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HYDRAULIC AND GEOMORPHIC ANALYSIS

AND MINE PLAN STUDY FOR

THE BLUE CIRCLE ARIZONA, INC.

PANTANO WASH LEASE SITE

Tucson, Az

sla

MEMORANDUM

DATE: October 3, 1985

TO: Dave Smutzer, Manager
Flood Control Planning

FROM: Don Brooks
Flood Control Planning

SUBJECT: Hydraulic and Geomorphic Analysis and Mining Plan Study for Blue Circle, Arizona Simons, Li & Associates

---

This section has reviewed the above referenced study and has the following comments:

1. Hec II and sediment transport analysis are acceptable as submitted.

2. Conclusions of the report are acceptable within the limits of study.

3. This report does <u>not</u> addequately address the impact of the proposed project on potential future upstream and downstream sand and gravel operations, nor does this report address the impact of future sand and gravel operations on <u>this</u> project.

4. The report recommends that the average annual sediment yeild be used for setting minimg rates and limits. Given the variability of sediment loads and aggradation/ degredation rates this is not acceptable. We must regulate this operation through the use of elevation profiles rather than a fixed mining limit.

5. Delay of reclamation plan submittal may be acceptable for a period of 6 months to one year.

6. Excavation pit side slopes should be at a minimum of 3:1 not 2:1. The report suggests 2:1.

7. The mining plan as shown in figure 14.1 is acceptable.

8. On page 4 item 1, Rillito River should be changed to Pantano Wash.

9. Figure 5.1 (page 10) title should be expanded to include the location of the hydrograph determination.

10. Hec II "n" values were 0.025 for the main channel, 0.035 vegetated sand bars, and 0.050 for overbank. Values are acceptable although they may be slightly low.

11. We should try to obtain a copy of Simons Li & Associates incorporated sediment routing model used for this study.

HYDRAULIC AND GEOMORPHIC ANALYSIS

AND MINE PLAN STUDY FOR

THE BLUE CIRCLE ARIZONA, INC.

PANTANO WASH LEASE SITE

Tucson, Az

Prepared for:

Blue Circle Arizona, Inc.
4100 East Columbia
Tucson, Arizona 85714

Prepared by:

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Registered Professional Engineer (Civil) CERTIFICATE NO. 15275 CLINTON RUPERT GLASS Date Signed 9-6-85 ARIZONA, U.S.A.

Registered Professional Engineer (Civil) CERTIFICATE NO. 12481 MICHAEL E. ZELLER Date Signed 9-5-85 ARIZONA, U.S.A.

September 5, 1985

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I. INTRODUCTION

This report presents the results of a hydraulic and geomorphic analysis conducted to assess the feasbility of developing a 200-acre site along a portion of the Pantano Wash as a sand-and-gravel mining operation. This site is state-lands leased by Granite Construction Company and sub-leased to Blue Circle Arizona, Inc. (BCA), which is the corporation submitting an application to the Pima County Department of Transportation and Flood Control District (PCDOT&FCD) for a permit to mine sand-and-gravel materials from the subject property under the guidelines and criteria described in this report. The specific location of the property site is the Southeast Quarter of Section 29, Township 15 South, Range 15 East; and the Northeast One-Quarter of the Northeast One-Quarter of Section 32, Township 15 South, Range 16 East, G.&.S.R.B.&M, Pima County, Arizona. The parcel comprises approximately 200 acres. A location map for the subject property is provided on Figure 1.1.

The eastern half of this property is located principally within either the channel and/or flood plain of the Pantano Wash. The western half of the property is located on the upper terrace areas adjacent to the channel. The elevations on the western half of the property range from 20 feet to 70 feet higher than the adjacent invert of the Pantano Wash.

This study was conducted by Simons, Li & Associates, Inc. (SLA) for BCA. The limits of the hydraulic and geomorphic analysis conducted as a part of this study extend for a distance of one mile upstream and one-half mile downstream of the subject property. These limits were chosen to insure that the study adequately addressed upstream and downstream reaches of the Pantano Wash which may be impacted by this sand-and-gravel mining operation. The engineering analyses conducted herein were based upon a 1"=200', 2-foot contour interval topographic map of the Pantano Wash and the subject property, which was prepared by Cooper Aerial Survey in July of 1985.

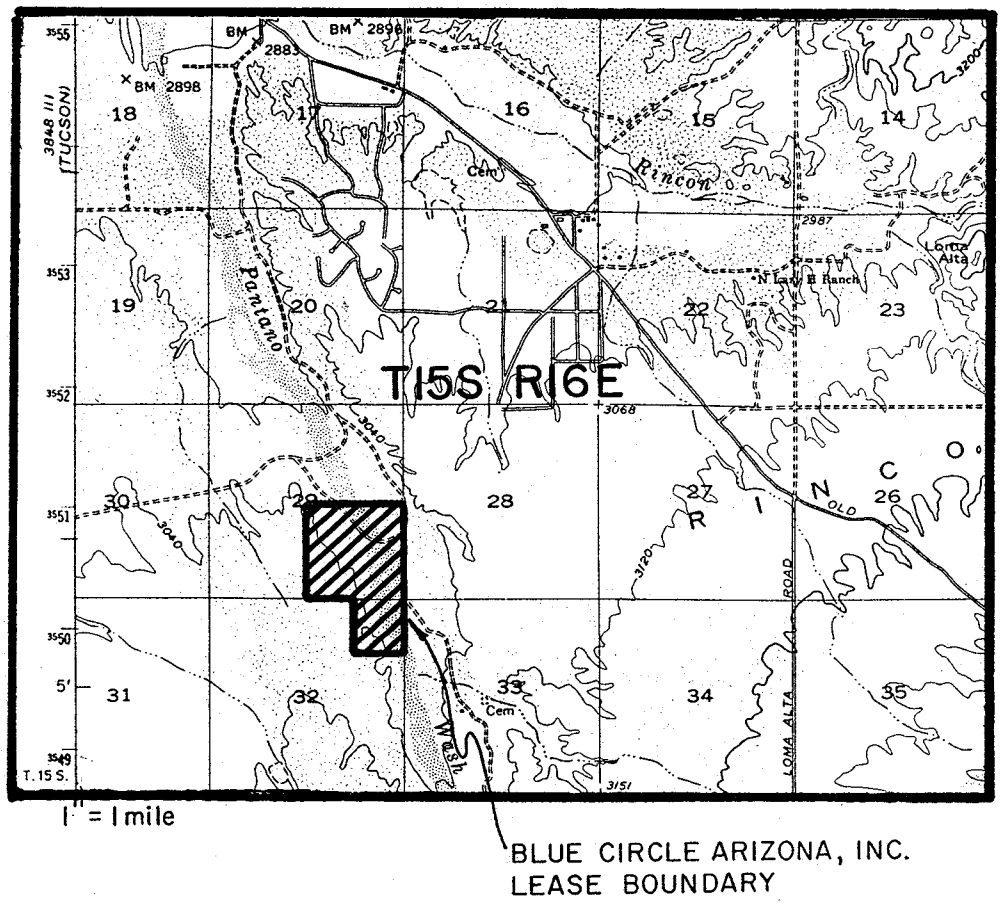

FIGURE I.I - PROJECT LOCATION MAP

II. SUMMARY OF RESULTS OF PREVIOUS STUDIES

Several previous engineering studies have been conducted along the Pantano Wash, particularly along the reach downstream of Houghton Road to the confluence with Tanque Verde Creek. Review of these studies, along with the review of historical data, revealed that the vertical profile of the channel bed along these lower reaches of the channel has been degrading significantly during the past decades. In some areas the bed has dropped by as much as ten to 15 feet. It is believed that the principal cause for this historical degradation is urbanization of the watershed, channelization, and in-channel sand-and-gravel mining. This degradation is one of the principal concerns of the PCDOT&FCD, as it has threatened the stability of bridge structures, river bank revetments, and public utilities. The Pantano Wash is also highly susceptible to lateral migration because of the large deficit between sediment transport capacity and sediment supply that presently exists along the lower reaches of the channel. This creates an unstable condition that can cause substantial erosion of the channel bed or banks. Because of the long lengths of the near vertical banks along the Pantano Wash, it is becoming increasingly likely that the channel will tend to accelerate its attack of the banks. An estimate of the extreme lateral migration tendencies for a single storm event on the Pantano Wash was made as a part of the Rillito River System Sediment Transport Study conducted by SLA in 1981. This study estimated the single-flood, lateral-migration potential to be about 400 feet along the lower reaches of the system, where there is a large deficit of sediment supply in comparison to transport capacity.

The upstream reaches of the Pantano Wash (i.e., in the vicinity of the subject property) have not yet experienced change due to the activities of man, as has occurred along the downstream reaches. To try to maintain a relative stability in such "natural" river environments, it has recently been the policy of the PCDOT&FCD to manage more closely man's use of the river environment in an attempt to prevent or reduce changes in the system that would adversely impact upon both the stability of the river and upon public/private properties all along the wash.

III. SCOPE OF WORK

The scope of work conducted as a part of this study included:

1. Summarize results of the Rillito River System Sediment Transport Study conducted by SLA with regard to the system response and sediment yield under existing conditions.

2. Collect five sediment samples and conduct sieve analyses for use in sediment transport studies.

3. Conduct a hydraulic analysis (HEC-2 model) of the Pantano Wash along the reach beginning about one-mile upstream of the project site and continuing downstream to a point about one-half mile downstream of the project site.

4. Subdivide the channel system into reaches of uniform hydraulic and geomorphic characteristics for use in a quantative geomorphic analysis.

5. Conduct a qualitative and quantitative geomorphic analysis in order to assess long-term impacts upon channel stability as a result of the proposed sand-and-gravel mining.

6. Develop flood hydrographs for the Pantano Wash for use in a sediment-routing analysis.

7. Conduct a sediment-routing analysis to assess maximum short-term channel bed response.

8. Conduct a sediment-yield analysis to assess the availability of bed material sediment which can be mined from the channel without creating adverse impacts upon either the stability of the channel system or upon upstream/downstream properties.

9. Coordinate study results with BCA and develop a sand-and-gravel mine plan which will take into consideration the findings of the hydraulic and geomorphic analyses conducted as a part of this study.

10. Evaluate the need for bank protection or grade-control structures which may be necessary in order to mitigate any potential headcutting or degradation due to the sand-and-gravel mining and/or changes in channel geometry and alignemnt.

11. Conduct a seepage analysis, if required, in order to assess the potential for undermining of bank protection or unstabilized levees adjacent to overbank sand-and-gravel pits to be excavated by BCA.

12. Develop set-back requirements which may be used in lieu of bank protection, if necessary.

13. Make a qualitative assessment of potential impacts to adjacent upstream and downstream properties which may occur as a result of any overflow and inundation of the BCA sand-and-gravel pit, and make recommendations for mitigative measures, if possible.

14. Develop preliminary cost estimates for any flood-control improvements, if required.

15. Conduct a hydraulic analysis of any tributary drainage that may be impacted by the proposed sand-and-gravel operations.

16. Prepare a summary report documenting the study results, conclusions, and recommendations.

IV. SEDIMENT DATA

The sediment data for the Pantano Wash was derived from samples taken as part of this study. Table 4.1 lists the D_{16}, D_{50}, and D_{84} sizes, as well as the gradation coefficients (G) for each of the sediment samples used in this study. Sediment gradation curves for each of the sediment data used in this study are provided on Figures 4.1 and 4.2.

TABLE 4.1

Summary of Sediment Properties

Sample Location	D_{50} (mm)	D_{16} (mm)	D_{84} (mm)	Gradation Coefficient (G)*
Along Pantano Wash immediately upstream of BCA lease property	1.50	0.40	11.00	5.5
Along Pantano Wash immediately downstream of BCA lease property	2.00	0.60	7.50	3.5

*Note: $G = \frac{1}{2}\left[\frac{D_{50}}{D_{16}} + \frac{D_{84}}{D_{50}}\right]$

JOB NO. 85-186 BY BM DATE 26 July 85

KEY	BORING	DEPTH	ELEV.	SOIL CLASSIFICATION
⊙	#1			Brown SAND with some gravel and trace silt
				PI:N/A USCS:(SW)

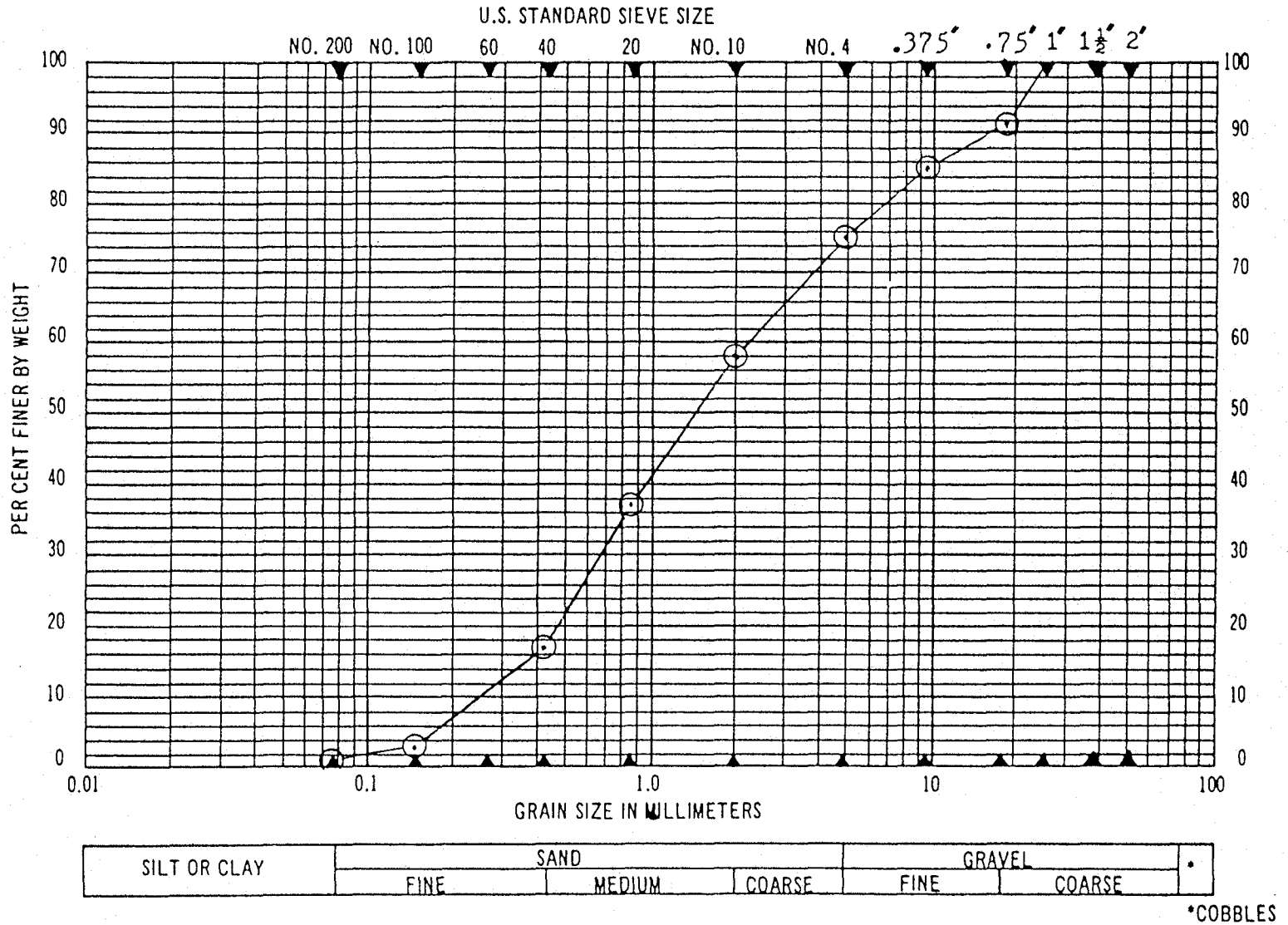

FIGURE 4.1 - Sediment Gradation Curve for sample taken near upstream boundary of BCA lease site

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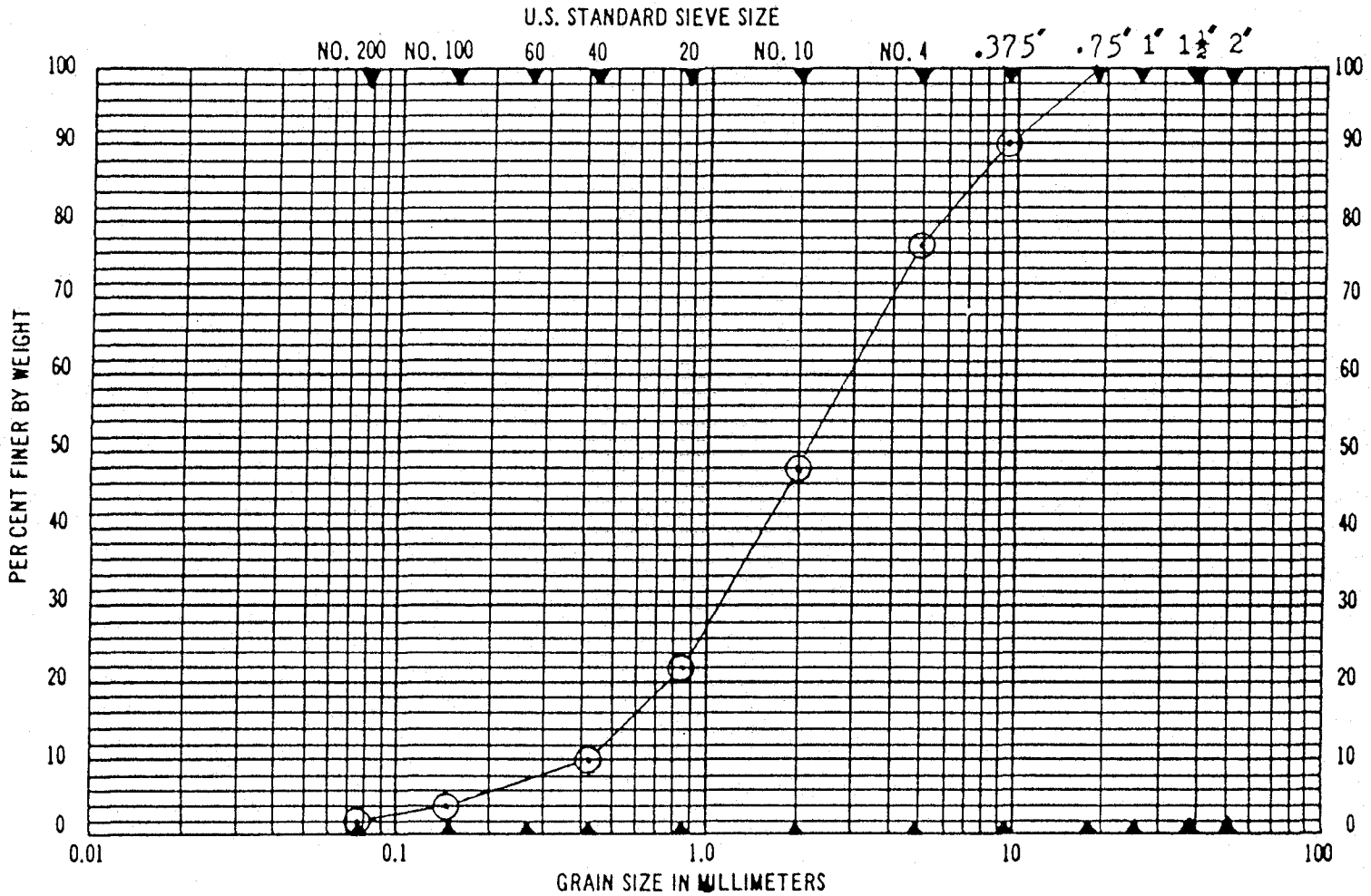
desert earth engineering

JOB NO. 85-186 BY BM DATE 26 July 85

KEY	BORING	DEPTH	ELEV.	SOIL CLASSIFICATION
⊙	#2			SAND with some gravel and trace silt
				PI:N/A USCS:(SW)



SILT OR CLAY	SAND			GRAVEL		•
	FINE	MEDIUM	COARSE	FINE	COARSE	

•COBBLES

FIGURE 4.2 - Sediment Gradation Curve for sample taken near downstream boundary of BCA lease site

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V. HYDROLOGY

The discharge values used in this study for the hydraulic and geomorphic analyses of the Pantano Wash were provided by the PCDOT&FCD. Flood peaks for the more-frequent return periods were derived from Federal Emergency Management Agency (FEMA) Flood Insurance Study information and were adjusted, if necessary, based upon the ratio of the Pima County Regulatory Value to the values used in the FEMA Flood Insurance Study. Table 5.1 summarizes the discharges, by return period, for the Pantano Wash.

Flood hydrographs for the 2-year, 10-year, 25-year, and 100-year return-period events were developed from previous work conducted as a part of the Rillito River System Sediment Transport Study. The previous hydrologic analysis used local in-flow hydrographs developed by the U.S. Army Corps of Engineers at several locations throughout the river and watershed system. These hydrographs and the hydraulic characteristics of the channel systems were incorporated into a kinematic channel water-routing and physcially-based channel water-loss model to determine hydrographs for different recurrence intervals. These flood hydrographs are shown on Figure 5.1.

Table 5.1

Summary of Flood Peaks by Return Period

Return Period	Discharge
100-year	34,000 cfs
25-year	23,800 cfs
10-year	16,500 cfs
2-year	6,000 cfs

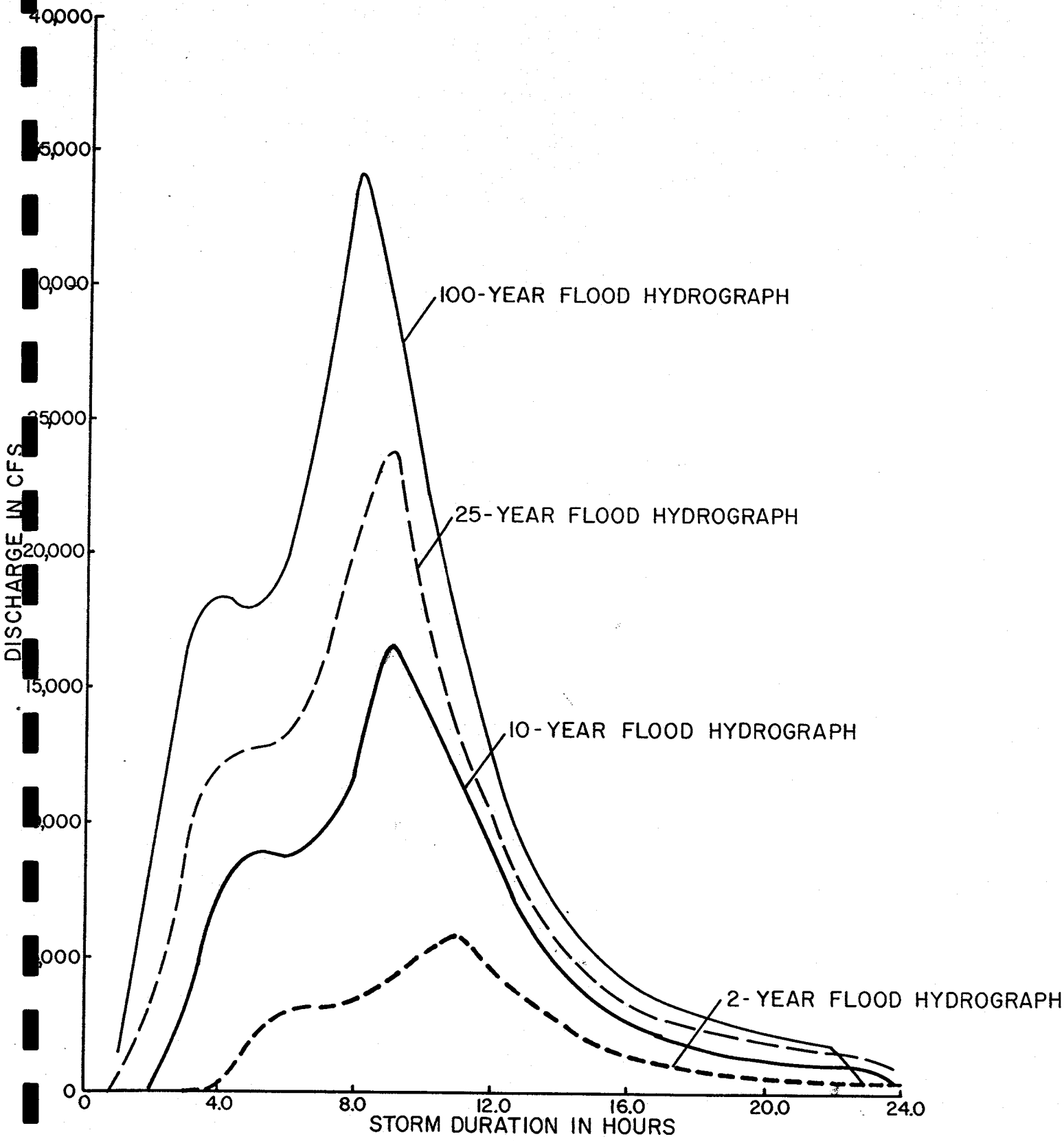


FIGURE 5.1 - Flood Hydrographs for Pantano Wash

VI. REACH DEFINITIONS

The project study area was divided into several subreaches in order to evaluate both longitudinal and lateral changes in channel response. The choice of the limits for each subreach was primarily based upon the similarity of the hydraulic and geometric characteristics throughout the subreach. These two criteria generally define the local, or reach-by-reach, sediment transport characteristics; and, therefore, the aggradation/degradation tendencies of the channel in that subreach. A spatial representation of each river reach, indicating cross-section locations and the upstream and downstream limits of channel reaches, is provided in Table 6.1 of this report.

Table 6.1

Spatial Representation of Pantano Wash Channel System

Cross-Section Number	Reference Location	Channel Reach	Total Reach Length (ft.)
1	1/2-mile downstream of BCA property	4	2500
2			
3			
4			
5	Downstream limit BCA property		
6			
7		3	2470
8			
9			
10			
11			
12		2	2520
13			
14	Upstream limit BCA property		
15			
16			
17		1	2520
18			
19			
20			
21			

VII. HYDRAULIC ANALYSIS

The purpose of the hydraulic analysis was to develop hydraulic parameters for use in assessing short-term and long-term changes in the channel bed profile and to determine water-surface elevations. The method used in computing these hydraulic parameters was the U.S. Army Corps of Engineers computer program HEC-2. The limits of the HEC-2 model extended between a point located approximately one-mile upstream of the subject property to a point located approximately one-half mile downstream of the subject property. The hydraulic model was conducted for existing channel conditions and included no proposed modifications to the geometry or alignment of the Pantano Wash.

A Manning's "n" value of 0.025 was used for the main channel in all hydraulic computations. Areas within the channel which were defined as vegetated sandbars had an "n" value of 0.035. An overbank "n" value of 0.050 was used for both overbanks of the channel. THEN HOW COME J1.4 ISN'T (1)?

Flow conditions are critical to supercritical for a peak discharge rate of 34,000 cfs, except at Cross Sections 7 to 9 where the channel widens and the velocity of flow decreases. The average hydraulic parameters under existing conditions (i.e., for a discharge of 34,000 cfs) are shown on Table 7.1. HEC-2 input/output is included in Appendix A of this report. Plate 1 (separate item of this report) shows the channel alignment and cross-section locations used in this hydaulic study.

Table 7.1

Average Hydraulic Parameters for Q = 34,000 cfs

Channel Reach	Velocity (feet/sec)	Depth (feet)
1	12.25	4.97
2	10.34	4.13
3	11.50	4.89
4	12.47	5.69

VIII. QUALITATIVE GEOMORPHOLOGY

As was indicated in Section I of this report, the reach of the Pantano Wash in the vicinity of the subject property has not been modified by man-made changes and exists in its natural, braided form. No topographic mapping was available to precisely estimate historical degradation along this reach. However, field examinations judged the magnitude of historical bed elevation change to be in the range of only one to two feet. Examination of old aerial photographs found that the channel has periodically shifted east to west across the geologic flood plain, but there was no indication of movement beyond these boundaries, as would otherwise be demonstrated by vertical cut banks on the adjacent terrace slopes. It appears that this reach of the Pantano Wash is presently at or near an equilibrium condition, as the fluvial processes operating within the system are characteristic of a natural river environment. The existing channel-bed slope along this reach of the Pantano Wash is about 0.0072 ft./ft.

IX. QUANTITATIVE GEOMORPHOLOGY

Quantitative estimates of long-term channel response were developed using a procedure known as the equilibrium-slope analysis. The equilibrium-slope analysis utilizes the principle of sediment transport continuity to estimate aggradation or degradation of the channel bed. Under equilibrium conditions, the sediment transport rate out of the channel reach is equal to the upstream sediment supply. If the channel reach is not in equilibrium, the channel bed slope is adjusted through the process of aggradation or degradation until sediment transport capacity is equal to upstream sediment supply. The sediment transport capacity is computed by a multiple linear-regression equation relating sediment transport capacity to the velocity and depth of flow. These regression relationships were developed from a solution of the Myer-Peter, Mueller bed-load transport equation and Einstein's integration of the suspended bed-material discharge. The sediment transport regression equation provides a convenient means of computing changes in sediment transport capacity resulting from reach-to-reach changes in both the velocity and depth of flow, along with corresponding changes in channel width. The general form of the sediment transport regression equation is:

$$Q_s = A \cdot V^b \cdot D^c \cdot W \qquad (9.1)$$

Where:

Q_s = total bed-material transport volume, in cubic feet per second;
V = velocity of flow, in feet per second;
D = depth of flow, in feet;
W = effective width of flow in feet; and,
a,b,c = coefficients and exponents, as determined from a multiple linear-regression analysis.

The sediment transport regression equation developed for the present study, (i.e., from a multiple, linear-regression analysis of hydraulic and sediment parameters unique to the study reaches of the Pantano Wash) is:

$$Q_s = 3.45 \times 10^{-6} \; D^{0.529} \; V^{4.219} \; W$$

An upstream, sediment-supply discharge rate must be first determined in order to compare the sediment transport capacity of the channel segment under study with the upstream sediment supply, which then allows one to estimate the magnitude of short-term and long-term channel bed aggradation/degradation. The sediment-supply discharge rates used in the equilibrium-slope computations was the sediment transport capacity of Reach 1, as defined in Table 6.1. The supply reach that was chosen during the study was done so because it has demonstrated reasonable stability during recent decades, and it is a reach which is expected to maintain its natural geometric cross section over time.

Once the upstream sediment supply values have been established, and the sediment transport capacity is computed for each channel reach, the equilibirum slope is then calculated by equation 9.2.

$$S_{eq} = S_{ex} \left[\frac{Q_{seq}}{Q_{sex}} \right]^{G_s} \qquad (9.2)$$

Where,

S_{eq} = equilibrium channel slope, in ft./ft.;
S_{ex} = existing channel slope, in ft./ft.;
Q_{sex} = existing sediment transport capacity, in cfs;
Q_{seq} = equilibrium sediment transport capacity (upstream sediment supply), in cfs; and,
G_s = 0.9000.

The equilibrium channel bed slope was computed for the 2-, 10-, 25-, and 100-year flood discharges. They were then weighted proportional to their frequency of occurrence to arrive at a weighted estimate of equilibrium slope.

The information that these results provide is the degree to which any given channel reach deviates from equilibrium conditions, and the direction which that change is expected to occur. Along the reaches where aggradation

is predicted, adjustments in the channel geometry will most likely occur in the form of multiple sediment bar deposits, as the system attempts to narrow the channel width and increase its velocity. This process, as it normally occurs, is known as "braiding." Along the reaches where degradation is predicted, adjustments in channel geometry will most likely initially occur in the form of low-flow channel incisement, and subsequently bank sloughing and/or lateral migration.

Examination of Table 9.2 seems to verify the results of the quantitative geomorphic analysis, which determined that the Pantano Wash along this reach is at or near an equilibrium condition. The computed equilibrium slope is approximately equal to the existing channel slope along Reaches 2 and 4. The computed equilibrium slope for Reach 3 was 0.0095, indicating the tendency for aggradation in this reach over the long term. This trend was verified in the field by the existence of large sandbar deposits along the east bank of the channel.

All engineering computations conducted as a part of the equilibrium-slope analysis are provided in Appendix B of this report.

Table 9.1

Summary of Equilibrium Slope Computations

Channel Reach	Existing Bed Slope (ft/ft)	Equilibrium Bed Slope (ft/ft)
1	0.0071	Supply Reach
2	0.0071	0.0069
3	0.0073	0.0095
4	0.0072	0.0064

X. SEDIMENT-ROUTING ANALYSIS

A sediment-routing model developed by SLA was used to estimate the magnitude of change in the channel bed profile which would occur during a given flood. This sediment-routing model computes changes in the channel bed elevation that would occur during a flood due to an excess or deficit between the upstream sediment supply and the sediment transport capacity of a given channel reach. This sediment-routing model does not account for sediment materials supplied from the channel bank, or changes in hydraulic conditions which would occur with widening of the channel cross section by bank erosion. However, the sediment-routing model does provide a means for evaluating "worst-case" conditions that would occur if no bank erosion were to occur, or if the channel banks were completely stabilized so that the bank sediments could no longer be supplied to the channel system.

A sediment-routing model was prepared for each of the 2-year to 100-year flood hydrographs shown on Figure 5.1 of this report. As would be expected, the maximum or "worst-case" bed elevation change that occurred for the four different events occurred in response to the 100-year flood. The maximum bed elevation changed along Reach 2 was 0.93 feet of degradation. Along Reach 3, the maximum bed elevation change was 2.93 feet of aggradation. Along Reach 4, the maximum change was 2.47 feet of degradation.

Based upon the results predicted by the sediment-routing models, the overall system response for existing or natural conditions is limited. The results are also reasonably consistent with the response predicted by the qualitative analysis and the engineering-geomorphic analysis, which both predicted this reach of the Pantano Wash to be in a relatively stable condition.

Sediment-routing model input/output is provided in Appendix C of this report.

XI. SEDIMENT-YIELD ANALYSIS

A sediment-yield analysis was conducted to attempt to estimate, on an annual basis, the average volume of bed material transported into the project reach. The methodology used to make this estimate consists of running sediment-routing models for the 2-year, 10-year, 25-year, and 100-year floods. The volume of bed material transported into the project reach from the upstream supply reach during each one of these events was then used in a probability-weighting formula to estimate the average-annual yield. This equation is:

$$(VOL_s)_a = 0.01\ (VOL_s)_{100} + 0.03 \left[\frac{(Vol_s)_{100} + (Vol_s)_{25}}{2}\right] + 0.06 \left[\frac{(Vol_s)_{25} + (Vol_s)_{10}}{2}\right] + 0.40 \left[\frac{(Vol_s)_{10} + (Vol_s)_2}{2}\right] + 0.50 \left[\frac{(Vol_s)_2 + 0.00}{2}\right] \qquad (11.1)$$

Where,

$(Vol_s)_a$ = average-annual sediment yield, in cubic yards;

$(Vol_s)_2$ = volume of sediment delivered by the 2-year flood hydrograph, in cubic yards;

$(Vol_s)_{10}$ = volume of sediment delivered by the 10-year flood hydrograph, in cubic yards;

$(Vol_s)_{25}$ = volume of sediment delivered by the 25-year flood hydrograph, in cubic yards; and,

$(Vol_s)_{100}$ = volume of sediment delivered by the 100-year flood hydrograph, in cubic yards.

The average-annual sediment yield, as computed by Equation 11.1, was then multiplied by an adjustment factor, K, to correct for the difference between the measured average-annual water yield, derived from data compiled by the

U.S. Geological Survey (USGS), and the computed average-annual water yield, developed from the probability-weighting analysis. This correction factor is:

$$K = \frac{(Vol_s)_{a/meas.}}{(Vol_s)_{a/comp.}} \qquad (11.2)$$

Where, $(Vol_s)_{a/meas.}$ = measured average-annual water volume; and,

$(Vol_s)_{a/comp.}$ = computed average-annual water volume.

Table 11.1 provides a summary of the sediment-yield computations. The results of the analysis predict that the average-annual sediment yield being supplied by the river system to the project reach will be about 85,287 cubic yards per year.

Sediment-yield computation sheets are provided in Appendix D of this report.

Table 11.1

Estimate of Average-Annual Sediment Supply

Return Period	Bed Material Sediment Supply ($Yard^3$)
2-year	80,254
10-year	144,221
25-year	236,471
100-year	373,015
Average Annual	85,287 YD^3

XII. LATERAL-MIGRATION ANALYSIS

An estimate of the lateral-migration potential of the Pantano Wash was developed based upon both the examination of historical photographs, which provided information on past lateral-migration trends, and upon the Pima County Scour-Width Equation. These historical photographs do not show any indication that the river channel has attempted to migrate beyond the limits of the geologic flood plain, as would otherwise be demonstrated by a cut bank in the adjacent terrace hillside. The low-flow channel is mildly sinuous, and appears to have shifted laterally back and forth across the geologic floodplain during past floods, with sandbars having been deposited on the inside of meander bends. From the aerial photographs, it appears that the main slug of flow, or high-velocity zone, straightens out and follows a down valley path, rather than the sinuous alignment of the low-flow channel, during the higher-magnitude flows. A more direct attack on the channel banks appears to occur during the smaller floods, which do follow the sinuous low-flow channel alignment. From the record of historical photographs, it appears that the maximum lateral migration along the west bank through the BCA lease property boundaries has been about 100 feet to 200 feet.

The single-flood, lateral-migration potential for a 100-year flood was estimated using the scour_width equation for mild curvature presented in the draft copy of the PCDOT&FCD Drainage Development and Channel Design Standards (November 1982). Using this methodology, the single-flood, lateral-migration potential was estimated to be 220 feet for a 100-year flood. This result was then multiplied by a factor of safety of 1.3 to arrive at a "worst-case" estimate of 290 feet.

Based upon the qualitative and quantitative analyses presented above, it is our professional judgement that a reasonable set-back requirement from the channel banks for the proposed overbank excavation is 300 feet. Figure 13.1 shows the location of the existing west bank of the Pantano Wash, and the corresponding 300-foot set-back line through the limits of the BCA lease property. It is also our professional judgement that excavation within the 300-foot set-back zone is feasible, given that the depth of excavation does not go below an elevation equal to the 100-year water-surface elevation in the

Pantano Wash, plus five feet of freeboard. The existing terrace elevations adjacent to the channel bank and within the 300-foot set-back zone are 20 feet to 50 feet higher than the adjacent predicted 100-year water-surface elevation within the Pantano Wash, thus providing an opportunity for exavation of a significant volume of material without excavating below the regulatory flood elevation in the Pantano Wash.

Computation sheets for the scour-width analysis are provided in Appendix E of this report.

XIII. TRIBUTARY DRAINAGE

There are only two tribuary drainage systems entering the Blue Circle Arizona, Inc. lease property along the west side which would drain into the proposed area of excavation. These two tributary basins are indicated on Figure 13.1. The total drainage area contributing to Concentration Point 1 and Concentration Point 2 are 4.4 and 6.3 acres, respectively. The volume of runoff contributing to these concentration points was estimated using the rational formula. This methodology was used rather than the standard PCDOT&FCD methodology because the time of concentration is less than five minutes, thus implying a rainfall intensity value of 9.5 inches per hour. A conservatively high estimate of the runoff coefficient was used, given that the value was not actually calculated via the PCDOT&FCD method. The results of these computations predict the magnitude of the 100-year discharge contributing to Concentration Points 1 and 2 to be 33 cfs and 48 cfs, respectively.

Hydrologic computations for estimation of the tributary discharge values are provided in Appendix F of this report.

No diversions or modifications to accommodate this offsite drainage are proposed, since the magnitude of runoff is so limited. The magnitude of the 2-year runoff discharges, being estimated at ten percent of the 100-year discharge values, are 3.3 and 10.0 cfs for Concentration Points 1 and 2 respectively. The magnitude of the 10-year discharge, being estimated at 30 percent of the 100-year discharge values, are 10.0 cfs and 14.0 cfs respectively. It is believed that any headcutting which may develop as a result of these flows free-falling over the pit embankment would not extend beyond the limits of the property boundaries during a single runoff event. Any headcutting which may develop will be repaired/restored to existing conditions immediately following each runoff event.

XIV. DESCRIPTION OF PROPOSED MINE PLAN

To summarize, the findings of the hydraulic and geomorphic analyses, as presented in the previous section of this report, revealed that:

1. The horizontal and vertical profile of the Pantano Wash presently exists in a quasi-stable condition along the reach in the vicinity of the subject property.

2. The average-annual sediment supply originating from the upstream reaches of the channel is estimated to be about 85,287 cubic yards.

3. The sediment transport capacity of the channel along the reach through the subject property, as well as the sediment transport capacity along the downstream reaches studied as a part of this report, is approximately equal to the upstream sediment supply.

4. Very little tributary drainage flows into the area of excavation, thus reducing the possibility for development and extension of heacuts onto adjacent properties.

The conclusion which has been reached from a review of the study results is that the extraction of sand-and-gravel materials from the bed of the Pantano Wash will likely have the effect of causing degradation of the channel bed if the volume of material so removed is not limited in a manner that will preserve sediment transport continuity.

Being that the volume of material available within the channel bed is limited, it appears that the only alternative that is readily available to Blue Circle Arizona, Inc. which will allow them to economically develop the subject site for long-term sand-and-gravel mining is to extract the materials from the west one-half of the property, which is located on the terraces and outside of the geologic flood plain of the Pantano Wash. This area of the leased property appears to be a prime site (given the availability of suitable materials) for mining sand-and-gravel materials, since it has few, if any,

tributary drainage systems crossing the site, and it is located well above the Pantano Wash. In fact, 20 feet to 50 feet (vertically) of material could be removed from this area without even lowering the ground elevations to the elevation of the adjacent, 100-year water-surface elevation within the Pantano Wash, thus having no impact or consequence upon the river system itself.

Given the findings and conditions discussed above, the proposed areas and depths for mining of the BCA lease property are as follows:

A. In-channel mining would be limited to 50,000 cubic yards per year for a period of five years, resulting in a total in-channel mining through the life of the project of 250,000 cubic yards. The permit for in-channel mining would be renewed each year, subject to demonstrating that the channel along the upstream and downstream reaches has, in that time period, not degraded by more than two feet below the baseline or reference profile. The in-channel mining would take place within Parcel D, located within the Southeast One-Quarter of the Southeast One-Quarter of Section 9 (a 10-acre parcel of land, as shown on Figure 14.1). The maximum depth of in-channel excavation would be three feet below the channel flow line.

B. Along the west bank, there would be a 300-foot set-back zone within which the depth of excavation would not exceed, or go below, an elevation five feet above the predicted 100-year water-surface elevation of the Pantano Wash (Parcel B).

C. West of the 300-foot set-back zone, the depth of excavation would not exceed 50 feet below the adjacent river bed elevation of the Pantano Wash, unless additional information to justify greater depths is first provided to Pima County. This area is defined as Parcel A on Figure 14.1.

D. Along the east bank of the Pantano Wash, excavation is proposed within a 4.3-acre site (Parcel C). The western boundary of this pit would also be set back a minimum distance of 300 feet

from the bank of the Pantano Wash. An unstabilized earthen berm is proposed along the south boundary of the pit to prevent potential breakout flow from an adjacent tributary channel (see cross section A on Figure 14.1). The proposed depth of excavation within Parcel C is to elevation 3470.0 which is approximately 20 feet below the adjacent bed elevation of the Pantano Wash. This pit will be backfilled, at a minimum, to the elevation of the Pantano Wash bed (elevation 3490.0) prior to the time BCA completes work on this project site.

E. The horizontal limits of excavation would be set-back a mimimum distance of 100 feet from property boundaries.

F. The steepest side slope for sand-and-gravel pits would be 2:1.

Topographic contours showing existing topography across the Pantano Wash and adjacent terraces, along with contours showing the pit geometry, are provided on Figure 14.1.

Additional conditions and criteria which will be met by BCA prior to initiation of work on this project are:

1. A property boundary survey will be conducted and provided to the PCDOT&FCD. Additionally, four bench marks will be established to provide a basis of elevation with which to monitor depths of excavation. The datum used to set these monuments will be National Geodetic Vertical Datum (NGVD), as used by Pima County and the Federal Emergency Management Agency (FEMA) for flood insurance studies.

2. All vegetation removed as a part of site clearing will be properly disposed within the nearest City of Tucson or Pima County sanitary landfill.

3. BCA agrees to comply with Pima County Air Quality Control standards.

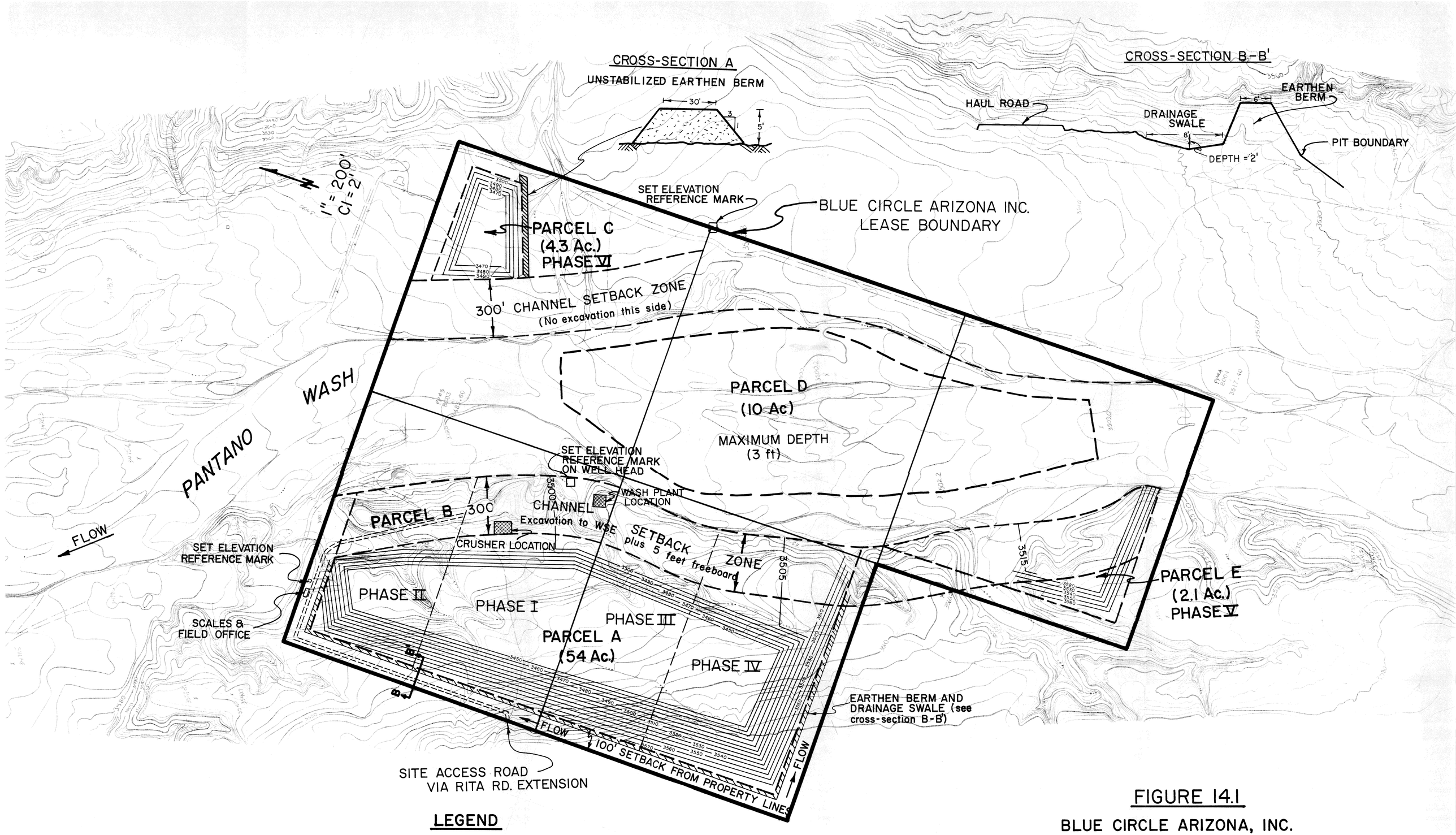
4. No unused soils materials will be disposed of offsite. Available refuse materials will be used to backfill the deep pits and to contour the pit side slopes to a 3:1 grade.

5. Access to the pit site will be provided along Rita Road as it extends easterly from its intersection with Houghton Road.

6. A project schedule showing approximately when each stage of the project will be completed, including estimated starting and completion dates, will be provided prior to final approval of this report by the PCDOT&FCD. Additional information is needed prior to determining the areas, depths, and manner in which BCA will mine the property. This information will be derived from excavations conducted under the temporary permit.

7. The pit side slopes will be contoured to a grade 3:1 (horizontal to vertical) as outlined in the Pima County Grading Policy Manual prior to abandoning this project site.

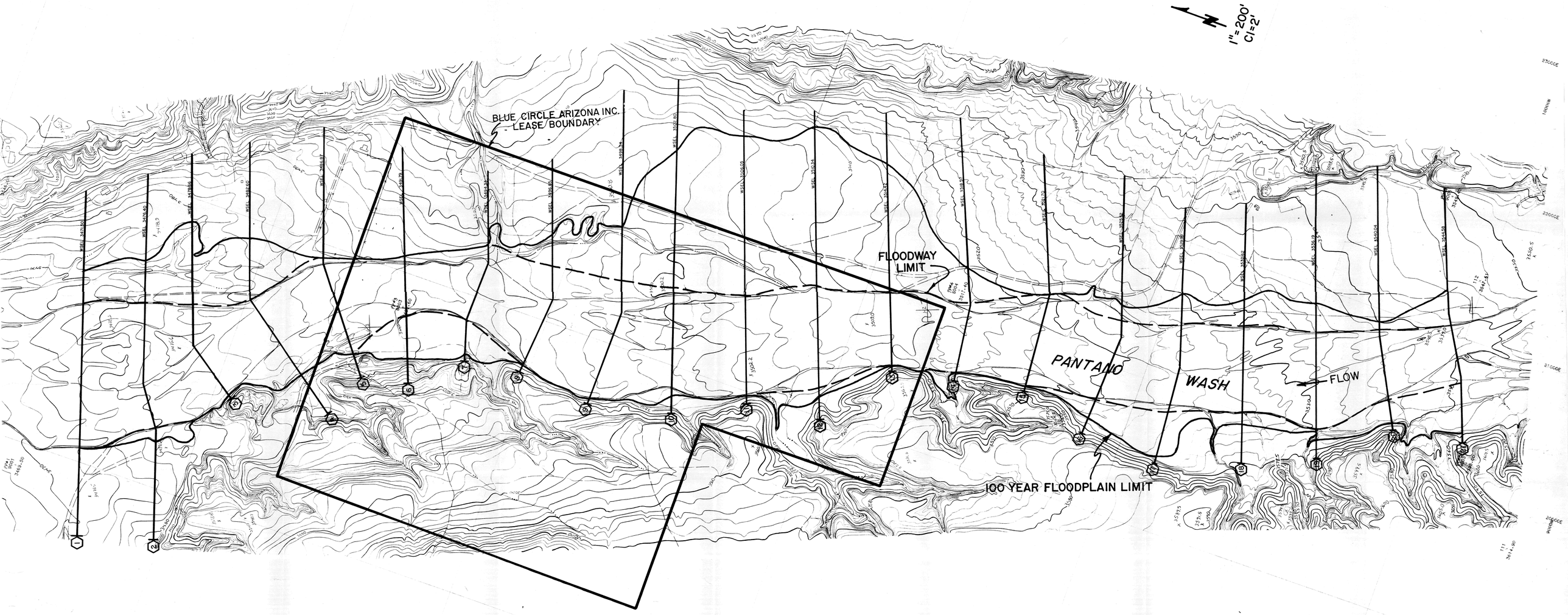
P59-TC/R781



NOTE: ELEVATIONS ON THIS TOPOGRAPHIC MAP ARE +500' AS REFERENCED TO THE SURVEY DATUM

FIGURE 14.1

BLUE CIRCLE ARIZONA, INC.
MINE PLAN



NOTE: FLOODWAY LIMIT COMMENSURATE WITH 100-YR. FLOOD LIMIT WHERE NOT SHOWN

: ELEVATIONS ON THIS TOPOGRAPHIC MAP ARE +500' AS REFERENCED TO THE SURVEY DATUM

PLATE I

HEC II CROSS-SECTION LOCATION MAP

sla SIMONS, LI & ASSOCIATES, INC.

