BOSQUE REACH

ARROYO DE LAS CAÑAS TO SOUTH BOUNDARY BOSQUE DEL APACHE NATIONAL WILDLIFE REFUGE

OVERBANK FLOW ANALYSIS

1962-2002

MIDDLE RIO GRANDE

NEW MEXICO

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Foreword

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Abstract

OVERBANK FLOW ANALYSIS OF THE BOSQUE REACH OF THE MIDDLE RIO GRANDE

~ ARROYO DE LAS CAÑAS TO THE SOUTH BOUNDARY BOSQUE DEL APACHE ~

The headwaters of the Rio Grande form high in the mountains of southern Colorado and flow south to the Gulf of Mexico. The Middle Rio Grande, located in central New Mexico, has undergone many changes in its recent history. These changes include the construction of several flood and sediment control dams, diversion dams, water withdrawals, levee construction, and channelization projects. In addition, the Bosque reach of the Middle Rio Grande has experienced a long-term trend of aggradation, with periods of degradation. In addition to these trends, a sediment plug formed here in 2008. The combination of all these river changes has led the United States Bureau of Reclamation (Reclamation) to contract with Colorado State University's Engineering Research Center to complete a hydraulic analysis of this reach. The goal of this study is to determine the spatial and temporal trends of the flow discharges that will overtop the banks of the Bosque reach. These results will aid Reclamation in their management of this reach and possible identification of sediment plugs, which may in turn help mitigate their formation in the future.

The Bosque reach, as defined in this study, is approximately 23 miles long, stretching from the Arroyo de las Cañas to the southern boundary of the Bosque del Apache National Wildlife Refuge. This analysis uses HEC-RAS, a 1-dimensional hydraulic model, to determine water surface elevations. This study includes simulations for 25 flow discharges varying in increments of 200 cfs from 0 cfs up to 5,000 cfs. To better understand the historical overbank flow throughout this reach, the analysis was repeated for a total of four different bed geometry conditions using geometric data from 1962, 1972, 1992, and 2002. ArcGIS was used to analyze aerial photographs and river planform layers to determine hydraulic parameters and distances between cross-sections. A total of 100 different hydraulic simulations were completed and analyzed in this final Bosque reach overbank flow report. Included in this report are comparisons of water surface elevation (WSE), overbank flow discharge, reach averaged at-a-station hydraulic geometry, and cross-sectional geometry.

The water surface elevations, in conjunction with the low top of bank elevations, allow for a direct comparison of overbank flow discharges for each dataset. The data show how the overbank flow varies

over time and location. The HEC-RAS model produced a low overbank flow value of 1,000 cfs and 800 cfs in 1962 and 2002, respectively. These data show a trend of decreasing capacity over time in sections of the river. These sections have low banks and/or have experienced bed aggradation. This in turn constricts the flow and can force water to go over bank into the floodplain. The 2002 data show the area having the lowest overall overbank flow occurring in the same location as the sediment plug that formed in the Bosque reach in 2008. Boroughs et al. (2011) states that overbank flow is one of the main factors that can influence the formation of sediment plugs. 1972 data are similar to the 1962 data, with a minimum overbank flow of 1,000 cfs. 1992 data, however, show a higher minimum flow to go over bank (2,400 cfs). Because of two floods that occurred in the 1980s, 1992 aerial photography and geometric data show a different river channel with greater capacity. The 1962, 1972, and 2002 datasets all followed a period of drought and show lower overbank flow values and decreased channel capacity. Overall, the data show a decreased flow capacity in the Bosque reach with time.

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Section 1: Introduction

1.1 Background

Paris et al. began a Bosque reach analysis at Colorado State University (CSU) the summer of 2009. The final report was completed in 2011. The report states that given the formation of a sediment plug in 2008 within the Bosque del Apache National Wildlife Refuge, the U.S. Bureau of Reclamation (Reclamation) contracted with CSU to complete a reach report to better understand why the sediment plug formed. The objectives of the study done by Paris et al. (2011) included the following:

- Identifying spatial and temporal trends in channel geometry and morphology
- Analyzing trends in water and sediment discharge
- Providing estimates of potential equilibrium slope and width conditions

This overbank analysis and report is a follow-up to the Bosque reach report completed in 2011 by Paris et al. and will not cover any topics already covered in the 2011 Bosque reach report. The bankfull discharge of 5,000 cfs was used as the bankfull flow in the 2011 Bosque reach report and in other hydraulic analysis completed by CSU. However, this flow overtopped the banks of the Bosque reach in the 2011 hydraulic model study (Paris et al. 2011). Given the perched nature of the Bosque reach, the bankfull discharge is most likely much less than 5,000 cfs. The purpose of this study is to determine how the overbank flow discharge in the Bosque reach varies, both spatially and temporally. These results will aid Reclamation in their management of this river reach and possible prediction of sediment plugs in the future.

The levee constructed between 1952 and 1962 in this reach bisects the historic floodplain. For purposes of this report, floodplain refers to the area bounded by the mesa on the east side of the historical floodplain and the constructed levee on the west.

1.2 Site Description

The Rio Grande starts high in the Rocky Mountains of southern Colorado and flows southeast toward the Gulf of Mexico. Figure 1 shows the path of the Rio Grande as it passes through New Mexico and along the border between Texas and Mexico on its way to the Gulf of Mexico. The Bosque reach is part of the Middle Rio Grande located in central New Mexico (Figure 2). The Bosque reach varies in length slightly from year to year as the river slowly changes course over time. On average, it spans approximately 23 miles. This reach begins at the Arroyo de las Cañas (Arroyo is the Spanish word for “creek”) and extends to the southern boundary of the Bosque del Apache National Wildlife Refuge (BDANWR).

Figure 1 – The Rio Grande in the southwestern United States

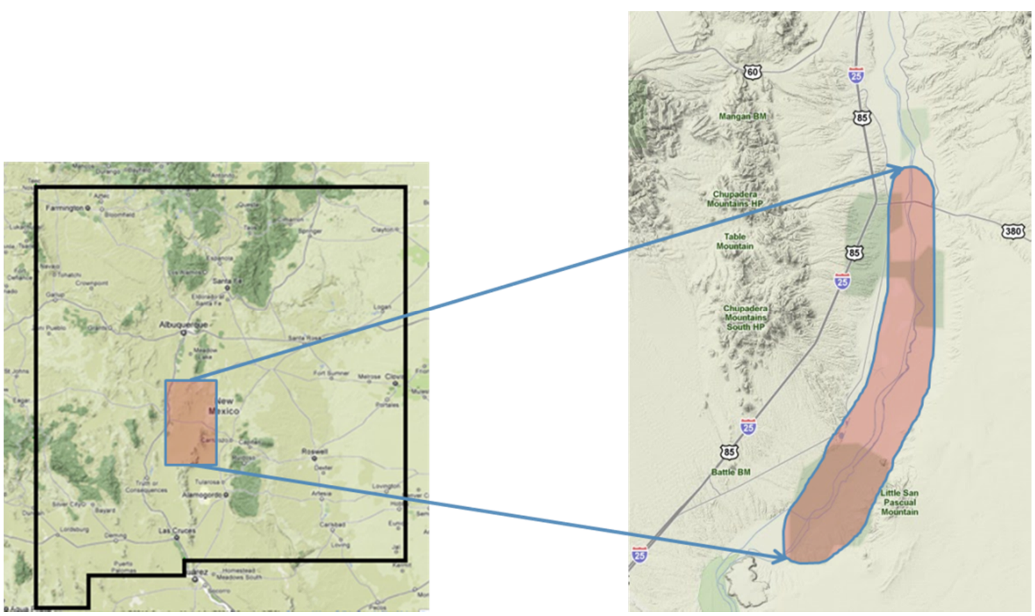

Figure 2 – Location of the Bosque reach within the State of New Mexico

“Bosque” is the Spanish word for “woods” and therefore Bosque del Apache means “woods of the Apache”. This area was named after the Apache Indians who once occupied the area near the river (U.S. Fish and Wildlife Service). Today this area is a national wildlife refuge for many different aquatic and bird species. The BDANWR is located in Socorro County, New Mexico and lies directly adjacent to the southern end of the Bosque reach of the Rio Grande. According to the U.S. Fish and Wildlife Service, the refuge is approximately 57,331 acres in area, ranges from 4,500 to 6,195 feet in elevation (mean sea level), and receives approximately 8 inches of annual precipitation.

Multiple Aggradation/Degradation (Agg/Deg) range lines are used across the Rio Grande valley. These static survey lines mark the locations for the cross-sectional data along the Middle Rio Grande. As the river meanders and the bed raises (aggradation) or lowers (degradation), these Agg/Deg lines serve as the control location to monitor the movement and changes in the river’s course over time. The Bosque reach, as noted above, begins at the Arroyo de las Cañas. This corresponds to Agg/Deg line 1397. The downstream boundary, the BDANWR, corresponds to Agg/Deg line 1637. The Agg/Deg lines are spaced at approximately 500 feet apart, but this varies slightly. Again, this equates to approximately 23 miles of total river length for the Bosque reach. Figure 3 (Paris et al. 2011) shows the Bosque reach and the location of five Agg/Deg lines for spatial reference.

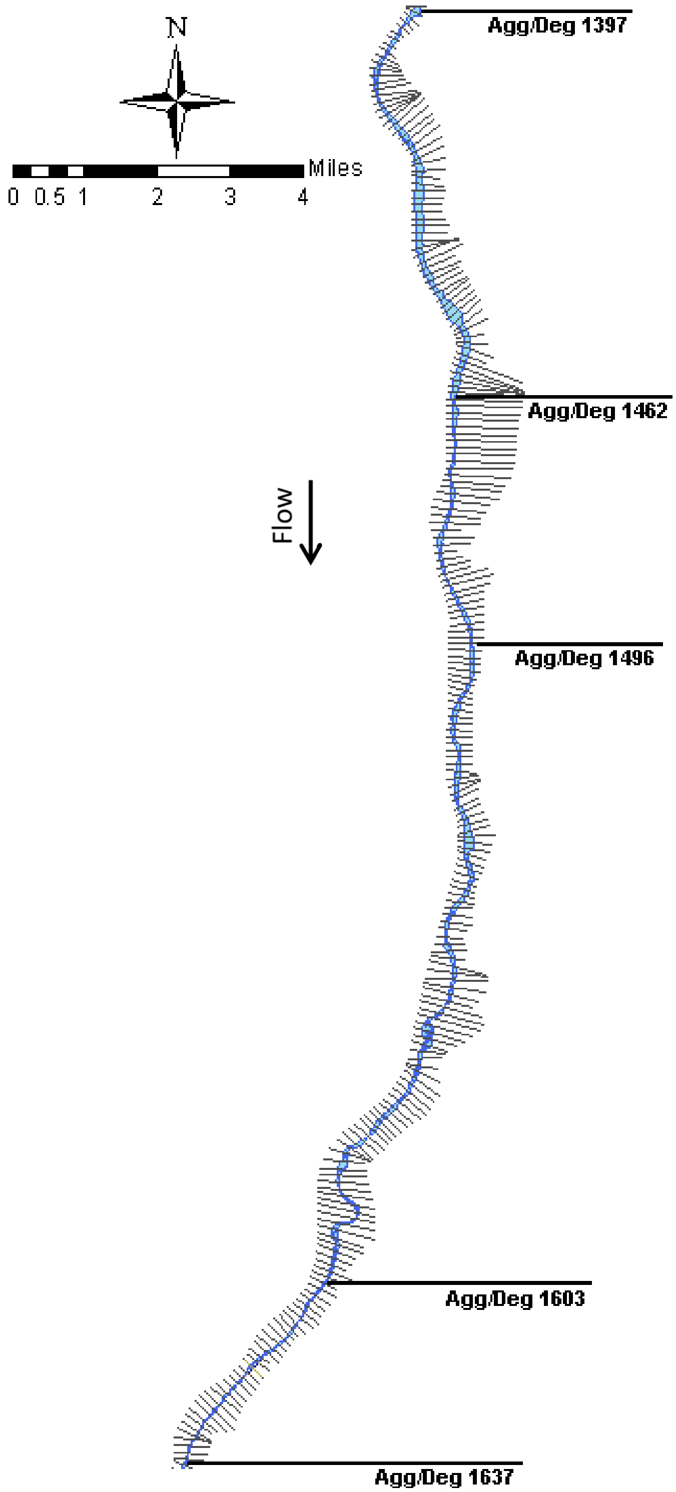

Figure 3 – Bosque reach Agg/Deg lines and boundaries

1.3 Geomorphology

Paris et al. (2011) used ArcGIS and aerial photographs provided by Reclamation of the Bosque reach to determine the planform changes in the river between the following years: 1918, 1935, 1949, 1962, 1972, 1985, 1992, 2001, 2002, 2005, 2006 and 2008. This geomorphology analysis is taken from the Paris et al. (2011) report and is presented here to give additional background into the history of the Bosque reach. The geomorphology analysis used sub-reaches not used in this report.

Paris et al. (2011) determined the active channel width at each Agg/Deg line by measuring the distance between the vegetation growths on each riverbank. They observed the Bosque reach channel has become substantially narrower and less braided over time. Paris et al. (2011) goes on to state the most noticeable change occurred during the period between 1949 and 1962. The downstream portion of the Bosque reach has moved eastward over time. Also, the upstream portions of the Bosque reach have straightened and narrowed substantially since data was first collected in 1918. Generally, the downstream portion of the reach has become the narrowest area overall. Figure 4 shows a plot taken from the Paris et al. (2011) report to detail the changes in the river planform over time.

