4	0.7	4.9	14.5	20.9	52.4	26.7
	4	1	0	0.3	0.2	0.1	1.6	8.7	10.9	58.2	30.9
		2	0	0.3	0.3	0.3	3.6	11.6	16.2	55.9	27.9
		3	0	0.0	0.0	0.2	1.5	11.2	12.9	59.3	27.8
Flume	2	1	0.3	0.6	1.3	1.5	15.1	27.0	45.5	39.1	15.4
		2	1.3	1.3	2.2	2.3	22.5	31.6	59.9	28.8	11.3
		3	1.6	1.8	2.0	2.2	22.7	34.6	63.3	27.0	9.7
	3	1	0.1	0.4	1.3	1.6	20.4	29.6	53.3	32.2	14.5
		2	0.3	1.6	2.0	2.6	30.6	32.4	69.3	22.1	8.7
		3	0.9	1.6	1.8	1.7	21.3	38.6	65.0	24.2	10.8
	4	1	0.7	1.5	1.2	1.3	14.4	27.0	45.5	40.5	14.0
		2	0.6	1.5	1.9	1.9	13.5	31.4	50.3	37.5	12.2
		3	1.5	2.0	2.4	21.1	29.9	4.8	60.3	28.6	11.1

Appendix C

Data Base for Glen Jean, West Virginia

Section 1: Soil Conservation Service Soil Description.

Section 2: Particle Size Analysis Plot Surface.

Section 3: Chemical Properties Plot Surface.

Section 4: Distribution Data.

Section 5: Moisture Data.

Section 6: Hydrologic Data.

Section 7: Particle Size Distribution Eroded Material.

Section 1: Soil Conservation Service Soil Description.

Classification	:	Udorthents, sandstone and mudstone, low base.
Dates	:	10/15/81
Location	:	1.3 miles south east of Glen Jean, Fayette county, West Virginia. Oak Hill quadrangle, north tributary to Barren Branch.
Vegetation	:	none
Described by	:	Wolf and Bell
Layers	:	
1. 0-27		Yellowish brown (10yr5/6) channery sandy loam; massive; friable; 15 percent coarse fragments of red, brown and gray sandstones; strongly acid (ph 5.2); clear wavy boundary.
2. 27-43		Brownish yellow (10yr6/8) very channery sandy loam; massive; friable; 40 percent coarse fragments of grey sandstone; strongly acid (ph 5.2); abrupt wavy boundry.
3. 43-66 cm		Brown (10yr5/3) channery loam; massive; friable; 20 percent coarse fragments of gray sandstone and black siltstone; strongly acid (ph 5.2); clear wavy boundary.
4. 66-99 cm		Dark brown (10yr4/3) very channery loam; massive; firm; 70 percent coarse fragments of black siltstone and gray sandstone; neutral (ph 6.8).
Notes	:	Coarse fragments in horizon 3 are 70 percent sandstone 30 percent siltstone. Coarse fragments in horizon 4 are 50 percent sandstone and 50 percent siltstone. The black siltstone in horizons 3 and 4 gives a gray streak when

rubbed on an unglazed porcelain plate indicating low carbon content.

Parent Material	: Mixed acid and neutral sandstones and siltstones.
Geologic Formation	: New River
Drainage	: well drained
Permeability	: moderate (field estimate)
Erosion	: moderate
Elevation	: 1740'
Slope	: 9 percent
Aspect	: north
Relief	: sloping

Section 2: Particle Size Analysis Plot Surface

Five Samples from each plot were analyzed by the Virginia Tech Department of Agronomy - Physical Characterization Laboratory. The complete data base for this analysis is presented below:

Table C1: Particle Size Distribution of the Plot Surface.

	% C.F.	SAND							
	>2MM	VC	C	M	F	VF	TOTAL	SILT	CLAY
2-1	21.96	1.6	2.3	10.3	36.7	11.5	62.5	26.2	11.3
2-2	11.48	1.4	1.8	11.6	32.7	10.7	58.3	27.6	14.1
2-3	6.67	0.8	2.0	10.7	37.3	10.0	60.9	26.4	12.7
2-4	9.07	0.8	1.5	10.6	40.5	10.5	64.0	27.5	8.5
2-5	8.86	0.8	1.6	9.1	43.2	10.9	65.6	24.5	9.9
3-1	11.14	1.0	1.7	10.6	40.5	11.3	65.2	26.1	8.7
3-2	9.5	1.0	1.8	11.5	36.0	13.5	63.9	26.6	9.5
3-3	12.03	1.0	1.8	11.4	38.0	12.6	64.8	25.2	10.0
3-4	12.34	1.1	1.7	10.1	38.4	11.5	62.9	27.3	9.8
3-5	25.05	1.1	2.3	10.6	40.0	14.1	68.1	21.8	10.1
4-1	19.07	0.9	1.9	10.0	39.3	10.3	62.4	27.3	10.3
4-2	26.04	1.2	2.8	10.4	40.7	13.0	68.1	22.7	9.2
4-3	12.06	1.6	1.9	9.5	39.0	11.5	63.5	26.4	10.1
4-4	20.97	1.4	1.9	9.7	34.0	11.2	58.3	30.4	11.2
4-5	24.02	1.1	2.0	11.4	35.0	13.4	62.9	26.5	10.6

Section 3: Chemical Properties Analysis Plot Surface

Five Samples from each plot were analyzed by the Virginia Tech Department of Agronomy - Cooperative Extension Laboratory. The complete data base for this analysis is presented below:

Table C2: Chemical Properties of the Soil Surface.

		ppm				%	ppm			
	pH	P	K	Ca	Mg	OM	SS	NO3-N	Zn	Mn
2-1	5.2	3	37	132	51	0.5	1	3	1.1	16.1
2-2	4.9	3	31	168	68	0.7	64	3	1.2	16.1
2-3	4.7	4	29	168	62	0.7	102	3	2.1	16.1
2-4	4.8	3	28	120	48	0.6	51	3	1.6	16.1
2-5	4.9	3	33	132	48	0.6	1	3	1.2	16.1
3-1	4.9	3	36	120	44	0.6	1	3	1.4	16.1
3-2	4.9	3	36	132	53	0.6	1	3	1.3	16.1
3-3	4.9	3	36	120	48	0.7	1	3	1.1	16.1
3-4	5.1	3	33	120	44	0.6	1	3	0.9	16.1
3-5	5.1	2	28	96	38	0.6	1	3	0.5	16.1
4-1	5.0	3	33	120	50	0.7	1	3	1.2	16.1
4-2	5.1	3	29	96	38	0.7	1	3	0.9	16.1
4-3	5.0	3	40	120	50	0.6	1	3	1.4	16.1
4-4	4.8	4	40	132	63	0.7	64	3	1.7	16.1
4-5	4.8	4	40	120	60	0.7	1	3	1.2	16.1

Section 4: Distribution Data

The rainfall distribution for each plot was monitored by placing containers at seven selected locations. After each rainfall application the volume in eåch container was measured with a graduated cylinder and converted to rainfall rates (in/hr) for each test-run-plot-position. The results are summarized in the following table:

Table C3: Rainfall Application Rates for Each Cup Position.

			---------Plots-----------		
TEST	RUN	POS	QZ2	QZ3	QZ4
			--------inch/hour--------		
1	1	1	1.7350	1.9197	1.8419
1	1	2	1.6961	1.7496	1.8176
1	1	3	1.8079	1.9002	1.9440
1	1	4	2.0898	1.8954	1.7739
1	1	5	1.9926	1.7836	1.9197
1	1	6	1.8273	.	1.8954
1	1	7	1.9294	1.8225	1.7739
1	2	1	1.6038	1.7107	1.7496
1	2	2	1.6524	1.7155	1.6232
1	2	3	1.6767	1.6767	1.7010
1	2	4	1.8127	1.7884	1.5795
1	2	5	1.6815	1.6767	1.7739
1	2	6	1.7641	1.7544	1.7739
1	2	7	1.6767	1.6767	1.5843
1	3	1	1.8662	1.7398	1.8176
1	3	2	1.6426	1.5843	1.7204
1	3	3	1.5066	1.7787	1.7982
1	3	4	1.6912	1.7010	1.7010
1	3	5	1.8273	1.7690	1.9245

TEST	RUN	POS	QZ2	QZ3	QZ4
			---------Plots-----------		
			--------inch/hour--------		
1	3	6	1.7593	1.8759	1.8176
1	3	7	1.9051	1.8468	1.7593
2	1	1	2.2161	2.2793	2.2793
2	1	2	2.2647	2.3085	2.2793
2	1	3	2.2744	2.3133	2.2258
2	1	4	2.4202	2.3571	2.2987
2	1	5	2.4445	2.3425	2.3716
2	1	6	2.4154	2.3716	2.2599
2	1	7	.	2.2793	2.1821
2	2	1	2.0898	2.3473	2.3814
2	2	2	2.2356	2.2744	2.2842
2	2	3	2.3230	2.3716	2.2501
2	2	4	2.3814	2.2842	2.1772
2	2	5	2.3230	2.3425	2.2599
2	2	6	2.4931	2.2453	2.3230
2	2	7	2.2599	2.2258	2.0655
2	3	1	2.1772	2.2744	2.3425
2	3	2	2.1870	2.3328	2.4105
2	3	3	2.3328	2.4883	2.2939
2	3	4	2.5174	2.4980	2.3230
2	3	5	2.5855	2.4591	2.1578
2	3	6	2.5077	2.3133	2.4008
2	3	7	2.5563	2.3328	2.1384
3	1	1	2.3133	2.3328	2.3522
3	1	2	2.4057	2.3473	2.2744
3	1	3	2.3765	2.3571	2.2161
3	1	4	2.4543	2.3182	2.3571
3	1	5	2.3328	2.3668	2.2842
3	1	6	2.3036	2.3522	2.0314
3	1	7	2.4300	2.3279	2.3571
3	2	1	2.2647	2.2356	2.1384
3	2	2	2.2842	2.2258	2.2113
3	2	3	2.2987	2.2356	2.2161
3	2	4	2.3716	2.2356	2.2356
3	2	5	2.1335	2.2113	2.2599
3	2	6	2.1092	2.3085	2.1627
3	2	7	1.9440	2.0655	1.8565
3	3	1	2.1870	2.2356	2.1384
3	3	2	2.3522	2.2356	2.2258
3	3	3	2.2842	2.3036	2.2161
3	3	4	2.4494	2.4300	2.1870
3	3	5	2.2550	2.2647	2.3328
3	3	6	2.2356	2.4786	2.1675
3	3	7	2.0703	2.1675	1.9926
4	1	1	2.3959	2.4300	2.1141
4	1	2	2.4057	2.3328	2.3425
4	1	3	2.3182	2.4494	2.1043
4	1	4	2.3668	2.3571	2.2501

TEST	RUN	POS	---------Plots----------- QZ2	QZ3	QZ4
			--------inch/hour--------		
4	1	5	2.3571	2.4786	2.4397
4	1	6	2.5126	2.4397	2.2842
4	1	7	2.2501	2.2356	2.2113
4	2	1	2.5126	2.8188	2.5174
4	2	2	2.5029	2.5758	2.2015
4	2	3	2.3328	2.3182	2.4931
4	2	4	2.4397	2.3522	2.2890
4	2	5	2.6487	2.4786	2.3085
4	2	6	2.4348	2.3473	1.9877
4	2	7	2.5515	2.5029	2.1529
4	3	1	2.4688	2.5758	2.3328
4	3	2	2.6049	2.6244	2.3133
4	3	3	2.4980	2.5369	2.5272
4	3	4	2.5952	2.4883	2.4105
4	3	5	2.5758	2.6535	2.4494
4	3	6	2.5758	2.5174	2.3036
4	3	7	2.6049	2.5563	2.4786

Section 5: Moisture Data

Soil moisture was determined before and after each rainfall event from both the top and the bottom of each plot. The complete data base for this analysis is presented below:

Table C4: Soil Moisture Data fro Each Test-Run-Plot Combination.

Test-Run	Plot	Location	Before	After	Change
T1R1	QZ2	T	3.60	9.35	5.74
T1R1	QZ2	B	2.03	10.63	8.60
T1R1	QZ3	T	4.36	9.02	4.66
T1R1	QZ3	B	3.55	10.16	6.61
T1R1	QZ4	T	3.20	7.49	4.29
T1R1	QZ4	B	3.12	9.86	6.74
T1R2	QZ2	T	9.15	10.14	0.98
T1R2	QZ2	B	7.84	9.77	1.93
T1R2	QZ3	T	7.35	9.74	2.39
T1R2	QZ3	B	8.13	11.21	3.08
T1R2	QZ4	T	6.90	8.68	1.78
T1R2	QZ4	B	6.96	9.93	2.97
T1R3	QZ2	T	10.14	10.27	0.13
T1R3	QZ2	B	9.77	10.21	0.45
T1R3	QZ3	T	9.74	12.44	2.71
T1R3	QZ3	B	11.21	11.39	0.19
T1R3	QZ4	T	8.68	9.46	0.78
T1R3	QZ4	B	9.93	12.27	2.34
T2R1	QZ2	T	7.03	11.56	4.54
T2R1	QZ2	B	8.54	11.38	2.84
T2R1	QZ3	T	6.76	10.50	3.73
T2R1	QZ3	B	9.08	11.78	2.70
T2R1	QZ4	T	5.99	9.91	3.93
T2R1	QZ4	B	6.41	11.17	4.77
T2R2	QZ2	T	8.66	10.31	1.65

Test-Run	Plot	Location	Before	After	Change
T2R2	QZ2	B	10.46	12.24	1.78
T2R2	QZ3	T	8.36	10.80	2.44
T2R2	QZ3	B	11.69	12.76	1.06
T2R2	QZ4	T	8.48	10.03	1.55
T2R2	QZ4	B	9.01	10.90	1.89
T2R3	QZ2	T	10.31	10.43	0.12
T2R3	QZ2	B	12.24	11.41	-0.83
T2R3	QZ3	T	10.80	12.05	1.25
T2R3	QZ3	B	12.76	12.27	-0.49
T2R3	QZ4	T	10.03	10.26	0.23
T2R3	QZ4	B	10.90	12.07	1.17
T3R1	QZ2	T	8.66	11.34	2.67
T3R1	QZ2	B	10.62	12.34	1.72
T3R1	QZ3	T	7.94	11.33	3.39
T3R1	QZ3	B	11.04	13.03	1.99
T3R1	QZ4	T	7.12	10.50	3.38
T3R1	QZ4	B	8.51	9.61	1.10
T3R2	QZ2	T	9.28	12.06	2.78
T3R2	QZ2	B	12.05	12.51	0.47
T3R2	QZ3	T	8.88	10.35	1.47
T3R2	QZ3	B	9.83	11.62	1.78
T3R2	QZ4	T	9.00	10.15	1.15
T3R2	QZ4	B	10.69	11.32	0.63
T3R3	QZ2	T	12.06	10.05	-2.01
T3R3	QZ2	B	12.51	11.33	-1.18
T3R3	QZ3	T	10.35	10.36	0.02
T3R3	QZ3	B	11.62	9.59	-2.03
T3R3	QZ4	T	10.15	9.77	-0.37
T3R3	QZ4	B	11.32	12.09	0.77
T4R1	QZ2	T	8.47	11.13	2.66
T4R1	QZ2	B	9.58	12.18	2.60
T4R1	QZ3	T	7.36	11.73	4.37
T4R1	QZ3	B	7.46	12.65	5.19
T4R1	QZ4	T	7.06	11.56	4.50
T4R1	QZ4	B	9.21	12.26	3.06
T4R2	QZ2	T	8.54	8.63	0.09
T4R2	QZ2	B	12.00	13.98	1.98
T4R2	QZ3	T	8.91	11.06	2.16
T4R2	QZ3	B	12.37	12.86	0.49
T4R2	QZ4	T	9.43	10.90	1.48
T4R2	QZ4	B	10.33	11.54	1.21
T4R3	QZ2	T	8.63	11.74	3.11
T4R3	QZ2	B	13.98	11.93	-2.06
T4R3	QZ3	T	11.06	10.86	-0.20
T4R3	QZ3	B	12.86	12.34	-0.52
T4R3	QZ4	T	10.90	10.16	-0.75
T4R3	QZ4	B	11.54	12.21	0.67

Section 6: Hydrologic Data

This section contains the data which was used to calculate total sediment loads for each test-run-plot combination at this site. General time information is presented in Table C5. Tables C6 through C41 contain the basic field data which was used in the computer programs presented in Appendix A. Tables C42 through C77 contain the reduced soil loss data for each sampling time increment as output from the programs.

Table C5: General Time Information for Glen Jean Plots.

Site	Test	Run	Date	Time	Flow Duration	Merge #
QZ2	1	1	9/29/81	1824	60	A1
	1	2	9/30/81	1341	63	A4
	1	3	9/30/81	1550	34	A7
	2	1	10/ 8/81	1359	58	A10
	2	2	10/ 9/81	1107	64	A13
	2	3	10/ 9/81	1316	33	A16
	3	1	10/11/81	1415	58	A19
	3	2	10/12/81	1134	64	A22
	3	3	10/12/81	1335	34	A25
	4	1	10/14/81	1638	56	A28
	4	2	10/15/81	1358	64	A31
	4	3	10/15/81	1555	35	A34
QZ3	1	1	9/29/81	1823	60	A2
	1	2	9/30/81	1340	61	A5
	1	3	9/30/81	1551	32	A8
	2	1	10/ 8/81	1354	59	A11
	2	2	10/ 9/81	1106	61	A14
	2	3	10/ 9/81	1317	32	A17
	3	1	10/11/81	1413	57	A20
	3	2	10/12/81	1134	62	A23
	3	3	10/12/81	1335	33	A26
	4	1	10/14/81	1638	55	A29
	4	2	10/15/81	1358	64	A32
	4	3	10/15/81	1556	34	A35
QZ4	1	1	9/29/81	1824	58	A3
	1	2	9/30/81	1340	62	A6
	1	3	9/30/81	1551	32	A9
	2	1	10/ 8/81	1352	52	A12
	2	2	10/ 9/81	1107	62	A15
	2	3	10/ 9/81	1317	33	A18
	3	1	10/11/81	1417	55	A21
	3	2	10/12/81	1134	63	A24
	3	3	10/12/81	1335	33	A27
	4	1	10/14/81	1639	56	A30
	4	2	10/15/81	1358	63	A33
	4	3	10/15/81	1555	34	A36