APPENDIX A

HEC-2 MODEL INPUT/OUTPUT FOR 100-YEAR FLOOD

HEC2

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*****************************************************
*  WATER SURFACE PROFILES                           *
*  VERSION OF NOVEMBER 1976                         *
*  UPDATED MARCH 1982                               *
*                                                   *
*  RUN DATE  5-SEP-85  TIME 13:08:35                *
*****************************************************
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*************************************
*  U.S. ARMY CORPS OF ENGINEERS
*  THE HYDROLOGIC ENGINEERING CENTER
*  609 SECOND STREET, SUITE D
*  DAVIS, CALIFORNIA 95616
*  (916) 440-2105 (FTS) 448-2105
*************************************
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X     X  XXXXXXX   XXXXX              XXXXX
X     X  X        X     X            X     X
X     X  X        X                        X
XXXXXXX  XXXX     X          XXXXX    XXXXX
X     X  X        X                  X
X     X  X        X     X            X
X     X  XXXXXXX   XXXXX             XXXXXXX
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5-SEP-85 13:08:48 PAGE 1

THIS RUN EXECUTED 5-SEP-85 13:08:50

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*************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR -  01,02,03,04,05
  MODIFICATION -  50,51,52,53,54,55
*************************************************
```

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T1      SLA  JOB#: BCA01  FILE: BCA01
T2      PANTANO WASH, 100-YEAR EVENT, QPEAK=34,000 CFS
T3

J1  ICHECK    INQ       NINV      IDIR      STRT      METRIC    HVINS     Q         WSEL      FQ

      0.        2.        0.        0.  0.006700      0.00       0.0       0.   467.000     0.000

J2  NPROF     IPLOT     PRFVS     XSECV     XSECH     FN        ALLDC     IBW       CHNIM     ITRACE

    -1.000     0.000    -1.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

J3  VARIABLE CODES FOR SUMMARY PRINTOUT

    38.000    13.000    14.000    15.000     1.000    42.000    26.000     4.000     8.000    25.000

    39.000    53.000    54.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

NC      0.050     0.050     0.025     0.100     0.300     0.000     0.000     0.000     0.000     0.000
QT      1.000 34000.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
X1      1.000    16.000   609.000   948.000   550.000   400.000   500.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   609.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    472.000     0.000   470.000    99.000   472.000   445.000   472.000   609.000   466.000   631.000
GR    466.000   818.000   468.000   948.000   468.000  1612.000   470.000  1630.000   470.000  1804.000
GR    472.000  1859.000   474.000  1901.000   474.000  1991.000   476.000  2058.000   478.000  2165.000
GR    482.000  2257.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

X1      2.000    23.000   773.000  1081.000   530.000   430.000   500.000     0.000     0.000     0.000
X3      0.000     0.000     0.000   610.000     0.000     0.000     0.000     0.000     0.000     0.000
GR    482.000     0.000   478.000   134.000   476.000   177.000   474.000   262.000   474.000   424.000
GR    476.000   542.000   478.000   610.000   476.000   698.000   474.000   773.000   470.000   789.000
GR    470.000  1029.000   472.000  1081.000   474.000  1516.000   474.000  1656.000   474.000  1869.000
GR    472.000  1878.000   472.000  1899.000   474.000  1913.000   476.000  1947.000   478.000  2014.000
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GR	478.000	2368.000	480.000	2433.000	484.000	2528.000	0.000	0.000	0.000	0.000
X1	3.000	16.000	29.000	444.000	570.000	340.000	500.000	0.000	0.000	0.000
GR	490.000	0.000	478.000	29.000	476.000	52.000	474.000	103.000	474.000	444.000
GR	474.000	717.000	476.000	739.000	476.000	972.000	478.000	1017.000	480.000	1094.000
GR	478.000	1246.000	478.000	1289.000	480.000	1340.000	482.000	1522.000	484.000	1626.000
GR	486.000	1656.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	4.000	13.000	341.000	965.000	520.000	380.000	500.000	0.000	0.000	0.000
GR	490.000	0.000	488.000	120.000	486.000	295.000	480.000	341.000	478.000	388.000
GR	478.000	934.000	480.000	965.000	480.000	1099.000	482.000	1237.000	484.000	1720.000
GR	486.000	1852.000	490.000	1950.000	494.000	2015.000	0.000	0.000	0.000	0.000
X1	5.000	14.000	167.000	913.000	370.000	510.000	500.000	0.000	0.000	0.000
GR	500.000	0.000	490.000	112.000	488.000	167.000	486.000	179.000	486.000	237.000
GR	484.000	262.000	482.000	278.000	482.000	836.000	486.000	846.000	488.000	913.000
GR	488.000	1193.000	490.000	1290.000	492.000	1418.000	494.000	1591.000	0.000	0.000
X1	6.000	14.000	471.000	895.000	340.000	560.000	500.000	0.000	0.000	0.000
GR	510.000	0.000	500.000	126.000	490.000	167.000	490.000	471.000	488.000	479.000
GR	486.000	534.000	484.000	810.000	484.000	846.000	490.000	862.000	492.000	895.000
GR	494.000	1080.000	496.000	1258.000	500.000	1350.000	504.000	1648.000	0.000	0.000
X1	7.000	11.000	280.000	780.000	400.000	580.000	500.000	0.000	0.000	0.000
GR	500.000	0.000	492.000	51.000	491.000	280.000	487.000	388.000	488.000	502.000
GR	490.000	705.000	492.000	780.000	496.000	859.000	496.000	993.000	498.000	1052.000
GR	500.000	1220.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	8.000	13.000	35.000	585.000	460.000	460.000	500.000	0.000	0.000	0.000
NH	4.000	0.050	35.000	0.025	585.000	0.040	1088.000	0.050	1533.000	0.000
GR	510.000	0.000	500.000	35.000	490.000	69.000	490.000	95.000	492.000	431.000
GR	492.000	550.000	493.000	585.000	493.000	850.000	492.000	954.000	496.000	987.000
GR	500.000	1088.000	504.000	1466.000	506.000	1533.000	0.000	0.000	0.000	0.000
X1	9.000	16.000	22.000	800.000	520.000	480.000	500.000	0.000	0.000	0.000
NH	4.000	0.050	22.000	0.025	520.000	0.040	1284.000	0.050	2232.000	0.000
GR	520.000	0.000	510.000	22.000	492.000	48.000	492.000	88.000	494.000	181.000
GR	494.000	520.000	496.000	691.000	495.000	720.000	495.000	755.000	496.000	800.000
GR	496.000	1215.000	498.000	1272.000	500.000	1284.000	502.000	1731.000	506.000	2078.000
GR	508.000	2232.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	10.000	19.000	172.000	870.000	590.000	360.000	470.000	0.000	0.000	0.000
NH	4.000	0.050	172.000	0.025	529.000	0.040	1191.000	0.050	2334.000	0.000
GR	520.000	0.000	504.000	53.000	502.000	172.000	498.000	193.000	498.000	457.000
GR	499.000	529.000	500.000	645.000	500.000	761.000	498.000	777.000	498.000	827.000
GR	500.300	870.000	500.000	1167.000	502.000	1191.000	502.000	1335.000	504.000	2023.000
GR	506.000	2112.000	508.000	2161.000	510.000	2226.000	514.000	2334.000	0.000	0.000
X1	11.000	12.000	41.000	761.000	520.000	490.000	500.000	0.000	0.000	0.000
NH	4.000	0.050	41.000	0.025	761.000	0.040	998.000	0.050	1979.000	0.000
GR	530.000	0.000	508.000	41.000	502.000	73.000	502.000	745.000	504.000	761.000
GR	502.000	942.000	502.000	964.000	504.000	998.000	506.000	1157.000	506.000	1867.000
GR	508.000	1896.000	510.000	1979.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	12.000	11.000	211.000	944.000	500.000	490.000	500.000	0.000	0.000	0.000
GR	550.000	0.000	520.000	122.000	510.000	160.000	508.000	211.000	506.000	351.000
GR	506.000	916.000	508.000	944.000	510.000	1165.000	510.000	2029.000	514.000	2092.000
GR	518.000	2163.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

X1	13.000	11.000	36.000	548.000	520.000	500.000	500.000	0.000	0.000	0.000
GR	540.000	0.000	530.000	20.000	520.000	36.000	510.000	49.000	508.000	207.000
GR	508.000	262.000	510.000	548.000	512.000	566.000	514.000	1403.000	516.000	1667.000
GR	520.000	1809.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	14.000	13.000	48.000	544.000	440.000	550.000	500.000	0.000	0.000	0.000
GR	520.000	0.000	520.000	48.000	514.000	71.000	512.000	333.000	512.000	457.000
GR	516.000	544.000	518.000	753.000	520.000	1011.000	522.000	1417.000	524.000	1577.000
GR	524.000	1720.000	526.000	1835.000	528.000	1849.000	0.000	0.000	0.000	0.000
X1	15.000	14.000	35.000	706.000	490.000	560.000	500.000	0.000	0.000	0.000
GR	540.000	0.000	522.000	35.000	518.000	54.000	516.000	153.000	516.000	461.000
GR	518.000	477.000	520.000	662.000	522.000	706.000	524.000	844.000	526.000	986.000
GR	528.000	1167.000	530.000	1299.000	532.000	1476.000	534.000	1679.000	0.000	0.000
X1	16.000	17.000	241.000	742.000	480.000	500.000	520.000	0.000	0.000	0.000
GR	540.000	0.000	530.000	52.000	528.000	72.000	526.000	106.000	524.000	147.000
GR	522.000	241.000	520.000	269.000	520.000	592.000	522.000	742.000	524.000	860.000
GR	526.000	979.000	528.000	1105.000	528.000	1266.000	530.000	1309.000	532.000	1483.000
GR	536.000	1659.000	540.000	1852.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	17.000	14.000	395.000	705.000	530.000	430.000	490.000	0.000	0.000	0.000
GR	540.000	0.000	532.000	24.000	530.000	44.000	528.000	211.000	526.000	395.000
GR	524.000	417.000	524.000	650.000	526.000	705.000	526.000	979.000	528.000	1007.000
GR	530.000	1204.000	532.000	1375.000	536.000	1582.000	540.000	1805.000	0.000	0.000
X1	18.000	16.000	349.000	695.000	580.000	440.000	500.000	0.000	0.000	0.000
GR	540.000	0.000	536.000	152.000	532.000	294.000	530.000	349.000	526.000	363.000
GR	526.000	434.000	528.000	653.000	529.000	695.000	528.000	947.000	530.000	962.000
GR	530.000	1066.000	532.000	1090.000	534.000	1236.000	536.000	1433.000	538.000	1625.000
GR	540.000	1814.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	19.000	16.000	196.000	560.000	520.000	500.000	500.000	0.000	0.000	0.000
GR	550.000	0.000	540.000	71.000	538.000	119.000	536.000	196.000	532.000	213.000
GR	530.000	548.000	532.000	560.000	532.000	868.000	534.000	882.000	536.000	1065.000
GR	538.000	1236.000	538.000	1353.000	540.000	1580.000	542.000	1842.000	546.000	1970.000
GR	550.000	1989.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
X1	20.000	14.000	222.000	527.000	560.000	450.000	510.000	0.000	0.000	0.000
GR	560.000	0.000	540.000	41.000	538.000	47.000	536.000	222.000	534.000	236.000
GR	534.000	511.000	536.000	527.000	536.000	679.000	538.000	699.000	540.000	751.000
GR	542.000	1009.000	544.000	1738.000	550.000	1821.000	560.000	1842.000	0.000	0.000
X1	21.000	15.000	578.000	824.000	490.000	490.000	520.000	0.000	0.000	0.000
GR	560.000	0.000	550.000	57.000	546.000	73.000	544.000	107.000	542.000	244.000
GR	540.000	578.000	538.000	648.000	538.000	785.000	540.000	824.000	542.000	856.000
GR	544.000	1059.000	546.000	1130.000	548.000	1693.000	550.000	1764.000	560.000	1784.000
EJ	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*PROF 1

CCHV=   0.100 CEHV=   0.300
*SECNO 1.000
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     609.0    2257.0  TYPE=     1  TARGET=    -609.000
     1.00      5.50    471.50   471.50   467.00   473.21     1.71      0.00      0.00    472.00
   34000.        0.    21257.   12743.       0.    1668.    2658.        0.        0.    468.00
     0.00      0.00     12.75     4.79    0.050    0.025    0.050     0.000    466.00    610.85
 0.005472     550.      500.     400.        0       26        0      0.00   1234.30   1845.15

*SECNO 2.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

3470 ENCROACHMENT STATIONS=     610.0    2528.0  TYPE=     1  TARGET=    -610.000
     2.00      6.40    476.40   476.40     0.00   478.18     1.78      2.22      0.02    474.00
   34000.      248.    23717.   10034.     108.    1886.    2544.       47.       13.    472.00
     0.01      2.29     12.57     3.94    0.050    0.025    0.050     0.000    470.00    680.55
 0.004003     530.      500.     430.       20       11        0      0.00   1279.73   1960.28

*SECNO 3.000

3265 DIVIDED FLOW

     3.00      4.66    478.66   478.52     0.00   480.37     1.71      2.18      0.01    478.00
   34000.        1.    22325.   11675.       1.    1814.    2106.       87.       24.    474.00
     0.03      1.04     12.31     5.54    0.050    0.025    0.050     0.000    474.00     27.40
 0.006001     570.      500.     340.        6       19        0      0.00   1125.01   1305.83

*SECNO 4.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     4.00      4.60    482.60   482.60     0.00   484.51     1.91      2.60      0.06    480.00
   34000.       64.    31876.    2059.      26.    2792.     612.      125.       35.    480.00
     0.04      2.49     11.42     3.36    0.050    0.025    0.050     0.000    478.00    321.08
 0.005007     520.      500.     380.        4        5        0      0.00   1060.51   1381.59
```

```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 5.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     5.00      4.87    486.87    486.87      0.00    488.97      2.11      2.68      0.06    488.00
   34000.        0.    34000.        0.        0.     2919.        0.      162.       45.    488.00
     0.05      0.00     11.65      0.00     0.050     0.025     0.050     0.000    482.00    173.79
 0.005747      370.      500.      510.        20         8         0      0.00    701.29    875.08

*SECNO 6.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
     6.00      7.79    491.79    491.79      0.00    494.21      2.42      2.43      0.09    490.00
   34000.     1552.    32448.        0.      549.     2542.        0.      195.       53.    492.00
     0.06      2.83     12.77      0.00     0.050     0.025     0.050     0.000    484.00    159.68
 0.004208      340.      500.      560.        20        14         0      0.00    731.79    891.47

*SECNO 7.000
     7.00      7.33    494.33      0.00      0.00    496.30      1.97      2.05      0.05    491.00
   34000.     2507.    31379.      113.      666.     2687.       54.      231.       61.    492.00
     0.07      3.77     11.68      2.11     0.050     0.025     0.050     0.000    487.00     36.13
 0.004101      400.      500.      580.         3         0         0      0.00    789.93    826.06

*SECNO 8.000
1490 NH CARD USED

3301 HV CHANGED MORE THAN HVINS

     8.00      6.85    496.85      0.00      0.00    497.93      1.08      1.54      0.09    500.00
   34000.        0.    26851.     7149.        0.     2951.     1574.      276.       71.    493.00
     0.09      0.00      9.10      4.54     0.050     0.025     0.040     0.000    490.00     45.72
 0.002436      460.      500.      460.         3         0         0      0.00    962.65   1008.38

*SECNO 9.000
1490 NH CARD USED
     9.00      6.34    498.34      0.00      0.00    499.56      1.23      1.59      0.04    510.00
   34000.        0.    29557.     4443.        0.     3147.     1047.      325.       83.    496.00
     0.11      0.00      9.39      4.24     0.050     0.040     0.040     0.000    492.00     38.85
 0.004405      520.      500.      480.         2         0         0      0.00   1235.18   1274.03
```



```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

*SECNO 10.000
1490 NH CARD USED
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
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3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    10.00     4.76   502.76   502.76     0.00   504.27     1.51     2.41     0.08   502.00
   34000.      21.   29054.    4925.      17.    2772.    1025.     366.      96.   500.30
     0.12     1.26    10.48     4.81    0.050    0.040    0.041    0.000   498.00   126.89
 0.006508     590.     470.     360.       20       15        0     0.00  1468.94  1595.83

*SECNO 11.000
1490 NH CARD USED
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    11.00     3.85   505.85   505.85     0.00   507.56     1.71     3.09     0.06   508.00
   34000.       0.   29589.    4411.       0.    2674.     834.     408.     111.   504.00
     0.13     0.00    11.06     5.29    0.050    0.025    0.041    0.000   502.00    52.45
 0.005902     520.     500.     490.        2       11        0     0.00  1092.83  1145.28

*SECNO 12.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    12.00     4.34   510.34   510.34     0.00   512.07     1.73     3.89     0.01   508.00
   34000.      512.   32378.    1110.      69.    3012.     296.     447.     128.   508.00
     0.15     7.48    10.75     3.75    0.025    0.040    0.050    0.000   506.00   158.71
 0.010787     500.     500.     490.        4        8        0     0.00  1875.63  2034.34

*SECNO 13.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    13.00     6.42   514.42   514.42     0.00   516.17     1.74     2.90     0.00   520.00
   34000.       0.   30804.    3196.       0.    2773.    1264.     489.     147.   510.00
     0.16     0.00    11.11     2.53    0.025    0.025    0.046    0.000   508.00    43.25
 0.003615     520.     500.     500.        3       14        0     0.00  1415.49  1458.74

*SECNO 14.000
3685 20 TRIALS ATTEMPTED WSEL;CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
```



```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        OLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST

    14.00     6.57   518.57   518.57     0.00   520.68     2.11     1.94     0.11   520.00
   34000.       0.   32287.    1713.       0.    2712.     349.     531.     160.   516.00
     0.17     0.00    11.90     4.90    0.025    0.025    0.025    0.000   512.00    53.48
 0.004110     440.     500.     550.       20        5        0     0.00   773.18   826.66

*SECNO 15.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
    15.00     5.70   521.70   521.70     0.00   523.89     2.19     2.41     0.02   522.00
   34000.       0.   34000.       0.       0.    2862.       0.     565.     168.   522.00
     0.18     0.00    11.88     0.00    0.050    0.025    0.025    0.000   516.00    36.41
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 0.005687     490.     500.     560.       3      15       0     0.00   663.08   699.49


*SECNO 16.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   16.00     5.52   525.52   525.52    0.00   527.54    2.02     2.60     0.02   522.00
   34000.   1816.   30679.   1505.    260.   2586.    365.     601.     177.   522.00
    0.20     6.98    11.87     4.12   0.025    0.025   0.040    0.000   520.00   115.92
 0.004469    480.     520.     500.       2       8       0     0.00   834.29   950.21


*SECNO 17.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   17.00     5.99   529.99   529.99    0.00   531.68    1.69     2.08     0.03   526.00
   34000.   4984.   21759.   7257.    716.   1780.   1372.     640.     188.   526.00
    0.21     6.96    12.22     5.29   0.025    0.025   0.041    0.000   524.00    44.79
 0.004115    530.     490.     430.      20       8       0     0.00  1158.28  1203.07


*SECNO 18.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   18.00     6.62   532.62   532.62    0.00   534.68    2.07     2.18     0.11   530.00
   34000.    518.   25113.   8370.     96.   1938.   1418.     681.     199.   529.00
    0.22     5.40    12.96     5.90   0.025    0.025   0.041    0.000   526.00   272.02
 0.004786    580.     500.     440.       2       8       0     0.00   863.19  1135.20
```



```
   SECNO     DEPTH     CWSEL     CRIWS     WSELK     EG        HV        HL        QLOSS    BANK ELEV
   Q         QLOB      QCH       QROB      ALOB      ACH       AROB      VOL       TWA    LEFT/RIGHT
   TIME      VLOB      VCH       VROB      XNL       XNCH      XNR       WTN       ELMIN       SSTA
   SLOPE     XLOBL     XLCH      XLOBR     ITRIAL    IDC       ICONT     CORAR     TOPWID      ENDST


*SECNO 19.000
7185 MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   19.00     6.19   536.19   536.19    0.00   538.23    2.05     2.58     0.00   536.00
   34000.      1.   23919.   10081.      1.   1837.   1553.     721.     209.   532.00
    0.23     0.91    13.02     6.49   0.025    0.025   0.041    0.000   530.00   188.83
 0.005558    520.     500.     500.       3      11       0     0.00   892.09  1080.92


*SECNO 20.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED
   20.00     6.04   540.04   540.04    0.00   542.11    2.07     2.40     0.01   536.00
   34000.   4336.   22942.   6722.    538.   1813.    729.     757.     218.   536.00
    0.25     8.05    12.66     9.22   0.025    0.025   0.025    0.000   534.00    40.92
 0.004217    560.     510.     450.      20       8       0     0.00   715.40   756.31


*SECNO 21.000
3685 20 TRIALS ATTEMPTED WSEL,CWSEL
```

3693 PROBABLE MINIMUM SPECIFIC ENERGY
3720 CRITICAL DEPTH ASSUMED

21.00	6.58	544.58	544.58	0.00	546.38	1.80	2.62	0.03	540.00
34000.	14802.	17348.	1850.	1417.	1511.	442.	795.	228.	540.00
0.26	10.45	11.48	4.18	0.025	0.040	0.046	0.000	538.00	97.08
0.006456	490.	520.	490.	20	8	0	0.00	982.65	1079.72

THIS RUN EXECUTED 5-SEP-85 13:14:24

```
**************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR -  01;02;03;04;05
  MODIFICATION -  50;51;52;53;54;55
**************************************************
```

NOTE- ASTERISK (*) AT LEFT OF CROSS-SECTION NUMBER INDICATES MESSAGE IN SUMMARY OF ERRORS LIST

SUMMARY PRINTOUT

	SECNO	QLOB	QCH	QROB	CWSEL	ELMIN	VCH	TOPWID	DEPTH	AREA	XLCH	SSTA	ENDST
*	1.000	0.00	21257.13	12742.87	471.50	466.00	12.75	1234.30	5.50	4325.23	0.00	610.85	1845.15
*	2.000	248.23	23717.35	10034.43	476.40	470.00	12.57	1279.73	6.40	4538.34	500.00	680.55	1960.28
	3.000	0.55	22324.75	11674.70	478.66	474.00	12.31	1125.01	4.66	3920.61	500.00	27.40	1305.83
*	4.000	64.46	31876.25	2059.29	482.60	478.00	11.42	1060.51	4.60	3429.60	500.00	321.08	1381.59
*	5.000	0.00	34000.00	0.00	486.87	482.00	11.65	701.29	4.87	2918.82	500.00	173.79	875.08
*	6.000	1552.37	32447.63	0.00	491.79	484.00	12.77	731.79	7.79	3091.16	500.00	159.68	891.47
	7.000	2507.38	31379.45	113.17	494.33	487.00	11.68	789.93	7.33	3406.77	500.00	36.13	826.06
	8.000	0.00	26850.58	7149.42	496.85	490.00	9.10	962.65	6.85	4525.37	500.00	45.72	1008.38
	9.000	0.00	29557.40	4442.60	498.34	492.00	9.39	1235.18	6.34	4193.92	500.00	38.85	1274.03
*	10.000	21.48	29053.74	4924.78	502.76	498.00	10.48	1468.94	4.76	3813.79	470.00	126.89	1595.83
*	11.000	0.00	29589.42	4410.58	505.85	502.00	11.06	1092.83	3.85	3508.67	500.00	52.45	1145.28
*	12.000	512.24	32378.24	1109.52	510.34	506.00	10.75	1875.63	4.34	3376.82	500.00	158.71	2034.34
*	13.000	0.00	30804.25	3195.75	514.42	508.00	11.11	1415.49	6.42	4037.20	500.00	43.25	1458.74
*	14.000	0.00	32287.46	1712.54	518.57	512.00	11.90	773.18	6.57	3061.49	500.00	53.48	826.66
*	15.000	0.00	34000.00	0.00	521.70	516.00	11.88	663.08	5.70	2862.47	500.00	36.41	699.49
*	16.000	1816.06	30678.87	1505.07	525.52	520.00	11.87	834.29	5.52	3210.94	520.00	115.92	950.21
*	17.000	4983.62	21759.08	7257.30	529.99	524.00	12.22	1158.28	5.99	3868.02	490.00	44.79	1203.07

	SECNO	QLOB	QCH	QROB	CWSEL	ELMIN	VCH	TOPWID	DEPTH	AREA	XLCH	SSTA	ENDST
*	18.000	517.56	25112.57	8369.87	532.62	526.00	12.96	863.19	6.62	3451.72	500.00	272.02	1135.20
*	19.000	0.61	23918.53	10080.87	536.19	530.00	13.02	892.09	6.19	3389.94	500.00	188.83	1080.92
*	20.000	4336.00	22942.42	6721.58	540.04	534.00	12.66	715.40	6.04	3080.36	510.00	40.92	756.31
*	21.000	14801.70	17348.21	1850.09	544.58	538.00	11.48	982.65	6.58	3369.71	520.00	97.08	1079.72

SUMMARY OF ERRORS AND SPECIAL NOTES

```
CAUTION  SECNO=    1.000  PROFILE= 1  CRITICAL DEPTH ASSUMED

CAUTION  SECNO=    2.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    2.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    2.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=    4.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    4.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=    5.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    5.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    5.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=    6.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=    6.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=    6.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   10.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   10.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   10.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   11.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   11.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   12.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   12.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   13.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   13.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   14.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   14.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   14.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   15.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   15.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   16.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   16.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY
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CAUTION  SECNO=   17.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   17.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   17.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   18.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   18.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   19.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   19.000  PROFILE= 1  MINIMUM SPECIFIC ENERGY

CAUTION  SECNO=   20.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
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CAUTION  SECNO=   20.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   20.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL

CAUTION  SECNO=   21.000  PROFILE= 1  CRITICAL DEPTH ASSUMED
CAUTION  SECNO=   21.000  PROFILE= 1  PROBABLE MINIMUM SPECIFIC ENERGY
CAUTION  SECNO=   21.000  PROFILE= 1  20 TRIALS ATTEMPTED TO BALANCE WSEL
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                                                THIS RUN EXECUTED  5-SEP-85  13:15:23
*****************************************************
  HEC2 RELEASE DATED NOV 76 UPDATED MARCH 1982
  ERROR CORR -  01,02,03,04,05
  MODIFICATION -  50,51,52,53,54,55
*****************************************************
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```
FORTRAN STOP
$ DEL INPUT.DAT;*
$ LOG
SESSION CHARGE = $      3.15            1.52419   0.10020   1.52500   0.00000
  38744        logged out at  5-SEP-1985 13:16:40.58M
```

APPENDIX B

ENGINEERING-GEOMORPHIC COMPUTATIONS

Calculation of Probability Weighted Equilibrium Slopes

$$E(EQS) = (S_{EQ2YR}) \cdot (0.5) + \left[\left(\frac{S_{EQ2YR} + S_{EQ10YR}}{2}\right) \cdot (0.4)\right]$$
$$+ \left[\left(\frac{S_{EQ10YR} + S_{EQ25YR}}{2}\right) \cdot (0.06)\right]$$
$$+ \left[\left(\frac{S_{EQ25YR} + S_{EQ100YR}}{2}\right) \cdot (0.04)\right]$$

where,

$E(EQS)$ = expected value of equilibrium channel slope
S_{EQ2YR} = computed equilibrium slope for 2year event
S_{EQ10YR} = computed equilibrium slope for 10year event
S_{EQ25YR} = computed equilibrium slope for 25year event
$S_{EQ100YR}$ = computed equilibrium slope for 100year event

REACH	EQUILIBRIUM SLOPE 2YR	10YR	25YR	100YR	E(EQS)
1	—	—	—	—	supply reach
2	0.0074	0.0058	0.0053	0.0057	0.0069
3	0.0099	0.0086	0.0087	0.0084	0.0095
4	0.0067	0.0058	0.0060	0.0066	0.0064

sla
SIMONS, LI & ASSOCIATES, INC.

CLIENT _____ JOB NO. _____ PAGE _____
PROJECT _____ DATE CHECKED _____ DATE _____
DETAIL _____ CHECKED BY _____ COMPUTED BY _____

2-YEAR

	$\bar{V}$	$\bar{D}$	$\bar{T}_W$	Q_S	S_{EX}	S_{EQ}
REACH 4 (1-6)	7.28	1.74	476	9.55	.0072	.0067
REACH 3 (7-11)	6.19	1.39	701.6	6.31	.0073	.0099
REACH 2 (12-16)	6.83	1.56	518.46	8.43	.0071	.0074
REACH 1 (17-21)	7.60	2.34	314.2	8.84	.0071	

10-YEAR

	$\bar{V}$	$\bar{D}$	$\bar{T}_W$	Q_S	S_{EX}	S_{EQ}
REACH 4 (1-6)	9.89	3.24	476	48.33	.0072	.0058
REACH 3 (7-11)	8.38	2.63	701.6	31.71	.0073	.0086
REACH 2 (12-16)	9.56	3.01	582.6	49.31	.0071	.0058
REACH 1 (17-21)	10.13	3.97	314.2	39.31	.0071	

25-YEAR

	$\bar{V}$	$\bar{D}$	$\bar{T}_W$	Q_S	S_{EX}	S_{EQ}
REACH 4 (1-6)	11.02	4.03	476	85.62	.0072	.0060
REACH 3 (7-11)	9.39	3.29	701.6 ?	57.7	.0073	.0087
REACH 2 (12-16)	10.61	3.64	582.6	87.06	.0071	.0053
REACH 1 (17-21)	11.36	4.73	314.2	69.93	.0071	

sla
SIMONS, li & ASSOCIATES, INC.

CLIENT _____ JOB NO. _____ PAGE _____
PROJECT _____ DATE CHECKED _____ DATE _____
DETAIL _____ CHECKED BY _____ COMPUTED BY _____

100 YR

	$\bar{V}$	$\bar{D}$	$\bar{T}_W$	Q_S	S_{EX}	S_{EQ}
REACH 4 (1-6)	12.25	4.97	476	149.5	.0072	.0057
REACH 3 (7-11)	10.34	4.13	701.6	97.73	.0073	.0084
REACH 2 (12-16)	11.50	4.89	518.46	123.67	.0071	.0066
REACH 1 (17-21)	12.47	5.69	314.2	114.27	.0071	

APPENDIX C

SEDIMENT-ROUTING MODEL INPUT/OUTPUT

APPENDIX C.1

2-YEAR FLOOD ANALYSIS

AZBCA01
Pantano Wash - BCA
2YR Flood Analysis

TYPE QUASEDOUT.DAT

SEDIMENT ROUTING OUTPUT FOR:

SLA JOB#: BCA01 FILE: BCA01
PANTANO WASH, 2-YR EVENT, QPEAK=6000 CFS

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 1

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.15000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	538.37	538.00	538.00	157.4	150.0	2.72	520.00	0.81143	157.4
1	20.00	534.31	534.00	534.00	279.7	150.0	1.74	510.00	0.55433	279.7
1	19.00	530.71	530.00	530.00	123.7	150.0	3.40	500.00	1.00341	123.7
1	18.00	526.63	526.00	526.00	141.8	150.0	2.25	500.00	0.57797	141.8
1	17.00	524.31	524.00	524.00	245.0	150.0	2.01	490.00	0.64412	245.0
2	16.00	520.20	520.00	520.00	340.5	150.0	2.31	520.00	0.92922	340.5
2	15.00	516.27	516.00	516.00	323.9	150.0	1.72	500.00	0.58483	323.9
2	14.00	512.33	512.00	512.00	174.6	150.0	3.03	500.00	1.00519	174.6
2	13.00	508.61	508.00	508.00	188.7	150.0	2.04	500.00	0.57758	188.7
2	12.00	506.25	506.00	506.00	585.4	150.0	1.08	500.00	0.38851	585.4
3	11.00	502.13	502.00	502.00	709.3	146.0	1.72	500.00	0.87384	709.3
3	10.00	498.19	498.00	498.00	333.7	150.0	2.45	470.00	1.00564	333.7
3	9.00	492.82	492.00	491.99	79.4	150.0	3.06	500.00	0.68481	79.4
3	8.00	490.77	490.00	490.00	159.0	150.0	2.09	500.00	0.54778	159.0
3	7.00	487.81	487.00	486.99	113.0	150.0	3.31	500.00	0.92182	113.0
4	6.00	484.74	484.00	484.00	140.2	150.0	2.30	500.00	0.59385	140.2
4	5.00	482.18	482.00	482.00	559.8	150.0	1.52	500.00	0.64053	559.8
4	4.00	478.17	478.00	478.00	552.2	150.0	1.72	500.00	0.76129	552.2
4	3.00	474.19	474.00	474.00	415.0	107.0	1.64	500.00	0.72978	620.9
4	2.00	470.25	470.00	470.00	247.9	150.0	2.35	500.00	0.81364	247.9
4	1.00	466.34	466.00	466.00	210.1	150.0	2.25	0.00	0.70286	210.1

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.493E+00	0.493E+00

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.638E-01 0.150E+00 0.138E+00 0.103E+00 0.380E-01 0.000E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2 0.493E+00 0.433E+00

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.532E-01 0.136E+00 0.130E+00 0.920E-01 0.220E-01 0.000E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.301E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

3 0.433E+00 0.687E+00

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.867E-01 0.212E+00 0.198E+00 0.144E+00 0.463E-01 0.000E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.299E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

4 0.687E+00 0.443E+00

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.541E-01 0.141E+00 0.136E+00 0.937E-01 0.183E-01 0.000E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.301E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.69557E-02	0.24373E+01	0.36510E+00	0.18699E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.72151E-02	0.21280E+01	0.28054E+00	0.28891E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.74008E-02	0.22975E+01	0.33745E+00	0.32757E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.19838E+00	0.36239E-02	0.41538E+02
4	0.71900E-02	0.20517E+01	0.26221E+00	0.34611E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.13667E+00	0.31696E-01	0.45850E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 2

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.11500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.19	538.00	538.00	202.0	1150.0	5.68	520.00	1.00114	202.0
1	20.00	535.03	534.00	534.00	290.5	1150.0	3.94	510.00	0.69192	290.5
1	19.00	531.60	530.00	530.00	278.2	1150.0	5.16	500.00	1.01506	278.2
1	18.00	527.72	526.00	526.00	265.3	1150.0	3.98	500.00	0.67165	265.3
1	17.00	524.97	524.00	524.00	270.2	1150.0	4.73	490.00	0.87781	270.2
2	16.00	520.71	520.00	520.00	385.8	1150.0	4.60	520.00	1.00584	385.8
2	15.00	516.89	516.00	516.00	359.2	1150.0	3.87	500.00	0.75020	359.2
2	14.00	513.10	512.00	512.00	291.5	1150.0	5.05	500.00	1.00674	291.5
2	13.00	509.45	508.00	508.00	376.1	1150.0	3.69	500.00	0.71388	376.1

2	12.00	506.78	506.00	506.00	630.7	1150.0	2.46	500.00	0.50326	630.7
3	11.00	502.44	502.00	502.00	720.0	1112.0	3.77	500.00	1.03954	746.8
3	10.00	498.71	498.00	498.00	388.2	1150.0	4.59	470.00	1.00591	388.2
3	9.00	494.32	491.99	491.99	502.8	1150.0	3.45	500.00	0.74554	502.8
3	8.00	491.72	490.00	490.00	320.9	1150.0	3.85	500.00	0.70427	320.9
3	7.00	488.90	486.99	486.99	255.1	1150.0	4.66	500.00	0.83402	255.1
4	6.00	485.65	484.00	483.99	267.4	1150.0	4.61	500.00	0.84029	267.4
4	5.00	482.61	482.00	482.00	564.5	1150.0	3.33	500.00	0.74882	564.5
4	4.00	478.52	478.00	478.00	566.1	1150.0	4.01	500.00	0.99111	566.1
4	3.00	474.67	474.00	474.00	415.0	821.0	3.51	500.00	0.82278	638.5
4	2.00	470.90	470.00	469.99	267.0	1150.0	5.05	500.00	0.96329	267.0
4	1.00	467.10	466.00	465.99	262.4	1150.0	4.66	0.00	0.84739	262.4

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.587E+01	0.587E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.105E+01 0.195E+01 0.128E+01 0.911E+00 0.510E+00 0.162E+00 0.908E-02 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.587E+01	0.599E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.993E+00 0.192E+01 0.136E+01 0.100E+01 0.557E+00 0.160E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.301E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

3	0.599E+01	0.580E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.931E+00 0.182E+01 0.135E+01 0.101E+01 0.550E+00 0.137E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.301E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

4	0.580E+01	0.657E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.106E+01 0.207E+01 0.150E+01 0.112E+01 0.628E+00 0.187E+00 0.155E-02 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.298E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70887E-02	0.45735E+01	0.96163E+00	0.26740E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.73426E-02	0.41596E+01	0.78081E+00	0.37279E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.71457E-02	0.38419E+01	0.70119E+00	0.47532E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.38664E+00	0.19142E-01	0.42591E+02
4	0.72633E-02	0.41930E+01	0.73695E+00	0.38979E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.29500E+00	0.11038E+00	0.46733E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 3

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.25000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.00	538.00	538.00	246.0	2500.0	6.52	520.00	0.91970	246.5
1	20.00	535.47	534.00	534.00	297.2	2500.0	5.91	510.00	0.87256	297.2
1	19.00	532.24	530.00	530.00	364.0	2414.0	5.62	500.00	0.91133	657.7
1	18.00	528.45	526.00	526.00	346.0	2479.0	4.91	500.00	0.71577	433.1
1	17.00	525.46	524.00	524.00	289.2	2500.0	6.55	490.00	1.00596	289.2
2	16.00	521.16	520.00	520.00	426.5	2500.0	5.74	520.00	0.99993	426.5
2	15.00	517.38	516.00	516.00	387.2	2500.0	5.22	500.00	0.82815	387.2
2	14.00	513.66	512.00	512.00	377.5	2500.0	6.01	500.00	1.00856	377.5
2	13.00	510.14	508.00	508.00	500.5	2500.0	4.00	500.00	0.63090	500.5
2	12.00	506.93	506.00	506.00	643.4	2500.0	4.43	500.00	0.83417	643.4
3	11.00	502.91	502.00	502.00	720.0	2384.0	3.89	500.00	0.74364	803.2
3	10.00	499.17	498.00	498.02	443.7	2500.0	5.67	470.00	1.00178	443.7
3	9.00	494.76	491.99	492.00	540.5	2500.0	4.46	500.00	0.77282	540.5
3	8.00	492.37	490.00	490.01	543.4	2494.0	4.32	500.00	0.73818	543.4
3	7.00	489.55	486.99	487.01	340.4	2500.0	5.62	500.00	0.86629	340.4
4	6.00	486.22	483.99	483.96	323.8	2500.0	5.90	500.00	0.90851	323.8
4	5.00	482.96	482.00	481.98	568.0	2500.0	4.67	500.00	0.84863	568.0
4	4.00	478.85	478.00	477.98	579.3	2500.0	5.20	500.00	1.00559	579.3
4	3.00	475.09	474.00	473.98	415.0	1786.0	4.58	500.00	0.83197	654.1
4	2.00	471.44	469.99	469.95	283.3	2500.0	6.58	500.00	1.00243	283.3
4	1.00	467.69	465.99	465.96	303.0	2500.0	6.01	0.00	0.90401	303.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.160E+02	0.160E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.313E+01 0.574E+01 0.328E+01 0.211E+01 0.118E+01 0.447E+00 0.115E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.160E+02	0.162E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.303E+01 0.561E+01 0.342E+01 0.231E+01 0.130E+01 0.477E+00 0.965E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.304E-01 0.140E+00 0.199E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

3	0.162E+02	0.131E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.242E+01 0.438E+01 0.280E+01 0.197E+01 0.110E+01 0.358E+00 0.259E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.308E-01 0.141E+00 0.199E+00 0.209E+00 0.169E+00 0.994E-01 0.697E-01 0.794E-01

4 0.131E+02 0.173E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.311E+01 0.592E+01 0.368E+01 0.251E+01 0.143E+01 0.540E+00 0.130E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.288E-01 0.138E+00 0.201E+00 0.212E+00 0.172E+00 0.101E+00 0.710E-01 0.809E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71576E-02	0.57485E+01	0.13762E+01	0.31829E+03	0.00000E+00	0.00000E+00	0.51232E-01	0.49549E+00	0.83918E-01	0.13993E+03
2	0.75259E-02	0.52901E+01	0.11412E+01	0.43170E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.59761E-02	0.00000E+00	0.25896E+00
3	0.69636E-02	0.46682E+01	0.10072E+01	0.54858E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.53036E+00	0.63327E-01	0.11951E+03
4	0.72633E-02	0.54575E+01	0.11169E+01	0.41518E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.38833E+00	0.17922E+00	0.47517E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 4

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.30500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.22	538.00	538.00	246.0	3043.0	6.93	520.00	0.91441	287.6
1	20.00	535.63	534.00	534.00	299.5	3050.0	6.49	510.00	0.91359	299.5
1	19.00	532.38	530.00	530.00	364.0	2863.0	5.97	500.00	0.91567	659.3
1	18.00	528.65	526.00	526.00	346.0	2991.0	5.24	500.00	0.71886	495.5
1	17.00	525.66	524.00	524.00	296.8	3050.0	6.94	490.00	1.00601	296.8
2	16.00	521.32	520.00	520.00	440.1	3050.0	6.08	520.00	1.00257	440.1
2	15.00	517.54	516.00	516.00	396.3	3050.0	5.64	500.00	0.85095	396.3
2	14.00	513.84	512.00	512.00	405.0	3050.0	6.27	500.00	1.00799	405.0
2	13.00	510.30	508.00	508.00	502.1	3050.0	4.34	500.00	0.64612	502.1
2	12.00	507.04	506.00	506.00	652.4	3050.0	4.82	500.00	0.86141	652.4
3	11.00	503.02	502.00	502.00	720.0	2895.0	4.19	500.00	0.75388	818.1
3	10.00	499.35	498.02	498.04	467.5	3050.0	5.97	470.00	1.00609	467.5
3	9.00	494.89	492.00	492.02	552.4	3050.0	4.82	500.00	0.79476	552.4
3	8.00	492.55	490.01	490.03	550.0	3033.0	4.58	500.00	0.73526	570.0
3	7.00	489.76	487.01	487.04	367.5	3050.0	5.92	500.00	0.88078	367.5
4	6.00	486.35	483.96	483.92	328.7	3050.0	6.37	500.00	0.93033	328.7
4	5.00	483.04	481.98	481.96	569.0	3050.0	5.10	500.00	0.87776	569.0
4	4.00	478.95	477.98	477.96	583.6	3050.0	5.54	500.00	1.00561	583.6
4	3.00	475.23	473.98	473.95	415.0	2187.0	4.92	500.00	0.83814	659.3
4	2.00	471.60	469.95	469.91	288.3	3050.0	7.00	500.00	1.00406	288.3
4	1.00	467.86	465.96	465.92	314.8	3050.0	6.41	0.00	0.91866	314.8

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH INFLOW(CFS) OUTFLOW(CFS)

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1        0.209E+02                0.209E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.418E+01 0.768E+01 0.422E+01 0.261E+01 0.144E+01 0.563E+00 0.171E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2        0.209E+02                0.211E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.406E+01 0.746E+01 0.436E+01 0.286E+01 0.160E+01 0.609E+00 0.154E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.307E-01 0.141E+00 0.199E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

3        0.211E+02                0.170E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.331E+01 0.582E+01 0.353E+01 0.242E+01 0.136E+01 0.469E+00 0.627E-01 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.318E-01 0.143E+00 0.200E+00 0.209E+00 0.170E+00 0.100E+00 0.697E-01 0.794E-01

4        0.170E+02                0.223E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.400E+01 0.778E+01 0.472E+01 0.312E+01 0.178E+01 0.692E+00 0.200E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.276E-01 0.135E+00 0.199E+00 0.211E+00 0.171E+00 0.101E+00 0.708E-01 0.814E-01


(4) EFFECTIVE FLOW CONDITIONS:

                                MAIN CHANNEL                        LEFT OVERBANK                        RIGHT CHANNEL
REACH      SLOPE      VELOCITY      DEPTH      TOPWIDTH     VELOCITY      DEPTH      TOPWIDTH     VELOCITY      DEPTH      TOPWIDTH
                      (FT/SEC)      (FT)        (FT)       (FT/SEC)      (FT)        (FT)       (FT/SEC)      (FT)        (FT)

  1  0.71724E-02 0.61645E+01 0.15431E+01 0.31981E+03 0.20365E+00 0.14627E-01 0.48670E+01 0.78340E+00 0.16184E+00 0.14103E+03
  2  0.75737E-02 0.56403E+01 0.12658E+01 0.44372E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.19323E+00 0.30424E-01 0.53785E+00
  3  0.69190E-02 0.49810E+01 0.11176E+01 0.56058E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.59919E+00 0.82048E-01 0.12024E+03
  4  0.72733E-02 0.58492E+01 0.12484E+01 0.42096E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.41667E+00 0.20065E+00 0.47767E+02
1


** SEDIMENT TRANSPORT STUDY,   AT THE TIME STEP   5


(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

   UPSTREAM WATERSHED, SED.   0.00000E+00  CUBIC YARDS
                       WATER  0.32000E+04  CFS

      REACH  1            NO TRIBUTARY

      REACH  2            NO TRIBUTARY

      REACH  3            NO TRIBUTARY

      REACH  4            NO TRIBUTARY


(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:
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REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.28	538.00	538.00	246.0	3187.0	7.03	520.00	0.91231	298.4
1	20.00	535.67	534.00	534.00	300.1	3200.0	6.64	510.00	0.92431	300.1
1	19.00	532.42	530.00	530.00	364.0	2983.0	6.06	500.00	0.91786	659.7
1	18.00	528.70	526.00	526.00	346.0	3128.0	5.32	500.00	0.71904	511.4
1	17.00	525.71	524.00	524.00	298.8	3200.0	7.04	490.00	1.00602	298.8
2	16.00	521.36	520.00	520.00	443.6	3200.0	6.16	520.00	1.00316	443.6
2	15.00	517.57	516.00	516.00	398.5	3200.0	5.75	500.00	0.85844	398.5
2	14.00	513.89	512.00	512.00	412.3	3200.0	6.32	500.00	1.00591	412.3
2	13.00	510.34	508.00	508.00	502.5	3199.0	4.43	500.00	0.65120	502.5
2	12.00	507.07	506.00	506.00	655.0	3200.0	4.90	500.00	0.86388	655.0
3	11.00	503.07	502.00	502.00	720.0	3032.0	4.27	500.00	0.75679	822.7
3	10.00	499.41	498.04	498.06	474.9	3200.0	6.03	470.00	1.00587	474.9
3	9.00	494.94	492.02	492.04	555.5	3200.0	4.95	500.00	0.80744	555.5
3	8.00	492.62	490.03	490.05	550.0	3177.0	4.60	500.00	0.72441	580.9
3	7.00	489.82	487.04	487.07	374.1	3200.0	6.06	500.00	0.89947	374.1
4	6.00	486.36	483.92	483.88	329.9	3200.0	6.47	500.00	0.93092	329.9
4	5.00	483.05	481.96	481.94	569.2	3200.0	5.22	500.00	0.88555	569.2
4	4.00	478.97	477.96	477.94	584.5	3200.0	5.63	500.00	1.00559	584.5
4	3.00	475.25	473.95	473.92	415.0	2308.0	5.04	500.00	0.84524	660.3
4	2.00	471.61	469.91	469.86	289.0	3200.0	7.11	500.00	1.00425	289.0
4	1.00	467.87	465.92	465.88	316.0	3200.0	6.52	0.00	0.92266	316.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.223E+02	0.223E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.449E+01 0.824E+01 0.450E+01 0.275E+01 0.151E+01 0.595E+00 0.187E+00 0.252E-03

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.223E+02	0.225E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.437E+01 0.800E+01 0.462E+01 0.301E+01 0.168E+01 0.644E+00 0.169E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.309E-01 0.141E+00 0.199E+00 0.210E+00 0.169E+00 0.100E+00 0.701E-01 0.799E-01

3	0.225E+02	0.182E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.363E+01 0.629E+01 0.375E+01 0.253E+01 0.143E+01 0.498E+00 0.741E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.326E-01 0.145E+00 0.201E+00 0.208E+00 0.169E+00 0.994E-01 0.693E-01 0.789E-01

4	0.182E+02	0.237E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.419E+01 0.827E+01 0.504E+01 0.331E+01 0.189E+01 0.744E+00 0.225E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.268E-01 0.133E+00 0.199E+00 0.211E+00 0.173E+00 0.102E+00 0.717E-01 0.824E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)

1	0.71773E-02	0.62698E+01	0.15858E+01	0.32021E+03	0.23567E+00	0.18349E-01	0.61222E+01	0.84108E+00	0.18444E+00	0.14131E+03
2	0.75856E-02	0.57243E+01	0.12981E+01	0.44686E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.20916E+00	0.31620E-01	0.59761E+00
3	0.69028E-02	0.50609E+01	0.11455E+01	0.56357E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.62146E+00	0.89247E-01	0.12049E+03
4	0.72867E-02	0.59600E+01	0.12820E+01	0.42211E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.42333E+00	0.20403E+00	0.47800E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 6

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.37500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.48	538.00	538.00	246.0	3697.0	7.36	520.00	0.90735	334.8
1	20.00	535.81	534.00	534.00	302.2	3750.0	7.16	510.00	0.95889	302.2
1	19.00	532.54	530.00	530.00	364.0	3416.0	6.38	500.00	0.92682	661.1
1	18.00	528.89	526.00	526.00	346.0	3613.0	5.53	500.00	0.70991	570.8
1	17.00	525.87	524.00	524.00	305.2	3750.0	7.43	490.00	1.01888	305.2
2	16.00	521.50	520.00	520.00	456.1	3750.0	6.44	520.00	1.00404	456.1
2	15.00	517.72	516.00	516.00	406.8	3750.0	6.11	500.00	0.87638	406.8
2	14.00	514.03	512.00	512.00	430.4	3750.0	6.60	500.00	1.01278	430.4
2	13.00	510.47	508.00	508.00	503.9	3749.0	4.74	500.00	0.66751	503.9
2	12.00	507.17	506.00	506.00	663.7	3750.0	5.19	500.00	0.87742	663.7
3	11.00	503.18	502.00	502.00	720.0	3538.0	4.54	500.00	0.76777	836.1
3	10.00	499.57	498.06	498.09	498.2	3750.0	6.26	470.00	1.00500	498.2
3	9.00	495.06	492.04	492.06	605.5	3750.0	5.30	500.00	0.86282	605.5
3	8.00	492.80	490.05	490.07	550.0	3705.0	4.80	500.00	0.71443	607.7
3	7.00	490.01	487.07	487.10	397.8	3750.0	6.35	500.00	0.91780	397.8
4	6.00	486.48	483.88	483.83	334.1	3750.0	6.86	500.00	0.94585	334.1
4	5.00	483.12	481.94	481.91	570.1	3750.0	5.60	500.00	0.91091	570.1
4	4.00	479.06	477.94	477.91	588.3	3750.0	5.92	500.00	1.00560	588.3
4	3.00	475.37	473.92	473.89	415.0	2717.0	5.35	500.00	0.85111	664.8
4	2.00	471.74	469.86	469.81	293.1	3750.0	7.47	500.00	1.00495	293.1
4	1.00	468.01	465.88	465.84	339.0	3750.0	6.89	0.00	0.95833	988.7

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.276E+02	0.276E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.568E+01 0.104E+02 0.553E+01 0.327E+01 0.177E+01 0.708E+00 0.244E+00 0.188E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.276E+02	0.281E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.556E+01 0.102E+02 0.570E+01 0.361E+01 0.199E+01 0.784E+00 0.235E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.310E-01 0.141E+00 0.199E+00 0.209E+00 0.168E+00 0.100E+00 0.701E-01 0.799E-01

3 0.281E+02 0.229E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.474E+01 0.805E+01 0.463E+01 0.303E+01 0.171E+01 0.622E+00 0.122E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.332E-01 0.145E+00 0.201E+00 0.206E+00 0.167E+00 0.982E-01 0.690E-01 0.780E-01

4 0.229E+02 0.293E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.524E+01 0.103E+02 0.622E+01 0.398E+01 0.227E+01 0.910E+00 0.306E+00 0.146E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.263E-01 0.131E+00 0.199E+00 0.211E+00 0.174E+00 0.103E+00 0.720E-01 0.834E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71872E-02	0.66234E+01	0.17359E+01	0.32153E+03	0.32660E+00	0.31028E-01	0.10387E+02	0.10214E+01	0.26412E+00	0.14228E+03
2	0.76255E-02	0.60383E+01	0.14089E+01	0.45643E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.26494E+00	0.45281E-01	0.85657E+00
3	0.68623E-02	0.53286E+01	0.12292E+01	0.58124E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.68016E+00	0.11044E+00	0.12117E+03
4	0.73000E-02	0.63033E+01	0.13948E+01	0.42817E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.45333E+00	0.22345E+00	0.10336E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 7

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.46000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.78	538.00	538.00	246.0	4419.0	7.67	520.00	0.88355	389.6
1	20.00	536.12	534.00	534.00	305.0	4579.0	7.42	510.00	0.91991	468.8
1	19.00	532.71	530.00	530.00	364.0	4070.0	6.83	500.00	0.94016	663.0
1	18.00	528.99	526.00	526.00	346.0	4400.0	6.45	500.00	0.80858	597.5
1	17.00	526.29	524.00	524.00	310.0	4500.0	7.12	490.00	0.87847	614.5
2	16.00	521.69	520.00	520.00	473.8	4600.0	6.81	520.00	1.00607	473.8
2	15.00	517.91	516.00	516.00	417.8	4600.0	6.64	500.00	0.90830	417.8
2	14.00	514.23	512.00	512.00	435.4	4600.0	7.04	500.00	1.01204	435.4
2	13.00	510.67	508.00	508.00	505.9	4597.0	5.18	500.00	0.68864	505.9
2	12.00	507.32	506.00	506.00	676.0	4600.0	5.61	500.00	0.89709	676.0
3	11.00	503.35	502.00	502.00	720.0	4313.0	4.90	500.00	0.78074	856.0
3	10.00	499.79	498.09	498.12	532.4	4600.0	6.55	470.00	1.00615	532.4
3	9.00	495.24	492.06	492.08	632.3	4600.0	5.71	500.00	0.89193	632.3
3	8.00	493.04	490.07	490.09	550.0	4507.0	5.07	500.00	0.70376	903.8
3	7.00	490.23	487.10	487.13	411.4	4600.0	6.85	500.00	0.94429	411.4
4	6.00	486.65	483.83	483.78	340.1	4600.0	7.38	500.00	0.96107	340.1

4	5.00	483.24	481.91	481.88	571.4	4600.0	6.16	500.00	0.94867	571.4
4	4.00	479.19	477.91	477.88	593.7	4600.0	6.32	500.00	1.00561	593.7
4	3.00	475.56	473.89	473.85	415.0	3343.0	5.74	500.00	0.85358	671.4
4	2.00	471.96	469.81	469.76	299.3	4600.0	7.93	500.00	1.00390	299.3
4	1.00	468.34	465.84	465.79	339.0	4374.0	6.60	0.00	0.83109	993.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.349E+02	0.349E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.730E+01 0.135E+02 0.695E+01 0.393E+01 0.207E+01 0.837E+00 0.311E+00 0.538E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.349E+02	0.357E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.728E+01 0.133E+02 0.716E+01 0.435E+01 0.235E+01 0.943E+00 0.313E+00 0.110E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.310E-01 0.141E+00 0.199E+00 0.209E+00 0.168E+00 0.994E-01 0.701E-01 0.799E-01

3	0.357E+02	0.301E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.648E+01 0.109E+02 0.593E+01 0.372E+01 0.210E+01 0.790E+00 0.195E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.340E-01 0.147E+00 0.201E+00 0.205E+00 0.167E+00 0.982E-01 0.686E-01 0.775E-01

4	0.301E+02	0.369E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.681E+01 0.133E+02 0.781E+01 0.480E+01 0.269E+01 0.110E+01 0.402E+00 0.595E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.261E-01 0.129E+00 0.199E+00 0.212E+00 0.175E+00 0.103E+00 0.729E-01 0.845E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71970E-02	0.70294E+01	0.19572E+01	0.32283E+03	0.75687E+00	0.84583E-01	0.22731E+02	0.16870E+01	0.41095E+00	0.21647E+03
2	0.76693E-02	0.64073E+01	0.15920E+01	0.46532E+03	0.11908E+00	0.13888E-01	0.25867E+01	0.45378E+00	0.94707E-01	0.28331E+02
3	0.68219E-02	0.56867E+01	0.13718E+01	0.59584E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.72267E+00	0.15178E+00	0.12215E+03
4	0.73267E-02	0.67092E+01	0.15834E+01	0.43245E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.56167E+00	0.27984E+00	0.10394E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 8

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.60000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.22	538.00	538.00	246.0	5459.0	8.00	520.00	0.84667	468.6
1	20.00	536.54	534.00	534.00	305.0	5745.0	7.72	510.00	0.87177	509.3
1	19.00	532.97	530.00	530.00	364.0	5120.0	7.47	500.00	0.95954	665.9
1	18.00	529.23	526.00	526.00	346.0	5585.0	7.25	500.00	0.85705	604.6
1	17.00	526.64	524.00	524.00	310.0	5612.0	7.56	490.00	0.86120	652.1
2	16.00	521.99	520.00	519.98	500.2	6000.0	7.32	520.00	1.00776	500.2
2	15.00	518.20	516.00	515.98	442.6	6000.0	7.33	500.00	0.95073	442.6
2	14.00	514.53	512.00	511.98	443.1	6000.0	7.64	500.00	1.01082	443.1
2	13.00	510.93	508.00	507.98	508.6	5991.0	5.88	500.00	0.73235	508.6
2	12.00	507.58	506.00	505.99	697.9	6000.0	6.01	500.00	0.88449	697.9
3	11.00	503.55	502.00	502.01	720.0	5585.0	5.55	500.00	0.82735	880.3
3	10.00	500.17	498.12	498.15	698.0	5991.0	6.53	470.00	1.00305	858.1
3	9.00	495.48	492.08	492.11	671.2	6000.0	6.31	500.00	0.93348	671.2
3	8.00	493.36	490.09	490.13	550.0	5707.0	5.45	500.00	0.69626	907.5
3	7.00	490.58	487.13	487.18	433.3	6000.0	7.43	500.00	0.95973	433.3
4	6.00	486.93	483.78	483.71	348.5	6000.0	8.17	500.00	0.99139	348.5
4	5.00	483.41	481.88	481.84	573.2	6000.0	6.95	500.00	0.99792	573.2
4	4.00	479.40	477.88	477.84	602.0	6000.0	6.87	500.00	1.00571	602.0
4	3.00	475.82	473.85	473.80	415.0	4368.0	6.33	500.00	0.86561	680.4
4	2.00	472.33	469.76	469.69	308.0	5983.0	8.48	500.00	0.98816	398.6
4	1.00	468.60	465.79	465.73	339.0	5421.0	7.12	0.00	0.83667	996.4

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.468E+02	0.468E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.993E+01 0.186E+02 0.930E+01 0.497E+01 0.250E+01 0.101E+01 0.403E+00 0.114E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.468E+02	0.509E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.104E+02 0.196E+02 0.102E+02 0.587E+01 0.308E+01 0.127E+01 0.477E+00 0.893E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.304E-01 0.141E+00 0.198E+00 0.210E+00 0.168E+00 0.100E+00 0.706E-01 0.804E-01

3	0.509E+02	0.427E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.955E+01 0.159E+02 0.824E+01 0.492E+01 0.275E+01 0.107E+01 0.317E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.347E-01 0.150E+00 0.203E+00 0.204E+00 0.166E+00 0.976E-01 0.682E-01 0.771E-01

4	0.427E+02	0.524E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.992E+01 0.192E+02 0.111E+02 0.646E+01 0.353E+01 0.147E+01 0.594E+00 0.181E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.259E-01 0.125E+00 0.197E+00 0.212E+00 0.176E+00 0.104E+00 0.732E-01 0.856E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.72217E-02	0.75582E+01	0.22860E+01	0.32283E+03	0.12244E+01	0.18558E+00	0.45215E+02	0.25406E+01	0.70841E+00	0.21995E+03
2	0.77052E-02	0.69919E+01	0.18338E+01	0.47992E+03	0.19327E+00	0.31447E-01	0.57687E+01	0.62757E+00	0.15362E+00	0.29297E+02
3	0.67611E-02	0.61083E+01	0.15380E+01	0.64043E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.94962E+00	0.25565E+00	0.18211E+03
4	0.73733E-02	0.73458E+01	0.18454E+01	0.43881E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.79500E+00	0.34698E+00	0.24132E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 9

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.52500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.00	538.00	538.00	246.0	4919.0	7.82	520.00	0.86234	428.8
1	20.00	536.34	534.00	534.00	305.0	5133.0	7.52	510.00	0.88505	489.9
1	19.00	532.84	530.00	530.00	364.0	4561.0	7.14	500.00	0.94963	664.4
1	18.00	529.10	526.00	526.00	346.0	4961.0	6.87	500.00	0.83800	603.1
1	17.00	526.47	524.00	524.00	310.0	5024.0	7.30	490.00	0.86317	633.7
2	16.00	521.82	519.98	519.97	485.0	5250.0	7.07	520.00	1.00626	485.0
2	15.00	518.03	515.98	515.97	427.5	5250.0	6.99	500.00	0.92982	427.5
2	14.00	514.36	511.98	511.97	438.8	5250.0	7.33	500.00	1.01140	438.8
2	13.00	510.76	507.98	507.97	506.8	5245.0	5.59	500.00	0.72347	506.8
2	12.00	507.48	505.99	505.98	689.7	5250.0	5.61	500.00	0.84837	689.7
3	11.00	503.45	502.01	502.01	720.0	4892.0	5.31	500.00	0.82693	868.6
3	10.00	500.09	498.15	498.17	698.0	5249.0	6.26	470.00	1.00546	769.6
3	9.00	495.36	492.11	492.13	649.3	5250.0	6.13	500.00	0.94026	649.3
3	8.00	493.27	490.13	490.16	550.0	5029.0	5.12	500.00	0.67614	906.4
3	7.00	490.40	487.18	487.21	419.7	5250.0	7.37	500.00	0.99623	419.7
4	6.00	486.70	483.71	483.65	343.2	5250.0	7.75	500.00	0.97144	343.2
4	5.00	483.26	481.84	481.81	572.0	5250.0	6.53	500.00	0.97142	572.0
4	4.00	479.23	477.84	477.81	596.3	5250.0	6.59	500.00	1.00545	596.3
4	3.00	475.64	473.80	473.76	415.0	3849.0	6.07	500.00	0.86631	674.5
4	2.00	472.04	469.69	469.63	308.0	5250.0	8.26	500.00	1.01325	330.3
4	1.00	468.42	465.73	465.68	339.0	4929.0	6.86	0.00	0.82981	994.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.401E+02	0.401E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.846E+01 0.157E+02 0.797E+01 0.438E+01 0.225E+01 0.912E+00 0.351E+00 0.787E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2 0.401E+02 0.423E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.857E+01 0.160E+02 0.848E+01 0.501E+01 0.268E+01 0.109E+01 0.388E+00 0.413E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.304E-01 0.141E+00 0.199E+00 0.209E+00 0.168E+00 0.100E+00 0.704E-01 0.809E-01