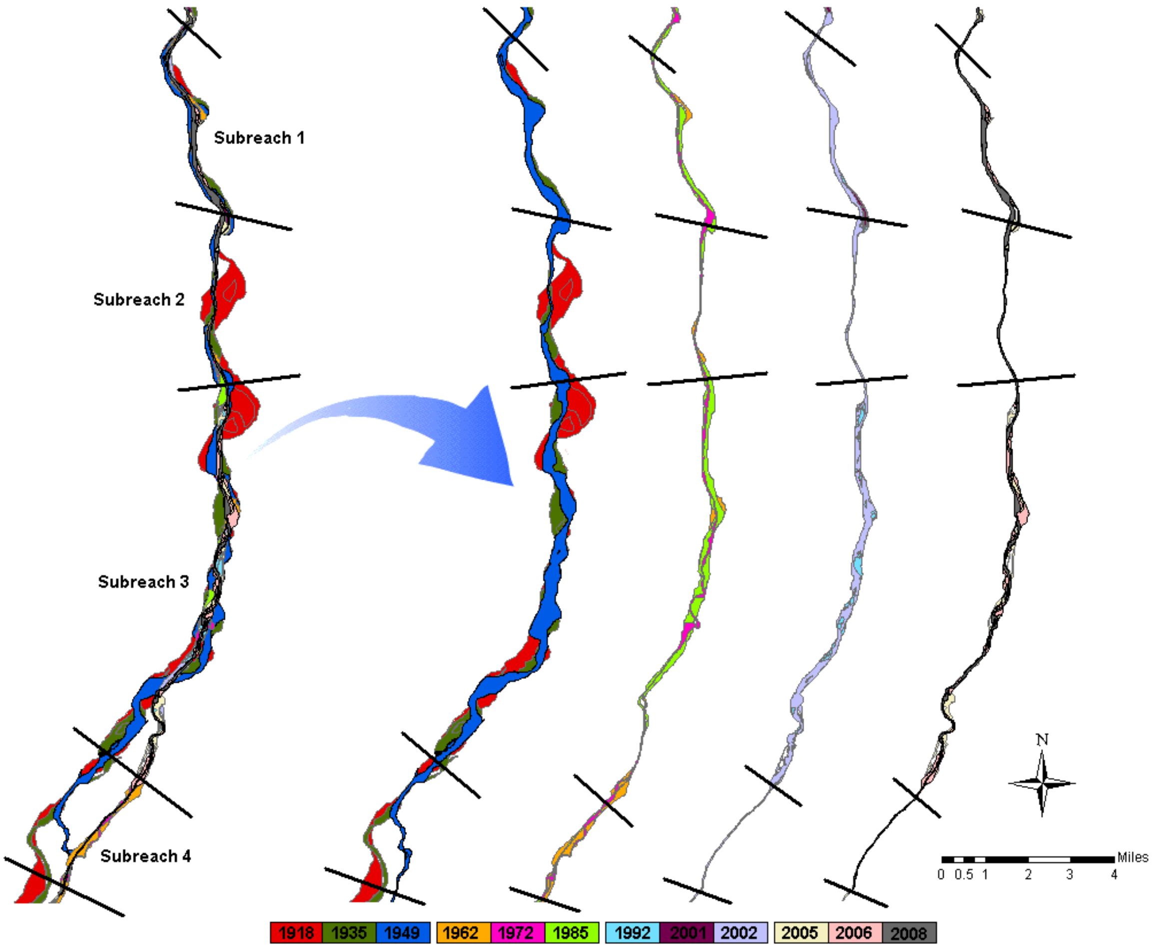

Figure 4 – Planform changes in the Bosque reach (1918 – 2008) taken from Paris et al. (2011)

1.4 Hydraulic Model Development

This study was initiated to better understand the overbank discharge in the Bosque reach and how it changes both spatially and temporally. This analysis used a 1-dimensional steady flow hydraulic model (HEC-RAS 4.1) to determine the water surface elevation profiles under incremental discharges. HEC-RAS 4.1 is available for download from the U.S. Army Corps of Engineers website. Simulations for 25 flow discharges varying in increments of 200 cfs up to 5,000 cfs were carried out. To provide a better understanding of the historical analysis of overbank flow through this reach, the analysis was repeated for different bed geometries. The HEC-RAS model was based upon channel geometries for 1962, 1972, 1992, and 2002, created by Reclamation from aggradation-degradation studies. Aerial photography data, the discharge on the day of the photograph, and the HEC-RAS model were all used to determine the underwater prism. The underwater bed elevation was adjusted until the HEC-RAS model water surface elevation matched the aerial photography. A total of 100 different steady flow hydraulic simulations were generated by this effort using the Reclamation adjusted Agg/Deg data.

The final results of this study produced the following plots for comparison of the data:

- Water surface elevation (W.S.E.) plots comparing the W.S.E. vs. upstream distance
- Overbank flow plots to show the variability in the overbank flow vs. upstream distance
- Reach averaged at-a-station hydraulic geometry
    - Mean flow depth versus discharge (h vs. Q)
    - Mean flow velocity versus discharge (v vs. Q)
    - Top width versus discharge (W vs. Q)
- Cross-sectional geometry

The 2002 data were also investigated for similarities to the sediment plug that formed in the BDANWR in 2008. This comparison is discussed in section 4.5 “2008 Sediment Plug”.

Section 2: Data

The Reclamation Albuquerque office located in Albuquerque, New Mexico provided the majority of the raw data used to analyze the overbank flow in the Bosque reach. Reclamation has been studying and managing the Rio Grande since the 1950's. The main data sources were HEC-RAS and ArcGIS files. Data were made available for 1962, 1972, 1992, and 2002. Reclamation also provided plots showing an analysis done with 2009 data for comparison. These data provided overbank flow, width-depth ratio, and water surface elevations for 2009. The method to develop these data, however, differed from that of this report. Also, these data were not for the entire Bosque reach and used a different survey line system, Socorro range lines. These data spanned from the Highway 380 Bridge to the San Marcial/RR Bridge (SO 1475.9 – SO 1701.3).

2.1 HEC-RAS Theory

The analysis of the Bosque Reach overbank flow study began with the HEC-RAS geometry files provided by Reclamation. HEC-RAS is a one dimensional cross-section averaged hydraulic computer model. HEC-RAS 4.1 is capable of steady flow analysis, unsteady flow analysis, movable boundary sediment transport calculations, and water quality analysis (USACE, 2011). For this study, the steady flow analysis was used to estimate water surface elevation profiles. This is accomplished for gradually varied flow through solving the 1-dimensional energy equation. The energy equation can be described as the following:

$$z_1 + y_1 + \frac{\alpha_1 {v^2}_1}{2g} = z_2 + y_2 + \frac{\alpha_2 {v^2}_2}{2g} + h_l \qquad \text{Equation 1}$$

Where, z = elevation of the channel invert

y = flow depth

v = cross-section averaged velocity

α = kinematic energy correction coefficient

g = universal gravitational acceleration

h_l = energy head loss

The subscripts "1" and "2", in the above energy equation, denote the respective cross-sections at which the values are estimated.

In the event of rapidly varied flow, HEC-RAS uses the momentum equation to estimate the water surface elevation. The momentum equation states the external forces acting on the control volume are equal to the rate of change of momentum in the control volume. The momentum equation can be described as the following:

$$P_2 - P_1 + W_x - F_f = Q\rho\Delta V_x \qquad \text{Equation 2}$$

Where, P = hydrostatic pressure forces

W_x = force due to the weight of water

F_f = force due to the external friction losses

Q = volumetric discharge

ρ = density of water

ΔV_x = change in velocity

For subcritical flow, the downstream control can be estimated as normal depth. This is further discussed in section 3.2, "HEC-RAS Set-up" (USACE, 2011). With normal depth as the downstream control, the computational process followed by HEC-RAS, known more commonly as the standard step method, is described in the HEC-RAS 4.1 Reference Manual as follows:

1. Assume a water surface elevation at the next upstream cross-section.
2. Based on the assumed water surface elevation, determine the corresponding total conveyance and velocity head.
3. With the values from step 2, compute the average friction slope and solve for the energy head loss.
4. With the values from steps 2 and 3, solve the energy equation for the water surface elevation at the upstream cross-section from step 1.
5. Compare the computed value for the water surface elevation with the assumed water surface elevation from step 1. Repeat this process until the values are within 0.01 feet (HEC-RAS default value is 0.01 feet but can be set by the user).

This process was begun at the downstream end and continued until all cross-sections had been solved within the HEC-RAS default tolerance.

2.2 Anatomy of a HEC-RAS Cross-Section

The HEC-RAS geometry cross-sections were derived by Reclamation using photogrammetry. This is the process of taking aerial photographs and using them to determine geometric properties, approximate elevations, and distances. Photogrammetry cannot determine any data below the water's surface. To estimate this portion of the channel an iterative procedure was used by the Reclamation Technical Service Center in Denver, CO. This process adjusted the active channel cross-sectional area to match observed wetted top widths and elevations in the HEC-RAS model to those observed in the aerial photography (Reclamation).

This process was used to determine the bed surface elevations in the geometry files. A typical cross-section is shown in Figure 5. Note the flat portion of the channel bottom. This is the calculated average bed elevation that best matches the measured water surface elevation and discharge when the aerial photograph was taken. Thus, the flat portion denotes the location where water was present in the channel at the time the aerial photograph was taken. At various cross-sections in some years the river was dry and an underwater prism did not need to be estimated. Underwater prisms were estimated for the majority of the cross-sections in the 1992 and 2002 datasets.

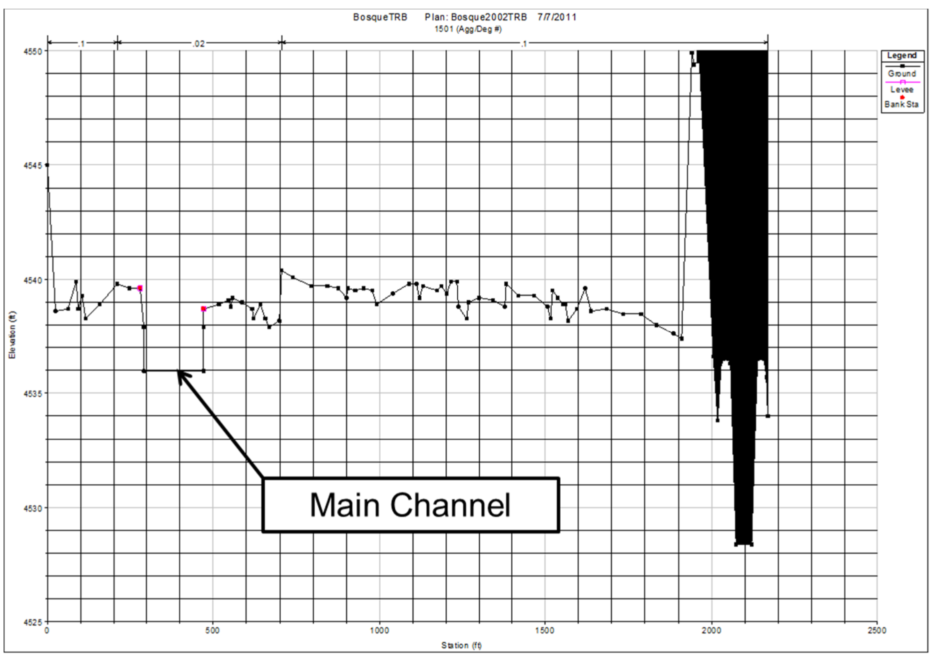

Figure 5 – Typical HEC-RAS cross-section

The Low Flow Conveyance Channel (LFCC) and its protecting levee, a prominent feature of the Rio Grande valley, were constructed in the 1950's by Reclamation. The LFCC can be seen on the right side of the cross-section in black in Figure 5. The black hatching represents an obstruction. This was done to prevent the model from allowing flow to enter the LFCC, an area at a lower elevation than the floodplain. The area between the Mesa on the east side of the river valley and the levee protecting the LFCC and other developments on the west is termed the floodplain.

Figure 6 is a close-up view of a typical main channel showing all the main components of a HEC-RAS geometry cross-section. The red dots denote the main channel flow. The pink squares act as levees to control the flow. These can be realistic levees or artificial levees. Modifications were made to the main channel designation and levee stations to more accurately reflect the widths seen in the aerial photographs. Also, changes were made to the downstream reach lengths (distances between cross-sections) to more accurately model the distances seen in the aerial photographs. These changes are discussed in detail in section 3.1, "Cross-section Management".

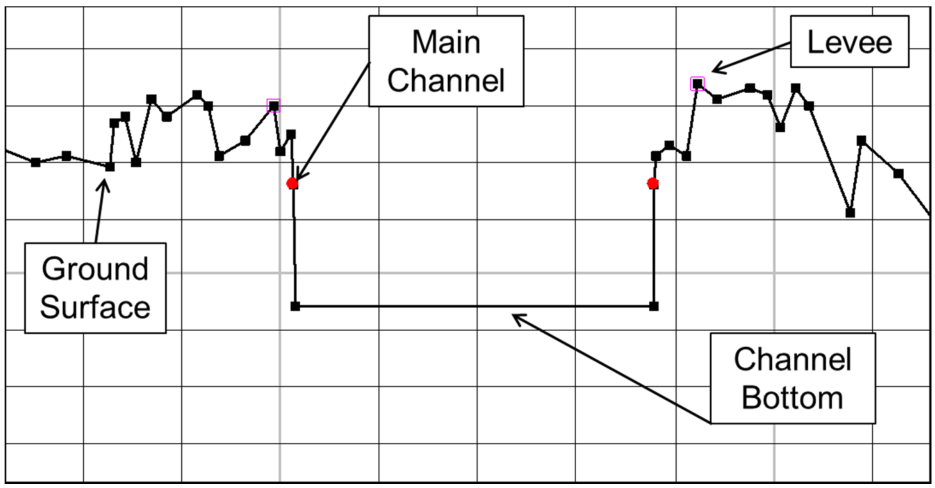

Figure 6 – Anatomy of a HEC-RAS cross-section

Data were not available at every cross-section for each year and thus, not all four years have the same number of cross-sections. 1972 had the fewest number of cross-sections at 118 while 1992 and 2002 both had the most at 235. 1962 had a total of 120 cross-sections. The table below (Table 1) shows the four years of data and their total number of cross-sections. The HEC-RAS river stations are for HEC-RAS accounting purposes only. They start at the downstream end and increase in the upstream direction. The HEC-RAS river stations do not begin at 1 as these geometry files were extracted from the entire Middle Rio Grande dataset.