TABLE C6: QZ2 TEST# 1 RUN# 1 ----DATE 092981 TIME 1824
DURATION 60 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	225.01	21.66	17.54	100.
2	1	249.43	24.29	17.54	100.
3	1	259.70	25.38	17.58	100.
4	1	248.19	23.85	17.40	100.
5	1	237.80	23.05	17.46	100.
6	1	265.83	23.19	17.51	100.
7	1	236.78	21.96	17.54	100.
8	1	228.62	21.19	17.40	100.
9	1	237.97	21.05	17.49	100.
10	1	242.12	21.19	17.76	100.
11	1	237.31	20.74	17.58	100.
12	1	246.64	20.76	17.60	100.
13	1	228.64	20.21	17.35	100.
14	2	233.23	20.34	17.57	100.
15	2	245.39	19.94	17.21	100.
16	2	251.86	20.09	17.35	100.
17	2	257.46	20.19	17.45	100.
18	2	238.39	20.15	17.57	100.
19	2	258.48	20.12	17.32	100.
20	2	251.94	20.51	17.75	100.
21	2	259.94	20.23	17.49	100.
22	2	254.66	19.89	17.28	100.
23	2	243.11	19.84	17.25	100.
24	2	240.64	19.79	17.34	100.
25	2	246.45	20.25	17.56	100.
26	2	256.44	20.61	17.86	100.
27	2	263.83	20.31	17.50	100.
28	2	240.91	20.06	17.50	100.
29	2	264.88	20.15	17.38	100.
30	2	246.60	20.19	17.51	100.
31	2	258.58	20.46	17.66	100.
32	2	249.22	20.20	17.53	100.
33	2	261.38	20.34	17.57	100.
34	2	252.02	20.12	17.40	100.
35	2	255.10	20.38	17.51	100.
36	1	261.24	19.00	17.44	100.
37	1	247.28	18.48	17.58	100.
38	1	231.88	17.85	17.48	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C7: QZ3 TEST# 1 RUN# 1 ----DATE 092981 TIME 1823
DURATION 60 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	236.80	22.78	17.75	100.
2	1	238.39	22.57	17.50	100.
3	1	243.88	23.75	17.46	100.
4	1	241.50	23.09	17.44	100.
5	1	229.95	22.30	17.62	100.
6	1	254.99	22.00	17.48	100.
7	1	238.68	21.08	17.23	100.
8	1	216.60	20.87	17.71	100.
9	1	240.83	20.93	17.58	100.
10	1	229.50	20.49	17.57	100.
11	1	240.25	20.44	17.51	100.
12	1	234.79	20.00	17.29	100.
13	2	249.71	20.46	17.71	100.
14	2	247.36	20.10	17.54	100.
15	2	257.37	20.09	17.45	100.
16	2	236.34	19.96	17.59	100.
17	2	236.46	19.80	17.40	100.
18	2	223.81	19.57	17.41	100.
19	2	230.04	19.83	17.61	100.
20	2	220.95	19.68	17.59	100.
21	2	254.61	19.79	17.33	100.
22	2	245.03	19.85	17.51	100.
23	2	226.34	19.54	17.43	100.
24	2	225.00	19.52	17.52	100.
25	2	217.89	19.29	17.25	100.
26	2	240.41	19.84	17.55	100.
27	2	248.74	19.69	17.45	100.
28	2	254.06	20.32	17.94	100.
29	2	243.27	19.85	17.53	100.
30	2	246.06	20.01	17.74	100.
31	2	245.11	20.11	17.61	100.
32	2	254.31	20.17	17.71	100.
33	2	250.82	20.10	17.35	100.
34	2	274.02	20.46	17.63	100.
35	1	253.51	20.82	17.59	100.
36	2	228.32	24.95	17.81	100.
37	1	211.18	19.03	17.46	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C8: QZ4 TEST# 1 RUN# 1 ----DATE 092981 TIME 1824
DURATION 58 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	227.30	19.06	17.32	100.
2	1	278.79	25.93	17.43	100.
3	1	263.78	24.35	17.65	100.
4	1	221.76	22.31	17.69	100.
5	1	240.15	21.71	17.28	100.
6	1	220.99	20.82	17.27	100.
7	1	235.28	21.03	17.68	100.
8	1	215.57	20.18	17.40	100.
9	1	204.06	19.93	17.41	100.
10	1	210.34	19.86	17.46	100.
11	1	220.85	20.13	17.64	100.
12	1	259.98	20.20	17.29	100.
13	2	217.18	19.75	17.49	100.
14	2	240.44	20.14	17.74	100.
15	2	224.81	19.73	17.61	100.
16	2	236.55	19.85	17.57	100.
17	2	221.40	19.47	17.42	100.
18	2	211.36	19.19	17.27	100.
19	2	242.25	19.72	17.47	100.
20	2	238.87	19.85	17.71	100.
21	2	240.70	19.49	17.41	100.
22	2	248.65	19.57	17.47	100.
23	2	230.35	19.52	17.56	100.
24	2	238.34	19.71	17.73	100.
25	2	231.12	19.40	17.50	100.
26	2	208.04	19.37	17.66	100.
27	2	233.32	19.44	17.55	100.
28	2	205.41	18.94	17.30	100.
29	2	211.34	19.20	17.59	100.
30	2	234.59	19.14	17.31	100.
31	2	214.55	19.14	17.48	100.
32	2	232.32	19.24	17.47	100.
33	1	242.06	19.24	17.40	100.
34	1	232.88	19.17	17.41	100.
35	1	232.54	19.10	17.50	100.
36	1	230.92	19.17	17.73	100.
37	1	247.82	22.41	17.73	100.
38	1	210.21	18.19	17.85	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C9: QZ2 TEST# 1 RUN# 2 ----DATE 093081 TIME 1341
DURATION 63 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
39	1	250.67	20.45	17.38	100.
40	1	239.98	20.57	17.49	100.
41	1	248.11	20.71	17.34	100.
42	1	243.55	20.68	17.56	100.
43	1	240.18	21.38	17.81	100.
44	1	246.73	21.12	17.40	100.
45	1	269.19	21.58	17.66	100.
46	1	264.07	21.52	17.45	100.
47	1	255.21	20.79	17.46	100.
48	1	247.04	20.95	17.69	100.
49	1	252.23	20.40	17.21	100.
50	1	257.73	20.75	17.54	100.
51	1	261.21	20.79	17.37	100.
52	2	267.14	20.74	17.41	100.
53	2	249.68	20.75	17.61	100.
54	2	256.51	21.29	17.47	100.
55	2	260.70	21.09	17.27	100.
56	2	265.19	21.69	17.58	100.
57	2	237.39	21.28	17.67	100.
58	2	259.43	20.67	17.19	100.
59	2	255.26	21.04	17.35	100.
60	2	254.81	21.95	17.28	100.
61	2	263.57	21.78	17.74	100.
62	2	264.00	21.91	17.42	100.
63	2	249.37	21.99	17.39	100.
64	2	255.45	22.14	17.68	100.
65	2	249.33	21.68	17.50	100.
66	2	260.40	22.35	17.52	100.
67	2	265.04	21.77	17.33	100.
68	2	253.99	21.49	17.63	100.
69	2	267.04	23.52	17.35	100.
70	2	262.01	21.83	17.36	100.
71	2	243.30	22.33	17.61	100.
72	2	256.98	22.85	17.41	100.
73	2	258.27	22.91	17.54	100.
74	2	256.18	22.28	17.42	100.
75	2	262.58	22.59	17.71	100.
76	1	254.22	24.68	17.45	100.
77	1	251.65	19.06	17.65	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C10: QZ3 TEST# 1 RUN# 2 ----DATE 093081 TIME 1340
DURATION 61 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
39	1	242.23	20.48	17.70	100.
40	1	266.24	21.36	17.54	100.
41	1	239.18	20.67	17.38	100.
42	1	237.32	20.55	17.30	100.
43	1	251.56	21.01	17.71	100.
44	1	247.77	20.73	17.47	100.
45	1	247.32	20.66	17.39	100.
46	1	249.24	20.53	17.23	100.
47	1	230.78	20.48	17.50	100.
48	1	241.18	20.43	17.41	100.
49	1	250.01	20.61	17.59	100.
50	1	239.79	20.43	17.54	100.
51	2	236.81	20.41	17.42	100.
52	2	235.39	20.44	17.61	100.
53	2	243.83	20.20	17.22	100.
54	2	233.38	20.27	17.31	100.
55	2	238.06	20.54	17.49	100.
56	2	226.71	21.03	17.48	100.
57	2	233.72	22.09	17.78	100.
58	2	229.43	21.28	17.26	100.
59	2	231.40	21.53	17.40	100.
60	2	227.13	21.13	17.71	100.
61	2	236.45	21.02	17.52	100.
62	2	235.20	22.03	17.31	100.
63	2	233.92	23.25	17.48	100.
64	2	231.38	21.76	17.57	100.
65	2	259.72	21.58	17.72	100.
66	2	228.12	21.30	17.35	100.
67	2	245.74	21.86	17.59	100.
68	2	240.58	21.46	17.41	100.
69	2	237.89	21.61	17.57	100.
70	2	240.51	22.40	17.54	100.
71	2	239.54	21.18	17.48	100.
72	2	252.82	22.32	17.32	100.
73	2	240.31	21.28	17.30	100.
74	1	233.84	21.54	17.37	100.
75	1	246.35	28.89	17.32	100.
76	1	230.13	30.14	17.63	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C11: QZ4 TEST# 1 RUN# 2 ----DATE 093081 TIME 1340
DURATION 62 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
39	1	272.57	19.39	17.32	100.
40	1	236.12	20.11	17.51	100.
41	1	202.21	19.72	17.42	100.
42	1	214.18	19.91	17.48	100.
43	1	204.29	19.82	17.52	100.
44	1	188.85	19.38	17.31	100.
45	1	219.12	20.13	17.69	100.
46	1	219.88	19.68	17.30	100.
47	1	227.51	20.07	17.63	100.
48	1	231.36	19.89	17.43	100.
49	1	210.64	19.67	17.42	100.
50	1	222.16	20.08	17.70	100.
51	2	189.71	19.43	17.50	100.
52	2	205.95	19.43	17.36	100.
53	2	234.06	19.73	17.42	100.
54	2	204.35	19.22	17.33	100.
55	2	240.76	19.80	17.50	100.
56	2	219.43	19.34	17.36	100.
57	2	214.52	19.56	17.65	100.
58	2	256.00	19.80	17.50	100.
59	2	215.80	19.25	17.25	100.
60	2	210.69	19.44	17.59	100.
61	2	183.10	19.29	17.69	100.
62	2	248.15	19.62	17.45	100.
63	2	220.23	19.23	17.38	100.
64	2	238.24	19.41	17.45	100.
65	2	245.66	19.32	17.26	100.
66	2	224.42	19.15	17.25	100.
67	2	222.25	19.48	17.66	100.
68	2	242.50	19.80	17.56	100.
69	2	236.42	19.70	17.49	100.
70	2	232.84	19.71	17.43	100.
71	2	240.14	19.99	17.47	100.
72	2	223.72	20.02	17.55	100.
73	1	246.24	20.35	17.78	100.
74	1	227.77	19.77	17.42	100.
75	1	247.38	21.21	17.38	100.
76	1	222.88	22.67	17.61	100.
77	1	237.62	20.86	17.35	100.
78	1	178.78	18.58	17.62	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C12: QZ2 TEST# 1 RUN# 3 ----DATE 093081 TIME 1550
DURATION 34 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
78	1	229.18	19.05	17.49	100.
79	1	248.62	20.27	17.53	100.
80	1	258.93	20.31	17.58	100.
81	1	267.05	20.51	17.44	100.
82	1	264.89	20.86	17.84	100.
83	1	265.58	20.83	17.46	100.
84	1	256.35	21.26	17.69	100.
85	1	254.95	20.84	17.47	100.
86	1	279.91	22.25	17.76	100.
87	1	275.85	21.27	17.72	100.
88	1	275.86	21.68	17.45	100.
89	1	261.69	21.07	17.53	100.
90	1	278.42	21.25	17.51	100.
91	2	272.91	21.03	17.59	100.
92	2	281.95	22.12	17.29	100.
93	2	241.55	21.71	17.44	100.
94	2	251.71	22.31	17.35	100.
95	2	270.33	22.82	17.71	100.
96	2	266.32	22.93	17.62	100.
97	2	242.28	22.52	17.57	100.
98	2	260.17	22.09	17.30	100.
99	2	256.00	20.50	17.64	100.
100	1	259.35	22.75	17.60	100.
101	1	234.58	20.77	17.54	100.
102	1	168.15	18.14	17.51	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C13: QZ3 TEST# 1 RUN# 3 ----DATE 093081 TIME 1551
DURATION 32 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
77	1	245.60	19.82	17.52	100.
78	1	246.38	19.82	17.72	100.
79	1	236.46	19.33	17.60	100.
80	1	254.36	19.27	17.54	100.
81	1	264.17	19.65	17.76	100.
82	1	257.30	19.45	17.54	100.
83	1	244.95	19.19	17.44	100.
84	1	256.41	19.67	17.70	100.
85	1	258.45	19.41	17.54	100.
86	1	243.70	19.41	17.40	100.
87	1	245.72	19.64	17.71	100.
88	1	234.70	19.59	17.62	100.
89	2	244.18	19.88	17.63	100.
90	2	239.74	20.12	17.43	100.
91	2	234.39	21.43	17.42	100.
92	2	245.23	21.72	17.73	100.
93	2	226.40	21.13	17.58	100.
94	2	237.71	20.95	17.46	100.
95	2	244.72	21.35	17.62	100.
96	2	249.66	22.34	17.85	100.
97	1	242.40	21.61	17.56	100.
98	1	255.52	26.38	17.64	100.
99	1	252.01	25.02	17.47	100.
100	1	225.29	21.12	17.73	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C14: QZ4 TEST# 1 RUN# 3 ----DATE 093081 TIME 1551
DURATION 32 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
79	1	234.01	19.12	17.56	100.
80	1	226.21	19.37	17.44	100.
81	1	233.51	19.08	17.60	100.
82	1	223.25	18.97	17.67	100.
83	1	219.85	18.94	17.62	100.
84	1	245.62	19.16	17.76	100.
85	1	219.05	18.88	17.63	100.
86	1	212.18	18.71	17.46	100.
87	1	231.84	18.94	17.53	100.
88	1	239.80	19.17	17.47	100.
89	1	228.68	19.28	17.71	100.
90	1	238.79	19.52	17.89	100.
91	2	207.24	18.77	17.44	100.
92	2	242.37	19.34	17.69	100.
93	2	242.14	19.47	17.80	100.
94	2	224.08	19.11	17.42	100.
95	2	245.55	19.60	17.65	100.
96	2	220.90	19.71	17.59	100.
97	2	232.13	19.98	17.53	100.
98	2	245.15	21.57	17.58	100.
99	1	247.77	22.19	17.71	100.
100	1	281.11	31.07	17.74	100.
101	1	243.55	23.55	17.63	100.
102	1	203.47	19.51	17.86	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C15: QZ2 TEST# 2 RUN# 1 ----DATE 100881 TIME 1359
DURATION 58 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	238.34	22.96	17.80	100.
2	1	237.85	25.45	17.94	100.
3	1	231.47	25.16	17.40	100.
4	1	255.77	26.44	18.16	100.
5	1	250.40	25.24	17.73	100.
6	1	196.24	25.03	17.75	100.
7	1	246.04	23.66	17.35	100.
8	1	242.85	23.37	17.46	100.
9	1	246.42	22.45	17.13	100.
10	1	254.54	22.57	17.37	100.
11	1	244.93	22.87	17.91	100.
12	1	234.83	21.98	17.77	100.
13	1	238.50	22.21	17.71	100.
14	2	247.36	22.98	17.83	100.
15	2	262.38	23.36	17.93	100.
16	2	263.63	23.70	18.18	100.
17	2	250.38	22.49	17.82	100.
18	2	250.16	22.78	18.02	100.
19	2	246.64	23.03	18.03	100.
20	2	259.17	22.78	17.52	100.
21	2	245.28	23.34	17.84	100.
22	2	260.67	24.46	17.56	100.
23	2	250.39	23.94	17.30	100.
24	2	246.22	23.18	17.32	100.
25	2	253.41	23.88	17.31	100.
26	2	237.42	23.46	17.32	100.
27	2	255.37	24.02	17.16	100.
28	2	230.22	24.95	17.28	100.
29	2	243.36	23.97	17.73	100.
30	2	256.00	24.38	17.71	100.
31	2	256.72	24.55	17.62	100.
32	2	258.74	25.29	17.28	100.
33	2	249.48	23.51	17.25	100.
34	1	225.85	21.23	17.45	100.
35	1	249.16	23.63	17.57	100.
36	1	250.68	20.02	17.13	100.
37	1	226.09	19.66	17.45	100.
38	1	232.88	18.04	17.48	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C16: QZ3 TEST# 2 RUN# 1 ----DATE 100881 TIME 1354
DURATION 59 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	254.78	18.75	17.27	100.
2	1	219.74	19.04	17.94	100.
3	1	234.09	19.30	17.75	100.
4	1	247.92	22.71	17.85	100.
5	1	239.61	23.79	17.68	100.
6	1	256.23	25.33	17.82	100.
7	1	242.88	25.84	17.71	100.
8	1	244.17	25.50	17.66	100.
9	1	254.39	25.18	17.42	100.
10	1	223.94	23.69	17.70	100.
11	1	243.99	23.60	17.69	100.
12	1	224.60	23.13	18.16	100.
13	2	241.94	22.50	17.58	100.
14	2	239.81	21.93	17.49	100.
15	2	228.30	21.20	17.75	100.
16	2	231.28	21.71	17.84	100.
17	2	227.43	21.31	17.75	100.
18	2	236.73	21.80	17.86	100.
19	2	236.13	21.49	17.84	100.
20	2	243.01	21.28	17.68	100.
21	2	237.93	21.14	17.47	100.
22	2	240.14	21.78	17.88	100.
23	2	241.95	23.13	18.00	100.
24	2	233.61	22.85	17.74	100.
25	2	243.69	22.66	17.57	100.
26	2	248.61	23.69	18.15	100.
27	2	264.17	23.01	17.87	100.
28	2	247.47	21.96	17.41	100.
29	2	241.63	22.60	17.76	100.
30	2	243.37	23.25	18.10	100.
31	2	260.19	22.31	17.45	100.
32	2	246.49	22.57	17.41	100.
33	2	249.25	22.97	17.81	100.
34	1	234.84	22.15	17.48	100.
35	1	226.11	21.79	17.43	100.
36	1	242.37	27.50	17.48	100.
37	1	235.04	24.87	17.52	100.
38	1	229.83	23.74	17.69	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C17: QZ4 TEST# 2 RUN# 1 ----DATE 100881 TIME 1352
DURATION 52 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	225.70	18.21	17.92	100.
2	1	259.87	25.10	17.25	100.
3	1	232.45	24.72	17.70	100.
4	1	258.65	24.30	17.27	100.
5	1	217.45	23.33	17.92	100.
6	1	227.28	22.28	17.12	100.
7	1	214.46	21.93	17.15	100.
8	1	220.54	22.07	17.49	100.
9	1	203.90	21.08	17.31	100.
10	1	240.54	21.64	17.33	100.
11	1	196.19	20.65	17.34	100.
12	1	245.79	21.43	17.30	100.
13	2	227.96	20.97	17.20	100.
14	2	239.94	21.37	17.66	100.
15	2	227.37	21.54	17.92	100.
16	2	223.11	20.84	17.70	100.
17	2	213.05	20.70	17.78	100.
18	2	229.48	20.76	17.54	100.
19	2	214.35	20.13	17.34	100.
20	2	240.54	20.51	17.37	100.
21	2	247.59	20.73	17.37	100.
22	2	230.08	20.33	17.35	100.
23	2	213.62	19.59	17.18	100.
24	2	234.21	20.91	18.02	100.
25	2	205.65	19.98	17.60	100.
26	2	223.00	19.90	17.39	100.
27	2	233.59	20.36	17.52	100.
28	2	237.02	20.30	17.45	100.
29	2	216.09	20.11	17.39	100.
30	1	235.92	20.14	17.32	100.
31	1	238.49	20.56	17.89	100.
32	1	258.84	20.49	18.10	100.
33	1	229.55	19.49	17.77	100.
34	1	202.85	18.56	17.54	100.
35	1	175.00	17.58	17.25	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C18: QZ2 TEST# 2 RUN# 2 ----DATE 100981 TIME 1107
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
39	1	216.20	19.54	17.46	100.
40	1	245.67	20.42	17.66	100.
41	1	221.86	20.05	17.45	100.
42	1	236.88	19.87	17.18	100.
43	1	228.74	20.53	17.59	100.
44	1	248.29	21.53	17.75	100.
45	1	240.39	20.92	17.67	100.
46	1	244.46	20.86	17.63	100.
47	1	247.07	20.51	17.24	100.
48	1	245.49	20.73	17.43	100.
49	1	250.31	21.07	17.41	100.
50	1	245.21	20.95	17.50	100.
51	1	244.51	21.74	17.64	100.
52	2	238.72	21.29	17.28	100.
53	2	239.04	21.11	17.31	100.
54	2	239.48	22.29	17.40	100.
55	2	229.84	21.30	17.66	100.
56	2	254.13	22.28	17.80	100.
57	2	252.55	22.07	17.55	100.
58	2	221.11	21.49	17.55	100.
59	2	256.62	23.10	17.49	100.
60	2	246.79	22.71	17.29	100.
61	2	246.75	23.20	17.35	100.
62	2	252.97	23.18	17.49	100.
63	2	255.36	23.15	17.60	100.
64	2	233.40	23.32	17.34	100.
65	2	253.48	23.20	17.40	100.
66	2	242.45	23.02	17.55	100.
67	2	217.94	22.36	17.29	100.
68	2	199.54	22.17	17.24	100.
69	2	252.64	22.59	17.55	100.
70	2	251.34	23.15	17.30	100.
71	2	245.77	23.68	17.66	100.
72	2	237.10	23.42	17.70	100.
73	2	236.88	23.30	17.67	100.
74	2	252.10	24.50	17.82	100.
75	1	260.65	21.23	17.70	100.
76	1	243.61	19.98	17.55	100.
77	1	226.56	18.94	17.46	100.
78	1	233.42	20.44	17.15	100.
79	1	195.11	18.24	18.00	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C19: QZ3 TEST# 2 RUN#2 ----DATE 100981 TIME 1106
DURATION 61 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
39	1	232.43	19.09	17.34	100.
40	1	247.00	20.34	17.77	100.
41	1	242.25	19.86	17.55	100.
42	1	215.76	19.33	17.36	100.
43	1	216.40	19.67	17.64	100.
44	1	225.82	19.66	17.57	100.
45	1	227.97	19.53	17.31	100.
46	1	236.26	19.36	17.15	100.
47	1	218.44	19.34	17.16	100.
48	1	236.56	19.44	17.16	100.
49	1	219.21	19.90	17.17	100.
50	1	240.09	20.74	17.93	100.
51	2	241.28	20.82	17.49	100.
52	2	224.17	21.30	17.33	100.
53	2	232.81	21.52	17.32	100.
54	2	204.44	20.12	17.52	100.
55	2	220.99	20.55	17.36	100.
56	2	234.54	22.08	18.03	100.
57	2	227.58	20.66	17.61	100.
58	2	228.80	21.67	17.78	100.
59	2	214.51	21.10	17.32	100.
60	2	210.35	21.17	17.46	100.
61	2	244.39	20.80	17.42	100.
62	2	226.27	21.13	17.83	100.
63	2	206.06	20.84	17.18	100.
64	2	222.79	21.40	17.31	100.
65	2	227.72	21.48	17.54	100.
66	2	229.16	21.04	17.34	100.
67	2	250.56	22.29	17.78	100.
68	2	253.84	23.69	18.26	100.
69	2	231.91	21.53	17.38	100.
70	2	235.18	21.71	17.58	100.
71	2	216.55	21.36	17.34	100.
72	2	232.69	22.65	17.88	100.
73	2	220.95	21.65	17.61	100.
74	1	241.04	22.65	17.37	100.
75	1	236.15	29.08	17.40	100.
76	1	232.65	25.36	18.03	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C20: QZ4 TEST# 2 RUN# 2 ----DATE 100981 TIME 1107
DURATION 62 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
36	1	243.55	19.36	17.81	100.
37	1	203.41	18.82	17.18	100.
38	1	237.86	19.01	17.24	100.
39	1	212.73	18.82	17.16	100.
40	1	221.04	19.52	17.82	100.
41	1	221.55	19.04	17.31	100.
42	1	235.42	19.71	17.94	100.
43	1	221.18	19.39	17.68	100.
44	1	239.25	18.98	17.19	100.
45	1	229.86	19.12	17.43	100.
46	1	208.16	18.75	17.15	100.
47	1	224.10	19.15	17.47	100.
48	2	226.72	19.38	17.64	100.
50	2	234.50	19.12	17.37	100.
51	2	233.29	19.15	17.33	100.
52	2	228.59	19.12	17.41	100.
53	2	241.46	19.83	17.89	100.
54	2	243.08	19.77	17.88	100.
55	2	223.97	19.27	17.52	100.
56	2	215.95	19.62	17.77	100.
57	2	225.63	19.82	17.39	100.
58	2	219.22	20.83	17.78	100.
59	2	245.17	20.68	17.33	100.
60	2	209.37	20.47	17.46	100.
61	2	221.28	20.86	17.87	100.
62	2	205.83	20.30	17.33	100.
63	2	240.32	20.68	17.37	100.
64	2	195.18	20.57	17.27	100.
65	2	214.97	19.75	17.14	100.
66	2	232.70	20.74	17.40	100.
67	2	231.96	20.36	17.53	100.
68	2	207.46	19.90	17.67	100.
69	2	245.18	20.49	17.67	100.
70	1	227.27	21.28	18.00	100.
71	1	236.34	21.88	17.87	100.
72	1	265.98	34.06	17.69	100.
73	1	222.71	28.73	17.73	100.
74	1	189.99	23.97	17.12	100.
75	1	144.23	19.81	17.27	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C21: QZ2 TEST# 2 RUN# 3 ----DATE 100981 TIME 1316
DURATION 33 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
80	1	235.82	19.29	17.62	100.
81	1	235.36	20.33	17.68	100.
82	1	195.67	19.73	17.21	100.
83	1	254.05	20.95	17.94	100.
84	1	251.83	20.89	17.83	100.
85	1	238.58	20.76	17.47	100.
86	1	246.87	22.49	17.85	100.
87	1	248.16	21.63	17.37	100.
88	1	217.54	20.75	17.41	100.
89	1	247.00	21.61	17.47	100.
90	1	224.67	20.74	17.43	100.
91	1	235.12	21.45	17.63	100.
92	1	228.44	21.10	17.78	100.
93	2	244.43	21.23	17.31	100.
94	2	241.69	22.13	17.51	100.
95	2	243.64	22.20	17.36	100.
96	2	250.53	23.15	17.85	100.
97	2	232.37	22.87	17.49	100.
98	2	234.29	24.26	17.76	100.
99	2	229.38	22.34	17.17	100.
100	2	232.89	22.93	17.84	100.
101	2	207.69	21.85	17.52	100.
102	1	237.52	23.24	17.86	100.
103	1	224.96	18.95	17.74	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C22: QZ3 TEST# 2 RUN# 3 ----DATE 100981 TIME 1317
DURATION 32 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
77	1	245.49	18.76	17.36	100.
78	1	229.78	19.99	17.91	100.
79	1	230.17	19.97	18.11	100.
80	1	250.31	19.20	17.30	100.
81	1	234.50	19.39	17.68	100.
82	1	236.38	19.86	17.86	100.
83	1	193.20	19.42	17.33	100.
84	1	225.94	20.05	18.08	100.
85	1	222.88	19.61	17.66	100.
86	1	226.60	19.36	17.34	100.
87	1	245.72	20.63	18.02	100.
88	1	247.33	20.95	17.86	100.
89	2	226.23	21.06	17.95	100.
90	2	238.77	22.27	18.05	100.
91	2	218.11	22.61	17.54	100.
92	2	239.98	22.14	17.17	100.
93	2	227.94	21.89	17.43	100.
94	2	230.97	23.59	18.00	100.
95	2	242.34	22.73	18.07	100.
96	2	222.86	22.92	17.79	100.
97	1	250.36	22.25	17.34	100.
98	1	231.30	24.83	17.75	100.
99	1	229.93	28.49	17.68	100.
100	1	231.72	23.84	17.59	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C23: QZ4 TEST# 2 RUN# 3 ----DATE 100981 TIME 1317
DURATION 33 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
76	1	224.34	18.87	17.62	100.
77	1	219.95	19.50	17.85	100.
78	1	221.29	18.78	17.33	100.
79	1	244.82	18.73	17.32	100.
80	1	221.94	19.17	17.86	100.
81	1	197.43	18.55	17.35	100.
82	1	210.06	18.98	17.69	100.
83	1	202.56	19.38	18.05	100.
84	1	220.27	19.47	18.07	100.
85	1	187.69	19.09	17.78	100.
86	1	217.48	18.89	17.38	100.
87	1	216.35	19.12	17.66	100.
88	2	200.14	18.67	17.27	100.
89	2	240.81	19.64	17.86	100.
90	2	238.63	19.22	17.26	100.
91	2	230.81	19.59	17.53	100.
92	2	217.04	19.81	17.66	100.
93	2	214.93	21.40	17.52	100.
94	2	231.60	21.02	17.13	100.
95	2	200.68	21.77	17.76	100.
96	1	192.13	19.51	17.14	100.
97	1	243.80	32.51	17.76	100.
98	1	233.40	28.57	17.50	100.
99	1	202.04	20.79	17.17	100.
100	1	132.81	19.01	17.39	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C24: QZ2 TEST# 3 RUN# 1 ----DATE 101181 TIME 1415
DURATION 58 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	235.57	24.42	17.48	100.
2	1	239.08	27.58	17.47	100.
3	1	241.83	27.95	17.58	100.
4	1	235.19	27.25	17.38	100.
5	1	239.66	27.50	17.35	100.
6	1	252.18	28.10	17.46	100.
7	1	255.66	27.58	17.52	100.
8	1	247.11	26.72	17.27	100.
9	1	250.64	26.47	17.47	100.
10	1	240.46	25.82	17.66	100.
11	1	227.91	24.81	17.41	100.
12	1	240.76	24.93	17.57	100.
13	1	223.65	23.78	17.33	100.
14	2	237.86	23.83	17.55	100.
15	2	256.66	23.79	17.17	100.
16	2	237.77	23.55	17.33	100.
17	2	257.52	23.71	17.43	100.
18	2	260.48	23.62	17.55	100.
19	2	255.28	23.53	17.28	100.
20	2	247.21	24.46	17.70	100.
21	2	210.16	22.01	17.44	100.
22	2	244.25	22.60	17.22	100.
23	2	226.03	22.42	17.22	100.
24	2	231.10	22.65	17.32	100.
25	2	245.96	23.71	17.54	100.
26	2	294.46	23.16	17.72	100.
27	2	236.31	22.20	17.38	100.
28	2	244.75	22.74	17.42	100.
29	2	244.06	23.25	17.34	100.
30	2	252.34	23.67	17.43	100.
31	2	236.71	24.22	17.51	100.
32	2	249.71	24.17	17.40	100.
33	2	223.69	23.71	17.55	100.
34	1	213.85	21.69	17.37	100.
35	1	240.84	22.09	17.43	100.
36	1	237.03	27.81	17.42	100.
37	1	227.87	21.29	17.49	100.
38	1	242.21	21.52	17.37	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C25: QZ3 TEST# 3 RUN# 1 ----DATE 101181 TIME 1413
DURATION 57 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	232.05	18.17	17.68	100.
2	1	232.43	17.95	17.45	100.
3	1	238.59	22.11	17.42	100.
4	1	249.95	26.49	17.29	100.
5	1	263.22	27.47	17.58	100.
6	1	256.90	28.15	17.45	100.
7	1	245.55	28.11	17.20	100.
8	1	255.90	28.39	17.68	100.
9	1	241.84	26.68	17.49	100.
10	1	227.00	25.39	17.48	100.
11	1	213.76	24.49	17.51	100.
12	1	235.12	24.48	17.17	100.
13	2	262.92	25.53	17.64	100.
14	2	253.85	24.56	17.51	100.
15	2	238.82	23.14	17.42	100.
16	2	238.25	22.81	17.42	100.
17	2	246.60	23.13	17.37	100.
18	2	243.66	22.74	17.28	100.
19	2	257.22	23.41	17.60	100.
20	2	215.08	22.38	17.58	100.
21	2	244.61	23.36	17.29	100.
22	2	252.89	22.54	17.45	100.
23	2	230.04	22.84	17.34	100.
24	2	245.34	23.29	17.45	100.
25	2	240.65	22.17	17.20	100.
26	2	238.22	23.85	17.53	100.
27	2	259.06	23.56	17.40	100.
28	2	254.99	23.17	17.70	100.
29	2	252.96	23.18	17.49	100.
30	2	260.70	25.84	17.52	100.
31	2	252.95	24.07	17.45	100.
32	2	244.98	23.96	17.52	100.
33	1	243.52	22.63	17.32	100.
34	1	271.98	29.62	17.51	100.
35	1	238.30	25.50	17.54	100.
36	1	245.54	22.70	17.66	100.
37	1	221.77	20.04	17.52	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C26: QZ4 TEST# 3 RUN# 1 ----DATE 101181 TIME 1417
DURATION 55 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	244.01	18.02	17.31	100.
2	1	270.55	24.39	17.39	100.
3	1	263.21	28.20	17.61	100.
4	1	247.17	27.49	17.67	100.
5	1	209.88	24.89	17.27	100.
6	1	228.76	25.21	17.27	100.
7	1	241.35	25.19	17.67	100.
8	1	238.02	24.48	17.39	100.
9	1	213.77	23.30	17.39	100.
11	1	241.27	23.69	17.59	100.
12	1	231.99	22.93	17.29	100.
13	2	234.48	22.88	17.48	100.
14	2	240.54	23.02	17.73	100.
15	2	240.47	22.45	17.54	100.
16	2	234.15	22.33	17.57	100.
17	2	239.62	22.02	17.37	100.
18	2	213.94	21.24	17.26	100.
19	2	213.48	21.22	17.45	100.
20	2	243.82	21.73	17.69	100.
21	2	238.65	21.19	17.40	100.
22	2	219.77	20.79	17.46	100.
23	2	221.82	20.71	17.55	100.
24	2	224.10	20.83	17.72	100.
25	2	229.80	20.55	17.47	100.
26	2	220.58	20.57	17.66	100.
27	2	223.54	20.62	17.51	100.
28	2	235.85	20.65	17.27	100.
29	2	230.25	20.78	17.58	100.
30	2	253.39	20.48	17.28	100.
31	1	232.30	21.03	17.45	100.
32	1	218.65	20.62	17.42	100.
33	1	214.24	21.46	17.38	100.
34	1	244.10	29.30	17.39	100.
35	1	211.50	24.75	17.44	100.
36	1	226.64	20.96	17.73	100.
37	1	230.12	20.48	17.81	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C27: QZ2 TEST# 3 RUN# 2 ----DATE 101281 TIME 1134
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
39	1	228.40	19.41	17.36	100.
40	1	219.50	19.69	17.48	100.
41	1	238.08	19.55	17.26	100.
42	1	226.31	19.71	17.47	100.
43	1	239.40	19.82	17.72	100.
44	1	233.24	19.31	17.34	100.
45	1	244.41	19.86	17.53	100.
46	1	224.38	19.48	17.45	100.
47	1	229.84	19.63	17.38	100.
48	1	239.68	20.30	17.69	100.
49	1	230.60	19.95	17.17	100.
50	1	238.81	20.78	17.47	100.
51	1	250.35	20.99	17.34	100.
52	2	239.90	21.05	17.35	100.
53	2	248.82	21.38	17.54	100.
54	2	256.33	22.04	17.40	100.
55	2	239.42	21.71	17.22	100.
56	2	248.71	22.29	17.50	100.
57	2	239.00	22.01	17.60	100.
58	2	256.49	21.77	17.16	100.
59	2	232.43	20.93	17.27	100.
60	2	250.79	21.21	17.22	100.
61	2	250.20	23.33	17.66	100.
62	2	251.45	24.59	17.43	100.
63	2	257.95	23.60	17.26	100.
64	2	258.92	21.70	17.66	100.
65	2	259.22	22.72	17.44	100.
66	2	254.08	22.49	17.45	100.
67	2	232.01	23.25	17.31	100.
68	2	233.79	22.96	17.49	100.
69	2	248.73	23.06	17.33	100.
70	2	235.03	21.88	17.19	100.
71	2	251.38	24.16	17.52	100.
72	2	249.25	23.14	17.35	100.
73	2	245.77	22.71	17.50	100.
74	2	251.42	22.78	17.27	100.
75	1	251.04	22.18	17.70	100.
76	1	253.58	27.24	17.38	100.
77	1	226.39	19.36	17.65	100.
78	1	224.80	19.84	17.46	100.
79	1	221.97	19.22	17.43	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C28: QZ3 TEST# 3 RUN# 2 ----DATE 101281 TIME 1134
DURATION 62 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
38	1	274.95	19.64	17.46	100.
39	1	237.27	19.80	17.64	100.
40	1	243.40	19.57	17.49	100.
41	1	241.98	19.30	17.54	100.
42	1	254.04	19.38	17.17	100.
43	1	245.60	19.62	17.71	100.
44	1	225.21	19.25	17.37	100.
45	1	252.66	19.23	17.38	100.
46	1	233.15	19.02	17.20	100.
47	1	254.75	19.51	17.45	100.
48	1	247.04	19.47	17.41	100.
49	1	257.00	19.50	17.43	100.
50	2	234.84	19.39	17.46	100.
51	2	248.54	19.71	17.34	100.
52	2	242.29	20.22	17.51	100.
53	2	218.76	20.05	17.24	100.
54	2	249.42	20.73	17.28	100.
55	2	246.02	20.83	17.29	100.
56	2	243.33	20.72	17.43	100.
57	2	237.81	21.58	17.31	100.
58	2	238.16	23.36	17.22	100.
59	2	242.15	22.48	17.38	100.
60	2	242.89	23.33	17.70	100.
61	2	238.51	21.75	17.44	100.
62	2	231.75	20.89	17.24	100.
63	2	232.60	20.65	17.42	100.
64	2	240.69	21.70	17.52	100.
65	2	235.70	21.93	17.53	100.
66	2	226.84	21.51	17.30	100.
67	2	247.10	23.04	17.54	100.
68	2	237.24	21.12	17.35	100.
69	2	221.20	21.68	17.42	100.
70	2	228.83	21.64	17.50	100.
71	2	219.94	21.21	17.46	100.
72	1	223.36	21.25	17.32	100.
73	1	230.24	20.84	17.28	100.
74	1	253.94	25.64	17.35	100.
75	1	237.70	24.21	17.26	100.
76	1	232.52	22.42	17.48	100.
77	1	236.20	22.12	17.35	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C29: QZ4 TEST# 3 RUN# 2 ----DATE 101281 TIME 1134
DURATION 63 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
39	1	247.75	18.95	17.28	100.
40	1	206.93	19.00	17.46	100.
41	1	238.26	18.91	17.38	100.
42	1	216.54	18.79	17.43	100.
43	1	217.19	18.74	17.35	100.
44	1	231.41	18.82	17.27	100.
45	1	216.54	19.06	17.67	100.
46	1	225.76	18.80	17.26	100.
47	1	234.52	19.11	17.54	100.
48	1	243.31	19.25	17.43	100.
49	1	219.62	19.08	17.42	100.
50	1	234.39	19.34	17.66	100.
51	2	217.01	18.99	17.47	100.
52	2	230.85	18.87	17.26	100.
53	2	236.77	18.92	17.32	100.
54	2	249.17	18.99	17.28	100.
55	2	235.60	19.04	17.47	100.
56	2	219.58	18.85	17.33	100.
57	2	249.24	19.27	17.64	100.
58	2	228.06	19.43	17.42	100.
59	2	223.47	19.41	17.19	100.
60	2	241.48	20.33	17.60	100.
61	2	235.04	20.90	17.64	100.
62	2	248.95	22.45	17.40	100.
63	2	243.07	19.97	17.34	100.
64	2	236.76	21.19	17.39	100.
65	2	254.23	21.96	17.24	100.
66	2	237.73	21.39	17.24	100.
67	2	237.93	21.22	17.63	100.
68	2	250.27	22.71	17.50	100.
69	2	224.74	22.24	17.44	100.
70	2	246.83	20.85	17.39	100.
71	2	236.64	21.80	17.45	100.
72	2	217.20	22.06	17.49	100.
73	2	222.75	21.96	17.68	100.
74	1	228.79	22.15	17.34	100.
75	1	242.15	25.10	17.34	100.
76	1	249.72	26.09	17.60	100.
77	1	234.10	21.26	17.34	100.
78	1	208.04	18.31	17.53	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C30: QZ2 TEST# 3 RUN# 3 ----DATE 101281 TIME 1335
DURATION 34 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
80	1	238.26	19.02	17.46	100.
81	1	246.80	19.62	17.43	100.
82	1	242.32	19.88	17.77	100.
83	1	229.51	19.26	17.44	100.
84	1	238.83	19.50	17.69	100.
85	1	252.01	19.97	17.76	100.
86	1	250.69	20.06	17.77	100.
87	1	245.59	20.51	17.72	100.
88	1	256.00	21.01	17.44	100.
89	1	245.87	20.33	17.50	100.
90	1	246.50	20.30	17.43	100.
91	1	244.97	21.42	17.54	100.
92	1	244.98	21.33	17.30	100.
93	2	241.71	20.84	17.35	100.
94	2	236.57	20.34	17.28	100.
95	2	247.88	21.37	17.68	100.
96	2	234.14	21.11	17.62	100.
97	2	258.34	21.16	17.57	100.
98	2	238.96	20.20	17.29	100.
99	2	254.51	21.35	17.58	100.
100	2	226.66	21.28	17.50	100.
101	1	249.73	21.05	17.53	100.
102	1	246.64	22.19	17.50	100.
103	1	264.93	21.75	17.66	100.
104	1	254.13	20.93	17.54	100.
105	1	211.77	20.55	17.47	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C31: QZ3 TEST# 3 RUN# 3 ----DATE 101281 TIME 1335
DURATION 33 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
78	1	230.83	18.70	17.72	100.
79	1	236.28	19.32	17.54	100.
80	1	239.16	19.09	17.64	100.
81	1	267.27	19.29	17.40	100.
82	1	225.68	18.91	17.49	100.
83	1	234.92	18.95	17.32	100.
84	1	237.39	19.51	17.69	100.
85	1	251.63	19.50	17.53	100.
86	1	231.76	19.28	17.39	100.
87	1	234.68	19.10	17.53	100.
88	1	265.33	19.62	17.52	100.
89	1	239.01	19.75	17.45	100.
90	2	253.66	20.31	17.39	100.
91	2	255.12	19.81	17.38	100.
92	2	241.40	20.34	17.71	100.
93	2	240.11	19.91	17.52	100.
94	2	234.86	20.84	17.47	100.
95	2	262.85	20.55	17.55	100.
96	2	255.32	23.68	17.72	100.
97	2	237.88	21.75	17.56	100.
98	1	257.33	22.73	17.64	100.
99	1	263.41	27.07	17.44	100.
100	1	244.08	27.21	17.71	100.
101	1	228.84	23.13	17.55	100.
102	1	243.18	22.79	17.60	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C32: QZ4 TEST# 3 RUN# 3 ----DATE 101281 TIME 1335
DURATION 33 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
79	1	217.43	18.36	17.45	100.
80	1	240.65	19.12	17.41	100.
81	1	222.90	18.77	17.51	100.
82	1	229.55	18.95	17.65	100.
83	1	242.30	18.86	17.56	100.
84	1	208.75	18.89	17.66	100.
85	1	235.08	18.85	17.48	100.
86	1	252.49	18.88	17.40	100.
87	1	252.32	19.03	17.46	100.
88	1	214.32	18.69	17.35	100.
89	1	248.66	19.39	17.67	100.
90	1	248.86	19.50	17.84	100.
91	2	230.64	18.97	17.38	100.
92	2	222.31	19.18	17.68	100.
93	2	251.58	19.55	17.73	100.
94	2	210.06	19.26	17.33	100.
95	2	216.89	20.82	17.60	100.
96	2	241.67	21.31	17.37	100.
97	2	242.82	20.82	17.49	100.
98	1	238.93	21.62	17.37	100.
99	1	231.44	21.30	17.53	100.
100	1	250.59	27.28	17.70	100.
101	1	242.55	27.24	17.49	100.
102	1	234.18	27.07	17.79	100.
103	1	223.35	20.52	17.29	100.
104	1	235.43	21.22	17.51	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C33: QZ2 TEST# 4 RUN# 1 ----DATE 101481 TIME 1638
DURATION 56 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	239.47	22.11	17.41	100.
2	1	256.27	27.86	17.46	100.
3	1	233.86	27.64	17.76	100.
4	1	243.04	28.40	17.89	100.
5	1	234.74	27.02	17.51	100.
6	1	246.01	26.90	17.33	100.
7	1	238.93	26.19	17.51	100.
8	1	242.45	25.64	17.33	100.
9	1	236.64	25.21	17.43	100.
10	1	265.08	25.81	17.72	100.
11	1	226.99	24.43	17.82	100.
12	1	268.56	25.27	17.88	100.
13	1	253.43	24.15	17.67	100.
14	2	269.23	25.12	17.51	100.
15	2	250.65	23.20	17.44	100.
16	2	259.22	23.43	17.41	100.
17	2	265.45	23.45	17.63	100.
18	2	256.95	22.67	17.54	100.
19	2	261.36	22.71	17.49	100.
20	2	259.41	23.63	17.68	100.
21	2	245.02	22.64	17.51	100.
22	2	251.71	22.01	17.60	100.
23	2	257.42	23.76	17.57	100.
24	2	262.03	23.23	17.70	100.
25	2	260.71	23.50	17.58	100.
26	2	231.53	22.76	17.33	100.
27	2	255.87	22.85	17.42	100.
28	2	249.43	23.05	17.59	100.
29	2	256.36	23.57	17.68	100.
30	2	253.90	23.81	17.45	100.
31	2	250.28	22.36	17.49	100.
32	2	254.69	23.03	17.54	100.
33	1	253.91	22.80	17.34	100.
34	1	262.20	21.40	17.26	100.
35	1	262.54	22.49	17.46	100.
36	1	260.38	21.10	17.39	100.
37	1	234.39	21.01	17.20	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C34: QZ3 TEST# 4 RUN# 1 ----DATE 101481 TIME 1638
DURATION 55 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	238.60	23.10	17.37	100.
2	1	262.77	26.76	17.49	100.
3	1	249.89	27.50	17.47	100.
4	1	264.02	27.70	17.53	100.
5	1	258.21	26.76	17.33	100.
6	1	236.59	25.31	17.31	100.
7	1	253.48	25.22	17.17	100.
8	1	231.61	24.51	17.53	100.
9	1	267.67	25.54	17.83	100.
10	1	255.16	24.12	17.32	100.
11	1	264.11	23.94	17.36	100.
12	1	251.86	23.59	17.47	100.
13	2	241.98	22.76	17.29	100.
14	2	222.78	22.25	17.47	100.
15	2	248.71	22.63	17.35	100.
16	2	270.87	23.69	17.64	100.
17	2	266.27	23.22	17.36	100.
18	2	245.73	23.21	17.83	100.
19	2	259.00	23.48	17.45	100.
20	2	253.55	22.34	17.61	100.
21	2	224.69	22.77	17.75	100.
22	2	217.85	22.23	17.58	100.
23	2	229.47	22.48	17.40	100.
24	2	233.45	23.84	18.01	100.
25	2	232.94	22.24	17.48	100.
26	2	232.61	22.07	17.91	100.
27	2	262.86	23.02	17.99	100.
28	2	266.24	23.07	17.82	100.
29	2	266.40	24.32	17.47	100.
30	2	245.81	24.42	18.03	100.
31	2	246.07	23.70	17.43	100.
32	1	233.58	23.50	17.51	100.
33	1	249.93	31.39	17.29	100.
34	1	261.63	29.15	17.42	100.
35	1	255.65	28.46	17.43	100.
36	1	251.81	22.91	17.57	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C35: QZ4 TEST# 4 RUN# 1 ----DATE 101481 TIME 1639
DURATION 56 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
1	1	269.95	20.51	17.37	100.
2	1	250.99	25.32	17.72	100.
3	1	244.35	25.54	17.29	100.
4	1	232.97	24.95	17.29	100.
5	1	251.95	25.28	17.40	100.
6	1	217.03	23.96	17.50	100.
7	1	213.79	23.46	17.65	100.
8	1	240.34	23.58	17.26	100.
9	1	235.05	23.31	17.31	100.
10	1	226.85	22.98	17.48	100.
11	1	221.42	22.81	17.66	100.
12	1	237.88	22.78	17.47	100.
13	2	239.77	22.25	17.14	100.
14	2	232.56	21.86	17.27	100.
15	2	238.05	21.58	17.19	100.
16	2	246.11	21.71	17.41	100.
17	2	256.52	21.28	17.15	100.
18	2	234.89	21.94	18.26	100.
19	2	234.87	21.05	17.31	100.
20	2	248.84	20.97	17.46	100.
21	2	240.27	20.63	17.44	100.
22	2	220.84	20.40	17.50	100.
23	2	238.72	20.93	17.91	100.
24	2	241.46	20.67	17.65	100.
25	2	224.21	20.30	17.58	100.
26	2	234.38	20.52	17.81	100.
27	2	252.07	21.03	18.03	100.
28	2	239.74	21.29	18.05	100.
29	2	221.15	20.32	17.56	100.
30	2	240.36	20.63	17.40	100.
31	2	252.71	21.00	17.56	100.
32	1	261.19	22.50	17.33	100.
33	1	237.93	27.62	17.41	100.
34	1	251.78	22.22	17.48	100.
35	1	241.50	21.68	17.19	100.
36	1	237.40	21.44	17.27	100.
37	1	235.90	19.83	17.29	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C36: QZ2 TE T# 4 RUN# 2 ----DATE 101581 TIME 1358
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
38	1	226.80	19.25	17.47	100.
39	1	251.87	20.47	17.37	100.
40	1	233.16	20.30	17.64	100.
41	1	227.03	20.26	17.45	100.
42	1	224.15	20.38	17.17	100.
43	1	233.17	20.95	17.55	100.
44	1	242.60	21.44	17.71	100.
45	1	231.41	20.71	17.62	100.
46	1	235.86	20.77	17.61	100.
47	1	243.02	20.98	17.23	100.
48	1	241.62	20.62	17.39	100.
49	1	232.96	21.11	17.37	100.
50	1	217.01	20.87	17.49	100.
51	2	244.69	21.73	17.64	100.
52	2	254.56	21.66	17.23	100.
53	2	256.58	21.39	17.30	100.
54	2	244.06	21.92	17.39	100.
55	2	214.20	21.18	17.64	100.
56	2	249.27	21.98	17.76	100.
57	2	223.51	22.60	17.55	100.
58	2	239.32	22.62	17.47	100.
59	2	244.69	22.70	17.50	100.
60	2	236.27	22.76	17.31	100.
61	2	242.28	21.91	17.36	100.
62	2	255.44	22.53	17.42	100.
63	2	257.84	23.04	17.53	100.
64	2	251.25	22.21	17.34	100.
65	2	234.32	22.75	17.37	100.
66	2	249.61	22.44	17.51	100.
67	2	250.88	22.45	17.29	100.
68	2	248.47	23.19	17.20	100.
69	2	233.57	22.79	17.43	100.
70	2	246.68	22.59	17.29	100.
71	2	229.92	22.42	17.65	100.
72	2	245.45	23.01	17.66	100.
73	2	245.28	22.49	17.66	100.
74	2	248.03	23.02	17.81	100.
75	1	256.85	26.32	17.58	100.
76	1	253.29	18.98	17.53	100.
77	1	249.92	24.30	17.43	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C37: QZ3 TEST# 4 RUN# 2 ----DATE 101581 TIME 1358
DURATION 64 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
37	1	245.13	19.11	17.49	100.
38	1	249.88	20.09	17.45	100.
39	1	246.70	19.60	17.39	100.
40	1	255.40	19.91	17.78	100.
41	1	219.87	18.84	17.37	100.
42	1	244.81	19.51	17.19	100.
43	1	240.58	19.76	17.70	100.
44	1	231.78	19.37	17.37	100.
45	1	248.04	19.50	17.38	100.
46	1	242.03	19.19	17.15	100.
47	1	248.30	19.39	17.17	100.
48	1	236.76	19.57	17.39	100.
49	2	236.44	19.86	17.45	100.
50	2	234.32	20.10	17.46	100.
51	2	232.56	21.10	17.34	100.
52	2	258.79	20.85	17.54	100.
53	2	235.30	20.33	17.21	100.
54	2	237.09	24.53	17.52	100.
55	2	251.97	21.31	17.30	100.
56	2	213.41	22.43	18.03	100.
57	2	246.79	22.06	17.32	100.
58	2	248.59	21.89	17.79	100.
59	2	249.83	22.53	17.34	100.
60	2	248.35	21.98	17.70	100.
61	2	230.94	21.88	17.45	100.
62	2	233.71	22.92	17.84	100.
63	2	251.44	21.61	17.43	100.
64	2	244.99	23.67	17.51	100.
65	2	241.74	21.62	17.55	100.
66	2	229.90	21.22	17.35	100.
67	2	245.53	21.67	17.76	100.
68	2	252.09	21.63	17.36	100.
69	2	236.21	21.14	17.42	100.
70	2	250.48	22.35	17.55	100.
71	2	258.58	24.63	17.44	100.
72	1	260.63	22.64	17.31	100.
73	1	258.27	30.92	17.60	100.
74	1	242.91	29.23	17.35	100.
75	1	233.63	26.97	17.41	100.
76	1	245.85	21.06	17.47	100.
77	1	236.76	22.20	17.35	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C38: QZ4 TEST# 4 RUN# 2 ----DATE 101581 TIME 1555
DURATION 34 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
38	1	249.06	19.68	17.76	100.
39	1	253.20	19.37	17.28	100.
40	1	232.20	19.20	17.47	100.
41	1	233.40	19.58	17.54	100.
42	1	213.97	18.86	17.41	100.
43	1	222.30	18.89	17.35	100.
44	1	243.12	18.90	17.18	100.
45	1	227.73	18.91	17.39	100.
46	1	209.65	18.64	17.28	100.
47	1	232.90	19.11	17.55	100.
48	1	223.55	18.88	17.42	100.
49	1	242.51	19.17	17.40	100.
50	2	245.46	19.03	17.38	100.
51	2	236.77	19.04	17.34	100.
52	2	248.19	18.95	17.26	100.
53	2	249.57	19.01	17.34	100.
54	2	232.56	19.47	17.88	100.
55	2	239.53	19.11	17.51	100.
56	2	238.65	20.04	17.78	100.
57	2	262.39	20.75	17.64	100.
58	2	261.16	21.87	17.41	100.
59	2	241.16	21.15	17.21	100.
60	2	258.55	22.94	17.60	100.
61	2	251.97	23.01	17.86	100.
62	2	234.86	21.64	17.30	100.
63	2	261.84	21.50	17.35	100.
64	2	269.64	21.97	17.39	100.
65	2	237.64	22.03	17.14	100.
66	2	236.95	21.86	17.40	100.
67	2	238.02	22.24	17.54	100.
68	2	243.22	21.44	17.67	100.
69	2	235.73	23.46	17.65	100.
70	2	255.30	22.32	18.00	100.
71	2	237.29	22.40	17.40	100.
72	2	244.36	21.04	17.68	100.
73	1	250.55	22.00	17.75	100.
74	1	227.79	23.20	17.12	100.
75	1	238.08	29.47	17.29	100.
76	1	224.31	21.73	17.57	100.
77	1	223.70	21.11	17.34	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.02