3 0.423E+02 0.363E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.802E+01 0.134E+02 0.703E+01 0.431E+01 0.241E+01 0.924E+00 0.250E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.351E-01 0.152E+00 0.203E+00 0.204E+00 0.165E+00 0.971E-01 0.684E-01 0.766E-01

4 0.363E+02 0.444E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.832E+01 0.158E+02 0.939E+01 0.570E+01 0.318E+01 0.131E+01 0.511E+00 0.124E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.259E-01 0.124E+00 0.197E+00 0.213E+00 0.177E+00 0.105E+00 0.735E-01 0.868E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72118E-02	0.72767E+01	0.21193E+01	0.32283E+03	0.10210E+01	0.13579E+00	0.34181E+02	0.21532E+01	0.55909E+00	0.21823E+03
2	0.76853E-02	0.66877E+01	0.17108E+01	0.47176E+03	0.15910E+00	0.22925E-01	0.42070E+01	0.53763E+00	0.12040E+00	0.28744E+02
3	0.67692E-02	0.58580E+01	0.14245E+01	0.63392E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.85796E+00	0.21627E+00	0.18141E+03
4	0.73800E-02	0.70525E+01	0.17026E+01	0.43564E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.63833E+00	0.30276E+00	0.24053E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 10

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.40000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.57	538.00	538.00	246.0	3919.0	7.49	520.00	0.90496	350.4
1	20.00	535.87	534.00	534.00	303.1	4000.0	7.38	510.00	0.97320	303.1
1	19.00	532.59	530.00	530.00	364.0	3610.0	6.52	500.00	0.93094	661.7
1	18.00	528.92	526.00	526.00	346.0	3847.0	5.83	500.00	0.74312	577.5

1	17.00	526.03	524.00	524.00	310.0	3998.0	7.24	490.00	0.95662	587.1
2	16.00	521.53	519.97	519.97	459.5	4000.0	6.57	520.00	1.00480	459.5
2	15.00	517.75	515.97	515.97	410.2	4000.0	6.27	500.00	0.88583	410.2
2	14.00	514.06	511.97	511.97	431.6	4000.0	6.74	500.00	1.01275	431.6
2	13.00	510.50	507.97	507.97	504.3	3998.0	4.89	500.00	0.67648	504.3
2	12.00	507.22	505.98	505.98	667.6	4000.0	5.26	500.00	0.86851	667.6
3	11.00	503.32	502.01	502.01	720.0	3735.0	4.62	500.00	0.76745	851.0
3	10.00	499.74	498.17	498.19	514.3	4000.0	6.33	470.00	1.00638	514.3
3	9.00	495.16	492.13	492.15	612.1	4000.0	5.58	500.00	0.90875	612.1
3	8.00	493.04	490.16	490.18	550.0	3914.0	4.67	500.00	0.66657	903.5
3	7.00	490.10	487.21	487.24	394.6	4000.0	6.94	500.00	1.01239	394.6
4	6.00	486.34	483.65	483.61	334.8	4000.0	6.93	500.00	0.93021	334.8
4	5.00	483.04	481.81	481.78	569.9	4000.0	5.78	500.00	0.92365	569.9
4	4.00	478.98	477.81	477.79	587.6	4000.0	6.05	500.00	1.00459	587.6
4	3.00	475.33	473.76	473.73	415.0	2962.0	5.65	500.00	0.88529	664.2
4	2.00	471.60	469.63	469.58	290.5	4000.0	7.65	500.00	1.00520	290.5
4	1.00	467.90	465.68	465.64	319.4	4000.0	7.10	0.00	0.94213	319.4

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.303E+02	0.303E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.627E+01 0.115E+02 0.606E+01 0.353E+01 0.190E+01 0.766E+00 0.274E+00 0.330E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.303E+02	0.301E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.599E+01 0.111E+02 0.608E+01 0.378E+01 0.208E+01 0.827E+00 0.257E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.309E-01 0.142E+00 0.199E+00 0.208E+00 0.168E+00 0.100E+00 0.710E-01 0.809E-01

3	0.301E+02	0.259E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.558E+01 0.934E+01 0.510E+01 0.321E+01 0.181E+01 0.669E+00 0.145E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.354E-01 0.153E+00 0.203E+00 0.203E+00 0.165E+00 0.971E-01 0.680E-01 0.762E-01

4	0.259E+02	0.320E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.579E+01 0.109E+02 0.684E+01 0.442E+01 0.254E+01 0.103E+01 0.367E+00 0.405E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.256E-01 0.121E+00 0.195E+00 0.212E+00 0.177E+00 0.105E+00 0.740E-01 0.867E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71872E-02	0.67811E+01	0.17936E+01	0.32235E+03	0.36606E+00	0.36483E-01	0.12526E+02	0.11271E+01	0.29220E+00	0.17639E+03
2	0.76454E-02	0.61432E+01	0.14668E+01	0.45898E+03	0.48805E-02	0.00000E+00	0.26355E+00	0.30719E+00	0.52313E-01	0.27700E+02
3	0.68057E-02	0.54540E+01	0.12701E+01	0.58577E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.70243E+00	0.14440E+00	0.12200E+03
4	0.73833E-02	0.65133E+01	0.14565E+01	0.42580E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.45667E+00	0.21962E+00	0.47933E+02

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 11

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.30000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.21	538.00	538.00	246.0	2994.0	6.88	520.00	0.91064	285.0
1	20.00	535.62	534.00	534.00	299.3	3000.0	6.45	510.00	0.91202	299.3
1	19.00	532.37	530.00	530.00	364.0	2823.0	5.93	500.00	0.91499	659.2
1	18.00	528.63	526.00	526.00	346.0	2945.0	5.21	500.00	0.71874	490.1
1	17.00	525.64	524.00	524.00	296.2	3000.0	6.91	490.00	1.00601	296.2
2	16.00	521.27	519.97	519.97	437.3	3000.0	6.06	520.00	1.00249	437.3
2	15.00	517.49	515.97	515.97	395.5	3000.0	5.60	500.00	0.84859	395.5
2	14.00	513.79	511.97	511.97	402.3	3000.0	6.25	500.00	1.00830	402.3
2	13.00	510.26	507.97	507.97	501.7	3000.0	4.33	500.00	0.64900	501.7
2	12.00	507.03	505.98	505.98	651.9	3000.0	4.72	500.00	0.84268	651.9
3	11.00	503.13	502.01	502.01	720.0	2810.0	4.11	500.00	0.74307	829.9
3	10.00	499.50	498.19	498.21	473.7	3000.0	5.91	470.00	1.00582	473.7
3	9.00	494.97	492.15	492.16	551.9	3000.0	5.04	500.00	0.85509	551.9
3	8.00	492.79	490.18	490.19	550.0	2960.0	4.23	500.00	0.66133	604.2
3	7.00	489.80	487.24	487.26	354.4	3000.0	6.54	500.00	1.01402	354.4
4	6.00	486.03	483.61	483.58	327.4	3000.0	6.19	500.00	0.89599	327.4
4	5.00	482.83	481.78	481.76	568.1	3000.0	5.07	500.00	0.87604	568.1
4	4.00	478.76	477.79	477.77	580.1	3000.0	5.51	500.00	1.00216	580.1
4	3.00	475.07	473.73	473.71	415.0	2250.0	5.20	500.00	0.89821	655.7
4	2.00	471.22	469.58	469.54	281.2	3000.0	7.02	500.00	1.00312	281.2
4	1.00	467.55	465.64	465.61	298.7	3000.0	6.47	0.00	0.91613	298.7

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.204E+02	0.204E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.408E+01 0.748E+01 0.413E+01 0.256E+01 0.141E+01 0.552E+00 0.165E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.204E+02	0.207E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.402E+01 0.737E+01 0.425E+01 0.279E+01 0.156E+01 0.595E+00 0.149E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.311E-01 0.143E+00 0.198E+00 0.208E+00 0.167E+00 0.100E+00 0.710E-01 0.809E-01

3	0.207E+02	0.177E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE

0.371E+01 0.625E+01 0.360E+01 0.234E+01 0.133E+01 0.458E+00 0.627E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.357E-01 0.154E+00 0.203E+00 0.202E+00 0.164E+00 0.965E-01 0.676E-01 0.757E-01

4 0.177E+02 0.219E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.383E+01 0.720E+01 0.477E+01 0.326E+01 0.191E+01 0.755E+00 0.227E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.257E-01 0.121E+00 0.195E+00 0.213E+00 0.178E+00 0.105E+00 0.743E-01 0.885E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71724E-02	0.61269E+01	0.15291E+01	0.31969E+03	0.19468E+00	0.13728E-01	0.45596E+01	0.76589E+00	0.15337E+00	0.14093E+03
2	0.75737E-02	0.56093E+01	0.12559E+01	0.44227E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.17530E+00	0.29526E-01	0.45817E+00
3	0.68421E-02	0.49780E+01	0.11017E+01	0.56032E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.64575E+00	0.10378E+00	0.12101E+03
4	0.74233E-02	0.59158E+01	0.12410E+01	0.41639E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.41167E+00	0.17772E+00	0.47467E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 12

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.21000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.79	538.00	538.00	234.9	2100.0	6.29	520.00	0.92877	234.9
1	20.00	535.37	534.00	534.00	295.4	2100.0	5.41	510.00	0.83209	295.4
1	19.00	532.11	530.00	530.00	364.0	2075.0	5.38	500.00	0.92206	656.2
1	18.00	528.28	526.00	526.00	346.0	2094.0	4.65	500.00	0.71755	380.2
1	17.00	525.31	524.00	524.00	283.7	2100.0	6.17	490.00	0.99374	283.7
2	16.00	521.01	519.97	519.97	414.0	2100.0	5.49	520.00	1.00604	414.0
2	15.00	517.22	515.97	515.97	379.8	2100.0	4.89	500.00	0.81007	379.8
2	14.00	513.49	511.97	511.97	355.6	2100.0	5.77	500.00	1.00516	355.6
2	13.00	510.00	507.97	507.97	498.4	2100.0	3.73	500.00	0.61951	498.4
2	12.00	506.83	505.98	505.98	635.7	2100.0	4.12	500.00	0.80967	635.7
3	11.00	502.97	502.01	502.01	720.0	1973.0	3.55	500.00	0.71351	808.0
3	10.00	499.26	498.21	498.22	428.9	2100.0	5.42	470.00	1.00545	428.9
3	9.00	494.76	492.16	492.17	530.7	2100.0	4.45	500.00	0.83048	530.7
3	8.00	492.52	490.19	490.20	550.0	2087.0	3.75	500.00	0.65712	561.0
3	7.00	489.48	487.26	487.27	309.0	2100.0	6.08	500.00	1.01467	309.0
4	6.00	485.73	483.58	483.56	320.4	2100.0	5.29	500.00	0.83696	320.4
4	5.00	482.61	481.76	481.75	566.0	2100.0	4.41	500.00	0.84744	566.0
4	4.00	478.56	477.77	477.76	573.4	2100.0	4.79	500.00	0.96504	573.4
4	3.00	474.82	473.71	473.70	415.0	1601.0	4.66	500.00	0.90330	647.5
4	2.00	470.85	469.54	469.52	272.4	2100.0	6.26	500.00	0.99484	272.4
4	1.00	467.17	465.61	465.59	277.2	2100.0	5.80	0.00	0.89489	277.2

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.128E+02	0.128E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.245E+01 0.449E+01 0.266E+01 0.177E+01 0.992E+00 0.365E+00 0.778E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.128E+02	0.131E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.243E+01 0.446E+01 0.276E+01 0.191E+01 0.107E+01 0.382E+00 0.597E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.312E-01 0.143E+00 0.198E+00 0.208E+00 0.167E+00 0.100E+00 0.710E-01 0.809E-01

3	0.131E+02	0.115E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.228E+01 0.392E+01 0.243E+01 0.165E+01 0.930E+00 0.288E+00 0.968E-02 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.358E-01 0.154E+00 0.203E+00 0.201E+00 0.164E+00 0.965E-01 0.682E-01 0.757E-01

4	0.115E+02	0.138E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.228E+01 0.431E+01 0.307E+01 0.222E+01 0.132E+01 0.488E+00 0.103E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.259E-01 0.121E+00 0.195E+00 0.213E+00 0.179E+00 0.106E+00 0.748E-01 0.891E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71478E-02	0.54217E+01	0.12473E+01	0.31574E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.32690E+00	0.37010E-01	0.13938E+03
2	0.74940E-02	0.50032E+01	0.10415E+01	0.42159E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.68988E-02	0.44482E+01	0.90737E+00	0.54113E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.55061E+00	0.72193E-01	0.11994E+03
4	0.74533E-02	0.52250E+01	0.10194E+01	0.40672E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.35833E+00	0.13712E+00	0.47017E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 13

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.14500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.38	538.00	538.00	212.0	1450.0	6.04	520.00	1.00015	212.0
1	20.00	535.18	534.00	534.00	292.6	1450.0	4.35	510.00	0.71793	292.6
1	19.00	531.76	530.00	530.00	306.1	1450.0	5.37	500.00	1.00726	306.1
1	18.00	527.93	526.00	526.00	288.7	1450.0	4.19	500.00	0.67333	288.7
1	17.00	525.09	524.00	524.00	274.9	1450.0	5.25	490.00	0.92317	274.9
2	16.00	520.79	519.97	519.97	394.9	1450.0	4.93	520.00	1.00592	394.9
2	15.00	516.99	515.97	515.97	366.5	1450.0	4.23	500.00	0.77053	366.5
2	14.00	513.21	511.97	511.97	313.7	1450.0	5.33	500.00	1.00804	313.7
2	13.00	509.55	507.97	507.97	403.8	1450.0	3.98	500.00	0.73971	403.8
2	12.00	506.88	505.98	505.98	640.3	1450.0	2.66	500.00	0.50761	640.3
3	11.00	502.64	502.01	502.01	720.0	1369.0	4.08	500.00	1.05337	768.7
3	10.00	499.05	498.22	498.22	402.5	1450.0	4.89	470.00	1.00412	402.5
3	9.00	494.58	492.17	492.17	513.0	1450.0	3.88	500.00	0.80024	513.0
3	8.00	492.29	490.20	490.20	524.4	1447.0	3.30	500.00	0.63703	524.4
3	7.00	489.18	487.27	487.27	268.1	1450.0	5.62	500.00	1.00820	268.1
4	6.00	485.47	483.56	483.56	302.2	1450.0	4.50	500.00	0.76878	302.2
4	5.00	482.42	481.75	481.75	564.3	1450.0	3.89	500.00	0.84245	564.3
4	4.00	478.40	477.76	477.76	568.4	1450.0	4.05	500.00	0.89936	568.4
4	3.00	474.60	473.70	473.70	415.0	1127.0	4.16	500.00	0.90853	640.9
4	2.00	470.57	469.52	469.52	265.7	1450.0	5.47	500.00	0.96476	265.7
4	1.00	466.85	465.59	465.59	259.6	1450.0	5.14	0.00	0.86769	259.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.788E+01	0.788E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.145E+01 0.268E+01 0.168E+01 0.116E+01 0.655E+00 0.223E+00 0.267E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.788E+01	0.815E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.144E+01 0.269E+01 0.178E+01 0.128E+01 0.715E+00 0.230E+00 0.118E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.312E-01 0.143E+00 0.198E+00 0.208E+00 0.167E+00 0.100E+00 0.710E-01 0.809E-01

3	0.815E+01	0.819E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.151E+01 0.270E+01 0.181E+01 0.127E+01 0.711E+00 0.198E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.358E-01 0.154E+00 0.203E+00 0.201E+00 0.164E+00 0.965E-01 0.676E-01 0.757E-01

4	0.819E+01	0.848E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.133E+01 0.254E+01 0.195E+01 0.148E+01 0.869E+00 0.289E+00 0.250E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.263E-01 0.122E+00 0.195E+00 0.213E+00 0.178E+00 0.105E+00 0.741E-01 0.891E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.71034E-02	0.48916E+01	0.10725E+01	0.28249E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.73825E-02	0.44833E+01	0.87523E+00	0.38746E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.70121E-02	0.40540E+01	0.73487E+00	0.52361E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.59312E+00	0.35704E-01	0.11844E+03
4	0.74700E-02	0.45750E+01	0.83861E+00	0.39658E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.30833E+00	0.10403E+00	0.46650E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 14

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.90000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.03	538.00	538.00	192.9	900.0	5.32	520.00	1.00183	192.9
1	20.00	534.90	534.00	534.00	288.5	900.0	3.56	510.00	0.67068	288.5
1	19.00	531.45	530.00	530.00	252.3	900.0	4.91	500.00	1.01418	252.3
1	18.00	527.53	526.00	526.00	243.7	900.0	3.74	500.00	0.66427	243.7
1	17.00	524.85	524.00	524.00	265.6	900.0	4.26	490.00	0.84278	265.6
2	16.00	520.58	519.97	519.97	375.9	900.0	4.27	520.00	1.00421	375.9
2	15.00	516.74	515.97	515.97	352.5	900.0	3.52	500.00	0.72881	352.5
2	14.00	512.93	511.97	511.97	270.2	900.0	4.77	500.00	1.00452	270.2
2	13.00	509.26	507.97	507.97	338.7	900.0	3.54	500.00	0.72107	338.7
2	12.00	506.69	505.98	505.98	623.6	900.0	2.15	500.00	0.46276	623.6
3	11.00	502.50	502.01	502.01	720.0	849.0	3.50	500.00	1.06281	752.0
3	10.00	498.83	498.22	498.20	379.2	900.0	4.26	470.00	1.00526	379.2
3	9.00	494.01	492.17	492.11	128.1	900.0	5.81	500.00	0.92982	128.1
3	8.00	491.85	490.20	490.17	310.6	900.0	3.22	500.00	0.59859	310.6
3	7.00	488.84	487.27	487.23	220.8	900.0	5.16	500.00	1.02178	220.8
4	6.00	485.16	483.56	483.59	259.8	900.0	3.80	500.00	0.70168	259.8
4	5.00	482.24	481.75	481.76	562.7	900.0	3.26	500.00	0.82194	562.7
4	4.00	478.25	477.76	477.77	563.1	900.0	3.31	500.00	0.83775	563.1
4	3.00	474.40	473.70	473.72	415.0	718.0	3.56	500.00	0.89831	634.5
4	2.00	470.31	469.52	469.55	259.3	900.0	4.58	500.00	0.92673	259.3
4	1.00	466.55	465.59	465.62	242.1	900.0	4.37	0.00	0.83421	242.1

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.431E+01	0.431E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.741E+00 0.140E+01 0.966E+00 0.702E+00 0.389E+00 0.113E+00 0.675E-04 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.431E+01	0.448E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.734E+00 0.142E+01 0.103E+01 0.773E+00 0.417E+00 0.107E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.312E-01 0.143E+00 0.198E+00 0.208E+00 0.167E+00 0.100E+00 0.710E-01 0.809E-01

3 0.448E+01 0.618E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.111E+01 0.204E+01 0.137E+01 0.965E+00 0.540E+00 0.152E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.346E-01 0.153E+00 0.203E+00 0.201E+00 0.165E+00 0.971E-01 0.680E-01 0.762E-01

4 0.618E+01 0.473E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.716E+00 0.136E+01 0.113E+01 0.886E+00 0.504E+00 0.133E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.280E-01 0.124E+00 0.195E+00 0.211E+00 0.177E+00 0.105E+00 0.743E-01 0.885E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70640E-02	0.42518E+01	0.85654E+00	0.25340E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.73187E-02	0.38597E+01	0.69332E+00	0.35658E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.70891E-02	0.40775E+01	0.74510E+00	0.39370E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.43522E+00	0.22714E-01	0.42794E+02
4	0.74667E-02	0.38792E+01	0.65821E+00	0.38189E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.25000E+00	0.72794E-01	0.46300E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 15

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.45000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	538.70	538.00	538.00	175.0	450.0	4.13	520.00	0.92383	175.0
1	20.00	534.60	534.00	534.00	283.9	450.0	2.71	510.00	0.62352	283.9
1	19.00	531.11	530.00	530.00	192.0	450.0	4.24	500.00	1.00351	192.0
1	18.00	527.09	526.00	526.00	194.6	450.0	3.10	500.00	0.63213	194.6
1	17.00	524.57	524.00	524.00	255.1	450.0	3.21	490.00	0.76171	255.1
2	16.00	520.36	519.97	519.97	357.5	450.0	3.36	520.00	0.96827	357.5
2	15.00	516.50	515.97	515.97	337.8	450.0	2.68	500.00	0.67164	337.8
2	14.00	512.61	511.97	511.97	222.2	450.0	4.04	500.00	1.00500	222.2
2	13.00	508.92	507.97	507.97	263.6	450.0	2.98	500.00	0.69293	263.6
2	12.00	506.47	505.98	505.98	605.3	450.0	1.59	500.00	0.40814	605.3
3	11.00	502.35	502.01	502.01	720.0	423.0	2.79	500.00	1.07220	734.4

3	10.00	498.59	498.20	498.19	355.0	450.0	3.45	470.00	1.00302	355.0
3	9.00	493.50	492.11	492.07	104.5	450.0	4.48	500.00	0.80506	104.5
3	8.00	491.43	490.17	490.15	238.1	450.0	2.72	500.00	0.57360	238.1
3	7.00	488.43	487.23	487.21	168.7	450.0	4.42	500.00	1.00286	168.7
4	6.00	484.82	483.59	483.61	209.0	450.0	3.01	500.00	0.62841	209.0
4	5.00	482.08	481.76	481.77	561.1	450.0	2.50	500.00	0.77819	561.1
4	4.00	478.10	477.77	477.78	557.5	450.0	2.49	500.00	0.76981	557.5
4	3.00	474.22	473.72	473.73	415.0	373.0	2.78	500.00	0.86249	628.2
4	2.00	470.06	469.55	469.56	252.8	450.0	3.53	500.00	0.87562	252.8
4	1.00	466.26	465.62	465.64	224.3	450.0	3.41	0.00	0.78322	224.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.181E+01	0.181E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.278E+00 0.562E+00 0.439E+00 0.333E+00 0.171E+00 0.303E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.181E+01	0.192E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.280E+00 0.589E+00 0.482E+00 0.372E+00 0.180E+00 0.211E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.312E-01 0.142E+00 0.198E+00 0.209E+00 0.167E+00 0.100E+00 0.710E-01 0.809E-01

3	0.192E+01	0.269E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.432E+00 0.862E+00 0.630E+00 0.473E+00 0.241E+00 0.371E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.341E-01 0.153E+00 0.203E+00 0.203E+00 0.165E+00 0.977E-01 0.684E-01 0.766E-01

4	0.269E+01	0.199E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.271E+00 0.556E+00 0.519E+00 0.414E+00 0.208E+00 0.224E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.285E-01 0.125E+00 0.194E+00 0.211E+00 0.177E+00 0.104E+00 0.738E-01 0.879E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70148E-02	0.34301E+01	0.61705E+00	0.22155E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.72590E-02	0.30907E+01	0.49056E+00	0.32253E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.71984E-02	0.32808E+01	0.55257E+00	0.36251E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.39069E+00	0.13556E-01	0.42287E+02
4	0.74300E-02	0.30375E+01	0.46396E+00	0.36532E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.18000E+00	0.42973E-01	0.45967E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 16

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS

WATER 0.25000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	538.50	538.00	538.00	164.1	250.0	3.33	520.00	0.86960	164.1
1	20.00	534.43	534.00	534.00	281.3	250.0	2.13	510.00	0.58239	281.3
1	19.00	530.87	530.00	530.00	151.2	250.0	3.79	500.00	1.01295	151.2
1	18.00	526.81	526.00	526.00	163.1	250.0	2.62	500.00	0.60398	163.1
1	17.00	524.41	524.00	524.00	249.0	250.0	2.50	490.00	0.69533	249.0
2	16.00	520.24	519.97	519.97	346.8	250.0	2.76	520.00	0.94956	346.8
2	15.00	516.34	515.97	515.97	329.3	250.0	2.12	500.00	0.62339	329.3
2	14.00	512.42	511.97	511.97	193.1	250.0	3.48	500.00	1.00647	193.1
2	13.00	508.71	507.97	507.97	217.9	250.0	2.47	500.00	0.63983	217.9
2	12.00	506.32	505.98	505.98	593.3	250.0	1.27	500.00	0.38838	593.3
3	11.00	502.30	502.01	502.01	720.0	233.0	2.14	500.00	0.97198	726.7
3	10.00	498.46	498.19	498.18	341.7	250.0	2.87	470.00	1.00286	341.7
3	9.00	493.13	492.07	492.05	88.0	250.0	3.70	500.00	0.74440	88.0
3	8.00	491.15	490.15	490.14	192.5	250.0	2.30	500.00	0.53912	192.5
3	7.00	488.15	487.21	487.20	133.0	250.0	3.99	500.00	1.02591	133.0
4	6.00	484.57	483.61	483.62	174.0	250.0	2.47	500.00	0.57141	174.0
4	5.00	481.99	481.77	481.77	560.1	250.0	1.99	500.00	0.74266	560.1
4	4.00	478.01	477.78	477.78	554.2	250.0	1.96	500.00	0.71831	554.2
4	3.00	474.13	473.73	473.73	415.0	217.0	2.26	500.00	0.82691	624.6
4	2.00	469.92	469.56	469.57	249.0	250.0	2.82	500.00	0.83093	249.0
4	1.00	466.09	465.64	465.65	213.6	250.0	2.75	0.00	0.74299	213.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.899E+00	0.899E+00

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.126E+00 0.273E+00 0.235E+00 0.179E+00 0.811E-01 0.372E-02 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.899E+00	0.945E+00

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.125E+00 0.288E+00 0.257E+00 0.196E+00 0.782E-01 0.000E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.312E-01 0.142E+00 0.198E+00 0.209E+00 0.167E+00 0.100E+00 0.710E-01 0.809E-01

3	0.945E+00	0.135E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.198E+00 0.428E+00 0.354E+00 0.256E+00 0.111E+00 0.143E-02 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.338E-01 0.152E+00 0.203E+00 0.203E+00 0.165E+00 0.977E-01 0.684E-01 0.766E-01

4	0.135E+01	0.967E+00

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.121E+00 0.272E+00 0.274E+00 0.214E+00 0.857E-01 0.000E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.288E-01 0.126E+00 0.194E+00 0.211E+00 0.177E+00 0.104E+00 0.738E-01 0.879E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.69803E-02	0.28629E+01	0.46653E+00	0.20083E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.72351E-02	0.25418E+01	0.36420E+00	0.30195E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.72632E-02	0.27212E+01	0.42700E+00	0.34260E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.33401E+00	0.10214E-01	0.42065E+02
4	0.73967E-02	0.24783E+01	0.34532E+00	0.35427E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.13000E+00	0.25825E-01	0.45783E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 17

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.10000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	538.29	538.00	538.00	153.0	100.0	2.34	520.00	0.78274	153.0
1	20.00	534.25	534.00	534.00	278.7	100.0	1.48	510.00	0.52844	278.7
1	19.00	530.60	530.00	530.00	104.7	100.0	3.16	500.00	1.01480	104.7
1	18.00	526.51	526.00	526.00	128.4	100.0	1.97	500.00	0.55344	128.4
1	17.00	524.25	524.00	524.00	242.5	100.0	1.71	490.00	0.61391	242.5
2	16.00	520.12	519.97	519.97	336.3	100.0	1.99	520.00	0.91028	336.3
2	15.00	516.19	515.97	515.97	320.5	100.0	1.46	500.00	0.55591	320.5
2	14.00	512.23	511.97	511.97	163.3	100.0	2.71	500.00	1.00261	163.3
2	13.00	508.48	507.97	507.97	166.1	100.0	1.79	500.00	0.54407	166.1
2	12.00	506.17	505.98	505.98	580.7	100.0	0.92	500.00	0.37761	580.7
3	11.00	502.23	502.01	502.01	719.1	91.0	1.36	500.00	0.78606	719.1
3	10.00	498.32	498.18	498.18	329.0	100.0	2.15	470.00	1.00484	329.0
3	9.00	492.71	492.05	492.04	70.1	100.0	2.72	500.00	0.66255	70.1
3	8.00	490.81	490.14	490.13	138.4	100.0	1.80	500.00	0.50179	138.4
3	7.00	487.86	487.20	487.19	92.6	100.0	3.27	500.00	1.00148	92.6
4	6.00	484.27	483.62	483.63	130.0	100.0	1.85	500.00	0.50448	130.0
4	5.00	481.89	481.77	481.77	559.2	100.0	1.38	500.00	0.67838	559.2
4	4.00	477.91	477.78	477.78	550.7	100.0	1.36	500.00	0.65474	550.7
4	3.00	474.02	473.73	473.73	415.0	95.0	1.62	500.00	0.76057	621.0
4	2.00	469.78	469.57	469.57	245.2	100.0	1.97	500.00	0.76587	245.2
4	1.00	465.91	465.65	465.65	202.5	100.0	1.95	0.00	0.68164	202.5

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)

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1        0.285E+00                0.285E+00

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.356E-01 0.890E-01 0.846E-01 0.600E-01 0.153E-01 0.000E+00 0.000E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2        0.285E+00                0.230E+00

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.294E-01 0.782E-01 0.734E-01 0.465E-01 0.279E-02 0.000E+00 0.000E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.312E-01 0.142E+00 0.198E+00 0.209E+00 0.167E+00 0.100E+00 0.710E-01 0.809E-01

3        0.230E+00                0.403E+00

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.546E-01 0.135E+00 0.121E+00 0.781E-01 0.138E-01 0.000E+00 0.000E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.336E-01 0.151E+00 0.203E+00 0.204E+00 0.165E+00 0.977E-01 0.684E-01 0.766E-01