Table 1 – Upstream and Downstream Agg/Deg Boundaries for the Bosque Reach

Bosque Reach					
Year	Upstream Boundary		Downstream Boundary		Total Number of Cross-Sections
	Agg/Deg	HEC-RAS River Station	Agg/Deg	HEC-RAS River Station	
1962	1397	175	1637	56	120
1972	1397	171	1637	54	118
1992	1397	384	1637	150	235
2002	1397	396	1637	162	235

When the Bosque reach cross-sections were extracted from the entire Middle Rio Grande HEC-RAS file, an additional 10 cross-sections were retained from the adjacent reaches just upstream and downstream of the Bosque reach. These additional 10 cross-sections at the downstream end helped to yield a more accurate water surface elevation estimate when using the normal depth control downstream for the water surface calculations performed by HEC-RAS. This is discussed in depth under Section 3.2, "HEC-RAS Set-up".

2.3 Geographic Information System (GIS)

In addition to the HEC-RAS geometry files, several GIS layers were made available for 1962, 1972, 1992, and 2002 from Reclamation. ArcGIS 9.3 developed by ESRI was used to analyze these layers. All layers were projected in the NAD 83 New Mexico State Plane Coordinate system with the units set to feet for measuring distances. The three datasets below constitute the main data sources for the GIS:

- Aerial photographs
- River planform
- Agg/Deg lines

These layers were used to determine four main aspects of the Bosque reach: when the river channel split, the main channel top widths, main channel location, and the downstream reach lengths. Through visual inspection of each cross-section in HEC-RAS in comparison to the same location in ArcGIS, it could be determined if the river split or was contained in one main channel. The planform layers delineated the active channel, historic channel, recent channel changes, floodplain area, upland uses, and locations outside of the study area. The active channel portion was extracted from the river planform layer and used to locate the main river channel. This area was digitized to denote the main channel location for the year under consideration. This was important to more accurately model the channel and overbank hydraulic roughness. The distance between cross-sections (downstream reach lengths) could also be directly measured in GIS and entered into HEC-RAS. This was done by digitizing the left and right banks and the location of the approximated thalweg axis. Points were placed where these digitized lines crossed the Agg/Deg lines and the distances between them measured and output via a table to Microsoft Excel. The data were then input into the HEC-RAS model.

In Figure 7, a typical GIS image extracted from the 1962 dataset is shown. The aerial photograph is shown in the background in black and white. The blue shape is the "Active Channel" as delineated by Reclamation to locate the main channel. The red lines are the Agg/Deg lines to which the HEC-RAS cross-sections correspond. The low flow conveyance channel can also be seen on the left of the photograph (Right Bank). Figure 8 is an aerial photographic image exported from ArcGIS (1972 data) detailing the entire Bosque reach again with the active channel highlighted in blue.

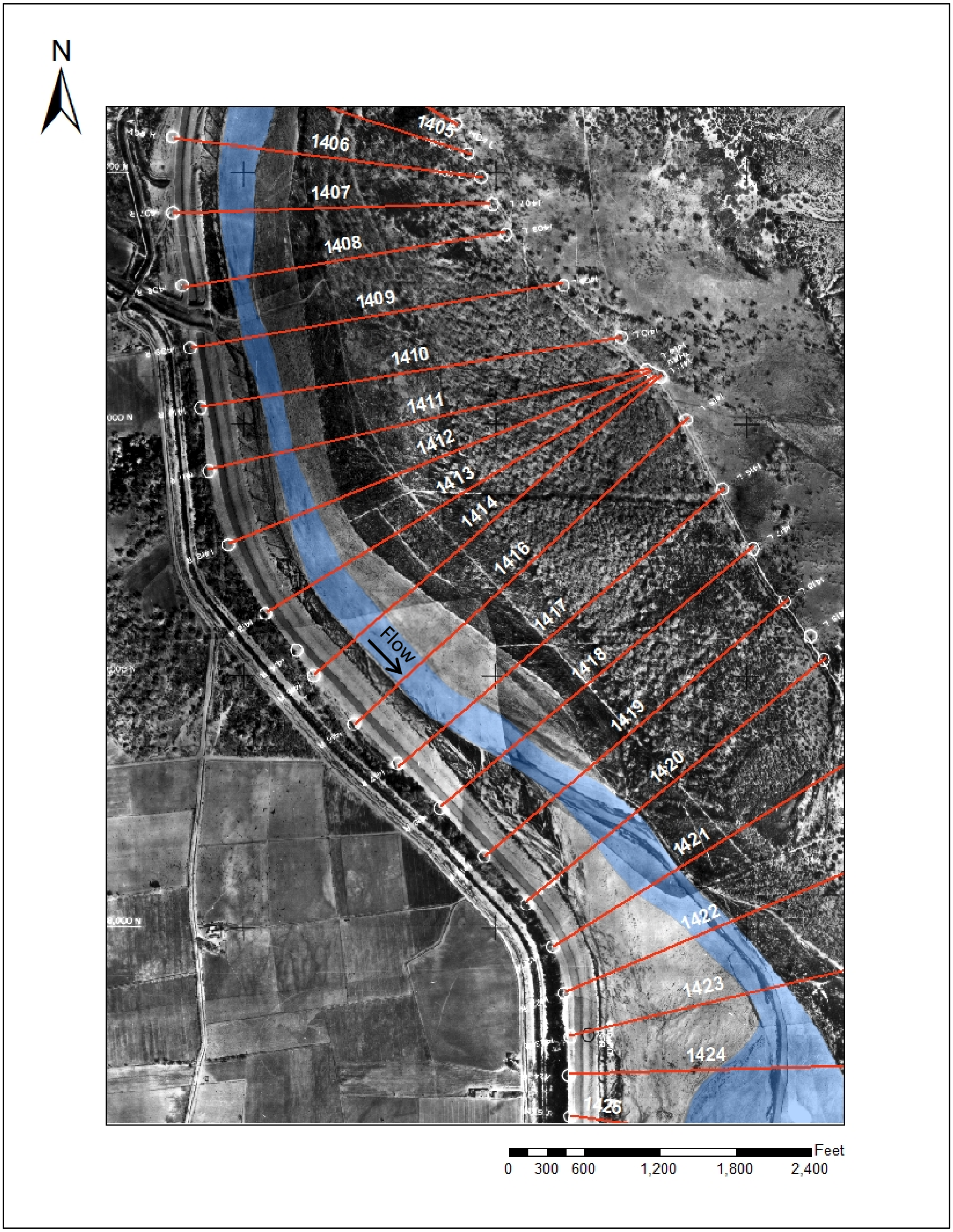

Figure 7 – Image capture from ArcGIS 9.3 showing 1962 data

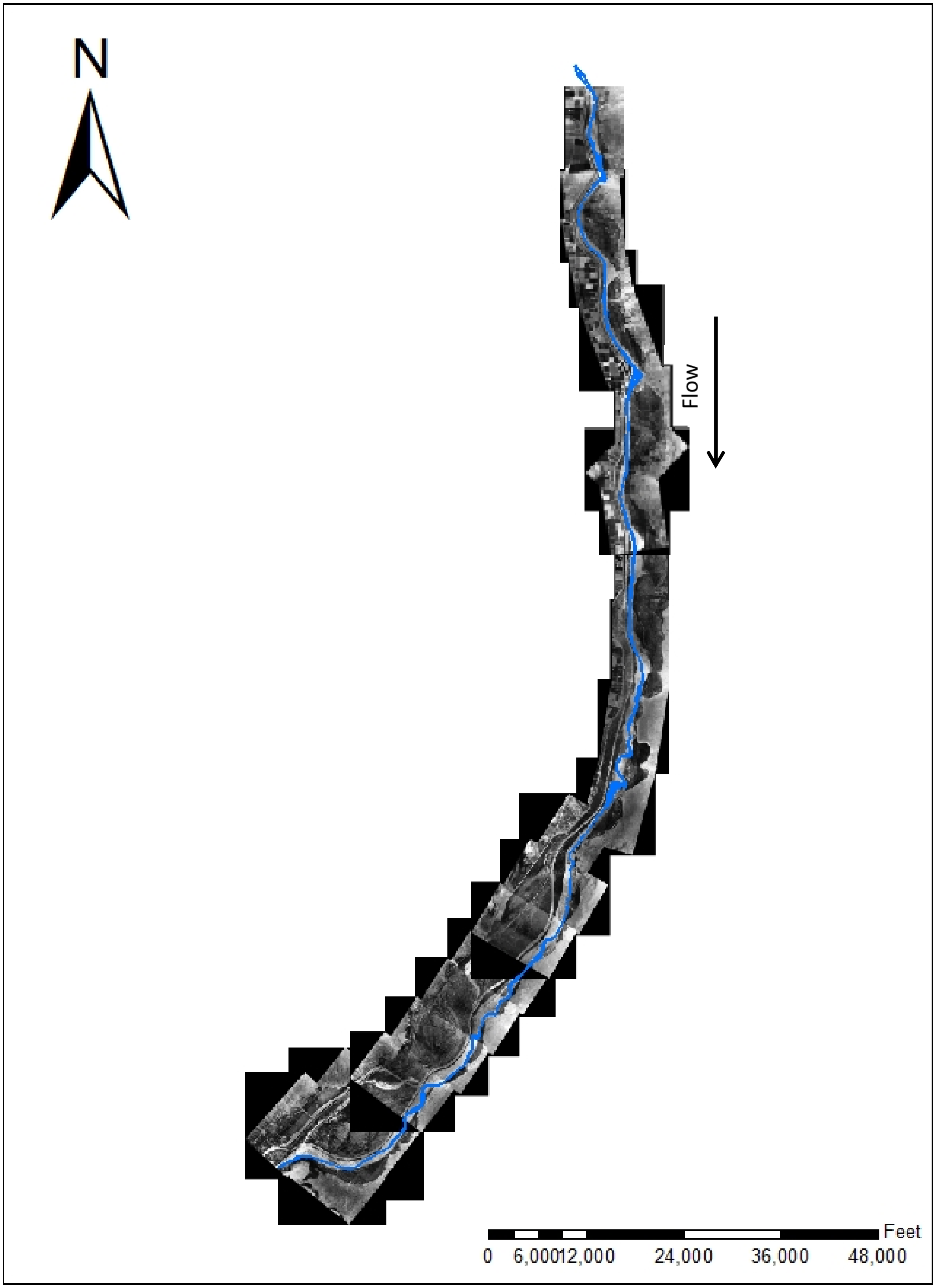

Figure 8 – Image capture from ArcGIS 9.3 showing 1972 data for the entire Bosque reach

Section 3: Analysis

3.1 Cross-Section Management

The HEC-RAS geometry files were individually compared to the GIS files. Each cross-section was investigated to ensure the most accurate representation of the Bosque reach. Aside from a few spikes in the ground elevations that appeared to be erroneous data points, the ground elevation data were unchanged. The following four areas were compared between the HEC-RAS and GIS files:

- Channel Braiding
- River Top Width
- Main Channel Location
- Downstream Reach Lengths

In the determination of the bankfull discharge for the Bosque reach, much attention was given to where the main channel and riverbanks were located. The main channel bank stations were used to locate the main channel using vegetation growth to better model hydraulic roughness. Since the channel is perched above the floodplain, designation of levee points in the HEC-RAS cross-sections were essential to prevent flow from entering areas adjacent to the main channel before going over bank. Already included in the HEC-RAS files were the main channel banks stations, levee points, and downstream reach lengths. However, each of these were reviewed and altered, if necessary, to match the GIS and aerial photography data.

3.1.1 Main Channel Bank Stations

The main channel bank stations were placed to denote the bounds of the main channel to appropriately assign Manning's "n" hydraulic roughness values. ArcGIS and aerial photographs were used along with visual inspection to designate the main channel bank stations. With a perched channel, the location of the main channel was not always evident from just visual inspection of the HEC-RAS cross-section. Using ArcGIS and aerial photographs, the distance from the LFCC was measured and applied to each cross-section to locate the main channel. The active channel planform GIS layer was also used to determine the width of the river at each cross-section. With these two measurements, the main channel bank stations could be accurately located at each cross-section.

In HEC-RAS, these "Main Channel Bank Stations" points appear in the cross-sectional view as red dots. For split channels, the points were placed on the outsides of the left and right channels to accurately allow the flow to proceed through both channels without having to overtop either bank to do so. At various cross-sections two channels were visible at low flows while at higher flows only one channel was visible (Figure 9 and Figure 10). This added another layer of complexity, as HEC-RAS is limited in its analysis of braided channels.