TABLE C39: QZ2 TEST# 4 RUN# 3 ----DATE 101581 TIME 1555
DURATION 35 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
78	1	231.88	18.65	17.14	100.
79	1	236.09	20.95	18.02	100.
80	1	231.45	20.07	17.42	100.
81	1	253.80	20.40	17.39	100.
82	1	244.05	20.14	17.74	100.
83	1	249.78	20.49	17.41	100.
84	1	249.23	20.74	17.60	100.
85	1	251.03	22.07	17.72	100.
86	1	251.32	21.70	17.72	100.
87	1	237.28	21.50	17.63	100.
88	1	259.60	21.60	17.34	100.
89	1	245.68	21.16	17.47	100.
90	1	258.07	20.56	17.38	100.
91	2	252.28	20.68	17.58	100.
92	2	263.40	21.20	17.26	100.
93	2	236.66	20.71	17.32	100.
94	2	240.85	21.60	17.20	100.
95	2	249.36	21.58	17.66	100.
96	2	255.80	20.83	17.51	100.
97	2	262.75	21.31	17.52	100.
98	2	243.82	23.02	17.24	100.
99	2	257.57	20.74	17.54	100.
100	1	252.45	21.57	17.85	100.
101	1	255.77	20.44	17.51	100.
102	1	246.91	21.00	17.46	100.
103	1	214.86	19.81	17.57	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C40: QZ3 TEST# 4 RUN# 3 ----DATE 101581 TIME 1556
DURATION 34 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
78	1	204.52	19.28	17.91	100.
79	1	244.94	20.25	18.08	100.
80	1	257.10	19.48	17.60	100.
81	1	241.04	19.46	17.69	100.
82	1	233.66	19.10	17.47	100.
83	1	242.30	19.10	17.30	100.
84	1	244.63	19.27	17.61	100.
85	1	245.45	19.26	17.47	100.
86	1	256.94	19.30	17.33	100.
87	1	261.29	19.64	17.47	100.
88	1	240.57	19.76	17.85	100.
89	1	236.63	19.20	17.44	100.
90	2	245.41	19.14	17.34	100.
91	2	241.80	19.94	17.38	100.
92	2	229.57	20.97	17.68	100.
93	2	224.82	21.30	17.47	100.
94	2	254.64	22.94	17.41	100.
95	2	240.08	22.12	17.52	100.
96	2	249.68	21.15	17.67	100.
97	2	219.05	21.71	17.34	100.
98	1	252.38	21.30	17.58	100.
99	1	******	21.55	17.37	100.
100	1	284.19	37.80	17.64	100.
101	1	239.63	28.18	17.54	100.
102	2	243.62	23.45	17.53	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C41: QZ4 TEST# 4 RUN# 3 ----DATE 101581 TIME 1555
DURATION 34 MIN.

SAMPLE	TIME	WET WT.	DRY WT.	TARE WT.	VOLUME
78	1	234.19	18.25	17.33	100.
79	1	224.72	18.87	17.32	100.
80	1	247.63	18.93	17.39	100.
81	1	246.53	18.76	17.36	100.
82	1	219.10	18.91	17.62	100.
83	1	244.31	19.11	17.53	100.
84	1	253.55	19.19	17.62	100.
85	1	265.69	19.18	17.43	100.
86	1	256.40	19.11	17.37	100.
87	1	248.06	19.22	17.43	100.
88	1	262.98	19.13	17.33	100.
89	1	255.57	19.30	17.58	100.
90	2	240.69	18.89	17.27	100.
91	2	237.17	18.87	17.34	100.
92	2	253.53	19.29	17.65	100.
93	2	236.60	19.98	17.70	100.
94	2	230.24	20.41	17.31	100.
95	2	226.56	21.65	17.77	100.
96	2	237.51	21.18	17.37	100.
97	2	255.95	22.27	17.72	100.
98	1	257.65	20.90	17.33	100.
99	1	251.15	25.40	17.51	100.
100	1	245.42	23.71	17.61	100.
101	1	227.79	22.96	17.59	100.
102	1	232.03	18.95	17.71	100.
103	1	218.09	18.79	17.66	100.

CORRECTION FOR DISSOLVED SOLIDS = 0.01

TABLE C42: QZ2 TEST# 1 RUN# 1 ----DATE 092981 TIME 1824 DURATION 60 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	24880.0	1.444	1.444	0.001	35.927	35.927
1	2	31189.5	4.333	5.777	0.005	135.144	171.071
1	3	30597.0	7.901	13.678	0.012	241.747	412.817
1	4	27101.5	15.631	29.309	0.026	423.623	836.441
1	5	24517.0	24.041	53.350	0.047	589.413	1425.853
1	6	21860.0	30.521	83.871	0.074	667.188	2093.042
1	7	19338.5	34.198	118.069	0.104	661.337	2754.379
1	8	17291.5	34.198	152.267	0.134	591.334	3345.713
1	9	15788.0	34.198	186.465	0.164	539.917	3885.631
1	10	14744.5	34.198	220.663	0.194	504.232	4389.859
1	11	13999.5	34.198	254.861	0.224	478.755	4868.613
1	12	13575.0	34.198	289.059	0.254	464.238	5332.848
1	13	13096.0	34.198	323.257	0.284	447.857	5780.703
1	14	12751.0	34.198	357.455	0.314	436.058	6216.758
1	15	12314.0	34.198	391.653	0.344	421.114	6637.871
1	16	11877.0	34.198	425.851	0.374	406.169	7044.039
1	17	11738.0	34.198	460.049	0.404	401.416	7445.453
1	18	11599.0	34.198	494.247	0.434	396.662	7842.113
1	19	11466.0	34.198	528.445	0.464	392.114	8234.227
1	20	11333.0	34.198	562.643	0.494	387.565	8621.789
1	21	11463.0	34.198	596.841	0.524	392.011	9013.797
1	22	11593.0	34.198	631.039	0.554	396.457	9410.254
1	23	11560.5	34.198	665.237	0.584	395.346	9805.598
1	24	11528.0	34.198	699.435	0.614	394.234	10199.828
1	25	11614.0	34.198	733.633	0.644	397.175	10597.000
1	26	11700.0	34.198	767.831	0.674	400.116	10997.113
1	27	11459.5	34.198	802.029	0.704	391.892	11389.004
1	28	11219.0	34.198	836.227	0.734	383.667	11772.668
1	29	11065.0	34.198	870.425	0.764	378.401	12151.066
1	30	10911.0	34.198	904.623	0.794	373.134	12524.199
1	31	11145.0	34.198	938.821	0.824	381.136	12905.332
1	32	11379.0	34.198	973.019	0.854	389.139	13294.469
1	33	11130.5	34.198	1007.217	0.884	380.640	13675.105
1	34	10882.0	34.198	1041.415	0.914	372.142	14047.246
1	35	11273.5	34.198	1075.613	0.944	385.531	14432.773
1	36	11665.0	34.198	1109.811	0.974	398.919	14831.691
1	37	11554.0	34.198	1144.009	1.004	395.123	15226.812
1	38	11443.0	34.198	1178.207	1.034	391.327	15618.137
1	39	11384.5	34.198	1212.405	1.064	389.327	16007.461
1	40	11326.0	34.198	1246.603	1.094	387.326	16394.785
1	41	11347.5	34.198	1280.801	1.124	388.062	16782.844
1	42	11369.0	34.198	1314.999	1.154	388.797	17171.641
1	43	11240.0	34.198	1349.197	1.184	384.385	17556.023
1	44	11111.0	34.198	1383.395	1.214	379.974	17935.996
1	45	11361.0	34.198	1417.593	1.244	388.523	18324.516
1	46	11611.0	34.198	1451.791	1.274	397.073	18721.586
1	47	11575.0	34.198	1485.989	1.304	395.842	19117.426
1	48	11539.0	34.198	1520.187	1.334	394.610	19512.035
1	49	11488.5	34.198	1554.385	1.364	392.883	19904.918
1	50	11438.0	34.198	1588.583	1.394	391.156	20296.074
1	51	11358.5	34.198	1622.781	1.425	388.438	20684.512
1	52	11279.0	34.198	1656.979	1.455	385.719	21070.230
1	53	11393.5	34.198	1691.177	1.485	389.635	21459.863
1	54	11508.0	34.198	1725.375	1.515	393.550	21853.410
1	55	11751.5	34.198	1759.573	1.545	401.877	22255.285
1	56	11995.0	34.198	1793.771	1.575	410.205	22665.488
1	57	9156.0	34.198	1827.969	1.605	313.117	22978.602
1	58	5074.0	24.235	1852.204	1.626	122.968	23101.566
1	59	2732.0	7.136	1859.340	1.632	19.496	23121.059
1	60	816.5	7.136	1866.476	1.638	5.827	23126.883

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 50.9855
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.3001