4        0.403E+00                0.233E+00

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.292E-01 0.750E-01 0.783E-01 0.492E-01 0.126E-02 0.000E+00 0.000E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.290E-01 0.126E+00 0.195E+00 0.211E+00 0.177E+00 0.104E+00 0.738E-01 0.879E-01
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(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.69409E-02	0.21571E+01	0.29954E+00	0.17784E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.72151E-02	0.18520E+01	0.22768E+00	0.27991E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.73482E-02	0.20200E+01	0.28321E+00	0.32010E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.25506E+00	0.72284E-02	0.41842E+02
4	0.73533E-02	0.17983E+01	0.21983E+00	0.34127E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.60000E-01	0.81251E-02	0.45583E+02

```
AC
AC
AC
T1      SLA  JOB#: BCA01  FILE: BCA01
T2      PANTANO WASH, 2-YR EVENT, QPEAK=6000 CFS
T3
J1   -10      2      0      0   .0067      0      0      0  467.00      0
J2    -1      0     -1      0      0      0      0      0      0      0
J3    38     13     14     15      1     42     26      4      8     25
J3    39     53     54
NC 0.050  0.050  0.025    0.1    0.3
NT     1    150
X1  1.00     16   609.   948.   550.   400.   500.
X3                       609.
GR472.00     0.  470.00    99.  472.00   445.  472.00   609.  466.00   631.
GR466.00   818.  468.00   948.  468.00  1612.  470.00  1630.  470.00  1804.
GR472.00  1859.  474.00  1901.  474.00  1991.  476.00  2058.  478.00  2165.
GR482.00  2257.
X1  2.00     23   773.  1081.   530.   430.   500.
X3                       610.
GR482.00     0.  478.00   134.  476.00   177.  474.00   262.  474.00   424.
GR476.00   542.  478.00   610.  476.00   698.  474.00   773.  470.00   789.
GR470.00  1029.  472.00  1081.  474.00  1516.  474.00  1656.  474.00  1869.
GR472.00  1878.  472.00  1899.  474.00  1913.  476.00  1947.  478.00  2014.
GR478.00  2368.  480.00  2433.  484.00  2528.
X1  3.00     16    29.   444.   570.   340.   500.
GR490.00     0.  478.00    29.  476.00    52.  474.00   103.  474.00   444.
GR474.00   717.  476.00   739.  476.00   972.  478.00  1017.  480.00  1094.
GR478.00  1246.  478.00  1289.  480.00  1340.  482.00  1522.  484.00  1626.
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GR486.00   1656.
X1  4.00     13    341.    965.    520.    380.    500.
GR490.00      0.  488.00    120.  486.00    295.  480.00    341.  478.00    388.
GR478.00    934.  480.00    965.  480.00   1099.  482.00   1237.  484.00   1720.
GR486.00   1852.  490.00   1950.  494.00   2015.
X1  5.00     14    167.    913.    370.    510.    500.
GR500.00      0.  490.00    112.  488.00    167.  486.00    179.  486.00    237.
GR484.00    262.  482.00    278.  482.00    836.  486.00    846.  488.00    913.
GR488.00   1193.  490.00   1290.  492.00   1418.  494.00   1591.
X1  6.00     14    471.    895.    340.    560.    500.
GR510.00      0.  500.00    126.  490.00    167.  490.00    471.  488.00    479.
GR486.00    534.  484.00    810.  484.00    846.  490.00    862.  492.00    895.
GR494.00   1080.  496.00   1258.  500.00   1350.  504.00   1648.
X1  7.00     11    280.    780.    400.    580.    500.
GR500.00      0.  492.00     51.  491.00    280.  487.00    388.  488.00    502.
GR490.00    705.  492.00    780.  496.00    859.  496.00    993.  498.00   1052.
GR500.00   1220.
X1  8.00     13     35.    585.    460.    460.    500.
NH     4    .05     35    .025     585     .04    1088    .05    1533
GR510.00      0.  500.00     35.  490.00     69.  490.00     95.  492.00    431.
GR492.00    550.  493.00    585.  493.00    850.  492.00    954.  496.00    987.
GR500.00   1088.  504.00   1466.  506.00   1533.
X1  9.00     16     22.    800.    520.    480.    500.
NH     4    .05     22    .025     520     .04    1284    .05    2232
GR520.00      0.  510.00     22.  492.00     48.  492.00     88.  494.00    181.
GR494.00    520.  496.00    691.  495.00    720.  495.00    755.  496.00    800.
GR496.00   1215.  498.00   1272.  500.00   1284.  502.00   1731.  506.00   2078.
GR508.00   2232.
X1 10.00     19    172.    870.    590.    360.    470.
NH     4    .05    172    .025     529     .04    1191    .05    2334
GR520.00      0.  504.00     53.  502.00    172.  498.00    193.  498.00    457.
GR499.00    529.  500.00    645.  500.00    761.  498.00    777.  498.00    827.
GR500.30    870.  500.00   1167.  502.00   1191.  502.00   1335.  504.00   2023.
GR506.00   2112.  508.00   2161.  510.00   2226.  514.00   2334.
X1 11.00     12     41.    761.    520.    490.    500.
NH     4    .05     41    .025     761     .04     998    .05    1979
GR530.00      0.  508.00     41.  502.00     73.  502.00    745.  504.00    761.
GR502.00    942.  502.00    964.  504.00    998.  506.00   1157.  506.00   1867.
GR508.00   1896.  510.00   1979.
X1 12.00     11    211.    944.    500.    490.    500.
GR550.00      0.  520.00    122.  510.00    160.  508.00    211.  506.00    351.
GR506.00    916.  508.00    944.  510.00   1165.  510.00   2029.  514.00   2092.
GR518.00   2163.
X1 13.00     11     36.    548.    520.    500.    500.
GR540.00      0.  530.00     20.  520.00     36.  510.00     49.  508.00    207.
GR508.00    262.  510.00    548.  512.00    566.  514.00   1403.  516.00   1667.
GR520.00   1809.
X1 14.00     13     48.    544.    440.    550.    500.
GR520.00      0.  520.00     48.  514.00     71.  512.00    333.  512.00    457.
GR516.00    544.  518.00    753.  520.00   1011.  522.00   1417.  524.00   1577.
GR524.00   1720.  526.00   1835.  528.00   1849.
X1 15.00     14     35.    706.    490.    560.    500.
GR540.00      0.  522.00     35.  518.00     54.  516.00    153.  516.00    461.
GR518.00    477.  520.00    662.  522.00    706.  524.00    844.  526.00    986.
GR528.00   1167.  530.00   1299.  532.00   1476.  534.00   1679.
X1 16.00     17    241.    742.    480.    500.    520.
GR540.00      0.  530.00     52.  528.00     72.  526.00    106.  524.00    147.
GR522.00    241.  520.00    269.  520.00    592.  522.00    742.  524.00    860.
GR526.00    979.  528.00   1105.  528.00   1266.  530.00   1309.  532.00   1483.
GR536.00   1659.  540.00   1852.
X1 17.00     14    395.    705.    530.    430.    490.
GR540.00      0.  532.00     24.  530.00     44.  528.00    211.  526.00    395.
GR524.00    417.  524.00    650.  526.00    705.  526.00    979.  528.00   1007.
GR530.00   1204.  532.00   1375.  536.00   1582.  540.00   1805.
X1 18.00     16    349.    695.    580.    440.    500.
GR540.00      0.  536.00    152.  532.00    294.  530.00    349.  526.00    363.
GR526.00    434.  528.00    653.  529.00    695.  528.00    947.  530.00    962.
GR530.00   1066.  532.00   1090.  534.00   1236.  536.00   1433.  538.00   1625.
GR540.00   1814.
X1 19.00     16    196.    560.    520.    500.    500.
GR550.00      0.  540.00     71.  538.00    119.  536.00    196.  532.00    213.
GR530.00    548.  532.00    560.  532.00    868.  534.00    882.  536.00   1065.
GR538.00   1236.  538.00   1353.  540.00   1580.  542.00   1842.  546.00   1970.
GR550.00   1989.
X1 20.00     14    222.    527.    560.    450.    510.
GR560.00      0.  540.00     41.  538.00     47.  536.00    222.  534.00    236.
GR534.00    511.  536.00    527.  536.00    679.  538.00    699.  540.00    751.
GR542.00   1009.  544.00   1738.  550.00   1821.  560.00   1842.
X1 21.00     15    578.    824.    490.    490.    520.
GR560.00      0.  550.00     57.  546.00     73.  544.00    107.  542.00    244.
GR540.00    578.  538.00    648.  538.00    785.  540.00    824.  542.00    856.
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GR544.00   1059.  546.00   1130.  548.00   1693.  550.00   1764.  560.00   1784.
EJ


ER
     17      4      0     0.4      0
      0      5  10010    7490      0
      0      5   7490    4970      0
      0      5   4970    2500      0
      0      6   2500       0      0
      8
   0.11   0.25   0.60    1.31   3.06   6.69  13.47  23.91
    500    500    500     500
    .03    .14    .20     .21    .17    .10    .07    .08
    .03    .14    .20     .21    .17    .10    .07    .08
    .03    .14    .20     .21    .17    .10    .07    .08
    .03    .14    .20     .21    .17    .10    .07    .08
    .03    .14    .20     .21    .17    .10    .07    .08
    .03    .14    .20     .21    .17    .10    .07    .08
    .03    .14    .20     .21    .17    .10    .07    .08
    .03    .14    .20     .21    .17    .10    .07    .08
      1      1      1       1      1      1      1      1      1      1
      1      1      1       2      2      2      2
    150   1150   2500    3050   3200   3750   4600   6000   5250   4000
   3000   2100   1450     900    450    250    100
      0      0      0       0      0      0      0      0      0      1
      0
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THE FOLLOWING TABLE LISTS THE BED ELEVATION AT THE END OF EACH TIME STEP

REACH	SECNO	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP10	STEP11	STEP12
1	21.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00
1	20.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00
1	19.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00
1	18.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00
1	17.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00
2	16.00	520.00	520.00	520.00	520.00	520.00	520.00	520.00	519.98	519.97	519.97	519.97	519.97
2	15.00	516.00	516.00	516.00	516.00	516.00	516.00	516.00	515.98	515.97	515.97	515.97	515.97
2	14.00	512.00	512.00	512.00	512.00	512.00	512.00	512.00	511.98	511.97	511.97	511.97	511.97
2	13.00	508.00	508.00	508.00	508.00	508.00	508.00	508.00	507.98	507.97	507.97	507.97	507.97
2	12.00	506.00	506.00	506.00	506.00	506.00	506.00	506.00	505.99	505.98	505.98	505.98	505.98
3	11.00	502.00	502.00	502.00	502.00	502.00	502.00	502.00	502.01	502.01	502.01	502.01	502.01
3	10.00	498.00	498.00	498.02	498.04	498.06	498.09	498.12	498.15	498.17	498.19	498.21	498.22
3	9.00	491.99	491.99	492.00	492.02	492.04	492.06	492.08	492.11	492.13	492.15	492.16	492.17
3	8.00	490.00	490.00	490.01	490.03	490.05	490.07	490.09	490.13	490.16	490.18	490.19	490.20
3	7.00	486.99	486.99	487.01	487.04	487.07	487.10	487.13	487.18	487.21	487.24	487.26	487.27
4	6.00	484.00	483.99	483.96	483.92	483.88	483.83	483.78	483.71	483.65	483.61	483.58	483.56
4	5.00	482.00	482.00	481.98	481.96	481.94	481.91	481.88	481.84	481.81	481.78	481.76	481.75
4	4.00	478.00	478.00	477.98	477.96	477.94	477.91	477.88	477.84	477.81	477.79	477.77	477.76
4	3.00	474.00	474.00	473.98	473.95	473.92	473.89	473.85	473.80	473.76	473.73	473.71	473.70
4	2.00	470.00	469.99	469.95	469.91	469.86	469.81	469.76	469.69	469.63	469.58	469.54	469.52
4	1.00	466.00	465.99	465.96	465.92	465.88	465.84	465.79	465.73	465.68	465.64	465.61	465.59

REACH	SECNO	STEP13	STEP14	STEP15	STEP16	STEP17
1	21.00	538.00	538.00	538.00	538.00	538.00
1	20.00	534.00	534.00	534.00	534.00	534.00
1	19.00	530.00	530.00	530.00	530.00	530.00
1	18.00	526.00	526.00	526.00	526.00	526.00
1	17.00	524.00	524.00	524.00	524.00	524.00
2	16.00	519.97	519.97	519.97	519.97	519.97
2	15.00	515.97	515.97	515.97	515.97	515.97
2	14.00	511.97	511.97	511.97	511.97	511.97
2	13.00	507.97	507.97	507.97	507.97	507.97
2	12.00	505.98	505.98	505.98	505.98	505.98
3	11.00	502.01	502.01	502.01	502.01	502.01
3	10.00	498.22	498.20	498.19	498.18	498.18
3	9.00	492.17	492.11	492.07	492.05	492.04
3	8.00	490.20	490.17	490.15	490.14	490.13
3	7.00	487.27	487.23	487.21	487.20	487.19

4	6.00	483.56	483.59	483.61	483.62	483.63
4	5.00	481.75	481.76	481.77	481.77	481.77
4	4.00	477.76	477.77	477.78	477.78	477.78
4	3.00	473.70	473.72	473.73	473.73	473.73
4	2.00	469.52	469.55	469.56	469.57	469.57
4	1.00	465.59	465.62	465.64	465.65	465.65

THE FOLLOWING TABLE LISTS THE CHANGE IN BED ELEVATION DURING EACH TIME STEP

REACH	SECNO	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP10	STEP11	STEP12
1	21.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	18.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	17.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	0.00	0.00	0.00
2	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	0.00	0.00	0.00
2	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	0.00	0.00	0.00
2	13.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.02	-0.01	0.00	0.00	0.00
2	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	0.00	0.00	0.00
3	11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
3	10.00	0.00	0.00	0.02	0.02	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.01
3	9.00	-0.01	0.00	0.01	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.01	0.01
3	8.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.04	0.03	0.02	0.01	0.01
3	7.00	-0.01	0.00	0.02	0.03	0.03	0.03	0.03	0.05	0.03	0.03	0.02	0.01
4	6.00	0.00	-0.01	-0.03	-0.04	-0.04	-0.05	-0.05	-0.07	-0.06	-0.04	-0.03	-0.02
4	5.00	0.00	0.00	-0.02	-0.02	-0.02	-0.03	-0.03	-0.04	-0.03	-0.03	-0.02	-0.01
4	4.00	0.00	0.00	-0.02	-0.02	-0.02	-0.03	-0.03	-0.04	-0.03	-0.02	-0.02	-0.01
4	3.00	0.00	0.00	-0.02	-0.03	-0.03	-0.03	-0.04	-0.05	-0.04	-0.03	-0.02	-0.01
4	2.00	0.00	-0.01	-0.04	-0.04	-0.05	-0.05	-0.05	-0.07	-0.06	-0.05	-0.04	-0.02
4	1.00	0.00	-0.01	-0.03	-0.04	-0.04	-0.04	-0.05	-0.06	-0.05	-0.04	-0.03	-0.02

REACH	SECNO	STEP13	STEP14	STEP15	STEP16	STEP17
1	21.00	0.00	0.00	0.00	0.00	0.00
1	20.00	0.00	0.00	0.00	0.00	0.00
1	19.00	0.00	0.00	0.00	0.00	0.00
1	18.00	0.00	0.00	0.00	0.00	0.00
1	17.00	0.00	0.00	0.00	0.00	0.00
2	16.00	0.00	0.00	0.00	0.00	0.00
2	15.00	0.00	0.00	0.00	0.00	0.00
2	14.00	0.00	0.00	0.00	0.00	0.00
2	13.00	0.00	0.00	0.00	0.00	0.00
2	12.00	0.00	0.00	0.00	0.00	0.00
3	11.00	0.00	0.00	0.00	0.00	0.00
3	10.00	0.00	-0.02	-0.01	-0.01	0.00
3	9.00	0.00	-0.06	-0.04	-0.02	-0.01
3	8.00	0.00	-0.03	-0.02	-0.01	-0.01
3	7.00	0.00	-0.04	-0.02	-0.01	-0.01
4	6.00	0.00	0.03	0.02	0.01	0.01
4	5.00	0.00	0.01	0.01	0.00	0.00
4	4.00	0.00	0.01	0.01	0.00	0.00
4	3.00	0.00	0.02	0.01	0.00	0.00
4	2.00	0.00	0.03	0.01	0.01	0.00
4	1.00	0.00	0.03	0.02	0.01	0.00

THE FOLLOWING TABLE LISTS THE MINIMUM AND MAXIMUM BED ELEVATIONS (COLUMNS 2 & 3), THE MAXIMUM DEGRADATION AND AGGRADATION WITH RESPE
CT TO THE INITIAL BED ELEVATION (COLUMNS 4 & 5) THAT OCCURS AT EACH SECTION DURING THE HYDROGRAPH AND THE NET CHANGE ('NETCH', COLUM
N 6) IN BED ELEVATION THAT OCCURS AT EACH SECTION DURING THE HYDROGRAPH

REACH	SECNO	MIN	MAX	DEG	AGG	NETCH
1	21.00	538.00	538.00	0.00	0.00	0.00
1	20.00	534.00	534.00	0.00	0.00	0.00
1	19.00	530.00	530.00	0.00	0.00	0.00

1	18.00	526.00	526.00	0.00	0.00	0.00
1	17.00	524.00	524.00	0.00	0.00	0.00
2	16.00	519.97	520.00	0.03	0.00	-0.03
2	15.00	515.97	516.00	0.03	0.00	-0.03
2	14.00	511.97	512.00	0.03	0.00	-0.03
2	13.00	507.97	508.00	0.03	0.00	-0.03
2	12.00	505.98	506.00	0.02	0.00	-0.02
3	11.00	502.00	502.01	0.00	0.01	0.01
3	10.00	498.00	498.22	0.00	0.22	0.18
3	9.00	491.99	492.17	0.01	0.17	0.04
3	8.00	490.00	490.20	0.00	0.20	0.13
3	7.00	486.99	487.27	0.01	0.27	0.19
4	6.00	483.56	484.00	0.44	0.00	-0.37
4	5.00	481.75	482.00	0.25	0.00	-0.23
4	4.00	477.76	478.00	0.24	0.00	-0.22
4	3.00	473.70	474.00	0.30	0.00	-0.27
4	2.00	469.52	470.00	0.48	0.00	-0.43
4	1.00	465.59	466.00	0.41	0.00	-0.35

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APPENDIX C.2

10-YEAR FLOOD ANALYSIS

TYPE QUASEDOUT.DAT

AZ BCA 01
Pantano Wash - BCA
10 YR Flood Analysis

SEDIMENT ROUTING OUTPUT FOR:

SLA JOB#: BCA01 FILE: BCA01
PANTANO WASH

1

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 1

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.15000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.40	538.00	538.00	213.5	1500.0	6.10	520.00	1.00068	213.5
1	20.00	535.21	534.00	534.00	293.1	1500.0	4.38	510.00	0.71336	293.1
1	19.00	531.78	530.00	530.00	308.0	1500.0	5.49	500.00	1.02617	308.0
1	18.00	527.95	526.00	526.00	291.9	1500.0	4.23	500.00	0.67595	291.9
1	17.00	525.11	524.00	524.00	275.8	1500.0	5.31	490.00	0.92414	275.8
2	16.00	520.84	520.00	520.00	397.5	1500.0	4.97	520.00	1.00594	397.5
2	15.00	517.03	516.00	516.00	367.6	1500.0	4.28	500.00	0.77287	367.6
2	14.00	513.27	512.00	512.00	317.4	1500.0	5.37	500.00	1.00808	317.4
2	13.00	509.62	508.00	508.00	415.0	1500.0	3.94	500.00	0.72373	415.0
2	12.00	506.90	506.00	506.00	640.6	1500.0	2.77	500.00	0.52981	640.6
3	11.00	502.52	502.00	502.00	720.0	1447.0	4.12	500.00	1.03812	756.9
3	10.00	498.85	498.00	498.00	401.9	1500.0	4.95	470.00	1.00603	401.9
3	9.00	494.45	492.00	492.00	514.3	1500.0	3.75	500.00	0.74897	514.3
3	8.00	491.91	490.00	490.00	354.3	1500.0	4.12	500.00	0.71606	354.3
3	7.00	489.10	487.00	487.00	282.7	1500.0	4.93	500.00	0.83818	282.7
4	6.00	485.83	484.00	483.99	293.1	1500.0	4.99	500.00	0.86794	293.1
4	5.00	482.72	482.00	481.99	565.5	1500.0	3.72	500.00	0.77561	565.5
4	4.00	478.61	478.00	477.99	569.8	1500.0	4.41	500.00	1.00554	569.8
4	3.00	474.79	474.00	473.99	415.0	1071.0	3.83	500.00	0.82166	643.1
4	2.00	471.05	470.00	469.99	271.5	1500.0	5.58	500.00	0.98918	271.5
4	1.00	467.28	466.00	465.99	274.9	1500.0	5.07	0.00	0.86242	274.9

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.830E+01	0.830E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.153E+01 0.283E+01 0.177E+01 0.122E+01 0.686E+00 0.236E+00 0.312E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2 0.830E+01 0.839E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.145E+01 0.275E+01 0.185E+01 0.133E+01 0.749E+00 0.239E+00 0.137E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.302E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

3 0.839E+01 0.781E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.132E+01 0.251E+01 0.177E+01 0.130E+01 0.718E+00 0.204E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.302E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

4 0.781E+01 0.914E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.154E+01 0.296E+01 0.203E+01 0.148E+01 0.840E+00 0.278E+00 0.244E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.296E-01 0.139E+00 0.199E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.71084E-02	0.49540E+01	0.10900E+01	0.28419E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.73825E-02	0.45184E+01	0.88870E+00	0.39129E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.71012E-02	0.41557E+01	0.80202E+00	0.49082E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.41498E+00	0.24803E-01	0.42874E+02
4	0.72667E-02	0.45883E+01	0.84596E+00	0.39895E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.32333E+00	0.13070E+00	0.46967E+02

1

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 2

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.51000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.95	538.00	538.00	246.0	4806.0	7.79	520.00	0.86648	420.2
1	20.00	536.30	534.00	534.00	305.0	5005.0	7.46	510.00	0.88614	486.1
1	19.00	532.81	530.00	530.00	364.0	4448.0	7.07	500.00	0.94756	664.1
1	18.00	529.08	526.00	526.00	346.0	4835.0	6.79	500.00	0.83458	602.8
1	17.00	526.43	524.00	524.00	310.0	4904.0	7.25	490.00	0.86477	629.7
2	16.00	521.80	520.00	519.99	483.6	5100.0	7.01	520.00	1.00628	483.6
2	15.00	518.01	516.00	515.99	424.4	5100.0	6.92	500.00	0.92531	424.4
2	14.00	514.34	512.00	511.99	438.3	5100.0	7.26	500.00	1.01156	438.3
2	13.00	510.77	508.00	507.99	507.0	5095.0	5.41	500.00	0.70006	507.0

2	12.00	507.40	506.00	505.99	682.7	5100.0	5.84	500.00	0.90916	682.7
3	11.00	503.38	502.00	502.00	720.0	4796.0	5.14	500.00	0.79459	859.7
3	10.00	499.81	498.00	498.03	538.3	5100.0	6.75	470.00	1.00510	538.3
3	9.00	495.31	492.00	492.03	648.2	5100.0	5.71	500.00	0.85747	648.2
3	8.00	493.02	490.00	490.03	550.0	5008.0	5.48	500.00	0.74847	903.7
3	7.00	490.38	487.00	487.04	422.4	5100.0	6.67	500.00	0.87335	422.4
4	6.00	486.91	483.99	483.93	344.9	5100.0	7.76	500.00	0.99107	344.9
4	5.00	483.39	481.99	481.95	572.6	5100.0	6.45	500.00	0.96707	572.6
4	4.00	479.36	477.99	477.95	599.0	5100.0	6.52	500.00	1.00567	599.0
4	3.00	475.72	473.99	473.94	415.0	3649.0	5.83	500.00	0.83583	676.8
4	2.00	472.30	469.99	469.92	308.0	5086.0	8.05	500.00	0.99110	389.9
4	1.00	468.54	465.99	465.93	339.0	4618.0	6.71	0.00	0.82914	995.2

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.388E+02	0.388E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.816E+01 0.151E+02 0.770E+01 0.426E+01 0.220E+01 0.891E+00 0.339E+00 0.714E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.388E+02	0.407E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.820E+01 0.153E+02 0.823E+01 0.487E+01 0.263E+01 0.106E+01 0.369E+00 0.337E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.303E-01 0.141E+00 0.200E+00 0.210E+00 0.170E+00 0.101E+00 0.706E-01 0.804E-01

3	0.407E+02	0.332E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.689E+01 0.121E+02 0.660E+01 0.417E+01 0.232E+01 0.886E+00 0.236E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.314E-01 0.143E+00 0.199E+00 0.208E+00 0.168E+00 0.988E-01 0.693E-01 0.789E-01

4	0.332E+02	0.425E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.828E+01 0.158E+02 0.869E+01 0.521E+01 0.283E+01 0.116E+01 0.434E+00 0.802E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.281E-01 0.136E+00 0.199E+00 0.211E+00 0.171E+00 0.101E+00 0.704E-01 0.809E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72069E-02	0.72144E+01	0.20849E+01	0.32283E+03	0.97424E+00	0.12510E+00	0.31863E+02	0.20642E+01	0.52856E+00	0.21783E+03
2	0.76892E-02	0.66297E+01	0.16852E+01	0.47009E+03	0.15129E+00	0.20991E-01	0.38653E+01	0.52384E+00	0.11878E+00	0.28725E+02
3	0.68219E-02	0.58626E+01	0.14575E+01	0.60191E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.75506E+00	0.15202E+00	0.12221E+03
4	0.73000E-02	0.68833E+01	0.16787E+01	0.43670E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.75083E+00	0.32481E+00	0.24107E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 3

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.81000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.68	538.00	538.00	246.0	6864.0	8.63	520.00	0.84526	553.0
1	20.00	536.98	534.00	534.00	305.0	7371.0	8.39	510.00	0.87111	552.5
1	19.00	533.31	530.00	530.00	364.0	6651.0	8.28	500.00	0.98177	669.7
1	18.00	529.58	526.00	526.00	346.0	7292.0	8.21	500.00	0.90379	608.4
1	17.00	527.06	524.00	524.00	310.0	7168.0	8.22	490.00	0.86439	696.3
2	16.00	522.36	519.99	519.96	501.0	8091.0	8.03	520.00	0.99711	539.1
2	15.00	518.57	515.99	515.95	479.2	8100.0	8.16	500.00	0.99883	479.2
2	14.00	514.93	511.99	511.96	453.4	8100.0	8.36	500.00	1.00797	453.4
2	13.00	511.27	507.99	507.96	512.0	8080.0	6.77	500.00	0.78156	512.1
2	12.00	507.90	505.99	505.97	724.7	8100.0	6.57	500.00	0.88819	724.7
3	11.00	503.74	502.00	502.01	720.0	7526.0	6.40	500.00	0.88211	904.3
3	10.00	500.46	498.03	498.08	698.0	7970.0	6.89	470.00	0.94276	992.3
3	9.00	495.76	492.03	492.08	718.8	8100.0	6.88	500.00	0.94679	718.8
3	8.00	493.65	490.03	490.10	550.0	7507.0	6.09	500.00	0.71716	911.0
3	7.00	491.04	487.04	487.12	473.3	8100.0	7.76	500.00	0.92083	473.3
4	6.00	487.54	483.93	483.83	364.1	8100.0	9.01	500.00	1.01033	364.1
4	5.00	483.81	481.95	481.90	577.1	8100.0	7.69	500.00	1.00344	577.1
4	4.00	479.80	477.95	477.90	616.4	8100.0	7.54	500.00	1.00561	616.4
4	3.00	476.23	473.94	473.87	415.0	5797.0	6.94	500.00	0.86268	927.6
4	2.00	473.06	469.92	469.82	308.0	7866.0	8.92	500.00	0.92981	567.4
4	1.00	468.99	465.93	465.84	339.0	6724.0	7.88	0.00	0.87455	1001.1

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.699E+02	0.699E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.149E+02 0.285E+02 0.139E+02 0.701E+01 0.337E+01 0.135E+01 0.581E+00 0.248E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.699E+02	0.769E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.157E+02 0.304E+02 0.155E+02 0.834E+01 0.426E+01 0.177E+01 0.740E+00 0.263E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.295E-01 0.140E+00 0.200E+00 0.210E+00 0.171E+00 0.101E+00 0.708E-01 0.814E-01

3	0.769E+02	0.613E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.137E+02 0.236E+02 0.117E+02 0.669E+01 0.360E+01 0.144E+01 0.498E+00 0.386E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.331E-01 0.148E+00 0.201E+00 0.207E+00 0.167E+00 0.982E-01 0.690E-01 0.786E-01

4 0.613E+02 0.757E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.150E+02 0.294E+02 0.156E+02 0.850E+01 0.436E+01 0.181E+01 0.779E+00 0.317E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.271E-01 0.131E+00 0.198E+00 0.213E+00 0.174E+00 0.102E+00 0.717E-01 0.818E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72463E-02	0.83281E+01	0.26725E+01	0.32283E+03	0.16223E+01	0.29675E+00	0.69637E+02	0.33371E+01	0.10591E+01	0.22393E+03
2	0.77410E-02	0.77443E+01	0.21596E+01	0.49292E+03	0.58546E+00	0.88258E-01	0.12917E+02	0.10186E+01	0.26406E+00	0.34726E+02
3	0.67166E-02	0.66826E+01	0.18267E+01	0.65654E+03	0.18219E-01	0.00000E+00	0.10020E+01	0.12445E+01	0.39693E+00	0.18395E+03
4	0.73900E-02	0.79867E+01	0.22124E+01	0.44779E+03	0.15000E-01	0.00000E+00	0.82500E+00	0.98917E+00	0.32824E+00	0.28249E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 4

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.88000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.89	538.00	538.00	246.0	7195.0	8.47	520.00	0.80395	592.6
1	20.00	537.11	534.00	534.00	305.0	7889.0	8.59	510.00	0.87261	565.1
1	19.00	533.41	530.00	530.00	364.0	7155.0	8.52	500.00	0.98846	670.8
1	18.00	529.69	526.00	526.00	346.0	7847.0	8.48	500.00	0.91428	609.6
1	17.00	527.18	524.00	524.00	310.0	7665.0	8.43	490.00	0.86727	709.3
2	16.00	522.45	519.96	519.92	501.0	8784.0	8.23	520.00	0.99369	549.0
2	15.00	518.65	515.95	515.91	489.9	8800.0	8.36	500.00	1.00532	489.9
2	14.00	515.03	511.96	511.92	456.1	8800.0	8.58	500.00	1.00892	456.1
2	13.00	511.35	507.96	507.92	512.0	8776.0	7.05	500.00	0.79729	513.0
2	12.00	507.99	505.97	505.94	732.4	8800.0	6.71	500.00	0.88309	732.4
3	11.00	503.87	502.01	502.02	720.0	8124.0	6.60	500.00	0.88884	919.5
3	10.00	500.59	498.08	498.13	698.0	8562.0	7.04	470.00	0.93924	994.5
3	9.00	495.86	492.08	492.13	734.2	8800.0	7.22	500.00	0.98795	734.2
3	8.00	493.88	490.10	490.17	550.0	7961.0	6.05	500.00	0.68874	913.5
3	7.00	491.17	487.12	487.19	500.0	8799.0	8.22	500.00	0.99083	505.3
4	6.00	487.59	483.83	483.74	366.2	8800.0	9.24	500.00	1.01008	366.2
4	5.00	483.86	481.90	481.85	577.7	8800.0	7.90	500.00	1.00291	577.7
4	4.00	479.85	477.90	477.85	618.4	8800.0	7.75	500.00	1.00788	618.4
4	3.00	476.29	473.87	473.80	415.0	6324.0	7.18	500.00	0.86856	930.9
4	2.00	473.14	469.82	469.72	308.0	8523.0	9.13	500.00	0.92471	586.2
4	1.00	469.08	465.84	465.76	339.0	7254.0	8.01	0.00	0.86426	1002.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH INFLOW(CFS) OUTFLOW(CFS)

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1        0.765E+02                0.765E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.164E+02 0.314E+02 0.153E+02 0.757E+01 0.358E+01 0.143E+01 0.622E+00 0.280E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2        0.765E+02                0.852E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.171E+02 0.338E+02 0.173E+02 0.919E+01 0.464E+01 0.193E+01 0.829E+00 0.328E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.287E-01 0.137E+00 0.199E+00 0.210E+00 0.171E+00 0.101E+00 0.717E-01 0.824E-01

3        0.852E+02                0.700E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.159E+02 0.275E+02 0.131E+02 0.735E+01 0.391E+01 0.158E+01 0.568E+00 0.739E-01

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.337E-01 0.152E+00 0.202E+00 0.205E+00 0.165E+00 0.971E-01 0.678E-01 0.772E-01

4        0.700E+02                0.841E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.166E+02 0.325E+02 0.175E+02 0.949E+01 0.481E+01 0.200E+01 0.879E+00 0.390E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.266E-01 0.128E+00 0.197E+00 0.214E+00 0.176E+00 0.104E+00 0.724E-01 0.833E-01


(4) EFFECTIVE FLOW CONDITIONS:

                                MAIN CHANNEL                          LEFT OVERBANK                          RIGHT CHANNEL
REACH      SLOPE      VELOCITY      DEPTH      TOPWIDTH     VELOCITY      DEPTH      TOPWIDTH     VELOCITY      DEPTH      TOPWIDTH
                      (FT/SEC)      (FT)       (FT)         (FT/SEC)      (FT)       (FT)         (FT/SEC)      (FT)       (FT)

  1  0.72512E-02 0.85104E+01 0.28001E+01 0.32283E+03 0.17092E+01 0.33500E+00 0.78506E+02 0.35434E+01 0.11687E+01 0.22531E+03
  2  0.77609E-02 0.79592E+01 0.22621E+01 0.49640E+03 0.65528E+00 0.10310E+00 0.14896E+02 0.10962E+01 0.29260E+00 0.36158E+02
  3  0.66640E-02 0.68719E+01 0.18964E+01 0.66304E+03 0.45547E-01 0.87632E-02 0.38968E+01 0.13859E+01 0.48858E+00 0.18508E+03
  4  0.74367E-02 0.82192E+01 0.23207E+01 0.45080E+03 0.37500E-01 0.72150E-02 0.32083E+01 0.10083E+01 0.35297E+00 0.28296E+03
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** SEDIMENT TRANSPORT STUDY,   AT THE TIME STEP.  5


(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

    UPSTREAM WATERSHED, SED.   0.00000E+00  CUBIC YARDS
                        WATER  0.90500E+04  CFS

      REACH  1          NO TRIBUTARY

      REACH  2          NO TRIBUTARY

      REACH  3          NO TRIBUTARY

      REACH  4          NO TRIBUTARY


(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:
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REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.98	538.00	538.00	246.0	7294.0	8.38	520.00	0.78551	608.3
1	20.00	537.15	534.00	534.00	305.0	8071.0	8.66	510.00	0.87314	569.5
1	19.00	533.45	530.00	530.00	364.0	7333.0	8.60	500.00	0.98985	671.3
1	18.00	529.74	526.00	526.00	346.0	8037.0	8.54	500.00	0.91173	610.1
1	17.00	527.21	524.00	524.00	310.0	7857.0	8.56	490.00	0.87720	712.1
2	16.00	522.46	519.92	519.88	501.0	9033.0	8.31	520.00	0.99345	549.8
2	15.00	518.66	515.91	515.87	492.9	9050.0	8.42	500.00	1.00546	492.9
2	14.00	515.03	511.92	511.88	456.6	9050.0	8.66	500.00	1.00901	456.6
2	13.00	511.36	507.92	507.88	512.0	9025.0	7.16	500.00	0.80432	513.1
2	12.00	508.01	505.94	505.91	733.0	9050.0	6.72	500.00	0.87338	734.9
3	11.00	503.94	502.02	502.03	720.0	8313.0	6.65	500.00	0.89029	928.4
3	10.00	500.66	498.13	498.18	698.0	8743.0	7.09	470.00	0.93950	995.7
3	9.00	495.92	492.13	492.18	744.0	9050.0	7.35	500.00	1.00656	744.0
3	8.00	494.01	490.17	490.23	550.0	8056.0	5.95	500.00	0.66865	915.0
3	7.00	491.21	487.19	487.26	500.0	9047.0	8.53	500.00	1.03223	514.9
4	6.00	487.55	483.74	483.65	365.8	9050.0	9.33	500.00	1.01006	365.8
4	5.00	483.85	481.85	481.80	577.7	9050.0	7.98	500.00	1.00300	577.7
4	4.00	479.84	477.85	477.80	618.1	9050.0	7.82	500.00	1.00749	618.1
4	3.00	476.28	473.80	473.73	415.0	6550.0	7.35	500.00	0.88351	931.2
4	2.00	473.12	469.72	469.62	308.0	8786.0	9.20	500.00	0.92065	582.1
4	1.00	469.08	465.76	465.68	339.0	7506.0	8.10	0.00	0.86315	1002.4

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.788E+02	0.788E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.169E+02 0.324E+02 0.157E+02 0.774E+01 0.364E+01 0.145E+01 0.633E+00 0.290E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.788E+02	0.879E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.175E+02 0.348E+02 0.180E+02 0.954E+01 0.480E+01 0.200E+01 0.868E+00 0.358E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.280E-01 0.135E+00 0.198E+00 0.210E+00 0.171E+00 0.102E+00 0.720E-01 0.834E-01

3	0.879E+02	0.732E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.167E+02 0.291E+02 0.137E+02 0.752E+01 0.397E+01 0.161E+01 0.584E+00 0.846E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.342E-01 0.155E+00 0.203E+00 0.205E+00 0.164E+00 0.960E-01 0.671E-01 0.763E-01

4	0.732E+02	0.877E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.174E+02 0.335E+02 0.182E+02 0.100E+02 0.507E+01 0.211E+01 0.936E+00 0.434E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.263E-01 0.125E+00 0.194E+00 0.216E+00 0.178E+00 0.105E+00 0.739E-01 0.843E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)

1	0.72512E-02	0.85673E+01	0.28457E+01	0.32283E+03	0.17369E+01	0.34762E+00	0.81661E+02	0.36134E+01	0.12075E+01	0.22577E+03
2	0.77689E-02	0.80390E+01	0.22979E+01	0.49716E+03	0.67110E+00	0.10553E+00	0.15230E+02	0.11150E+01	0.29594E+00	0.36447E+02
3	0.66275E-02	0.69295E+01	0.19223E+01	0.66503E+03	0.62753E-01	0.10417E-01	0.48684E+01	0.14576E+01	0.54265E+00	0.18589E+03
4	0.74667E-02	0.83325E+01	0.23604E+01	0.45068E+03	0.45833E-01	0.85763E-02	0.39750E+01	0.10108E+01	0.35121E+00	0.28289E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 6

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.10750E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.23	538.00	538.00	246.0	8198.0	8.80	520.00	0.79741	650.9
1	20.00	537.44	534.00	534.00	305.0	9279.0	9.10	510.00	0.87668	597.6
1	19.00	533.68	530.00	530.00	364.0	8540.0	9.12	500.00	1.00226	673.9
1	18.00	530.00	526.00	526.00	346.0	9354.0	9.07	500.00	0.92543	613.0
1	17.00	527.49	524.00	524.00	310.0	9017.0	8.98	490.00	0.87873	741.8
2	16.00	522.70	519.88	519.83	501.0	10700.0	8.73	520.00	0.98405	575.5
2	15.00	518.92	515.87	515.82	519.0	10750.0	8.77	500.00	1.00623	519.0
2	14.00	515.28	511.88	511.83	463.1	10750.0	9.13	500.00	1.00923	463.1
2	13.00	511.56	507.88	507.83	512.0	10713.0	7.76	500.00	0.83302	515.3
2	12.00	508.18	505.91	505.88	733.0	10717.0	7.15	500.00	0.88116	797.6
3	11.00	504.18	502.03	502.05	720.0	9749.0	7.07	500.00	0.89950	950.4
3	10.00	500.90	498.18	498.25	698.0	10170.0	7.47	470.00	0.94270	999.7
3	9.00	496.24	492.18	492.24	778.0	10637.0	7.40	500.00	0.95874	1179.7
3	8.00	494.35	490.23	490.32	550.0	9293.0	6.22	500.00	0.66440	918.7
3	7.00	491.58	487.26	487.36	500.0	10710.0	8.88	500.00	1.00677	613.7
4	6.00	487.81	483.65	483.54	373.0	10750.0	9.80	500.00	1.00779	373.0
4	5.00	484.04	481.80	481.74	579.8	10750.0	8.45	500.00	1.00507	579.8
4	4.00	480.04	477.80	477.74	624.0	10748.0	8.17	500.00	0.99244	761.4
4	3.00	476.50	473.73	473.65	415.0	7754.0	7.79	500.00	0.88720	939.0
4	2.00	473.41	469.62	469.50	308.0	10297.0	9.62	500.00	0.90936	649.3
4	1.00	469.28	465.68	465.59	339.0	8707.0	8.61	0.00	0.87804	1005.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.991E+02	0.991E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.213E+02 0.413E+02 0.199E+02 0.947E+01 0.433E+01 0.172E+01 0.764E+00 0.398E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.991E+02	0.110E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.218E+02 0.439E+02 0.226E+02 0.117E+02 0.567E+01 0.237E+01 0.107E+01 0.515E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.275E-01 0.133E+00 0.196E+00 0.210E+00 0.172E+00 0.102E+00 0.723E-01 0.845E-01

3 0.110E+03 0.890E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.206E+02 0.365E+02 0.163E+02 0.859E+01 0.440E+01 0.178E+01 0.676E+00 0.139E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.346E-01 0.159E+00 0.205E+00 0.204E+00 0.162E+00 0.949E-01 0.665E-01 0.756E-01

4 0.890E+02 0.106E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.212E+02 0.409E+02 0.222E+02 0.119E+02 0.584E+01 0.242E+01 0.110E+01 0.569E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.261E-01 0.121E+00 0.191E+00 0.217E+00 0.179E+00 0.106E+00 0.747E-01 0.853E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.72414E-02	0.90444E+01	0.31062E+01	0.32283E+03	0.19926E+01	0.42568E+00	0.93677E+02	0.40615E+01	0.13974E+01	0.23091E+03
2	0.78048E-02	0.84916E+01	0.25355E+01	0.50376E+03	0.94526E+00	0.15287E+00	0.20480E+02	0.14496E+01	0.40048E+00	0.45880E+02
3	0.65547E-02	0.72326E+01	0.21345E+01	0.67170E+03	0.24393E+00	0.38660E-01	0.13826E+02	0.20818E+01	0.76331E+00	0.27882E+03
4	0.75233E-02	0.87625E+01	0.26358E+01	0.45322E+03	0.90833E-01	0.24008E-01	0.11042E+02	0.11308E+01	0.42757E+00	0.30706E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 7

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.14250E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.69	538.00	538.00	246.0	9881.0	9.47	520.00	0.80991	728.6
1	20.00	538.02	534.00	534.00	305.0	11556.0	9.65	510.00	0.85891	652.7
1	19.00	534.13	530.00	530.00	364.0	10980.0	10.01	500.00	1.01644	690.2
1	18.00	530.51	526.00	526.00	346.0	11926.0	9.87	500.00	0.93034	737.2
1	17.00	528.03	524.00	524.00	310.0	11236.0	9.60	490.00	0.87013	800.6
2	16.00	523.18	519.83	519.75	501.0	14060.0	9.46	520.00	0.96724	626.5
2	15.00	519.42	515.82	515.75	565.9	14250.0	9.37	500.00	1.00693	565.9
2	14.00	515.80	511.83	511.76	476.3	14250.0	9.87	500.00	0.99906	476.3
2	13.00	511.98	507.83	507.75	512.0	14178.0	8.82	500.00	0.87721	519.6
2	12.00	508.52	505.88	505.83	733.0	14141.0	8.02	500.00	0.91124	836.8
3	11.00	504.60	502.05	502.08	720.0	12693.0	7.79	500.00	0.91213	984.5
3	10.00	501.29	498.25	498.35	698.0	13041.0	8.20	470.00	0.95791	1006.6
3	9.00	496.70	492.24	492.33	778.0	13595.0	7.81	500.00	0.92000	1193.4
3	8.00	494.88	490.32	490.45	550.0	11835.0	6.83	500.00	0.67827	924.8
3	7.00	492.27	487.36	487.50	500.0	13923.0	9.23	500.00	0.93639	736.0
4	6.00	488.34	483.54	483.41	380.3	14250.0	10.66	500.00	1.00211	380.3

4	5.00	484.44	481.74	481.67	586.4	14250.0	9.25	500.00	1.00533	586.4
4	4.00	480.45	477.74	477.67	624.0	14146.0	8.82	500.00	0.97030	794.5
4	3.00	476.71	473.65	473.56	415.0	10226.0	9.26	500.00	1.00056	946.9
4	2.00	474.21	469.50	469.37	308.0	12928.0	9.58	500.00	0.80649	1151.4
4	1.00	469.64	465.59	465.49	339.0	11071.0	9.58	0.00	0.91477	1009.7

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.139E+03	0.139E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.297E+02 0.588E+02 0.282E+02 0.128E+02 0.552E+01 0.215E+01 0.962E+00 0.569E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.139E+03	0.156E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.307E+02 0.635E+02 0.329E+02 0.161E+02 0.743E+01 0.307E+01 0.146E+01 0.839E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.268E-01 0.130E+00 0.195E+00 0.212E+00 0.175E+00 0.104E+00 0.740E-01 0.867E-01

3	0.156E+03	0.126E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.296E+02 0.539E+02 0.231E+02 0.111E+02 0.541E+01 0.219E+01 0.895E+00 0.292E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.346E-01 0.162E+00 0.207E+00 0.202E+00 0.159E+00 0.934E-01 0.652E-01 0.740E-01

4	0.126E+03	0.147E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.299E+02 0.579E+02 0.307E+02 0.158E+02 0.729E+01 0.298E+01 0.141E+01 0.825E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.262E-01 0.119E+00 0.186E+00 0.216E+00 0.181E+00 0.107E+00 0.755E-01 0.864E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72315E-02	0.97645E+01	0.36141E+01	0.32283E+03	0.28250E+01	0.64204E+00	0.11959E+03	0.46619E+01	0.16985E+01	0.27030E+03
2	0.78446E-02	0.92661E+01	0.29803E+01	0.51592E+03	0.13122E+01	0.24394E+00	0.30666E+02	0.18011E+01	0.55648E+00	0.56335E+02
3	0.64575E-02	0.78491E+01	0.25314E+01	0.67170E+03	0.46154E+00	0.10384E+00	0.24686E+02	0.27935E+01	0.11096E+01	0.29331E+03
4	0.75933E-02	0.94958E+01	0.31613E+01	0.45553E+03	0.36417E+00	0.11975E+00	0.21092E+02	0.15308E+01	0.65479E+00	0.31492E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 8

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.16500E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.99	538.00	538.00	246.0	10803.0	9.66	520.00	0.79854	780.1
1	20.00	538.31	534.00	534.00	305.0	12949.0	10.09	510.00	0.86674	660.9
1	19.00	534.41	530.00	530.00	364.0	12518.0	10.48	500.00	1.02009	716.3
1	18.00	530.80	526.00	526.00	346.0	13529.0	10.35	500.00	0.93771	748.5
1	17.00	528.31	524.00	524.00	310.0	12563.0	9.97	490.00	0.87207	852.6
2	16.00	523.43	519.75	519.65	501.0	16195.0	9.86	520.00	0.96004	652.3
2	15.00	519.67	515.75	515.67	589.0	16500.0	9.71	500.00	1.00670	589.0
2	14.00	516.05	511.76	511.68	487.0	16500.0	10.35	500.00	1.00831	487.0
2	13.00	512.14	507.75	507.66	512.0	16396.0	9.47	500.00	0.90768	577.1
2	12.00	508.73	505.83	505.77	733.0	16306.0	8.35	500.00	0.90167	862.8
3	11.00	504.88	502.08	502.11	720.0	14513.0	8.23	500.00	0.92621	1006.9
3	10.00	501.58	498.35	498.47	698.0	14735.0	8.56	470.00	0.95998	1011.5
3	9.00	497.00	492.33	492.44	778.0	15311.0	8.03	500.00	0.90375	1202.4
3	8.00	495.30	490.45	490.61	550.0	13287.0	7.04	500.00	0.67025	929.4
3	7.00	492.62	487.50	487.67	500.0	15882.0	9.77	500.00	0.95536	745.1
4	6.00	488.58	483.41	483.25	382.2	16500.0	11.19	500.00	1.00430	382.2
4	5.00	484.65	481.67	481.59	590.0	16500.0	9.68	500.00	1.00396	590.0
4	4.00	480.64	477.67	477.59	624.0	16293.0	9.23	500.00	0.96689	811.3
4	3.00	476.85	473.56	473.45	415.0	11829.0	9.98	500.00	1.04136	952.0
4	2.00	474.48	469.37	469.21	308.0	14574.0	9.91	500.00	0.79943	1173.8
4	1.00	469.86	465.49	465.37	339.0	12604.0	10.06	0.00	0.92158	1012.5

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.167E+03	0.167E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.357E+02 0.713E+02 0.341E+02 0.152E+02 0.634E+01 0.244E+01 0.110E+01 0.685E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.167E+03	0.188E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.367E+02 0.764E+02 0.400E+02 0.194E+02 0.870E+01 0.357E+01 0.173E+01 0.108E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.260E-01 0.125E+00 0.191E+00 0.211E+00 0.175E+00 0.105E+00 0.753E-01 0.884E-01

3	0.188E+03	0.152E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.355E+02 0.665E+02 0.279E+02 0.127E+02 0.600E+01 0.241E+01 0.102E+01 0.387E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.348E-01 0.167E+00 0.212E+00 0.202E+00 0.158E+00 0.919E-01 0.643E-01 0.730E-01

4	0.152E+03	0.178E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.363E+02 0.709E+02 0.370E+02 0.189E+02 0.856E+01 0.347E+01 0.167E+01 0.105E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.261E-01 0.118E+00 0.181E+00 0.215E+00 0.184E+00 0.110E+00 0.775E-01 0.887E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72266E-02	0.10181E+02	0.38972E+01	0.32283E+03	0.32858E+01	0.79433E+00	0.12733E+03	0.49806E+01	0.18730E+01	0.28666E+03
2	0.78725E-02	0.97098E+01	0.32336E+01	0.52275E+03	0.15009E+01	0.29381E+00	0.35861E+02	0.19882E+01	0.48153E+00	0.76537E+02
3	0.63765E-02	0.81827E+01	0.27546E+01	0.67170E+03	0.57692E+00	0.14864E+00	0.25466E+02	0.32088E+01	0.13589E+01	0.30347E+03
4	0.76533E-02	0.99842E+01	0.34467E+01	0.45645E+03	0.53750E+00	0.21236E+00	0.24492E+02	0.17200E+01	0.78927E+00	0.31952E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 9

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.12350E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.46	538.00	538.00	246.0	8956.0	9.05	520.00	0.79555	691.0
1	20.00	537.71	534.00	534.00	305.0	10351.0	9.39	510.00	0.87102	623.8
1	19.00	533.89	530.00	530.00	364.0	9663.0	9.56	500.00	1.01080	676.3
1	18.00	530.26	526.00	526.00	346.0	10536.0	9.40	500.00	0.92033	727.1
1	17.00	527.70	524.00	524.00	310.0	10102.0	9.44	490.00	0.89488	764.4
2	16.00	522.75	519.65	519.60	501.0	12291.0	9.14	520.00	0.98235	580.8
2	15.00	518.98	515.67	515.63	532.5	12350.0	9.11	500.00	1.00662	532.5
2	14.00	515.26	511.68	511.64	496.0	12272.0	9.29	500.00	1.00344	533.6
2	13.00	511.55	507.66	507.62	512.0	12303.0	8.31	500.00	0.86170	516.1
2	12.00	508.32	505.77	505.74	733.0	12282.0	7.29	500.00	0.84739	818.5
3	11.00	504.59	502.11	502.14	720.0	10906.0	7.29	500.00	0.89206	979.9
3	10.00	501.27	498.47	498.56	698.0	11174.0	7.84	470.00	0.96644	1005.9
3	9.00	496.64	492.44	492.52	778.0	11762.0	7.57	500.00	0.94417	1191.5
3	8.00	494.84	490.61	490.72	550.0	10009.0	6.41	500.00	0.67002	923.7
3	7.00	492.25	487.67	487.79	500.0	12035.0	8.78	500.00	0.93525	735.4
4	6.00	487.71	483.25	483.12	377.6	12350.0	10.24	500.00	1.00993	377.6
4	5.00	484.04	481.59	481.52	582.4	12350.0	8.84	500.00	1.00668	582.4
4	4.00	480.06	477.59	477.52	624.0	12325.0	8.49	500.00	0.98062	772.3
4	3.00	476.52	473.45	473.36	415.0	9053.0	8.39	500.00	0.91666	942.5
4	2.00	473.39	469.21	469.08	308.0	11897.0	10.07	500.00	0.90639	652.1
4	1.00	469.37	465.37	465.27	339.0	10108.0	9.00	0.00	0.87199	1006.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.117E+03	0.117E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.251E+02 0.493E+02 0.237E+02 0.110E+02 0.490E+01 0.193E+01 0.860E+00 0.479E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2 0.117E+03 0.127E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.252E+02 0.505E+02 0.265E+02 0.137E+02 0.662E+01 0.277E+01 0.130E+01 0.694E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.266E-01 0.126E+00 0.191E+00 0.211E+00 0.176E+00 0.106E+00 0.762E-01 0.895E-01

3 0.127E+03 0.103E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.238E+02 0.437E+02 0.188E+02 0.918E+01 0.452E+01 0.181E+01 0.700E+00 0.166E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.351E-01 0.169E+00 0.213E+00 0.202E+00 0.156E+00 0.910E-01 0.635E-01 0.714E-01

4 0.103E+03 0.122E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.247E+02 0.474E+02 0.249E+02 0.138E+02 0.678E+01 0.282E+01 0.132E+01 0.735E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.256E-01 0.116E+00 0.178E+00 0.215E+00 0.186E+00 0.112E+00 0.783E-01 0.906E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72365E-02	0.93974E+01	0.33460E+01	0.32283E+03	0.24622E+01	0.52725E+00	0.10586E+03	0.43518E+01	0.14893E+01	0.26175E+03
2	0.78605E-02	0.88435E+01	0.27297E+01	0.51306E+03	0.10394E+01	0.17454E+00	0.23205E+02	0.21582E+01	0.55115E+00	0.59575E+02
3	0.63684E-02	0.74256E+01	0.22985E+01	0.67170E+03	0.36943E+00	0.91194E-01	0.24150E+02	0.27190E+01	0.10699E+01	0.29074E+03
4	0.76667E-02	0.91533E+01	0.28971E+01	0.45442E+03	0.15667E+00	0.61846E-01	0.19317E+02	0.12933E+01	0.48552E+00	0.30956E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 10

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.99000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.12	538.00	538.00	246.0	7742.0	8.57	520.00	0.78783	631.8
1	20.00	537.30	534.00	534.00	305.0	8681.0	8.89	510.00	0.87491	583.9
1	19.00	533.59	530.00	530.00	364.0	7922.0	8.76	500.00	0.97996	672.9
1	18.00	529.86	526.00	526.00	346.0	8708.0	8.86	500.00	0.92665	611.4

1	17.00	527.36	524.00	524.00	310.0	8438.0	8.75	490.00	0.87494	727.9
2	16.00	522.32	519.60	519.57	501.0	9893.0	8.59	520.00	0.99864	535.4
2	15.00	518.53	515.63	515.60	496.8	9900.0	8.66	500.00	1.00637	496.8
2	14.00	514.82	511.64	511.61	496.0	9876.0	8.70	500.00	1.01406	511.5
2	13.00	511.16	507.62	507.59	512.0	9874.0	7.54	500.00	0.83111	512.5
2	12.00	508.05	505.74	505.72	733.0	9872.0	6.54	500.00	0.80346	790.9
3	11.00	504.39	502.14	502.16	720.0	8778.0	6.71	500.00	0.87678	960.1
3	10.00	501.09	498.56	498.63	698.0	9031.0	7.27	470.00	0.96014	1002.5
3	9.00	496.45	492.52	492.58	778.0	9576.0	7.10	500.00	0.95042	1185.7
3	8.00	494.58	490.72	490.80	550.0	8043.0	5.87	500.00	0.65541	920.4
3	7.00	491.95	487.79	487.88	500.0	9753.0	8.31	500.00	0.95603	714.5
4	6.00	487.11	483.12	482.99	363.5	9900.0	9.64	500.00	1.00991	363.5
4	5.00	483.64	481.52	481.45	578.2	9900.0	8.22	500.00	1.00330	578.2
4	4.00	479.63	477.52	477.45	615.2	9900.0	8.07	500.00	1.00785	615.2
4	3.00	476.11	473.36	473.27	415.0	7447.0	7.91	500.00	0.92487	931.1
4	2.00	472.70	469.08	468.95	308.0	9802.0	9.75	500.00	0.95075	493.7
4	1.00	468.99	465.27	465.16	339.0	8602.0	8.39	0.00	0.85002	1002.1

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.879E+02	0.879E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.189E+02 0.364E+02 0.176E+02 0.851E+01 0.395E+01 0.157E+01 0.690E+00 0.336E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.879E+02	0.946E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.188E+02 0.368E+02 0.194E+02 0.105E+02 0.533E+01 0.225E+01 0.101E+01 0.457E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.268E-01 0.126E+00 0.189E+00 0.209E+00 0.175E+00 0.106E+00 0.761E-01 0.901E-01

3	0.946E+02	0.755E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.174E+02 0.315E+02 0.139E+02 0.713E+01 0.360E+01 0.143E+01 0.502E+00 0.529E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.356E-01 0.170E+00 0.213E+00 0.201E+00 0.155E+00 0.901E-01 0.630E-01 0.708E-01

4	0.755E+02	0.949E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.186E+02 0.356E+02 0.192E+02 0.113E+02 0.591E+01 0.250E+01 0.114E+01 0.585E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.245E-01 0.113E+00 0.174E+00 0.214E+00 0.187E+00 0.113E+00 0.793E-01 0.919E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72463E-02	0.87920E+01	0.29834E+01	0.32283E+03	0.18673E+01	0.38885E+00	0.88081E+02	0.38438E+01	0.13026E+01	0.22843E+03
2	0.78367E-02	0.82284E+01	0.24042E+01	0.50581E+03	0.61116E+00	0.98570E-01	0.15389E+02	0.17118E+01	0.39847E+00	0.47263E+02
3	0.63603E-02	0.68712E+01	0.20080E+01	0.67170E+03	0.15081E+00	0.47978E-01	0.22146E+02	0.23446E+01	0.89899E+00	0.28248E+03
4	0.76867E-02	0.86567E+01	0.25201E+01	0.44990E+03	0.11917E+00	0.39502E-01	0.18133E+02	0.96250E+00	0.31541E+00	0.28208E+03

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 11

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.74000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.56	538.00	538.00	246.0	6389.0	8.33	520.00	0.83081	531.9
1	20.00	536.84	534.00	534.00	305.0	6842.0	8.18	510.00	0.86979	539.1
1	19.00	533.20	530.00	530.00	364.0	6145.0	8.03	500.00	0.97521	668.5
1	18.00	529.47	526.00	526.00	346.0	6730.0	7.92	500.00	0.89056	607.2
1	17.00	526.93	524.00	524.00	310.0	6664.0	8.02	490.00	0.86390	682.3
2	16.00	521.89	519.57	519.56	492.5	7400.0	7.84	520.00	0.99868	492.5
2	15.00	518.02	515.60	515.58	457.3	7400.0	8.08	500.00	1.00530	457.3
2	14.00	514.35	511.61	511.60	488.7	7398.0	7.98	500.00	1.02056	488.7
2	13.00	510.72	507.59	507.58	508.6	7390.0	6.70	500.00	0.80113	508.6
2	12.00	507.75	505.72	505.71	733.0	7392.0	5.68	500.00	0.75210	749.6
3	11.00	504.14	502.16	502.17	720.0	6604.0	6.04	500.00	0.86426	935.7
3	10.00	500.86	498.63	498.67	698.0	6862.0	6.60	470.00	0.95260	998.3
3	9.00	496.20	492.58	492.62	778.0	7319.0	6.56	500.00	0.96552	1151.8
3	8.00	494.26	490.80	490.86	550.0	6083.0	5.25	500.00	0.63816	916.4
3	7.00	491.52	487.88	487.94	500.0	7368.0	7.91	500.00	1.02111	588.4
4	6.00	486.50	482.99	482.89	350.6	7400.0	8.63	500.00	0.97242	350.6
4	5.00	483.20	481.45	481.40	574.2	7400.0	7.48	500.00	1.00505	574.2
4	4.00	479.20	477.45	477.40	601.8	7400.0	7.36	500.00	1.00331	601.8
4	3.00	475.66	473.27	473.20	415.0	5685.0	7.24	500.00	0.92758	687.6
4	2.00	471.89	468.95	468.84	301.3	7400.0	9.28	500.00	1.00593	301.3
4	1.00	468.53	465.16	465.07	339.0	6949.0	7.71	0.00	0.83321	996.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.616E+02	0.616E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.131E+02 0.249E+02 0.122E+02 0.628E+01 0.306E+01 0.123E+01 0.518E+00 0.199E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.616E+02	0.645E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.129E+02 0.245E+02 0.130E+02 0.753E+01 0.402E+01 0.170E+01 0.710E+00 0.225E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.275E-01 0.128E+00 0.189E+00 0.209E+00 0.174E+00 0.106E+00 0.766E-01 0.908E-01

3	0.645E+02	0.519E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE

0.117E+02 0.210E+02 0.969E+01 0.534E+01 0.277E+01 0.107E+01 0.322E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.362E-01 0.171E+00 0.212E+00 0.201E+00 0.154E+00 0.897E-01 0.624E-01 0.701E-01

4 0.519E+02 0.663E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.125E+02 0.239E+02 0.133E+02 0.853E+01 0.475E+01 0.203E+01 0.887E+00 0.376E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.237E-01 0.111E+00 0.173E+00 0.215E+00 0.189E+00 0.114E+00 0.809E-01 0.939E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72414E-02	0.80782E+01	0.25531E+01	0.32283E+03	0.14997E+01	0.26438E+00	0.62618E+02	0.31004E+01	0.95001E+00	0.22273E+03
2	0.78048E-02	0.74920E+01	0.20409E+01	0.49394E+03	0.24305E+00	0.45313E-01	0.83261E+01	0.11087E+01	0.23418E+00	0.35474E+02
3	0.63806E-02	0.62450E+01	0.16762E+01	0.67170E+03	0.10324E+00	0.26665E-01	0.12166E+02	0.19193E+01	0.69779E+00	0.27296E+03
4	0.76967E-02	0.79667E+01	0.21065E+01	0.44373E+03	0.85000E-01	0.21954E-01	0.10017E+02	0.66500E+00	0.33540E+00	0.10453E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 12

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.53500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.03	538.00	538.00	246.0	4993.0	7.85	520.00	0.85980	434.4
1	20.00	536.37	534.00	534.00	305.0	5217.0	7.54	510.00	0.88285	492.7
1	19.00	532.85	530.00	530.00	364.0	4636.0	7.18	500.00	0.95101	664.6
1	18.00	529.12	526.00	526.00	346.0	5044.0	6.92	500.00	0.83966	603.3
1	17.00	526.49	524.00	524.00	310.0	5104.0	7.34	490.00	0.86309	636.2
2	16.00	521.45	519.56	519.56	460.7	5350.0	7.23	520.00	1.00626	460.7
2	15.00	517.63	515.58	515.58	427.1	5350.0	7.11	500.00	0.94400	427.1
2	14.00	513.95	511.60	511.60	471.9	5350.0	7.20	500.00	1.01092	471.9
2	13.00	510.33	507.58	507.58	505.0	5347.0	5.86	500.00	0.76863	505.0
2	12.00	507.44	505.71	505.71	706.0	5350.0	4.93	500.00	0.70043	706.0
3	11.00	503.90	502.17	502.18	720.0	4778.0	5.34	500.00	0.84337	904.3
3	10.00	500.59	498.67	498.69	698.0	5116.0	6.18	470.00	0.99935	870.4
3	9.00	495.85	492.62	492.64	665.3	5350.0	6.33	500.00	0.99004	665.3
3	8.00	493.92	490.86	490.88	550.0	4489.0	4.73	500.00	0.63486	912.2
3	7.00	491.14	487.94	487.97	471.2	5349.0	7.30	500.00	1.03080	471.2
4	6.00	486.02	482.89	482.83	341.0	5350.0	7.39	500.00	0.89454	341.0
4	5.00	482.83	481.40	481.36	571.0	5350.0	6.62	500.00	0.98030	571.0
4	4.00	478.82	477.40	477.36	590.3	5350.0	6.63	500.00	0.99980	590.3
4	3.00	475.20	473.20	473.15	415.0	4197.0	6.74	500.00	0.97012	678.2
4	2.00	471.24	468.84	468.77	288.2	5350.0	8.46	500.00	1.00578	288.2
4	1.00	467.74	465.07	465.00	313.8	5350.0	8.01	0.00	0.96810	313.8

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.409E+02	0.409E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.864E+01 0.161E+02 0.813E+01 0.445E+01 0.228E+01 0.923E+00 0.357E+00 0.827E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.409E+02	0.410E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.818E+01 0.151E+02 0.825E+01 0.505E+01 0.280E+01 0.116E+01 0.426E+00 0.488E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.284E-01 0.130E+00 0.189E+00 0.207E+00 0.173E+00 0.105E+00 0.759E-01 0.908E-01

3	0.410E+02	0.359E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.785E+01 0.140E+02 0.691E+01 0.402E+01 0.214E+01 0.798E+00 0.200E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.365E-01 0.172E+00 0.214E+00 0.202E+00 0.155E+00 0.902E-01 0.624E-01 0.701E-01

4	0.359E+02	0.451E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.821E+01 0.155E+02 0.908E+01 0.625E+01 0.367E+01 0.156E+01 0.638E+00 0.190E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.234E-01 0.109E+00 0.171E+00 0.214E+00 0.190E+00 0.115E+00 0.820E-01 0.953E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72168E-02	0.73128E+01	0.21431E+01	0.32283E+03	0.10526E+01	0.14239E+00	0.35727E+02	0.22122E+01	0.58009E+00	0.21846E+03
2	0.77609E-02	0.67084E+01	0.17268E+01	0.47465E+03	0.16398E+00	0.24113E-01	0.44217E+01	0.57239E+00	0.11696E+00	0.29231E+02
3	0.64130E-02	0.57327E+01	0.13962E+01	0.64393E+03	0.44534E-01	0.71885E-02	0.32389E+01	0.13982E+01	0.47958E+00	0.18554E+03
4	0.77467E-02	0.72492E+01	0.17403E+01	0.43300E+03	0.36667E-01	0.59186E-02	0.26667E+01	0.50167E+00	0.22187E+00	0.47967E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 13

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.38500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.52	538.00	538.00	246.0	3787.0	7.41	520.00	0.90642	341.1
1	20.00	535.84	534.00	534.00	302.6	3850.0	7.25	510.00	0.96470	302.6
1	19.00	532.56	530.00	530.00	364.0	3494.0	6.43	500.00	0.92846	661.3
1	18.00	528.93	526.00	526.00	346.0	3697.0	5.54	500.00	0.70268	583.9
1	17.00	525.89	524.00	524.00	305.7	3850.0	7.56	490.00	1.03317	305.7
2	16.00	521.10	519.56	519.57	435.2	3850.0	6.60	520.00	1.00541	435.2
2	15.00	517.32	515.58	515.59	407.7	3850.0	6.20	500.00	0.88619	407.7
2	14.00	513.62	511.60	511.60	458.9	3850.0	6.52	500.00	1.01266	458.9
2	13.00	510.02	507.58	507.58	502.2	3849.0	5.06	500.00	0.72531	502.2
2	12.00	507.12	505.71	505.71	675.2	3850.0	4.42	500.00	0.68546	675.2
3	11.00	503.72	502.18	502.18	720.0	3437.0	4.56	500.00	0.78645	880.6
3	10.00	500.27	498.69	498.70	698.0	3818.0	5.91	470.00	1.08319	792.3
3	9.00	495.62	492.64	492.66	572.0	3850.0	5.57	500.00	0.89374	572.0
3	8.00	493.62	490.88	490.90	550.0	3328.0	4.25	500.00	0.62741	908.6
3	7.00	490.76	487.97	488.00	394.7	3850.0	6.86	500.00	1.01415	394.7
4	6.00	485.64	482.83	482.79	333.6	3850.0	6.27	500.00	0.81415	333.6
4	5.00	482.51	481.36	481.34	568.3	3850.0	5.96	500.00	0.98388	568.3
4	4.00	478.56	477.36	477.34	582.8	3850.0	5.69	500.00	0.93133	582.8
4	3.00	474.84	473.15	473.12	415.0	3100.0	6.22	500.00	1.00081	666.0
4	2.00	470.71	468.77	468.73	278.3	3850.0	7.65	500.00	1.00293	278.3
4	1.00	467.22	465.00	464.96	290.3	3850.0	7.26	0.00	0.94663	290.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.286E+02	0.286E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.590E+01 0.108E+02 0.572E+01 0.336E+01 0.181E+01 0.728E+00 0.254E+00 0.235E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.286E+02	0.276E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.542E+01 0.980E+01 0.556E+01 0.364E+01 0.208E+01 0.840E+00 0.263E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.294E-01 0.132E+00 0.189E+00 0.206E+00 0.173E+00 0.105E+00 0.759E-01 0.908E-01

3	0.276E+02	0.235E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.498E+01 0.891E+01 0.467E+01 0.285E+01 0.152E+01 0.532E+00 0.891E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.366E-01 0.171E+00 0.213E+00 0.202E+00 0.154E+00 0.893E-01 0.622E-01 0.694E-01

4	0.235E+02	0.287E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.505E+01 0.949E+01 0.582E+01 0.428E+01 0.260E+01 0.108E+01 0.385E+00 0.362E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.237E-01 0.110E+00 0.171E+00 0.214E+00 0.190E+00 0.115E+00 0.825E-01 0.968E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.71822E-02	0.66835E+01	0.17629E+01	0.32170E+03	0.34069E+00	0.33228E-01	0.11117E+02	0.10501E+01	0.28137E+00	0.14247E+03
2	0.77132E-02	0.60726E+01	0.14283E+01	0.45894E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.23108E+00	0.31801E-01	0.53785E+00
3	0.64494E-02	0.51793E+01	0.11936E+01	0.61475E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.10433E+01	0.32287E+00	0.18283E+03
4	0.78167E-02	0.64750E+01	0.14620E+01	0.42008E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.43833E+00	0.16733E+00	0.47333E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 14

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.28500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.15	538.00	538.00	246.0	2848.0	6.77	520.00	0.91339	273.8
1	20.00	535.58	534.00	534.00	298.7	2850.0	6.30	510.00	0.90129	298.7
1	19.00	532.33	530.00	530.00	364.0	2701.0	5.84	500.00	0.91317	658.7
1	18.00	528.58	526.00	526.00	346.0	2807.0	5.13	500.00	0.71819	473.5
1	17.00	525.59	524.00	524.00	294.1	2850.0	6.81	490.00	1.00601	294.1
2	16.00	520.84	519.57	519.57	416.3	2850.0	6.05	520.00	1.00301	416.3
2	15.00	517.07	515.59	515.59	393.1	2850.0	5.52	500.00	0.84913	393.1
2	14.00	513.34	511.60	511.60	414.6	2850.0	6.09	500.00	1.00898	414.6
2	13.00	509.80	507.58	507.58	500.2	2850.0	4.40	500.00	0.68056	500.2
2	12.00	506.85	505.71	505.71	654.7	2850.0	4.08	500.00	0.69694	654.7
3	11.00	503.58	502.18	502.18	720.0	2540.0	3.89	500.00	0.72131	863.3
3	10.00	499.96	498.70	498.72	470.7	2850.0	5.84	470.00	1.00974	470.7
3	9.00	495.45	492.66	492.67	554.0	2850.0	4.88	500.00	0.83875	554.0
3	8.00	493.38	490.90	490.91	550.0	2538.0	3.90	500.00	0.63071	905.8
3	7.00	490.48	488.00	488.02	355.1	2850.0	6.37	500.00	0.99949	355.1
4	6.00	485.35	482.79	482.76	328.1	2850.0	5.36	500.00	0.74205	328.1
4	5.00	482.27	481.34	481.33	566.2	2850.0	5.47	500.00	1.00545	566.2
4	4.00	478.37	477.34	477.33	577.6	2850.0	4.88	500.00	0.85643	577.6
4	3.00	474.58	473.12	473.10	415.0	2362.0	5.82	500.00	1.03719	657.2
4	2.00	470.36	468.73	468.70	271.7	2850.0	6.85	500.00	0.97523	271.7
4	1.00	466.84	464.96	464.93	273.0	2850.0	6.61	0.00	0.92646	273.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.191E+02	0.191E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.379E+01 0.695E+01 0.387E+01 0.243E+01 0.134E+01 0.521E+00 0.150E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.191E+02	0.184E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.353E+01 0.634E+01 0.375E+01 0.258E+01 0.150E+01 0.577E+00 0.139E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.299E-01 0.133E+00 0.189E+00 0.206E+00 0.172E+00 0.104E+00 0.759E-01 0.908E-01

3 0.184E+02 0.155E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.318E+01 0.575E+01 0.315E+01 0.197E+01 0.105E+01 0.337E+00 0.265E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.369E-01 0.173E+00 0.215E+00 0.202E+00 0.155E+00 0.898E-01 0.622E-01 0.694E-01

4 0.155E+02 0.190E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.321E+01 0.604E+01 0.389E+01 0.302E+01 0.187E+01 0.748E+00 0.216E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.238E-01 0.110E+00 0.170E+00 0.213E+00 0.190E+00 0.115E+00 0.824E-01 0.976E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71675E-02	0.60204E+01	0.14841E+01	0.31928E+03	0.15626E+00	0.95439E-02	0.32404E+01	0.70190E+00	0.13088E+00	0.14063E+03
2	0.76494E-02	0.54996E+01	0.12225E+01	0.43978E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.79681E-02	0.00000E+00	0.17928E+00
3	0.64818E-02	0.47396E+01	0.10692E+01	0.56050E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.76316E+00	0.23200E+00	0.12304E+03
4	0.78633E-02	0.58117E+01	0.12468E+01	0.41211E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.38333E+00	0.12566E+00	0.46883E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 15

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.20000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.72	538.00	538.00	231.1	2000.0	6.30	520.00	0.94661	231.1
1	20.00	535.34	534.00	534.00	295.1	2000.0	5.25	510.00	0.81311	295.1
1	19.00	532.07	530.00	530.00	364.0	1988.0	5.36	500.00	0.93460	655.8
1	18.00	528.25	526.00	526.00	346.0	1996.0	4.54	500.00	0.70902	369.6
1	17.00	525.27	524.00	524.00	281.7	2000.0	6.14	490.00	1.00592	281.7
2	16.00	520.59	519.57	519.58	397.6	2000.0	5.45	520.00	0.99997	397.6
2	15.00	516.80	515.59	515.60	378.0	2000.0	4.81	500.00	0.80852	378.0
2	14.00	513.05	511.60	511.61	366.6	2000.0	5.61	500.00	1.00384	366.6
2	13.00	509.54	507.58	507.58	473.8	2000.0	3.88	500.00	0.65435	473.8
2	12.00	506.65	505.71	505.71	638.5	2000.0	3.55	500.00	0.66501	638.5
3	11.00	503.41	502.18	502.18	720.0	1773.0	3.37	500.00	0.69460	841.3

3	10.00	499.73	498.72	498.74	429.6	2000.0	5.33	470.00	1.00562	429.6
3	9.00	495.26	492.67	492.69	534.1	2000.0	4.23	500.00	0.79202	534.1
3	8.00	493.17	490.91	490.93	550.0	1846.0	3.48	500.00	0.62363	903.1
3	7.00	490.15	488.02	488.05	308.6	2000.0	5.99	500.00	1.01464	308.6
4	6.00	485.04	482.76	482.73	322.0	2000.0	4.55	500.00	0.68661	322.0
4	5.00	482.07	481.33	481.31	564.6	2000.0	4.80	500.00	0.98577	564.6
4	4.00	478.18	477.33	477.31	571.7	2000.0	4.22	500.00	0.81706	571.7
4	3.00	474.37	473.10	473.08	415.0	1714.0	5.19	500.00	1.02663	650.0
4	2.00	470.01	468.70	468.67	265.4	2000.0	6.02	500.00	0.94757	265.4
4	1.00	466.46	464.93	464.90	256.7	2000.0	5.87	0.00	0.89908	256.7

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.122E+02	0.122E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.231E+01 0.424E+01 0.254E+01 0.170E+01 0.955E+00 0.349E+00 0.707E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.122E+02	0.117E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.218E+01 0.389E+01 0.244E+01 0.176E+01 0.103E+01 0.366E+00 0.523E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.304E-01 0.134E+00 0.188E+00 0.204E+00 0.170E+00 0.104E+00 0.754E-01 0.901E-01

3	0.117E+02	0.100E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.196E+01 0.360E+01 0.213E+01 0.138E+01 0.725E+00 0.203E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.371E-01 0.172E+00 0.214E+00 0.201E+00 0.154E+00 0.898E-01 0.619E-01 0.690E-01

4	0.100E+02	0.118E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.192E+01 0.360E+01 0.247E+01 0.202E+01 0.126E+01 0.469E+00 0.887E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.241E-01 0.110E+00 0.170E+00 0.211E+00 0.188E+00 0.115E+00 0.823E-01 0.984E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71380E-02	0.53466E+01	0.12123E+01	0.31493E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.26734E+00	0.24660E-01	0.13926E+03
2	0.75737E-02	0.49172E+01	0.10204E+01	0.41530E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.65304E-02	0.42294E+01	0.88730E+00	0.54217E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.67814E+00	0.16328E+00	0.12206E+03
4	0.79033E-02	0.51183E+01	0.10307E+01	0.40356E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.31333E+00	0.91005E-01	0.46483E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 16

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS

WATER 0.12500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.26	538.00	538.00	205.5	1250.0	5.81	520.00	1.00096	205.5
1	20.00	535.08	534.00	534.00	291.2	1250.0	4.08	510.00	0.70051	291.2
1	19.00	531.66	530.00	530.00	287.7	1250.0	5.24	500.00	1.01399	287.7
1	18.00	527.83	526.00	526.00	278.2	1250.0	3.90	500.00	0.64124	278.2
1	17.00	524.97	524.00	524.00	270.0	1250.0	5.18	490.00	0.96443	270.0
2	16.00	520.33	519.58	519.58	378.1	1250.0	4.76	520.00	1.00581	378.1
2	15.00	516.54	515.60	515.60	362.2	1250.0	4.00	500.00	0.75869	362.2
2	14.00	512.74	511.61	511.60	313.2	1250.0	5.07	500.00	1.00803	313.2
2	13.00	509.01	507.58	507.58	361.2	1250.0	4.21	500.00	0.81781	361.2
2	12.00	506.65	505.71	505.71	638.3	1250.0	2.22	500.00	0.41692	638.3
3	11.00	503.04	502.18	502.18	720.0	1067.0	3.92	500.00	1.12458	795.4
3	10.00	499.49	498.74	498.73	399.8	1250.0	4.67	470.00	1.00585	399.8
3	9.00	495.02	492.69	492.69	509.3	1250.0	3.65	500.00	0.78518	509.3
3	8.00	492.80	490.93	490.93	436.0	1208.0	3.47	500.00	0.68561	436.0
3	7.00	489.81	488.05	488.04	258.4	1250.0	5.43	500.00	1.01403	258.4
4	6.00	484.68	482.73	482.74	308.7	1250.0	3.71	500.00	0.62573	308.7
4	5.00	481.85	481.31	481.32	562.8	1250.0	4.06	500.00	0.96561	562.8
4	4.00	477.96	477.31	477.32	565.6	1250.0	3.46	500.00	0.76344	565.6
4	3.00	474.15	473.08	473.09	415.0	1126.0	4.47	500.00	1.01166	642.6
4	2.00	469.67	468.67	468.68	259.0	1250.0	5.05	500.00	0.91126	259.0
4	1.00	466.07	464.90	464.91	239.6	1250.0	5.01	0.00	0.86626	239.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.652E+01	0.652E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.117E+01 0.218E+01 0.141E+01 0.994E+00 0.558E+00 0.182E+00 0.141E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.652E+01	0.687E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.120E+01 0.218E+01 0.149E+01 0.113E+01 0.655E+00 0.208E+00 0.612E-02 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.306E-01 0.135E+00 0.189E+00 0.205E+00 0.172E+00 0.104E+00 0.759E-01 0.908E-01

3	0.687E+01	0.728E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.130E+01 0.251E+01 0.163E+01 0.110E+01 0.580E+00 0.150E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.371E-01 0.171E+00 0.214E+00 0.201E+00 0.155E+00 0.903E-01 0.622E-01 0.694E-01

4	0.728E+01	0.658E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.103E+01 0.192E+01 0.142E+01 0.122E+01 0.749E+00 0.238E+00 0.634E-02 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.254E-01 0.113E+00 0.170E+00 0.210E+00 0.186E+00 0.114E+00 0.816E-01 0.976E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70936E-02	0.46813E+01	0.10011E+01	0.27354E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.74343E-02	0.43458E+01	0.81070E+00	0.37394E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.66599E-02	0.39039E+01	0.68111E+00	0.50327E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.85425E+00	0.74878E-01	0.12016E+03
4	0.79367E-02	0.43283E+01	0.80100E+00	0.39335E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.22833E+00	0.54362E-01	0.46100E+02

1

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 17

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.90000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.03	538.00	538.00	192.9	900.0	5.32	520.00	1.00181	192.9
1	20.00	534.90	534.00	534.00	288.5	900.0	3.56	510.00	0.67090	288.5
1	19.00	531.45	530.00	530.00	252.3	900.0	4.90	500.00	1.01361	252.3
1	18.00	527.59	526.00	526.00	250.6	900.0	3.52	500.00	0.61432	250.6
1	17.00	524.78	524.00	524.00	263.0	900.0	4.66	490.00	0.95881	263.0
2	16.00	520.21	519.58	519.58	369.6	900.0	4.11	520.00	0.93949	369.6
2	15.00	516.35	515.60	515.60	351.5	900.0	3.65	500.00	0.76737	351.5
2	14.00	512.57	511.60	511.60	287.7	900.0	4.46	500.00	0.93963	287.7
2	13.00	508.82	507.58	507.58	320.8	900.0	3.87	500.00	0.80013	320.8
2	12.00	506.49	505.71	505.71	626.2	900.0	1.94	500.00	0.39630	626.2
3	11.00	502.96	502.18	502.17	720.0	751.0	3.44	500.00	1.10132	785.3
3	10.00	499.34	498.73	498.71	383.0	900.0	4.25	470.00	1.00588	383.0
3	9.00	494.61	492.69	492.63	132.1	900.0	5.45	500.00	0.85947	132.1
3	8.00	492.57	490.93	490.91	373.4	882.0	3.20	500.00	0.65722	373.4
3	7.00	489.58	488.04	488.00	226.9	900.0	5.08	500.00	1.01434	226.9
4	6.00	484.47	482.74	482.77	279.3	900.0	3.29	500.00	0.58583	279.3
4	5.00	481.77	481.32	481.33	561.9	900.0	3.61	500.00	0.95509	561.9
4	4.00	477.85	477.32	477.33	562.3	900.0	3.02	500.00	0.73100	562.3
4	3.00	474.04	473.09	473.11	415.0	838.0	4.02	500.00	0.99778	638.6
4	2.00	469.50	468.68	468.71	255.6	900.0	4.46	500.00	0.88529	255.6
4	1.00	465.87	464.91	464.94	230.5	900.0	4.47	0.00	0.84426	230.5

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)

```
1        0.431E+01                0.431E+01

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.740E+00 0.140E+01 0.965E+00 0.701E+00 0.388E+00 0.112E+00 0.503E-05 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2        0.431E+01                0.439E+01

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.728E+00 0.136E+01 0.991E+00 0.767E+00 0.433E+00 0.115E+00 0.000E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.308E-01 0.135E+00 0.189E+00 0.205E+00 0.171E+00 0.104E+00 0.759E-01 0.908E-01

3        0.439E+01                0.609E+01

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.109E+01 0.211E+01 0.136E+01 0.915E+00 0.481E+00 0.126E+00 0.000E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.362E-01 0.171E+00 0.214E+00 0.202E+00 0.156E+00 0.908E-01 0.626E-01 0.697E-01

4        0.609E+01                0.444E+01

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.690E+00 0.127E+01 0.980E+00 0.854E+00 0.509E+00 0.135E+00 0.000E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.274E-01 0.117E+00 0.171E+00 0.208E+00 0.184E+00 0.113E+00 0.810E-01 0.968E-01


(4) EFFECTIVE FLOW CONDITIONS:

                                MAIN CHANNEL                          LEFT OVERBANK                          RIGHT CHANNEL
REACH     SLOPE     VELOCITY     DEPTH     TOPWIDTH     VELOCITY     DEPTH     TOPWIDTH     VELOCITY     DEPTH     TOPWIDTH
                    (FT/SEC)     (FT)       (FT)       (FT/SEC)     (FT)       (FT)       (FT/SEC)     (FT)       (FT)

  1  0.70690E-02 0.42444E+01 0.85747E+00 0.25477E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00
  2  0.73984E-02 0.38760E+01 0.69134E+00 0.35504E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00 0.00000E+00
  3  0.67085E-02 0.39593E+01 0.71885E+00 0.40883E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.78543E+00 0.57605E-01 0.11951E+03
  4  0.79333E-02 0.38625E+01 0.67868E+00 0.38380E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.17333E+00 0.36033E-01 0.45883E+02
1