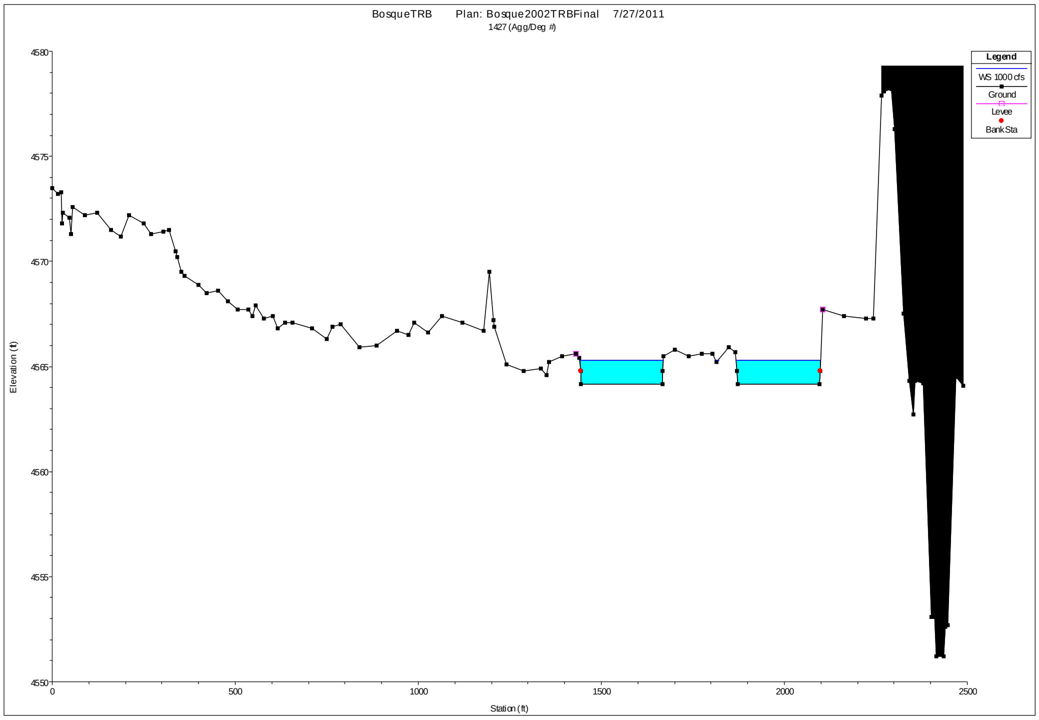

Figure 9 – 2002 Agg/Deg 1427 showing a split channel at 1,000 cfs

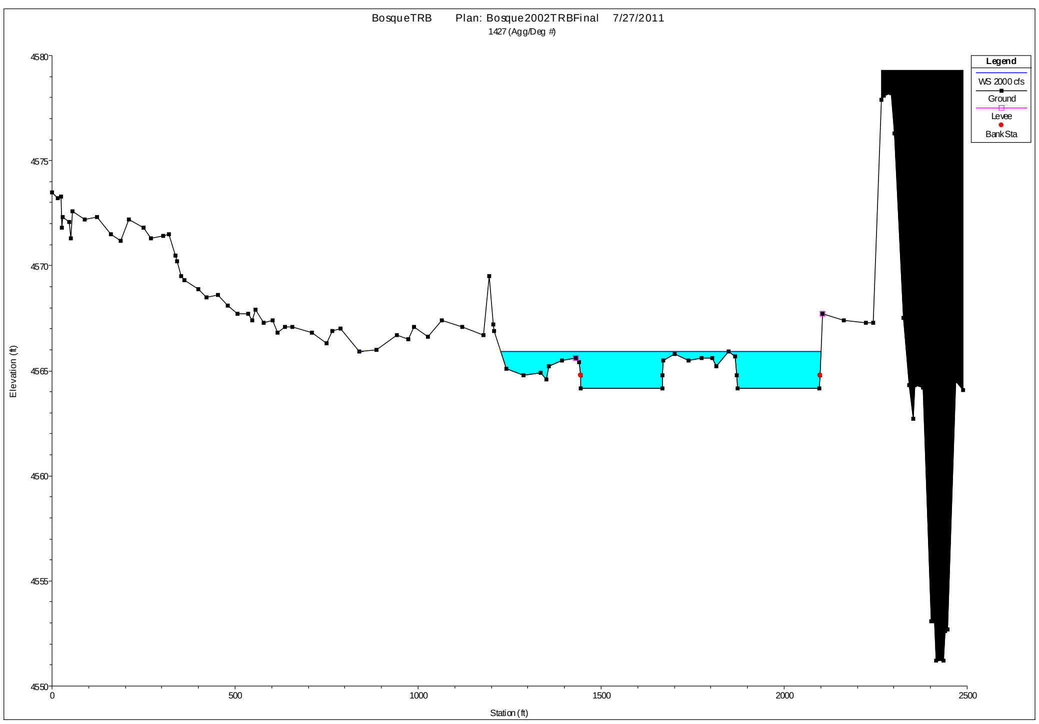

Figure 10 – 2002 Agg/Deg 1427 showing a single channel at 2,000 cfs

3.1.2 **Levee Locations**

The levee points were used to determine when the flow had gone overbank. Thus, designation of levee points in the HEC-RAS cross-sections was essential and much effort was taken to accurately locate these points. Recognizing that topography determined from photogrammetry may have a certain amount of error, there was the possibility for small irregularities in the ground surface. These could be inconsequential or could influence the HEC-RAS results. The Bosque reach geometric data were collected to the standard that 90% of the points were within plus or minus 0.5 feet of the true ground elevation. At the majority of the cross-sections, the levee points were placed at the top of the main channel banks at the highest ground elevation to contain the flow in the main channel until the flow overtopped either the left or right levee point.

Because of the drought and flood years it was not always evident from just visual inspection of the HEC-RAS files where the banks were located. The 1992 dataset succeeded a period of high flows when the river stage was higher. The 1962, 1972, and 2002 datasets all succeeded years of drought yielding smaller active river channels. This is shown below in *Figure 11* provided by Reclamation. Appendix C details the comparison of the actual cross-sections.

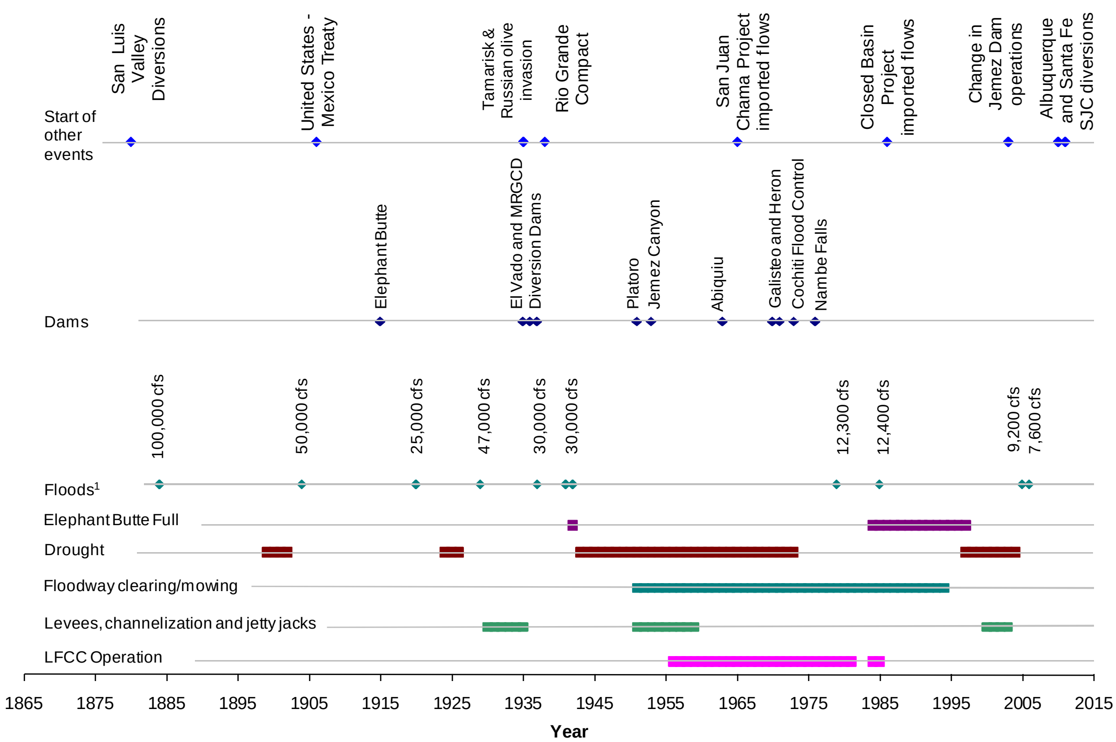

Figure 11 – Drought years in the Middle Rio Grande shown in red (Reclamation)

The analysis in Microsoft Excel was set up to compare the two bank elevations (left and right) where the levees were placed and select the lowest elevation. This is the bank that will overtop first and classify the cross-section as having "overtopped" at each respective flow. Thus, the true controlling location at any cross-section is the lowest elevation levee point. This point identifies the low top of bank elevation. Figure 12 shows a typical cross-section with the levee points located at the top of the riverbanks. Notice the left bank overtops while the right bank does not. In this situation the left bank, the lowest elevation, is the controlling bank. The main channel bank stations in Figure 12 were placed to denote vegetation growth.

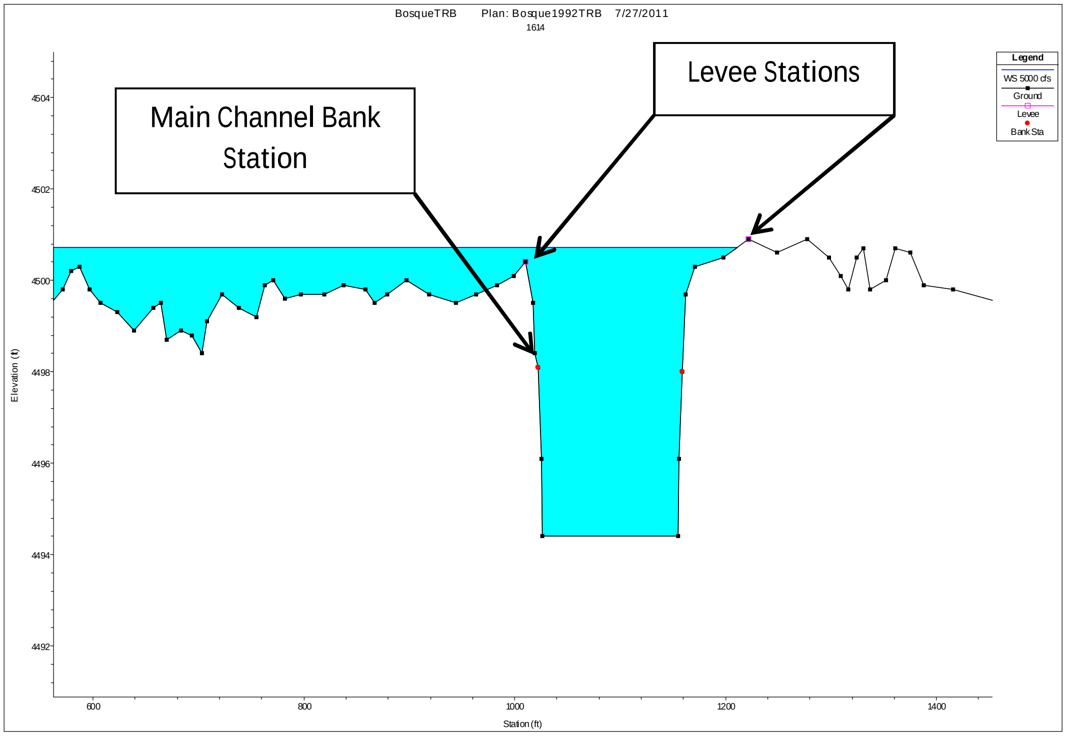

Figure 12 – 1992 Agg/Deg 1614 cross-section

There were a few cases in each year where a recurring high point in the floodplain could be seen in subsequent cross-sections and needed to be accounted for to accurately model the overbank flow. This was done by placing the levee point (pink square) in the HEC-RAS cross-section at the recurring high point location to control the overbank flow. To account for the actual low bank elevation, this point was manually recorded and entered into the Microsoft Excel spreadsheet. This was the case for only 3 - 5% of the cross-sections in each dataset.

After running the model for 1962, it was noticed that many of the low overbank flows occurred near the LFCC levee. This may not be an overbank event of significant consideration because of the low amount of volumetric flow lost to the overbank areas before encountering the LFCC. In this analysis, an overbank event would most likely have a significant amount of volumetric flow lost to the overbank areas. Therefore, if the lowest elevation levee station was located within 100 feet of the LFCC levee, the HEC-RAS levee point was moved to the top of the LFCC levee and the opposite bank levee point became the lowest levee elevation in HEC-RAS. This is a more realistic scenario, as flow lost to the overbank only to be confined by the LFCC levee is not of significance. Figure 13 shows an example of the river channel flowing adjacent to the LFCC levee. Here the HEC-RAS levee was placed at the top of the LFCC levee and the left bank became the low elevation bank.

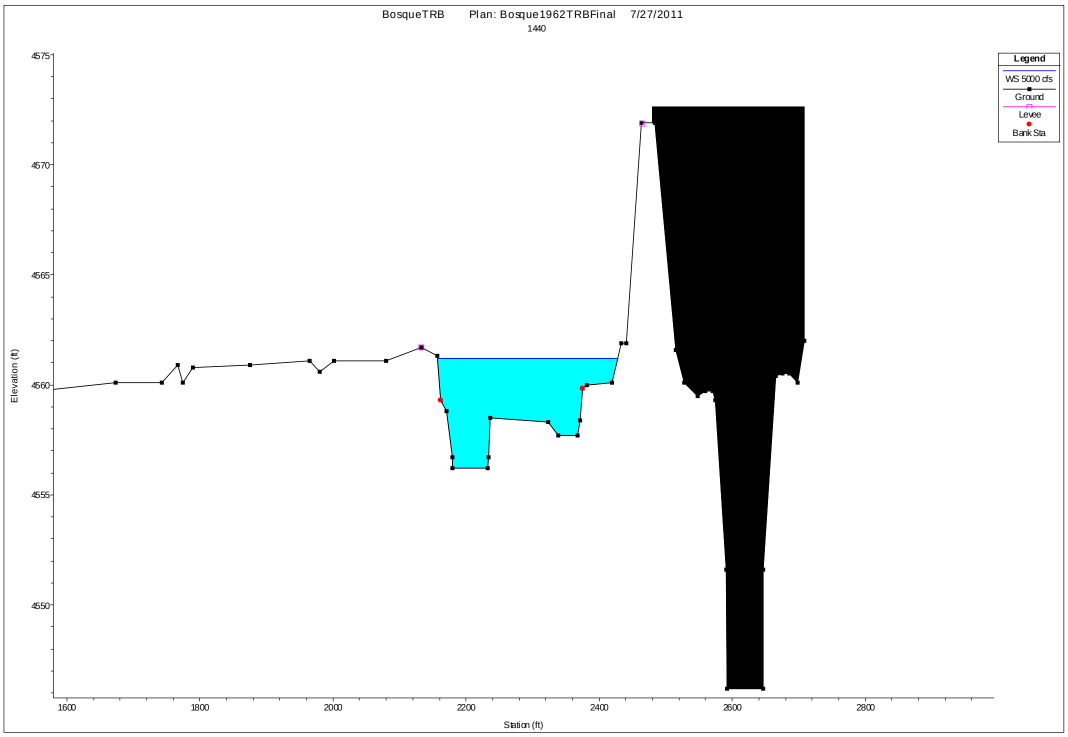

Figure 13 – 1962 River channel at Agg/Deg 1440 adjacent to the LFCC levee (5,000 cfs)

3.1.3 Downstream Reach Lengths

The original HEC-RAS geometry file downstream reach lengths did not always match those shown in the active channel planform in GIS. The active channel planform was used to digitize polylines along the left bank, right bank, and approximate thalweg axis in ArcGIS. Points were placed at the intersection between these polylines and the Agg/Deg lines. The distances between these points, starting at the upstream end, were recorded and used in the HEC-RAS analysis. Also, the original HEC-RAS geometry files did not account for any instance when the main channel splitting into two channels. This had a significant impact on the downstream reach lengths in some cases. Also, the meandering of the river channel caused these downstream reach lengths to vary from year to year. A visual representation of the downstream reach lengths can be seen in Figure 14 as shown by the double-headed arrow.