TABLE C43: QZ3 TEST# 1 RUN# 1 ----DATE 092981 TIME 1823 DURATION 60 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	23324.0	0.934	0.934	0.001	21.785	21.785
1	2	25782.5	2.379	3.313	0.003	61.337	83.121
1	3	26938.0	9.175	12.488	0.011	247.156	330.277
1	4	24008.0	24.602	37.090	0.033	590.644	920.921
1	5	20856.0	33.743	70.833	0.062	703.743	1624.665
1	6	18483.5	33.743	104.576	0.092	623.688	2248.353
1	7	16714.5	33.743	138.319	0.121	563.997	2812.350
1	8	15352.0	33.743	172.062	0.151	518.022	3330.372
1	9	14300.0	33.743	205.805	0.181	482.525	3812.897
1	10	13374.5	33.743	239.548	0.210	451.295	4264.191
1	11	12716.5	33.743	273.291	0.240	429.093	4693.281
1	12	12067.5	33.743	307.034	0.270	407.193	5100.473
1	13	11767.0	33.743	340.777	0.299	397.054	5497.523
1	14	11409.5	33.743	374.520	0.329	384.990	5882.512
1	15	11052.0	33.743	408.262	0.358	372.927	6255.437
1	16	10986.0	33.743	442.005	0.388	370.700	6626.137
1	17	10920.0	33.743	475.748	0.418	368.473	6994.609
1	18	10831.5	33.743	509.491	0.447	365.487	7360.094
1	19	10743.0	33.743	543.234	0.477	362.501	7722.594
1	20	10804.0	33.743	576.977	0.506	364.559	8087.152
1	21	10865.0	33.743	610.720	0.536	366.617	8453.770
1	22	10616.5	33.743	644.463	0.566	358.232	8812.000
1	23	10368.0	33.743	678.206	0.595	349.847	9161.844
1	24	10362.0	33.743	711.949	0.625	349.645	9511.488
1	25	10356.0	33.743	745.692	0.655	349.442	9860.930
1	26	10267.5	33.743	779.435	0.684	346.456	10207.383
1	27	10179.0	33.743	813.177	0.714	343.470	10550.852
1	28	10231.0	33.743	846.920	0.743	345.224	10896.074
1	29	10283.0	33.743	880.663	0.773	346.979	11243.051
1	30	10240.0	33.743	914.406	0.803	345.528	11588.578
1	31	10197.0	33.743	948.149	0.832	344.077	11932.652
1	32	10100.5	33.743	981.892	0.862	340.821	12273.473
1	33	10004.0	33.743	1015.635	0.892	337.565	12611.035
1	34	9773.5	33.743	1049.378	0.921	329.787	12940.820
1	35	9543.0	33.743	1083.121	0.951	322.009	13262.828
1	36	9805.5	33.743	1116.864	0.980	330.867	13593.691
1	37	10068.0	33.743	1150.607	1.010	339.724	13933.414
1	38	10127.0	33.743	1184.350	1.040	341.715	14275.129
1	39	10186.0	33.743	1218.093	1.069	343.706	14618.832
1	40	9892.0	33.743	1251.835	1.099	333.786	14952.617
1	41	9598.0	33.743	1285.578	1.128	323.865	15276.480
1	42	9796.5	33.743	1319.321	1.158	330.563	15607.043
1	43	9995.0	33.743	1353.064	1.188	337.261	15944.301
1	44	10092.0	33.743	1386.807	1.217	340.534	16284.832
1	45	10189.0	33.743	1420.550	1.247	343.807	16628.637
1	46	10022.0	33.743	1454.293	1.277	338.172	16966.809
1	47	9855.0	33.743	1488.036	1.306	332.537	17299.344
1	48	10378.0	33.743	1521.779	1.336	350.185	17649.527
1	49	10901.0	33.743	1555.522	1.365	367.832	18017.359
1	50	10607.0	33.743	1589.265	1.395	357.912	18375.270
1	51	10313.0	33.743	1623.008	1.425	347.991	18723.258
1	52	11003.0	33.743	1656.750	1.454	371.274	19094.531
1	53	11693.0	33.743	1690.493	1.484	394.556	19489.086
1	54	11326.5	33.743	1724.236	1.514	382.190	19871.273
1	55	10960.0	33.743	1757.979	1.543	369.823	20241.094
1	56	12283.0	33.743	1791.722	1.573	414.465	20655.559
1	57	24052.5	33.743	1825.465	1.602	811.603	21467.160
1	58	34499.0	28.425	1853.890	1.627	980.634	22447.793
1	59	21250.0	14.102	1867.992	1.640	299.667	22747.457
1	60	4000.5	2.549	1870.541	1.642	10.197	22757.652

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 50.1715
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.2634

TABLE C44: QZ4 TEST# 1 RUN# 1 ----DATE 092981 TIME 1824 DURATION 58 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	20643.0	14.782	14.782	0.013	305.145	305.145
1	2	30389.0	14.782	29.564	0.026	449.210	754.354
1	3	25337.5	31.729	61.293	0.054	803.933	1558.287
1	4	21587.5	33.896	95.189	0.084	731.729	2290.016
1	5	18928.5	33.896	129.085	0.113	641.600	2931.616
1	6	16488.5	33.896	162.981	0.143	558.894	3490.510
1	7	14615.0	33.896	196.877	0.173	495.390	3985.899
1	8	13660.5	33.896	230.773	0.203	463.036	4448.934
1	9	12866.5	33.896	264.669	0.232	436.123	4885.055
1	10	12247.0	33.896	298.565	0.262	415.124	5300.176
1	11	12031.5	33.896	332.461	0.292	407.819	5707.992
1	12	11562.5	33.896	366.357	0.322	391.922	6099.914
1	13	11217.0	33.896	400.253	0.351	380.211	6480.125
1	14	10952.0	33.896	434.149	0.381	371.229	6851.352
1	15	10687.0	33.896	468.045	0.411	362.246	7213.598
1	16	10411.0	33.896	501.941	0.441	352.891	7566.488
1	17	10135.0	33.896	535.837	0.470	343.536	7910.023
1	18	10228.0	33.896	569.733	0.500	346.688	8256.711
1	19	10321.0	33.896	603.629	0.530	349.840	8606.551
1	20	10136.5	33.896	637.525	0.560	343.587	8950.137
1	21	9952.0	33.896	671.421	0.589	337.333	9287.469
1	22	9870.5	33.896	705.317	0.619	334.570	9622.039
1	23	9789.0	33.896	739.213	0.649	331.808	9953.844
1	24	9855.0	33.896	773.109	0.679	334.045	10287.887
1	25	9921.0	33.896	807.005	0.708	336.282	10624.168
1	26	9753.5	33.896	840.901	0.738	330.604	10954.770
1	27	9586.0	33.896	874.797	0.768	324.927	11279.695
1	28	9406.0	33.896	908.693	0.798	318.825	11598.520
1	29	9226.0	33.896	942.589	0.827	312.724	11911.242
1	30	9111.5	33.896	976.485	0.857	308.843	12220.082
1	31	8997.0	33.896	1010.381	0.887	304.962	12525.043
1	32	9057.0	33.896	1044.277	0.917	306.996	12832.035
1	33	9117.0	33.896	1078.173	0.946	309.030	13141.062
1	34	9001.0	33.896	1112.069	0.976	305.097	13446.156
1	35	8885.0	33.896	1145.965	1.006	301.166	13747.320
1	36	8843.0	33.896	1179.861	1.036	299.742	14047.059
1	37	8801.0	33.896	1213.757	1.065	298.318	14345.375
1	38	8839.0	33.896	1247.653	1.095	299.606	14644.980
1	39	8877.0	33.896	1281.549	1.125	300.895	14945.875
1	40	8772.0	33.896	1315.445	1.155	297.335	15243.207
1	41	8667.0	33.896	1349.341	1.184	293.776	15536.980
1	42	8639.5	33.896	1383.237	1.214	292.844	15829.824
1	43	8612.0	33.896	1417.133	1.244	291.912	16121.734
1	44	8409.0	33.896	1451.029	1.274	285.031	16406.766
1	45	8206.0	33.896	1484.925	1.303	278.150	16684.914
1	46	8268.0	33.896	1518.821	1.333	280.252	16965.164
1	47	8330.0	33.896	1552.717	1.363	282.353	17247.516
1	48	8326.0	33.896	1586.613	1.393	282.218	17529.730
1	49	8322.0	33.896	1620.509	1.422	282.082	17811.812
1	50	8233.5	33.896	1654.405	1.452	279.083	18090.895
1	51	8145.0	33.896	1688.301	1.482	276.083	18366.977
1	52	8123.0	33.896	1722.197	1.512	275.337	18642.312
1	53	8088.0	33.896	1756.093	1.541	274.151	18916.461
1	54	7711.0	33.896	1789.989	1.571	261.372	19177.832
1	55	7004.0	33.896	1823.885	1.601	237.408	19415.238
1	56	13659.5	28.927	1852.812	1.626	395.128	19810.363
1	57	11161.0	15.036	1867.848	1.639	167.817	19978.180
1	58	832.0	3.058	1870.906	1.642	2.544	19980.723

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 44.0495
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.9872

TABLE C45: QZ2 TEST# 1 RUN# 2 ----DATE 093081 TIME 1341 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	13457.5	2.124	2.124	0.002	28.584	28.584
1	2	14179.0	15.546	17.670	0.016	220.427	249.010
1	3	14161.0	29.189	46.859	0.041	413.345	662.355
1	4	15046.0	31.534	78.393	0.069	474.460	1136.815
1	5	16415.5	31.534	109.927	0.096	517.646	1654.461
1	6	16023.0	31.534	141.461	0.124	505.269	2159.730
1	7	16168.5	31.534	172.995	0.152	509.857	2669.587
1	8	15378.0	31.534	204.529	0.180	484.929	3154.516
1	9	14067.0	31.534	236.063	0.207	443.588	3598.105
1	10	13850.5	31.534	267.597	0.235	436.761	4034.866
1	11	13427.0	31.534	299.131	0.263	423.407	4458.270
1	12	13654.0	31.534	330.665	0.290	430.565	4888.832
1	13	13639.5	31.534	362.199	0.318	430.108	5318.937
1	14	13294.0	31.534	393.733	0.346	419.213	5738.148
1	15	13390.5	31.534	425.267	0.373	422.256	6160.402
1	16	13487.0	31.534	456.801	0.401	425.299	6585.699
1	17	14713.0	31.534	488.334	0.429	463.959	7049.656
1	18	15939.0	31.534	519.868	0.456	502.620	7552.273
1	19	15795.0	31.534	551.402	0.484	498.079	8050.352
1	20	15651.0	31.534	582.936	0.512	493.538	8543.887
1	21	16270.0	31.534	614.470	0.539	513.058	9056.941
1	22	16889.0	31.534	646.004	0.567	532.577	9589.516
1	23	16800.5	31.534	677.538	0.595	529.787	10119.301
1	24	16712.0	31.534	709.072	0.622	526.996	10646.293
1	25	15518.5	31.534	740.606	0.650	489.360	11135.652
1	26	14325.0	31.534	772.140	0.678	451.724	11587.375
1	27	14896.5	31.534	803.674	0.705	469.746	12057.117
1	28	15468.0	31.534	835.208	0.733	487.768	12544.883
1	29	17739.5	31.534	866.742	0.761	559.397	13104.277
1	30	20011.0	31.534	898.276	0.788	631.026	13735.301
1	31	18366.0	31.534	929.810	0.816	579.153	14314.453
1	32	16721.0	31.534	961.344	0.844	527.280	14841.730
1	33	17626.5	31.534	992.877	0.872	555.834	15397.562
1	34	18532.0	31.534	1024.411	0.899	584.388	15981.949
1	35	19357.0	31.534	1055.945	0.927	610.403	16592.352
1	36	20182.0	31.534	1087.479	0.955	636.419	17228.770
1	37	19636.0	31.534	1119.013	0.982	619.201	17847.969
1	38	19090.0	31.534	1150.547	1.010	601.984	18449.949
1	39	18718.5	31.534	1182.081	1.038	590.269	19040.215
1	40	18347.0	31.534	1213.615	1.065	578.554	19618.766
1	41	19294.5	31.534	1245.149	1.093	608.432	20227.195
1	42	20242.0	31.534	1276.683	1.121	638.311	20865.504
1	43	19242.0	31.534	1308.217	1.148	606.777	21472.277
1	44	18242.0	31.534	1339.751	1.176	575.243	22047.520
1	45	17428.0	31.534	1371.285	1.204	549.574	22597.094
1	46	16614.0	31.534	1402.819	1.231	523.906	23120.996
1	47	20889.0	31.534	1434.353	1.259	658.713	23779.707
1	48	25164.0	31.534	1465.886	1.287	793.521	24573.227
1	49	21879.5	31.534	1497.420	1.314	689.948	25263.172
1	50	18595.0	31.534	1528.954	1.342	586.374	25849.543
1	51	19941.0	31.534	1560.488	1.370	628.819	26478.359
1	52	21287.0	31.534	1592.022	1.397	671.264	27149.621
1	53	22203.0	31.534	1623.556	1.425	700.149	27849.770
1	54	23119.0	31.534	1655.090	1.453	729.034	28578.801
1	55	22915.0	31.534	1686.624	1.480	722.601	29301.398
1	56	22711.0	31.534	1718.158	1.508	716.168	30017.566
1	57	21715.5	31.534	1749.692	1.536	684.776	30702.340
1	58	20720.0	31.534	1781.226	1.564	653.384	31355.723
1	59	20503.0	31.534	1812.760	1.591	646.541	32002.262
1	60	20286.0	31.534	1844.294	1.619	639.698	32641.957
1	61	25695.0	20.780	1865.073	1.637	533.942	33175.898
1	62	18543.5	7.900	1872.973	1.644	146.494	33322.391
1	63	2991.5	2.888	1875.861	1.647	8.639	33331.027

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 73.4816
TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.3150

TABLE C46: QZ3 TEST# 1 RUN# 2 ----DATE 093081 TIME 1340 DURATION 61 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	13828.5	2.549	2.549	0.002	35.249	35.249
1	2	15054.0	18.477	21.026	0.018	278.153	313.401
1	3	14757.0	31.857	52.883	0.046	470.114	783.515
1	4	14397.5	31.857	84.740	0.074	458.661	1242.176
1	5	14090.5	31.857	116.597	0.102	448.881	1691.056
1	6	14145.0	31.857	148.454	0.130	450.617	2141.673
1	7	14179.0	31.857	180.311	0.158	451.700	2593.373
1	8	14052.5	31.857	212.168	0.186	447.670	3041.043
1	9	13688.0	31.857	244.025	0.214	436.058	3477.102
1	10	13201.0	31.857	275.882	0.242	420.544	3897.646
1	11	12954.5	31.857	307.739	0.270	412.691	4310.336
1	12	13270.5	31.857	339.596	0.298	422.758	4733.094
1	13	13583.0	31.857	371.453	0.326	432.713	5165.805
1	14	13266.0	31.857	403.310	0.354	422.615	5588.418
1	15	12949.0	31.857	435.167	0.382	412.516	6000.934
1	16	13027.5	31.857	467.023	0.410	415.017	6415.949
1	17	13106.0	31.857	498.880	0.438	417.518	6833.465
1	18	13379.5	31.857	530.737	0.466	426.230	7259.691
1	19	13653.0	31.857	562.594	0.494	434.943	7694.633
1	20	13717.5	31.857	594.451	0.522	436.998	8131.629
1	21	13782.0	31.857	626.308	0.550	439.053	8570.680
1	22	15520.0	31.857	658.165	0.578	494.420	9065.098
1	23	17258.0	31.857	690.022	0.606	549.788	9614.883
1	24	18784.5	31.857	721.879	0.634	598.417	10213.297
1	25	20311.0	31.857	753.736	0.662	647.047	10860.344
1	26	19794.5	31.857	785.593	0.689	630.593	11490.934
1	27	19278.0	31.857	817.450	0.717	614.138	12105.070
1	28	19457.5	31.857	849.307	0.745	619.857	12724.926
1	29	19637.0	31.857	881.164	0.773	625.575	13350.500
1	30	18123.0	31.857	913.021	0.801	577.344	13927.844
1	31	16609.0	31.857	944.877	0.829	529.113	14456.953
1	32	16275.0	31.857	976.734	0.857	518.472	14975.422
1	33	15941.0	31.857	1008.591	0.885	507.832	15483.254
1	34	18995.0	31.857	1040.448	0.913	605.123	16088.375
1	35	22049.0	31.857	1072.305	0.941	702.415	16790.789
1	36	24597.0	31.857	1104.162	0.969	783.586	17574.375
1	37	27145.0	31.857	1136.019	0.997	864.758	18439.129
1	38	23543.0	31.857	1167.876	1.025	750.009	19189.137
1	39	19941.0	31.857	1199.733	1.053	635.260	19824.395
1	40	17925.0	31.857	1231.590	1.081	571.036	20395.430
1	41	15909.0	31.857	1263.447	1.109	506.813	20902.242
1	42	17488.0	31.857	1295.304	1.137	557.115	21459.355
1	43	19067.0	31.857	1327.161	1.165	607.417	22066.770
1	44	19056.0	31.857	1359.018	1.193	607.066	22673.832
1	45	19045.0	31.857	1390.875	1.221	606.716	23280.547
1	46	18755.0	31.857	1422.731	1.249	597.478	23878.023
1	47	18465.0	31.857	1454.588	1.277	588.239	24466.262
1	48	18561.0	31.857	1486.445	1.305	591.297	25057.559
1	49	18657.0	31.857	1518.302	1.333	594.356	25651.914
1	50	20422.0	31.857	1550.159	1.361	650.583	26302.496
1	51	22187.0	31.857	1582.016	1.388	706.811	27009.305
1	52	19568.0	31.857	1613.873	1.416	623.377	27632.680
1	53	16949.0	31.857	1645.730	1.444	539.944	28172.621
1	54	19281.0	31.857	1677.587	1.472	614.234	28786.855
1	55	21613.0	31.857	1709.444	1.500	688.525	29475.379
1	56	19885.5	31.857	1741.301	1.528	633.492	30108.867
1	57	18158.0	31.857	1773.158	1.556	578.459	30687.324
1	58	18880.0	31.857	1805.015	1.584	601.460	31288.781
1	59	36047.5	31.857	1836.872	1.612	1148.365	32437.145
1	60	56834.5	31.857	1868.729	1.640	1810.576	34247.719
1	61	30588.0	15.929	1884.657	1.654	487.236	34734.953

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 76.5767
TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.4546

TABLE C47: QZ4 TEST# 1 RUN# 2 ----DATE 093081 TIME 1340 DURATION 62 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9959.0	7.646	7.646	0.007	76.146	76.146
1	2	12120.0	22.427	30.073	0.026	271.815	347.961
1	3	12347.5	30.430	60.503	0.053	375.734	723.695
1	4	12282.0	31.296	91.799	0.081	384.377	1108.073
1	5	12135.0	31.296	123.095	0.108	379.777	1487.849
1	6	12036.5	31.296	154.391	0.136	376.694	1864.543
1	7	11881.5	31.296	185.687	0.163	371.843	2236.386
1	8	11638.5	31.296	216.983	0.190	364.238	2600.625
1	9	11515.0	31.296	248.279	0.218	360.373	2960.998
1	10	11522.5	31.296	279.575	0.245	360.608	3321.606
1	11	11592.5	31.296	310.871	0.273	362.799	3684.405
1	12	11370.5	31.296	342.167	0.300	355.851	4040.256
1	13	11149.0	31.296	373.463	0.328	348.919	4389.172
1	14	11036.0	31.296	404.759	0.355	345.383	4734.551
1	15	10923.0	31.296	436.054	0.383	341.846	5076.395
1	16	10770.0	31.296	467.350	0.410	337.058	5413.449
1	17	10617.0	31.296	498.646	0.438	332.270	5745.719
1	18	10334.5	31.296	529.942	0.465	323.428	6069.145
1	19	10052.0	31.296	561.238	0.493	314.587	6383.730
1	20	10154.5	31.296	592.534	0.520	317.795	6701.523
1	21	10257.0	31.296	623.830	0.548	321.003	7022.523
1	22	10003.0	31.296	655.126	0.575	313.054	7335.574
1	23	9749.0	31.296	686.422	0.603	305.104	7640.676
1	24	9700.0	31.296	717.718	0.630	303.571	7944.246
1	25	9651.0	31.296	749.013	0.657	302.037	8246.281
1	26	9626.5	31.296	780.309	0.685	301.271	8547.551
1	27	9602.0	31.296	811.605	0.712	300.504	8848.055
1	28	9812.5	31.296	842.901	0.740	307.092	9155.145
1	29	10023.0	31.296	874.197	0.767	313.680	9468.824
1	30	9776.0	31.296	905.493	0.795	305.949	9774.773
1	31	9529.0	31.296	936.789	0.822	298.219	10072.992
1	32	9570.5	31.296	968.085	0.850	299.518	10372.508
1	33	9612.0	31.296	999.381	0.877	300.817	10673.324
1	34	9487.5	31.296	1030.677	0.905	296.921	10970.242
1	35	9363.0	31.296	1061.972	0.932	293.024	11263.266
1	36	9217.0	31.296	1093.268	0.960	288.455	11551.719
1	37	9071.0	31.296	1124.564	0.987	283.886	11835.602
1	38	8951.5	31.296	1155.860	1.015	280.146	12115.746
1	39	8832.0	31.296	1187.156	1.042	276.406	12392.148
1	40	8904.0	31.296	1218.452	1.069	278.659	12670.805
1	41	8976.0	31.296	1249.748	1.097	280.913	12951.715
1	42	9049.5	31.296	1281.044	1.124	283.213	13234.926
1	43	9123.0	31.296	1312.340	1.152	285.513	13520.437
1	44	8985.0	31.296	1343.635	1.179	281.194	13801.629
1	45	8847.0	31.296	1374.931	1.207	276.875	14078.504
1	46	9380.5	31.296	1406.227	1.234	293.572	14372.074
1	47	9914.0	31.296	1437.523	1.262	310.268	14682.340
1	48	9981.5	31.296	1468.819	1.289	312.381	14994.719
1	49	10049.0	31.296	1500.115	1.317	314.493	15309.211
1	50	10293.5	31.296	1531.411	1.344	322.145	15631.355
1	51	10538.0	31.296	1562.707	1.372	329.797	15961.152
1	52	10905.0	31.296	1594.003	1.399	341.283	16302.434
1	53	11272.0	31.296	1625.299	1.427	352.768	16655.199
1	54	11602.0	31.296	1656.594	1.454	363.096	17018.293
1	55	11932.0	31.296	1687.890	1.482	373.424	17391.715
1	56	11568.5	31.296	1719.186	1.509	362.048	17753.762
1	57	11164.5	31.296	1750.482	1.536	349.404	18103.164
1	58	14032.5	31.296	1781.778	1.564	439.161	18542.324
1	59	21017.5	31.296	1813.074	1.591	657.763	19200.086
1	60	20492.0	31.296	1844.370	1.619	641.317	19841.402
1	61	10892.5	24.738	1869.108	1.641	269.458	20110.859
1	62	2947.5	9.090	1878.198	1.649	26.793	20137.648

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 44.3955
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.0028

TABLE C48: QZ2 TEST# 1 RUN# 3 ----DATE 093081 TIME 1550 DURATION 34 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9522.5	2.888	2.888	0.003	27.501	27.501
1	2	11499.0	19.335	22.223	0.020	222.333	249.834
1	3	11723.5	32.893	55.116	0.048	385.621	635.455
1	4	12181.0	32.893	88.009	0.077	400.669	1036.124
1	5	12822.5	32.893	120.902	0.106	421.770	1457.895
1	6	14188.5	32.893	153.795	0.135	466.702	1924.596
1	7	14490.5	32.893	186.688	0.164	476.636	2401.232
1	8	15749.0	32.893	219.581	0.193	518.031	2919.264
1	9	15533.5	32.893	252.474	0.222	510.943	3430.207
1	10	15146.5	32.893	285.367	0.250	498.214	3928.420
1	11	15517.5	32.893	318.260	0.279	510.417	4438.836
1	12	14337.5	32.893	351.153	0.308	471.603	4910.437
1	13	13826.5	32.893	384.045	0.337	454.795	5365.230
1	14	13395.0	32.893	416.938	0.366	440.602	5805.832
1	15	15966.5	32.893	449.831	0.395	525.186	6331.016
1	16	18538.0	32.893	482.724	0.424	609.770	6940.785
1	17	18940.5	32.893	515.617	0.453	623.010	7563.793
1	18	19343.0	32.893	548.510	0.481	636.249	8200.039
1	19	20421.5	32.893	581.402	0.510	671.724	8871.762
1	20	21500.0	32.893	614.295	0.539	707.199	9578.957
1	21	21026.0	32.893	647.188	0.568	691.608	10270.562
1	22	20552.0	32.893	680.081	0.597	676.017	10946.578
1	23	21124.0	32.893	712.974	0.626	694.831	11641.406
1	24	21696.0	32.893	745.866	0.655	713.646	12355.051
1	25	22037.0	32.893	778.759	0.684	724.863	13079.910
1	26	22378.0	32.893	811.652	0.712	736.079	13815.988
1	27	21205.5	32.893	844.545	0.741	697.512	14513.500
1	28	20033.0	32.893	877.438	0.770	658.945	15172.441
1	29	15974.0	32.893	910.331	0.799	525.432	15697.871
1	30	11915.0	32.893	943.223	0.828	391.920	16089.789
1	31	16780.0	27.066	970.289	0.852	454.167	16543.953
1	32	18217.5	16.990	987.279	0.867	309.515	16853.465
1	33	9419.5	8.495	995.774	0.874	80.019	16933.480
1	34	2024.5	2.124	997.898	0.876	4.300	16937.777

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 37.3410
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.6846

TABLE C49: QZ3 TEST# 1 RUN# 3 ----DATE 093081 TIME 1551 DURATION 32 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9546.5	5.862	5.862	0.005	55.962	55.962
1	2	8454.5	22.453	28.315	0.025	189.829	245.790
1	3	7517.0	33.182	61.497	0.054	249.429	495.219
1	4	7405.0	33.182	94.679	0.083	245.713	740.932
1	5	7736.0	33.182	127.861	0.112	256.696	997.628
1	6	7743.5	33.182	161.043	0.141	256.945	1254.573
1	7	7886.5	33.182	194.225	0.171	261.690	1516.262
1	8	7924.0	33.182	227.407	0.200	262.934	1779.197
1	9	8236.5	33.182	260.589	0.229	273.303	2052.500
1	10	8585.5	33.182	293.771	0.258	284.884	2337.384
1	11	8680.0	33.182	326.953	0.287	288.020	2625.403
1	12	9413.0	33.182	360.135	0.316	312.342	2937.745
1	13	9843.0	33.182	393.316	0.345	326.610	3264.355
1	14	10926.5	33.182	426.498	0.374	362.563	3626.918
1	15	12010.0	33.182	459.680	0.404	398.516	4025.434
1	16	15383.5	33.182	492.862	0.433	510.455	4535.887
1	17	18757.0	33.182	526.044	0.462	622.394	5158.277
1	18	18278.5	33.182	559.226	0.491	606.517	5764.793
1	19	17800.0	33.182	592.408	0.520	590.639	6355.430
1	20	17521.5	33.182	625.590	0.549	581.398	6936.824
1	21	17243.0	33.182	658.771	0.578	572.157	7508.980
1	22	16499.0	33.182	691.953	0.607	547.469	8056.449
1	23	15755.0	33.182	725.135	0.637	522.782	8579.230
1	24	16209.0	33.182	758.317	0.666	537.846	9117.074
1	25	16663.0	33.182	791.499	0.695	552.911	9669.984
1	26	18166.0	33.182	824.681	0.724	602.784	10272.766
1	27	19669.0	33.182	857.863	0.753	652.656	10925.422
1	28	18975.5	33.182	891.045	0.782	629.645	11555.066
1	29	27836.0	33.182	924.227	0.811	923.654	12478.719
1	30	35069.0	19.140	943.366	0.828	671.220	13149.937
1	31	24654.5	19.140	962.506	0.845	471.887	13621.824
1	32	8280.5	2.549	965.055	0.847	21.107	13642.930

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 30.0772
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.3569