** SEDIMENT TRANSPORT STUDY,   AT THE TIME STEP  18


(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

   UPSTREAM WATERSHED, SED.   0.00000E+00  CUBIC YARDS
                       WATER  0.40000E+03  CFS

      REACH  1          NO TRIBUTARY

      REACH  2          NO TRIBUTARY

      REACH  3          NO TRIBUTARY

      REACH  4          NO TRIBUTARY


(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH    SECNO     W.S.EL.    BEGINNING    ENDING     CHANNEL     CHANNEL     CHANNEL     CHANNEL     CHANNEL     GROSS
                              BED EL.     BED EL.    TOPWIDTH    DISCHARGE   VELOCITY    LENGTH     FROUDE NO.   TOPWIDTH
```

1	21.00	538.65	538.00	538.00	172.7	400.0	3.94	520.00	0.90719	172.7
1	20.00	534.56	534.00	534.00	283.3	400.0	2.58	510.00	0.61623	283.3
1	19.00	531.06	530.00	530.00	183.2	400.0	4.13	500.00	1.00255	183.2
1	18.00	527.08	526.00	526.00	193.3	400.0	2.80	500.00	0.57288	193.3
1	17.00	524.49	524.00	524.00	251.9	400.0	3.36	490.00	0.86290	251.9
2	16.00	519.96	519.58	519.58	351.5	400.0	3.06	520.00	0.88339	351.5
2	15.00	516.06	515.60	515.60	335.0	400.0	2.68	500.00	0.70591	335.0
2	14.00	512.23	511.60	511.60	229.1	400.0	3.60	500.00	0.91198	229.1
2	13.00	508.45	507.58	507.58	242.2	400.0	3.08	500.00	0.74302	242.2
2	12.00	506.20	505.71	505.71	603.6	400.0	1.39	500.00	0.35474	603.6
3	11.00	502.81	502.17	502.17	720.0	301.0	2.43	500.00	1.03021	767.3
3	10.00	499.07	498.71	498.70	354.2	400.0	3.33	470.00	1.00578	354.2
3	9.00	494.00	492.63	492.60	104.1	400.0	4.04	500.00	0.72919	104.1
3	8.00	492.11	490.91	490.90	242.1	400.0	2.61	500.00	0.57722	242.1
3	7.00	489.11	488.00	487.98	165.7	400.0	4.31	500.00	1.01504	165.7
4	6.00	484.04	482.77	482.78	216.9	400.0	2.49	500.00	0.50918	216.9
4	5.00	481.60	481.33	481.33	560.4	400.0	2.68	500.00	0.91689	560.4
4	4.00	477.68	477.33	477.33	556.3	400.0	2.15	500.00	0.65420	556.3
4	3.00	473.83	473.11	473.12	415.0	400.0	3.10	500.00	0.98039	631.0
4	2.00	469.20	468.71	468.72	249.6	400.0	3.30	500.00	0.83298	249.6
4	1.00	465.54	464.94	464.95	214.4	400.0	3.31	0.00	0.77830	214.4

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.155E+01	0.155E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.233E+00 0.477E+00 0.380E+00 0.289E+00 0.145E+00 0.213E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.155E+01	0.158E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.229E+00 0.472E+00 0.396E+00 0.314E+00 0.153E+00 0.128E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.307E-01 0.135E+00 0.189E+00 0.204E+00 0.171E+00 0.104E+00 0.759E-01 0.908E-01

3	0.158E+01	0.216E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.344E+00 0.736E+00 0.535E+00 0.367E+00 0.167E+00 0.148E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.358E-01 0.171E+00 0.213E+00 0.202E+00 0.156E+00 0.908E-01 0.626E-01 0.697E-01

4	0.216E+01	0.164E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.227E+00 0.459E+00 0.403E+00 0.358E+00 0.183E+00 0.138E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.280E-01 0.118E+00 0.171E+00 0.208E+00 0.184E+00 0.113E+00 0.810E-01 0.968E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70148E-02	0.32900E+01	0.58588E+00	0.21820E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.73426E-02	0.29573E+01	0.46239E+00	0.31738E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

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        3  0.68138E-02 0.30443E+01 0.52126E+00 0.36261E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.60526E+00 0.35220E-01 0.11822E+03
        4  0.78967E-02 0.29217E+01 0.44997E+00 0.36471E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.15000E-01 0.67809E-03 0.45517E+02
AC
AC
AC
T1      SLA  JOB#: BCA01  FILE: BCA01
T2      PANTANO WASH
T3
J1   -10      2      0      0   .0067      0      0      0 467.00      0
J2    -1      0     -1      0      0      0      0      0      0      0
J3    38     13     14     15      1     42     26      4      8     25
J3    39     53     54
NC 0.050  0.050  0.025    0.1    0.3
QT     1   1500
X1  1.00     16   609.   948.   550.   400.   500.
X3                       609.
GR472.00     0.  470.00    99.  472.00   445.  472.00   609.  466.00   631.
GR466.00   818.  468.00   948.  468.00  1612.  470.00  1630.  470.00  1804.
GR472.00  1859.  474.00  1901.  474.00  1991.  476.00  2058.  478.00  2165.
GR482.00  2257.
X1  2.00     23   773.  1081.   530.   430.   500.
X3                       610.
GR482.00     0.  478.00   134.  476.00   177.  474.00   262.  474.00   424.
GR476.00   542.  478.00   610.  476.00   698.  474.00   773.  470.00   789.
GR470.00  1029.  472.00  1081.  474.00  1516.  474.00  1656.  474.00  1869.
GR472.00  1878.  472.00  1899.  474.00  1913.  476.00  1947.  478.00  2014.
GR478.00  2368.  480.00  2433.  484.00  2528.
X1  3.00     16    29.   444.   570.   340.   500.
GR490.00     0.  478.00    29.  476.00    52.  474.00   103.  474.00   444.
GR474.00   717.  476.00   739.  476.00   972.  478.00  1017.  480.00  1094.
GR478.00  1246.  478.00  1289.  480.00  1340.  482.00  1522.  484.00  1626.
GR486.00  1656.
X1  4.00     13   341.   965.   520.   380.   500.
GR490.00     0.  488.00   120.  486.00   295.  480.00   341.  478.00   388.
GR478.00   934.  480.00   965.  480.00  1099.  482.00  1237.  484.00  1720.
GR486.00  1852.  490.00  1950.  494.00  2015.
X1  5.00     14   167.   913.   370.   510.   500.
GR500.00     0.  490.00   112.  488.00   167.  486.00   179.  486.00   237.
GR484.00   262.  482.00   278.  482.00   836.  486.00   846.  488.00   913.
GR488.00  1193.  490.00  1290.  492.00  1418.  494.00  1591.
X1  6.00     14   471.   895.   340.   560.   500.
GR510.00     0.  500.00   126.  490.00   167.  490.00   471.  488.00   479.
GR486.00   534.  484.00   810.  484.00   846.  490.00   862.  492.00   895.
GR494.00  1080.  496.00  1258.  500.00  1350.  504.00  1648.
X1  7.00     11   280.   780.   400.   580.   500.
GR500.00     0.  492.00    51.  491.00   280.  487.00   388.  488.00   502.
GR490.00   705.  492.00   780.  496.00   859.  496.00   993.  498.00  1052.
GR500.00  1220.
X1  8.00     13    35.   585.   460.   460.   500.
NH     4   .05     35   .025    585    .04   1088    .05   1533
GR510.00     0.  500.00    35.  490.00    69.  490.00    95.  492.00   431.
GR492.00   550.  493.00   585.  493.00   850.  492.00   954.  496.00   987.
GR500.00  1088.  504.00  1466.  506.00  1533.
X1  9.00     16    22.   800.   520.   480.   500.
NH     4   .05     22   .025    520    .04   1284    .05   2232
GR520.00     0.  510.00    22.  492.00    48.  492.00    88.  494.00   181.
GR494.00   520.  496.00   691.  495.00   720.  495.00   755.  496.00   800.
GR496.00  1215.  498.00  1272.  500.00  1284.  502.00  1731.  506.00  2078.
GR508.00  2232.
X1 10.00     19   172.   870.   590.   360.   470.
NH     4   .05    172   .025    529    .04   1191    .05   2334
GR520.00     0.  504.00    53.  502.00   172.  498.00   193.  498.00   457.
GR499.00   529.  500.00   645.  500.00   761.  498.00   777.  498.00   827.
GR500.30   870.  500.00  1167.  502.00  1191.  502.00  1335.  504.00  2023.
GR506.00  2112.  508.00  2161.  510.00  2226.  514.00  2334.
X1 11.00     12    41.   761.   520.   490.   500.
NH     4   .05     41   .025    761    .04    998    .05   1979
GR530.00     0.  508.00    41.  502.00    73.  502.00   745.  504.00   761.
GR502.00   942.  502.00   964.  504.00   998.  506.00  1157.  506.00  1867.
GR508.00  1896.  510.00  1979.
X1 12.00     11   211.   944.   500.   490.   500.
GR550.00     0.  520.00   122.  510.00   160.  508.00   211.  506.00   351.
GR506.00   916.  508.00   944.  510.00  1165.  510.00  2029.  514.00  2092.
GR518.00  2163.
X1 13.00     11    36.   548.   520.   500.   500.
GR540.00     0.  530.00    20.  520.00    36.  510.00    49.  508.00   207.
GR508.00   262.  510.00   548.  512.00   566.  514.00  1403.  516.00  1667.
GR520.00  1809.
X1 14.00     13    48.   544.   440.   550.   500.
GR520.00     0.  520.00    48.  514.00    71.  512.00   333.  512.00   457.
GR516.00   544.  518.00   753.  520.00  1011.  522.00  1417.  524.00  1577.
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GR524.00   1720.  526.00  1835.  528.00  1849.
X1 15.00     14     35.   706.    490.   560.    500.
GR540.00     0.  522.00    35.  518.00    54.  516.00   153.  516.00   461.
GR518.00   477.  520.00   662.  522.00   706.  524.00   844.  526.00   986.
GR528.00  1167.  530.00  1299.  532.00  1476.  534.00  1679.
X1 16.00     17    241.   742.    480.   500.    520.
GR540.00     0.  530.00    52.  528.00    72.  526.00   106.  524.00   147.
GR522.00   241.  520.00   269.  520.00   592.  522.00   742.  524.00   860.
GR526.00   979.  528.00  1105.  528.00  1266.  530.00  1309.  532.00  1483.
GR536.00  1659.  540.00  1852.
X1 17.00     14    395.   705.    530.   430.    490.
GR540.00     0.  532.00    24.  530.00    44.  528.00   211.  526.00   395.
GR524.00   417.  524.00   650.  526.00   705.  526.00   979.  528.00  1007.
GR530.00  1204.  532.00  1375.  536.00  1582.  540.00  1805.
X1 18.00     16    349.   695.    580.   440.    500.
GR540.00     0.  536.00   152.  532.00   294.  530.00   349.  526.00   363.
GR526.00   434.  528.00   653.  529.00   695.  528.00   947.  530.00   962.
GR530.00  1066.  532.00  1090.  534.00  1236.  536.00  1433.  538.00  1625.
GR540.00  1814.
X1 19.00     16    196.   560.    520.   500.    500.
GR550.00     0.  540.00    71.  538.00   119.  536.00   196.  532.00   213.
GR530.00   548.  532.00   560.  532.00   868.  534.00   882.  536.00  1065.
GR538.00  1236.  538.00  1353.  540.00  1580.  542.00  1842.  546.00  1970.
GR550.00  1989.
X1 20.00     14    222.   527.    560.   450.    510.
GR560.00     0.  540.00    41.  538.00    47.  536.00   222.  534.00   236.
GR534.00   511.  536.00   527.  536.00   679.  538.00   699.  540.00   751.
GR542.00  1009.  544.00  1738.  550.00  1821.  560.00  1842.
X1 21.00     15    578.   824.    490.   490.    520.
GR560.00     0.  550.00    57.  546.00    73.  544.00   107.  542.00   244.
GR540.00   578.  538.00   648.  538.00   785.  540.00   824.  542.00   856.
GR544.00  1059.  546.00  1130.  548.00  1693.  550.00  1764.  560.00  1784.
EJ


ER
     18      4      0    0.4      0
      0      5  10010   7490      0
      0      5   7490   4970      0
      0      5   4970   2500      0
      0      6   2500      0      0
      8
   0.11   0.25   0.60   1.31   3.06   6.69  13.47  23.91
    500    500    500    500    500
    .03    .14    .20    .21    .17    .10    .07    .08
    .03    .14    .20    .21    .17    .10    .07    .08
    .03    .14    .20    .21    .17    .10    .07    .08
    .03    .14    .20    .21    .17    .10    .07    .08
    .03    .14    .20    .21    .17    .10    .07    .08
    .03    .14    .20    .21    .17    .10    .07    .08
    .03    .14    .20    .21    .17    .10    .07    .08
    .03    .14    .20    .21    .17    .10    .07    .08
      1      1      1      1      1      1      1      1      1      1
      1      1      1      1      2      2      2      2
   1500   5100   8100   8800   9050  10750  14250  16500  12350   9900
   7400   5350   3850   2850   2000   1250    900    400
      0      0      0      0      0      0      0      0      0      1
      0
```

THE FOLLOWING TABLE LISTS THE BED ELEVATION AT THE END OF EACH TIME STEP

REACH	SECNO	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP10	STEP11	STEP1
1	21.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.0
1	20.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.0
1	19.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.0
1	18.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.0
1	17.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.0
2	16.00	520.00	519.99	519.96	519.92	519.88	519.83	519.75	519.65	519.60	519.57	519.56	519.5
2	15.00	516.00	515.99	515.95	515.91	515.87	515.82	515.75	515.67	515.63	515.60	515.58	515.5
2	14.00	512.00	511.99	511.96	511.92	511.88	511.83	511.76	511.68	511.64	511.61	511.60	511.6
2	13.00	508.00	507.99	507.96	507.92	507.88	507.83	507.75	507.66	507.62	507.59	507.58	507.5
2	12.00	506.00	505.99	505.97	505.94	505.91	505.88	505.83	505.77	505.74	505.72	505.71	505.7
3	11.00	502.00	502.00	502.01	502.02	502.03	502.05	502.08	502.11	502.14	502.16	502.17	502.1

3	10.00	498.00	498.03	498.08	498.13	498.18	498.25	498.35	498.47	498.56	498.63	498.67	498.
3	9.00	492.00	492.03	492.08	492.13	492.18	492.24	492.33	492.44	492.52	492.58	492.62	492.
3	8.00	490.00	490.03	490.10	490.17	490.23	490.32	490.45	490.61	490.72	490.80	490.86	490.
3	7.00	487.00	487.04	487.12	487.19	487.26	487.36	487.50	487.67	487.79	487.88	487.94	487.
4	6.00	483.99	483.93	483.83	483.74	483.65	483.54	483.41	483.25	483.12	482.99	482.89	482.
4	5.00	481.99	481.95	481.90	481.85	481.80	481.74	481.67	481.59	481.52	481.45	481.40	481.
4	4.00	477.99	477.95	477.90	477.85	477.80	477.74	477.67	477.59	477.52	477.45	477.40	477.
4	3.00	473.99	473.94	473.87	473.80	473.73	473.65	473.56	473.45	473.36	473.27	473.20	473.
4	2.00	469.99	469.92	469.82	469.72	469.62	469.50	469.37	469.21	469.08	468.95	468.84	468.
4	1.00	465.99	465.93	465.84	465.76	465.68	465.59	465.49	465.37	465.27	465.16	465.07	465.

REACH	SECNO	STEP13	STEP14	STEP15	STEP16	STEP17	STEP18
1	21.00	538.00	538.00	538.00	538.00	538.00	538.00
1	20.00	534.00	534.00	534.00	534.00	534.00	534.00
1	19.00	530.00	530.00	530.00	530.00	530.00	530.00
1	18.00	526.00	526.00	526.00	526.00	526.00	526.00
1	17.00	524.00	524.00	524.00	524.00	524.00	524.00
2	16.00	519.57	519.57	519.58	519.58	519.58	519.58
2	15.00	515.59	515.59	515.60	515.60	515.60	515.60
2	14.00	511.60	511.60	511.61	511.60	511.60	511.60
2	13.00	507.58	507.58	507.58	507.58	507.58	507.58
2	12.00	505.71	505.71	505.71	505.71	505.71	505.71
3	11.00	502.18	502.18	502.18	502.18	502.17	502.17
3	10.00	498.70	498.72	498.74	498.73	498.71	498.70
3	9.00	492.66	492.67	492.69	492.69	492.63	492.60
3	8.00	490.90	490.91	490.93	490.93	490.91	490.90
3	7.00	488.00	488.02	488.05	488.04	488.00	487.98
4	6.00	482.79	482.76	482.73	482.74	482.77	482.78
4	5.00	481.34	481.33	481.31	481.32	481.33	481.33
4	4.00	477.34	477.33	477.31	477.32	477.33	477.33
4	3.00	473.12	473.10	473.08	473.09	473.11	473.12
4	2.00	468.73	468.70	468.67	468.68	468.71	468.72
4	1.00	464.96	464.93	464.90	464.91	464.94	464.95

THE FOLLOWING TABLE LISTS THE CHANGE IN BED ELEVATION DURING EACH TIME STEP

REACH	SECNO	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP10	STEP11	STEP1
1	21.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	18.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	17.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
2	16.00	0.00	-0.01	-0.03	-0.04	-0.04	-0.05	-0.08	-0.10	-0.05	-0.03	-0.01	0.0
2	15.00	0.00	-0.01	-0.04	-0.04	-0.04	-0.05	-0.07	-0.08	-0.04	-0.03	-0.02	0.0
2	14.00	0.00	-0.01	-0.03	-0.04	-0.04	-0.05	-0.07	-0.08	-0.04	-0.03	-0.01	0.0
2	13.00	0.00	-0.01	-0.03	-0.04	-0.04	-0.05	-0.08	-0.09	-0.04	-0.03	-0.01	0.0
2	12.00	0.00	-0.01	-0.02	-0.03	-0.03	-0.03	-0.05	-0.06	-0.03	-0.02	-0.01	0.0
3	11.00	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.03	0.03	0.02	0.01	0.01
3	10.00	0.00	0.03	0.05	0.05	0.05	0.07	0.10	0.12	0.09	0.07	0.04	0.02
3	9.00	0.00	0.03	0.05	0.05	0.05	0.06	0.09	0.11	0.08	0.06	0.04	0.02
3	8.00	0.00	0.03	0.07	0.07	0.06	0.09	0.13	0.16	0.11	0.08	0.06	0.02
3	7.00	0.00	0.04	0.08	0.07	0.07	0.10	0.14	0.17	0.12	0.09	0.06	0.03
4	6.00	-0.01	-0.06	-0.10	-0.09	-0.09	-0.11	-0.13	-0.16	-0.13	-0.13	-0.10	-0.06
4	5.00	-0.01	-0.04	-0.05	-0.05	-0.05	-0.06	-0.07	-0.08	-0.07	-0.07	-0.05	-0.04
4	4.00	-0.01	-0.04	-0.05	-0.05	-0.05	-0.06	-0.07	-0.08	-0.07	-0.07	-0.05	-0.04
4	3.00	-0.01	-0.05	-0.07	-0.07	-0.07	-0.08	-0.09	-0.11	-0.09	-0.09	-0.07	-0.05
4	2.00	-0.01	-0.07	-0.10	-0.10	-0.10	-0.12	-0.13	-0.16	-0.13	-0.13	-0.11	-0.07
4	1.00	-0.01	-0.06	-0.09	-0.08	-0.08	-0.09	-0.10	-0.12	-0.10	-0.11	-0.09	-0.07

REACH	SECNO	STEP13	STEP14	STEP15	STEP16	STEP17	STEP18
1	21.00	0.00	0.00	0.00	0.00	0.00	0.00
1	20.00	0.00	0.00	0.00	0.00	0.00	0.00
1	19.00	0.00	0.00	0.00	0.00	0.00	0.00
1	18.00	0.00	0.00	0.00	0.00	0.00	0.00
1	17.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.00	0.01	0.00	0.01	0.00	0.00	0.00
2	15.00	0.01	0.00	0.01	0.00	0.00	0.00

2	14.00	0.00	0.00	0.01	-0.01	0.00	0.00
2	13.00	0.00	0.00	0.00	0.00	0.00	0.00
2	12.00	0.00	0.00	0.00	0.00	0.00	0.00
3	11.00	0.00	0.00	0.00	0.00	-0.01	0.00
3	10.00	0.01	0.02	0.02	-0.01	-0.02	-0.01
3	9.00	0.02	0.01	0.02	0.00	-0.06	-0.03
3	8.00	0.02	0.01	0.02	0.00	-0.02	-0.01
3	7.00	0.03	0.02	0.03	-0.01	-0.04	-0.02
4	6.00	-0.04	-0.03	-0.03	0.01	0.03	0.01
4	5.00	-0.02	-0.01	-0.02	0.01	0.01	0.00
4	4.00	-0.02	-0.01	-0.02	0.01	0.01	0.00
4	3.00	-0.03	-0.02	-0.02	0.01	0.02	0.01
4	2.00	-0.04	-0.03	-0.03	0.01	0.03	0.01
4	1.00	-0.04	-0.03	-0.03	0.01	0.03	0.01

THE FOLLOWING TABLE LISTS THE MINIMUM AND MAXIMUM BED ELEVATIONS (COLUMNS 2 & 3), THE MAXIMUM DEGRADATION AND AGGRADATION WITH RES
E
CT TO THE INITIAL BED ELEVATION (COLUMNS 4 & 5) THAT OCCURS AT EACH SECTION DURING THE HYDROGRAPH AND THE NET CHANGE ('NETCH', COL
M
N 6) IN BED ELEVATION THAT OCCURS AT EACH SECTION DURING THE HYDROGRAPH

REACH	SECNO	MIN	MAX	DEG	AGG	NETCH
1	21.00	538.00	538.00	0.00	0.00	0.00
1	20.00	534.00	534.00	0.00	0.00	0.00
1	19.00	530.00	530.00	0.00	0.00	0.00
1	18.00	526.00	526.00	0.00	0.00	0.00
1	17.00	524.00	524.00	0.00	0.00	0.00
2	16.00	519.56	520.00	0.44	0.00	-0.42
2	15.00	515.58	516.00	0.42	0.00	-0.40
2	14.00	511.60	512.00	0.40	0.00	-0.40
2	13.00	507.58	508.00	0.42	0.00	-0.42
2	12.00	505.71	506.00	0.29	0.00	-0.29
3	11.00	502.00	502.18	0.00	0.18	0.17
3	10.00	498.00	498.74	0.00	0.74	0.70
3	9.00	492.00	492.69	0.00	0.69	0.60
3	8.00	490.00	490.93	0.00	0.93	0.90
3	7.00	487.00	488.05	0.00	1.05	0.98
4	6.00	482.73	484.00	1.27	0.00	-1.22
4	5.00	481.31	482.00	0.69	0.00	-0.67
4	4.00	477.31	478.00	0.69	0.00	-0.67
4	3.00	473.08	474.00	0.92	0.00	-0.88
4	2.00	468.67	470.00	1.33	0.00	-1.28
4	1.00	464.90	466.00	1.10	0.00	-1.05

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APPENDIX C.3

25-YEAR FLOOD ANALYSIS

TYPE QUASEDOUT.DAT

AZ BCA 01
Pantano Wash - BCA
25 YR Flood Analysis

SEDIMENT ROUTING OUTPUT FOR:

SLA JOB#: BCA01 FILE: BCA01
PANTANO WASH

1

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 1

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.55000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	538.77	538.00	538.00	179.1	550.0	4.51	520.00	0.96181	179.1
1	20.00	534.67	534.00	534.00	285.1	550.0	2.92	510.00	0.63290	285.1
1	19.00	531.19	530.00	530.00	207.2	550.0	4.44	500.00	1.01366	207.2
1	18.00	527.20	526.00	526.00	206.7	550.0	3.30	500.00	0.64702	206.7
1	17.00	524.64	524.00	524.00	257.9	550.0	3.46	490.00	0.77619	257.9
2	16.00	520.44	520.00	520.00	362.5	550.0	3.62	520.00	0.98453	362.5
2	15.00	516.58	516.00	516.00	341.6	550.0	2.90	500.00	0.68623	341.6
2	14.00	512.72	512.00	512.00	234.5	550.0	4.24	500.00	1.00455	234.5
2	13.00	509.05	508.00	508.00	287.6	550.0	3.06	500.00	0.68360	287.6
2	12.00	506.53	506.00	506.00	609.3	550.0	1.78	500.00	0.43945	609.3
3	11.00	502.27	502.00	502.00	720.0	535.0	2.96	500.00	1.04238	726.4
3	10.00	498.44	498.00	498.00	360.2	550.0	3.67	470.00	1.00227	360.2
3	9.00	493.57	492.00	491.99	115.3	550.0	4.51	500.00	0.77277	115.3
3	8.00	491.30	490.00	489.99	247.8	550.0	3.10	500.00	0.64691	247.8
3	7.00	488.38	487.00	486.99	190.3	550.0	4.10	500.00	0.86165	190.3
4	6.00	485.25	484.00	484.01	212.2	550.0	3.54	500.00	0.72873	212.2
4	5.00	482.39	482.00	482.00	562.1	550.0	2.53	500.00	0.71573	562.1
4	4.00	478.34	478.00	478.00	559.3	550.0	2.92	500.00	0.88793	559.3
4	3.00	474.42	474.00	474.00	415.0	393.0	2.69	500.00	0.80079	629.4
4	2.00	470.58	470.00	470.00	257.3	550.0	3.84	500.00	0.90686	257.3
4	1.00	466.72	466.00	466.00	236.3	550.0	3.62	0.00	0.79535	236.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.235E+01	0.235E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.372E+00 0.733E+00 0.555E+00 0.417E+00 0.221E+00 0.481E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2 0.235E+01 0.241E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.352E+00 0.735E+00 0.599E+00 0.458E+00 0.233E+00 0.368E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.301E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

3 0.241E+01 0.303E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.458E+00 0.939E+00 0.738E+00 0.559E+00 0.288E+00 0.515E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.298E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

4 0.303E+01 0.258E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.368E+00 0.779E+00 0.647E+00 0.498E+00 0.252E+00 0.385E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.302E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70246E-02	0.36619E+01	0.67805E+00	0.22948E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.72749E-02	0.32868E+01	0.54249E+00	0.33221E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.72591E-02	0.34281E+01	0.60781E+00	0.37021E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.31984E+00	0.95041E-02	0.42024E+02
4	0.72400E-02	0.32300E+01	0.50639E+00	0.36987E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.22667E+00	0.69397E-01	0.46267E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 2

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.36000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.43	538.00	538.00	246.0	3561.0	7.27	520.00	0.90864	325.2
1	20.00	535.78	534.00	534.00	301.7	3600.0	7.03	510.00	0.94998	301.7
1	19.00	532.51	530.00	530.00	364.0	3299.0	6.29	500.00	0.92431	660.7
1	18.00	528.84	526.00	526.00	346.0	3483.0	5.48	500.00	0.71285	554.9
1	17.00	525.83	524.00	524.00	303.6	3600.0	7.32	490.00	1.01354	303.6
2	16.00	521.46	520.00	520.00	452.8	3600.0	6.36	520.00	1.00357	452.8
2	15.00	517.69	516.00	516.00	404.6	3600.0	6.01	500.00	0.87126	404.6
2	14.00	514.00	512.00	512.00	429.2	3600.0	6.52	500.00	1.01185	429.2
2	13.00	510.43	508.00	508.00	503.5	3599.0	4.67	500.00	0.66444	503.5

2	12.00	507.15	506.00	506.00	661.7	3600.0	5.10	500.00	0.87014	661.7
3	11.00	503.12	502.00	502.00	720.0	3411.0	4.49	500.00	0.77098	829.0
3	10.00	499.47	498.00	498.03	487.9	3600.0	6.20	470.00	1.00276	487.9
3	9.00	495.00	491.99	492.01	597.9	3600.0	5.15	500.00	0.83935	597.9
3	8.00	492.66	489.99	490.01	550.0	3571.0	4.87	500.00	0.74427	588.9
3	7.00	489.96	486.99	487.02	392.4	3600.0	6.05	500.00	0.86683	392.4
4	6.00	486.55	484.01	483.97	333.8	3600.0	6.81	500.00	0.95263	333.8
4	5.00	483.16	482.00	481.97	570.2	3600.0	5.50	500.00	0.90479	570.2
4	4.00	479.09	478.00	477.98	588.4	3600.0	5.84	500.00	1.00563	588.4
4	3.00	475.39	474.00	473.97	415.0	2572.0	5.17	500.00	0.83137	664.6
4	2.00	471.84	470.00	469.95	295.1	3600.0	7.33	500.00	1.00062	295.1
4	1.00	468.17	466.00	465.96	339.0	3526.0	6.23	0.00	0.84916	990.5

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.261E+02	0.261E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.535E+01 0.979E+01 0.524E+01 0.312E+01 0.170E+01 0.677E+00 0.228E+00 0.122E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.261E+02	0.264E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.513E+01 0.951E+01 0.541E+01 0.344E+01 0.192E+01 0.746E+00 0.216E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.304E-01 0.141E+00 0.199E+00 0.209E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

3	0.264E+02	0.211E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.412E+01 0.734E+01 0.435E+01 0.292E+01 0.164E+01 0.589E+00 0.108E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.309E-01 0.142E+00 0.200E+00 0.210E+00 0.169E+00 0.994E-01 0.697E-01 0.794E-01

4	0.211E+02	0.272E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.514E+01 0.972E+01 0.562E+01 0.361E+01 0.203E+01 0.803E+00 0.253E+00 0.762E-03

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.289E-01 0.138E+00 0.201E+00 0.212E+00 0.172E+00 0.101E+00 0.704E-01 0.809E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71823E-02	0.65306E+01	0.16960E+01	0.32121E+03	0.30483E+00	0.27689E-01	0.92601E+01	0.97505E+00	0.24195E+00	0.14202E+03
2	0.76175E-02	0.59523E+01	0.13779E+01	0.45465E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.25100E+00	0.44592E-01	0.77689E+00
3	0.68907E-02	0.52519E+01	0.12082E+01	0.57698E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.65182E+00	0.97357E-01	0.12075E+03
4	0.72567E-02	0.61317E+01	0.13725E+01	0.42803E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.49500E+00	0.23922E+00	0.10351E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 3

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.88500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.91	538.00	538.00	246.0	7213.0	8.45	520.00	0.79952	596.1
1	20.00	537.12	534.00	534.00	305.0	7925.0	8.61	510.00	0.87271	566.0
1	19.00	533.42	530.00	530.00	364.0	7190.0	8.53	500.00	0.98827	670.9
1	18.00	529.71	526.00	526.00	346.0	7880.0	8.46	500.00	0.90881	609.8
1	17.00	527.18	524.00	524.00	310.0	7715.0	8.50	490.00	0.87584	708.6
2	16.00	522.50	520.00	519.95	501.0	8830.0	8.23	520.00	0.99192	553.5
2	15.00	518.71	516.00	515.95	492.5	8850.0	8.36	500.00	1.00539	492.5
2	14.00	515.07	512.00	511.95	457.0	8850.0	8.59	500.00	1.00889	457.0
2	13.00	511.40	508.00	507.96	512.0	8824.0	7.03	500.00	0.79174	513.4
2	12.00	508.01	506.00	505.97	733.0	8850.0	6.80	500.00	0.89949	733.6
3	11.00	503.83	502.00	502.01	720.0	8202.0	6.63	500.00	0.89058	914.9
3	10.00	500.56	498.03	498.09	698.0	8643.0	7.05	470.00	0.93757	994.0
3	9.00	495.86	492.01	492.07	734.8	8850.0	7.05	500.00	0.95043	734.8
3	8.00	493.76	490.01	490.09	550.0	8132.0	6.28	500.00	0.72195	912.3
3	7.00	491.18	487.02	487.11	500.0	8848.0	7.92	500.00	0.93305	510.2
4	6.00	487.73	483.97	483.87	369.7	8850.0	9.23	500.00	1.00933	369.7
4	5.00	483.94	481.97	481.91	578.4	8850.0	7.92	500.00	1.00388	578.4
4	4.00	479.94	477.98	477.93	621.8	8850.0	7.72	500.00	1.00183	621.8
4	3.00	476.36	473.97	473.90	415.0	6289.0	7.13	500.00	0.86201	932.3
4	2.00	473.26	469.95	469.84	308.0	8495.0	9.08	500.00	0.91836	615.0
4	1.00	469.12	465.96	465.87	339.0	7174.0	8.10	0.00	0.88255	1002.5

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.769E+02	0.769E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.165E+02 0.316E+02 0.153E+02 0.759E+01 0.359E+01 0.143E+01 0.623E+00 0.281E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.769E+02	0.865E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.176E+02 0.344E+02 0.175E+02 0.929E+01 0.466E+01 0.193E+01 0.826E+00 0.328E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.290E-01 0.138E+00 0.199E+00 0.210E+00 0.170E+00 0.100E+00 0.704E-01 0.809E-01

3	0.865E+02	0.688E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.153E+02 0.267E+02 0.132E+02 0.740E+01 0.395E+01 0.159E+01 0.573E+00 0.728E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.326E-01 0.147E+00 0.202E+00 0.207E+00 0.167E+00 0.982E-01 0.690E-01 0.786E-01

4 0.688E+02 0.844E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.169E+02 0.331E+02 0.173E+02 0.922E+01 0.467E+01 0.194E+01 0.846E+00 0.369E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.275E-01 0.133E+00 0.199E+00 0.213E+00 0.174E+00 0.103E+00 0.717E-01 0.824E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72512E-02	0.85191E+01	0.28097E+01	0.32283E+03	0.17167E+01	0.33657E+00	0.79033E+02	0.35583E+01	0.11767E+01	0.22540E+03
2	0.77450E-02	0.79730E+01	0.22677E+01	0.49716E+03	0.67936E+00	0.10708E+00	0.15249E+02	0.11262E+01	0.30146E+00	0.36790E+02
3	0.67126E-02	0.68719E+01	0.19106E+01	0.66322E+03	0.44534E-01	0.89769E-02	0.41599E+01	0.13521E+01	0.45195E+00	0.18470E+03
4	0.73967E-02	0.81817E+01	0.23259E+01	0.45207E+03	0.36667E-01	0.73910E-02	0.34167E+01	0.10317E+01	0.37086E+00	0.28333E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 4

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.12200E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.43	538.00	538.00	246.0	8919.0	9.10	520.00	0.80387	684.4
1	20.00	537.66	534.00	534.00	305.0	10281.0	9.46	510.00	0.88357	618.9
1	19.00	533.87	530.00	530.00	364.0	9558.0	9.52	500.00	1.01025	676.1
1	18.00	530.24	526.00	526.00	346.0	10425.0	9.36	500.00	0.91993	726.3
1	17.00	527.68	524.00	524.00	310.0	10000.0	9.39	490.00	0.89252	762.5
2	16.00	522.98	519.95	519.88	501.0	12081.0	9.03	520.00	0.97378	605.4
2	15.00	519.24	515.95	515.89	545.3	12200.0	9.00	500.00	1.00663	545.3
2	14.00	515.58	511.95	511.89	470.3	12200.0	9.47	500.00	1.00856	470.3
2	13.00	511.82	507.96	507.89	512.0	12144.0	8.20	500.00	0.85026	517.8
2	12.00	508.33	505.97	505.93	733.0	12010.0	7.63	500.00	0.91686	841.9
3	11.00	504.25	502.01	502.03	720.0	11089.0	7.42	500.00	0.90837	957.0
3	10.00	500.98	498.09	498.19	698.0	11510.0	7.79	470.00	0.94419	1001.2
3	9.00	496.35	492.07	492.16	778.0	11994.0	7.56	500.00	0.93229	1183.1
3	8.00	494.44	490.09	490.21	550.0	10584.0	6.56	500.00	0.67555	920.0
3	7.00	491.72	487.11	487.25	500.0	12133.0	9.09	500.00	0.97979	651.1
4	6.00	488.29	483.87	483.75	379.7	12200.0	10.11	500.00	0.99947	379.7
4	5.00	484.34	481.91	481.84	584.2	12200.0	8.80	500.00	1.00617	584.2
4	4.00	480.38	477.93	477.87	624.0	12132.0	8.38	500.00	0.96971	787.1
4	3.00	476.79	473.90	473.81	415.0	8571.0	8.02	500.00	0.87994	947.4
4	2.00	473.90	469.84	469.71	308.0	11280.0	9.73	500.00	0.88329	762.7
4	1.00	469.52	465.87	465.77	339.0	9383.0	8.99	0.00	0.90289	1007.8

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH INFLOW(CFS) OUTFLOW(CFS)

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1        0.117E+03                0.117E+03

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.251E+02 0.491E+02 0.236E+02 0.110E+02 0.492E+01 0.194E+01 0.865E+00 0.484E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2        0.117E+03                0.131E+03

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.263E+02 0.534E+02 0.272E+02 0.136E+02 0.642E+01 0.265E+01 0.122E+01 0.639E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.279E-01 0.135E+00 0.198E+00 0.212E+00 0.172E+00 0.102E+00 0.715E-01 0.829E-01

3        0.131E+03                0.104E+03

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.240E+02 0.423E+02 0.192E+02 0.992E+01 0.500E+01 0.204E+01 0.807E+00 0.218E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.338E-01 0.153E+00 0.203E+00 0.205E+00 0.165E+00 0.965E-01 0.674E-01 0.767E-01

4        0.104E+03                0.123E+03

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.250E+02 0.491E+02 0.257E+02 0.129E+02 0.613E+01 0.252E+01 0.116E+01 0.623E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.271E-01 0.128E+00 0.196E+00 0.213E+00 0.176E+00 0.104E+00 0.724E-01 0.833E-01


(4) EFFECTIVE FLOW CONDITIONS:

                                MAIN CHANNEL                        LEFT OVERBANK                        RIGHT CHANNEL
REACH     SLOPE     VELOCITY     DEPTH     TOPWIDTH    VELOCITY     DEPTH     TOPWIDTH    VELOCITY     DEPTH     TOPWIDTH
                   (FT/SEC)     (FT)       (FT)       (FT/SEC)     (FT)       (FT)       (FT/SEC)     (FT)       (FT)

  1  0.72365E-02 0.93956E+01 0.33164E+01 0.32283E+03 0.24374E+01 0.51352E+00 0.10407E+03 0.43358E+01 0.14661E+01 0.26100E+03
  2  0.78167E-02 0.88419E+01 0.27135E+01 0.51054E+03 0.11519E+01 0.19793E+00 0.25281E+02 0.17286E+01 0.50791E+00 0.54015E+02
  3  0.65709E-02 0.75363E+01 0.23176E+01 0.67170E+03 0.32591E+00 0.53046E-01 0.17298E+02 0.23270E+01 0.86636E+00 0.28505E+03
  4  0.74900E-02 0.90133E+01 0.28474E+01 0.45507E+03 0.22667E+00 0.59181E-01 0.14025E+02 0.13783E+01 0.57845E+00 0.31271E+03
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** SEDIMENT TRANSPORT STUDY,   AT THE TIME STEP   5


(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

   UPSTREAM WATERSHED, SED.   0.00000E+00  CUBIC YARDS
                       WATER  0.12700E+05  CFS

      REACH  1            NO TRIBUTARY

      REACH  2            NO TRIBUTARY

      REACH  3            NO TRIBUTARY

      REACH  4            NO TRIBUTARY


(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:
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REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.49	538.00	538.00	246.0	9170.0	9.22	520.00	0.80823	694.5
1	20.00	537.75	534.00	534.00	305.0	10602.0	9.52	510.00	0.87821	627.5
1	19.00	533.94	530.00	530.00	364.0	9907.0	9.65	500.00	1.01194	676.8
1	18.00	530.31	526.00	526.00	346.0	10793.0	9.48	500.00	0.92152	729.1
1	17.00	527.74	524.00	524.00	310.0	10342.0	9.55	490.00	0.90098	768.5
2	16.00	523.00	519.88	519.81	501.0	12577.0	9.15	520.00	0.97326	607.1
2	15.00	519.26	515.89	515.83	549.1	12700.0	9.10	500.00	1.00670	549.1
2	14.00	515.61	511.89	511.83	471.1	12700.0	9.59	500.00	1.00833	471.1
2	13.00	511.82	507.89	507.83	512.0	12642.0	8.37	500.00	0.85943	517.9
2	12.00	508.38	505.93	505.89	733.0	12491.0	7.65	500.00	0.90381	846.8
3	11.00	504.39	502.03	502.06	720.0	11433.0	7.49	500.00	0.90657	966.9
3	10.00	501.10	498.19	498.29	698.0	11820.0	7.90	470.00	0.95025	1003.3
3	9.00	496.51	492.16	492.25	778.0	12314.0	7.48	500.00	0.90571	1188.0
3	8.00	494.60	490.21	490.34	550.0	10809.0	6.60	500.00	0.67477	921.7
3	7.00	491.93	487.25	487.40	500.0	12564.0	9.06	500.00	0.95829	710.2
4	6.00	488.26	483.75	483.62	380.0	12700.0	10.25	500.00	1.00027	380.0
4	5.00	484.34	481.84	481.77	584.9	12700.0	8.91	500.00	1.00635	584.9
4	4.00	480.39	477.87	477.80	624.0	12617.0	8.48	500.00	0.96782	789.8
4	3.00	476.79	473.81	473.72	415.0	8976.0	8.20	500.00	0.88934	948.4
4	2.00	473.90	469.71	469.58	308.0	11778.0	9.85	500.00	0.88083	763.0
4	1.00	469.55	465.77	465.67	339.0	9827.0	9.11	0.00	0.90059	1008.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.123E+03	0.123E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.264E+02 0.518E+02 0.249E+02 0.115E+02 0.511E+01 0.201E+01 0.899E+00 0.513E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.123E+03	0.137E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.272E+02 0.556E+02 0.287E+02 0.143E+02 0.674E+01 0.278E+01 0.129E+01 0.700E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.272E-01 0.132E+00 0.196E+00 0.212E+00 0.173E+00 0.103E+00 0.723E-01 0.839E-01

3	0.137E+03	0.107E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.251E+02 0.446E+02 0.197E+02 0.992E+01 0.492E+01 0.200E+01 0.789E+00 0.212E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.345E-01 0.158E+00 0.206E+00 0.204E+00 0.161E+00 0.944E-01 0.661E-01 0.751E-01

4	0.107E+03	0.127E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.260E+02 0.504E+02 0.267E+02 0.135E+02 0.643E+01 0.264E+01 0.122E+01 0.672E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.268E-01 0.124E+00 0.192E+00 0.214E+00 0.179E+00 0.106E+00 0.737E-01 0.849E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)

1	0.72365E-02	0.95078E+01	0.33864E+01	0.32283E+03	0.25423E+01	0.54341E+00	0.10764E+03	0.44245E+01	0.15250E+01	0.26246E+03
2	0.78327E-02	0.89618E+01	0.27789E+01	0.51147E+03	0.11786E+01	0.20446E+00	0.26030E+02	0.17583E+01	0.52116E+00	0.54653E+02
3	0.65101E-02	0.75635E+01	0.23745E+01	0.67170E+03	0.36032E+00	0.66157E-01	0.22530E+02	0.25204E+01	0.97017E+00	0.28888E+03
4	0.75400E-02	0.91292E+01	0.29299E+01	0.45523E+03	0.24583E+00	0.74010E-01	0.18258E+02	0.14000E+01	0.59167E+00	0.31323E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 6

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.13300E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.55	538.00	538.00	246.0	9483.0	9.39	520.00	0.81717	705.0
1	20.00	537.83	534.00	534.00	305.0	11006.0	9.67	510.00	0.88190	635.5
1	19.00	534.01	530.00	530.00	364.0	10324.0	9.79	500.00	1.01395	678.8
1	18.00	530.38	526.00	526.00	346.0	11238.0	9.65	500.00	0.92711	732.1
1	17.00	527.86	524.00	524.00	310.0	10688.0	9.55	490.00	0.88601	780.9
2	16.00	523.03	519.81	519.75	501.0	13167.0	9.28	520.00	0.97226	610.2
2	15.00	519.29	515.83	515.78	553.8	13300.0	9.22	500.00	1.00671	553.8
2	14.00	515.66	511.83	511.78	472.7	13300.0	9.67	500.00	0.99968	472.7
2	13.00	511.83	507.83	507.77	512.0	13237.0	8.58	500.00	0.87061	518.1
2	12.00	508.43	505.89	505.85	733.0	13067.0	7.69	500.00	0.89064	852.8
3	11.00	504.54	502.06	502.09	720.0	11869.0	7.58	500.00	0.90552	977.3
3	10.00	501.23	498.29	498.39	698.0	12198.0	8.02	470.00	0.95770	1005.4
3	9.00	496.66	492.25	492.34	778.0	12722.0	7.54	500.00	0.90145	1192.2
3	8.00	494.79	490.34	490.47	550.0	11077.0	6.63	500.00	0.67032	923.6
3	7.00	492.14	487.40	487.55	500.0	13055.0	9.14	500.00	0.95269	732.6
4	6.00	488.23	483.62	483.49	380.3	13300.0	10.41	500.00	1.00069	380.3
4	5.00	484.34	481.77	481.70	585.7	13300.0	9.05	500.00	1.00629	585.7
4	4.00	480.39	477.80	477.73	624.0	13202.0	8.60	500.00	0.96710	792.5
4	3.00	476.78	473.72	473.63	415.0	9463.0	8.50	500.00	0.91445	948.7
4	2.00	473.95	469.58	469.45	308.0	12326.0	9.87	500.00	0.86404	775.8
4	1.00	469.56	465.67	465.56	339.0	10363.0	9.34	0.00	0.91026	1008.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.131E+03	0.131E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.281E+02 0.553E+02 0.265E+02 0.122E+02 0.535E+01 0.209E+01 0.941E+00 0.550E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.131E+03	0.144E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.285E+02 0.581E+02 0.301E+02 0.150E+02 0.702E+01 0.290E+01 0.135E+01 0.754E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.270E-01 0.130E+00 0.194E+00 0.211E+00 0.174E+00 0.103E+00 0.730E-01 0.855E-01

3 0.144E+03 0.113E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.267E+02 0.479E+02 0.207E+02 0.102E+02 0.497E+01 0.201E+01 0.797E+00 0.224E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.352E-01 0.163E+00 0.209E+00 0.203E+00 0.159E+00 0.934E-01 0.652E-01 0.740E-01

4 0.113E+03 0.134E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.274E+02 0.528E+02 0.280E+02 0.143E+02 0.682E+01 0.279E+01 0.130E+01 0.737E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.266E-01 0.121E+00 0.189E+00 0.214E+00 0.182E+00 0.107E+00 0.757E-01 0.865E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72315E-02	0.96443E+01	0.34668E+01	0.32283E+03	0.26613E+01	0.57576E+00	0.11186E+03	0.45310E+01	0.15932E+01	0.26427E+03
2	0.78486E-02	0.90740E+01	0.28622E+01	0.51275E+03	0.12104E+01	0.21569E+00	0.27505E+02	0.17980E+01	0.54568E+00	0.55649E+02
3	0.64494E-02	0.76353E+01	0.24326E+01	0.67170E+03	0.40688E+00	0.85977E-01	0.24372E+02	0.27404E+01	0.10854E+01	0.29302E+03
4	0.75867E-02	0.92783E+01	0.30218E+01	0.45542E+03	0.27333E+00	0.87540E-01	0.19658E+02	0.14633E+01	0.61410E+00	0.31397E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 7

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.15900E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.90	538.00	538.00	246.0	10581.0	9.65	520.00	0.80536	765.1
1	20.00	538.24	534.00	534.00	305.0	12579.0	9.97	510.00	0.86382	658.8
1	19.00	534.33	530.00	530.00	364.0	12110.0	10.36	500.00	1.01902	709.5
1	18.00	530.72	526.00	526.00	346.0	13103.0	10.21	500.00	0.93487	745.6
1	17.00	528.22	524.00	524.00	310.0	12245.0	9.96	490.00	0.88079	835.3
2	16.00	523.35	519.75	519.66	501.0	15637.0	9.76	520.00	0.96214	643.8
2	15.00	519.61	515.78	515.70	583.9	15900.0	9.62	500.00	1.00703	583.9
2	14.00	515.99	511.78	511.70	480.9	15900.0	10.24	500.00	1.00391	480.9
2	13.00	512.05	507.77	507.69	512.0	15807.0	9.36	500.00	0.90882	541.0
2	12.00	508.69	505.85	505.79	733.0	15538.0	8.12	500.00	0.88631	878.2
3	11.00	504.85	502.09	502.13	720.0	13991.0	8.10	500.00	0.92184	1003.3
3	10.00	501.56	498.39	498.52	698.0	14184.0	8.45	470.00	0.96052	1011.1
3	9.00	497.01	492.34	492.45	778.0	14731.0	7.80	500.00	0.88147	1202.6
3	8.00	495.24	490.47	490.63	550.0	12806.0	6.95	500.00	0.66920	928.7
3	7.00	492.59	487.55	487.73	500.0	15311.0	9.61	500.00	0.94902	744.4
4	6.00	488.53	483.49	483.33	382.4	15900.0	11.05	500.00	1.00431	382.4

4	5.00	484.60	481.70	481.62	589.9	15900.0	9.56	500.00	1.00380	589.9
4	4.00	480.63	477.73	477.65	624.0	15681.0	9.11	500.00	0.96661	811.9
4	3.00	476.87	473.63	473.52	415.0	11331.0	9.65	500.00	1.01167	952.3
4	2.00	474.42	469.45	469.29	308.0	14101.0	9.87	500.00	0.80794	1162.8
4	1.00	469.81	465.56	465.44	339.0	12145.0	9.97	0.00	0.92702	1011.8

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.160E+03	0.160E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.342E+02 0.682E+02 0.326E+02 0.146E+02 0.614E+01 0.237E+01 0.107E+01 0.659E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.160E+03	0.179E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.352E+02 0.729E+02 0.381E+02 0.186E+02 0.841E+01 0.344E+01 0.166E+01 0.102E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.263E-01 0.127E+00 0.193E+00 0.212E+00 0.176E+00 0.105E+00 0.748E-01 0.878E-01

3	0.179E+03	0.142E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.336E+02 0.617E+02 0.259E+02 0.120E+02 0.564E+01 0.226E+01 0.934E+00 0.328E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.354E-01 0.167E+00 0.212E+00 0.203E+00 0.157E+00 0.914E-01 0.640E-01 0.726E-01

4	0.142E+03	0.168E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.345E+02 0.668E+02 0.350E+02 0.178E+02 0.817E+01 0.332E+01 0.159E+01 0.980E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.262E-01 0.118E+00 0.182E+00 0.213E+00 0.183E+00 0.109E+00 0.764E-01 0.882E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72315E-02	0.10084E+02	0.38212E+01	0.32283E+03	0.31744E+01	0.75405E+00	0.12503E+03	0.49032E+01	0.18271E+01	0.28204E+03
2	0.78765E-02	0.96037E+01	0.31659E+01	0.52050E+03	0.14461E+01	0.27838E+00	0.34186E+02	0.20141E+01	0.52709E+00	0.68070E+02
3	0.63644E-02	0.80319E+01	0.26994E+01	0.67170E+03	0.55263E+00	0.14357E+00	0.25314E+02	0.32206E+01	0.13652E+01	0.30429E+03
4	0.76500E-02	0.98383E+01	0.33664E+01	0.45647E+03	0.47667E+00	0.17745E+00	0.22808E+02	0.17008E+01	0.77841E+00	0.31942E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 8

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.20800E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.38	538.00	538.00	246.0	12708.0	10.46	520.00	0.82949	846.9
1	20.00	538.79	534.00	534.00	305.0	15536.0	10.86	510.00	0.88418	674.8
1	19.00	534.91	530.00	530.00	364.0	15389.0	11.19	500.00	1.01507	764.6
1	18.00	531.30	526.00	526.00	346.0	16510.0	11.15	500.00	0.94992	768.2
1	17.00	528.77	524.00	524.00	310.0	15037.0	10.73	490.00	0.88945	935.9
2	16.00	523.94	519.66	519.54	501.0	20146.0	10.40	520.00	0.93238	706.8
2	15.00	520.14	515.70	515.61	621.9	20800.0	10.31	500.00	1.00919	621.9
2	14.00	516.59	511.70	511.61	496.0	20764.0	11.05	500.00	1.00058	545.2
2	13.00	512.44	507.69	507.59	512.0	20563.0	10.69	500.00	0.97180	731.5
2	12.00	509.12	505.79	505.72	733.0	20119.0	8.86	500.00	0.88692	921.0
3	11.00	505.36	502.13	502.18	720.0	17972.0	8.96	500.00	0.94627	1046.5
3	10.00	502.07	498.52	498.68	698.0	17898.0	9.18	470.00	0.96770	1191.1
3	9.00	497.51	492.45	492.60	778.0	18470.0	8.42	500.00	0.88336	1217.7
3	8.00	495.98	490.63	490.84	550.0	16075.0	7.44	500.00	0.66177	937.3
3	7.00	493.25	487.73	487.96	500.0	19486.0	10.53	500.00	0.96420	761.7
4	6.00	489.11	483.33	483.13	386.1	20800.0	12.07	500.00	1.00695	386.1
4	5.00	485.09	481.62	481.53	597.0	20800.0	10.40	500.00	1.00092	597.0
4	4.00	481.07	477.65	477.55	624.0	20269.0	9.91	500.00	0.96442	845.7
4	3.00	477.22	473.52	473.38	415.0	14683.0	10.92	500.00	1.06876	963.8
4	2.00	474.99	469.29	469.10	308.0	17391.0	10.54	500.00	0.80263	1198.0
4	1.00	470.33	465.44	465.30	339.0	15172.0	10.65	0.00	0.91611	1198.5

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.230E+03	0.230E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.488E+02 0.994E+02 0.474E+02 0.206E+02 0.817E+01 0.309E+01 0.140E+01 0.937E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.230E+03	0.255E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.498E+02 0.105E+03 0.548E+02 0.261E+02 0.111E+02 0.446E+01 0.221E+01 0.152E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.258E-01 0.123E+00 0.189E+00 0.212E+00 0.178E+00 0.107E+00 0.761E-01 0.901E-01

3	0.255E+03	0.207E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.484E+02 0.923E+02 0.379E+02 0.162E+02 0.714E+01 0.283E+01 0.123E+01 0.563E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.352E-01 0.170E+00 0.216E+00 0.203E+00 0.154E+00 0.896E-01 0.622E-01 0.705E-01

4	0.207E+03	0.239E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.492E+02 0.971E+02 0.494E+02 0.248E+02 0.108E+02 0.428E+01 0.210E+01 0.144E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.263E-01 0.117E+00 0.175E+00 0.212E+00 0.187E+00 0.112E+00 0.790E-01 0.906E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.72316E-02	0.10946E+02	0.43732E+01	0.32283E+03	0.40058E+01	0.10395E+01	0.13926E+03	0.55226E+01	0.21704E+01	0.31345E+03
2	0.79123E-02	0.10448E+02	0.36900E+01	0.53122E+03	0.17862E+01	0.38905E+00	0.45414E+02	0.22580E+01	0.65743E+00	0.13367E+03
3	0.62470E-02	0.87383E+01	0.31494E+01	0.67170E+03	0.79998E+00	0.22994E+00	0.27678E+02	0.38553E+01	0.16826E+01	0.35515E+03
4	0.77333E-02	0.10738E+02	0.39400E+01	0.45827E+03	0.72000E+00	0.33395E+00	0.27983E+02	0.20367E+01	0.10275E+01	0.34390E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 9

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.23800E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.71	538.00	538.00	246.0	13821.0	10.66	520.00	0.81819	903.4
1	20.00	539.05	534.00	534.00	305.0	17346.0	11.48	510.00	0.90894	682.5
1	19.00	535.17	530.00	530.00	364.0	17404.0	11.86	500.00	1.04140	789.2
1	18.00	531.61	526.00	526.00	346.0	18544.0	11.66	500.00	0.95877	780.7
1	17.00	529.06	524.00	524.00	310.0	16682.0	11.18	490.00	0.89846	988.9
2	16.00	524.22	519.54	519.46	501.0	22843.0	10.75	520.00	0.92002	730.4
2	15.00	520.37	515.61	515.55	629.7	23800.0	10.74	500.00	1.00838	629.7
2	14.00	516.90	511.61	511.55	496.0	23627.0	11.37	500.00	0.97835	590.4
2	13.00	512.72	507.59	507.52	512.0	23361.0	11.09	500.00	0.96290	853.4
2	12.00	509.41	505.72	505.67	733.0	22849.0	9.02	500.00	0.85451	949.9
3	11.00	505.68	502.18	502.24	720.0	20285.0	9.50	500.00	0.97188	1074.6
3	10.00	502.43	498.68	498.87	698.0	19848.0	9.48	470.00	0.96408	1329.7
3	9.00	497.95	492.60	492.78	778.0	20396.0	8.47	500.00	0.84813	1230.4
3	8.00	496.49	490.84	491.09	550.0	17804.0	7.65	500.00	0.65558	951.5
3	7.00	493.70	487.96	488.24	500.0	21849.0	11.02	500.00	0.97578	773.4
4	6.00	489.34	483.13	482.90	387.5	23800.0	12.62	500.00	1.00778	387.5
4	5.00	485.33	481.53	481.42	600.4	23800.0	10.85	500.00	0.99990	600.4
4	4.00	481.27	477.55	477.43	624.0	23057.0	10.34	500.00	0.96449	861.2
4	3.00	477.43	473.38	473.22	415.0	16760.0	11.38	500.00	1.06446	971.0
4	2.00	475.22	469.10	468.88	308.0	19514.0	10.99	500.00	0.80623	1211.7
4	1.00	470.58	465.30	465.14	339.0	17133.0	11.11	0.00	0.91773	1206.1

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.283E+03	0.283E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.597E+02 0.123E+03 0.588E+02 0.252E+02 0.968E+01 0.362E+01 0.166E+01 0.115E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2 0.283E+03 0.300E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.597E+02 0.125E+03 0.642E+02 0.301E+02 0.124E+02 0.490E+01 0.244E+01 0.173E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.264E-01 0.123E+00 0.186E+00 0.209E+00 0.178E+00 0.107E+00 0.770E-01 0.914E-01

3 0.300E+03 0.242E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.570E+02 0.110E+03 0.446E+02 0.182E+02 0.768E+01 0.301E+01 0.132E+01 0.643E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.356E-01 0.173E+00 0.220E+00 0.202E+00 0.151E+00 0.871E-01 0.602E-01 0.682E-01