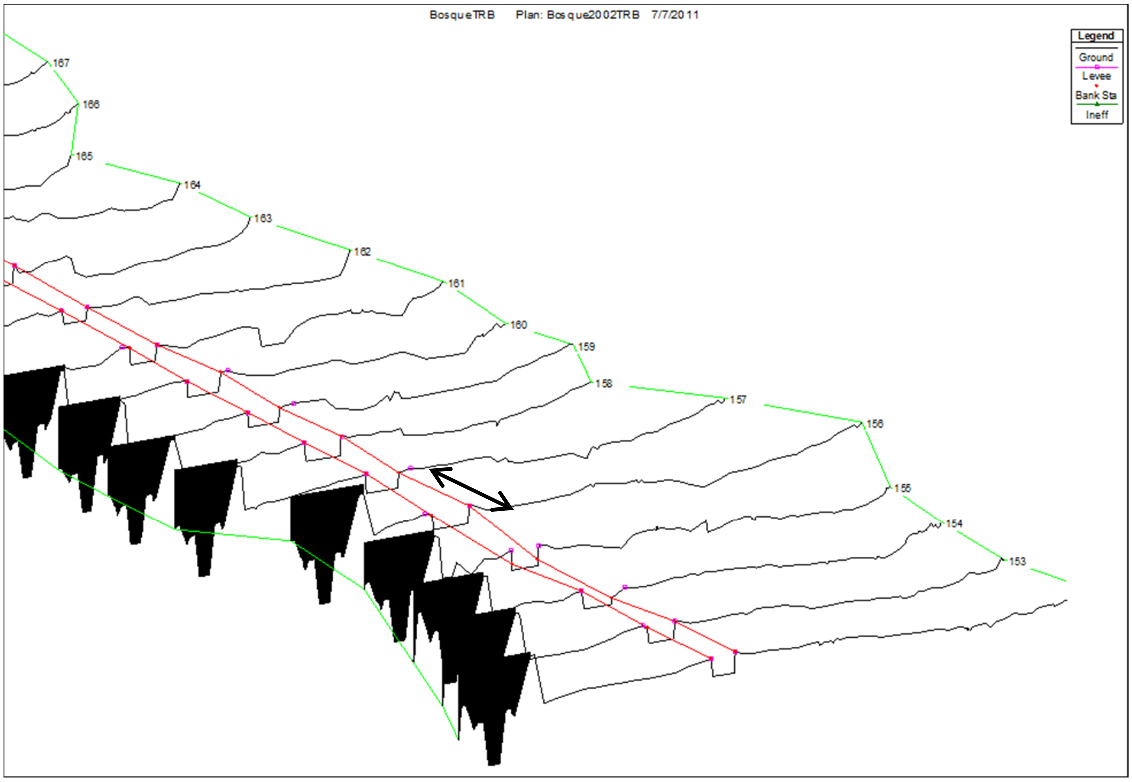

Figure 14 – Oblique view of the downstream end of the 2002 Bosque Reach

3.2 Downstream Boundary Water Surface Elevation

The flow regime was assumed to be subcritical flow controlled from the downstream end. There were no hydraulic structures or steep slopes to create/sustain a supercritical flow or mixed flow regime. Therefore, normal depth was assumed at the downstream end of the Bosque reach. An additional 10 cross-sections downstream of the south boundary of the Bosque del Apache National Wildlife refuge at the downstream end of the Bosque reach were retained when the data were extracted from the entire Middle Rio Grande dataset. These additional cross-sections were retained to more actually estimate the normal depth control at the downstream end. To do so, an energy grade line slope needed to be known. However, the energy grade line slope would be unknown until the model was run. To approximate the energy grade line slope, the channel bed slope was used. The additional 10 cross-sections were used to calculate the channel bed slope independently for each year. Below, in Table 2, the different calculated slopes are shown for 1962.

Table 2 – 1962 Slope Comparisons

Slope Comparisons	
Area of Interest	**dy/dx**
Total Area	0.00055
Steepest Slope	0.00132
Mildest Slope	0.00005

A sensitivity analysis was performed to determine how sensitive the water surface profile would be to the estimation of the energy grade line slope using the different channel bed slopes. The water surface elevation profiles corresponding to the steepest, mildest, and total bed slope values were plotted to determine the range of water surface elevations HEC-RAS would estimate. The total bed slope was taken to be the slope between the first and last of the 10 cross-sections. The mildest and steepest slopes were calculated as the slopes between any two cross-sections. The water surface profiles for 1962 are shown in Figure 15. Notice the values all converge before the start of the Bosque reach at Agg/Deg 1637. The total slope of the last 10 cross-sections just downstream of the Bosque reach was selected to approximate the normal depth control at the downstream end for all years. Table 3 shows the values used to approximate normal depth for each year.

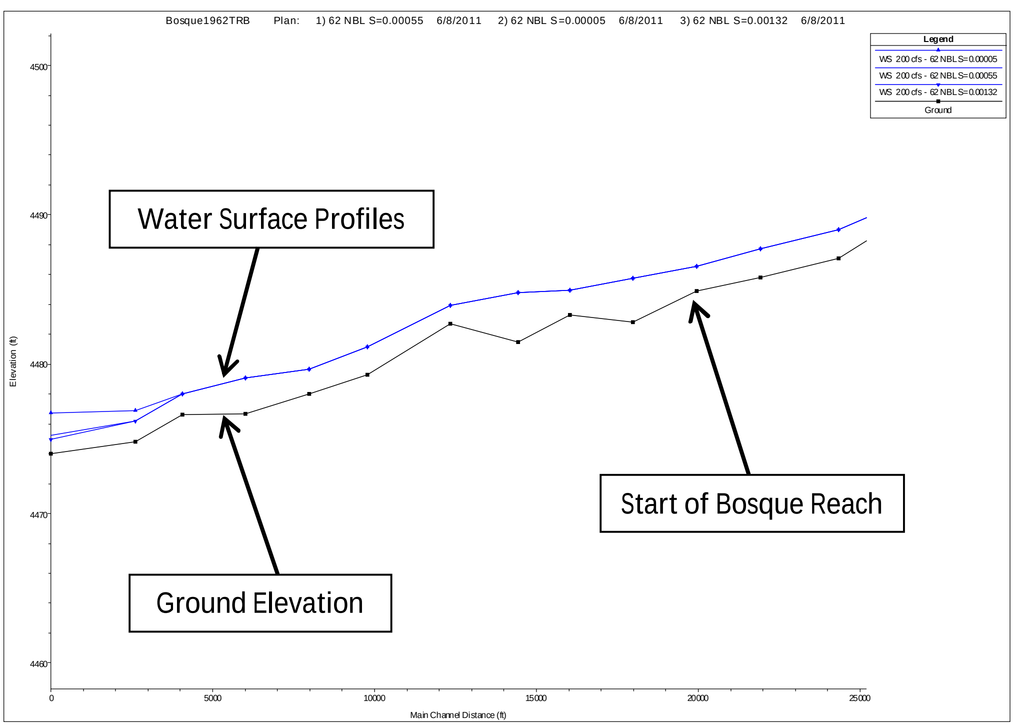

Figure 15 – 1962 Water surface profile comparison

Table 3 – Slope to Approximate Normal Depth Control

Bed Slope of last 10 Cross-sections	
Year	**dy/dx**
1962	0.00055
1972	0.00075
1992	0.00057
2002	0.00064

3.3 Hydraulic Roughness

Manning's "n" was used to estimate the hydraulic roughness of the channel and overbank areas. The placement of the main channel bank station was most important to the location of the "Channel" and "Overbank Area" for the purpose of hydraulic roughness. Composite Manning's "n" values were used for the main channel and the overbank areas. This made for a more accurate model as hydraulic roughness can have a significant effect on the water surface elevation. These Manning's "n" values were estimated by Reclamation and were included in the HEC-RAS geometry files provided. No further action was taken to alter the Manning's "n" values to estimate hydraulic roughness. Table 4 lists the range of values or singular values used to estimate the hydraulic roughness of the Bosque reach for each of the different datasets.

Table 4 – Hydraulic Roughness Estimation

Manning's n Range						
Year	**Main Channel**			**Overbank**		
1962	0.017	-	0.02	0.05	-	0.1
1972	0.017	-	0.02	0.1		
1992	0.02	-	0.024	0.1		
2002	0.02			0.1		

3.4 Hydraulic Simulation

The Hydraulic model was set with 25 flow profiles for each year ranging from 200 cfs to 5,000 cfs in 200 cfs increments for 1962, 1972, 1992, and 2002. The model was run separately for each dataset to calculate the water surface profiles, cross-section averaged velocities, channel widths, and other hydraulic parameters of interest. The data were viewed in tabular format and copied into Microsoft Excel to be plotted and analyzed. Section 4 discusses the results of this analysis.

Section 4: Results

To determine when each cross-section had overtopped, a Microsoft Excel spreadsheet was established to select the lowest elevation (left or right bank) levee point. This low top of bank elevation was then compared to the water surface elevation at that cross-section and flow. This was done for every cross-section for all four years of data for all 25 flows. This equates to 708 total cross-sections with each having 25 steps in discharge for a total of 17,700 elevations to check against the low top of bank elevation. Preloaded Microsoft Excel functions in conjunction with conditional formatting were used to compute, display, and manage the data.

To help account for inaccuracies from photogrammetry in input cross-section geometry, channel roughness, and HEC-RAS computations, a +/-0.5 ft change to the true low bank elevation was proposed by Reclamation. Plots depicting data using the +0.5 ft and -0.5 ft above and below the true bank elevation are presented in the Appendix B. Unless otherwise noted, the main body of this report presents figures and table referencing only data using the true bank line elevation.

Each year was plotted to show the temporal variability between datasets. For spatial consistency between the analyses of the different datasets, all data was plotted versus the channel station centerline based on 2008 aerial photography. The plots begin at 0 feet at the downstream end and moves upstream using this 2008 stationing line. It should be noted that all HEC-RAS computations use the actual downstream reach lengths for each dataset. The 2008 stationing line is used for display purposes only.

The sections below display and discuss the water surface elevations, overbank flow, reach averaged at-a-station hydraulic geometry, and cross-sectional geometry plots. Also included is a comparison of the 2002 data to the 2008 sediment plug that formed within the Bosque reach.

4.1 Water Surface Elevation Profiles

The water surface profile plots below are presented for each dataset under consideration as well as the 2009 data provided by Reclamation. Each figure shows 1000, 2000, 3000, 4000, and 5000 cfs, as well as the low top of bank elevation (thin dashed line) and the thalweg elevation profile (thick black line). These plots are provided below in Figure 16 through Figure 20.