TABLE C50: QZ4 TEST# 1 RUN# 3 ----DATE 093081 TIME 1551 DURATION 32 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	8132.0	14.782	14.782	0.013	120.207	120.207
1	2	7955.5	31.701	46.483	0.041	252.197	372.404
1	3	6494.0	33.838	80.321	0.070	219.744	592.148
1	4	6327.0	33.838	114.159	0.100	214.093	806.241
1	5	6242.0	33.838	147.997	0.130	211.217	1017.458
1	6	6081.5	33.838	181.835	0.160	205.786	1223.243
1	7	6212.0	33.838	215.673	0.189	210.202	1433.445
1	8	6401.5	33.838	249.511	0.219	216.614	1650.058
1	9	7021.0	33.838	283.349	0.249	237.577	1887.635
1	10	7451.5	33.838	317.187	0.278	252.144	2139.779
1	11	7317.5	33.838	351.025	0.308	247.610	2387.388
1	12	7095.0	33.838	384.863	0.338	240.081	2627.469
1	13	6902.0	33.838	418.700	0.367	233.550	2861.018
1	14	7078.5	33.838	452.538	0.397	239.522	3100.541
1	15	7255.0	33.838	486.376	0.427	245.495	3346.035
1	16	7305.0	33.838	520.214	0.457	247.187	3593.221
1	17	7355.0	33.838	554.052	0.486	248.878	3842.100
1	18	7718.0	33.838	587.890	0.516	261.161	4103.258
1	19	8081.0	33.838	621.728	0.546	273.445	4376.699
1	20	8275.0	33.838	655.566	0.575	280.009	4656.707
1	21	8469.0	33.838	689.404	0.605	286.574	4943.277
1	22	9399.0	33.838	723.241	0.635	318.043	5261.320
1	23	10329.0	33.838	757.079	0.664	349.512	5610.832
1	24	10826.0	33.838	790.917	0.694	366.330	5977.160
1	25	11323.0	33.838	824.755	0.724	383.147	6360.305
1	26	14558.5	33.838	858.593	0.754	492.630	6852.934
1	27	17794.0	33.838	892.431	0.783	602.113	7455.043
1	28	18784.0	33.838	926.269	0.813	635.612	8090.652
1	29	36166.5	33.838	960.107	0.843	1223.802	9314.453
1	30	39598.5	33.838	993.945	0.872	1339.933	10654.383
1	31	17710.0	19.977	1013.921	0.890	353.792	11008.172
1	32	4391.0	3.058	1016.979	0.893	13.428	11021.598

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 24.2982
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.0962

TABLE C51: QZ2 TEST# 2 RUN# 1 ----DATE 100881 TIME 1359 DURATION 58 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	29257.0	1.444	1.444	0.001	42.247	42.247
1	2	35810.5	5.352	6.796	0.006	191.658	233.905
1	3	36169.0	12.743	19.539	0.017	460.901	694.806
1	4	34146.5	19.454	38.993	0.034	664.285	1359.092
1	5	37161.5	30.922	69.915	0.061	1149.107	2508.199
1	6	34771.5	30.922	100.837	0.089	1075.204	3583.402
1	7	27355.0	42.411	143.248	0.126	1160.152	4743.551
1	8	25116.0	44.216	187.464	0.165	1110.528	5854.078
1	9	22927.5	44.216	231.680	0.203	1013.762	6867.840
1	10	22236.5	44.216	275.896	0.242	983.208	7851.047
1	11	20942.0	44.216	320.112	0.281	925.971	8777.016
1	12	20193.0	44.216	364.327	0.320	892.853	9669.867
1	13	21747.0	44.216	408.543	0.359	961.565	10631.430
1	14	22797.0	44.216	452.759	0.397	1007.992	11639.418
1	15	22685.5	44.216	496.975	0.436	1003.061	12642.477
1	16	22574.0	44.216	541.191	0.475	998.132	13640.605
1	17	22715.0	44.216	585.406	0.514	1004.365	14644.969
1	18	22856.0	44.216	629.622	0.553	1010.600	15655.566
1	19	21625.5	44.216	673.838	0.591	956.193	16611.758
1	20	20395.0	44.216	718.054	0.630	901.785	17513.539
1	21	20611.0	44.216	762.270	0.669	911.336	18424.871
1	22	20827.0	44.216	806.486	0.708	920.886	19345.754
1	23	21523.5	44.216	850.701	0.747	951.682	20297.434
1	24	22220.0	44.216	894.917	0.786	982.479	21279.910
1	25	22169.0	44.216	939.133	0.824	980.224	22260.133
1	26	22118.0	44.216	983.349	0.863	977.969	23238.102
1	27	23347.0	44.216	1027.565	0.902	1032.310	24270.410
1	28	24576.0	44.216	1071.781	0.941	1086.652	25357.059
1	29	26721.0	44.216	1115.996	0.980	1181.495	26538.551
1	30	28866.0	44.216	1160.212	1.018	1276.339	27814.887
1	31	28917.5	44.216	1204.428	1.057	1278.616	29093.500
1	32	28969.0	44.216	1248.644	1.096	1280.893	30374.391
1	33	27496.5	44.216	1292.860	1.135	1215.785	31590.172
1	34	26024.0	44.216	1337.075	1.174	1150.677	32740.848
1	35	27160.5	44.216	1381.291	1.212	1200.928	33941.773
1	36	28297.0	44.216	1425.507	1.251	1251.180	35192.953
1	37	28329.5	44.216	1469.723	1.290	1252.616	36445.566
1	38	28362.0	44.216	1513.939	1.329	1254.053	37699.617
1	39	28825.0	44.216	1558.155	1.368	1274.525	38974.141
1	40	29288.0	44.216	1602.370	1.406	1294.998	40269.137
1	41	32966.0	44.216	1646.586	1.445	1457.624	41726.758
1	42	36644.0	44.216	1690.802	1.484	1620.251	43347.008
1	43	32381.5	44.216	1735.018	1.523	1431.780	44778.785
1	44	28119.0	44.216	1779.234	1.562	1243.309	46022.094
1	45	28292.0	44.216	1823.449	1.601	1250.959	47273.051
1	46	28465.0	44.216	1867.665	1.639	1258.608	48531.656
1	47	28971.5	44.216	1911.881	1.678	1281.004	49812.656
1	48	29478.0	44.216	1956.097	1.717	1303.399	51116.055
1	49	31615.0	44.216	2000.313	1.756	1397.888	52513.941
1	50	33752.0	44.216	2044.529	1.795	1492.378	54006.316
1	51	30579.5	44.216	2088.744	1.833	1352.102	55358.418
1	52	27407.0	42.411	2131.155	1.871	1162.358	56520.773
1	53	22905.0	29.138	2160.293	1.896	667.405	57188.176
1	54	22502.5	15.206	2175.499	1.910	342.173	57530.348
1	55	19445.5	10.279	2185.778	1.919	199.880	57730.227
1	56	11393.0	6.032	2191.810	1.924	68.723	57798.945
1	57	6502.0	3.568	2195.378	1.927	23.199	57822.141
1	58	1253.5	1.444	2196.822	1.928	1.810	57823.949

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 127.4787
TOTAL SEDIMENT LOAD IN TONS/ACRE = 5.7509

TABLE C52: QZ3 TEST# 2 RUN# 1 ----DATE 100881 TIME 1354 DURATION 59 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	5749.5	0.934	0.934	0.001	5.370	5.370
1	2	6212.0	2.379	3.313	0.003	14.778	20.148
1	3	14265.0	2.379	5.692	0.005	33.936	54.085
1	4	24724.0	2.379	8.071	0.007	58.818	112.903
1	5	30017.5	4.842	12.913	0.011	145.345	258.248
1	6	34391.5	4.842	17.755	0.016	166.524	424.771
1	7	35976.0	12.743	30.498	0.027	458.442	883.213
1	8	34265.0	29.648	60.146	0.053	1015.888	1899.101
1	9	31421.0	29.648	89.794	0.079	931.569	2830.670
1	10	28037.0	42.263	132.057	0.116	1184.927	4015.597
1	11	25502.5	42.263	174.320	0.153	1077.812	5093.406
1	12	23367.0	42.263	216.583	0.190	987.559	6080.965
1	13	22277.0	43.920	260.503	0.229	978.405	7059.367
1	14	21278.0	43.920	304.423	0.267	934.529	7993.895
1	15	20279.0	43.920	348.343	0.306	890.653	8884.547
1	16	18447.5	43.920	392.263	0.344	810.214	9694.758
1	17	16616.0	43.920	436.183	0.383	729.774	10424.531
1	18	17507.5	43.920	480.103	0.421	768.929	11193.457
1	19	18399.0	43.920	524.022	0.460	808.083	12001.539
1	20	17810.0	43.920	567.942	0.499	782.214	12783.750
1	21	17221.0	43.920	611.862	0.537	756.346	13540.094
1	22	17744.5	43.920	655.782	0.576	779.338	14319.430
1	23	18268.0	43.920	699.702	0.614	802.330	15121.758
1	24	17615.0	43.920	743.622	0.653	773.650	15895.406
1	25	16962.0	43.920	787.542	0.691	744.970	16640.375
1	26	16425.0	43.920	831.462	0.730	721.385	17361.758
1	27	15888.0	43.920	875.382	0.768	697.801	18059.555
1	28	16387.5	43.920	919.302	0.807	719.738	18779.289
1	29	16887.0	43.920	963.222	0.845	741.677	19520.965
1	30	17346.5	43.920	1007.142	0.884	761.857	20282.820
1	31	17806.0	43.920	1051.062	0.923	782.039	21064.855
1	32	20540.0	43.920	1094.981	0.961	902.116	21966.969
1	33	23274.0	43.920	1138.901	1.000	1022.193	22989.160
1	34	23662.5	43.920	1182.821	1.038	1039.256	24028.414
1	35	24051.0	43.920	1226.741	1.077	1056.320	25084.730
1	36	23460.5	43.920	1270.661	1.115	1030.385	26115.113
1	37	22870.0	43.920	1314.581	1.154	1004.450	27119.562
1	38	23650.5	43.920	1358.501	1.192	1038.729	28158.289
1	39	24431.0	43.920	1402.421	1.231	1073.009	29231.297
1	40	22817.0	43.920	1446.341	1.270	1002.122	30233.418
1	41	21203.0	43.920	1490.261	1.308	931.235	31164.652
1	42	20643.5	43.920	1534.181	1.347	906.661	32071.312
1	43	20084.0	43.920	1578.101	1.385	882.088	32953.398
1	44	21022.5	43.920	1622.021	1.424	923.307	33876.703
1	45	21961.0	43.920	1665.940	1.462	964.526	34841.227
1	46	22594.5	43.920	1709.860	1.501	992.350	35833.574
1	47	23228.0	43.920	1753.780	1.539	1020.173	36853.746
1	48	21783.0	43.920	1797.700	1.578	956.709	37810.453
1	49	20338.0	43.920	1841.620	1.616	893.245	38703.695
1	50	21612.0	43.920	1885.540	1.655	949.198	39652.891
1	51	22886.0	43.920	1929.460	1.694	1005.152	40658.043
1	52	22769.5	43.920	1973.380	1.732	1000.036	41658.078
1	53	22653.0	43.920	2017.300	1.771	994.919	42652.996
1	54	22237.0	43.920	2061.220	1.809	976.648	43629.641
1	55	21517.0	43.920	2105.140	1.848	945.026	44574.664
1	56	33284.5	43.920	2149.060	1.886	1461.854	46036.516
1	57	39864.0	43.920	2192.979	1.925	1750.826	47787.340
1	58	31682.5	21.960	2214.939	1.944	695.748	48483.086
1	59	14496.5	21.960	2236.899	1.963	318.343	48801.426

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 107.5876
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.8536

TABLE C53: QZ4 TEST# 2 RUN# 1 ----DATE 100881 TIME 1352 DURATION 52 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	17108.5	1.784	1.784	0.002	30.522	30.522
1	2	33083.0	9.430	11.214	0.010	311.972	342.494
1	3	31435.0	22.427	33.641	0.030	704.992	1047.486
1	4	28588.0	32.451	66.092	0.058	927.708	1975.195
1	5	26250.5	39.142	105.234	0.092	1027.496	3002.691
1	6	24777.0	42.945	148.179	0.130	1064.048	4066.739
1	7	23757.0	42.945	191.124	0.168	1020.244	5086.980
1	8	21703.5	42.945	234.069	0.205	932.056	6019.035
1	9	20052.0	42.945	277.014	0.243	861.133	6880.164
1	10	19183.5	42.945	319.959	0.281	823.835	7703.996
1	11	18555.0	42.945	362.904	0.319	796.844	8500.836
1	12	18248.0	42.945	405.848	0.356	783.660	9284.492
1	13	18149.0	42.945	448.793	0.394	779.408	10063.898
1	14	17541.0	42.945	491.738	0.432	753.298	10817.195
1	15	16933.0	42.945	534.683	0.469	727.188	11544.383
1	16	17232.5	42.945	577.628	0.507	740.050	12284.430
1	17	17532.0	42.945	620.573	0.545	752.912	13037.340
1	18	16360.5	42.945	663.517	0.582	702.601	13739.937
1	19	15189.0	42.945	706.462	0.620	652.292	14392.227
1	20	15020.0	42.945	749.407	0.658	645.034	15037.258
1	21	14851.0	42.945	792.352	0.696	637.776	15675.031
1	22	14975.0	42.945	835.297	0.733	643.101	16318.129
1	23	15099.0	42.945	878.241	0.771	648.426	16966.555
1	24	14579.5	42.945	921.186	0.809	626.116	17592.668
1	25	14060.0	42.945	964.131	0.846	603.807	18196.473
1	26	14020.0	42.945	1007.076	0.884	602.089	18798.559
1	27	13980.0	42.945	1050.021	0.922	600.371	19398.926
1	28	14244.0	42.945	1092.966	0.959	611.708	20010.633
1	29	14508.0	42.945	1135.910	0.997	623.046	20633.676
1	30	14211.0	42.945	1178.855	1.035	610.291	21243.965
1	31	13914.0	42.945	1221.800	1.073	597.536	21841.500
1	32	13040.5	42.945	1264.745	1.110	560.024	22401.523
1	33	12167.0	42.945	1307.690	1.148	522.511	22924.031
1	34	12721.0	42.945	1350.635	1.186	546.303	23470.332
1	35	13275.0	42.945	1393.579	1.223	570.094	24040.426
1	36	12912.5	42.945	1436.524	1.261	554.527	24594.949
1	37	12550.0	42.945	1479.469	1.299	538.959	25133.906
1	38	12330.0	42.945	1522.414	1.336	529.511	25663.414
1	39	12110.0	42.945	1565.359	1.374	520.064	26183.477
1	40	12580.5	42.945	1608.303	1.412	540.270	26723.746
1	41	13051.0	42.945	1651.248	1.450	560.475	27284.219
1	42	12970.0	42.945	1694.193	1.487	556.996	27841.215
1	43	12889.0	42.945	1737.138	1.525	553.518	28394.730
1	44	13238.5	42.945	1780.083	1.563	568.527	28963.254
1	45	13588.0	42.945	1823.028	1.600	583.537	29546.789
1	46	13198.5	42.945	1865.972	1.638	566.809	30113.598
1	47	12411.0	42.945	1908.917	1.676	532.990	30646.586
1	48	10929.0	42.945	1951.862	1.713	469.345	31115.930
1	49	8936.0	42.945	1994.807	1.751	383.756	31499.684
1	50	6711.5	42.945	2037.752	1.789	288.225	31787.906
1	51	3680.5	25.635	2063.386	1.811	94.350	31882.254
1	52	982.5	4.163	2067.549	1.815	4.090	31886.344

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 70.2966

TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.1713

TABLE C54: QZ2 TEST# 2 RUN# 2 ----DATE 100981 TIME 1107 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	11191.0	10.619	10.619	0.009	118.837	118.837
1	2	12319.5	32.390	43.009	0.038	399.028	517.865
1	3	12387.5	43.543	86.552	0.076	539.389	1057.254
1	4	12991.0	43.543	130.095	0.114	565.667	1622.921
1	5	15232.5	43.543	173.638	0.152	663.268	2286.189
1	6	15569.5	43.543	217.181	0.191	677.942	2964.131
1	7	14327.5	43.543	260.724	0.229	623.862	3587.993
1	8	14146.5	43.543	304.267	0.267	615.980	4203.973
1	9	14261.5	43.543	347.810	0.305	620.988	4824.961
1	10	15005.5	43.543	391.353	0.344	653.384	5478.344
1	11	15346.0	43.543	434.896	0.382	668.210	6146.551
1	12	16703.5	43.543	478.439	0.420	727.320	6873.867
1	13	18361.5	43.543	521.982	0.458	799.514	7673.379
1	14	18379.0	43.543	565.525	0.496	800.277	8473.652
1	15	17884.0	43.543	609.068	0.535	778.722	9252.371
1	16	17389.0	43.543	652.611	0.573	757.169	10009.539
1	17	19878.5	43.543	696.154	0.611	865.569	10875.105
1	18	22368.0	43.543	739.697	0.649	973.969	11849.074
1	19	19885.0	43.543	783.240	0.687	865.852	12714.926
1	20	17402.0	43.543	826.782	0.726	757.735	13472.660
1	21	18325.5	43.543	870.325	0.764	797.947	14270.605
1	22	19249.0	43.543	913.868	0.802	838.159	15108.762
1	23	19390.5	43.543	957.411	0.840	844.320	15953.078
1	24	19532.0	43.543	1000.954	0.879	850.482	16803.559
1	25	19587.0	43.543	1044.497	0.917	852.876	17656.434
1	26	19642.0	43.543	1088.040	0.955	855.271	18511.703
1	27	21743.0	43.543	1131.583	0.993	946.755	19458.457
1	28	23844.0	43.543	1175.126	1.031	1038.239	20496.695
1	29	23922.0	43.543	1218.669	1.070	1041.635	21538.328
1	30	24000.0	43.543	1262.212	1.108	1045.031	22583.359
1	31	24961.0	43.543	1305.755	1.146	1086.876	23670.234
1	32	25922.0	43.543	1349.298	1.184	1128.721	24798.953
1	33	25241.0	43.543	1392.841	1.223	1099.069	25898.020
1	34	24560.0	43.543	1436.384	1.261	1069.416	26967.434
1	35	24142.0	43.543	1479.927	1.299	1051.214	28018.645
1	36	23724.0	43.543	1523.470	1.337	1033.013	29051.656
1	37	25930.5	43.543	1567.013	1.375	1129.091	30180.746
1	38	28137.0	43.543	1610.556	1.414	1225.169	31405.914
1	39	26555.0	43.543	1654.099	1.452	1156.284	32562.195
1	40	24973.0	43.543	1697.642	1.490	1087.399	33649.594
1	41	24845.5	43.543	1741.185	1.528	1081.847	34731.437
1	42	24718.0	43.543	1784.728	1.567	1076.295	35807.730
1	43	25195.0	43.543	1828.271	1.605	1097.065	36904.793
1	44	25672.0	43.543	1871.814	1.643	1117.836	38022.625
1	45	26572.0	43.543	1915.357	1.681	1157.024	39179.648
1	46	27472.0	43.543	1958.900	1.719	1196.212	40375.859
1	47	24626.5	43.543	2002.443	1.758	1072.311	41448.168
1	48	21781.0	43.543	2045.986	1.796	948.409	42396.574
1	49	23594.5	43.543	2089.529	1.834	1027.375	43423.945
1	50	25408.0	43.543	2133.072	1.872	1106.340	44530.285
1	51	26118.5	43.543	2176.615	1.911	1137.277	45667.559
1	52	26829.0	43.543	2220.157	1.949	1168.215	46835.773
1	53	26664.5	43.543	2263.700	1.987	1161.052	47996.824
1	54	26500.0	43.543	2307.243	2.025	1153.889	49150.711
1	55	26302.0	43.543	2350.786	2.063	1145.267	50295.977
1	56	26104.0	43.543	2394.329	2.102	1136.646	51432.621
1	57	27550.0	43.543	2437.872	2.140	1199.609	52632.227
1	58	28996.0	43.543	2481.415	2.178	1262.572	53894.797
1	59	21721.5	43.543	2524.958	2.216	945.818	54840.613
1	60	12554.0	28.143	2553.101	2.241	353.307	55193.918
1	61	8821.5	10.279	2563.380	2.250	90.676	55284.594
1	62	11051.0	6.796	2570.176	2.256	75.103	55359.695
1	63	8181.0	4.333	2574.509	2.260	35.448	55395.141
1	64	621.0	1.444	2575.952	2.261	0.897	55396.035

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 122.1261
TOTAL SEDIMENT LOAD IN TONS/ACRE = 5.5094

TABLE C55: QZ3 TEST# 2 RUN# 2 ----DATE 100981 TIME 1106 DURATION 61 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9583.5	4.672	4.672	0.004	44.774	44.774
1	2	10657.5	26.400	31.072	0.027	281.358	326.132
1	3	10010.0	43.456	74.528	0.065	434.994	761.126
1	4	9971.0	43.456	117.984	0.104	433.299	1194.425
1	5	10026.5	43.456	161.440	0.142	435.711	1630.136
1	6	10191.5	43.456	204.896	0.180	442.882	2073.018
1	7	10219.0	43.456	248.352	0.218	444.076	2517.094
1	8	10363.0	43.456	291.808	0.256	450.334	2967.428
1	9	10516.0	43.456	335.264	0.294	456.983	3424.412
1	10	11857.0	43.456	378.719	0.332	515.257	3939.669
1	11	12986.0	43.456	422.175	0.371	564.319	4503.984
1	12	13675.0	43.456	465.631	0.409	594.260	5098.242
1	13	14791.0	43.456	509.087	0.447	642.757	5740.996
1	14	17135.0	43.456	552.543	0.485	744.617	6485.613
1	15	19479.0	43.456	595.999	0.523	846.479	7332.090
1	16	19632.5	43.456	639.454	0.561	853.149	8185.238
1	17	19786.0	43.456	682.910	0.599	859.820	9045.055
1	18	16794.5	43.456	726.366	0.638	729.821	9774.875
1	19	13803.0	43.456	769.822	0.676	599.823	10374.695
1	20	14685.0	43.456	813.278	0.714	638.151	11012.844
1	21	15567.0	43.456	856.733	0.752	676.479	11689.320
1	22	17276.5	43.456	900.189	0.790	750.767	12440.086
1	23	18986.0	43.456	943.645	0.828	825.055	13265.141
1	24	16708.5	43.456	987.101	0.866	726.083	13991.223
1	25	14431.0	43.456	1030.557	0.904	627.113	14618.332
1	26	16568.5	43.456	1074.012	0.943	720.000	15338.328
1	27	18706.0	43.456	1117.468	0.981	812.887	16151.215
1	28	19077.5	43.456	1160.924	1.019	829.031	16980.242
1	29	19449.0	43.456	1204.380	1.057	845.175	17825.414
1	30	19481.0	43.456	1247.836	1.095	846.565	18671.977
1	31	19513.0	43.456	1291.292	1.133	847.956	19519.930
1	32	17158.5	43.456	1334.747	1.171	745.639	20265.566
1	33	14804.0	43.456	1378.203	1.210	643.322	20908.887
1	34	15270.0	43.456	1421.659	1.248	663.573	21572.457
1	35	15736.0	43.456	1465.115	1.286	683.823	22256.277
1	36	17696.5	43.456	1508.571	1.324	769.018	23025.293
1	37	19657.0	43.456	1552.026	1.362	854.214	23879.504
1	38	19930.0	43.456	1595.482	1.400	866.077	24745.578
1	39	20203.0	43.456	1638.938	1.438	877.941	25623.516
1	40	19613.5	43.456	1682.394	1.477	852.323	26475.836
1	41	19024.0	43.456	1725.850	1.515	826.706	27302.539
1	42	18372.5	43.456	1769.305	1.553	798.394	28100.930
1	43	17721.0	43.456	1812.761	1.591	770.083	28871.012
1	44	18697.5	43.456	1856.217	1.629	812.518	29683.527
1	45	19674.0	43.456	1899.673	1.667	854.953	30538.477
1	46	21549.0	43.456	1943.129	1.705	936.433	31474.906
1	47	23424.0	43.456	1986.584	1.744	1017.913	32492.816
1	48	21530.0	43.456	2030.040	1.782	935.607	33428.422
1	49	19636.0	43.456	2073.496	1.820	853.301	34281.723
1	50	19451.0	43.456	2116.952	1.858	845.262	35126.984
1	51	19266.0	43.456	2160.408	1.896	837.223	35964.207
1	52	19873.5	43.456	2203.864	1.934	863.622	36827.828
1	53	20481.0	43.456	2247.319	1.972	890.021	37717.848
1	54	21518.0	43.456	2290.775	2.011	935.085	38652.930
1	55	22555.0	43.456	2334.231	2.049	980.149	39633.078
1	56	21360.0	43.456	2377.687	2.087	928.219	40561.297
1	57	20165.0	43.456	2421.143	2.125	876.290	41437.586
1	58	22076.0	43.456	2464.598	2.163	959.334	42396.918
1	59	39711.0	43.456	2508.054	2.201	1725.680	44122.598
1	60	45088.0	33.282	2541.336	2.230	1500.618	45623.215
1	61	17370.5	11.553	2552.889	2.241	200.681	45823.895

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 101.0234
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.5574

TABLE C56: QZ4 TEST# 2 RUN# 2 ----DATE 100981 TIME 1107 DURATION 62 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	7738.5	1.274	1.274	0.001	9.859	9.859
1	2	8315.5	21.748	23.022	0.020	180.845	190.704
1	3	8159.0	41.732	64.754	0.057	340.491	531.195
1	4	8326.5	42.517	107.271	0.094	354.017	885.212
1	5	8319.5	42.517	149.788	0.131	353.720	1238.932
1	6	8209.5	42.517	192.305	0.169	349.043	1587.975
1	7	8176.0	42.517	234.822	0.206	347.619	1935.594
1	8	8138.0	42.517	277.339	0.243	346.003	2281.597
1	9	7916.0	42.517	319.856	0.281	336.564	2618.161
1	10	8066.5	42.517	362.373	0.318	342.963	2961.125
1	11	8153.0	42.517	404.889	0.355	346.641	3307.765
1	12	8130.5	42.517	447.406	0.393	345.684	3653.449
1	13	8227.0	42.517	489.923	0.430	349.787	4003.236
1	14	8097.5	42.517	532.440	0.467	344.281	4347.516
1	15	7968.0	42.517	574.957	0.505	338.775	4686.289
1	16	7968.0	42.517	617.474	0.542	338.775	5025.062
1	17	7968.0	42.517	659.990	0.579	338.775	5363.836
1	18	8151.5	42.517	702.507	0.617	346.577	5710.410
1	19	8335.0	42.517	745.024	0.654	354.379	6064.789
1	20	8169.0	42.517	787.541	0.691	347.321	6412.109
1	21	8003.0	42.517	830.058	0.729	340.263	6752.371
1	22	8295.5	42.517	872.575	0.766	352.699	7105.070
1	23	8588.0	42.517	915.092	0.803	365.136	7470.203
1	24	8446.0	42.517	957.608	0.841	359.098	7829.301
1	25	8304.0	42.517	1000.125	0.878	353.061	8182.359
1	26	8342.0	42.517	1042.642	0.915	354.677	8537.035
1	27	8380.0	42.517	1085.159	0.953	356.292	8893.324
1	28	8807.0	42.517	1127.676	0.990	374.447	9267.770
1	29	9234.0	42.517	1170.193	1.027	392.602	9660.371
1	30	10403.5	42.517	1212.709	1.064	442.325	10102.695
1	31	11573.0	42.517	1255.226	1.102	492.049	10594.742
1	32	13307.5	42.517	1297.743	1.139	565.795	11160.535
1	33	15042.0	42.517	1340.260	1.176	639.540	11800.074
1	34	14828.5	42.517	1382.777	1.214	630.463	12430.535
1	35	14615.0	42.517	1425.294	1.251	621.386	13051.918
1	36	15097.5	42.517	1467.811	1.288	641.900	13693.816
1	37	15580.0	42.517	1510.327	1.326	662.415	14356.230
1	38	15090.5	42.517	1552.844	1.363	641.602	14997.832
1	39	14601.0	42.517	1595.361	1.400	620.791	15618.621
1	40	15125.5	42.517	1637.878	1.438	643.091	16261.711
1	41	15650.0	42.517	1680.395	1.475	665.391	16927.102
1	42	15203.5	42.517	1722.912	1.512	646.407	17573.508
1	43	14757.0	42.517	1765.428	1.550	627.423	18200.930
1	44	16781.0	42.517	1807.945	1.587	713.477	18914.406
1	45	18805.0	42.517	1850.462	1.624	799.532	19713.937
1	46	15948.5	42.517	1892.979	1.662	678.082	20392.020
1	47	13092.0	42.517	1935.496	1.699	556.632	20948.648
1	48	14256.0	42.517	1978.013	1.736	606.122	21554.770
1	49	15420.0	42.517	2020.530	1.774	655.612	22210.379
1	50	14262.5	42.517	2063.046	1.811	606.398	22816.777
1	51	13105.0	42.517	2105.563	1.848	557.185	23373.961
1	52	12374.5	42.517	2148.080	1.885	526.126	23900.086
1	53	11644.0	42.517	2190.597	1.923	495.068	24395.152
1	54	11975.5	42.517	2233.114	1.960	509.162	24904.312
1	55	12307.0	42.517	2275.631	1.997	523.256	25427.566
1	56	13942.5	42.517	2318.147	2.035	592.793	26020.359
1	57	17103.5	42.517	2360.664	2.072	727.189	26747.547
1	58	43556.5	42.517	2403.181	2.109	1851.891	28599.437
1	59	62096.5	42.517	2445.698	2.147	2640.156	31239.590
1	60	48004.5	41.732	2487.430	2.183	2003.323	33242.910
1	61	30273.0	28.119	2515.549	2.208	851.246	34094.152
1	62	10123.0	7.646	2523.195	2.215	77.400	34171.551