4 0.242E+03 0.281E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.581E+02 0.115E+03 0.572E+02 0.289E+02 0.124E+02 0.489E+01 0.242E+01 0.173E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.263E-01 0.116E+00 0.169E+00 0.208E+00 0.191E+00 0.115E+00 0.817E-01 0.939E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72365E-02	0.11477E+02	0.46597E+01	0.32283E+03	0.44094E+01	0.11903E+01	0.14749E+03	0.58281E+01	0.23514E+01	0.32982E+03
2	0.79362E-02	0.10809E+02	0.40366E+01	0.53281E+03	0.19795E+01	0.45807E+00	0.50012E+02	0.24872E+01	0.79352E+00	0.17487E+03
3	0.61457E-02	0.90246E+01	0.34048E+01	0.67170E+03	0.99824E+00	0.32119E+00	0.32088E+02	0.41483E+01	0.19254E+01	0.39240E+03
4	0.78133E-02	0.11208E+02	0.42775E+01	0.45907E+03	0.83250E+00	0.42209E+00	0.30100E+02	0.21825E+01	0.11780E+01	0.34902E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 10

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.17300E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.08	538.00	538.00	246.0	11142.0	9.77	520.00	0.79958	795.5
1	20.00	538.40	534.00	534.00	305.0	13440.0	10.24	510.00	0.87049	663.6
1	19.00	534.50	530.00	530.00	364.0	13060.0	10.64	500.00	1.02057	725.4
1	18.00	530.90	526.00	526.00	346.0	14090.0	10.50	500.00	0.93948	752.4

1	17.00	528.38	524.00	524.00	310.0	13060.0	10.19	490.00	0.88271	865.9
2	16.00	523.31	519.46	519.37	501.0	17059.0	10.02	520.00	0.95749	639.9
2	15.00	519.57	515.55	515.48	594.5	17300.0	9.82	500.00	1.00578	594.5
2	14.00	515.95	511.55	511.48	496.0	17296.0	10.49	500.00	1.01404	505.7
2	13.00	511.90	507.52	507.44	512.0	17203.0	9.98	500.00	0.95815	537.1
2	12.00	508.84	505.67	505.62	733.0	16835.0	7.85	500.00	0.80830	896.5
3	11.00	505.37	502.24	502.29	720.0	14722.0	8.18	500.00	0.91134	1043.7
3	10.00	502.01	498.87	499.02	698.0	14529.0	8.68	470.00	0.98738	1018.2
3	9.00	497.45	492.78	492.91	778.0	15119.0	7.95	500.00	0.89655	1215.3
3	8.00	495.90	491.09	491.28	550.0	12781.0	6.80	500.00	0.64808	935.5
3	7.00	493.19	488.24	488.45	500.0	16020.0	9.93	500.00	0.97469	760.1
4	6.00	488.16	482.90	482.72	381.9	17300.0	11.38	500.00	1.00530	381.9
4	5.00	484.49	481.42	481.33	590.5	17300.0	9.84	500.00	1.00421	590.5
4	4.00	480.50	477.43	477.34	624.0	17039.0	9.36	500.00	0.96520	812.2
4	3.00	476.74	473.22	473.09	415.0	12669.0	10.27	500.00	1.04989	951.3
4	2.00	474.29	468.88	468.70	308.0	15721.0	10.13	500.00	0.79578	1171.0
4	1.00	469.86	465.14	465.01	339.0	13560.0	10.07	0.00	0.89029	1012.9

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.178E+03	0.178E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.381E+02 0.764E+02 0.366E+02 0.162E+02 0.668E+01 0.256E+01 0.116E+01 0.734E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.178E+03	0.197E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.390E+02 0.798E+02 0.414E+02 0.206E+02 0.940E+01 0.389E+01 0.190E+01 0.124E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.258E-01 0.121E+00 0.183E+00 0.208E+00 0.179E+00 0.109E+00 0.778E-01 0.933E-01

3	0.197E+03	0.154E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.365E+02 0.681E+02 0.282E+02 0.123E+02 0.554E+01 0.217E+01 0.892E+00 0.317E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.363E-01 0.176E+00 0.223E+00 0.202E+00 0.149E+00 0.860E-01 0.594E-01 0.667E-01

4	0.154E+03	0.183E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.377E+02 0.733E+02 0.362E+02 0.195E+02 0.935E+01 0.385E+01 0.187E+01 0.121E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.256E-01 0.113E+00 0.163E+00 0.207E+00 0.193E+00 0.117E+00 0.833E-01 0.960E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72266E-02	0.10337E+02	0.39888E+01	0.32283E+03	0.34337E+01	0.84235E+00	0.12962E+03	0.50919E+01	0.19305E+01	0.29178E+03
2	0.79323E-02	0.98655E+01	0.33136E+01	0.52566E+03	0.14622E+01	0.29153E+00	0.35619E+02	0.23005E+01	0.58108E+00	0.74686E+02
3	0.61336E-02	0.80974E+01	0.27713E+01	0.67170E+03	0.64879E+00	0.21018E+00	0.26113E+02	0.37640E+01	0.17299E+01	0.31935E+03
4	0.78300E-02	0.10163E+02	0.35810E+01	0.45648E+03	0.60083E+00	0.25928E+00	0.24667E+02	0.17633E+01	0.80540E+00	0.32008E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 11

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.13700E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.65	538.00	538.00	246.0	9566.0	9.24	520.00	0.79396	722.7
1	20.00	537.92	534.00	534.00	305.0	11235.0	9.65	510.00	0.86985	643.9
1	19.00	534.06	530.00	530.00	364.0	10600.0	9.89	500.00	1.01517	683.6
1	18.00	530.44	526.00	526.00	346.0	11529.0	9.74	500.00	0.92867	734.2
1	17.00	527.93	524.00	524.00	310.0	10919.0	9.56	490.00	0.87834	788.7
2	16.00	522.73	519.37	519.32	501.0	13648.0	9.43	520.00	0.97757	578.0
2	15.00	518.99	515.48	515.44	547.5	13700.0	9.35	500.00	1.00680	547.5
2	14.00	515.34	511.48	511.44	490.1	13699.0	9.73	500.00	1.01089	490.1
2	13.00	511.41	507.44	507.40	512.0	13640.0	8.92	500.00	0.90905	517.1
2	12.00	508.47	505.62	505.59	733.0	13426.0	7.04	500.00	0.76982	863.4
3	11.00	505.18	502.29	502.33	720.0	11634.0	7.34	500.00	0.87093	1023.3
3	10.00	501.77	499.02	499.13	698.0	11480.0	8.16	470.00	1.01370	1013.6
3	9.00	497.18	492.91	493.01	778.0	12110.0	7.57	500.00	0.93088	1207.0
3	8.00	495.57	491.28	491.42	550.0	9942.0	6.20	500.00	0.63926	931.1
3	7.00	492.91	488.45	488.61	500.0	12742.0	9.20	500.00	0.97440	752.7
4	6.00	487.41	482.72	482.56	378.7	13700.0	10.53	500.00	1.00100	378.7
4	5.00	483.95	481.33	481.25	584.8	13700.0	9.15	500.00	1.00712	584.8
4	4.00	479.99	477.34	477.26	624.0	13624.0	8.73	500.00	0.97364	782.3
4	3.00	476.43	473.09	472.98	415.0	10261.0	8.95	500.00	0.94929	943.6
4	2.00	473.20	468.70	468.54	308.0	13344.0	10.53	500.00	0.91424	621.0
4	1.00	469.39	465.01	464.88	339.0	11442.0	9.35	0.00	0.86739	1007.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.133E+03	0.133E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.285E+02 0.561E+02 0.269E+02 0.123E+02 0.535E+01 0.209E+01 0.936E+00 0.546E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.133E+03	0.143E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.286E+02 0.571E+02 0.294E+02 0.153E+02 0.742E+01 0.313E+01 0.149E+01 0.869E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.261E-01 0.122E+00 0.183E+00 0.208E+00 0.180E+00 0.109E+00 0.788E-01 0.947E-01

3	0.143E+03	0.111E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE

0.264E+02 0.481E+02 0.204E+02 0.944E+01 0.438E+01 0.170E+01 0.652E+00 0.155E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.369E-01 0.178E+00 0.225E+00 0.202E+00 0.148E+00 0.849E-01 0.585E-01 0.656E-01

4 0.111E+03 0.137E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.277E+02 0.532E+02 0.267E+02 0.153E+02 0.793E+01 0.336E+01 0.161E+01 0.969E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.247E-01 0.111E+00 0.161E+00 0.207E+00 0.195E+00 0.120E+00 0.851E-01 0.992E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72315E-02	0.96683E+01	0.35363E+01	0.32283E+03	0.27172E+01	0.60747E+00	0.11590E+03	0.45743E+01	0.16414E+01	0.26727E+03
2	0.79243E-02	0.91466E+01	0.29110E+01	0.51493E+03	0.10696E+01	0.19054E+00	0.25391E+02	0.18958E+01	0.54415E+00	0.55004E+02
3	0.61053E-02	0.74733E+01	0.23790E+01	0.67170E+03	0.50911E+00	0.16358E+00	0.24970E+02	0.34552E+01	0.15129E+01	0.30991E+03
4	0.78667E-02	0.95275E+01	0.30940E+01	0.45500E+03	0.24667E+00	0.11510E+00	0.19700E+02	0.14325E+01	0.54017E+00	0.31210E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 12

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.10200E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.16	538.00	538.00	246.0	7906.0	8.66	520.00	0.79191	638.4
1	20.00	537.35	534.00	534.00	305.0	8893.0	8.96	510.00	0.87550	588.8
1	19.00	533.61	530.00	530.00	364.0	8151.0	8.96	500.00	0.99817	673.1
1	18.00	529.90	526.00	526.00	346.0	8940.0	8.95	500.00	0.92845	611.9
1	17.00	527.41	524.00	524.00	310.0	8643.0	8.83	490.00	0.87587	733.0
2	16.00	522.15	519.32	519.30	501.0	10199.0	8.67	520.00	0.99625	516.4
2	15.00	518.39	515.44	515.42	499.7	10200.0	8.73	500.00	1.00635	499.7
2	14.00	514.70	511.44	511.42	486.7	10199.0	8.88	500.00	1.01790	486.7
2	13.00	510.88	507.40	507.38	512.0	10169.0	7.80	500.00	0.86214	512.6
2	12.00	508.09	505.59	505.58	733.0	10058.0	6.09	500.00	0.71513	829.9
3	11.00	504.91	502.33	502.36	720.0	8669.0	6.53	500.00	0.84737	992.9
3	10.00	501.51	499.13	499.21	698.0	8562.0	7.43	470.00	1.01810	1008.5
3	9.00	496.86	493.01	493.08	778.0	9220.0	7.15	500.00	0.97780	1188.8
3	8.00	495.16	491.42	491.52	550.0	7290.0	5.55	500.00	0.63273	925.8
3	7.00	492.59	488.61	488.72	500.0	9576.0	8.26	500.00	0.95618	744.3
4	6.00	486.60	482.56	482.42	373.5	10200.0	9.63	500.00	1.00838	373.5
4	5.00	483.41	481.25	481.17	579.2	10200.0	8.29	500.00	1.00251	579.2
4	4.00	479.41	477.26	477.18	614.3	10200.0	8.18	500.00	1.01259	614.3
4	3.00	475.89	472.98	472.88	415.0	7910.0	8.26	500.00	0.95853	929.3
4	2.00	472.20	468.54	468.39	308.0	10187.0	10.15	500.00	0.99088	392.4
4	1.00	468.88	464.88	464.76	339.0	9175.0	8.41	0.00	0.82657	1001.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.926E+02	0.926E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.199E+02 0.384E+02 0.186E+02 0.893E+01 0.412E+01 0.164E+01 0.725E+00 0.365E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.926E+02	0.971E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.196E+02 0.378E+02 0.195E+02 0.107E+02 0.555E+01 0.237E+01 0.107E+01 0.510E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.269E-01 0.124E+00 0.182E+00 0.206E+00 0.178E+00 0.108E+00 0.786E-01 0.954E-01

3	0.971E+02	0.746E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.176E+02 0.312E+02 0.138E+02 0.687E+01 0.330E+01 0.126E+01 0.428E+00 0.318E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.378E-01 0.180E+00 0.225E+00 0.202E+00 0.147E+00 0.842E-01 0.581E-01 0.651E-01

4	0.746E+02	0.965E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.189E+02 0.359E+02 0.187E+02 0.116E+02 0.654E+01 0.284E+01 0.133E+01 0.717E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.235E-01 0.107E+00 0.159E+00 0.206E+00 0.197E+00 0.121E+00 0.872E-01 0.101E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72414E-02	0.89031E+01	0.30225E+01	0.32283E+03	0.19141E+01	0.40180E+00	0.90072E+02	0.39276E+01	0.13315E+01	0.22928E+03
2	0.78885E-02	0.83094E+01	0.24574E+01	0.50454E+03	0.55600E+00	0.88625E-01	0.14228E+02	0.15562E+01	0.38555E+00	0.44014E+02
3	0.61012E-02	0.67606E+01	0.19690E+01	0.67170E+03	0.32186E+00	0.11455E+00	0.23796E+02	0.30493E+01	0.12592E+01	0.29808E+03
4	0.79033E-02	0.88075E+01	0.25541E+01	0.45158E+03	0.20750E+00	0.89284E-01	0.19392E+02	0.96500E+00	0.29984E+00	0.28204E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 13

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.73500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.55	538.00	538.00	246.0	6357.0	8.31	520.00	0.83119	529.8
1	20.00	536.83	534.00	534.00	305.0	6804.0	8.16	510.00	0.86971	538.1
1	19.00	533.19	530.00	530.00	364.0	6109.0	8.01	500.00	0.97471	668.4
1	18.00	529.46	526.00	526.00	346.0	6690.0	7.90	500.00	0.88951	607.1
1	17.00	526.92	524.00	524.00	310.0	6627.0	8.01	490.00	0.86375	681.3
2	16.00	521.63	519.30	519.29	476.7	7350.0	7.88	520.00	0.99362	476.7
2	15.00	517.84	515.42	515.41	456.7	7350.0	8.03	500.00	0.99934	456.7
2	14.00	514.18	511.42	511.42	474.0	7350.0	7.99	500.00	1.00997	474.0
2	13.00	510.39	507.38	507.37	508.7	7336.0	6.80	500.00	0.82205	508.7
2	12.00	507.73	505.58	505.58	733.0	7285.0	5.22	500.00	0.66654	789.0
3	11.00	504.63	502.36	502.38	720.0	6262.0	5.77	500.00	0.82913	961.2
3	10.00	501.27	499.21	499.26	698.0	6212.0	6.68	470.00	1.01935	1003.7
3	9.00	496.61	493.08	493.13	778.0	6826.0	6.48	500.00	0.98073	1147.4
3	8.00	494.77	491.52	491.59	550.0	5174.0	4.87	500.00	0.61780	920.9
3	7.00	492.26	488.72	488.79	500.0	7004.0	7.38	500.00	0.94417	735.7
4	6.00	486.04	482.42	482.32	358.9	7350.0	8.16	500.00	0.90816	358.9
4	5.00	482.91	481.17	481.11	574.9	7350.0	7.47	500.00	1.00581	574.9
4	4.00	479.93	477.18	477.12	599.8	7350.0	7.34	500.00	1.00115	599.8
4	3.00	475.31	472.88	472.81	415.0	5860.0	7.76	500.00	1.01299	685.3
4	2.00	471.34	468.39	468.28	293.6	7350.0	9.34	500.00	1.00585	293.6
4	1.00	468.24	464.76	464.67	339.0	7226.0	7.93	0.00	0.85236	993.7

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.610E+02	0.610E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.130E+02 0.246E+02 0.121E+02 0.622E+01 0.304E+01 0.122E+01 0.514E+00 0.195E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.610E+02	0.624E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.126E+02 0.237E+02 0.123E+02 0.719E+01 0.395E+01 0.168E+01 0.699E+00 0.220E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.276E-01 0.127E+00 0.182E+00 0.204E+00 0.176E+00 0.108E+00 0.779E-01 0.954E-01

3	0.624E+02	0.472E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.109E+02 0.191E+02 0.896E+01 0.479E+01 0.236E+01 0.871E+00 0.236E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.385E-01 0.181E+00 0.225E+00 0.202E+00 0.146E+00 0.835E-01 0.578E-01 0.642E-01

4	0.472E+02	0.623E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.117E+02 0.221E+02 0.121E+02 0.811E+01 0.489E+01 0.215E+01 0.949E+00 0.403E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.227E-01 0.104E+00 0.158E+00 0.206E+00 0.198E+00 0.123E+00 0.884E-01 0.104E+00

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.72414E-02	0.80594E+01	0.25446E+01	0.32283E+03	0.14947E+01	0.26117E+00	0.62035E+02	0.30804E+01	0.94254E+00	0.22264E+03
2	0.78367E-02	0.74650E+01	0.20601E+01	0.48773E+03	0.24207E+00	0.44768E-01	0.82382E+01	0.96227E+00	0.25674E+00	0.36789E+02
3	0.61093E-02	0.60132E+01	0.16084E+01	0.67170E+03	0.20243E+00	0.75867E-01	0.23340E+02	0.25939E+01	0.10209E+01	0.28639E+03
4	0.79533E-02	0.79542E+01	0.21139E+01	0.44362E+03	0.16667E+00	0.62464E-01	0.19217E+02	0.67583E+00	0.28537E+00	0.10432E+03

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** SEDIMENT TRANSPORT STUDY; AT THE TIME STEP 14

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED; SED. 0.00000E+00 CUBIC YARDS
WATER 0.53500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.03	538.00	538.00	246.0	4993.0	7.85	520.00	0.85980	434.4
1	20.00	536.37	534.00	534.00	305.0	5217.0	7.54	510.00	0.88285	492.7
1	19.00	532.86	530.00	530.00	364.0	4636.0	7.18	500.00	0.95099	664.6
1	18.00	529.12	526.00	526.00	346.0	5042.0	6.90	500.00	0.83742	603.4
1	17.00	526.49	524.00	524.00	310.0	5105.0	7.34	490.00	0.86372	636.1
2	16.00	521.19	519.29	519.29	448.0	5350.0	7.29	520.00	1.00451	448.0
2	15.00	517.46	515.41	515.41	427.1	5350.0	7.11	500.00	0.94344	427.1
2	14.00	513.79	511.42	511.42	460.6	5350.0	7.25	500.00	1.00833	460.6
2	13.00	510.01	507.37	507.37	505.7	5345.0	5.92	500.00	0.78073	505.7
2	12.00	507.40	505.58	505.58	733.0	5319.0	4.59	500.00	0.64280	748.1
3	11.00	504.40	502.38	502.39	720.0	4566.0	5.05	500.00	0.79432	936.6
3	10.00	500.98	499.26	499.29	698.0	4657.0	6.34	470.00	1.09020	850.5
3	9.00	496.37	493.13	493.15	778.0	5126.0	5.99	500.00	1.00629	1107.5
3	8.00	494.47	491.59	491.62	550.0	3707.0	4.28	500.00	0.60129	917.0
3	7.00	491.95	488.79	488.83	500.0	5193.0	6.75	500.00	0.95831	703.2
4	6.00	485.57	482.32	482.26	347.9	5350.0	6.96	500.00	0.82512	347.9
4	5.00	482.52	481.11	481.08	571.4	5350.0	6.73	500.00	1.00537	571.4
4	4.00	478.62	477.12	477.09	591.4	5350.0	6.23	500.00	0.91057	591.4
4	3.00	474.88	472.81	472.77	415.0	4385.0	7.25	500.00	1.05894	677.9
4	2.00	470.70	468.28	468.21	282.8	5350.0	8.44	500.00	0.99378	282.8
4	1.00	467.36	464.67	464.61	300.0	5350.0	8.17	0.00	0.97470	300.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.408E+02	0.408E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.861E+01 0.160E+02 0.811E+01 0.444E+01 0.227E+01 0.920E+00 0.355E+00 0.817E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.408E+02	0.405E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.819E+01 0.150E+02 0.796E+01 0.493E+01 0.281E+01 0.117E+01 0.431E+00 0.496E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.285E-01 0.129E+00 0.182E+00 0.203E+00 0.175E+00 0.107E+00 0.779E-01 0.954E-01

3 0.405E+02 0.327E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.733E+01 0.127E+02 0.644E+01 0.364E+01 0.182E+01 0.650E+00 0.135E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.389E-01 0.181E+00 0.226E+00 0.202E+00 0.147E+00 0.836E-01 0.575E-01 0.639E-01

4 0.327E+02 0.414E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.754E+01 0.140E+02 0.804E+01 0.576E+01 0.364E+01 0.159E+01 0.646E+00 0.177E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.225E-01 0.102E+00 0.156E+00 0.205E+00 0.196E+00 0.123E+00 0.886E-01 0.105E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72168E-02	0.73079E+01	0.21444E+01	0.32283E+03	0.10526E+01	0.14230E+00	0.35714E+02	0.22122E+01	0.58088E+00	0.21846E+03
2	0.77968E-02	0.67085E+01	0.17388E+01	0.47267E+03	0.16398E+00	0.24037E-01	0.44120E+01	0.75865E+00	0.16567E+00	0.33564E+02
3	0.61053E-02	0.54575E+01	0.13114E+01	0.67170E+03	0.15283E+00	0.48361E-01	0.22095E+02	0.21606E+01	0.80615E+00	0.27651E+03
4	0.80800E-02	0.71783E+01	0.17687E+01	0.43475E+03	0.12583E+00	0.39817E-01	0.18192E+02	0.49667E+00	0.18888E+00	0.47600E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 15

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.40500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.59	538.00	538.00	246.0	3963.0	7.51	520.00	0.90427	353.4
1	20.00	535.89	534.00	534.00	303.3	4050.0	7.43	510.00	0.97613	303.3
1	19.00	532.60	530.00	530.00	364.0	3649.0	6.54	500.00	0.93161	661.8
1	18.00	528.90	526.00	526.00	346.0	3901.0	5.96	500.00	0.76408	572.0
1	17.00	526.08	524.00	524.00	310.0	4038.0	7.11	490.00	0.92525	592.6
2	16.00	520.89	519.29	519.30	427.9	4050.0	6.76	520.00	1.00586	427.9
2	15.00	517.20	515.41	515.42	410.5	4050.0	6.33	500.00	0.89268	410.5
2	14.00	513.50	511.42	511.43	450.6	4050.0	6.67	500.00	1.01267	450.6
2	13.00	509.75	507.37	507.38	503.3	4048.0	5.29	500.00	0.75708	503.3
2	12.00	507.15	505.58	505.59	717.9	4039.0	4.08	500.00	0.61184	717.9
3	11.00	504.21	502.39	502.40	720.0	3441.0	4.52	500.00	0.77475	912.4

3	10.00	500.79	499.29	499.31	698.0	3616.0	5.86	470.00	1.09881	820.0
3	9.00	496.18	493.15	493.16	778.0	3986.0	5.55	500.00	1.01814	1075.9
3	8.00	494.24	491.62	491.64	550.0	2779.0	3.81	500.00	0.58380	914.1
3	7.00	491.57	488.83	488.85	500.0	4007.0	6.78	500.00	1.09837	532.5
4	6.00	485.22	482.26	482.23	339.9	4050.0	6.06	500.00	0.76231	339.9
4	5.00	482.25	481.08	481.06	569.0	4050.0	6.14	500.00	1.00561	569.0
4	4.00	478.37	477.09	477.07	584.1	4050.0	5.59	500.00	0.88460	584.1
4	3.00	474.63	472.77	472.75	415.0	3400.0	6.58	500.00	1.03902	670.6
4	2.00	470.28	468.21	468.17	275.8	4050.0	7.61	500.00	0.96455	275.8
4	1.00	466.91	464.61	464.57	282.2	4050.0	7.50	0.00	0.95471	282.2

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.310E+02	0.310E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.641E+01 0.118E+02 0.619E+01 0.360E+01 0.193E+01 0.781E+00 0.281E+00 0.370E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.310E+02	0.286E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.578E+01 0.103E+02 0.560E+01 0.365E+01 0.214E+01 0.871E+00 0.275E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.299E-01 0.132E+00 0.183E+00 0.203E+00 0.174E+00 0.107E+00 0.779E-01 0.954E-01

3	0.286E+02	0.242E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.521E+01 0.911E+01 0.494E+01 0.292E+01 0.148E+01 0.501E+00 0.735E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.392E-01 0.181E+00 0.225E+00 0.202E+00 0.146E+00 0.836E-01 0.573E-01 0.636E-01

4	0.242E+02	0.289E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.516E+01 0.944E+01 0.562E+01 0.423E+01 0.276E+01 0.118E+01 0.428E+00 0.420E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.230E-01 0.104E+00 0.157E+00 0.205E+00 0.196E+00 0.123E+00 0.894E-01 0.107E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71872E-02	0.68174E+01	0.18036E+01	0.32240E+03	0.43527E+00	0.43468E-01	0.13476E+02	0.11754E+01	0.29734E+00	0.17649E+03
2	0.77490E-02	0.61291E+01	0.14859E+01	0.46128E+03	0.54661E-01	0.47109E-02	0.72231E+00	0.50090E+00	0.88243E-01	0.30976E+02
3	0.61255E-02	0.50259E+01	0.10966E+01	0.67018E+03	0.11538E+00	0.29078E-01	0.13320E+02	0.18190E+01	0.64221E+00	0.27183E+03
4	0.81633E-02	0.65200E+01	0.15147E+01	0.42915E+03	0.95000E-01	0.23941E-01	0.10967E+02	0.42500E+00	0.15023E+00	0.47167E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 16

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS

WATER 0.31500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.26	538.00	538.00	246.0	3139.0	7.00	520.00	0.91293	294.8
1	20.00	535.66	534.00	534.00	299.9	3150.0	6.59	510.00	0.92082	299.9
1	19.00	532.41	530.00	530.00	364.0	2943.0	6.03	500.00	0.91711	659.6
1	18.00	528.69	526.00	526.00	346.0	3083.0	5.29	500.00	0.71900	506.1
1	17.00	525.69	524.00	524.00	298.2	3150.0	7.01	490.00	1.00604	298.2
2	16.00	520.66	519.30	519.30	412.8	3150.0	6.28	520.00	1.00468	412.8
2	15.00	516.98	515.42	515.43	398.1	3150.0	5.73	500.00	0.85829	398.1
2	14.00	513.27	511.43	511.43	422.9	3150.0	6.25	500.00	1.00806	422.9
2	13.00	509.55	507.38	507.38	501.5	3150.0	4.79	500.00	0.73681	501.5
2	12.00	506.97	505.59	505.59	693.4	3147.0	3.67	500.00	0.58216	693.4
3	11.00	504.06	502.40	502.41	720.0	2659.0	4.09	500.00	0.75879	893.0
3	10.00	500.63	499.31	499.32	698.0	2886.0	5.44	470.00	1.09914	795.1
3	9.00	495.96	493.16	493.18	552.8	3150.0	5.40	500.00	0.92579	552.8
3	8.00	494.04	491.64	491.66	550.0	2141.0	3.47	500.00	0.57770	911.6
3	7.00	491.32	488.85	488.87	448.7	3140.0	6.43	500.00	1.08579	448.7
4	6.00	484.95	482.23	482.21	333.8	3150.0	5.36	500.00	0.71278	333.8
4	5.00	482.05	481.06	481.05	567.2	3150.0	5.65	500.00	1.00532	567.2
4	4.00	478.18	477.07	477.06	578.7	3150.0	5.05	500.00	0.85607	578.7
4	3.00	474.44	472.75	472.73	415.0	2707.0	6.05	500.00	1.02796	663.9
4	2.00	469.95	468.17	468.14	270.5	3150.0	6.92	500.00	0.94105	270.5
4	1.00	466.57	464.57	464.54	268.6	3150.0	6.93	0.00	0.93834	268.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.218E+02	0.218E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.438E+01 0.805E+01 0.440E+01 0.270E+01 0.149E+01 0.584E+00 0.181E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.218E+02	0.209E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.416E+01 0.732E+01 0.413E+01 0.281E+01 0.167E+01 0.659E+00 0.175E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.304E-01 0.133E+00 0.183E+00 0.201E+00 0.173E+00 0.106E+00 0.773E-01 0.947E-01

3	0.209E+02	0.172E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.363E+01 0.638E+01 0.357E+01 0.216E+01 0.109E+01 0.346E+00 0.262E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.396E-01 0.183E+00 0.225E+00 0.202E+00 0.147E+00 0.836E-01 0.577E-01 0.636E-01

4	0.172E+02	0.203E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.354E+01 0.645E+01 0.398E+01 0.312E+01 0.207E+01 0.861E+00 0.264E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.235E-01 0.104E+00 0.157E+00 0.204E+00 0.195E+00 0.123E+00 0.895E-01 0.108E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71724E-02	0.62347E+01	0.15718E+01	0.32009E+03	0.22542E+00	0.17132E-01	0.57123E+01	0.82475E+00	0.17497E+00	0.14119E+03
2	0.76813E-02	0.56768E+01	0.12939E+01	0.44626E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.31275E+00	0.45794E-01	0.24801E+01
3	0.61619E-02	0.46811E+01	0.10016E+01	0.61828E+03	0.80972E-01	0.16391E-01	0.75000E+01	0.14556E+01	0.50387E+00	0.18679E+03
4	0.82167E-02	0.59517E+01	0.13289E+01	0.42064E+03	0.66667E-01	0.13495E-01	0.61750E+01	0.36667E+00	0.11937E+00	0.46817E+02

1

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 17

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.23500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.95	538.00	538.00	243.2	2350.0	6.34	520.00	0.90550	243.2
1	20.00	535.42	534.00	534.00	296.3	2350.0	5.79	510.00	0.87234	296.3
1	19.00	532.21	530.00	530.00	364.0	2283.0	5.45	500.00	0.89553	657.3
1	18.00	528.39	526.00	526.00	346.0	2335.0	4.80	500.00	0.71418	414.9
1	17.00	525.40	524.00	524.00	287.1	2350.0	6.44	490.00	1.00595	287.1
2	16.00	520.43	519.30	519.30	397.7	2350.0	5.76	520.00	1.00178	397.7
2	15.00	516.76	515.43	515.43	385.1	2350.0	5.11	500.00	0.82431	385.1
2	14.00	513.02	511.43	511.43	381.1	2350.0	5.87	500.00	1.00854	381.1
2	13.00	509.33	507.38	507.38	495.8	2350.0	4.28	500.00	0.71585	495.8
2	12.00	506.77	505.59	505.59	668.1	2350.0	3.24	500.00	0.54896	668.1
3	11.00	503.91	502.41	502.39	720.0	1962.0	3.63	500.00	0.73894	873.5
3	10.00	500.47	499.32	499.28	698.0	2230.0	5.01	470.00	1.10502	767.9
3	9.00	495.70	493.18	493.12	526.0	2350.0	5.42	500.00	1.05264	526.0
3	8.00	493.49	491.66	491.60	550.0	1989.0	5.83	500.00	1.30435	746.6
3	7.00	491.05	488.87	488.78	358.3	2350.0	6.08	500.00	1.03269	358.3
4	6.00	484.67	482.21	482.29	327.4	2350.0	4.69	500.00	0.66777	327.4
4	5.00	481.87	481.05	481.10	565.6	2350.0	5.08	500.00	0.98895	565.6
4	4.00	477.99	477.06	477.11	573.3	2350.0	4.53	500.00	0.83871	573.3
4	3.00	474.26	472.73	472.79	415.0	2078.0	5.43	500.00	0.99591	657.6
4	2.00	469.64	468.14	468.24	265.5	2350.0	6.20	500.00	0.91392	265.5
4	1.00	466.23	464.54	464.65	255.3	2350.0	6.31	0.00	0.91958	255.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)

```
1        0.146E+02                0.146E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.283E+01 0.519E+01 0.300E+01 0.195E+01 0.109E+01 0.409E+00 0.975E-01 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2        0.146E+02                0.143E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.276E+01 0.488E+01 0.289E+01 0.204E+01 0.122E+01 0.457E+00 0.864E-01 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.307E-01 0.134E+00 0.183E+00 0.200E+00 0.172E+00 0.105E+00 0.773E-01 0.947E-01

3        0.143E+02                0.207E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.394E+01 0.736E+01 0.445E+01 0.281E+01 0.149E+01 0.528E+00 0.974E-01 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.380E-01 0.181E+00 0.225E+00 0.202E+00 0.148E+00 0.844E-01 0.583E-01 0.642E-01

4        0.207E+02                0.149E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.287E+01 0.475E+01 0.285E+01 0.225E+01 0.148E+01 0.582E+00 0.130E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.288E-01 0.115E+00 0.161E+00 0.199E+00 0.188E+00 0.119E+00 0.862E-01 0.104E+00


(4) EFFECTIVE FLOW CONDITIONS:

                                MAIN CHANNEL                          LEFT OVERBANK                          RIGHT CHANNEL
REACH     SLOPE     VELOCITY     DEPTH     TOPWIDTH     VELOCITY     DEPTH     TOPWIDTH     VELOCITY     DEPTH     TOPWIDTH
                    (FT/SEC)     (FT)       (FT)        (FT/SEC)     (FT)       (FT)        (FT/SEC)     (FT)       (FT)

  1  0.71576E-02 0.56121E+01 0.13318E+01 0.31745E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.44594E+00 0.70192E-01 0.13975E+03
  2  0.76135E-02 0.51704E+01 0.11111E+01 0.42751E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.47809E-01 0.37728E-02 0.79681E+00
  3  0.61984E-02 0.49063E+01 0.78367E+00 0.60131E+03 0.26316E-01 0.31394E-02 0.12551E+01 0.11288E+01 0.32477E+00 0.18355E+03
  4  0.82633E-02 0.53542E+01 0.11453E+01 0.40893E+03 0.21667E-01 0.25848E-02 0.10333E+01 0.30000E+00 0.90302E-01 0.46483E+02
1

** SEDIMENT TRANSPORT STUDY,   AT THE TIME STEP  18


(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

   UPSTREAM WATERSHED, SED.   0.00000E+00  CUBIC YARDS
                       WATER  0.16500E+04  CFS

      REACH  1          NO TRIBUTARY

      REACH  2          NO TRIBUTARY

      REACH  3          NO TRIBUTARY

      REACH  4          NO TRIBUTARY


(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH    SECNO     W.S.EL.    BEGINNING    ENDING     CHANNEL     CHANNEL     CHANNEL     CHANNEL     CHANNEL     GROSS
                              BED EL.     BED EL.    TOPWIDTH    DISCHARGE   VELOCITY    LENGTH     FROUDE NO.   TOPWIDTH
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1	21.00	539.49	538.00	538.00	218.1	1650.0	6.24	520.00	0.99925	218.1
1	20.00	535.25	534.00	534.00	293.9	1650.0	4.60	510.00	0.73379	293.9
1	19.00	531.86	530.00	530.00	323.2	1650.0	5.48	500.00	1.00082	323.2
1	18.00	528.08	526.00	526.00	320.5	1650.0	4.22	500.00	0.67323	320.5
1	17.00	525.12	524.00	524.00	276.1	1650.0	5.80	490.00	1.00570	276.1
2	16.00	520.23	519.30	519.30	384.1	1650.0	5.03	520.00	0.95963	384.1
2	15.00	516.50	515.43	515.43	370.0	1650.0	4.56	500.00	0.81345	370.0
2	14.00	512.77	511.43	511.43	342.6	1650.0	5.24	500.00	0.96382	342.6
2	13.00	508.92	507.38	507.38	413.3	1650.0	4.58	500.00	0.86368	413.3
2	12.00	506.74	505.59	505.59	664.5	1650.0	2.33	500.00	0.39733	664.5
3	11.00	503.54	502.39	502.36	720.0	1309.0	4.19	500.00	1.12214	827.1
3	10.00	500.18	499.28	499.23	567.5	1647.0	4.93	470.00	1.13406	567.5
3	9.00	495.48	493.12	493.06	509.1	1650.0	4.70	500.00	0.99738	509.1
3	8.00	493.29	491.60	491.55	550.0	1460.0	5.13	500.00	1.25547	702.7
3	7.00	490.69	488.78	488.68	297.6	1650.0	5.68	500.00	1.01428	297.6
4	6.00	484.47	482.29	482.38	320.9	1650.0	4.02	500.00	0.62533	320.9
4	5.00	481.75	481.10	481.15	564.2	1650.0	4.46	500.00	0.97218	564.2
4	4.00	477.87	477.11	477.16	568.7	1650.0	3.90	500.00	0.79707	568.7
4	3.00	474.09	472.79	472.86	415.0	1499.0	4.87	500.00	0.99748	651.1
4	2.00	469.45	468.24	468.35	261.1	1650.0	5.45	500.00	0.89137	261.1
4	1.00	466.03	464.65	464.77	244.6	1650.0	5.54	0.00	0.88585	244.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.950E+01	0.950E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.177E+01 0.326E+01 0.201E+01 0.137E+01 0.774E+00 0.272E+00 0.431E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.950E+01	0.945E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.174E+01 0.311E+01 0.196E+01 0.144E+01 0.863E+00 0.300E+00 0.301E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.308E-01 0.135E+00 0.183E+00 0.200E+00 0.171E+00 0.105E+00 0.773E-01 0.947E-01

3	0.945E+01	0.156E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.272E+01 0.540E+01 0.351E+01 0.230E+01 0.123E+01 0.420E+00 0.597E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.368E-01 0.179E+00 0.225E+00 0.203E+00 0.149E+00 0.856E-01 0.591E-01 0.651E-01

4	0.156E+02	0.970E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.191E+01 0.306E+01 0.188E+01 0.150E+01 0.976E+00 0.346E+00 0.359E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.322E-01 0.124E+00 0.165E+00 0.197E+00 0.184E+00 0.115E+00 0.833E-01 0.101E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71182E-02	0.50832E+01	0.11240E+01	0.29584E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.61576E-01	0.78006E-03	0.62217E+02
2	0.74980E-02	0.46929E+01	0.93398E+00	0.39617E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.21912E-01	0.00000E+00	0.43825E+00

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  3  0.63279E-02 0.45883E+01 0.65024E+00 0.56586E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.10343E+01 0.18318E+00 0.18104E+03
  4  0.82267E-02 0.47183E+01 0.94613E+00 0.40017E+03 0.00000E+00 0.00000E+00 0.00000E+00 0.24167E+00 0.62719E-01 0.46183E+02
1

** SEDIMENT TRANSPORT STUDY,   AT THE TIME STEP  19


   (1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

      UPSTREAM WATERSHED, SED.   0.00000E+00  CUBIC YARDS
                          WATER  0.12500E+04  CFS

         REACH  1            NO TRIBUTARY

         REACH  2            NO TRIBUTARY

         REACH  3            NO TRIBUTARY

         REACH  4            NO TRIBUTARY
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(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.26	538.00	538.00	205.5	1250.0	5.81	520.00	1.00094	205.5
1	20.00	535.08	534.00	534.00	291.2	1250.0	4.08	510.00	0.70054	291.2
1	19.00	531.66	530.00	530.00	287.7	1250.0	5.24	500.00	1.01380	287.7
1	18.00	527.85	526.00	526.00	280.2	1250.0	3.84	500.00	0.62883	280.2
1	17.00	524.94	524.00	524.00	269.1	1250.0	5.31	490.00	1.00007	269.1
2	16.00	520.10	519.30	519.30	375.7	1250.0	4.47	520.00	0.91391	375.7
2	15.00	516.33	515.43	515.43	359.8	1250.0	4.20	500.00	0.81256	359.8
2	14.00	512.62	511.43	511.43	317.0	1250.0	4.76	500.00	0.92165	317.0
2	13.00	508.73	507.38	507.38	369.9	1250.0	4.35	500.00	0.86939	369.9
2	12.00	506.59	505.59	505.59	649.2	1250.0	2.05	500.00	0.37251	649.2
3	11.00	503.42	502.36	502.33	720.0	953.0	3.86	500.00	1.16313	813.1
3	10.00	499.98	499.23	499.17	405.6	1250.0	4.65	470.00	1.00589	405.6
3	9.00	495.38	493.06	493.01	503.8	1250.0	3.81	500.00	0.83186	503.8
3	8.00	493.02	491.55	491.51	550.0	1174.0	5.48	500.00	1.54704	643.7
3	7.00	490.39	488.68	488.59	261.9	1250.0	5.41	500.00	1.01431	261.9
4	6.00	484.37	482.38	482.45	315.3	1250.0	3.59	500.00	0.60125	315.3
4	5.00	481.71	481.15	481.19	563.4	1250.0	4.01	500.00	0.94852	563.4
4	4.00	477.80	477.16	477.20	565.6	1250.0	3.50	500.00	0.77591	565.6
4	3.00	474.00	472.86	472.91	415.0	1153.0	4.42	500.00	0.98268	647.1
4	2.00	469.37	468.35	468.44	258.4	1250.0	4.90	500.00	0.86904	258.4
4	1.00	465.94	464.77	464.87	237.7	1250.0	5.02	0.00	0.86502	237.7

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

```
      REACH          INFLOW(CFS)            OUTFLOW(CFS)

        1          0.654E+01                0.654E+01

                 SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
            0.118E+01 0.219E+01 0.142E+01 0.996E+00 0.559E+00 0.182E+00 0.142E-01 0.000E+00

                 WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
            0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

        2          0.654E+01                0.655E+01

                 SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
            0.116E+01 0.211E+01 0.140E+01 0.106E+01 0.624E+00 0.196E+00 0.269E-02 0.000E+00

                 WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
            0.309E-01 0.136E+00 0.183E+00 0.199E+00 0.171E+00 0.105E+00 0.773E-01 0.947E-01
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3 0.655E+01 0.116E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.191E+01 0.395E+01 0.270E+01 0.180E+01 0.956E+00 0.309E+00 0.254E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.355E-01 0.177E+00 0.223E+00 0.203E+00 0.150E+00 0.859E-01 0.596E-01 0.657E-01

4 0.116E+02 0.689E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.135E+01 0.216E+01 0.136E+01 0.110E+01 0.698E+00 0.220E+00 0.232E-02 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.345E-01 0.130E+00 0.167E+00 0.196E+00 0.181E+00 0.112E+00 0.812E-01 0.983E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.70936E-02	0.46825E+01	0.10011E+01	0.27392E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.74582E-02	0.42900E+01	0.81654E+00	0.37646E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.64008E-02	0.43069E+01	0.59063E+00	0.52787E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.96964E+00	0.11001E+00	0.12109E+03
4	0.81733E-02	0.42725E+01	0.81162E+00	0.39458E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.20333E+00	0.48094E-01	0.46017E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 20

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.55000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	538.77	538.00	538.00	179.1	550.0	4.51	520.00	0.96305	179.1
1	20.00	534.67	534.00	534.00	285.1	550.0	2.92	510.00	0.63257	285.1
1	19.00	531.19	530.00	530.00	207.1	550.0	4.45	500.00	1.01442	207.1
1	18.00	527.30	526.00	526.00	217.8	550.0	2.93	500.00	0.55707	217.8
1	17.00	524.55	524.00	524.00	254.1	550.0	4.13	490.00	1.00377	254.1
2	16.00	519.79	519.30	519.30	355.6	550.0	3.28	520.00	0.84015	355.6
2	15.00	515.97	515.43	515.43	339.6	550.0	3.12	500.00	0.76333	339.6
2	14.00	512.21	511.43	511.43	250.3	550.0	3.77	500.00	0.87089	250.3
2	13.00	508.33	507.38	507.38	275.8	550.0	3.51	500.00	0.81905	275.8
2	12.00	506.21	505.59	505.59	617.8	550.0	1.48	500.00	0.33499	617.8
3	11.00	503.21	502.33	502.33	720.0	350.0	2.58	500.00	1.04703	791.2
3	10.00	499.61	499.17	499.16	365.5	550.0	3.66	470.00	1.00534	365.5
3	9.00	494.66	493.01	492.98	118.9	550.0	4.20	500.00	0.70420	118.9
3	8.00	492.85	491.51	491.50	333.9	501.0	2.83	500.00	0.68592	333.9
3	7.00	489.82	488.59	488.57	190.7	550.0	4.57	500.00	1.01505	190.7
4	6.00	483.91	482.45	482.46	248.7	550.0	2.65	500.00	0.51104	248.7
4	5.00	481.52	481.19	481.19	561.2	550.0	3.03	500.00	0.93669	561.2
4	4.00	477.62	477.20	477.20	558.7	550.0	2.44	500.00	0.67788	558.7

4	3.00	473.74	472.91	472.92	415.0	547.0	3.48	500.00	0.99825	636.8
4	2.00	469.06	468.44	468.45	251.5	550.0	3.58	500.00	0.80773	251.5
4	1.00	465.59	464.87	464.88	219.2	550.0	3.75	0.00	0.80727	219.2

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.235E+01	0.235E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.373E+00 0.736E+00 0.556E+00 0.418E+00 0.221E+00 0.477E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.235E+01	0.236E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.364E+00 0.721E+00 0.556E+00 0.441E+00 0.237E+00 0.399E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.309E-01 0.136E+00 0.183E+00 0.199E+00 0.170E+00 0.105E+00 0.773E-01 0.947E-01

3	0.236E+01	0.297E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.475E+00 0.102E+01 0.736E+00 0.487E+00 0.222E+00 0.304E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.355E-01 0.175E+00 0.224E+00 0.204E+00 0.150E+00 0.863E-01 0.599E-01 0.660E-01

4	0.297E+01	0.243E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.417E+00 0.733E+00 0.535E+00 0.452E+00 0.256E+00 0.386E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.348E-01 0.132E+00 0.169E+00 0.196E+00 0.180E+00 0.112E+00 0.811E-01 0.983E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70345E-02	0.36557E+01	0.68011E+00	0.23173E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.73984E-02	0.32946E+01	0.54070E+00	0.33168E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.65142E-02	0.32509E+01	0.56722E+00	0.39029E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.90688E+00	0.78470E-01	0.12020E+03
4	0.81133E-02	0.32233E+01	0.53352E+00	0.37334E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.51667E-01	0.55061E-02	0.45567E+02

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AC
AC
AC
T1      SLA  JOB#: BCA01  FILE: BCA01
T2      PANTANO WASH
T3
J1   -10      2      0      0   .0067      0      0      0  467.00      0
J2    -1      0     -1      0      0      0      0      0      0      0
J3    38     13     14     15      1     42     26      4      8     25
J3    39     53     54
NC 0.050  0.050  0.025    0.1    0.3
QT     1    550
X1  1.00     16   609.   948.   550.   400.   500.
X3                       609.
GR472.00     0.  470.00    99.  472.00   445.  472.00   609.  466.00   631.
GR466.00   818.  468.00   948.  468.00  1612.  470.00  1630.  470.00  1804.
GR472.00  1859.  474.00  1901.  474.00  1991.  476.00  2058.  478.00  2165.
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GR482.00   2257.
X1  2.00     23    773.   1081.    530.    430.    500.
X3                        610.
GR482.00     0.  478.00    134.  476.00    177.  474.00    262.  474.00    424.
GR476.00   542.  478.00    610.  476.00    698.  474.00    773.  470.00    789.
GR470.00  1029.  472.00   1081.  474.00   1516.  474.00   1656.  474.00   1869.
GR472.00  1878.  472.00   1899.  474.00   1913.  476.00   1947.  478.00   2014.
GR478.00  2368.  480.00   2433.  484.00   2528.
X1  3.00     16     29.    444.    570.    340.    500.
GR490.00     0.  478.00     29.  476.00     52.  474.00    103.  474.00    444.
GR474.00   717.  476.00    739.  476.00    972.  478.00   1017.  480.00   1094.
GR478.00  1246.  478.00   1289.  480.00   1340.  482.00   1522.  484.00   1626.
GR486.00  1656.
X1  4.00     13    341.    965.    520.    380.    500.
GR490.00     0.  488.00    120.  486.00    295.  480.00    341.  478.00    388.
GR478.00   934.  480.00    965.  480.00   1099.  482.00   1237.  484.00   1720.
GR486.00  1852.  490.00   1950.  494.00   2015.
X1  5.00     14    167.    913.    370.    510.    500.
GR500.00     0.  490.00    112.  488.00    167.  486.00    179.  486.00    237.
GR484.00   262.  482.00    278.  482.00    836.  486.00    846.  488.00    913.
GR488.00  1193.  490.00   1290.  492.00   1418.  494.00   1591.
X1  6.00     14    471.    895.    340.    560.    500.
GR510.00     0.  500.00    126.  490.00    167.  490.00    471.  488.00    479.
GR486.00   534.  484.00    810.  484.00    846.  490.00    862.  492.00    895.
GR494.00  1080.  496.00   1258.  500.00   1350.  504.00   1648.
X1  7.00     11    280.    780.    400.    580.    500.
GR500.00     0.  492.00     51.  491.00    280.  487.00    388.  488.00    502.
GR490.00   705.  492.00    789.  496.00    859.  496.00    993.  498.00   1052.
GR500.00  1220.
X1  8.00     13     35.    585.    460.    460.    500.
NH     4   .05     35    .025     585     .04    1088    .05    1533
GR510.00     0.  500.00     35.  490.00     69.  490.00     95.  492.00    431.
GR492.00   550.  493.00    585.  493.00    850.  492.00    954.  496.00    987.
GR500.00  1088.  504.00   1466.  506.00   1533.
X1  9.00     16     22.    800.    520.    480.    500.
NH     4   .05     22    .025     520     .04    1284    .05    2232
GR520.00     0.  510.00     22.  492.00     48.  492.00     88.  494.00    181.
GR494.00   520.  496.00    691.  495.00    720.  495.00    755.  496.00    800.
GR496.00  1215.  498.00   1272.  500.00   1284.  502.00   1731.  506.00   2078.
GR508.00  2232.
X1 10.00     19    172.    870.    590.    360.    470.
NH     4   .05    172    .025     529     .04    1191    .05    2334
GR520.00     0.  504.00     53.  502.00    172.  498.00    193.  498.00    457.
GR499.00   529.  500.00    645.  500.00    761.  498.00    777.  498.00    827.
GR500.30   870.  500.00   1167.  502.00   1191.  502.00   1335.  504.00   2023.
GR506.00  2112.  508.00   2161.  510.00   2226.  514.00   2334.
X1 11.00     12     41.    761.    520.    490.    500.
NH     4   .05     41    .025     761     .04     998    .05    1979
GR530.00     0.  508.00     41.  502.00     73.  502.00    745.  504.00    761.
GR502.00   942.  502.00    964.  504.00    998.  506.00   1157.  506.00   1867.
GR508.00  1896.  510.00   1979.
X1 12.00     11    211.    944.    500.    490.    500.
GR550.00     0.  520.00    122.  510.00    160.  508.00    211.  506.00    351.
GR506.00   916.  508.00    944.  510.00   1165.  510.00   2029.  514.00   2092.
GR518.00  2163.
X1 13.00     11     36.    548.    520.    500.    500.
GR540.00     0.  530.00     20.  520.00     36.  510.00     49.  508.00    207.
GR508.00   262.  510.00    548.  512.00    566.  514.00   1403.  516.00   1667.
GR520.00  1809.
X1 14.00     13     48.    544.    440.    550.    500.
GR520.00     0.  520.00     48.  514.00     71.  512.00    333.  512.00    457.
GR516.00   544.  518.00    753.  520.00   1011.  522.00   1417.  524.00   1577.
GR524.00  1720.  526.00   1835.  528.00   1849.
X1 15.00     14     35.    706.    490.    560.    500.
GR540.00     0.  522.00     35.  518.00     54.  516.00    153.  516.00    461.
GR518.00   477.  520.00    662.  522.00    706.  524.00    844.  526.00    986.
GR528.00  1167.  530.00   1299.  532.00   1476.  534.00   1679.
X1 16.00     17    241.    742.    480.    500.    520.
GR540.00     0.  530.00     52.  528.00     72.  526.00    106.  524.00    147.
GR522.00   241.  520.00    269.  520.00    592.  522.00    742.  524.00    860.
GR526.00   979.  528.00   1105.  528.00   1266.  530.00   1309.  532.00   1483.
GR536.00  1659.  540.00   1852.
X1 17.00     14    395.    705.    530.    430.    490.
GR540.00     0.  532.00     24.  530.00     44.  528.00    211.  526.00    395.
GR524.00   417.  524.00    650.  526.00    705.  526.00    979.  528.00   1007.
GR530.00  1204.  532.00   1375.  536.00   1582.  540.00   1805.
X1 18.00     16    349.    695.    580.    440.    500.
GR540.00     0.  536.00    152.  532.00    294.  530.00    349.  526.00    363.
GR526.00   434.  528.00    653.  529.00    695.  528.00    947.  530.00    962.
GR530.00  1066.  532.00   1090.  534.00   1236.  536.00   1433.  538.00   1625.
GR540.00  1814.
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X1 19.00      16    196.    560.    520.    500.    500.
GR550.00       0.  540.00     71.  538.00    119.  536.00    196.  532.00    213.
GR530.00     548.  532.00    560.  532.00    868.  534.00    882.  536.00   1065.
GR538.00    1236.  538.00   1353.  540.00   1580.  542.00   1842.  546.00   1970.
GR550.00    1989.
X1 20.00      14    222.    527.    560.    450.    510.
GR560.00       0.  540.00     41.  538.00     47.  536.00    222.  534.00    236.
GR534.00     511.  536.00    527.  536.00    679.  538.00    699.  540.00    751.
GR542.00    1009.  544.00   1738.  550.00   1821.  560.00   1842.
X1 21.00      15    578.    824.    490.    490.    520.
GR560.00       0.  550.00     57.  546.00     73.  544.00    107.  542.00    244.
GR540.00     578.  538.00    648.  538.00    785.  540.00    824.  542.00    856.
GR544.00    1059.  546.00   1130.  548.00   1693.  550.00   1764.  560.00   1784.
EJ


ER
      20       4       0     0.4       0
       0       5   10010    7490       0
       0       5    7490    4970       0
       0       5    4970    2500       0
       0       6    2500       0       0
       8
    0.11    0.25    0.60    1.31    3.06    6.69   13.47   23.91
     500     500     500     500     500
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
       1       1       1       1       1       1       1       1       1       1
       1       1       1       1       1       1       2       2       2       2
     550    3600    8850   12200   12700   13300   15900   20800   23800   17300
   13700   10200    7350    5350    4050    3150    2350    1650    1250     550
       0       0       0       0       0       0       0       0       0       1
       0
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THE FOLLOWING TABLE LISTS THE BED ELEVATION AT THE END OF EACH TIME STEP

REACH	SECNO	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP10	STEP11	STEP1
1	21.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.0
1	20.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.0
1	19.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.0
1	18.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.0
1	17.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.0
2	16.00	520.00	520.00	519.95	519.88	519.81	519.75	519.66	519.54	519.46	519.37	519.32	519.3
2	15.00	516.00	516.00	515.95	515.89	515.83	515.78	515.70	515.61	515.55	515.48	515.44	515.4
2	14.00	512.00	512.00	511.95	511.89	511.83	511.78	511.70	511.61	511.55	511.48	511.44	511.4
2	13.00	508.00	508.00	507.96	507.89	507.83	507.77	507.69	507.59	507.52	507.44	507.40	507.3
2	12.00	506.00	506.00	505.97	505.93	505.89	505.85	505.79	505.72	505.67	505.62	505.59	505.5
3	11.00	502.00	502.00	502.01	502.03	502.06	502.09	502.13	502.18	502.24	502.29	502.33	502.3
3	10.00	498.00	498.03	498.09	498.19	498.29	498.39	498.52	498.68	498.87	499.02	499.13	499.2
3	9.00	491.99	492.01	492.07	492.16	492.25	492.34	492.45	492.60	492.78	492.91	493.01	493.0
3	8.00	489.99	490.01	490.09	490.21	490.34	490.47	490.63	490.84	491.09	491.28	491.42	491.5
3	7.00	486.99	487.02	487.11	487.25	487.40	487.55	487.73	487.96	488.24	488.45	488.61	488.7
4	6.00	484.01	483.97	483.87	483.75	483.62	483.49	483.33	483.13	482.90	482.72	482.56	482.4
4	5.00	482.00	481.97	481.91	481.84	481.77	481.70	481.62	481.53	481.42	481.33	481.25	481.1
4	4.00	478.00	477.98	477.93	477.87	477.80	477.73	477.65	477.55	477.43	477.34	477.26	477.1
4	3.00	474.00	473.97	473.90	473.81	473.72	473.63	473.52	473.38	473.22	473.09	472.98	472.8
4	2.00	470.00	469.95	469.84	469.71	469.58	469.45	469.29	469.10	468.88	468.70	468.54	468.3
4	1.00	466.00	465.96	465.87	465.77	465.67	465.56	465.44	465.30	465.14	465.01	464.88	464.7

REACH	SECNO	STEP13	STEP14	STEP15	STEP16	STEP17	STEP18	STEP19	STEP20
1	21.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00
1	20.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00
1	19.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00

1	18.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00
1	17.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00
2	16.00	519.29	519.29	519.30	519.30	519.30	519.30	519.30	519.30
2	15.00	515.41	515.41	515.42	515.43	515.43	515.43	515.43	515.43
2	14.00	511.42	511.42	511.43	511.43	511.43	511.43	511.43	511.43
2	13.00	507.37	507.37	507.38	507.38	507.38	507.38	507.38	507.38
2	12.00	505.58	505.58	505.59	505.59	505.59	505.59	505.59	505.59
3	11.00	502.38	502.39	502.40	502.41	502.39	502.36	502.33	502.33
3	10.00	499.26	499.29	499.31	499.32	499.28	499.23	499.17	499.16
3	9.00	493.13	493.15	493.16	493.18	493.12	493.06	493.01	492.98
3	8.00	491.59	491.62	491.64	491.66	491.60	491.55	491.51	491.50
3	7.00	488.79	488.83	488.85	488.87	488.78	488.68	488.59	488.57
4	6.00	482.32	482.26	482.23	482.21	482.29	482.38	482.45	482.46
4	5.00	481.11	481.08	481.06	481.05	481.10	481.15	481.19	481.19
4	4.00	477.12	477.09	477.07	477.06	477.11	477.16	477.20	477.20
4	3.00	472.81	472.77	472.75	472.73	472.79	472.86	472.91	472.92
4	2.00	468.28	468.21	468.17	468.14	468.24	468.35	468.44	468.45
4	1.00	464.67	464.61	464.57	464.54	464.65	464.77	464.87	464.88