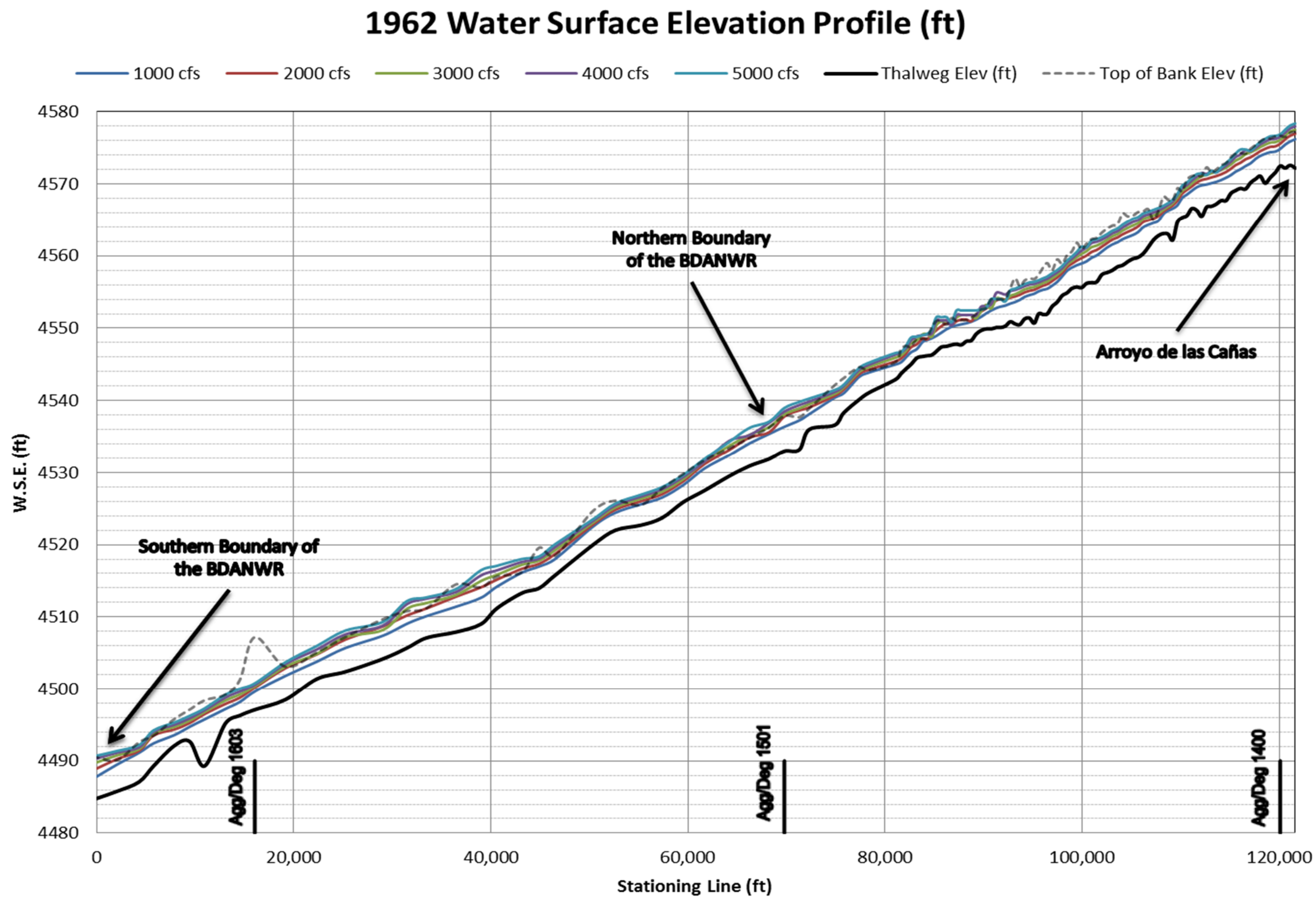

Figure 16 – 1962 Water surface profile plot vs. upstream distance

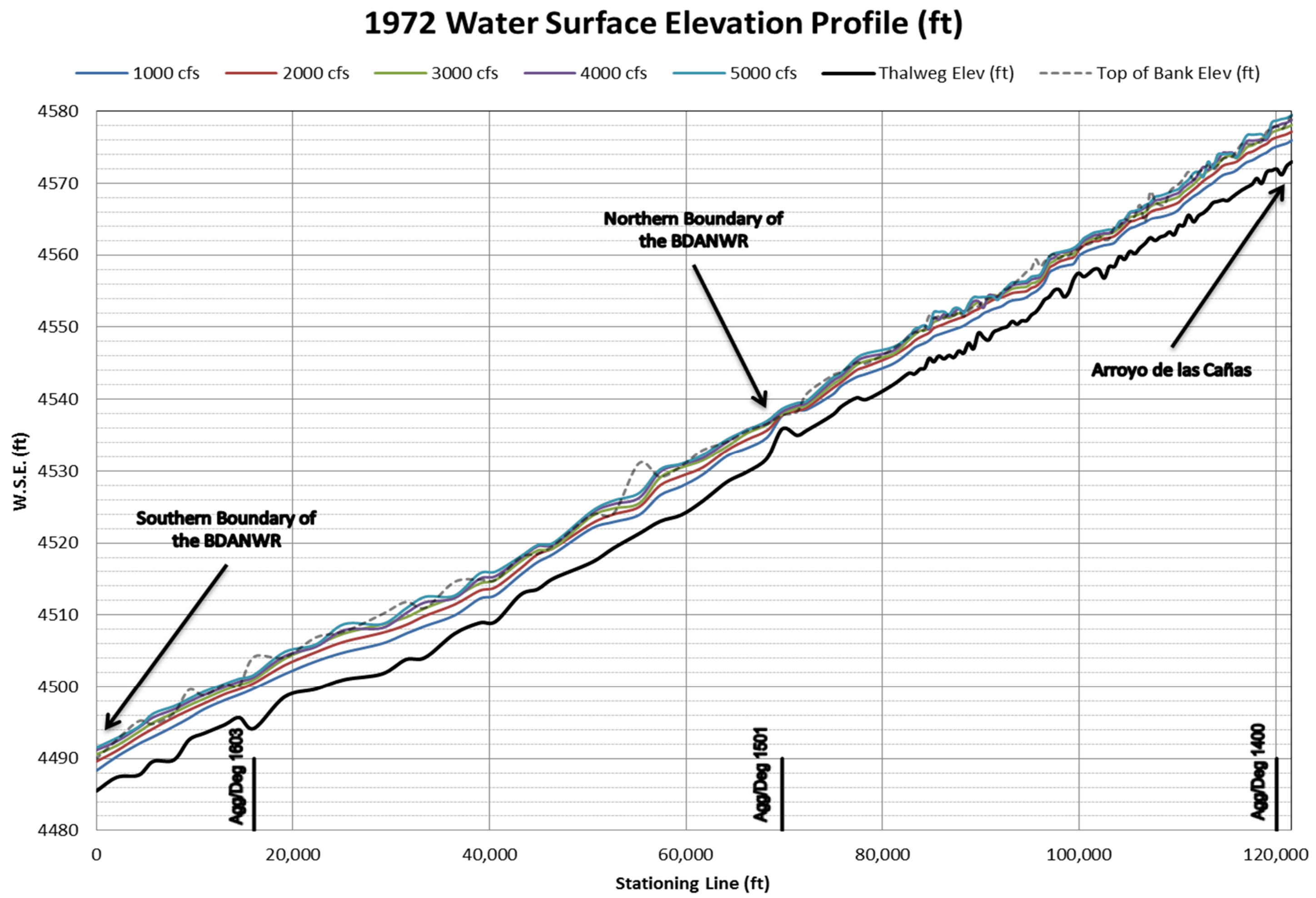

Figure 17 – 1972 Water surface profile plot vs. upstream distance

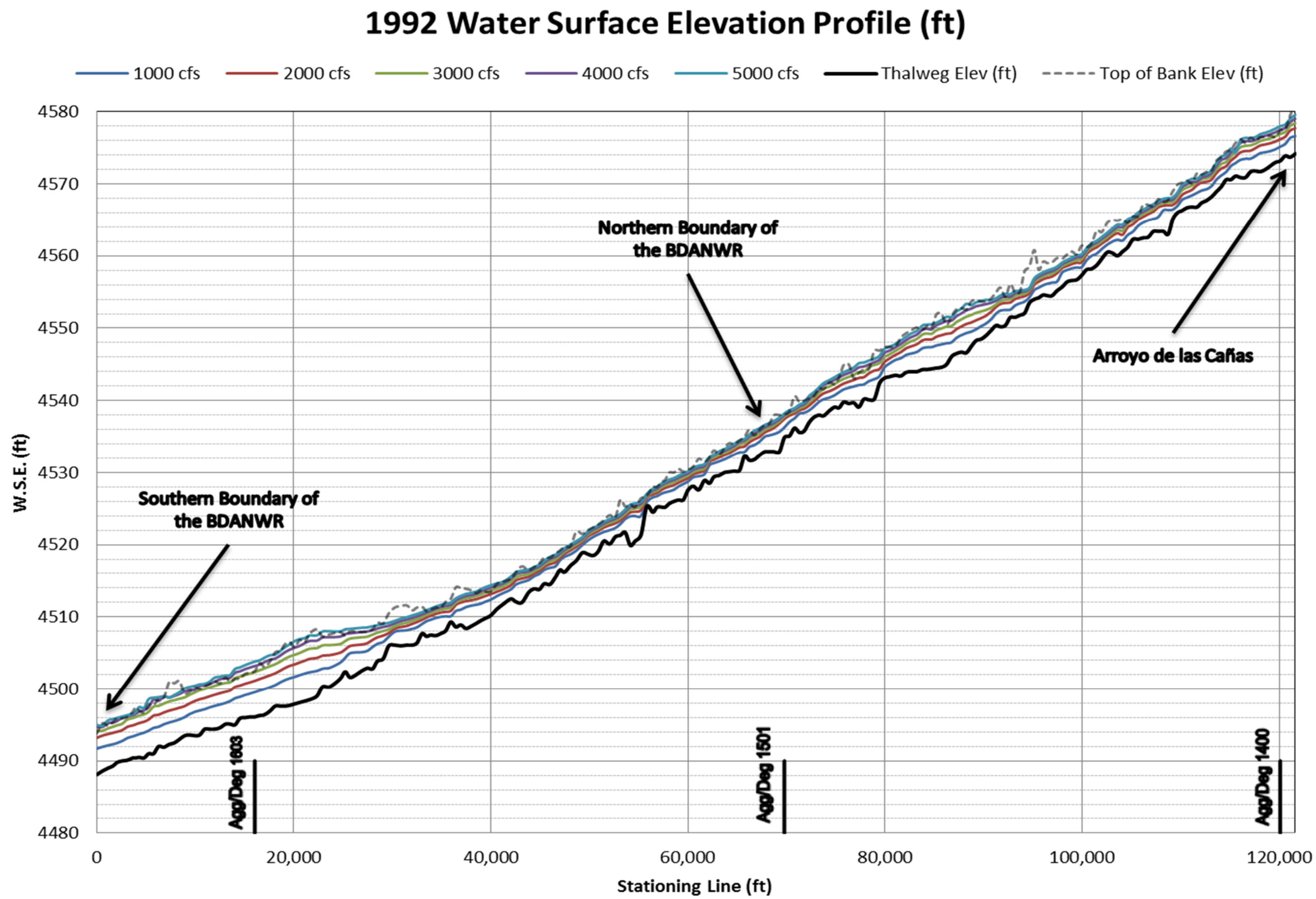

Figure 18 – 1992 Water surface profile plot vs. upstream distance

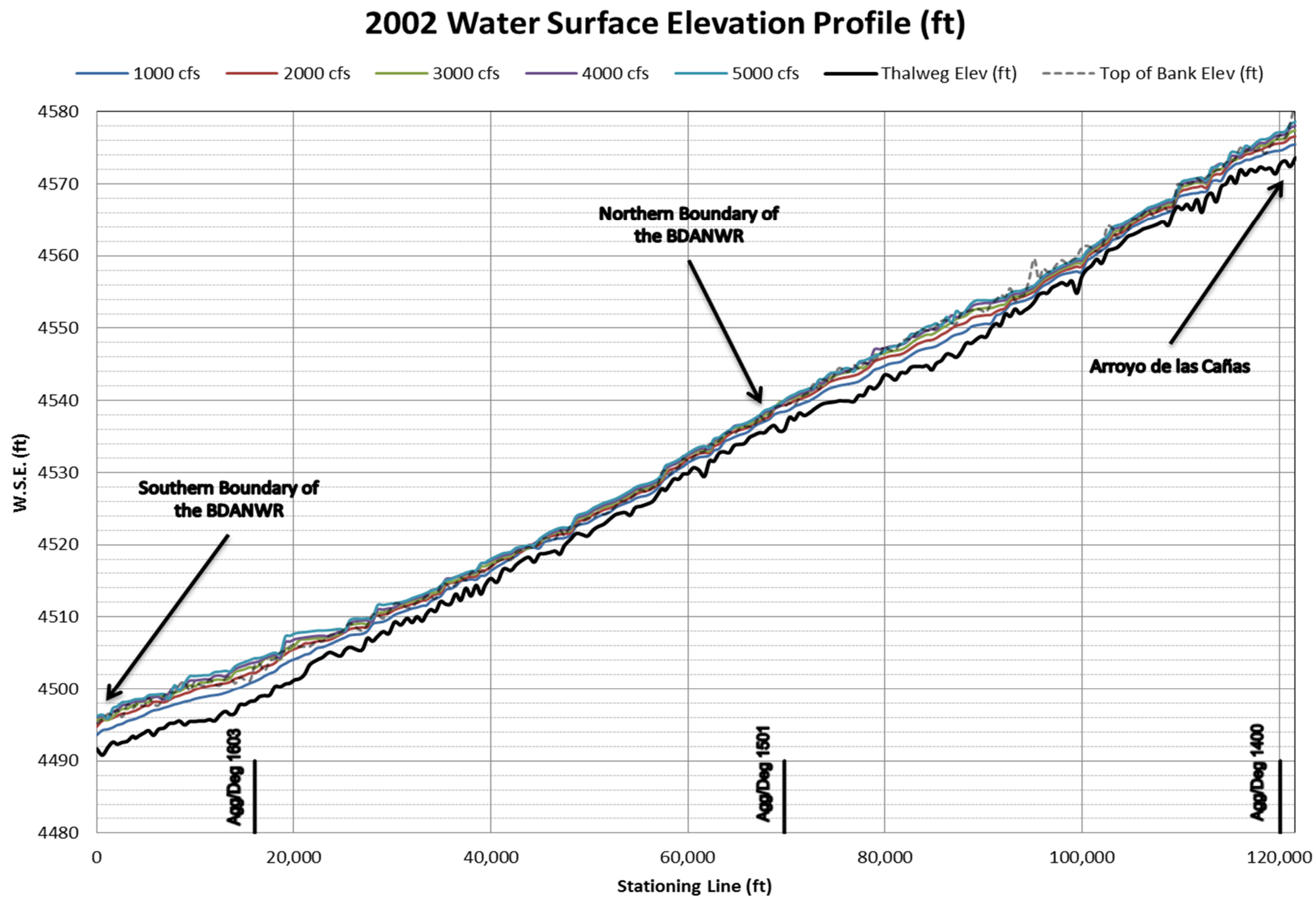

Figure 19 – 2002 Water surface profile plot vs. upstream distance

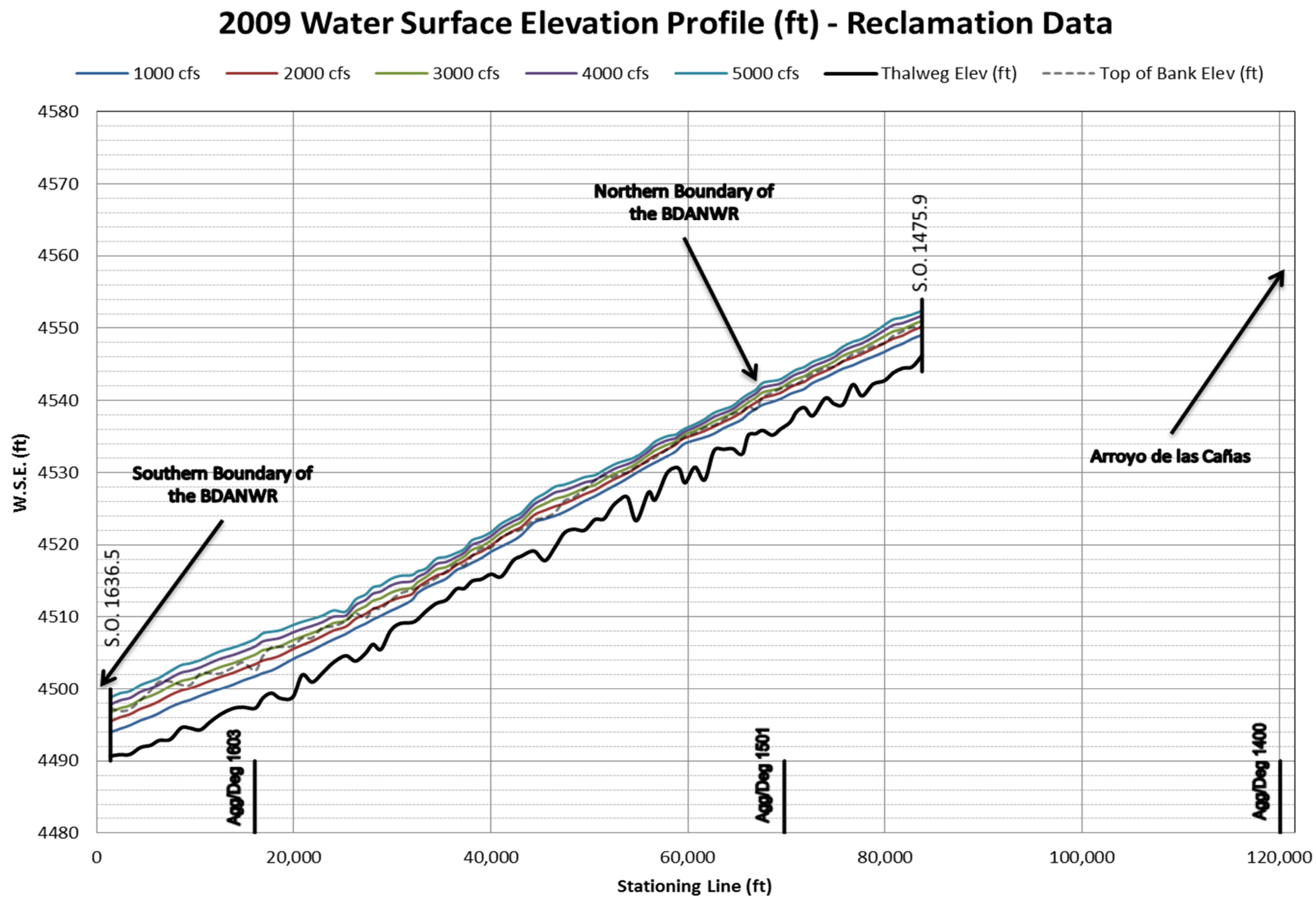

Figure 20 – 2009 Reclamation calculated water surface profile plot vs. upstream distance

It is interesting to note the water surface profiles in relation to the low top of bank elevation profiles. Upon close inspection, it becomes evident when flow goes over bank. In Figure 21, a close up view of Figure 16 shows the low top of bank elevation being overtopped at approximately 1,800 cfs. If the 0.5 ft above the true bank elevation recommendation is considered in the water surface elevation, the overbank discharge at this cross-section in 1962 is 2,800 cfs. The sensitivity of the water surface results to the plus or minus 0.5 ft of the overtopped bank elevation will be discussed later. Full-page plots (Zoom) are available in Appendix A for all years divided into lower, upper, and middle portions of the reach.

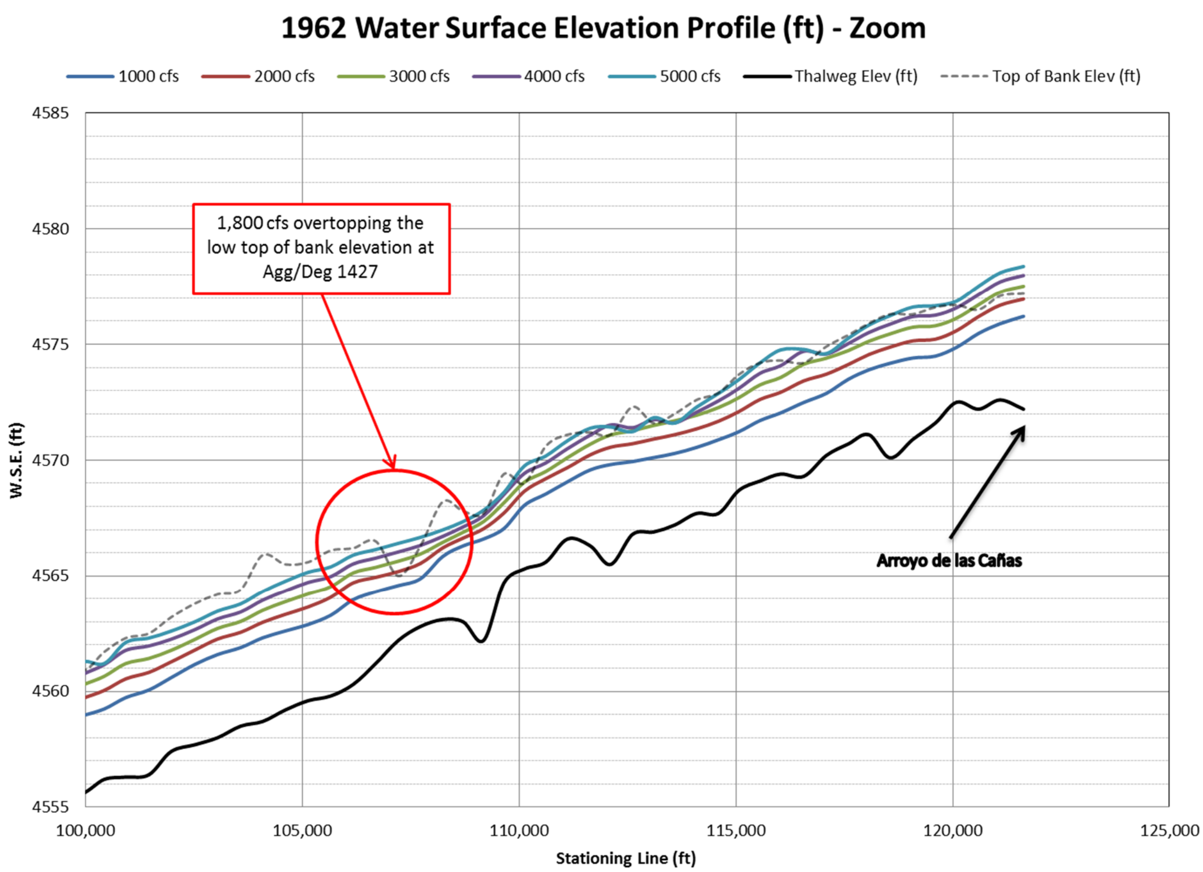

Figure 21 – 1962 Water Surface Profile plot vs. upstream distance – Zoom