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 75.3346
TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.3986

TABLE C57: QZ2 TEST# 2 RUN# 3 ----DATE 100981 TIME 1316 DURATION 33 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9822.0	5.012	5.012	0.004	49.228	49.228
1	2	13045.5	25.316	30.328	0.027	330.260	379.487
1	3	13336.5	43.084	73.412	0.064	574.589	954.077
1	4	12827.5	45.561	118.973	0.104	584.433	1538.510
1	5	13890.0	45.561	164.534	0.144	632.842	2171.352
1	6	17682.5	45.561	210.095	0.184	805.631	2976.983
1	7	19657.5	45.561	255.656	0.224	895.615	3872.598
1	8	17830.0	45.561	301.217	0.264	812.352	4684.949
1	9	17615.0	45.561	346.778	0.304	802.557	5487.504
1	10	17092.0	45.561	392.338	0.344	778.728	6266.230
1	11	16848.0	45.561	437.899	0.384	767.611	7033.840
1	12	16743.0	45.561	483.460	0.424	762.827	7796.664
1	13	16590.0	45.561	529.021	0.464	755.856	8552.520
1	14	17515.0	45.561	574.582	0.504	798.000	9350.520
1	15	19222.5	45.561	620.142	0.544	875.796	10226.312
1	16	20930.0	45.561	665.703	0.584	953.591	11179.902
1	17	21328.5	45.561	711.264	0.624	971.747	12151.648
1	18	21727.0	45.561	756.825	0.664	989.903	13141.551
1	19	22436.5	45.561	802.385	0.704	1022.229	14163.777
1	20	23146.0	45.561	847.946	0.744	1054.555	15218.332
1	21	24294.5	45.561	893.507	0.784	1106.881	16325.211
1	22	25443.0	45.561	939.068	0.824	1159.208	17484.418
1	23	27984.0	45.561	984.629	0.864	1274.979	18759.395
1	24	30525.0	45.561	1030.189	0.904	1390.749	20150.141
1	25	27639.5	45.561	1075.750	0.944	1259.283	21409.422
1	26	24754.0	45.561	1121.311	0.984	1127.817	22537.238
1	27	24400.5	45.561	1166.872	1.024	1111.711	23648.949
1	28	24047.0	45.561	1212.433	1.064	1095.605	24744.551
1	29	23582.0	31.616	1244.049	1.092	745.568	25490.117
1	30	23117.0	31.616	1275.665	1.120	730.866	26220.980
1	31	24003.0	13.847	1289.511	1.132	332.369	26553.348
1	32	15316.0	5.012	1294.523	1.136	76.764	26630.109
1	33	2871.5	5.012	1299.535	1.141	14.392	26644.500

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 58.7405
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.6499

TABLE C58: OZ3 TEST# 2 RUN# 3 ----DATE 100981 TIME 1317 DURATION 32 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	7886.0	0.934	0.934	0.001	7.366	7.366
1	2	9200.0	23.491	24.425	0.021	216.117	223.483
1	3	8372.5	45.113	69.538	0.061	377.708	601.191
1	4	7931.5	45.113	114.651	0.101	357.814	959.005
1	5	8428.0	45.113	159.764	0.140	380.212	1339.217
1	6	10415.5	45.113	204.877	0.180	469.874	1809.091
1	7	10575.5	45.113	249.990	0.219	477.092	2286.183
1	8	9393.0	45.113	295.103	0.259	423.746	2709.929
1	9	9481.5	45.113	340.216	0.299	427.739	3137.668
1	10	10466.5	45.113	385.329	0.338	472.175	3609.843
1	11	12377.0	45.113	430.441	0.378	558.364	4168.203
1	12	14107.5	45.113	475.554	0.417	636.432	4804.633
1	13	14836.0	45.113	520.667	0.457	669.296	5473.926
1	14	17122.5	45.113	565.780	0.497	772.447	6246.371
1	15	19409.0	45.113	610.893	0.536	875.598	7121.969
1	16	22545.5	45.113	656.005	0.576	1017.094	8139.062
1	17	25682.0	45.113	701.118	0.615	1158.592	9297.652
1	18	24171.5	45.113	746.231	0.655	1090.449	10388.098
1	19	22661.0	45.113	791.344	0.695	1022.305	11410.402
1	20	22087.5	45.113	836.457	0.734	996.433	12406.832
1	21	21514.0	45.113	881.569	0.774	970.561	13377.391
1	22	24095.5	45.113	926.682	0.813	1087.020	14464.410
1	23	26677.0	45.113	971.795	0.853	1203.479	15667.887
1	24	23890.0	45.113	1016.908	0.893	1077.749	16745.633
1	25	21103.0	45.113	1062.021	0.932	952.020	17697.652
1	26	23260.0	45.113	1107.133	0.972	1049.328	18746.980
1	27	25417.0	45.113	1152.246	1.011	1146.637	19893.617
1	28	23411.0	45.113	1197.359	1.051	1056.140	20949.754
1	29	27563.0	45.113	1242.472	1.091	1243.449	22193.203
1	30	43295.5	45.113	1287.584	1.130	1953.189	24146.391
1	31	41273.0	34.110	1321.694	1.160	1407.822	25554.211
1	32	14838.0	11.553	1333.247	1.170	171.423	25725.633

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 56.7147
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.5586

TABLE C59: QZ4 TEST# 2 RUN# 3 ----DATE 100981 TIME 1317 DURATION 33 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	7007.5	9.090	9.090	0.008	63.698	63.698
1	2	7538.0	30.812	39.902	0.035	232.261	295.959
1	3	6560.5	43.444	83.346	0.073	285.014	580.973
1	4	6215.5	43.444	126.790	0.111	270.026	850.999
1	5	6437.0	43.444	170.234	0.149	279.649	1130.648
1	6	6577.5	43.444	213.678	0.188	285.753	1416.401
1	7	6851.0	43.444	257.122	0.226	297.635	1714.035
1	8	6962.5	43.444	300.566	0.264	302.479	2016.514
1	9	7208.5	43.444	344.010	0.302	313.166	2329.680
1	10	7519.0	43.444	387.453	0.340	326.655	2656.335
1	11	7346.5	43.444	430.897	0.378	319.161	2975.497
1	12	7396.5	43.444	474.341	0.416	321.333	3296.830
1	13	7546.0	43.444	517.785	0.454	327.828	3624.658
1	14	7720.0	43.444	561.229	0.493	335.387	3960.045
1	15	7894.0	43.444	604.673	0.531	342.947	4302.992
1	16	8329.0	43.444	648.116	0.569	361.845	4664.836
1	17	8764.0	43.444	691.560	0.607	380.743	5045.578
1	18	9164.5	43.444	735.004	0.645	398.142	5443.719
1	19	9565.0	43.444	778.448	0.683	415.542	5859.258
1	20	10124.0	43.444	821.892	0.721	439.827	6299.082
1	21	10683.0	43.444	865.336	0.759	464.112	6763.191
1	22	15313.5	43.444	908.780	0.798	665.279	7428.469
1	23	19944.0	43.444	952.223	0.836	866.446	8294.914
1	24	19174.5	43.444	995.667	0.874	833.016	9127.930
1	25	18405.0	43.444	1039.111	0.912	799.586	9927.516
1	26	20327.0	43.444	1082.555	0.950	883.085	10810.598
1	27	22249.0	43.444	1125.999	0.988	966.585	11777.180
1	28	17839.0	43.444	1169.443	1.026	774.997	12552.176
1	29	40600.5	43.444	1212.886	1.065	1763.847	14316.020
1	30	60500.0	43.444	1256.330	1.103	2628.361	16944.379
1	31	36545.5	30.812	1287.142	1.130	1126.039	18070.418
1	32	16862.5	12.148	1299.290	1.140	204.845	18275.262
1	33	6931.0	3.058	1302.348	1.143	21.195	18296.453

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 40.3364
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.8197

TABLE C60: QZ2 TEST# 3 RUN# 1 ----DATE 101181 TIME 1415 DURATION 58 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	39449.0	2.888	2.888	0.003	113.929	113.929
1	2	46804.5	7.900	10.788	0.009	369.755	483.684
1	3	46648.0	18.434	29.222	0.026	859.909	1343.593
1	4	46349.0	30.243	59.465	0.052	1401.732	2745.325
1	5	46359.0	39.265	98.730	0.087	1820.285	4565.609
1	6	44620.0	44.888	143.618	0.126	2002.902	6568.508
1	7	42469.5	44.888	188.506	0.165	1906.370	8474.875
1	8	40610.0	44.888	233.394	0.205	1822.901	10297.773
1	9	38319.5	44.888	278.282	0.244	1720.085	12017.855
1	10	36560.5	44.888	323.170	0.284	1641.127	13658.980
1	11	34699.5	44.888	368.058	0.323	1557.591	15216.570
1	12	32714.0	44.888	412.946	0.362	1468.465	16685.035
1	13	30433.5	44.888	457.834	0.402	1366.098	18051.133
1	14	29029.0	44.888	502.722	0.441	1303.053	19354.184
1	15	28590.5	44.888	547.610	0.481	1283.370	20637.551
1	16	28152.0	44.888	592.498	0.520	1263.687	21901.234
1	17	28443.0	44.888	637.385	0.559	1276.749	23177.980
1	18	28734.0	44.888	682.273	0.599	1289.811	24467.789
1	19	27686.0	44.888	727.161	0.638	1242.769	25710.555
1	20	26638.0	44.888	772.049	0.678	1195.726	26906.277
1	21	26041.0	44.888	816.937	0.717	1168.928	28075.203
1	22	25444.0	44.888	861.825	0.756	1142.129	29217.332
1	23	26093.5	44.888	906.713	0.796	1171.284	30388.613
1	24	26743.0	44.888	951.601	0.835	1200.439	31589.051
1	25	28371.0	44.888	996.489	0.875	1273.517	32862.566
1	26	29999.0	44.888	1041.377	0.914	1346.595	34209.160
1	27	27066.5	44.888	1086.265	0.953	1214.960	35424.117
1	28	24134.0	44.888	1131.153	0.993	1083.326	36507.441
1	29	24130.0	44.888	1176.041	1.032	1083.147	37590.586
1	30	24126.0	44.888	1220.929	1.072	1082.968	38673.551
1	31	24739.0	44.888	1265.817	1.111	1110.483	39784.031
1	32	25352.0	44.888	1310.705	1.150	1138.000	40922.031
1	33	25367.5	44.888	1355.593	1.190	1138.696	42060.727
1	34	25383.0	44.888	1400.480	1.229	1139.392	43200.117
1	35	26445.0	44.888	1445.368	1.269	1187.063	44387.180
1	36	27507.0	44.888	1490.256	1.308	1234.734	45621.910
1	37	23760.5	44.888	1535.144	1.347	1066.561	46688.469
1	38	20014.0	44.888	1580.032	1.387	898.388	47586.855
1	39	21212.0	44.888	1624.920	1.426	952.164	48539.016
1	40	22410.0	44.888	1669.808	1.466	1005.939	49544.953
1	41	23117.5	44.888	1714.696	1.505	1037.698	50582.648
1	42	23825.0	44.888	1759.584	1.544	1069.456	51652.102
1	43	25184.5	44.888	1804.472	1.584	1130.481	52782.582
1	44	26544.0	44.888	1849.360	1.623	1191.507	53974.086
1	45	26797.5	44.888	1894.248	1.663	1202.885	55176.969
1	46	27051.0	44.888	1939.136	1.702	1214.265	56391.230
1	47	29114.0	44.888	1984.024	1.741	1306.868	57698.098
1	48	31177.0	44.888	2028.912	1.781	1399.472	59097.566
1	49	30429.0	44.888	2073.800	1.820	1365.896	60463.461
1	50	29681.0	44.888	2118.687	1.860	1332.320	61795.777
1	51	30056.0	44.888	2163.575	1.899	1349.153	63144.930
1	52	30431.0	44.888	2208.463	1.938	1365.986	64510.914
1	53	26403.0	29.580	2238.043	1.964	781.000	65291.914
1	54	21802.5	29.580	2267.623	1.990	644.917	65936.812
1	55	35193.0	12.148	2279.771	2.001	427.524	66364.312
1	56	33765.5	7.136	2286.907	2.007	240.951	66605.250
1	57	18578.0	3.568	2290.475	2.010	66.286	66671.500
1	58	9390.5	1.444	2291.919	2.012	13.560	66685.000

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 147.0138
TOTAL SEDIMENT LOAD IN TONS/ACRE = 6.6322

TABLE C61: QZ3 TEST# 3 RUN# 1 ----DATE 101181 TIME 1413 DURATION 57 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	2259.0	0.934	0.934	0.001	2.110	2.110
1	2	11931.0	0.934	1.868	0.002	11.144	13.253
1	3	30936.5	0.934	2.802	0.002	28.895	42.148
1	4	40658.0	0.934	3.736	0.003	37.975	80.123
1	5	43281.5	0.934	4.670	0.004	40.425	120.548
1	6	47590.0	4.333	9.003	0.008	206.207	326.755
1	7	47729.0	11.129	20.132	0.018	531.176	857.931
1	8	43776.0	19.284	39.416	0.035	844.176	1702.106
1	9	40098.0	28.629	68.045	0.060	1147.965	2850.071
1	10	37342.5	37.379	105.424	0.093	1395.824	4245.895
1	11	35195.0	42.462	147.886	0.130	1494.449	5740.344
1	12	33466.5	44.318	192.204	0.169	1483.168	7223.508
1	13	32769.0	44.318	236.522	0.208	1452.256	8675.762
1	14	31576.0	44.318	280.840	0.247	1399.384	10075.145
1	15	30383.0	44.318	325.158	0.285	1346.513	11421.656
1	16	28344.5	44.318	369.476	0.324	1256.170	12677.824
1	17	26306.0	44.318	413.793	0.363	1165.828	13843.652
1	18	25578.0	44.318	458.111	0.402	1133.565	14977.215
1	19	24850.0	44.318	502.429	0.441	1101.302	16078.516
1	20	25218.0	44.318	546.747	0.480	1117.610	17196.125
1	21	25586.0	44.318	591.065	0.519	1133.919	18330.043
1	22	25071.0	44.318	635.383	0.558	1111.095	19441.137
1	23	24556.0	44.318	679.701	0.597	1088.272	20529.406
1	24	24622.5	44.318	724.019	0.636	1091.219	21620.625
1	25	24689.0	44.318	768.336	0.674	1094.167	22714.789
1	26	24713.5	44.318	812.654	0.713	1095.252	23810.039
1	27	24738.0	44.318	856.972	0.752	1096.338	24906.375
1	28	25965.0	44.318	901.290	0.791	1150.716	26057.090
1	29	27192.0	44.318	945.608	0.830	1205.094	27262.184
1	30	24600.0	44.318	989.926	0.869	1090.222	28352.402
1	31	22008.0	44.318	1034.244	0.908	975.350	29327.750
1	32	24167.5	44.318	1078.562	0.947	1071.055	30398.805
1	33	26327.0	44.318	1122.879	0.986	1166.760	31565.562
1	34	26210.5	44.318	1167.197	1.025	1161.596	32727.156
1	35	26094.0	44.318	1211.515	1.063	1156.433	33883.586
1	36	24367.5	44.318	1255.833	1.102	1079.918	34963.504
1	37	22641.0	44.318	1300.151	1.141	1003.403	35966.906
1	38	25902.5	44.318	1344.469	1.180	1147.946	37114.852
1	39	29164.0	44.318	1388.787	1.219	1292.489	38407.340
1	40	27561.0	44.318	1433.104	1.258	1221.448	39628.785
1	41	25958.0	44.318	1477.422	1.297	1150.406	40779.187
1	42	24714.0	44.318	1521.740	1.336	1095.274	41874.461
1	43	23470.0	44.318	1566.058	1.375	1040.143	42914.602
1	44	24037.0	44.318	1610.376	1.414	1065.271	43979.871
1	45	24604.0	44.318	1654.694	1.452	1090.399	45070.270
1	46	29730.0	44.318	1699.012	1.491	1317.573	46387.840
1	47	34856.0	44.318	1743.330	1.530	1544.747	47932.586
1	48	31742.5	44.318	1787.647	1.569	1406.763	49339.348
1	49	28629.0	44.318	1831.965	1.608	1268.780	50608.125
1	50	28731.5	44.318	1876.283	1.647	1273.322	51881.445
1	51	28834.0	44.318	1920.601	1.686	1277.864	53159.309
1	52	26366.5	44.318	1964.919	1.725	1168.510	54327.816
1	53	36675.5	44.318	2009.237	1.764	1625.384	55953.199
1	54	43092.0	44.318	2053.555	1.802	1909.751	57862.949
1	55	29623.0	44.318	2097.873	1.841	1312.831	59175.777
1	56	17401.5	44.318	2142.190	1.880	771.199	59946.973
1	57	6144.5	22.159	2164.349	1.900	136.156	60083.125

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 132.4593
TOTAL SEDIMENT LOAD IN TONS/ACRE = 5.9756

TABLE C62: QZ4 TEST# 3 RUN# 1 ----DATE 101181 TIME 1417 DURATION 55 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	15625.5	5.012	5.012	0.004	78.315	78.315
1	2	36051.5	14.102	19.114	0.017	508.398	586.713
1	3	43770.0	23.871	42.985	0.038	1044.833	1631.546
1	4	41950.0	36.218	79.203	0.070	1519.344	3150.891
1	5	39273.0	42.873	122.076	0.107	1683.750	4834.641
1	6	36246.0	42.873	164.949	0.145	1553.974	6388.613
1	7	33489.0	42.873	207.822	0.182	1435.773	7824.383
1	8	31688.5	42.873	250.695	0.220	1358.581	9182.961
1	9	29208.0	42.873	293.568	0.258	1252.234	10435.191
1	10	27771.0	42.873	336.441	0.295	1190.626	11625.816
1	11	27259.0	42.873	379.313	0.333	1168.675	12794.488
1	12	26041.5	42.873	422.186	0.371	1116.477	13910.965
1	13	25336.0	42.873	465.059	0.408	1086.229	14997.191
1	14	24753.5	42.873	507.932	0.446	1061.256	16058.445
1	15	24171.0	42.873	550.805	0.483	1036.283	17094.727
1	16	23295.5	42.873	593.677	0.521	998.747	18093.473
1	17	22420.0	42.873	636.550	0.559	961.212	19054.684
1	18	22395.0	42.873	679.423	0.596	960.140	20014.820
1	19	22370.0	42.873	722.296	0.634	959.069	20973.887
1	20	21832.5	42.873	765.169	0.672	936.024	21909.910
1	21	21295.0	42.873	808.042	0.709	912.980	22822.891
1	22	20942.0	42.873	850.914	0.747	897.846	23720.734
1	23	20589.0	42.873	893.787	0.784	882.712	24603.445
1	24	20076.5	42.873	936.660	0.822	860.739	25464.184
1	25	19564.0	42.873	979.533	0.860	838.767	26302.949
1	26	18871.0	42.873	1022.406	0.897	809.056	27112.004
1	27	18178.0	42.873	1065.278	0.935	779.345	27891.348
1	28	17802.0	42.873	1108.151	0.973	763.224	28654.570
1	29	17426.0	42.873	1151.024	1.010	747.104	29401.672
1	30	17082.5	42.873	1193.897	1.048	732.377	30134.047
1	31	16739.0	42.873	1236.770	1.086	717.651	30851.695
1	32	16080.0	42.873	1279.642	1.123	689.397	31541.090
1	33	15421.0	42.873	1322.515	1.161	661.144	32202.230
1	34	15221.0	42.873	1365.388	1.198	652.570	32854.797
1	35	15021.0	42.873	1408.261	1.236	643.995	33498.789
1	36	14740.0	42.873	1451.134	1.274	631.948	34130.734
1	37	14459.0	42.873	1494.006	1.311	619.900	34750.633
1	38	14375.0	42.873	1536.879	1.349	616.299	35366.930
1	39	14291.0	42.873	1579.752	1.387	612.698	35979.625
1	40	14668.5	42.873	1622.625	1.424	628.882	36608.504
1	41	15046.0	42.873	1665.498	1.462	645.067	37253.570
1	42	15232.0	42.873	1708.370	1.499	653.041	37906.609
1	43	15418.0	42.873	1751.243	1.537	661.015	38567.621
1	44	15209.0	42.873	1794.116	1.575	652.055	39219.676
1	45	15000.0	42.873	1836.989	1.612	643.094	39862.770
1	46	14255.5	42.873	1879.862	1.650	611.176	40473.941
1	47	13511.0	42.873	1922.734	1.688	579.257	41053.195
1	48	15230.0	42.873	1965.607	1.725	652.955	41706.148
1	49	16400.5	42.873	2008.480	1.763	703.138	42409.285
1	50	18470.0	42.873	2051.353	1.800	791.864	43201.148
1	51	37839.0	36.219	2087.572	1.832	1370.490	44571.637
1	52	46480.0	19.794	2107.366	1.850	920.025	45491.660
1	53	26891.5	7.221	2114.587	1.856	194.183	45685.840
1	54	13971.0	3.483	2118.070	1.859	48.661	45734.500
1	55	6264.5	1.274	2119.344	1.860	7.981	45742.480

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 100.8439
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.5493

TABLE C63: QZ2 TEST# 3 RUN# 2 ----DATE 101281 TIME 1134 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	10278.0	2.124	2.124	0.002	21.830	21.830
1	2	10607.5	22.947	25.071	0.022	243.410	265.241
1	3	10501.5	41.647	66.718	0.059	437.356	702.596
1	4	10053.0	41.647	108.365	0.095	418.677	1121.273
1	5	9253.0	41.647	150.012	0.132	385.360	1506.633
1	6	9652.0	41.647	191.659	0.168	401.977	1908.610
1	7	9994.0	41.647	233.306	0.205	416.220	2324.829
1	8	10152.5	41.647	274.953	0.241	422.821	2747.650
1	9	11127.5	41.647	316.600	0.278	463.427	3211.077
1	10	12345.0	41.647	358.247	0.314	514.132	3725.209
1	11	13943.5	41.647	399.894	0.351	580.705	4305.910
1	12	15265.5	41.647	441.541	0.388	635.762	4941.672
1	13	16267.0	41.647	483.188	0.424	677.471	5619.141
1	14	16912.0	41.647	524.835	0.461	704.333	6323.473
1	15	16901.5	41.647	566.482	0.497	703.896	7027.367
1	16	16891.0	41.647	608.129	0.534	703.459	7730.824
1	17	18328.5	41.647	649.776	0.570	763.327	8494.148
1	18	19766.0	41.647	691.423	0.607	823.194	9317.340
1	19	20165.5	41.647	733.070	0.644	839.832	10157.168
1	20	20565.0	41.647	774.717	0.680	856.470	11013.637
1	21	20826.0	41.647	816.364	0.717	867.340	11880.977
1	22	21087.0	41.647	858.010	0.753	878.210	12759.184
1	23	20679.0	41.647	899.657	0.790	861.218	13620.398
1	24	20271.0	41.647	941.304	0.826	844.226	14464.621
1	25	19938.0	41.647	982.951	0.863	830.357	15294.977
1	26	19605.0	41.647	1024.598	0.899	816.489	16111.465
1	27	18454.0	41.647	1066.245	0.936	768.553	16880.016
1	28	17303.0	41.647	1107.892	0.973	720.618	17600.633
1	29	17342.0	41.647	1149.539	1.009	722.242	18322.871
1	30	17381.0	41.647	1191.186	1.046	723.866	19046.734
1	31	21104.0	41.647	1232.833	1.082	878.918	19925.648
1	32	24827.0	41.647	1274.480	1.119	1033.970	20959.617
1	33	27995.5	41.647	1316.127	1.155	1165.928	22125.543
1	34	31164.0	41.647	1357.774	1.192	1297.886	23423.426
1	35	28994.5	41.647	1399.421	1.228	1207.533	24630.957
1	36	26825.0	41.647	1441.068	1.265	1117.181	25748.137
1	37	21931.5	41.647	1482.715	1.302	913.381	26661.516
1	38	17038.0	41.647	1524.362	1.338	709.581	27371.094
1	39	19635.5	41.647	1566.009	1.375	817.759	28188.852
1	40	22233.0	41.647	1607.656	1.411	925.937	29114.785
1	41	21957.5	41.647	1649.303	1.448	914.463	30029.246
1	42	21682.0	41.647	1690.950	1.484	902.990	30932.234
1	43	24927.0	41.647	1732.597	1.521	1038.134	31970.367
1	44	28172.0	41.647	1774.244	1.558	1173.279	33143.645
1	45	26960.0	41.647	1815.891	1.594	1122.803	34266.445
1	46	25748.0	41.647	1857.538	1.631	1072.326	35338.770
1	47	25480.5	41.647	1899.185	1.667	1061.186	36399.953
1	48	25213.0	41.647	1940.832	1.704	1050.046	37449.996
1	49	23563.0	41.647	1982.479	1.740	981.328	38431.320
1	50	21913.0	41.647	2024.126	1.777	912.610	39343.930
1	51	25415.0	41.647	2065.773	1.813	1058.458	40402.387
1	52	28917.0	41.647	2107.420	1.850	1204.306	41606.691
1	53	27170.0	41.647	2149.067	1.887	1131.548	42738.238
1	54	25423.0	41.647	2190.714	1.923	1058.791	43797.027
1	55	24329.5	41.647	2232.361	1.960	1013.250	44810.277
1	56	23236.0	41.647	2274.008	1.996	967.709	45777.984
1	57	23597.5	41.647	2315.655	2.033	982.765	46760.746
1	58	23959.0	41.647	2357.302	2.069	997.820	47758.562
1	59	21749.5	37.644	2394.945	2.102	818.737	48577.297
1	60	31038.0	23.956	2418.901	2.123	743.546	49320.840
1	61	25340.0	9.260	2428.161	2.132	234.648	49555.484
1	62	9787.0	2.124	2430.285	2.133	20.788	49576.270
1	63	10066.0	2.124	2432.408	2.135	21.380	49597.648
1	64	4351.0	2.124	2434.532	2.137	9.242	49606.887

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 109.3634
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.9337