THE FOLLOWING TABLE LISTS THE CHANGE IN BED ELEVATION DURING EACH TIME STEP

REACH	SECNO	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP10	STEP11	STEP1
1	21.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	18.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
1	17.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
2	16.00	0.00	0.00	-0.05	-0.07	-0.07	-0.06	-0.09	-0.12	-0.08	-0.09	-0.05	-0.0
2	15.00	0.00	0.00	-0.05	-0.06	-0.06	-0.05	-0.08	-0.09	-0.06	-0.07	-0.04	-0.0
2	14.00	0.00	0.00	-0.05	-0.06	-0.06	-0.05	-0.08	-0.09	-0.06	-0.07	-0.04	-0.0
2	13.00	0.00	0.00	-0.04	-0.07	-0.06	-0.06	-0.08	-0.10	-0.07	-0.08	-0.04	-0.0
2	12.00	0.00	0.00	-0.03	-0.04	-0.04	-0.04	-0.06	-0.07	-0.05	-0.05	-0.03	-0.0
3	11.00	0.00	0.00	0.01	0.02	0.03	0.03	0.04	0.05	0.06	0.05	0.04	0.0
3	10.00	0.00	0.03	0.06	0.10	0.10	0.10	0.13	0.16	0.19	0.15	0.11	0.0
3	9.00	-0.01	0.02	0.06	0.09	0.09	0.09	0.11	0.15	0.18	0.13	0.10	0.0
3	8.00	-0.01	0.02	0.08	0.12	0.13	0.13	0.16	0.21	0.25	0.19	0.14	0.1
3	7.00	-0.01	0.03	0.09	0.14	0.15	0.15	0.18	0.23	0.28	0.21	0.16	0.1
4	6.00	0.01	-0.04	-0.10	-0.12	-0.13	-0.13	-0.16	-0.20	-0.23	-0.18	-0.16	-0.1
4	5.00	0.00	-0.03	-0.06	-0.07	-0.07	-0.07	-0.08	-0.09	-0.11	-0.09	-0.08	-0.0
4	4.00	0.00	-0.02	-0.05	-0.06	-0.07	-0.07	-0.08	-0.10	-0.12	-0.09	-0.08	-0.0
4	3.00	0.00	-0.03	-0.07	-0.09	-0.09	-0.09	-0.11	-0.14	-0.16	-0.13	-0.11	-0.1
4	2.00	0.00	-0.05	-0.11	-0.13	-0.13	-0.13	-0.16	-0.19	-0.22	-0.18	-0.16	-0.1
4	1.00	0.00	-0.04	-0.09	-0.10	-0.10	-0.11	-0.12	-0.14	-0.16	-0.13	-0.13	-0.1

REACH	SECNO	STEP13	STEP14	STEP15	STEP16	STEP17	STEP18	STEP19	STEP20
1	21.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	18.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	17.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.00	-0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
2	15.00	-0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00
2	14.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
2	13.00	-0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
2	12.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
3	11.00	0.02	0.01	0.01	0.01	-0.02	-0.03	-0.03	0.00
3	10.00	0.05	0.03	0.02	0.01	-0.04	-0.05	-0.06	-0.01
3	9.00	0.05	0.02	0.01	0.02	-0.06	-0.06	-0.05	-0.03
3	8.00	0.07	0.03	0.02	0.02	-0.06	-0.05	-0.04	-0.01
3	7.00	0.07	0.04	0.02	0.02	-0.09	-0.10	-0.09	-0.02
4	6.00	-0.10	-0.06	-0.03	-0.02	0.08	0.09	0.07	0.01
4	5.00	-0.06	-0.03	-0.02	-0.01	0.05	0.05	0.04	0.00
4	4.00	-0.06	-0.03	-0.02	-0.01	0.05	0.05	0.04	0.00
4	3.00	-0.07	-0.04	-0.02	-0.02	0.06	0.07	0.05	0.01
4	2.00	-0.11	-0.07	-0.04	-0.03	0.10	0.11	0.09	0.01
4	1.00	-0.09	-0.06	-0.04	-0.03	0.11	0.12	0.10	0.01

THE FOLLOWING TABLE LISTS THE MINIMUM AND MAXIMUM BED ELEVATIONS (COLUMNS 2 & 3), THE MAXIMUM DEGRADATION AND AGGRADATION WITH RE
E
CT TO THE INITIAL BED ELEVATION (COLUMNS 4 & 5) THAT OCCURS AT EACH SECTION DURING THE HYDROGRAPH AND THE NET CHANGE ('NETCH', CO
M
N 6) IN BED ELEVATION THAT OCCURS AT EACH SECTION DURING THE HYDROGRAPH

REACH	SECNO	MIN	MAX	DEG	AGG	NETCH
1	21.00	538.00	538.00	0.00	0.00	0.00
1	20.00	534.00	534.00	0.00	0.00	0.00
1	19.00	530.00	530.00	0.00	0.00	0.00
1	18.00	526.00	526.00	0.00	0.00	0.00
1	17.00	524.00	524.00	0.00	0.00	0.00
2	16.00	519.29	520.00	0.71	0.00	-0.70
2	15.00	515.41	516.00	0.59	0.00	-0.57
2	14.00	511.42	512.00	0.58	0.00	-0.57
2	13.00	507.37	508.00	0.63	0.00	-0.62
2	12.00	505.58	506.00	0.42	0.00	-0.41
3	11.00	502.00	502.41	0.00	0.41	0.33
3	10.00	498.00	499.32	0.00	1.32	1.16
3	9.00	491.99	493.18	0.01	1.18	0.98
3	8.00	489.99	491.66	0.01	1.66	1.50
3	7.00	486.99	488.87	0.01	1.87	1.57
4	6.00	482.21	484.01	1.79	0.01	-1.54
4	5.00	481.05	482.00	0.95	0.00	-0.81
4	4.00	477.06	478.00	0.94	0.00	-0.80
4	3.00	472.73	474.00	1.27	0.00	-1.08
4	2.00	468.14	470.00	1.86	0.00	-1.55
4	1.00	464.54	466.00	1.46	0.00	-1.12

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APPENDIX C.4

100-YEAR FLOOD ANALYSIS

TYPE BCA01SR.DAT

AZ BCA01
Pantano Wash - BCA
100 YR FLOOD Analysis

SEDIMENT ROUTING OUTPUT FOR:

SLA JOB#: BCA01 FILE: BCA01
PANTANO WASH

1

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 1

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.75000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	538.93	538.00	538.00	187.6	750.0	4.98	520.00	0.98009	187.6
1	20.00	534.80	534.00	534.00	287.0	750.0	3.33	510.00	0.66129	287.0
1	19.00	531.36	530.00	530.00	235.8	750.0	4.68	500.00	1.00057	235.8
1	18.00	527.40	526.00	526.00	229.0	750.0	3.58	500.00	0.65873	229.0
1	17.00	524.77	524.00	524.00	262.5	750.0	3.94	490.00	0.81695	262.5
2	16.00	520.53	520.00	520.00	371.0	750.0	4.01	520.00	0.99509	371.0
2	15.00	516.70	516.00	516.00	348.1	750.0	3.28	500.00	0.71184	348.1
2	14.00	512.86	512.00	512.00	255.8	750.0	4.58	500.00	1.00736	255.8
2	13.00	509.21	508.00	508.00	321.7	750.0	3.32	500.00	0.69660	321.7
2	12.00	506.62	506.00	506.00	617.3	750.0	2.04	500.00	0.46487	617.3
3	11.00	502.33	502.00	502.00	720.0	728.0	3.28	500.00	1.04137	733.8
3	10.00	498.54	498.00	497.99	370.4	750.0	4.04	470.00	1.00565	370.4
3	9.00	493.81	492.00	491.98	126.7	750.0	4.98	500.00	0.80424	126.7
3	8.00	491.46	490.00	489.99	275.7	750.0	3.41	500.00	0.67376	275.7
3	7.00	488.58	487.00	486.99	215.6	750.0	4.31	500.00	0.84510	215.6
4	6.00	485.41	484.00	484.01	233.6	750.0	3.96	500.00	0.77518	233.6
4	5.00	482.47	482.00	482.00	563.0	750.0	2.83	500.00	0.72795	563.0
4	4.00	478.41	478.00	478.00	561.8	750.0	3.34	500.00	0.93210	561.8
4	3.00	474.51	474.00	474.00	415.0	536.0	3.01	500.00	0.80919	632.7
4	2.00	470.70	470.00	470.00	260.8	750.0	4.32	500.00	0.93355	260.8
4	1.00	466.86	466.00	466.01	246.1	750.0	4.02	0.00	0.81512	246.1

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.341E+01	0.341E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.569E+00 0.109E+01 0.778E+00 0.574E+00 0.313E+00 0.830E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2 0.341E+01 0.354E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.544E+00 0.109E+01 0.844E+00 0.639E+00 0.341E+00 0.753E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.301E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

3 0.354E+01 0.433E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.685E+00 0.136E+01 0.102E+01 0.762E+00 0.409E+00 0.963E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.297E-01 0.140E+00 0.199E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

4 0.433E+01 0.382E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.575E+00 0.117E+01 0.916E+00 0.699E+00 0.374E+00 0.834E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.302E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70443E-02	0.40139E+01	0.78561E+00	0.24423E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.72988E-02	0.36347E+01	0.63241E+00	0.34752E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.72146E-02	0.37681E+01	0.69768E+00	0.38347E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.34818E+00	0.12638E-01	0.42227E+02
4	0.72533E-02	0.36042E+01	0.59309E+00	0.37751E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.25333E+00	0.84382E-01	0.46433E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 2

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.51500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.97	538.00	538.00	246.0	4844.0	7.80	520.00	0.86505	423.1
1	20.00	536.31	534.00	534.00	305.0	5048.0	7.48	510.00	0.88610	487.3
1	19.00	532.82	530.00	530.00	364.0	4486.0	7.09	500.00	0.94825	664.2
1	18.00	529.09	526.00	526.00	346.0	4877.0	6.82	500.00	0.83574	602.9
1	17.00	526.44	524.00	524.00	310.0	4944.0	7.26	490.00	0.86404	631.0
2	16.00	521.82	520.00	519.99	484.6	5150.0	7.02	520.00	1.00625	484.6
2	15.00	518.03	516.00	515.99	425.4	5150.0	6.94	500.00	0.92685	425.4
2	14.00	514.35	512.00	511.99	438.5	5150.0	7.29	500.00	1.01152	438.5
2	13.00	510.78	508.00	507.99	507.1	5145.0	5.44	500.00	0.70174	507.1

2	12.00	507.41	506.00	505.99	683.5	5150.0	5.85	500.00	0.90827	683.5
3	11.00	503.39	502.00	502.00	720.0	4842.0	5.16	500.00	0.79655	860.5
3	10.00	499.82	497.99	498.02	538.7	5150.0	6.78	470.00	1.00528	538.7
3	9.00	495.32	491.98	492.01	649.6	5150.0	5.72	500.00	0.85636	649.6
3	8.00	493.03	489.99	490.02	550.0	5057.0	5.51	500.00	0.75180	903.8
3	7.00	490.39	486.99	487.03	423.2	5150.0	6.67	500.00	0.86936	423.2
4	6.00	486.93	484.01	483.94	345.5	5150.0	7.79	500.00	0.99235	345.5
4	5.00	483.41	482.00	481.96	572.8	5150.0	6.48	500.00	0.96894	572.8
4	4.00	479.37	478.00	477.96	599.6	5150.0	6.54	500.00	1.00568	599.6
4	3.00	475.74	474.00	473.95	415.0	3680.0	5.84	500.00	0.83571	677.3
4	2.00	472.32	470.00	469.93	308.0	5134.0	8.07	500.00	0.98865	395.8
4	1.00	468.56	466.01	465.95	339.0	4636.0	6.72	0.00	0.82943	995.4

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.392E+02	0.392E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.825E+01 0.153E+02 0.779E+01 0.430E+01 0.221E+01 0.897E+00 0.343E+00 0.737E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.392E+02	0.411E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.827E+01 0.155E+02 0.833E+01 0.492E+01 0.266E+01 0.107E+01 0.375E+00 0.361E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.302E-01 0.140E+00 0.200E+00 0.210E+00 0.171E+00 0.101E+00 0.706E-01 0.804E-01

3	0.411E+02	0.335E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.692E+01 0.122E+02 0.669E+01 0.423E+01 0.234E+01 0.898E+00 0.242E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.313E-01 0.142E+00 0.201E+00 0.210E+00 0.169E+00 0.994E-01 0.697E-01 0.794E-01

4	0.335E+02	0.431E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.848E+01 0.161E+02 0.878E+01 0.524E+01 0.285E+01 0.117E+01 0.438E+00 0.829E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.285E-01 0.137E+00 0.200E+00 0.211E+00 0.172E+00 0.101E+00 0.704E-01 0.809E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72118E-02	0.72343E+01	0.20967E+01	0.32283E+03	0.98938E+00	0.12899E+00	0.32623E+02	0.20943E+01	0.53888E+00	0.21794E+03
2	0.76853E-02	0.66497E+01	0.16942E+01	0.47064E+03	0.15422E+00	0.21653E-01	0.39825E+01	0.53076E+00	0.12105E+00	0.28765E+02
3	0.68259E-02	0.58816E+01	0.14657E+01	0.60243E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.75709E+00	0.15341E+00	0.12225E+03
4	0.72967E-02	0.69025E+01	0.16880E+01	0.43700E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.76167E+00	0.32979E+00	0.24113E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 3

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.12650E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.48	538.00	538.00	246.0	9140.0	9.20	520.00	0.80656	694.0
1	20.00	537.74	534.00	534.00	305.0	10565.0	9.50	510.00	0.87673	627.1
1	19.00	533.93	530.00	530.00	364.0	9872.0	9.63	500.00	1.01180	676.7
1	18.00	530.30	526.00	526.00	346.0	10756.0	9.47	500.00	0.92133	728.8
1	17.00	527.73	524.00	524.00	310.0	10308.0	9.54	490.00	0.90011	767.9
2	16.00	523.08	519.99	519.91	501.0	12497.0	9.11	520.00	0.97046	616.0
2	15.00	519.35	515.99	515.92	554.6	12650.0	9.06	500.00	1.00675	554.6
2	14.00	515.69	511.99	511.92	472.9	12650.0	9.57	500.00	1.00855	472.9
2	13.00	511.94	507.99	507.91	512.0	12585.0	8.24	500.00	0.84083	519.0
2	12.00	508.40	505.99	505.94	733.0	12632.0	7.92	500.00	0.94614	786.9
3	11.00	504.24	502.00	502.02	720.0	11543.0	7.56	500.00	0.91468	956.2
3	10.00	500.97	498.02	498.12	698.0	11968.0	7.88	470.00	0.94218	1001.3
3	9.00	496.33	492.01	492.10	778.0	12458.0	7.76	500.00	0.95275	1182.7
3	8.00	494.40	490.02	490.15	550.0	11052.0	6.78	500.00	0.69448	919.7
3	7.00	491.80	487.03	487.17	500.0	12562.0	8.93	500.00	0.93763	675.1
4	6.00	488.44	483.94	483.82	380.6	12650.0	10.23	500.00	1.00008	380.6
4	5.00	484.45	481.96	481.90	585.8	12650.0	8.89	500.00	1.00495	585.8
4	4.00	480.46	477.96	477.90	624.0	12555.0	8.48	500.00	0.97077	793.2
4	3.00	476.73	473.95	473.86	415.0	8867.0	8.59	500.00	0.95935	944.7
4	2.00	474.21	469.93	469.81	308.0	11317.0	9.20	500.00	0.81092	1151.2
4	1.00	469.57	465.95	465.85	339.0	9590.0	9.23	0.00	0.92855	1008.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.122E+03	0.122E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.262E+02 0.514E+02 0.247E+02 0.115E+02 0.508E+01 0.199E+01 0.893E+00 0.508E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

| 2 | 0.122E+03 | 0.139E+03 |

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.280E+02 0.567E+02 0.287E+02 0.141E+02 0.664E+01 0.273E+01 0.126E+01 0.673E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.283E-01 0.136E+00 0.199E+00 0.211E+00 0.172E+00 0.102E+00 0.717E-01 0.824E-01

| 3 | 0.139E+03 | 0.110E+03 |

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.252E+02 0.447E+02 0.207E+02 0.106E+02 0.536E+01 0.220E+01 0.889E+00 0.270E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.327E-01 0.149E+00 0.202E+00 0.206E+00 0.165E+00 0.971E-01 0.682E-01 0.776E-01

4 0.110E+03 0.129E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.264E+02 0.523E+02 0.267E+02 0.131E+02 0.617E+01 0.253E+01 0.117E+01 0.631E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.278E-01 0.132E+00 0.197E+00 0.213E+00 0.175E+00 0.103E+00 0.722E-01 0.823E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72365E-02	0.94915E+01	0.33807E+01	0.32283E+03	0.25310E+01	0.54108E+00	0.10742E+03	0.44145E+01	0.15204E+01	0.26232E+03
2	0.77888E-02	0.89416E+01	0.27704E+01	0.51295E+03	0.12297E+01	0.21350E+00	0.26845E+02	0.16609E+01	0.48423E+00	0.49822E+02
3	0.66154E-02	0.76793E+01	0.23667E+01	0.67170E+03	0.36336E+00	0.60592E-01	0.19524E+02	0.22058E+01	0.80455E+00	0.27897E+03
4	0.74733E-02	0.90783E+01	0.29118E+01	0.45548E+03	0.31500E+00	0.87004E-01	0.17100E+02	0.14567E+01	0.62667E+00	0.31412E+03

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** SEDIMENT TRANSPORT STUDY; AT THE TIME STEP 4

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED; SED. 0.00000E+00 CUBIC YARDS
WATER 0.17400E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.09	538.00	538.00	246.0	11183.0	9.78	520.00	0.79967	797.4
1	20.00	538.41	534.00	534.00	305.0	13501.0	10.26	510.00	0.87094	663.9
1	19.00	534.51	530.00	530.00	364.0	13127.0	10.65	500.00	1.02062	726.5
1	18.00	530.91	526.00	526.00	346.0	14160.0	10.52	500.00	0.93999	752.8
1	17.00	528.40	524.00	524.00	310.0	13110.0	10.18	490.00	0.88079	868.9
2	16.00	523.69	519.91	519.79	501.0	16933.0	9.92	520.00	0.94774	679.8
2	15.00	519.96	515.92	515.82	613.5	17400.0	9.74	500.00	1.00656	613.5
2	14.00	516.34	511.92	511.82	496.0	17392.0	10.47	500.00	1.00785	517.5
2	13.00	512.44	507.91	507.80	512.0	17205.0	9.49	500.00	0.88942	704.4
2	12.00	508.81	505.94	505.86	733.0	17292.0	8.99	500.00	0.97849	844.8
3	11.00	504.77	502.02	502.05	720.0	15516.0	8.44	500.00	0.93111	1000.2
3	10.00	501.49	498.12	498.24	698.0	15832.0	8.76	470.00	0.95926	1010.1
3	9.00	496.86	492.10	492.21	778.0	16447.0	8.48	500.00	0.94625	1198.4
3	8.00	495.16	490.15	490.31	550.0	14432.0	7.34	500.00	0.68388	928.4
3	7.00	492.53	487.17	487.34	500.0	16879.0	9.85	500.00	0.93810	742.7
4	6.00	489.09	483.82	483.67	385.2	17400.0	11.37	500.00	1.00524	385.2
4	5.00	484.98	481.90	481.82	594.2	17400.0	9.82	500.00	1.00171	594.2
4	4.00	480.95	477.90	477.82	624.0	17046.0	9.35	500.00	0.96463	832.3
4	3.00	477.14	473.86	473.75	415.0	12070.0	9.88	500.00	1.01534	959.2
4	2.00	474.82	469.81	469.66	308.0	14488.0	9.96	500.00	0.80793	1189.3
4	1.00	470.10	465.85	465.74	339.0	12543.0	10.13	0.00	0.93407	1190.8

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH INFLOW(CFS) OUTFLOW(CFS)

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1        0.179E+03                0.179E+03

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.383E+02 0.769E+02 0.366E+02 0.163E+02 0.671E+01 0.257E+01 0.116E+01 0.737E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2        0.179E+03                0.205E+03

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.401E+02 0.847E+02 0.437E+02 0.206E+02 0.906E+01 0.368E+01 0.177E+01 0.110E+01

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.267E-01 0.130E+00 0.196E+00 0.212E+00 0.175E+00 0.104E+00 0.734E-01 0.844E-01

3        0.205E+03                0.169E+03

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.389E+02 0.723E+02 0.318E+02 0.149E+02 0.698E+01 0.283E+01 0.124E+01 0.542E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.329E-01 0.155E+00 0.207E+00 0.205E+00 0.162E+00 0.949E-01 0.669E-01 0.760E-01

4        0.169E+03                0.194E+03

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.398E+02 0.796E+02 0.408E+02 0.194E+02 0.847E+01 0.339E+01 0.163E+01 0.103E+01

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.275E-01 0.127E+00 0.193E+00 0.214E+00 0.178E+00 0.105E+00 0.734E-01 0.838E-01
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(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72266E-02	0.10350E+02	0.40020E+01	0.32283E+03	0.34487E+01	0.84913E+00	0.12999E+03	0.51069E+01	0.19369E+01	0.29249E+03
2	0.78247E-02	0.98401E+01	0.33165E+01	0.52952E+03	0.16396E+01	0.32810E+00	0.39217E+02	0.19685E+01	0.51251E+00	0.10980E+03
3	0.65020E-02	0.84864E+01	0.28509E+01	0.67170E+03	0.60830E+00	0.14305E+00	0.25587E+02	0.30541E+01	0.12587E+01	0.29867E+03
4	0.75667E-02	0.10062E+02	0.35138E+01	0.45765E+03	0.60667E+00	0.25083E+00	0.26467E+02	0.18558E+01	0.89267E+00	0.33920E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 5

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

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UPSTREAM WATERSHED, SED.   0.00000E+00  CUBIC YARDS
                    WATER  0.18150E+05  CFS

   REACH  1          NO TRIBUTARY

   REACH  2          NO TRIBUTARY

   REACH  3          NO TRIBUTARY

   REACH  4          NO TRIBUTARY
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(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.17	538.00	538.00	246.0	11494.0	9.88	520.00	0.80024	811.5
1	20.00	538.50	534.00	534.00	305.0	13956.0	10.40	510.00	0.87423	666.4
1	19.00	534.60	530.00	530.00	364.0	13632.0	10.79	500.00	1.02085	734.9
1	18.00	531.00	526.00	526.00	346.0	14684.0	10.67	500.00	0.94241	756.3
1	17.00	528.49	524.00	524.00	310.0	13538.0	10.30	490.00	0.88154	884.9
2	16.00	523.69	519.79	519.68	501.0	17684.0	10.07	520.00	0.94731	680.0
2	15.00	519.95	515.82	515.73	613.7	18150.0	9.88	500.00	1.00658	613.7
2	14.00	516.34	511.82	511.73	496.0	18112.0	10.54	500.00	0.99803	539.8
2	13.00	512.41	507.80	507.70	512.0	17959.0	9.77	500.00	0.90932	696.9
2	12.00	508.85	505.86	505.79	733.0	18014.0	8.94	500.00	0.95016	855.5
3	11.00	504.94	502.05	502.08	720.0	16026.0	8.53	500.00	0.93009	1012.9
3	10.00	501.63	498.24	498.37	698.0	16263.0	8.89	470.00	0.96713	1012.6
3	9.00	497.04	492.21	492.32	778.0	16855.0	8.43	500.00	0.92750	1203.8
3	8.00	495.39	490.31	490.47	550.0	14718.0	7.33	500.00	0.67597	930.8
3	7.00	492.71	487.34	487.52	500.0	17451.0	10.04	500.00	0.94960	747.6
4	6.00	489.05	483.67	483.51	385.3	18150.0	11.53	500.00	1.00554	385.3
4	5.00	484.99	481.82	481.74	594.8	18150.0	9.95	500.00	1.00162	594.8
4	4.00	480.96	477.82	477.74	624.0	17763.0	9.48	500.00	0.96465	834.4
4	3.00	477.13	473.75	473.63	415.0	12672.0	10.14	500.00	1.02930	959.8
4	2.00	474.84	469.66	469.50	308.0	15166.0	10.09	500.00	0.80546	1192.3
4	1.00	470.15	465.74	465.62	339.0	13139.0	10.21	0.00	0.92398	1192.7

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.190E+03	0.190E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.405E+02 0.816E+02 0.388E+02 0.172E+02 0.702E+01 0.268E+01 0.121E+01 0.780E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.190E+03	0.213E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.415E+02 0.875E+02 0.458E+02 0.218E+02 0.957E+01 0.388E+01 0.188E+01 0.120E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.260E-01 0.126E+00 0.193E+00 0.212E+00 0.177E+00 0.105E+00 0.745E-01 0.866E-01

3	0.213E+03	0.176E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.402E+02 0.764E+02 0.331E+02 0.151E+02 0.693E+01 0.279E+01 0.122E+01 0.538E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.332E-01 0.159E+00 0.211E+00 0.206E+00 0.160E+00 0.933E-01 0.650E-01 0.744E-01

4	0.176E+03	0.203E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.414E+02 0.827E+02 0.425E+02 0.207E+02 0.900E+01 0.360E+01 0.174E+01 0.112E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.268E-01 0.123E+00 0.187E+00 0.215E+00 0.180E+00 0.107E+00 0.747E-01 0.853E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)

1	0.72266E-02	0.10485E+02	0.40872E+01	0.32283E+03	0.35779E+01	0.89390E+00	0.13229E+03	0.51995E+01	0.19921E+01	0.29745E+03
2	0.78566E-02	0.99752E+01	0.34064E+01	0.52956E+03	0.16552E+01	0.33544E+00	0.40079E+02	0.21376E+01	0.55038E+00	0.11445E+03
3	0.64210E-02	0.85325E+01	0.29166E+01	0.67170E+03	0.63968E+00	0.16437E+00	0.25830E+02	0.32630E+01	0.13947E+01	0.30419E+03
4	0.76133E-02	0.10219E+02	0.36138E+01	0.45777E+03	0.64500E+00	0.27979E+00	0.27008E+02	0.18942E+01	0.92170E+00	0.34008E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 6

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.19000E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.22	538.00	538.00	246.0	11938.0	10.16	520.00	0.81947	819.2
1	20.00	538.59	534.00	534.00	305.0	14465.0	10.55	510.00	0.87702	669.2
1	19.00	534.72	530.00	530.00	364.0	14188.0	10.87	500.00	1.01183	746.0
1	18.00	531.09	526.00	526.00	346.0	15274.0	10.83	500.00	0.94508	760.2
1	17.00	528.59	524.00	524.00	310.0	14017.0	10.43	490.00	0.88224	902.5
2	16.00	523.70	519.68	519.57	501.0	18524.0	10.23	520.00	0.94891	681.7
2	15.00	519.97	515.73	515.64	615.6	19000.0	10.03	500.00	1.00753	615.6
2	14.00	516.34	511.73	511.64	496.0	18932.0	10.73	500.00	1.00309	550.8
2	13.00	512.41	507.70	507.60	512.0	18797.0	10.02	500.00	0.92256	703.3
2	12.00	508.89	505.79	505.72	733.0	18836.0	9.02	500.00	0.94146	863.6
3	11.00	505.14	502.08	502.12	720.0	16599.0	8.54	500.00	0.91623	1028.9
3	10.00	501.77	498.37	498.51	698.0	16758.0	9.12	470.00	0.99061	1014.9
3	9.00	497.22	492.32	492.44	778.0	17323.0	8.43	500.00	0.91338	1209.1
3	8.00	495.65	490.47	490.64	550.0	15055.0	7.30	500.00	0.66460	933.5
3	7.00	492.90	487.52	487.71	500.0	18095.0	10.31	500.00	0.96969	752.4
4	6.00	489.02	483.51	483.34	385.4	19000.0	11.71	500.00	1.00609	385.4
4	5.00	485.01	481.74	481.65	595.5	19000.0	10.10	500.00	1.00138	595.5
4	4.00	480.97	477.74	477.65	624.0	18567.0	9.63	500.00	0.96472	837.4
4	3.00	477.12	473.63	473.51	415.0	13360.0	10.44	500.00	1.04740	960.4
4	2.00	474.86	469.50	469.33	308.0	15926.0	10.24	500.00	0.80319	1195.4
4	1.00	470.21	465.62	465.49	339.0	13819.0	10.33	0.00	0.91697	1194.7

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.202E+03	0.202E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.431E+02 0.870E+02 0.415E+02 0.182E+02 0.737E+01 0.281E+01 0.127E+01 0.828E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.202E+03	0.225E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.439E+02 0.921E+02 0.485E+02 0.233E+02 0.102E+02 0.413E+01 0.202E+01 0.133E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.257E-01 0.124E+00 0.190E+00 0.212E+00 0.179E+00 0.107E+00 0.764E-01 0.889E-01

3 0.225E+03 0.186E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.423E+02 0.813E+02 0.350E+02 0.155E+02 0.699E+01 0.279E+01 0.122E+01 0.550E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.333E-01 0.163E+00 0.215E+00 0.205E+00 0.158E+00 0.914E-01 0.640E-01 0.726E-01

4 0.186E+03 0.214E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.436E+02 0.872E+02 0.447E+02 0.222E+02 0.966E+01 0.387E+01 0.188E+01 0.124E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.263E-01 0.120E+00 0.181E+00 0.214E+00 0.183E+00 0.110E+00 0.766E-01 0.876E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72266E-02	0.10634E+02	0.41821E+01	0.32283E+03	0.37286E+01	0.94014E+00	0.13442E+03	0.53049E+01	0.20518E+01	0.30279E+03
2	0.78805E-02	0.10146E+02	0.34978E+01	0.52994E+03	0.16778E+01	0.34400E+00	0.41110E+02	0.22361E+01	0.57991E+00	0.11970E+03
3	0.63441E-02	0.86090E+01	0.29847E+01	0.67170E+03	0.67510E+00	0.18369E+00	0.26053E+02	0.34657E+01	0.15352E+01	0.31011E+03
4	0.76667E-02	0.10407E+02	0.37200E+01	0.45790E+03	0.69000E+00	0.30841E+00	0.27575E+02	0.19400E+01	0.95324E+00	0.34106E+03

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** SEDIMENT TRANSPORT STUDY; AT THE TIME STEP 7

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED; SED. 0.00000E+00 CUBIC YARDS
WATER 0.22700E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.60	538.00	538.00	246.0	13424.0	10.59	520.00	0.82174	883.6
1	20.00	538.94	534.00	534.00	305.0	16714.0	11.32	510.00	0.90656	679.3
1	19.00	535.06	530.00	530.00	364.0	16678.0	11.67	500.00	1.03779	779.1
1	18.00	531.50	526.00	526.00	346.0	17800.0	11.47	500.00	0.95489	776.3
1	17.00	528.95	524.00	524.00	310.0	16088.0	11.03	490.00	0.89589	969.7
2	16.00	524.12	519.57	519.50	501.0	21863.0	10.59	520.00	0.91968	722.7
2	15.00	520.29	515.64	515.58	626.0	22700.0	10.59	500.00	1.00918	626.0
2	14.00	516.75	511.64	511.58	496.0	22439.0	11.15	500.00	0.97542	594.6
2	13.00	512.74	507.60	507.54	512.0	22312.0	10.70	500.00	0.93457	847.8
2	12.00	509.27	505.72	505.68	733.0	22319.0	9.24	500.00	0.89651	914.5
3	11.00	505.48	502.12	502.17	720.0	19563.0	9.34	500.00	0.96453	1057.2
3	10.00	502.22	498.51	498.68	698.0	19361.0	9.39	470.00	0.96328	1252.9
3	9.00	497.71	492.44	492.60	778.0	19910.0	8.53	500.00	0.86775	1223.5
3	8.00	496.21	490.64	490.86	550.0	17413.0	7.65	500.00	0.66301	943.4
3	7.00	493.44	487.71	487.96	500.0	21139.0	10.84	500.00	0.96728	766.6
4	6.00	489.39	483.34	483.12	387.6	22700.0	12.42	500.00	1.00772	387.6

4	5.00	485.33	481.65	481.55	600.2	22700.0	10.68	500.00	0.99994	600.2
4	4.00	481.25	477.65	477.54	624.0	22007.0	10.18	500.00	0.96430	859.3
4	3.00	477.38	473.51	473.35	415.0	15900.0	11.22	500.00	1.07067	968.9
4	2.00	475.20	469.33	469.12	308.0	18451.0	10.81	500.00	0.80967	1212.5
4	1.00	470.53	465.49	465.33	339.0	16153.0	10.92	0.00	0.92142	1204.8

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.265E+03	0.265E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.561E+02 0.115E+03 0.550E+02 0.237E+02 0.921E+01 0.345E+01 0.158E+01 0.109E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.265E+03	0.281E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.559E+02 0.116E+03 0.599E+02 0.282E+02 0.118E+02 0.468E+01 0.231E+01 0.160E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.265E-01 0.124E+00 0.187E+00 0.211E+00 0.179E+00 0.108E+00 0.766E-01 0.901E-01

3	0.281E+03	0.230E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.530E+02 0.103E+03 0.433E+02 0.181E+02 0.775E+01 0.305E+01 0.135E+01 0.662E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.342E-01 0.167E+00 0.219E+00 0.204E+00 0.154E+00 0.891E-01 0.622E-01 0.705E-01

4	0.230E+03	0.267E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.542E+02 0.109E+03 0.554E+02 0.276E+02 0.117E+02 0.461E+01 0.228E+01 0.159E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.261E-01 0.118E+00 0.175E+00 0.213E+00 0.188E+00 0.113E+00 0.797E-01 0.906E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72365E-02	0.11315E+02	0.45490E+01	0.32283E+03	0.42703E+01	0.11325E+01	0.14454E+03	0.57169E+01	0.22840E+01	0.32354E+03
2	0.79004E-02	0.10632E+02	0.39318E+01	0.53206E+03	0.19137E+01	0.43087E+00	0.48392E+02	0.24204E+01	0.74658E+00	0.16936E+03
3	0.62470E-02	0.89904E+01	0.33241E+01	0.67170E+03	0.92152E+00	0.27859E+00	0.30010E+02	0.39073E+01	0.17438E+01	0.36901E+03
4	0.77467E-02	0.11032E+02	0.41349E+01	0.45905E+03	0.82667E+00	0.41592E+00	0.30150E+02	0.21550E+01	0.11389E+01	0.34788E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 8

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.29700E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	544.26	538.00	538.00	246.0	15874.0	11.09	520.00	0.81062	965.6
1	20.00	539.66	534.00	534.00	305.0	20603.0	12.15	510.00	0.90838	700.0
1	19.00	535.79	530.00	530.00	364.0	21207.0	12.53	500.00	1.02407	848.8
1	18.00	532.22	526.00	526.00	346.0	22388.0	12.43	500.00	0.96011	820.2
1	17.00	529.58	524.00	524.00	310.0	19763.0	11.96	490.00	0.91314	1083.2
2	16.00	524.77	519.50	519.38	501.0	27912.0	11.55	520.00	0.92730	774.3
2	15.00	520.94	515.58	515.50	643.7	29700.0	11.47	500.00	1.00829	643.7
2	14.00	517.52	511.58	511.49	496.0	28844.0	11.94	500.00	0.95378	659.3
2	13.00	513.49	507.54	507.44	512.0	28526.0	11.48	500.00	0.91885	1153.2
2	12.00	509.72	505.68	505.61	733.0	28876.0	10.44	500.00	0.94678	970.0
3	11.00	506.19	502.17	502.20	720.0	24928.0	9.98	500.00	0.94441	1818.1
3	10.00	502.87	498.68	498.94	698.0	24063.0	10.03	470.00	0.95367	1512.3
3	9.00	498.53	492.60	492.83	778.0	24482.0	8.68	500.00	0.79985	1236.1
3	8.00	497.16	490.86	491.19	550.0	21887.0	8.18	500.00	0.65398	970.7
3	7.00	494.27	487.96	488.33	500.0	26832.0	11.87	500.00	0.98354	788.2
4	6.00	490.41	483.12	482.85	424.0	29562.0	12.78	500.00	0.96431	703.5
4	5.00	486.06	481.55	481.43	669.5	29700.0	11.28	500.00	1.00216	669.5
4	4.00	481.78	477.54	477.39	624.0	28411.0	11.12	500.00	0.96891	896.6
4	3.00	477.91	473.35	473.14	415.0	20563.0	12.26	500.00	1.07438	985.2
4	2.00	475.78	469.12	468.85	308.0	22951.0	11.81	500.00	0.82831	1239.2
4	1.00	471.05	465.33	465.14	339.0	20419.0	12.05	0.00	0.94994	1220.8

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.369E+03	0.369E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.771E+02 0.162E+03 0.780E+02 0.325E+02 0.119E+02 0.431E+01 0.198E+01 0.139E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.369E+03	0.394E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.779E+02 0.166E+03 0.853E+02 0.391E+02 0.152E+02 0.582E+01 0.292E+01 0.217E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.264E-01 0.123E+00 0.183E+00 0.209E+00 0.180E+00 0.109E+00 0.781E-01 0.920E-01

3	0.394E+03	0.318E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.738E+02 0.145E+03 0.602E+02 0.232E+02 0.919E+01 0.351E+01 0.157E+01 0.861E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.349E-01 0.171E+00 0.223E+00 0.204E+00 0.151E+00 0.866E-01 0.604E-01 0.683E-01

4	0.318E+03	0.368E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.751E+02 0.153E+03 0.761E+02 0.377E+02 0.155E+02 0.591E+01 0.295E+01 0.219E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.260E-01 0.115E+00 0.166E+00 0.207E+00 0.190E+00 0.116E+00 0.817E-01 0.939E-01

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.72365E-02	0.12154E+02	0.52510E+01	0.32283E+03	0.51131E+01	0.14927E+01	0.16094E+03	0.62912E+01	0.27067E+01	0.36431E+03
2	0.79123E-02	0.11527E+02	0.46210E+01	0.53565E+03	0.23847E+01	0.57981E+00	0.57249E+02	0.28443E+01	0.10167E+01	0.26046E+03
3	0.61134E-02	0.96080E+01	0.39191E+01	0.67170E+03	0.12831E+01	0.43840E+00	0.38946E+02	0.42614E+01	0.19653E+01	0.57919E+03
4	0.78633E-02	0.11868E+02	0.47656E+01	0.47667E+03	0.12175E+01	0.65734E+00	0.85075E+02	0.24850E+01	0.14627E+01	0.35944E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 9

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.34000E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	544.58	538.00	538.00	246.0	17348.0	11.48	520.00	0.81671	982.6
1	20.00	540.04	534.00	534.00	305.0	22942.0	12.66	510.00	0.91500	715.4
1	19.00	536.19	530.00	530.00	364.0	23919.0	13.02	500.00	1.02159	892.1
1	18.00	532.62	526.00	526.00	346.0	25113.0	12.96	500.00	0.96466	863.2
1	17.00	529.99	524.00	524.00	310.0	21761.0	12.23	490.00	0.89923	1158.1
2	16.00	525.10	519.38	519.34	501.0	31607.0	12.00	520.00	0.92193	801.3
2	15.00	521.26	515.50	515.47	652.7	34000.0	11.93	500.00	1.00615	652.7
2	14.00	518.00	511.49	511.46	496.0	32573.0	12.11	500.00	0.91599	697.7
2	13.00	514.09	507.44	507.40	512.0	31709.0	11.22	500.00	0.84196	1371.8
2	12.00	510.04	505.61	505.59	733.0	32745.0	10.74	500.00	0.92806	1869.7
3	11.00	506.64	502.20	502.24	720.0	27439.0	10.32	500.00	0.94580	1826.5
3	10.00	503.32	498.94	499.23	698.0	26159.0	10.30	470.00	0.95155	1694.1
3	9.00	499.15	492.83	493.08	778.0	27187.0	8.64	500.00	0.75708	1240.5
3	8.00	497.85	491.19	491.55	550.0	24146.0	8.39	500.00	0.64626	990.3
3	7.00	494.86	488.33	488.75	500.0	29938.0	12.44	500.00	0.99970	803.7
4	6.00	490.77	482.85	482.53	424.0	33614.0	13.12	500.00	0.94039	713.3
4	5.00	486.33	481.43	481.29	683.8	34000.0	11.75	500.00	1.00614	683.8
4	4.00	482.03	477.39	477.22	624.0	32302.0	11.52	500.00	0.95760	919.8
4	3.00	478.17	473.14	472.90	415.0	23539.0	12.75	500.00	1.06518	1055.1
4	2.00	476.04	468.85	468.53	308.0	25891.0	12.32	500.00	0.83070	1252.3
4	1.00	471.33	465.14	464.92	339.0	23149.0	12.59	0.00	0.95268	1229.5

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.441E+03	0.441E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.915E+02 0.194E+03 0.941E+02 0.388E+02 0.137E+02 0.491E+01 0.226E+01 0.157E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2 0.441E+03 0.450E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.906E+02 0.192E+03 0.968E+02 0.430E+02 0.162E+02 0.599E+01 0.299E+01 0.224E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.274E-01 0.125E+00 0.182E+00 0.206E+00 0.179E+00 0.109E+00 0.779E-01 0.919E-01

3 0.450E+03 0.365E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.857E+02 0.169E+03 0.691E+02 0.253E+02 0.963E+01 0.361E+01 0.161E+01 0.908E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.360E-01 0.176E+00 0.229E+00 0.204E+00 0.149E+00 0.843E-01 0.586E-01 0.662E-01

4 0.365E+03 0.425E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.873E+02 0.178E+03 0.864E+02 0.431E+02 0.178E+02 0.671E+01 0.336E+01 0.257E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.260E-01 0.113E+00 0.157E+00 0.201E+00 0.194E+00 0.121E+00 0.861E-01 0.992E-01

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72414E-02	0.12619E+02	0.56359E+01	0.32283E+03	0.57942E+01	0.17130E+01	0.17141E+03	0.65936E+01	0.29031E+01	0.39026E+03
2	0.79323E-02	0.11749E+02	0.50993E+01	0.53748E+03	0.25714E+01	0.66526E+00	0.62722E+02	0.30428E+01	0.11160E+01	0.40800E+03
3	0.59717E-02	0.98526E+01	0.42236E+01	0.67170E+03	0.14829E+01	0.55269E+00	0.45331E+02	0.44656E+01	0.22518E+01	0.70658E+03
4	0.79733E-02	0.12329E+02	0.51930E+01	0.47905E+03	0.14308E+01	0.82841E+00	0.87433E+02	0.26333E+01	0.14656E+01	0.41177E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 10

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.24700E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.82	538.00	538.00	246.0	14104.0	10.65	520.00	0.80934	922.2
1	20.00	539.18	534.00	534.00	305.0	17800.0	11.48	510.00	0.89735	686.3
1	19.00	535.30	530.00	530.00	364.0	17978.0	11.85	500.00	1.02347	802.3
1	18.00	531.70	526.00	526.00	346.0	19149.0	11.81	500.00	0.96192	784.2

1	17.00	529.14	524.00	524.00	310.0	17164.0	11.31	490.00	0.90101	1004.1
2	16.00	524.16	519.34	519.25	501.0	23819.0	10.94	520.00	0.92476	725.7
2	15.00	520.33	515.47	515.40	630.2	24700.0	10.87	500.00	1.00881	630.2
2	14.00	516.83	511.46	511.39	496.0	24315.0	11.38	500.00	0.96658	607.6
2	13.00	512.75	507.40	507.33	512.0	24271.0	11.22	500.00	0.96177	860.0
2	12.00	509.60	505.59	505.54	733.0	24088.0	8.81	500.00	0.80378	955.7
3	11.00	506.14	502.24	502.27	720.0	20191.0	9.44	500.00	0.96575	1814.7
3	10.00	502.83	499.23	499.47	698.0	19009.0	9.48	470.00	0.98523	1493.2
3	9.00	498.50	493.08	493.29	778.0	19907.0	8.07	500.00	0.79909	1235.1
3	8.00	497.12	491.55	491.85	550.0	17078.0	7.43	500.00	0.64028	968.2
3	7.00	494.26	488.75	489.09	500.0	21707.0	11.23	500.00	1.00657	787.9
4	6.00	488.85	482.53	482.28	387.1	24700.0	12.78	500.00	1.00781	387.1
4	5.00	485.18	481.29	481.18	601.9	24700.0	10.97	500.00	1.00003	601.9
4	4.00	481.03	477.22	477.10	624.0	23938.0	10.48	500.00	0.96472	857.5
4	3.00	477.30	472.90	472.73	415.0	17850.0	11.49	500.00	1.04693	969.6
4	2.00	475.02	468.53	468.30	308.0	20890.0	11.12	500.00	0.79395	1214.9
4	1.00	470.55	464.92	464.75	339.0	18272.0	11.18	0.00	0.89732	1206.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.289E+03	0.289E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.610E+02 0.126E+03 0.604E+02 0.257E+02 0.977E+01 0.363E+01 0.166E+01 0.115E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.289E+03	0.309E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.621E+02 0.130E+03 0.648E+02 0.303E+02 0.127E+02 0.504E+01 0.252E+01 0.180E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.267E-01 0.123E+00 0.181E+00 0.205E+00 0.180E+00 0.110E+00 0.788E-01 0.939E-01

3	0.309E+03	0.239E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.573E+02 0.108E+03 0.444E+02 0.175E+02 0.715E+01 0.272E+01 0.115E+01 0.534E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.370E-01 0.179E+00 0.231E+00 0.203E+00 0.145E+00 0.822E-01 0.571E-01 0.644E-01

4	0.239E+03	0.280E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.587E+02 0.115E+03 0.547E+02 0.287E+02 0.133E+02 0.535E+01 0.268E+01 0.194E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.256E-01 0.110E+00 0.152E+00 0.197E+00 0.197E+00 0.124E+00 0.887E-01 0.103E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72365E-02	0.11526E+02	0.47732E+01	0.32283E+03	0.45020E+01	0.12485E+01	0.15002E+03	0.58679E+01	0.24197E+01	0.33649E+03
2	0.79203E-02	0.10893E+02	0.41561E+01	0.53291E+03	0.19651E+01	0.46187E+00	0.50882E+02	0.25407E+01	0.80906E+00	0.17980E+03
3	0.59798E-02	0.88894E+01	0.34028E+01	0.67170E+03	0.11832E+01	0.42177E+00	0.37758E+02	0.43393E+01	0.19039E+01	0.57438E+03
4	0.79933E-02	0.11341E+02	0.44301E+01	0.45925E+03	0.94750E+00	0.51944E+00	0.31300E+02	0.21708E+01	0.11871E+01	0.34869E+03

** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 11

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.19600E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	543.27	538.00	538.00	246.0	12196.0	10.26	520.00	0.82268	828.7
1	20.00	538.66	534.00	534.00	305.0	14824.0	10.66	510.00	0.87947	671.1
1	19.00	534.78	530.00	530.00	364.0	14589.0	10.98	500.00	1.01261	752.4
1	18.00	531.16	526.00	526.00	346.0	15687.0	10.94	500.00	0.94652	762.9
1	17.00	528.64	524.00	524.00	310.0	14370.0	10.55	490.00	0.88725	912.7
2	16.00	523.43	519.25	519.16	501.0	19298.0	10.42	520.00	0.95524	653.1
2	15.00	519.72	515.40	515.34	614.3	19600.0	10.14	500.00	1.00696	614.3
2	14.00	516.08	511.39	511.33	496.0	19490.0	10.76	500.00	0.99260	555.9
2	13.00	512.05	507.33	507.26	512.0	19487.0	10.58	500.00	0.98270	590.9
2	12.00	509.15	505.54	505.49	733.0	19297.0	7.90	500.00	0.76210	904.5
3	11.00	505.96	502.27	502.35	720.0	15796.0	8.37	500.00	0.91041	1090.1
3	10.00	502.58	499.47	499.68	698.0	14803.0	8.87	470.00	1.01123	1388.5
3	9.00	498.18	493.29	493.48	778.0	15731.0	7.62	500.00	0.82500	1232.3
3	8.00	496.74	491.85	492.04	550.0	13064.0	6.73	500.00	0.63094	956.3
3	7.00	493.94	489.09	489.39	500.0	17086.0	10.44	500.00	1.01687	779.7
4	6.00	487.88	482.28	482.07	383.0	19600.0	11.86	500.00	1.00632	383.0
4	5.00	484.51	481.18	481.08	594.1	19600.0	10.22	500.00	1.00278	594.1
4	4.00	480.41	477.10	476.99	624.0	19228.0	9.75	500.00	0.96624	821.2
4	3.00	476.75	472.73	472.58	415.0	14628.0	10.63	500.00	1.02912	955.2
4	2.00	474.25	468.30	468.10	308.0	17950.0	10.53	500.00	0.78892	1185.2
4	1.00	469.98	464.75	464.60	339.0	15519.0	10.43	0.00	0.87673	1014.8

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.211E+03	0.211E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.450E+02 0.912E+02 0.435E+02 0.190E+02 0.765E+01 0.290E+01 0.132E+01 0.866E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.211E+03	0.230E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.459E+02 0.947E+02 0.479E+02 0.232E+02 0.106E+02 0.435E+01 0.215E+01 0.146E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.259E-01 0.122E+00 0.179E+00 0.205E+00 0.181E+00 0.111E+00 0.797E-01 0.953E-01

3	0.230E+03	0.168E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE

0.412E+02 0.751E+02 0.307E+02 0.127E+02 0.544E+01 0.207E+01 0.837E+00 0.295E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.385E-01 0.184E+00 0.234E+00 0.202E+00 0.144E+00 0.810E-01 0.558E-01 0.628E-01

4 0.168E+03 0.203E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.425E+02 0.812E+02 0.387E+02 0.212E+02 0.108E+02 0.453E+01 0.226E+01 0.154E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.249E-01 0.106E+00 0.147E+00 0.193E+00 0.199E+00 0.128E+00 0.913E-01 0.107E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72315E-02	0.10744E+02	0.42455E+01	0.32283E+03	0.38251E+01	0.97352E+00	0.13599E+03	0.53799E+01	0.20915E+01	0.30636E+03
2	0.79243E-02	0.10224E+02	0.35880E+01	0.52968E+03	0.15791E+01	0.33293E+00	0.39661E+02	0.24815E+01	0.59819E+00	0.99152E+02
3	0.59352E-02	0.81509E+01	0.29041E+01	0.67170E+03	0.99785E+00	0.34283E+00	0.33093E+02	0.41743E+01	0.19754E+01	0.40370E+03
4	0.80367E-02	0.10571E+02	0.38975E+01	0.45727E+03	0.79917E+00	0.39965E+00	0.27567E+02	0.18583E+01	0.90333E+00	0.32318E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 12

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.14600E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.73	538.00	538.00	246.0	10039.0	9.52	520.00	0.81038	736.0
1	20.00	538.08	534.00	534.00	305.0	11765.0	9.70	510.00	0.85721	654.2
1	19.00	534.18	530.00	530.00	364.0	11220.0	10.09	500.00	1.01711	694.4
1	18.00	530.56	526.00	526.00	346.0	12177.0	9.94	500.00	0.93110	739.0
1	17.00	528.06	524.00	524.00	310.0	11457.0	9.69	490.00	0.87400	807.5
2	16.00	522.67	519.16	519.10	501.0	14557.0	9.66	520.00	0.98100	572.4
2	15.00	518.99	515.34	515.29	555.6	14600.0	9.50	500.00	1.00690	555.6
2	14.00	515.32	511.33	511.29	496.0	14587.0	9.87	500.00	1.00818	511.3
2	13.00	511.37	507.26	507.21	512.0	14554.0	9.44	500.00	0.95919	516.0
2	12.00	508.66	505.49	505.46	733.0	14489.0	6.84	500.00	0.70833	851.0
3	11.00	505.72	502.35	502.41	720.0	11640.0	7.26	500.00	0.85773	1065.9
3	10.00	502.28	499.68	499.84	698.0	10754.0	8.13	470.00	1.04110	1266.7
3	9.00	497.80	493.48	493.62	778.0	11685.0	7.14	500.00	0.86832	1223.3
3	8.00	496.30	492.04	492.04	550.0	9245.0	5.90	500.00	0.61547	942.7
3	7.00	493.57	489.39	489.61	500.0	12625.0	9.51	500.00	1.02842	770.0
4	6.00	486.90	482.07	481.86	379.1	14600.0	10.76	500.00	1.00249	379.1
4	5.00	483.82	481.08	480.97	586.5	14600.0	9.33	500.00	1.00698	586.5
4	4.00	479.75	476.99	476.88	624.0	14508.0	8.91	500.00	0.97276	783.9
4	3.00	476.19	472.58	472.43	415.0	11304.0	9.49	500.00	0.98783	941.3
4	2.00	472.80	468.10	467.89	308.0	14423.0	10.96	500.00	0.93481	556.9
4	1.00	469.31	464.60	464.44	339.0	12529.0	9.58	0.00	0.85988	1007.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.143E+03	0.143E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.306E+02 0.607E+02 0.291E+02 0.132E+02 0.564E+01 0.219E+01 0.983E+00 0.587E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.143E+03	0.155E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.310E+02 0.624E+02 0.316E+02 0.162E+02 0.800E+01 0.341E+01 0.164E+01 0.993E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.258E-01 0.122E+00 0.178E+00 0.204E+00 0.181E+00 0.111E+00 0.808E-01 0.968E-01

3	0.155E+03	0.109E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.271E+02 0.475E+02 0.199E+02 0.883E+01 0.399E+01 0.150E+01 0.546E+00 0.103E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.397E-01 0.188E+00 0.233E+00 0.200E+00 0.142E+00 0.794E-01 0.549E-01 0.614E-01

4	0.109E+03	0.143E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.289E+02 0.545E+02 0.270E+02 0.159E+02 0.900E+01 0.398E+01 0.196E+01 0.126E+01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.233E-01 0.101E+00 0.144E+00 0.194E+00 0.204E+00 0.131E+00 0.949E-01 0.112E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72266E-02	0.98318E+01	0.36596E+01	0.32283E+03	0.29064E+01	0.66703E+00	0.12071E+03	0.47119E+01	0.17278E+01	0.27281E+03
2	0.79203E-02	0.93476E+01	0.30207E+01	0.51775E+03	0.10928E+01	0.20159E+00	0.26529E+02	0.19671E+01	0.52194E+00	0.57304E+02
3	0.58947E-02	0.73172E+01	0.23739E+01	0.67170E+03	0.74298E+00	0.25062E+00	0.27697E+02	0.39026E+01	0.17445E+01	0.37041E+03
4	0.80900E-02	0.98325E+01	0.32094E+01	0.45535E+03	0.44583E+00	0.19927E+00	0.21467E+02	0.14692E+01	0.53762E+00	0.31260E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 13

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.10500E+05 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	542.19	538.00	538.00	246.0	8069.0	8.75	520.00	0.79579	645.0
1	20.00	537.40	534.00	534.00	305.0	9104.0	9.04	510.00	0.87611	593.7
1	19.00	533.65	530.00	530.00	364.0	8363.0	9.05	500.00	1.00049	673.5
1	18.00	529.96	526.00	526.00	346.0	9167.0	9.02	500.00	0.92721	612.5
1	17.00	527.45	524.00	524.00	310.0	8849.0	8.91	490.00	0.87782	737.8
2	16.00	522.00	519.10	519.08	501.0	10500.0	8.78	520.00	1.00223	501.1
2	15.00	518.29	515.29	515.27	501.8	10500.0	8.80	500.00	1.00639	501.8
2	14.00	514.61	511.29	511.28	484.0	10500.0	8.97	500.00	1.01578	484.0
2	13.00	510.73	507.21	507.19	511.2	10476.0	8.06	500.00	0.89075	511.2
2	12.00	508.19	505.46	505.45	733.0	10470.0	5.82	500.00	0.65386	802.7
3	11.00	505.45	502.41	502.46	720.0	8277.0	6.24	500.00	0.80989	1036.5
3	10.00	501.98	499.84	499.95	698.0	7478.0	7.43	470.00	1.09028	1017.2
3	9.00	497.43	493.62	493.72	778.0	8441.0	6.74	500.00	0.93608	1190.4
3	8.00	495.87	492.04	492.04	550.0	6238.0	5.06	500.00	0.59523	932.3
3	7.00	493.20	489.61	489.76	500.0	9021.0	8.56	500.00	1.03975	760.3
4	6.00	486.12	481.86	481.71	376.4	10500.0	9.19	500.00	0.93001	376.4
4	5.00	483.17	480.97	480.89	580.1	10500.0	8.37	500.00	1.00353	580.1
4	4.00	479.08	476.88	476.80	613.9	10500.0	8.24	500.00	1.00740	613.9
4	3.00	475.50	472.43	472.32	415.0	8489.0	8.91	500.00	1.03557	692.4
4	2.00	471.60	467.89	467.73	303.7	10500.0	10.40	500.00	1.00471	303.7
4	1.00	468.68	464.44	464.31	339.0	9810.0	8.61	0.00	0.82725	999.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.963E+02	0.963E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.207E+02 0.400E+02 0.193E+02 0.924E+01 0.424E+01 0.169E+01 0.748E+00 0.384E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

REACH	INFLOW(CFS)	OUTFLOW(CFS)
2	0.963E+02	0.100E+03

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.203E+02 0.394E+02 0.199E+02 0.109E+02 0.575E+01 0.248E+01 0.114E+01 0.553E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.267E-01 0.123E+00 0.179E+00 0.202E+00 0.179E+00 0.110E+00 0.804E-01 0.976E-01

REACH	INFLOW(CFS)	OUTFLOW(CFS)
3	0.100E+03	0.694E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.171E+02 0.291E+02 0.128E+02 0.616E+01 0.292E+01 0.106E+01 0.334E+00 0.517E-02