Paris et al. (2011) show the Bosque reach has aggraded overall to such an extent that the main channel is perched above the floodplain. They also go on to state the downstream end has seen the most aggradation (bed rise due to sediment accumulation). This is evident from this analysis as well. Figure 22 shows a comparison of the thalweg elevation profiles. Here, the downstream end of the Bosque reach shows the most separation in thalweg elevation between years with the 2002 dataset showing the highest thalweg elevation.

Also included in this study, is a comparison of the water surface elevation profiles at 1,000 cfs (Figure 23) for all four years under consideration as well as 2009 water surface profile estimation provided by Reclamation. The 2009 water surface profile extends from the Highway 380 Bridge, located within the Bosque reach, to the San Marcial/RR Bridge, located downstream of the Bosque reach. These data, however, use another spatial cross-sectional system, Socorro Lines. The data analyzed in this report use Agg/Deg lines. Only 2009 data located within the study area of this report are displayed for comparison.

Notice the decrease in water surface elevation at the downstream end of the reach in 2009 data compared to 2002 data. This is not the case near the mid-point of the reach. Here, the water surface elevation is greater in 2009. This displays that since 2002 it is possible the aggradation has increased in the middle of the reach and decreased near the downstream end. This supports the location of the 2008 sediment plug that formed with in this reach near 50,000 feet along the stationing line from approximately Agg/Deg 1550 – 1531.