TABLE C64: QZ3 TEST# 3 RUN# 2 ----DATE 101281 TIME 1134 DURATION 62 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9108.0	20.303	20.303	0.018	184.920	184.920
1	2	9476.0	20.303	40.606	0.036	192.391	377.311
1	3	8480.0	41.270	81.876	0.072	349.969	727.280
1	4	8542.5	41.270	123.146	0.108	352.549	1079.829
1	5	8812.5	41.932	165.078	0.145	369.525	1449.354
1	6	8667.0	41.932	207.010	0.182	363.424	1812.778
1	7	8408.5	41.932	248.942	0.219	352.585	2165.363
1	8	8101.0	41.932	290.874	0.255	339.691	2505.054
1	9	8510.5	41.932	332.806	0.292	356.862	2861.916
1	10	8783.0	41.932	374.738	0.329	368.289	3230.205
1	11	8763.0	41.932	416.670	0.366	367.450	3597.655
1	12	8715.5	41.932	458.602	0.403	365.458	3963.113
1	13	8832.0	41.932	500.533	0.439	370.343	4333.453
1	14	9520.0	41.932	542.465	0.476	399.192	4732.645
1	15	10208.0	41.932	584.397	0.513	428.042	5160.684
1	16	11110.0	41.932	626.329	0.550	465.864	5626.547
1	17	12012.0	41.932	668.261	0.587	503.687	6130.230
1	18	12953.0	41.932	710.193	0.623	543.145	6673.375
1	19	13894.0	41.932	752.125	0.660	582.603	7255.977
1	20	14356.5	41.932	794.057	0.697	601.996	7857.973
1	21	14819.0	41.932	835.989	0.734	621.390	8479.359
1	22	15126.0	41.932	877.920	0.771	634.263	9113.621
1	23	15433.0	41.932	919.852	0.807	647.136	9760.754
1	24	14976.5	41.932	961.784	0.844	627.994	10388.746
1	25	14520.0	41.932	1003.716	0.881	608.853	10997.598
1	26	17113.0	41.932	1045.648	0.918	717.582	11715.180
1	27	19706.0	41.932	1087.580	0.955	826.312	12541.488
1	28	24003.0	41.932	1129.512	0.992	1006.493	13547.980
1	29	28300.0	41.932	1171.444	1.028	1186.675	14734.652
1	30	25699.0	41.932	1213.375	1.065	1077.610	15812.262
1	31	23098.0	41.932	1255.307	1.102	968.545	16780.805
1	32	24277.0	41.932	1297.239	1.139	1017.983	17798.785
1	33	25456.0	41.932	1339.171	1.176	1067.421	18866.203
1	34	22648.0	41.932	1381.103	1.212	949.676	19815.879
1	35	19840.0	41.932	1423.035	1.249	831.931	20647.809
1	36	18574.0	41.932	1464.967	1.286	778.844	21426.652
1	37	17308.0	41.932	1506.899	1.323	725.759	22152.410
1	38	16136.0	41.932	1548.831	1.360	676.614	22829.023
1	39	14964.0	41.932	1590.762	1.396	627.470	23456.492
1	40	17011.5	41.932	1632.694	1.433	713.326	24169.816
1	41	19059.0	41.932	1674.626	1.470	799.182	24968.996
1	42	19791.5	41.932	1716.558	1.507	829.897	25798.891
1	43	20524.0	41.932	1758.490	1.544	860.612	26659.500
1	44	20484.5	41.932	1800.422	1.580	858.955	27518.453
1	45	20445.0	41.932	1842.354	1.617	857.299	28375.750
1	46	22419.5	41.932	1884.286	1.654	940.094	29315.844
1	47	24394.0	41.932	1926.218	1.691	1022.889	30338.730
1	48	20917.5	41.932	1968.149	1.728	877.113	31215.840
1	49	17441.0	41.932	2010.081	1.765	731.336	31947.172
1	50	19357.0	41.932	2052.013	1.801	811.677	32758.848
1	51	21273.0	41.932	2093.945	1.838	892.019	33650.863
1	52	20603.5	41.932	2135.877	1.875	863.945	34514.809
1	53	19934.0	41.932	2177.809	1.912	835.872	35350.680
1	54	19387.0	41.932	2219.741	1.949	812.935	36163.613
1	55	18840.0	41.932	2261.673	1.985	789.999	36953.609
1	56	19123.0	41.932	2303.604	2.022	801.865	37755.473
1	57	18204.5	41.932	2345.536	2.059	763.350	38518.820
1	58	26350.0	41.932	2387.468	2.096	1104.908	39623.727
1	59	33904.5	41.932	2429.400	2.133	1421.683	41045.406
1	60	27748.5	41.270	2470.670	2.169	1145.180	42190.586
1	61	22785.0	24.976	2495.646	2.191	569.078	42759.660
1	62	11092.5	4.672	2500.318	2.195	51.824	42811.480

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 94.3822
TOTAL SEDIMENT LOAD IN TONS/ACRE = 4.2578

TABLE C65: QZ4 TEST# 3 RUN# 2 ----DATE 101281 TIME 1134 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	7639.0	0.850	0.850	0.001	6.493	6.493
1	2	7478.5	18.519	19.369	0.017	138.494	144.987
1	3	6831.0	38.143	57.512	0.050	260.555	405.542
1	4	6843.0	40.947	98.459	0.086	280.200	685.742
1	5	7049.0	40.947	139.406	0.122	288.635	974.377
1	6	7065.5	40.947	180.353	0.158	289.311	1263.688
1	7	7138.5	40.947	221.300	0.194	292.300	1555.989
1	8	7264.0	40.947	262.247	0.230	297.439	1853.427
1	9	7601.5	40.947	303.194	0.266	311.259	2164.686
1	10	8086.5	40.947	344.140	0.302	331.118	2495.804
1	11	7932.5	40.947	385.087	0.338	324.812	2820.616
1	12	7636.0	40.947	426.034	0.374	312.671	3133.287
1	13	7567.0	40.947	466.981	0.410	309.846	3443.133
1	14	7529.0	40.947	507.927	0.446	308.290	3751.423
1	15	7491.0	40.947	548.874	0.482	306.734	4058.156
1	16	7368.0	40.947	589.821	0.518	301.697	4359.852
1	17	7245.0	40.947	630.768	0.554	296.661	4656.512
1	18	7288.0	40.947	671.715	0.590	298.422	4954.930
1	19	7331.0	40.947	712.661	0.626	300.182	5255.109
1	20	7241.5	40.947	753.608	0.661	296.518	5551.625
1	21	7152.0	40.947	794.555	0.697	292.853	5844.477
1	22	7309.0	40.947	835.502	0.733	299.281	6143.758
1	23	7466.0	40.947	876.448	0.769	305.710	6449.465
1	24	7230.5	40.947	917.395	0.805	296.067	6745.531
1	25	6995.0	40.947	958.342	0.841	286.424	7031.953
1	26	8245.0	40.947	999.289	0.877	337.608	7369.559
1	27	9495.0	40.947	1040.236	0.913	388.792	7758.348
1	28	10104.5	40.947	1081.182	0.949	413.749	8172.094
1	29	10714.0	40.947	1122.129	0.985	438.706	8610.797
1	30	11431.5	40.947	1163.076	1.021	468.085	9078.879
1	31	12149.0	40.947	1204.023	1.057	497.465	9576.344
1	32	13549.0	40.947	1244.969	1.093	554.791	10131.133
1	33	14949.0	40.947	1285.916	1.129	612.116	10743.246
1	34	18575.5	40.947	1326.863	1.165	760.610	11503.855
1	35	22202.0	40.947	1367.810	1.201	909.105	12412.957
1	36	16904.5	40.947	1408.757	1.237	692.188	13105.145
1	37	11607.0	40.947	1449.703	1.272	475.271	13580.414
1	38	14614.5	40.947	1490.650	1.308	598.420	14178.832
1	39	17622.0	40.947	1531.597	1.344	721.568	14900.398
1	40	18947.0	40.947	1572.544	1.380	775.823	15676.219
1	41	20272.0	40.947	1613.490	1.416	830.077	16506.293
1	42	19712.0	40.947	1654.437	1.452	807.147	17313.437
1	43	19152.0	40.947	1695.384	1.488	784.217	18097.652
1	44	17864.0	40.947	1736.331	1.524	731.477	18829.129
1	45	16576.0	40.947	1777.278	1.560	678.737	19507.863
1	46	19681.0	40.947	1818.224	1.596	805.877	20313.738
1	47	22786.0	40.947	1859.171	1.632	933.018	21246.754
1	48	23177.5	40.947	1900.118	1.668	949.049	22195.801
1	49	23569.0	40.947	1941.065	1.704	965.079	23160.879
1	50	19303.0	40.947	1982.011	1.740	790.399	23951.277
1	51	15037.0	40.947	2022.958	1.776	615.720	24566.996
1	52	17616.5	40.947	2063.905	1.812	721.342	25288.336
1	53	20196.0	40.947	2104.852	1.847	826.965	26115.301
1	54	21743.0	40.947	2145.799	1.883	890.310	27005.609
1	55	23290.0	40.947	2186.745	1.919	953.655	27959.262
1	56	22264.5	40.947	2227.692	1.955	911.664	28870.926
1	57	21239.0	40.947	2268.639	1.991	869.673	29740.598
1	58	22196.5	40.947	2309.586	2.027	908.880	30649.477
1	59	29158.5	40.947	2350.532	2.063	1193.953	31843.426
1	60	36213.0	24.637	2375.169	2.085	892.179	32735.602
1	61	27831.0	24.636	2399.805	2.106	685.644	33421.242
1	62	11220.5	24.636	2424.441	2.128	276.428	33697.668
1	63	2021.0	4.163	2428.604	2.132	8.413	33706.078

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 74.3084

TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.3523

TABLE C66: QZ2 TEST# 3 RUN# 3 ----DATE 101281 TIME 1335 DURATION 34 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	8218.0	1.444	1.444	0.001	11.867	11.867
1	2	9384.5	21.748	23.192	0.020	204.094	215.961
1	3	8898.0	41.708	64.900	0.057	371.117	587.078
1	4	8291.0	42.809	107.709	0.095	354.929	942.007
1	5	8721.5	42.809	150.518	0.132	373.358	1315.365
1	6	9547.5	42.809	193.327	0.170	408.719	1724.084
1	7	10951.0	42.809	236.136	0.207	468.801	2192.885
1	8	13518.5	42.809	278.945	0.245	578.713	2771.598
1	9	13593.0	42.809	321.754	0.282	581.902	3353.500
1	10	12373.5	42.809	364.562	0.320	529.697	3883.198
1	11	14877.0	42.809	407.371	0.358	636.869	4520.066
1	12	17638.5	42.809	450.180	0.395	755.086	5275.152
1	13	16715.5	42.809	492.989	0.433	715.573	5990.723
1	14	15466.0	42.809	535.798	0.470	662.084	6652.805
1	15	14664.5	42.809	578.607	0.508	627.772	7280.574
1	16	13863.0	42.809	621.416	0.546	593.461	7874.035
1	17	14903.0	42.809	664.224	0.583	637.982	8512.016
1	18	15943.0	42.809	707.033	0.621	682.504	9194.516
1	19	16145.0	42.809	749.842	0.658	691.151	9885.664
1	20	16347.0	42.809	792.651	0.696	699.798	10585.461
1	21	15587.0	42.809	835.460	0.733	667.263	11252.723
1	22	14827.0	42.809	878.269	0.771	634.729	11887.449
1	23	13932.0	42.809	921.077	0.809	596.415	12483.863
1	24	13037.0	42.809	963.886	0.846	558.101	13041.961
1	25	14432.0	42.809	1006.695	0.884	617.819	13659.777
1	26	15827.0	42.809	1049.504	0.921	677.538	14337.312
1	27	17081.5	42.809	1092.313	0.959	731.242	15068.551
1	28	18336.0	42.809	1135.122	0.996	784.946	15853.496
1	29	16704.5	42.809	1177.930	1.034	715.103	16568.598
1	30	17930.5	30.240	1208.170	1.061	542.218	17110.812
1	31	18788.5	12.743	1220.913	1.072	239.422	17350.230
1	32	15516.5	3.908	1224.821	1.075	60.638	17410.867
1	33	14996.5	3.908	1228.729	1.079	58.606	17469.473
1	34	7874.5	3.908	1232.637	1.082	30.774	17500.246

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 38.5810
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.7405

TABLE C67: QZ3 TEST# 3 RUN# 3 ----DATE 101281 TIME 1335 DURATION 33 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	6275.5	20.303	20.303	0.018	127.411	127.411
1	2	7250.5	42.065	62.368	0.055	304.992	432.404
1	3	6969.5	43.522	105.890	0.093	303.326	735.730
1	4	7104.5	43.522	149.412	0.131	309.202	1044.932
1	5	7062.0	43.522	192.934	0.169	307.352	1352.284
1	6	7796.0	43.522	236.456	0.208	339.297	1691.582
1	7	8261.5	43.522	279.978	0.246	359.557	2051.138
1	8	8526.5	43.522	323.500	0.284	371.090	2422.229
1	9	7930.5	43.522	367.022	0.322	345.151	2767.380
1	10	7765.5	43.522	410.544	0.360	337.970	3105.350
1	11	9342.0	43.522	454.066	0.399	406.582	3511.932
1	12	11282.5	43.522	497.588	0.437	491.037	4002.969
1	13	12274.0	43.522	541.110	0.475	534.189	4537.156
1	14	11205.5	43.522	584.632	0.513	487.686	5024.840
1	15	10137.0	43.522	628.154	0.551	441.182	5466.020
1	16	10902.5	43.522	671.676	0.590	474.498	5940.516
1	17	11668.0	43.522	715.198	0.628	507.814	6448.328
1	18	11157.5	43.522	758.719	0.666	485.596	6933.922
1	19	10647.0	43.522	802.241	0.704	463.378	7397.297
1	20	13028.5	43.522	845.763	0.742	567.026	7964.320
1	21	15410.0	43.522	889.285	0.781	670.674	8634.992
1	22	13779.0	43.522	932.807	0.819	599.689	9234.680
1	23	12148.0	43.522	976.329	0.857	528.705	9763.383
1	24	18824.0	43.522	1019.851	0.895	819.258	10582.637
1	25	25500.0	43.522	1063.373	0.933	1109.810	11692.445
1	26	22403.0	43.522	1106.895	0.972	975.023	12667.465
1	27	19306.0	43.522	1150.417	1.010	840.235	13507.699
1	28	20440.5	43.522	1193.939	1.048	889.611	14397.309
1	29	30713.0	43.522	1237.461	1.086	1336.690	15733.996
1	30	41283.5	29.492	1266.953	1.112	1217.532	16951.527
1	31	34778.5	12.403	1279.356	1.123	431.357	17382.883
1	32	25109.0	7.221	1286.577	1.129	181.312	17564.191
1	33	11688.5	2.549	1289.126	1.131	29.794	17593.984

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 38.7877
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.7498

TABLE C68: QZ4 TEST# 3 RUN# 3 ----DATE 101281 TIME 1335 DURATION 33 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	6010.0	1.274	1.274	0.001	7.657	7.657
1	2	6803.5	21.748	23.022	0.020	147.962	155.619
1	3	6039.0	40.947	63.969	0.056	247.279	402.898
1	4	5868.0	40.947	104.916	0.092	240.277	643.175
1	5	6013.5	40.947	145.863	0.128	246.235	889.409
1	6	6268.0	40.947	186.810	0.164	256.656	1146.065
1	7	6207.0	40.947	227.757	0.200	254.158	1400.223
1	8	6405.0	40.947	268.704	0.236	262.265	1662.489
1	9	6651.0	40.947	309.651	0.272	272.338	1934.827
1	10	7031.0	40.947	350.597	0.308	287.898	2222.725
1	11	7229.5	40.947	391.544	0.344	296.026	2518.751
1	12	7230.5	40.947	432.491	0.380	296.067	2814.818
1	13	7362.0	40.947	473.438	0.416	301.452	3116.270
1	14	7297.5	40.947	514.385	0.451	298.811	3415.081
1	15	7233.0	40.947	555.331	0.487	296.169	3711.250
1	16	7465.0	40.947	596.278	0.523	305.669	4016.919
1	17	7697.0	40.947	637.225	0.559	315.169	4332.086
1	18	8803.5	40.947	678.172	0.595	360.477	4692.562
1	19	9910.0	40.947	719.118	0.631	405.785	5098.344
1	20	13144.0	40.947	760.065	0.667	538.207	5636.547
1	21	16378.0	40.947	801.012	0.703	670.630	6307.176
1	22	17102.0	40.947	841.959	0.739	700.275	7007.449
1	23	17826.0	40.947	882.906	0.775	729.921	7737.367
1	24	16258.0	40.947	923.852	0.811	665.716	8403.082
1	25	14690.0	40.947	964.799	0.847	601.511	9004.590
1	26	17082.0	40.947	1005.746	0.883	699.456	9704.043
1	27	18677.5	40.947	1046.693	0.919	764.787	10468.828
1	28	29875.5	40.947	1087.639	0.955	1223.312	11692.137
1	29	42984.0	40.947	1128.586	0.991	1760.066	13452.199
1	30	43873.5	40.947	1169.533	1.027	1796.488	15248.684
1	31	29613.5	38.143	1207.676	1.060	1129.547	16378.230
1	32	16425.0	26.760	1234.436	1.083	439.532	16817.762
1	33	8636.0	9.090	1243.525	1.091	78.501	16896.262

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 37.2495
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.6804

TABLE C69: QZ2 TEST# 4 RUN# 1 ----DATE 101481 TIME 1638 DURATION 56 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	32960.5	2.124	2.124	0.002	70.008	70.008
1	2	45482.5	8.495	10.619	0.009	386.374	456.381
1	3	47077.5	26.675	37.294	0.033	1255.792	1712.173
1	4	46087.5	42.748	80.042	0.070	1970.148	3682.322
1	5	43624.0	44.888	124.930	0.110	1958.194	5640.512
1	6	41290.5	44.888	169.818	0.149	1853.447	7493.957
1	7	38773.5	44.888	214.706	0.188	1740.464	9234.418
1	8	36880.5	44.888	259.594	0.228	1655.491	10889.906
1	9	34736.0	44.888	304.482	0.267	1559.229	12449.133
1	10	32751.0	44.888	349.370	0.307	1470.126	13919.258
1	11	31106.5	44.888	394.258	0.346	1396.308	15315.562
1	12	29010.5	44.888	439.146	0.385	1302.222	16617.781
1	13	29394.0	44.888	484.034	0.425	1319.437	17937.215
1	14	30796.0	44.888	528.922	0.464	1382.370	19319.582
1	15	27972.5	44.888	573.810	0.504	1255.629	20575.211
1	16	25149.0	44.888	618.698	0.543	1128.888	21704.098
1	17	25250.0	44.888	663.585	0.582	1133.421	22837.516
1	18	25351.0	44.888	708.473	0.622	1137.956	23975.469
1	19	24632.0	44.888	753.361	0.661	1105.681	25081.148
1	20	23913.0	44.888	798.249	0.701	1073.406	26154.555
1	21	22863.5	44.888	843.137	0.740	1026.296	27180.848
1	22	21814.0	44.888	888.025	0.779	979.187	28160.031
1	23	21802.5	44.888	932.913	0.819	978.670	29138.699
1	24	21791.0	44.888	977.801	0.858	978.154	30116.852
1	25	23427.5	44.888	1022.689	0.898	1051.613	31168.461
1	26	25064.0	44.888	1067.577	0.937	1125.073	32293.531
1	27	24009.5	44.888	1112.465	0.976	1077.738	33371.266
1	28	22955.0	44.888	1157.353	1.016	1030.403	34401.668
1	29	21062.5	44.888	1202.241	1.055	945.453	35347.117
1	30	19170.0	44.888	1247.129	1.095	860.503	36207.617
1	31	22725.5	44.888	1292.017	1.134	1020.102	37227.719
1	32	26281.0	44.888	1336.905	1.173	1179.701	38407.418
1	33	24662.5	44.888	1381.792	1.213	1107.050	39514.465
1	34	23044.0	44.888	1426.680	1.252	1034.399	40548.863
1	35	23919.0	44.888	1471.568	1.292	1073.676	41622.535
1	36	24794.0	44.888	1516.456	1.331	1112.953	42735.484
1	37	25301.5	44.888	1561.344	1.370	1135.733	43871.215
1	38	25809.0	44.888	1606.232	1.410	1158.514	45029.727
1	39	24497.0	44.888	1651.120	1.449	1099.621	46129.344
1	40	23185.0	44.888	1696.008	1.489	1040.728	47170.070
1	41	23581.5	44.888	1740.896	1.528	1058.526	48228.594
1	42	23978.0	44.888	1785.784	1.567	1076.324	49304.918
1	43	24553.0	44.888	1830.672	1.607	1102.135	50407.051
1	44	25128.0	44.888	1875.560	1.646	1127.945	51534.992
1	45	26260.5	44.888	1920.448	1.686	1178.781	52713.770
1	46	27393.0	44.888	1965.336	1.725	1229.616	53943.383
1	47	24344.0	44.888	2010.224	1.764	1092.753	55036.133
1	48	21295.0	44.888	2055.112	1.804	955.890	55992.020
1	49	22432.5	44.888	2100.000	1.843	1006.950	56998.969
1	50	23570.0	44.888	2144.887	1.883	1058.010	58056.977
1	51	23534.0	44.888	2189.775	1.922	1056.393	59113.367
1	52	20348.5	29.580	2219.355	1.948	601.908	59715.273
1	53	19046.0	13.507	2232.862	1.960	257.254	59972.527
1	54	18060.0	6.371	2239.233	1.965	115.060	60087.586
1	55	16536.5	6.371	2245.604	1.971	105.354	60192.937
1	56	8923.0	6.371	2251.975	1.977	56.848	60249.785

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 132.8267
TOTAL SEDIMENT LOAD IN TONS/ACRE = 5.9922

TABLE C70: QZ3 TEST# 4 RUN# 1 ----DATE 101481 TIME 1638 DURATION 55 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	32440.5	4.672	4.672	0.004	151.562	151.562
1	2	41241.0	21.748	26.420	0.023	896.909	1048.470
1	3	43008.5	39.665	66.085	0.058	1705.931	2754.402
1	4	40966.0	45.179	111.264	0.098	1850.802	4605.203
1	5	38527.5	45.179	156.443	0.137	1740.633	6345.836
1	6	35935.0	45.179	201.622	0.177	1623.507	7969.340
1	7	33956.5	45.179	246.801	0.217	1534.120	9503.457
1	8	32322.5	45.179	291.980	0.256	1460.297	10963.754
1	9	30278.0	45.179	337.159	0.296	1367.929	12331.680
1	10	28139.5	45.179	382.338	0.336	1271.314	13602.992
1	11	26874.0	45.179	427.517	0.375	1214.140	14817.129
1	12	25687.5	45.179	472.696	0.415	1160.535	15977.660
1	13	24786.0	45.179	517.875	0.455	1119.806	17097.465
1	14	24242.0	45.179	563.054	0.494	1095.229	18192.691
1	15	23698.0	45.179	608.233	0.534	1070.652	19263.340
1	16	23466.0	45.179	653.412	0.574	1060.170	20323.508
1	17	23234.0	45.179	698.591	0.613	1049.688	21373.195
1	18	23781.5	45.179	743.770	0.653	1074.424	22447.617
1	19	24329.0	45.179	788.948	0.693	1099.160	23546.773
1	20	24151.0	45.179	834.127	0.732	1091.117	24637.891
1	21	23973.0	45.179	879.306	0.772	1083.076	25720.965
1	22	24003.5	45.179	924.485	0.812	1084.454	26805.418
1	23	24034.0	45.179	969.664	0.851	1085.832	27891.246
1	24	24727.5	45.179	1014.843	0.891	1117.163	29008.406
1	25	25421.0	45.179	1060.022	0.931	1148.495	30156.898
1	26	22913.0	45.179	1105.201	0.970	1035.185	31192.082
1	27	20405.0	45.179	1150.380	1.010	921.877	32113.957
1	28	22549.5	45.179	1195.559	1.050	1018.763	33132.719
1	29	24694.0	45.179	1240.738	1.089	1115.649	34248.367
1	30	24163.0	45.179	1285.917	1.129	1091.659	35340.023
1	31	23632.0	45.179	1331.096	1.168	1067.669	36407.691
1	32	24008.5	45.179	1376.275	1.208	1084.679	37492.367
1	33	24385.0	45.179	1421.454	1.248	1101.689	38594.055
1	34	25970.0	45.179	1466.633	1.287	1173.298	39767.352
1	35	27555.0	45.179	1511.812	1.327	1244.907	41012.258
1	36	25021.0	45.179	1556.991	1.367	1130.423	42142.680
1	37	22487.0	45.179	1602.170	1.406	1015.939	43158.617
1	38	21101.5	45.179	1647.349	1.446	953.344	44111.961
1	39	19716.0	45.179	1692.528	1.486	890.749	45002.707
1	40	20313.5	45.179	1737.707	1.525	917.743	45920.449
1	41	20911.0	45.179	1782.885	1.565	944.738	46865.184
1	42	21213.0	45.179	1828.064	1.605	958.381	47823.562
1	43	21515.0	45.179	1873.243	1.644	972.025	48795.586
1	44	24771.0	45.179	1918.422	1.684	1119.128	49914.711
1	45	28027.0	45.179	1963.601	1.724	1266.231	51180.941
1	46	28298.5	45.179	2008.780	1.763	1278.498	52459.437
1	47	28570.0	45.179	2053.959	1.803	1290.764	53750.199
1	48	28248.5	45.179	2099.138	1.843	1276.239	55026.437
1	49	27927.0	45.179	2144.317	1.882	1261.713	56288.148
1	50	28078.5	45.179	2189.496	1.922	1268.558	57556.703
1	51	45609.0	39.665	2229.161	1.957	1809.080	59365.781
1	52	56449.5	22.937	2252.098	1.977	1294.782	60660.562
1	53	48548.0	8.410	2260.508	1.984	408.289	61068.848
1	54	35197.5	3.993	2264.500	1.988	140.544	61209.391
1	55	11605.0	1.444	2265.944	1.989	16.758	61226.145

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 134.9792
TOTAL SEDIMENT LOAD IN TONS/ACRE = 6.0893

TABLE C71: QZ4 TEST# 4 RUN# 1 -----DATE 101481 TIME 1639 DURATION 56 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	22790.0	6.117	6.117	0.005	139.406	139.406
1	2	35102.0	20.898	27.015	0.024	733.561	872.967
1	3	36597.5	35.255	62.270	0.055	1290.245	2163.212
1	4	35202.0	41.732	104.002	0.091	1469.049	3632.261
1	5	33599.0	42.517	146.519	0.129	1428.528	5060.785
1	6	31567.5	42.517	189.036	0.166	1342.155	6402.937
1	7	29507.0	42.517	231.553	0.203	1254.548	7657.484
1	8	28456.0	42.517	274.070	0.241	1209.863	8867.348
1	9	27403.0	42.517	316.587	0.278	1165.093	10032.437
1	10	26238.0	42.517	359.104	0.315	1115.561	11147.996
1	11	25128.5	42.517	401.620	0.353	1068.388	12216.383
1	12	23946.5	42.517	444.137	0.390	1018.133	13234.512
1	13	23366.0	42.517	486.654	0.427	993.452	14227.961
1	14	22532.5	42.517	529.171	0.464	958.013	15185.973
1	15	21699.0	42.517	571.688	0.502	922.576	16108.547
1	16	20963.5	42.517	614.205	0.539	891.304	16999.848
1	17	20228.0	42.517	656.721	0.576	860.034	17859.879
1	18	19680.5	42.517	699.238	0.614	836.756	18696.633
1	19	19133.0	42.517	741.755	0.651	813.478	19510.109
1	20	18344.5	42.517	784.272	0.688	779.952	20290.059
1	21	17556.0	42.517	826.789	0.726	746.428	21036.484
1	22	17418.0	42.517	869.306	0.763	740.560	21777.043
1	23	17280.0	42.517	911.823	0.800	734.694	22511.734
1	24	17384.0	42.517	954.339	0.838	739.115	23250.848
1	25	17488.0	42.517	996.856	0.875	743.537	23994.383
1	26	16307.5	42.517	1039.373	0.912	693.346	24687.727
1	27	15127.0	42.517	1081.890	0.950	643.155	25330.879
1	28	14699.0	42.517	1124.407	0.987	624.957	25955.836
1	29	14271.0	42.517	1166.924	1.024	606.760	26562.594
1	30	14242.0	42.517	1209.440	1.062	605.527	27168.117
1	31	14213.0	42.517	1251.957	1.099	604.294	27772.410
1	32	13922.5	42.517	1294.474	1.136	591.942	28364.352
1	33	13632.0	42.517	1336.991	1.174	579.592	28943.941
1	34	13540.5	42.517	1379.508	1.211	575.701	29519.641
1	35	13449.0	42.517	1422.025	1.248	571.811	30091.449
1	36	13282.0	42.517	1464.542	1.286	564.710	30656.156
1	37	13115.0	42.517	1507.058	1.323	557.610	31213.766
1	38	12791.0	42.517	1549.575	1.360	543.834	31757.598
1	39	12467.0	42.517	1592.092	1.397	530.059	32287.656
1	40	12621.5	42.517	1634.609	1.435	536.628	32824.281
1	41	12776.0	42.517	1677.126	1.472	543.197	33367.477
1	42	13673.0	42.517	1719.643	1.509	581.335	33948.809
1	43	14570.0	42.517	1762.159	1.547	619.472	34568.277
1	44	14039.0	42.517	1804.676	1.584	596.896	35165.172
1	45	13508.0	42.517	1847.193	1.621	574.319	35739.488
1	46	13975.0	42.517	1889.710	1.659	594.175	36333.660
1	47	14442.0	42.517	1932.227	1.696	614.030	36947.687
1	48	14514.0	42.517	1974.744	1.733	617.091	37564.777
1	49	14586.0	42.517	2017.260	1.771	620.153	38184.930
1	50	18084.5	30.349	2047.609	1.797	548.846	38733.773
1	51	34381.0	14.102	2061.711	1.810	484.841	39218.613
1	52	33885.5	8.070	2069.781	1.817	273.456	39492.066
1	53	20482.0	5.267	2075.048	1.821	107.879	39599.941
1	54	19824.0	5.267	2080.315	1.826	104.413	39704.352
1	55	15424.5	3.058	2083.373	1.829	47.168	39751.520
1	56	5786.5	0.850	2084.222	1.829	4.919	39756.437