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.411E-01 0.190E+00 0.234E+00 0.200E+00 0.141E+00 0.789E-01 0.544E-01 0.608E-01

REACH	INFLOW(CFS)	OUTFLOW(CFS)
4	0.694E+02	0.930E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.181E+02 0.335E+02 0.174E+02 0.112E+02 0.700E+01 0.320E+01 0.154E+01 0.881E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.218E-01 0.949E-01 0.141E+00 0.192E+00 0.204E+00 0.134E+00 0.971E-01 0.116E+00

(4) EFFECTIVE FLOW CONDITIONS:

REACH	SLOPE	MAIN CHANNEL VELOCITY (FT/SEC)	MAIN CHANNEL DEPTH (FT)	MAIN CHANNEL TOPWIDTH (FT)	LEFT OVERBANK VELOCITY (FT/SEC)	LEFT OVERBANK DEPTH (FT)	LEFT OVERBANK TOPWIDTH (FT)	RIGHT CHANNEL VELOCITY (FT/SEC)	RIGHT CHANNEL DEPTH (FT)	RIGHT CHANNEL TOPWIDTH (FT)
1	0.72414E-02	0.89844E+01	0.30674E+01	0.32283E+03	0.19584E+01	0.41446E+00	0.92051E+02	0.40027E+01	0.13671E+01	0.23015E+03
2	0.78885E-02	0.83964E+01	0.25088E+01	0.50427E+03	0.42468E+00	0.80605E-01	0.13529E+02	0.12495E+01	0.32207E+00	0.38537E+02
3	0.58745E-02	0.65253E+01	0.18876E+01	0.67170E+03	0.47672E+00	0.17838E+00	0.24453E+02	0.36013E+01	0.16207E+01	0.30991E+03
4	0.81500E-02	0.89492E+01	0.26047E+01	0.45143E+03	0.30750E+00	0.13870E+00	0.19717E+02	0.90417E+00	0.41143E+00	0.10678E+03

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 14

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.76500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.62	538.00	538.00	246.0	6547.0	8.39	520.00	0.82971	541.8
1	20.00	536.89	534.00	534.00	305.0	7033.0	8.25	510.00	0.87021	544.0
1	19.00	533.24	530.00	530.00	364.0	6326.0	8.12	500.00	0.97762	668.9
1	18.00	529.51	526.00	526.00	346.0	6930.0	8.02	500.00	0.89379	607.7
1	17.00	526.97	524.00	524.00	310.0	6846.0	8.10	490.00	0.86487	687.3
2	16.00	521.49	519.08	519.07	470.2	7650.0	7.99	520.00	0.98683	470.2
2	15.00	517.74	515.27	515.27	459.8	7650.0	8.15	500.00	1.00541	459.8
2	14.00	514.07	511.28	511.28	485.6	7649.0	8.07	500.00	1.01821	485.6
2	13.00	510.26	507.19	507.19	508.0	7638.0	6.95	500.00	0.83285	508.0
2	12.00	507.78	505.45	505.45	733.0	7644.0	5.09	500.00	0.62619	752.4
3	11.00	505.23	502.46	502.49	720.0	5966.0	5.34	500.00	0.75493	1011.5
3	10.00	501.65	499.95	500.01	698.0	5344.0	7.24	470.00	1.24021	857.9
3	9.00	497.13	493.72	493.77	778.0	6216.0	6.38	500.00	1.00367	1142.5
3	8.00	495.51	492.04	492.04	550.0	4211.0	4.32	500.00	0.57266	927.4
3	7.00	492.90	489.76	489.84	500.0	6533.0	7.74	500.00	1.05029	752.6
4	6.00	485.57	481.71	481.62	369.4	7650.0	7.74	500.00	0.83433	369.4
4	5.00	482.67	480.89	480.84	575.6	7650.0	7.59	500.00	1.01046	575.6
4	4.00	478.62	476.80	476.75	600.4	7650.0	7.35	500.00	0.98321	600.4
4	3.00	475.01	472.32	472.25	415.0	6356.0	8.04	500.00	1.02678	684.5
4	2.00	470.82	467.73	467.63	290.9	7650.0	9.33	500.00	0.97927	290.9
4	1.00	467.61	464.31	464.22	313.4	7650.0	9.26	0.00	1.00525	313.4

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.642E+02	0.642E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.137E+02 0.260E+02 0.128E+02 0.651E+01 0.316E+01 0.126E+01 0.537E+00 0.213E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.642E+02	0.652E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.133E+02 0.250E+02 0.127E+02 0.734E+01 0.410E+01 0.177E+01 0.748E+00 0.247E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.276E-01 0.126E+00 0.179E+00 0.200E+00 0.177E+00 0.110E+00 0.800E-01 0.976E-01

3 0.652E+02 0.481E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.115E+02 0.194E+02 0.909E+01 0.472E+01 0.229E+01 0.811E+00 0.217E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.416E-01 0.192E+00 0.233E+00 0.198E+00 0.140E+00 0.787E-01 0.542E-01 0.600E-01

4 0.481E+02 0.618E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.118E+02 0.213E+02 0.115E+02 0.791E+01 0.527E+01 0.244E+01 0.112E+01 0.515E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.218E-01 0.931E-01 0.139E+00 0.190E+00 0.204E+00 0.134E+00 0.985E-01 0.120E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72414E-02	0.81605E+01	0.25987E+01	0.32283E+03	0.15439E+01	0.27661E+00	0.65417E+02	0.31856E+01	0.99078E+00	0.22322E+03
2	0.78526E-02	0.75532E+01	0.21144E+01	0.48922E+03	0.25086E+00	0.47560E-01	0.87458E+01	0.11125E+01	0.24190E+00	0.34716E+02
3	0.58583E-02	0.59284E+01	0.15046E+01	0.67170E+03	0.34514E+00	0.13958E+00	0.23765E+02	0.32703E+01	0.13728E+01	0.29822E+03
4	0.82600E-02	0.80917E+01	0.21743E+01	0.44300E+03	0.28417E+00	0.11492E+00	0.19567E+02	0.66750E+00	0.27119E+00	0.49567E+02

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** SEDIMENT TRANSPORT STUDY; AT THE TIME STEP 15

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED; SED. 0.00000E+00 CUBIC YARDS
WATER 0.57500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	541.15	538.00	538.00	246.0	5283.0	7.94	520.00	0.85111	455.9
1	20.00	536.47	534.00	534.00	305.0	5544.0	7.65	510.00	0.87475	503.2
1	19.00	532.93	530.00	530.00	364.0	4934.0	7.36	500.00	0.95625	665.4
1	18.00	529.18	526.00	526.00	346.0	5380.0	7.15	500.00	0.85361	604.1
1	17.00	526.59	524.00	524.00	310.0	5415.0	7.45	490.00	0.85767	646.8
2	16.00	521.09	519.07	519.07	445.6	5750.0	7.41	520.00	0.99024	445.6
2	15.00	517.39	515.27	515.27	432.8	5750.0	7.33	500.00	0.95894	432.8
2	14.00	513.71	511.28	511.28	472.6	5750.0	7.35	500.00	1.00770	472.6
2	13.00	509.90	507.19	507.19	505.4	5745.0	6.20	500.00	0.80661	505.4
2	12.00	507.48	505.45	505.45	711.5	5750.0	4.47	500.00	0.58560	711.5
3	11.00	505.03	502.49	502.51	720.0	4427.0	4.71	500.00	0.72592	988.1

3	10.00	501.42	500.01	500.01	698.0	3949.0	6.71	470.00	1.28901	818.8
3	9.00	496.91	493.77	493.80	778.0	4750.0	5.95	500.00	1.03592	1106.1
3	8.00	495.19	492.04	492.04	550.0	2901.0	3.80	500.00	0.56745	923.1
3	7.00	492.70	489.84	489.89	500.0	4924.0	6.90	500.00	1.01840	719.7
4	6.00	485.11	481.62	481.57	357.3	5750.0	6.72	500.00	0.76611	357.3
4	5.00	482.32	480.84	480.81	572.4	5750.0	6.86	500.00	0.99984	572.4
4	4.00	478.31	476.75	476.72	591.8	5750.0	6.49	500.00	0.93446	591.8
4	3.00	474.65	472.25	472.21	415.0	4910.0	7.36	500.00	1.02260	678.9
4	2.00	470.27	467.63	467.57	282.4	5750.0	8.35	500.00	0.94265	282.4
4	1.00	467.04	464.22	464.16	292.3	5750.0	8.52	0.00	0.98850	292.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.446E+02	0.446E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.943E+01 0.176E+02 0.885E+01 0.477E+01 0.242E+01 0.978E+00 0.386E+00 0.102E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.446E+02	0.438E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.897E+01 0.164E+02 0.849E+01 0.515E+01 0.298E+01 0.127E+01 0.479E+00 0.718E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.285E-01 0.129E+00 0.180E+00 0.199E+00 0.176E+00 0.109E+00 0.797E-01 0.976E-01

3	0.438E+02	0.329E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.762E+01 0.128E+02 0.646E+01 0.353E+01 0.173E+01 0.586E+00 0.116E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.423E-01 0.193E+00 0.234E+00 0.198E+00 0.141E+00 0.788E-01 0.539E-01 0.598E-01

4	0.329E+02	0.404E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.766E+01 0.135E+02 0.748E+01 0.541E+01 0.375E+01 0.172E+01 0.716E+00 0.202E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.221E-01 0.934E-01 0.139E+00 0.188E+00 0.202E+00 0.134E+00 0.989E-01 0.122E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.72217E-02	0.74672E+01	0.22318E+01	0.32283E+03	0.11637E+01	0.16997E+00	0.41780E+02	0.24203E+01	0.66098E+00	0.21938E+03
2	0.78167E-02	0.68518E+01	0.18226E+01	0.47354E+03	0.18351E+00	0.28866E-01	0.53197E+01	0.66564E+00	0.14265E+00	0.29378E+02
3	0.58421E-02	0.53594E+01	0.12397E+01	0.66953E+03	0.29960E+00	0.12005E+00	0.23634E+02	0.29448E+01	0.11774E+01	0.28871E+03
4	0.84000E-02	0.72483E+01	0.18784E+01	0.43584E+03	0.24667E+00	0.98843E-01	0.19458E+02	0.56583E+00	0.20880E+00	0.48608E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 16

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS

WATER 0.45000E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.75	538.00	538.00	246.0	4339.0	7.65	520.00	0.88746	383.1
1	20.00	536.07	534.00	534.00	305.0	4492.0	7.49	510.00	0.94054	463.4
1	19.00	532.70	530.00	530.00	364.0	3994.0	6.78	500.00	0.93860	662.8
1	18.00	528.97	526.00	526.00	346.0	4312.0	6.38	500.00	0.80437	591.4
1	17.00	526.26	524.00	524.00	310.0	4417.0	7.09	490.00	0.88149	611.3
2	16.00	520.80	519.07	519.08	427.8	4500.0	6.95	520.00	0.99455	427.8
2	15.00	517.15	515.27	515.28	415.9	4500.0	6.62	500.00	0.91348	415.9
2	14.00	513.45	511.28	511.29	462.3	4500.0	6.85	500.00	1.01218	462.3
2	13.00	509.66	507.19	507.20	503.1	4498.0	5.66	500.00	0.79394	503.1
2	12.00	507.23	505.45	505.46	687.9	4500.0	4.02	500.00	0.55507	687.9
3	11.00	504.87	502.51	502.53	720.0	3421.0	4.22	500.00	0.70035	969.8
3	10.00	501.24	500.01	500.01	698.0	3049.0	6.29	470.00	1.33097	787.0
3	9.00	496.75	493.80	493.82	778.0	3795.0	5.64	500.00	1.06809	1040.2
3	8.00	494.97	492.04	492.04	550.0	2076.0	3.34	500.00	0.55343	920.1
3	7.00	492.47	489.89	489.93	500.0	3922.0	6.60	500.00	1.06637	668.2
4	6.00	484.79	481.57	481.54	349.1	4500.0	5.94	500.00	0.70994	349.1
4	5.00	482.07	480.81	480.79	570.0	4500.0	6.36	500.00	1.00533	570.0
4	4.00	478.06	476.72	476.70	584.9	4500.0	5.94	500.00	0.92045	584.9
4	3.00	474.42	472.21	472.19	415.0	3929.0	6.68	500.00	0.98952	675.3
4	2.00	469.86	467.57	467.53	276.3	4500.0	7.63	500.00	0.91977	276.3
4	1.00	466.62	464.16	464.12	277.6	4500.0	7.87	0.00	0.96687	277.6

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.346E+02	0.346E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.722E+01 0.133E+02 0.688E+01 0.391E+01 0.207E+01 0.838E+00 0.311E+00 0.540E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.346E+02	0.321E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.662E+01 0.118E+02 0.620E+01 0.392E+01 0.232E+01 0.969E+00 0.324E+00 0.416E-02

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.298E-01 0.131E+00 0.180E+00 0.198E+00 0.174E+00 0.108E+00 0.790E-01 0.968E-01

3	0.321E+02	0.246E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.550E+01 0.933E+01 0.498E+01 0.284E+01 0.140E+01 0.451E+00 0.617E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.424E-01 0.193E+00 0.233E+00 0.198E+00 0.141E+00 0.782E-01 0.539E-01 0.593E-01

4	0.246E+02	0.289E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.543E+01 0.938E+01 0.535E+01 0.403E+01 0.286E+01 0.129E+01 0.483E+00 0.530E-01

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.226E-01 0.944E-01 0.140E+00 0.187E+00 0.201E+00 0.133E+00 0.990E-01 0.123E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71970E-02	0.70112E+01	0.19254E+01	0.32283E+03	0.68096E+00	0.72889E-01	0.20413E+02	0.15622E+01	0.38257E+00	0.21615E+03
2	0.77849E-02	0.63279E+01	0.15926E+01	0.46166E+03	0.11127E+00	0.12645E-01	0.23133E+01	0.44398E+00	0.75901E-01	0.27794E+02
3	0.58340E-02	0.49478E+01	0.10479E+01	0.66714E+03	0.26215E+00	0.96973E-01	0.23482E+02	0.26742E+01	0.10360E+01	0.28236E+03
4	0.84967E-02	0.66308E+01	0.16471E+01	0.43068E+03	0.21583E+00	0.79841E-01	0.19333E+02	0.47250E+00	0.16423E+00	0.47825E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 17

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.33500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	540.34	538.00	538.00	246.0	3329.0	7.12	520.00	0.91078	308.7
1	20.00	535.71	534.00	534.00	300.7	3350.0	6.79	510.00	0.93434	300.7
1	19.00	532.45	530.00	530.00	364.0	3102.0	6.15	500.00	0.92021	660.1
1	18.00	528.75	526.00	526.00	346.0	3263.0	5.39	500.00	0.71898	527.0
1	17.00	525.76	524.00	524.00	300.7	3350.0	7.13	490.00	1.00603	300.7
2	16.00	520.51	519.08	519.09	410.3	3350.0	6.38	520.00	0.99367	410.3
2	15.00	516.89	515.28	515.29	400.8	3350.0	5.89	500.00	0.87048	400.8
2	14.00	513.18	511.29	511.30	438.5	3350.0	6.29	500.00	1.00589	438.5
2	13.00	509.45	507.20	507.21	499.7	3350.0	5.16	500.00	0.79729	499.7
2	12.00	507.01	505.46	505.46	671.8	3350.0	3.50	500.00	0.51732	671.8
3	11.00	504.68	502.53	502.51	720.0	2500.0	3.77	500.00	0.69180	947.3
3	10.00	501.09	500.01	500.01	698.0	2245.0	5.58	470.00	1.29512	758.2
3	9.00	496.53	493.82	493.80	778.0	2942.0	5.50	500.00	1.16832	999.0
3	8.00	494.42	492.04	492.04	550.0	1920.0	5.53	500.00	1.22619	754.9
3	7.00	492.23	489.93	489.89	500.0	2997.0	6.15	500.00	1.09810	614.6
4	6.00	484.45	481.54	481.61	340.4	3350.0	5.14	500.00	0.65539	340.4
4	5.00	481.82	480.79	480.83	567.8	3350.0	5.77	500.00	1.00557	567.8
4	4.00	477.84	476.70	476.74	578.9	3350.0	5.22	500.00	0.87358	578.9
4	3.00	474.17	472.19	472.24	415.0	3018.0	6.11	500.00	0.98786	669.9
4	2.00	469.45	467.53	467.62	270.2	3350.0	6.84	500.00	0.89478	270.2
4	1.00	466.20	464.12	464.21	262.9	3350.0	7.16	0.00	0.94520	262.9

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)

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1        0.237E+02                0.237E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.483E+01 0.881E+01 0.477E+01 0.289E+01 0.158E+01 0.626E+00 0.202E+00 0.341E-02

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2        0.237E+02                0.229E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.461E+01 0.815E+01 0.444E+01 0.295E+01 0.178E+01 0.724E+00 0.205E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.307E-01 0.135E+00 0.182E+00 0.198E+00 0.173E+00 0.108E+00 0.790E-01 0.968E-01

3        0.229E+02                0.268E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.550E+01 0.978E+01 0.569E+01 0.338E+01 0.174E+01 0.609E+00 0.127E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.419E-01 0.193E+00 0.234E+00 0.198E+00 0.141E+00 0.793E-01 0.544E-01 0.598E-01

4        0.268E+02                0.218E+02

            SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
         0.451E+01 0.716E+01 0.393E+01 0.293E+01 0.207E+01 0.901E+00 0.276E+00 0.000E+00

            WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
         0.282E-01 0.108E+00 0.146E+00 0.184E+00 0.192E+00 0.127E+00 0.948E-01 0.119E+00
```

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71773E-02	0.63701E+01	0.16278E+01	0.32060E+03	0.26384E+00	0.21957E-01	0.73261E+01	0.89490E+00	0.20430E+00	0.14159E+03
2	0.77092E-02	0.58058E+01	0.13410E+01	0.44714E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.79681E-02	0.00000E+00	0.79681E-01
3	0.58462E-02	0.50349E+01	0.80526E+00	0.66551E+03	0.21356E+00	0.73358E-01	0.23330E+02	0.23070E+01	0.82383E+00	0.27516E+03
4	0.85867E-02	0.59558E+01	0.14043E+01	0.42563E+03	0.17583E+00	0.60398E-01	0.19208E+02	0.36917E+00	0.11284E+00	0.46992E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 18

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

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UPSTREAM WATERSHED, SED.   0.00000E+00  CUBIC YARDS
                    WATER  0.23500E+04  CFS

   REACH  1          NO TRIBUTARY

   REACH  2          NO TRIBUTARY

   REACH  3          NO TRIBUTARY

   REACH  4          NO TRIBUTARY
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(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH

1	21.00	539.95	538.00	538.00	243.2	2350.0	6.34	520.00	0.90560	243.2
1	20.00	535.42	534.00	534.00	296.3	2350.0	5.79	510.00	0.87226	296.3
1	19.00	532.21	530.00	530.00	364.0	2283.0	5.45	500.00	0.89563	657.3
1	18.00	528.39	526.00	526.00	346.0	2336.0	4.81	500.00	0.71641	413.9
1	17.00	525.41	524.00	524.00	287.2	2350.0	6.42	490.00	1.00118	287.2
2	16.00	520.31	519.09	519.09	397.7	2350.0	5.34	520.00	0.89502	397.7
2	15.00	516.53	515.29	515.29	380.0	2350.0	5.51	500.00	0.91617	380.0
2	14.00	512.99	511.30	511.30	405.1	2350.0	5.27	500.00	0.88617	405.1
2	13.00	509.13	507.21	507.21	368.9	2350.0	5.76	500.00	0.96560	368.9
2	12.00	506.87	505.46	505.46	662.4	2350.0	2.71	500.00	0.41823	662.4
3	11.00	504.32	502.51	502.50	720.0	1624.0	3.78	500.00	0.86128	905.8
3	10.00	501.09	500.01	500.01	698.0	1600.0	3.87	470.00	0.88597	758.3
3	9.00	496.35	493.80	493.79	778.0	2175.0	4.90	500.00	1.14417	966.4
3	8.00	494.15	492.04	492.04	550.0	1320.0	5.00	500.00	1.27178	703.4
3	7.00	491.86	489.89	489.87	500.0	2219.0	6.03	500.00	1.23949	518.0
4	6.00	484.18	481.61	481.65	331.9	2350.0	4.37	500.00	0.60473	331.9
4	5.00	481.65	480.83	480.85	565.9	2350.0	5.13	500.00	1.00360	565.9
4	4.00	477.66	476.74	476.76	573.0	2350.0	4.56	500.00	0.84695	573.0
4	3.00	473.97	472.24	472.27	415.0	2182.0	5.40	500.00	0.96371	662.5
4	2.00	469.17	467.62	467.66	264.9	2350.0	6.00	500.00	0.86949	264.9
4	1.00	465.91	464.21	464.26	250.3	2350.0	6.34	0.00	0.91794	250.3

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.146E+02	0.146E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.283E+01 0.519E+01 0.300E+01 0.195E+01 0.109E+01 0.409E+00 0.976E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.146E+02	0.147E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.285E+01 0.508E+01 0.292E+01 0.203E+01 0.124E+01 0.478E+00 0.101E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.306E-01 0.135E+00 0.182E+00 0.197E+00 0.172E+00 0.107E+00 0.790E-01 0.968E-01

3	0.147E+02	0.165E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.313E+01 0.584E+01 0.370E+01 0.228E+01 0.115E+01 0.363E+00 0.302E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.415E-01 0.193E+00 0.233E+00 0.198E+00 0.141E+00 0.793E-01 0.544E-01 0.598E-01

4	0.165E+02	0.140E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.281E+01 0.454E+01 0.258E+01 0.198E+01 0.140E+01 0.571E+00 0.121E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.298E-01 0.114E+00 0.152E+00 0.184E+00 0.187E+00 0.124E+00 0.925E-01 0.117E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71576E-02	0.56121E+01	0.13317E+01	0.31746E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.44594E+00	0.69805E-01	0.13975E+03
2	0.75936E-02	0.52877E+01	0.11451E+01	0.40542E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00

3 0.59109E-02 0.43840E+01 0.65328E+00 0.66456E+03 0.15891E+00 0.43253E-01 0.19838E+02 0.19163E+01 0.67578E+00 0.26952E+03
4 0.86200E-02 0.52742E+01 0.11483E+01 0.42098E+03 0.13083E+00 0.35611E-01 0.16333E+02 0.24333E+00 0.69151E-01 0.46250E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 19

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.17500E+04 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	539.54	538.00	538.00	221.0	1750.0	6.34	520.00	0.99971	221.0
1	20.00	535.31	534.00	534.00	294.6	1750.0	4.69	510.00	0.73498	294.6
1	19.00	531.90	530.00	530.00	329.1	1750.0	5.61	500.00	1.01445	329.1
1	18.00	528.13	526.00	526.00	334.6	1749.0	4.32	500.00	0.69205	334.6
1	17.00	525.16	524.00	524.00	277.8	1750.0	5.89	490.00	1.00420	277.8
2	16.00	520.15	519.09	519.09	387.6	1750.0	4.66	520.00	0.83515	387.6
2	15.00	516.30	515.29	515.29	366.7	1750.0	5.13	500.00	0.93749	366.7
2	14.00	512.80	511.30	511.30	374.4	1750.0	4.68	500.00	0.82528	374.4
2	13.00	508.86	507.21	507.21	323.5	1750.0	5.62	500.00	1.00903	323.5
2	12.00	506.73	505.46	505.46	652.6	1750.0	2.27	500.00	0.36719	652.6
3	11.00	504.12	502.50	502.45	720.0	1077.0	3.62	500.00	0.99235	878.9
3	10.00	500.79	500.01	500.00	698.0	1419.0	4.99	470.00	1.37672	728.1
3	9.00	496.22	493.79	493.75	778.0	1685.0	4.41	500.00	1.10995	943.9
3	8.00	493.94	492.04	492.04	550.0	968.0	4.79	500.00	1.39109	660.4
3	7.00	491.65	489.87	489.80	451.9	1688.0	5.46	500.00	1.16232	451.9
4	6.00	483.98	481.65	481.74	325.3	1750.0	3.83	500.00	0.57013	325.3
4	5.00	481.52	480.85	480.90	564.6	1750.0	4.63	500.00	0.99605	564.6
4	4.00	477.54	476.76	476.81	569.1	1750.0	4.01	500.00	0.80686	569.1
4	3.00	473.81	472.27	472.34	415.0	1672.0	4.96	500.00	0.96835	656.6
4	2.00	468.96	467.66	467.78	261.1	1750.0	5.37	500.00	0.84777	261.1
4	1.00	465.69	464.26	464.39	241.0	1750.0	5.72	0.00	0.89486	241.0

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.104E+02	0.104E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.195E+01 0.360E+01 0.220E+01 0.149E+01 0.843E+00 0.302E+00 0.539E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.104E+02	0.101E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.190E+01 0.340E+01 0.206E+01 0.148E+01 0.899E+00 0.325E+00 0.410E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.310E-01 0.137E+00 0.182E+00 0.197E+00 0.171E+00 0.107E+00 0.790E-01 0.968E-01

3 0.101E+02 0.163E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.282E+01 0.557E+01 0.379E+01 0.241E+01 0.125E+01 0.410E+00 0.473E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.405E-01 0.191E+00 0.233E+00 0.199E+00 0.142E+00 0.799E-01 0.552E-01 0.603E-01

4 0.163E+02 0.100E+02

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.205E+01 0.325E+01 0.188E+01 0.144E+01 0.990E+00 0.366E+00 0.376E-01 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.334E-01 0.125E+00 0.158E+00 0.182E+00 0.181E+00 0.119E+00 0.888E-01 0.113E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.71281E-02	0.51868E+01	0.11468E+01	0.30154E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.83744E-01	0.20051E-02	0.62291E+02
2	0.75259E-02	0.48327E+01	0.99671E+00	0.38363E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.59555E-02	0.43306E+01	0.52327E+00	0.65870E+03	0.12854E+00	0.33189E-01	0.15142E+02	0.17062E+01	0.51712E+00	0.26705E+03
4	0.86333E-02	0.47317E+01	0.97968E+00	0.41359E+03	0.10583E+00	0.27326E-01	0.12467E+02	0.18167E+00	0.43077E-01	0.45967E+02

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** SEDIMENT TRANSPORT STUDY, AT THE TIME STEP 20

(1) SEDIMENT & WATER INFLOW INFORMATION (FROM UPSTREAM TO DOWNSTREAM)

UPSTREAM WATERSHED, SED. 0.00000E+00 CUBIC YARDS
WATER 0.75000E+03 CFS

REACH 1 NO TRIBUTARY

REACH 2 NO TRIBUTARY

REACH 3 NO TRIBUTARY

REACH 4 NO TRIBUTARY

(2) HYDRAULIC CONDITIONS AND CHANNEL GEOMETRY:

REACH	SECNO	W.S.EL.	BEGINNING BED EL.	ENDING BED EL.	CHANNEL TOPWIDTH	CHANNEL DISCHARGE	CHANNEL VELOCITY	CHANNEL LENGTH	CHANNEL FROUDE NO.	GROSS TOPWIDTH
1	21.00	538.92	538.00	538.00	187.1	750.0	5.03	520.00	0.99304	187.1
1	20.00	534.81	534.00	534.00	287.1	750.0	3.31	510.00	0.65690	287.1
1	19.00	531.35	530.00	530.00	234.7	750.0	4.72	500.00	1.01198	234.7
1	18.00	527.49	526.00	526.00	239.1	750.0	3.25	500.00	0.58372	239.1
1	17.00	524.67	524.00	524.00	258.8	750.0	4.55	490.00	1.00564	258.8
2	16.00	519.74	519.09	519.09	362.8	750.0	3.36	520.00	0.75447	362.8
2	15.00	515.89	515.29	515.29	342.8	750.0	3.85	500.00	0.89841	342.8
2	14.00	512.29	511.30	511.30	289.5	750.0	3.66	500.00	0.76584	289.5
2	13.00	508.32	507.21	507.21	236.1	750.0	4.64	500.00	0.98882	236.1
2	12.00	506.25	505.46	505.46	619.6	750.0	1.60	500.00	0.32467	619.6
3	11.00	503.85	502.45	502.40	720.0	292.0	2.11	500.00	0.85015	845.9
3	10.00	500.47	500.00	499.97	698.0	646.0	3.76	470.00	1.33722	699.4
3	9.00	495.36	493.73	493.59	116.8	750.0	5.93	500.00	1.00545	116.8
3	8.00	493.50	492.04	492.04	550.0	421.0	3.94	500.00	1.57554	578.0
3	7.00	491.06	489.80	489.73	261.8	750.0	4.64	500.00	1.04171	261.8
4	6.00	483.48	481.74	481.81	282.4	750.0	2.69	500.00	0.47733	282.4
4	5.00	481.28	480.90	480.93	561.8	750.0	3.52	500.00	1.00520	561.8
4	4.00	477.32	476.81	476.84	561.1	750.0	2.71	500.00	0.67813	561.1

4	3.00	473.42	472.34	472.40	333.1	750.0	4.17	500.00	1.00099	333.1
4	2.00	468.56	467.78	467.86	253.0	750.0	3.92	500.00	0.79377	253.0
4	1.00	465.26	464.39	464.48	221.1	750.0	4.21	0.00	0.82780	221.1

(3) SEDIMENT INFLOW AND OUTFLOW FOR EACH REACH FROMUPSTREAM TO DOWNSTREAM

REACH	INFLOW(CFS)	OUTFLOW(CFS)
1	0.345E+01	0.345E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.575E+00 0.110E+01 0.787E+00 0.580E+00 0.317E+00 0.841E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.300E-01 0.140E+00 0.200E+00 0.210E+00 0.170E+00 0.100E+00 0.701E-01 0.799E-01

2	0.345E+01	0.354E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.583E+00 0.111E+01 0.792E+00 0.612E+00 0.354E+00 0.876E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.309E-01 0.137E+00 0.182E+00 0.197E+00 0.171E+00 0.107E+00 0.790E-01 0.968E-01

3	0.354E+01	0.744E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.121E+01 0.253E+01 0.180E+01 0.116E+01 0.584E+00 0.154E+00 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.397E-01 0.190E+00 0.232E+00 0.200E+00 0.143E+00 0.802E-01 0.557E-01 0.608E-01

4	0.744E+01	0.345E+01

SEDIMENT TRANSPORT RATES FOR EACH PARTICLE SIZE
0.664E+00 0.108E+01 0.706E+00 0.565E+00 0.359E+00 0.815E-01 0.000E+00 0.000E+00

WEIGHTED SIZE FRACTIONS FOR EACH PARTICLE SIZE
0.364E-01 0.132E+00 0.160E+00 0.180E+00 0.177E+00 0.116E+00 0.857E-01 0.109E+00

(4) EFFECTIVE FLOW CONDITIONS:

		MAIN CHANNEL			LEFT OVERBANK			RIGHT CHANNEL		
REACH	SLOPE	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)	VELOCITY (FT/SEC)	DEPTH (FT)	TOPWIDTH (FT)
1	0.70542E-02	0.40190E+01	0.78688E+00	0.24595E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
2	0.74502E-02	0.37152E+01	0.65416E+00	0.33432E+03	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00	0.00000E+00
3	0.60283E-02	0.37590E+01	0.47825E+00	0.50629E+03	0.30364E-01	0.24099E-02	0.14170E+01	0.11957E+01	0.30435E+00	0.18235E+03
4	0.86200E-02	0.35725E+01	0.64459E+00	0.37214E+03	0.25000E-01	0.19841E-02	0.11667E+01	0.00000E+00	0.00000E+00	0.00000E+00

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AC
AC
AC
T1      SLA  JOB#: BCA01  FILE: BCA01
T2      PANTANO WASH
T3
J1   -10      2      0      0   .0067      0      0      0  467.00      0
J2    -1      0     -1      0      0      0      0      0      0      0
J3    38     13     14     15      1     42     26      4      8     25
J3    39     53     54
NC 0.050  0.050  0.025    0.1    0.3
QT     1    750
X1  1.00     16    609.   948.   550.   400.   500.
X3                        609.
GR472.00     0.  470.00    99.  472.00   445.  472.00   609.  466.00   631.
GR466.00   818.  468.00   948.  468.00  1612.  470.00  1630.  470.00  1804.
GR472.00  1859.  474.00  1901.  474.00  1991.  476.00  2058.  478.00  2165.
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GR482.00   2257.
X1  2.00     23    773.   1081.    530.    430.    500.
X3                        610.
GR482.00     0.  478.00    134.  476.00    177.  474.00    262.  474.00    424.
GR476.00   542.  478.00    610.  476.00    698.  474.00    773.  470.00    789.
GR470.00  1029.  472.00   1081.  474.00   1516.  474.00   1656.  474.00   1869.
GR472.00  1878.  472.00   1899.  474.00   1913.  476.00   1947.  478.00   2014.
GR478.00  2368.  480.00   2433.  484.00   2528.
X1  3.00     16     29.    444.    570.    340.    500.
GR490.00     0.  478.00     29.  476.00     52.  474.00    103.  474.00    444.
GR474.00   717.  476.00    739.  476.00    972.  478.00   1017.  480.00   1094.
GR478.00  1246.  478.00   1289.  480.00   1340.  482.00   1522.  484.00   1626.
GR486.00  1656.
X1  4.00     13    341.    965.    520.    380.    500.
GR490.00     0.  488.00    120.  486.00    295.  480.00    341.  478.00    388.
GR478.00   934.  480.00    965.  480.00   1099.  482.00   1237.  484.00   1720.
GR486.00  1852.  490.00   1950.  494.00   2015.
X1  5.00     14    167.    913.    370.    510.    500.
GR500.00     0.  490.00    112.  488.00    167.  486.00    179.  486.00    237.
GR484.00   262.  482.00    278.  482.00    836.  486.00    846.  488.00    913.
GR488.00  1193.  490.00   1290.  492.00   1418.  494.00   1591.
X1  6.00     14    471.    895.    340.    560.    500.
GR510.00     0.  500.00    126.  490.00    167.  490.00    471.  488.00    479.
GR486.00   534.  484.00    810.  484.00    846.  490.00    862.  492.00    895.
GR494.00  1080.  496.00   1258.  500.00   1350.  504.00   1648.
X1  7.00     11    280.    780.    400.    580.    500.
GR500.00     0.  492.00     51.  491.00    280.  487.00    388.  488.00    502.
GR490.00   705.  492.00    780.  496.00    859.  496.00    993.  498.00   1052.
GR500.00  1220.
X1  8.00     13     35.    585.    460.    460.    500.
NH     4    .05     35    .025     585     .04    1088     .05    1533
GR510.00     0.  500.00     35.  490.00     69.  490.00     95.  492.00    431.
GR492.00   550.  493.00    585.  493.00    850.  492.00    954.  496.00    987.
GR500.00  1088.  504.00   1466.  506.00   1533.
X1  9.00     16     22.    800.    520.    480.    500.
NH     4    .05     22    .025     520     .04    1284     .05    2232
GR520.00     0.  510.00     22.  492.00     48.  492.00     88.  494.00    181.
GR494.00   520.  496.00    691.  495.00    720.  495.00    755.  496.00    800.
GR496.00  1215.  498.00   1272.  500.00   1284.  502.00   1731.  506.00   2078.
GR508.00  2232.
X1 10.00     19    172.    870.    590.    360.    470.
NH     4    .05    172    .025     529     .04    1191     .05    2334
GR520.00     0.  504.00     53.  502.00    172.  498.00    193.  498.00    457.
GR499.00   529.  500.00    645.  500.00    761.  498.00    777.  498.00    827.
GR500.30   870.  500.00   1167.  502.00   1191.  502.00   1335.  504.00   2023.
GR506.00  2112.  508.00   2161.  510.00   2226.  514.00   2334.
X1 11.00     12     41.    761.    520.    490.    500.
NH     4    .05     41    .025     761     .04     998     .05    1979
GR530.00     0.  508.00     41.  502.00     73.  502.00    745.  504.00    761.
GR502.00   942.  502.00    964.  504.00    998.  506.00   1157.  506.00   1867.
GR508.00  1896.  510.00   1979.
X1 12.00     11    211.    944.    500.    490.    500.
GR550.00     0.  520.00    122.  510.00    160.  508.00    211.  506.00    351.
GR506.00   916.  508.00    944.  510.00   1165.  510.00   2029.  514.00   2092.
GR518.00  2163.
X1 13.00     11     36.    548.    520.    500.    500.
GR540.00     0.  530.00     20.  520.00     36.  510.00     49.  508.00    207.
GR508.00   262.  510.00    548.  512.00    566.  514.00   1403.  516.00   1667.
GR520.00  1809.
X1 14.00     13     48.    544.    440.    550.    500.
GR520.00     0.  520.00     48.  514.00     71.  512.00    333.  512.00    457.
GR516.00   544.  518.00    753.  520.00   1011.  522.00   1417.  524.00   1577.
GR524.00  1720.  526.00   1835.  528.00   1849.
X1 15.00     14     35.    706.    490.    560.    500.
GR540.00     0.  522.00     35.  518.00     54.  516.00    153.  516.00    461.
GR518.00   477.  520.00    662.  522.00    706.  524.00    844.  526.00    986.
GR528.00  1167.  530.00   1299.  532.00   1476.  534.00   1679.
X1 16.00     17    241.    742.    480.    500.    520.
GR540.00     0.  530.00     52.  528.00     72.  526.00    106.  524.00    147.
GR522.00   241.  520.00    269.  520.00    592.  522.00    742.  524.00    860.
GR526.00   979.  528.00   1105.  528.00   1266.  530.00   1309.  532.00   1483.
GR536.00  1659.  540.00   1852.
X1 17.00     14    395.    705.    530.    430.    490.
GR540.00     0.  532.00     24.  530.00     44.  528.00    211.  526.00    395.
GR524.00   417.  524.00    650.  526.00    705.  526.00    979.  528.00   1007.
GR530.00  1204.  532.00   1375.  536.00   1582.  540.00   1805.
X1 18.00     16    349.    695.    580.    440.    500.
GR540.00     0.  536.00    152.  532.00    294.  530.00    349.  526.00    363.
GR526.00   434.  528.00    653.  529.00    695.  528.00    947.  530.00    962.
GR530.00  1066.  532.00   1090.  534.00   1236.  536.00   1433.  538.00   1625.
GR540.00  1814.
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X1 19.00      16    196.    560.    520.    500.    500.
GR550.00       0.  540.00     71.  538.00    119.  536.00    196.  532.00    213.
GR530.00     548.  532.00    560.  532.00    868.  534.00    882.  536.00   1065.
GR538.00    1236.  538.00   1353.  540.00   1580.  542.00   1842.  546.00   1970.
GR550.00    1989.
X1 20.00      14    222.    527.    560.    450.    510.
GR560.00       0.  540.00     41.  538.00     47.  536.00    222.  534.00    236.
GR534.00     511.  536.00    527.  536.00    679.  538.00    699.  540.00    751.
GR542.00    1009.  544.00   1738.  550.00   1821.  560.00   1842.
X1 21.00      15    578.    824.    490.    490.    520.
GR560.00       0.  550.00     57.  546.00     73.  544.00    107.  542.00    244.
GR540.00     578.  538.00    648.  538.00    785.  540.00    824.  542.00    856.
GR544.00    1059.  546.00   1130.  548.00   1693.  550.00   1764.  560.00   1784.
EJ


ER
      20       4       0     0.4       0
       0       5   10010    7490       0
       0       5    7490    4970       0
       0       5    4970    2500       0
       0       6    2500       0       0
       8
    0.11    0.25    0.60    1.31    3.06    6.69   13.47   23.91
     500     500     500     500     500
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
     .03     .14     .20     .21     .17     .10     .07     .08
       1       1       1       1       1       1       1       1       1       1
       1       1       1       1       1       1       2       2       2       2
     750    5150   12650   17400   18150   19000   22700   29700   34000   24700
   19600   14600   10500    7650    5750    4500    3350    2350    1750     750
       0       0       0       0       0       0       0       0       0       1
       0
$ LO
SESSION CHARGE = $      3.93              1.07197   0.25710   2.60208   0.00000
  38744        lossed out at 13-AUG-1985 16:49:28.89M).0'IftmJrLKaE7wbAyl"""

Username: 38744
Password:
        Welcome to VAX/VMS version V3.7
                PAH System

I will be on vacation Thursday, August 8 through Sunday, August 25.
Please direct any questions or problems during this time to Ed
Abramowitz.                Harry Goforth

  User [152,034] has 4954 blocks used, 5046 available,
  of 10000 authorized and permitted overdraft of 10000 blocks on DBA3

BALANCE = $   8568.53     ORIGINAL BUDGET = $  10000.00
EXPIRATION DATE = 12-31-86

$ COPY BCA01$BABAINEUFUBADAT
$ RUN QUASERSUM
$ TYPE OUTPUT.DAT
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THE FOLLOWING TABLE LISTS THE BED ELEVATION AT THE END OF EACH TIME STEP

REACH	SECNO	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP10	STEP11	STEP1
1	21.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.0
1	20.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.0
1	19.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.0
1	18.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.0
1	17.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.0
2	16.00	520.00	519.99	519.91	519.79	519.68	519.57	519.50	519.38	519.34	519.25	519.16	519.1
2	15.00	516.00	515.99	515.92	515.82	515.73	515.64	515.58	515.50	515.47	515.40	515.34	515.2
2	14.00	512.00	511.99	511.92	511.82	511.73	511.64	511.58	511.49	511.46	511.39	511.33	511.2
2	13.00	508.00	507.99	507.91	507.80	507.70	507.60	507.54	507.44	507.40	507.33	507.26	507.2
2	12.00	506.00	505.99	505.94	505.86	505.79	505.72	505.68	505.61	505.59	505.54	505.49	505.4
3	11.00	502.00	502.00	502.02	502.05	502.08	502.12	502.17	502.20	502.24	502.27	502.35	502.4
3	10.00	497.99	498.02	498.12	498.24	498.37	498.51	498.68	498.94	499.23	499.47	499.68	499.8
3	9.00	491.98	492.01	492.10	492.21	492.32	492.44	492.60	492.83	493.08	493.29	493.48	493.6
3	8.00	489.99	490.02	490.15	490.31	490.47	490.64	490.86	491.19	491.55	491.85	492.04	492.0
3	7.00	486.99	487.03	487.17	487.34	487.52	487.71	487.96	488.33	488.75	489.09	489.39	489.6
4	6.00	484.01	483.94	483.82	483.67	483.51	483.34	483.12	482.85	482.53	482.28	482.07	481.8
4	5.00	482.00	481.96	481.90	481.82	481.74	481.65	481.55	481.43	481.29	481.18	481.08	480.9
4	4.00	478.00	477.96	477.90	477.82	477.74	477.65	477.54	477.39	477.22	477.10	476.99	476.8
4	3.00	474.00	473.95	473.86	473.75	473.63	473.51	473.35	473.14	472.90	472.73	472.58	472.4
4	2.00	470.00	469.93	469.81	469.66	469.50	469.33	469.12	468.85	468.53	468.30	468.10	467.8
4	1.00	466.01	465.95	465.85	465.74	465.62	465.49	465.33	465.14	464.92	464.75	464.60	464.4

REACH	SECNO	STEP13	STEP14	STEP15	STEP16	STEP17	STEP18	STEP19	STEP20
1	21.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00	538.00
1	20.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00	534.00
1	19.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00	530.00
1	18.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00	526.00
1	17.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00	524.00
2	16.00	519.08	519.07	519.07	519.08	519.09	519.09	519.09	519.09
2	15.00	515.27	515.27	515.27	515.28	515.29	515.29	515.29	515.29
2	14.00	511.28	511.28	511.28	511.29	511.30	511.30	511.30	511.30
2	13.00	507.19	507.19	507.19	507.20	507.21	507.21	507.21	507.21
2	12.00	505.45	505.45	505.45	505.46	505.46	505.46	505.46	505.46
3	11.00	502.46	502.49	502.51	502.53	502.51	502.50	502.45	502.40
3	10.00	499.95	500.01	500.01	500.01	500.01	500.01	500.00	499.97
3	9.00	493.72	493.77	493.80	493.82	493.80	493.79	493.75	493.59
3	8.00	492.04	492.04	492.04	492.04	492.04	492.04	492.04	492.04
3	7.00	489.76	489.84	489.89	489.93	489.89	489.87	489.80	489.73
4	6.00	481.71	481.62	481.57	481.54	481.61	481.65	481.74	481.81
4	5.00	480.89	480.84	480.81	480.79	480.83	480.85	480.90	480.93
4	4.00	476.80	476.75	476.72	476.70	476.74	476.76	476.81	476.84
4	3.00	472.32	472.25	472.21	472.19	472.24	472.27	472.34	472.40
4	2.00	467.73	467.63	467.57	467.53	467.62	467.66	467.78	467.86
4	1.00	464.31	464.22	464.16	464.12	464.21	464.26	464.39	464.48

THE FOLLOWING TABLE LISTS THE CHANGE IN BED ELEVATION DURING EACH TIME STEP

REACH	SECNO	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	STEP 7	STEP 8	STEP 9	STEP10	STEP11	STEP12
1	21.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	18.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	17.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.00	0.00	-0.01	-0.08	-0.12	-0.11	-0.11	-0.07	-0.12	-0.04	-0.09	-0.09	-0.06
2	15.00	0.00	-0.01	-0.07	-0.10	-0.09	-0.09	-0.06	-0.08	-0.03	-0.07	-0.06	-0.05
2	14.00	0.00	-0.01	-0.07	-0.10	-0.09	-0.09	-0.06	-0.09	-0.03	-0.07	-0.06	-0.04
2	13.00	0.00	-0.01	-0.08	-0.11	-0.10	-0.10	-0.06	-0.10	-0.04	-0.07	-0.07	-0.05
2	12.00	0.00	-0.01	-0.05	-0.08	-0.07	-0.07	-0.04	-0.07	-0.02	-0.05	-0.05	-0.03
3	11.00	0.00	0.00	0.02	0.03	0.03	0.04	0.05	0.03	0.04	0.03	0.08	0.06
3	10.00	-0.01	0.03	0.10	0.12	0.13	0.14	0.17	0.26	0.29	0.24	0.21	0.16

3	9.00	-0.02	0.03	0.09	0.11	0.11	0.12	0.16	0.23	0.25	0.21	0.19	0.14
3	8.00	-0.01	0.03	0.13	0.16	0.16	0.17	0.22	0.33	0.36	0.30	0.19	0.00
3	7.00	-0.01	0.04	0.14	0.17	0.18	0.19	0.25	0.37	0.42	0.34	0.30	0.22
4	6.00	0.01	-0.07	-0.12	-0.15	-0.16	-0.17	-0.22	-0.27	-0.32	-0.25	-0.21	-0.21
4	5.00	0.00	-0.04	-0.06	-0.08	-0.08	-0.09	-0.10	-0.12	-0.14	-0.11	-0.10	-0.11
4	4.00	0.00	-0.04	-0.06	-0.08	-0.08	-0.09	-0.11	-0.15	-0.17	-0.12	-0.11	-0.11
4	3.00	0.00	-0.05	-0.09	-0.11	-0.12	-0.12	-0.16	-0.21	-0.24	-0.17	-0.15	-0.15
4	2.00	0.00	-0.07	-0.12	-0.15	-0.16	-0.17	-0.21	-0.27	-0.32	-0.23	-0.20	-0.21
4	1.00	0.01	-0.06	-0.10	-0.11	-0.12	-0.13	-0.16	-0.19	-0.22	-0.17	-0.15	-0.16

REACH	SECNO	STEP13	STEP14	STEP15	STEP16	STEP17	STEP18	STEP19	STEP20
1	21.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	19.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	18.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	17.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	16.00	-0.02	-0.01	0.00	0.01	0.01	0.00	0.00	0.00
2	15.00	-0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00
2	14.00	-0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00
2	13.00	-0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00
2	12.00	-0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
3	11.00	0.05	0.03	0.02	0.02	-0.02	-0.01	-0.05	-0.05
3	10.00	0.11	0.06	0.00	0.00	0.00	0.00	-0.01	-0.03
3	9.00	0.10	0.05	0.03	0.02	-0.02	-0.01	-0.04	-0.16
3	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	7.00	0.15	0.08	0.05	0.04	-0.04	-0.02	-0.07	-0.07
4	6.00	-0.15	-0.09	-0.05	-0.03	0.07	0.04	0.09	0.07
4	5.00	-0.08	-0.05	-0.03	-0.02	0.04	0.02	0.05	0.03
4	4.00	-0.08	-0.05	-0.03	-0.02	0.04	0.02	0.05	0.03
4	3.00	-0.11	-0.07	-0.04	-0.02	0.05	0.03	0.07	0.06
4	2.00	-0.16	-0.10	-0.06	-0.04	0.09	0.04	0.12	0.08
4	1.00	-0.13	-0.09	-0.06	-0.04	0.09	0.05	0.13	0.09

THE FOLLOWING TABLE LISTS THE MINIMUM AND MAXIMUM BED ELEVATIONS (COLUMNS 2 & 3), THE MAXIMUM DEGRADATION AND AGGRADATION WITH RESPECT TO THE INITIAL BED ELEVATION (COLUMNS 4 & 5) THAT OCCURS AT EACH SECTION DURING THE HYDROGRAPH AND THE NET CHANGE ('NETCH', COLUMN 6) IN BED ELEVATION THAT OCCURS AT EACH SECTION DURING THE HYDROGRAPH

REACH	SECNO	MIN	MAX	DEG	AGG	NETCH
1	21.00	538.00	538.00	0.00	0.00	0.00
1	20.00	534.00	534.00	0.00	0.00	0.00
1	19.00	530.00	530.00	0.00	0.00	0.00
1	18.00	526.00	526.00	0.00	0.00	0.00
1	17.00	524.00	524.00	0.00	0.00	0.00
2	16.00	519.07	520.00	0.93	0.00	-0.91
2	15.00	515.27	516.00	0.73	0.00	-0.71
2	14.00	511.28	512.00	0.72	0.00	-0.70
2	13.00	507.19	508.00	0.81	0.00	-0.79
2	12.00	505.45	506.00	0.55	0.00	-0.54
3	11.00	502.00	502.53	0.00	0.53	0.40
3	10.00	497.99	500.01	0.01	2.01	1.97
3	9.00	491.98	493.82	0.02	1.82	1.59
3	8.00	489.99	492.04	0.01	2.04	2.04
3	7.00	486.99	489.93	0.01	2.93	2.73
4	6.00	481.54	484.01	2.46	0.01	-2.19
4	5.00	480.79	482.00	1.21	0.00	-1.07
4	4.00	476.70	478.00	1.30	0.00	-1.16
4	3.00	472.19	474.00	1.81	0.00	-1.60
4	2.00	467.53	470.00	2.47	0.00	-2.14
4	1.00	464.12	466.01	1.88	0.01	-1.52

$

APPENDIX D

SEDIMENT-YIELD COMPUTATIONS

ESTIMATE OF AVERAGE ANNUAL WATER YIELD BY PROBABILITY WEIGHTING OF VOLUME OF RUNOFF GENERATED BY 2, 10, 25, AND 100YR FLOOD HYDROGRAPHS

$$\overline{VOL} = 0.5\left(\frac{VOL_{2YR}}{2}\right) + 0.4\left(\frac{VOL_{2YR} + VOL_{10YR}}{2}\right)$$

$$+ 0.06\left(\frac{VOL_{10YR} + VOL_{25YR}}{2}\right)$$

$$0.03\left(\frac{VOL_{25YR} + VOL_{100YR}}{2}\right) + 0.01\left(VOL_{100YR}\right)$$

$VOL_{100} = 21436$ AF

$VOL_{25} = 15005$ AF

$VOL_{10} = 10286$ AF

$VOL_{2} = 3957$ AF

$$\overline{VOL} = 0.5\left(\frac{3957}{2}\right) + 0.4\left(\frac{3957 + 10286}{2}\right. +$$

$$0.06\left(\frac{10286 + 15005}{2}\right) + 0.03\left(\frac{15005 + 21436}{2}\right)$$

$$+ 0.01\left(21436\right) = 5358 \text{ AF}$$

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2 - YR FLOOD

TIME STEP	INFLOW	SEDIMENT OUTFLOW (CFS)	TIME (HR)	SEDIMENT VOLUME (YD^3)
1		.493	1	65.7
2		5.87	1	782.7
3		16.0	1	2133.3
4		20.9	1	2786.7
5		22.3	1	2973.3
6		27.6	1	3680.0
7		34.9	1	4653.3
8		46.8	1	6240.0
9		40.1	1	5346.7
10		30.3	1	4040.0
11		20.4	1	2720.0
12		12.8	1	1706.7
13		7.88	1	1050.7
14		4.31	2	1149.3
15		1.81	2	482.7
16		.899	2	239.7
17		.285	2	76.0
18			Σ =	80,253.6
19				
20				

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10-YR FLOOD

TIME STEP	INFLOW	SEDIMENT OUTFLOW (CFS)	TIME (HR)	SEDIMENT VOLUME (YD^3)
1		8.30	1	1106.7
2		38.80	1	5173.3
3		69.90	1	9320.0
4		76.50	1	10200.0
5		78.8	1	10506.7
6		99.1	1	13213.3
7		139	1	18533.3
8		167	1	22266.7
9		117	1	15600.0
10		87.9	1	11720.0
11		61.6	1	8213.3
12		40.9	1	5453.3
13		28.6	1	3813.3
14		19.1	1	2546.7
15		12.2	1	3253.3
16		6.52	1	1738.7
17		4.31	1	1149.3
18		1.55	1	413.3
19			Σ =	144,221 YD^3
20				

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25-YR FLOOD

TIME STEP	INFLOW	SEDIMENT OUTFLOW (CFS)	TIME (HR)	SEDIMENT VOLUME (YD^3)
1		2.35	1	313.3
2		26.1	1	3480.0
3		76.9	1	10253.3
4		117	1	15600
5		123	1	16400
6		131	1	17466.7
7		160	1	21333.3
8		230	1	30666.7
9		283	1	37733.3
10		178	1	23733.3
11		133	1	17733.3
12		92.6	1	12346.7
13		61	1	8133.3
14		40.8	1	5440.0
15		31	1	4133.3
16		21.8	1	2906.7
17		14.6	2	3893.3
18		9.5	2	2533.3
19		6.54	2	1744.0
20		2.35	2	626.7

Σ = 236,470.7 YD^3

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100 YR FLOOD

TIME STEP	INFLOW	SEDIMENT OUTFLOW (CFS)	TIME (HRS)	SEDIMENT VOLUME (YD^3)
1		3.41	1	454.7
2		39.2	1	5226.7
3		122	1	16266.7
4		179	1	23866.7
5		190	1	25333.3
6		202	1	26933.3
7		265	1	35333.3
8		369	1	49200.0
9		441	1	58800.0
10		289	1	38533.3
11		211	1	28133.3
12		143	1	19066.67
13		96.3	1	12840.0
14		64.2	1	8560.0
15		44.6	1	5946.7
16		34.6	1	4613.3
17		23.7	2	6320.0
18		14.6	2	3893.3
19		10.4	2	2773.3
20		3.45	2	920.0

Σ = 373,014.7 YD^3

ANNUAL SEDIMENT VOLUME

$$\forall_{OL} = 0.5\left(\frac{\forall_{OL_2}}{2}\right) + 0.4\left(\frac{\forall_{OL_2} + \forall_{OL_{10}}}{2}\right) + 0.06\left(\frac{\forall_{OL_{10}} + \forall_{OL_{25}}}{2}\right)$$

$$0.03\left(\frac{\forall_{OL_{25}} + \forall_{OL_{100}}}{2}\right) + 0.01\left(\frac{\forall_{OL_{100}}}{2}\right)$$

$$\forall_{OL} = 0.5\left(\frac{80{,}253.6}{2}\right) + 0.4\left(\frac{80253.6 + 144{,}221}{2}\right) + .06\left(\frac{144221 + 236{,}470.7}{2}\right)$$

$$0.03\left(\frac{236470.7 + 373014.7}{2}\right) + 0.01\left(373{,}014.7\right)$$

$$\forall_{OL} = 89251.5 \ YD^3 = 55.3 \ AC \cdot FT$$

Adjusted VOL = K · VOL where

$$K = \frac{VOL_{H2O\ MEASURED}}{VOL_{H2O\ COMPUTED}}$$ (from USGS WSP 1939A)

$$K = \frac{5120 \ AF/YR}{5358 \ AF/YR} = 0.9556$$

Adjusted VOL = 0.9556 · 89251.5
= 85,287 YD^3

APPENDIX E

SCOUR-WIDTH COMPUTATIONS

BLUE CIRCLE ARIZONA - PANTANO WASH STUDY

ESTIMATION OF LATERAL MIGRATION BY P.C. SCOUR WIDTH EQUATIONS

MILD CURVATURE FORMULA

$$W_s = \frac{0.035\ Q}{Y_m^{1.5}\ S_c^{0.38}} - T_w$$

where, W_s = scour width (feet)

Q = Peak discharge (cfs)

Y_m = Hydraulic depth (ft)

S_c = Channel Bed Slope (ft/ft)

T_w = Channel topwidth (ft)

α = angle of channel bend relative to upstream direction of flow (degrees)

Flood Discharge	Hydraulic Depth	Channel Slope	Channel Topwidth	α	Scour Width
2YR (6000 cfs)	1.39	0.0073	100.0	N/A	131.
10YR (16500 cfs)	2.63			–	178.
25YR (23800 cfs)	3.29			–	205.
100YR (34000 cfs)	4.13			–	219.

APPENDIX F

HYDROLOGIC COMPUTATIONS FOR TRIBUTARY DRAINAGE

SIMONS, LI & ASSOCIATES
ENGINEERING CONSULTANTS
FORT COLLINS, COLORADO

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Discharge Calculations for offsite drainage

$Q = CiA$ where,

Q = discharge in cfs
C = runoff coefficient
i = rainfall intensity
A = drainage basin area in areas

C = 0.80
i = 9.5 inches/hr. (Tc less than 5 min)

Concentration Point	Drainage Area (ac)	100yr Discharge
1	4.4	33 cfs
2	6.3	48 cfs