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 87.6470
TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.9540

TABLE C72: QZ2 TEST# 4 RUN# 2 ----DATE 101581 TIME 1358 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	10771.0	2.888	2.888	0.003	31.107	31.107
1	2	12691.5	26.441	29.329	0.026	335.576	366.682
1	3	12780.5	47.106	76.435	0.067	602.038	968.720
1	4	14362.0	47.106	123.541	0.108	676.536	1645.256
1	5	15544.0	47.106	170.647	0.150	732.216	2377.471
1	6	16251.5	47.106	217.753	0.191	765.543	3143.014
1	7	15593.5	47.106	264.859	0.232	734.547	3877.561
1	8	14373.5	47.106	311.965	0.274	677.078	4554.637
1	9	15618.5	47.106	359.071	0.315	735.725	5290.359
1	10	15583.0	47.106	406.177	0.357	734.052	6024.410
1	11	15958.0	47.106	453.283	0.398	751.717	6776.125
1	12	17388.5	47.106	500.389	0.439	819.102	7595.227
1	13	17730.5	47.106	547.495	0.481	835.212	8430.437
1	14	18284.0	47.106	594.601	0.522	861.286	9291.723
1	15	18618.5	47.106	641.707	0.563	877.042	10168.762
1	16	18953.0	47.106	688.812	0.605	892.799	11061.559
1	17	18151.5	47.106	735.918	0.646	855.044	11916.602
1	18	17350.0	47.106	783.024	0.687	817.289	12733.887
1	19	18822.5	47.106	830.130	0.729	886.652	13620.539
1	20	20295.0	47.106	877.236	0.770	956.016	14576.555
1	21	19280.5	47.106	924.342	0.811	908.227	15484.781
1	22	18266.0	47.106	971.448	0.853	860.438	16345.219
1	23	18385.5	47.106	1018.554	0.894	866.066	17211.285
1	24	18505.0	47.106	1065.660	0.935	871.696	18082.980
1	25	21708.0	47.106	1112.766	0.977	1022.577	19105.555
1	26	24911.0	47.106	1159.872	1.018	1173.457	20279.012
1	27	24248.5	47.106	1206.978	1.059	1142.249	21421.258
1	28	23586.0	47.106	1254.084	1.101	1111.041	22532.297
1	29	23421.0	47.106	1301.190	1.142	1103.269	23635.562
1	30	23256.0	47.106	1348.296	1.184	1095.497	24731.059
1	31	24275.5	47.106	1395.402	1.225	1143.521	25874.578
1	32	25295.0	47.106	1442.508	1.266	1191.546	27066.121
1	33	22919.0	47.106	1489.614	1.308	1079.622	28145.742
1	34	20543.0	47.106	1536.720	1.349	967.698	29113.437
1	35	21177.5	47.106	1583.826	1.390	997.587	30111.023
1	36	21812.0	47.106	1630.932	1.432	1027.476	31138.496
1	37	22557.0	47.106	1678.038	1.473	1062.570	32201.062
1	38	23302.0	47.106	1725.144	1.514	1097.663	33298.723
1	39	22225.5	47.106	1772.250	1.556	1046.953	34345.676
1	40	21149.0	47.106	1819.355	1.597	996.244	35341.918
1	41	23174.5	47.106	1866.461	1.638	1091.657	36433.574
1	42	25200.0	47.106	1913.567	1.680	1187.071	37620.645
1	43	23389.0	47.106	1960.673	1.721	1101.762	38722.406
1	44	21578.0	47.106	2007.779	1.762	1016.453	39738.855
1	45	22011.0	47.106	2054.885	1.804	1036.849	40775.703
1	46	22444.0	47.106	2101.991	1.845	1057.246	41832.949
1	47	24387.0	47.106	2149.097	1.886	1148.773	42981.719
1	48	26330.0	47.106	2196.203	1.928	1240.300	44222.016
1	49	25765.0	47.106	2243.309	1.969	1213.685	45435.699
1	50	25200.0	47.106	2290.415	2.011	1187.071	46622.770
1	51	24339.0	47.106	2337.521	2.052	1146.512	47769.281
1	52	23478.0	47.106	2384.627	2.093	1105.954	48875.234
1	53	23151.5	47.106	2431.733	2.135	1090.574	49965.805
1	54	22825.0	47.106	2478.839	2.176	1075.194	51040.996
1	55	23346.0	47.106	2525.945	2.217	1099.736	52140.730
1	56	23867.0	47.106	2573.051	2.259	1124.278	53265.008
1	57	22710.5	47.106	2620.157	2.300	1069.800	54334.805
1	58	21554.0	47.106	2667.263	2.341	1015.322	55350.125
1	59	22274.5	47.106	2714.369	2.383	1049.262	56399.387
1	60	22995.0	47.106	2761.475	2.424	1083.202	57482.586
1	61	30084.0	32.388	2793.863	2.452	974.360	58456.945
1	62	21619.0	11.723	2805.585	2.463	253.439	58710.383
1	63	18059.0	5.012	2810.597	2.467	90.512	58800.891
1	64	15026.5	2.124	2812.721	2.469	31.916	58832.805

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 129.7028
TOTAL SEDIMENT LOAD IN TONS/ACRE = 5.8513

TABLE C73: QZ3 TEST# 4 RUN# 2 ----DATE 101581 TIME 1358 DURATION 64 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	9150.5	2.549	2.549	0.002	23.325	23.325
1	2	10411.0	26.066	28.615	0.025	271.373	294.697
1	3	9215.0	47.034	75.649	0.066	433.418	728.115
1	4	8020.0	47.034	122.683	0.108	377.212	1105.328
1	5	8632.5	47.034	169.717	0.149	406.021	1511.348
1	6	9629.0	47.034	216.751	0.190	452.890	1964.238
1	7	9194.0	47.034	263.785	0.232	432.430	2396.668
1	8	9169.5	47.034	310.819	0.273	431.278	2827.946
1	9	9043.5	47.034	357.853	0.314	425.352	3253.298
1	10	9250.5	47.034	404.887	0.355	435.088	3688.385
1	11	9682.0	47.034	451.921	0.397	455.383	4143.766
1	12	10380.0	47.034	498.955	0.438	488.213	4631.977
1	13	10914.0	47.034	545.989	0.479	513.329	5145.305
1	14	11498.0	47.034	593.022	0.520	540.796	5686.098
1	15	12082.0	47.034	640.056	0.562	568.264	6254.359
1	16	14903.5	47.034	687.090	0.603	700.970	6955.328
1	17	17725.0	47.034	734.124	0.644	833.677	7789.004
1	18	15681.0	47.034	781.158	0.686	737.540	8526.543
1	19	13637.0	47.034	828.192	0.727	641.402	9167.941
1	20	13925.5	47.034	875.226	0.768	654.971	9822.910
1	21	14214.0	47.034	922.260	0.809	668.541	10491.449
1	22	23343.0	47.034	969.294	0.851	1097.914	11589.359
1	23	32472.0	47.034	1016.328	0.892	1527.287	13116.645
1	24	24907.5	47.034	1063.362	0.933	1171.499	14288.141
1	25	17343.0	47.034	1110.396	0.975	815.710	15103.848
1	26	20104.5	47.034	1157.430	1.016	945.594	16049.441
1	27	22866.0	47.034	1204.464	1.057	1075.479	17124.918
1	28	21923.0	47.034	1251.498	1.098	1031.126	18156.043
1	29	20980.0	47.034	1298.531	1.140	986.773	19142.812
1	30	19505.5	47.034	1345.565	1.181	917.421	20060.230
1	31	18031.0	47.034	1392.599	1.222	848.069	20908.297
1	32	20356.5	47.034	1439.633	1.264	957.447	21865.742
1	33	22682.0	47.034	1486.667	1.305	1066.825	22932.566
1	34	20760.5	47.034	1533.701	1.346	976.448	23909.012
1	35	18839.0	47.034	1580.735	1.387	886.073	24795.082
1	36	19954.5	47.034	1627.769	1.429	938.539	25733.621
1	37	21070.0	47.034	1674.803	1.470	991.006	26724.625
1	38	22489.5	47.034	1721.837	1.511	1057.770	27782.395
1	39	23909.0	47.034	1768.871	1.552	1124.536	28906.930
1	40	21021.0	47.034	1815.905	1.594	988.701	29895.629
1	41	18133.0	47.034	1862.939	1.635	852.867	30748.496
1	42	22832.0	47.034	1909.973	1.676	1073.879	31822.375
1	43	27531.0	47.034	1957.007	1.718	1294.892	33117.266
1	44	22978.5	47.034	2004.041	1.759	1080.770	34198.035
1	45	18426.0	47.034	2051.074	1.800	866.648	35064.680
1	46	18451.0	47.034	2098.108	1.841	867.824	35932.500
1	47	18476.0	47.034	2145.142	1.883	869.000	36801.500
1	48	17948.0	47.034	2192.176	1.924	844.166	37645.664
1	49	17420.0	47.034	2239.210	1.965	819.332	38464.996
1	50	17944.0	47.034	2286.244	2.007	843.977	39308.973
1	51	18468.0	47.034	2333.278	2.048	868.623	40177.594
1	52	17858.5	47.034	2380.312	2.089	839.956	41017.547
1	53	17249.0	47.034	2427.346	2.130	811.289	41828.836
1	54	19090.5	47.034	2474.380	2.172	897.902	42726.734
1	55	20932.0	47.034	2521.414	2.213	984.515	43711.246
1	56	25630.0	47.034	2568.448	2.254	1205.481	44916.727
1	57	30328.0	47.034	2615.482	2.296	1426.446	46343.172
1	58	26294.0	47.034	2662.516	2.337	1236.711	47579.883
1	59	39866.5	47.034	2709.550	2.378	1875.080	49454.961
1	60	56078.0	29.379	2738.928	2.404	1647.515	51102.473
1	61	49843.5	9.260	2748.188	2.412	461.551	51564.020
1	62	30318.0	4.842	2753.030	2.416	146.800	51710.816
1	63	19043.0	2.379	2755.409	2.418	45.303	51756.117
1	64	11227.0	0.934	2756.343	2.419	10.486	51766.602

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 114.1247
TOTAL SEDIMENT LOAD IN TONS/ACRE = 5.1485

TABLE C74: QZ4 TEST# 4 RUN# 2 ----DATE 101581 TIME 1358 DURATION 63 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	8494.0	17.670	17.670	0.016	150.089	150.089
1	2	8368.5	39.214	56.884	0.050	328.162	478.251
1	3	8660.5	43.087	99.971	0.088	373.155	851.405
1	4	8316.5	43.087	143.058	0.126	358.333	1209.738
1	5	7345.5	43.087	186.145	0.163	316.495	1526.233
1	6	7470.0	43.087	229.232	0.201	321.860	1848.093
1	7	7327.5	43.087	272.319	0.239	315.720	2163.813
1	8	7048.5	43.087	315.406	0.277	303.698	2467.511
1	9	7058.5	43.087	358.493	0.315	304.129	2771.641
1	10	7068.5	43.087	401.580	0.352	304.560	3076.201
1	11	7380.0	43.087	444.667	0.390	317.982	3394.183
1	12	7460.5	43.087	487.753	0.428	321.450	3715.634
1	13	7147.0	43.087	530.840	0.466	307.943	4023.576
1	14	7401.5	43.087	573.927	0.504	318.908	4342.484
1	15	7656.0	43.087	617.014	0.542	329.874	4672.355
1	16	7444.0	43.087	660.101	0.579	320.740	4993.094
1	17	7232.0	43.087	703.188	0.617	311.605	5304.695
1	18	7168.5	43.087	746.275	0.655	308.869	5613.562
1	19	7105.0	43.087	789.362	0.693	306.133	5919.695
1	20	7209.0	43.087	832.449	0.731	310.614	6230.309
1	21	7313.0	43.087	875.536	0.769	315.095	6545.402
1	22	7215.0	43.087	918.623	0.806	310.873	6856.273
1	23	7117.0	43.087	961.709	0.844	306.650	7162.922
1	24	8629.5	43.087	1004.796	0.882	371.819	7534.738
1	25	10142.0	43.087	1047.883	0.920	436.988	7971.727
1	26	11383.5	43.087	1090.970	0.958	490.481	8462.207
1	27	12625.0	43.087	1134.057	0.995	543.973	9006.180
1	28	15602.5	43.087	1177.144	1.033	672.264	9678.441
1	29	18580.0	43.087	1220.231	1.071	800.556	10478.996
1	30	18217.0	43.087	1263.318	1.109	784.915	11263.910
1	31	17854.0	43.087	1306.405	1.147	769.275	12033.184
1	32	20187.5	43.087	1349.492	1.185	869.818	12903.000
1	33	22521.0	43.087	1392.579	1.222	970.362	13873.359
1	34	22436.0	43.087	1435.666	1.260	966.699	14840.059
1	35	22351.0	43.087	1478.752	1.298	963.037	15803.094
1	36	21302.5	43.087	1521.839	1.336	917.860	16720.953
1	37	20254.0	43.087	1564.926	1.374	872.684	17593.637
1	38	18742.0	43.087	1608.013	1.411	807.536	18401.172
1	39	17230.0	43.087	1651.100	1.449	742.389	19143.559
1	40	17834.5	43.087	1694.187	1.487	768.435	19911.992
1	41	18439.0	43.087	1737.274	1.525	794.481	20706.473
1	42	20483.5	43.087	1780.361	1.563	882.572	21589.043
1	43	22528.0	43.087	1823.448	1.601	970.663	22559.703
1	44	21578.0	43.087	1866.535	1.638	929.731	23489.434
1	45	20628.0	43.087	1909.622	1.676	888.798	24378.230
1	46	21139.5	43.087	1952.708	1.714	910.837	25289.066
1	47	21651.0	43.087	1995.795	1.752	932.876	26221.941
1	48	19305.0	43.087	2038.882	1.790	831.793	27053.734
1	49	16959.0	43.087	2081.969	1.827	730.712	27784.445
1	50	22020.0	43.087	2125.056	1.865	948.775	28733.219
1	51	27081.0	43.087	2168.143	1.903	1166.839	29900.055
1	52	22782.0	43.087	2211.230	1.941	981.607	30881.660
1	53	18483.0	43.087	2254.317	1.979	796.376	31678.035
1	54	20792.0	43.087	2297.404	2.017	895.865	32573.898
1	55	23101.0	43.087	2340.491	2.054	995.353	33569.250
1	56	18917.5	43.087	2383.578	2.092	815.098	34384.348
1	57	14734.0	43.087	2426.665	2.130	634.844	35019.187
1	58	16634.0	43.087	2469.751	2.168	716.708	35735.895
1	59	23937.5	43.087	2512.838	2.206	1031.395	36767.289
1	60	43309.5	39.214	2552.052	2.240	1698.338	38465.625
1	61	38852.0	26.760	2578.812	2.264	1039.679	39505.301
1	62	19481.0	14.102	2592.914	2.276	274.721	39780.020
1	63	9268.0	5.012	2597.926	2.280	46.451	39826.469

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 87.8014

TOTAL SEDIMENT LOAD IN TONS/ACRE = 3.9610

TABLE C75: QZ2 TEST# 4 RUN# 3 ----DATE 101581 TIME 1555 DURATION 35 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	10187.5	5.012	5.012	0.004	51.060	51.060
1	2	12862.5	25.316	30.328	0.027	325.627	376.686
1	3	12512.5	43.665	73.993	0.065	546.358	923.044
1	4	11625.5	47.564	121.557	0.107	552.955	1475.999
1	5	11886.5	48.405	169.962	0.149	575.366	2051.365
1	6	13362.5	48.405	218.367	0.192	646.812	2698.176
1	7	16243.5	48.405	266.772	0.234	786.266	3484.442
1	8	18154.5	48.405	315.177	0.277	878.768	4363.207
1	9	17630.0	48.405	363.582	0.319	853.379	5216.586
1	10	17909.5	48.405	411.986	0.362	866.908	6083.492
1	11	17171.0	48.405	460.391	0.404	831.162	6914.652
1	12	14809.0	48.405	508.796	0.447	716.829	7631.480
1	13	13168.0	48.405	557.201	0.489	637.396	8268.875
1	14	13166.0	48.405	605.605	0.532	637.300	8906.172
1	15	14566.5	48.405	654.010	0.574	705.091	9611.262
1	16	15967.0	48.405	702.415	0.617	772.882	10384.141
1	17	15688.5	48.405	750.820	0.659	759.401	11143.539
1	18	15410.0	48.405	799.225	0.702	745.921	11889.457
1	19	17716.0	48.405	847.629	0.744	857.542	12746.996
1	20	20022.0	48.405	896.034	0.787	969.164	13716.160
1	21	18617.5	48.405	944.439	0.829	901.180	14617.340
1	22	17213.0	48.405	992.844	0.872	833.195	15450.531
1	23	15552.0	48.405	1041.249	0.914	752.794	16203.324
1	24	13891.0	48.405	1089.653	0.956	672.394	16875.715
1	25	14652.5	48.405	1138.058	0.999	709.254	17584.969
1	26	15414.0	48.405	1186.463	1.041	746.114	18331.082
1	27	20694.5	48.405	1234.868	1.084	1001.717	19332.797
1	28	25975.0	48.405	1283.272	1.126	1257.319	20590.113
1	29	19632.5	48.405	1331.677	1.169	950.311	21540.422
1	30	13290.0	48.405	1380.082	1.211	643.302	22183.723
1	31	14552.0	31.339	1411.421	1.239	456.045	22639.766
1	32	14035.0	10.024	1421.445	1.248	140.687	22780.449
1	33	13820.5	5.012	1426.457	1.252	69.268	22849.715
1	34	13344.0	3.568	1430.025	1.255	47.611	22897.324
1	35	5651.5	1.444	1431.469	1.257	8.161	22905.484

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 50.4974
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.2781

TABLE C76: QZ3 TEST# 4 RUN# 3 ----DATE 101581 TIME 1556 DURATION 34 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	8404.5	7.731	7.731	0.007	64.975	64.975
1	2	8664.5	31.989	39.720	0.035	277.168	342.144
1	3	7844.0	48.518	88.238	0.077	380.575	722.719
1	4	7686.5	48.518	136.756	0.120	372.933	1095.652
1	5	7724.5	48.518	185.274	0.163	374.777	1470.429
1	6	7612.0	48.518	233.792	0.205	369.319	1839.748
1	7	7538.0	48.518	282.310	0.248	365.729	2205.476
1	8	7994.0	48.518	330.828	0.290	387.853	2593.329
1	9	8519.5	48.518	379.345	0.333	413.349	3006.678
1	10	8695.0	48.518	427.863	0.376	421.864	3428.541
1	11	8257.5	48.518	476.381	0.418	400.637	3829.178
1	12	7916.0	48.518	524.899	0.461	384.068	4213.246
1	13	7848.0	48.518	573.417	0.503	380.769	4594.012
1	14	9605.5	48.518	621.935	0.546	466.039	5060.051
1	15	11363.0	48.518	670.452	0.589	551.310	5611.359
1	16	13421.5	48.518	718.970	0.631	651.184	6262.543
1	17	15480.0	48.518	767.488	0.674	751.058	7013.598
1	18	17135.5	48.518	816.006	0.716	831.379	7844.977
1	19	18791.0	48.518	864.524	0.759	911.701	8756.676
1	20	21262.5	48.518	913.042	0.801	1031.613	9788.285
1	21	23734.0	48.518	961.559	0.844	1151.526	10939.809
1	22	22385.0	48.518	1010.077	0.887	1086.075	12025.883
1	23	21036.0	48.518	1058.595	0.929	1020.625	13046.504
1	24	17996.0	48.518	1107.113	0.972	873.129	13919.633
1	25	14956.0	48.518	1155.631	1.014	725.635	14645.266
1	26	18502.0	48.518	1204.148	1.057	897.679	15542.941
1	27	22048.0	48.518	1252.666	1.100	1069.724	16612.664
1	28	18924.5	48.518	1301.184	1.142	918.178	17530.840
1	29	8701.5	48.518	1349.702	1.185	422.177	17953.016
1	30	40110.5	33.604	1383.306	1.214	1347.873	19300.887
1	31	64198.5	15.206	1398.512	1.228	976.202	20277.086
1	32	38220.5	7.816	1406.328	1.235	298.731	20575.816
1	33	26663.0	2.888	1409.216	1.237	77.003	20652.816
1	34	13331.5	0.934	1410.149	1.238	12.452	20665.266

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 45.5586
TOTAL SEDIMENT LOAD IN TONS/ACRE = 2.0553

TABLE C77: QZ4 TEST# 4 RUN# 3 ----DATE 101581 TIME 1555 DURATION 34 MIN.

TIME INT. MIN.	ACC. TIME MIN.	CONC. (MG/L)	DISCHARGE (LITERS)	ACC. DISCHARGE (LITERS)	ACC. DISCHARGE (INCHES)	SEDIMENT LOAD (GRAMS)	ACC. SEDIMENT (GRAMS)
1	1	5810.5	4.163	4.163	0.004	24.189	24.189
1	2	7035.0	26.884	31.047	0.027	189.129	213.318
1	3	6355.0	45.442	76.489	0.067	288.784	502.102
1	4	6209.0	45.442	121.931	0.107	282.149	784.251
1	5	6638.0	45.442	167.373	0.147	301.644	1085.895
1	6	6767.5	45.442	212.815	0.187	307.529	1393.423
1	7	6810.5	45.442	258.257	0.227	309.483	1702.906
1	8	7123.5	45.442	303.699	0.267	323.706	2026.612
1	9	7478.0	45.442	349.141	0.306	339.815	2366.427
1	10	7502.5	45.442	394.583	0.346	340.928	2707.355
1	11	7236.0	45.442	440.024	0.386	328.818	3036.173
1	12	7195.5	45.442	485.466	0.426	326.978	3363.151
1	13	7206.0	45.442	530.908	0.466	327.455	3690.606
1	14	7060.0	45.442	576.350	0.506	320.820	4011.426
1	15	6914.0	45.442	621.792	0.546	314.186	4325.609
1	16	6912.0	45.442	667.234	0.586	314.095	4639.703
1	17	6910.0	45.442	712.676	0.626	314.004	4953.707
1	18	8640.0	45.442	758.118	0.665	392.618	5346.324
1	19	10370.0	45.442	803.560	0.705	471.233	5817.555
1	20	12441.0	45.442	849.001	0.745	565.344	6382.895
1	21	14512.0	45.442	894.443	0.785	659.454	7042.348
1	22	16709.0	45.442	939.885	0.825	759.290	7801.637
1	23	18906.0	45.442	985.327	0.865	859.126	8660.762
1	24	18256.5	45.442	1030.769	0.905	829.611	9490.371
1	25	17607.0	45.442	1076.211	0.945	800.097	10290.465
1	26	18522.5	45.442	1121.653	0.985	841.699	11132.160
1	27	19438.0	45.442	1167.095	1.024	883.301	12015.461
1	28	17126.0	45.442	1212.537	1.064	778.239	12793.699
1	29	24608.0	45.442	1257.979	1.104	1118.236	13911.934
1	30	30834.5	40.391	1298.369	1.140	1245.436	15157.367
1	31	26638.5	23.786	1322.155	1.161	633.623	15790.988
1	32	15874.5	10.279	1332.434	1.170	163.174	15954.160
1	33	5663.5	5.947	1338.381	1.175	33.681	15987.840
1	34	2794.0	1.784	1340.165	1.176	4.984	15992.824

TOTAL SEDIMENT LOAD IN POUNDS/PLOT = 35.2578
TOTAL SEDIMENT LOAD IN TONS/ACRE = 1.5906

Section 7: Particle Size Distribution Data.

			% C.F.	SAND							
Condition	Plot	Run	>2MM	VC	C	M	F	VF	TOTAL	SILT	CLAY
Before Test	2		20.96	1.1	1.7	9.8	38.2	13.2	64.0	23.7	12.3
	3		48.55	1.3	1.6	10.2	38.1	12.0	63.2	24.7	12.1
	4		36.26	1.1	2.0	10.5	37.0	13.2	63.7	24.7	11.5
After Test	2		40.01	1.0	2.2	11.4	37.5	14.1	66.3	23.5	10.2
	3		43.65	2.0	2.9	11.7	37.2	11.6	65.4	21.7	12.8
	4		29.77	1.5	1.8	10.4	37.1	13.6	64.4	22.3	13.3
Suspended	2	1	0	1.5	1.2	5.0	9.7	5.4	22.9	51.6	25.6
	2	2	0	0.1	0.2	1.0	2.6	1.1	5.0	71.7	23.3
	2	3	0	0.2	1.1	14.3	28.2	7.7	51.5	32.4	16.1
	3	1	0	0.1	0.3	2.0	5.2	2.3	10.0	56.8	33.2
	3	2	0	0.3	1.2	9.8	21.4	5.4	38.1	37.6	24.3
	3	3	0	0.3	0.8	10.6	24.2	7.8	43.6	36.9	19.5
	4	1	0	0.3	1.6	8.0	16.6	5.1	31.7	30.2	38.1
	4	2	0	0.2	0.5	3.0	4.9	2.1	10.8	54.4	34.8
	4	3	0	0.5	1.7	11.9	18.6	4.1	36.8	39.3	23.9
Flume	2	1	0	0.5	1.9	16.1	47.8	11.2	77.6	13.9	8.5
	2	2	0	0.9	1.9	15.7	52.5	12.0	83.0	9.6	7.3
	2	3	0	0.7	1.7	13.9	57.3	13.8	87.3	8.9	3.8
	3	1	0	2.2	3.4	16.0	45.2	9.8	76.7	13.9	9.5
	3	3	0	1.2	3.1	17.2	53.5	12.3	87.3	6.9	5.8
	3	3	0	0.7	1.7	13.9	57.3	13.8	87.3	8.9	3.8
	4	1	0	2.1	2.9	10.8	35.0	15.8	66.7	23.9	9.4
	4	2	0	1.8	4.6	23.1	42.9	8.9	81.3	10.4	8.2
	4	3	0	1.0	3.0	20.1	53.8	10.5	88.4	6.8	4.8

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THE DETERMINATION OF SURFACE MINE SOIL ERODIBILITY FACTORS FOR TWO SOILS IN SOUTHERN WEST VIRGINIA.

By

Loren L. Rice

(ABSTRACT)

A grid type portable rainfall simulator, developed at Virginia Tech from support by the Office of Surface Mining, Department of Interior under Grant NO. G5114009, was used to apply 2.3 inch per hour "storms" to three replicated plots to determine surface mine soil erodibility factors for two distinctly different soils in southern West Virginia. Other variables included in the study were detailed soil descriptions for each site, initial and final soil moistures, plot rainfall distributions and the particle size distributions of the eroded materials.

The soil erodibility indexes for the silt silt-loam and sandy loam soils averaged 0.408 and 0.735, respectively. Erodibiltiy indexes for the silt silt-loam decreased, while indexes for the sandy loam soil remained

constant for repeated rainfall applications. Using statistical analysis, rainfall distributions were shown to be uniform across plots for most rainfall applications. From a particle size distribution analysis of the eroded soil material, the percentage of silt and clay decreased, while the percentage of sand increased at each site with repeated rainfall applications. A rock mulching effect was present at the end of each testing sequence.