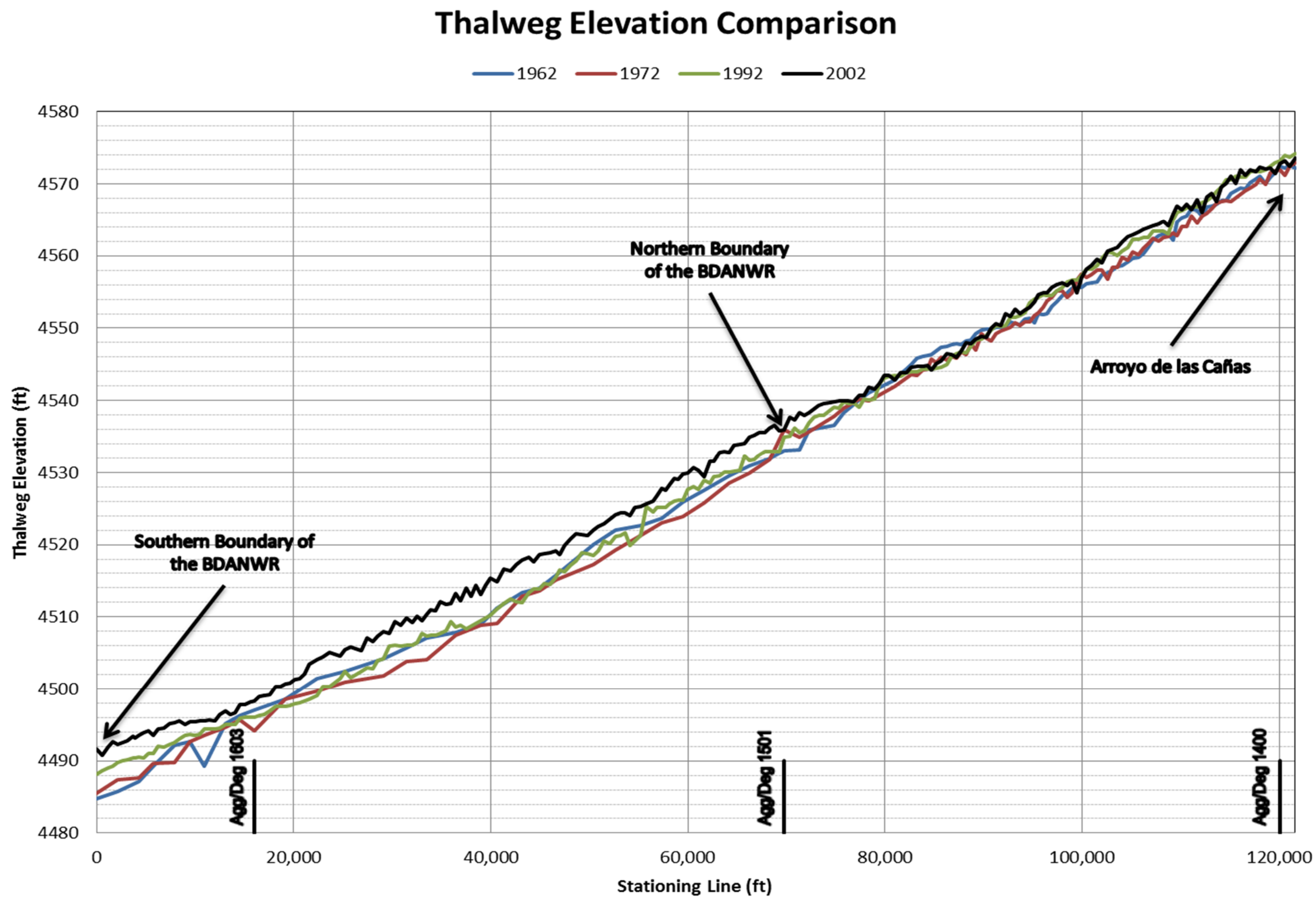

Figure 22 – Thalweg elevation profile comparison

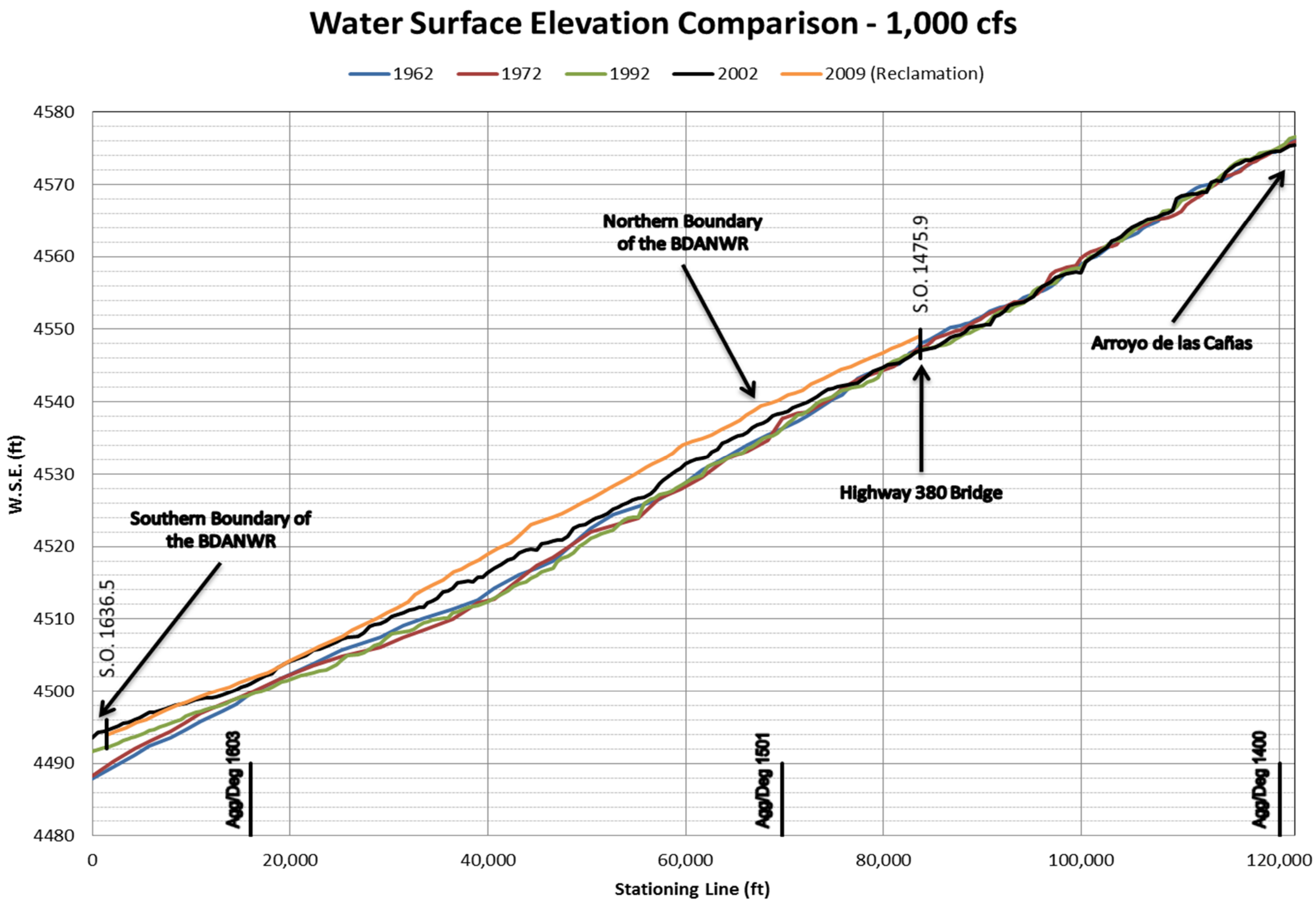

Figure 23 – Water surface profile comparison including 2009 Reclamation data

4.2 Overbank Flow Discharge

The discharge at which flow went over bank was plotted versus the upstream distance along the 2008 stationing line. Figure 24 shows a generic cross-section with the flow reaching the banks, leaving the main channel, and entering the floodplain. The different years all exhibited spatial variability in the discharge that would overtop the banks. These graphs are shown below in Figure 25 through Figure 28 and use the true bank elevation for comparison. The graphs of the overbank flow, with water surface elevations +/- 0.5 ft above and below the true bank elevation, are presented in Appendix B for comparison. The HEC-RAS analysis discharge range was from 200 – 5,000 cfs. Thus, these plots show overbank flows only up to 5,000 cfs. It should be noted that not all the cross-sections have overtopped at 5,000 cfs and none of the plots give any information about those cross-sections that have not yet overtopped at 5,000 cfs. For spatial reference, the Arroyo de las Cañas, the Bosque del Apache National Wildlife Refuge, as well as three Agg/Deg lines is shown.

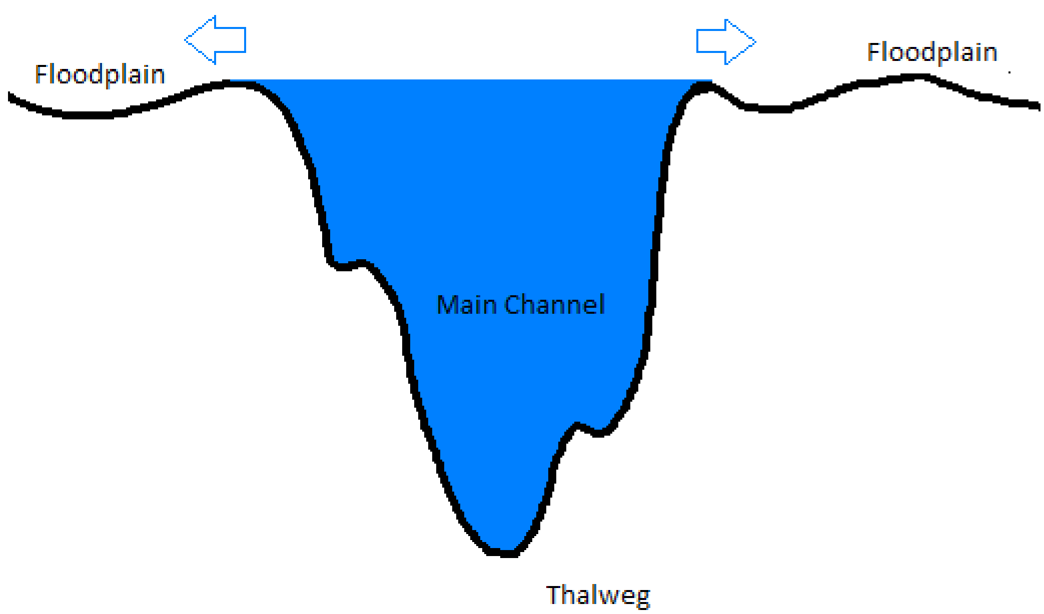

Figure 24 – Overbank flow physical representation

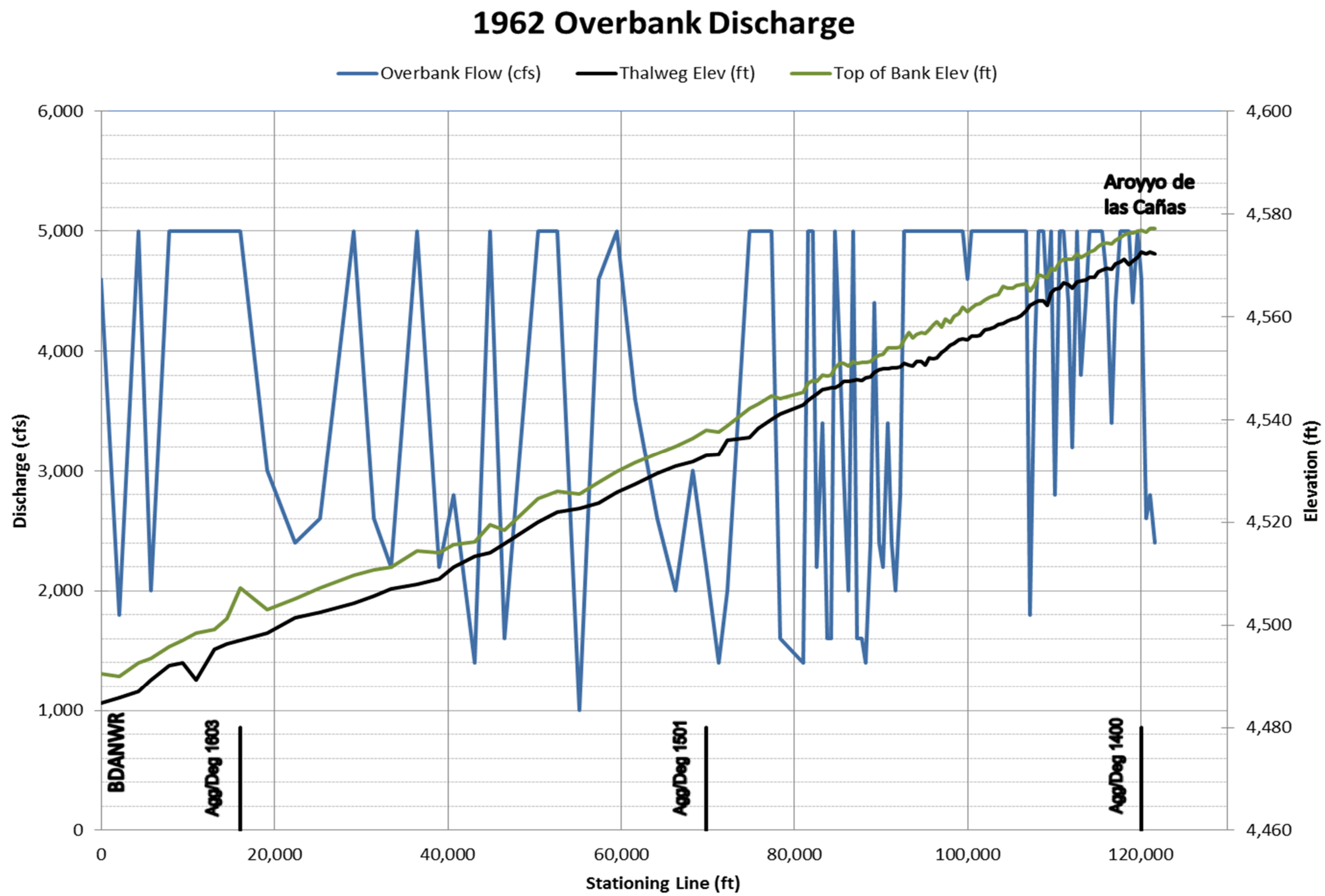

Figure 25 – 1962 Overbank flow vs. upstream distance

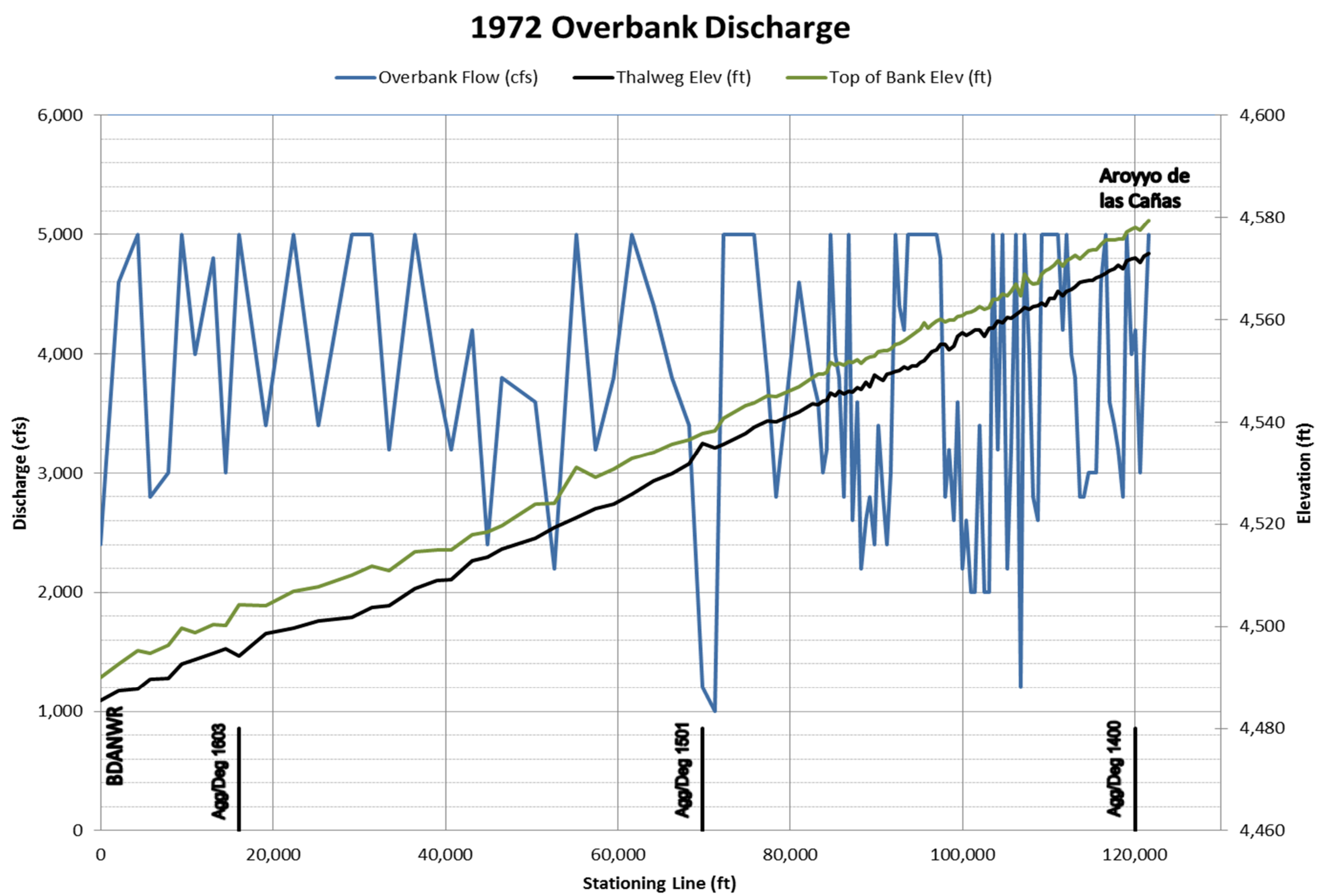

Figure 26 – 1972 Overbank flow vs. upstream distance

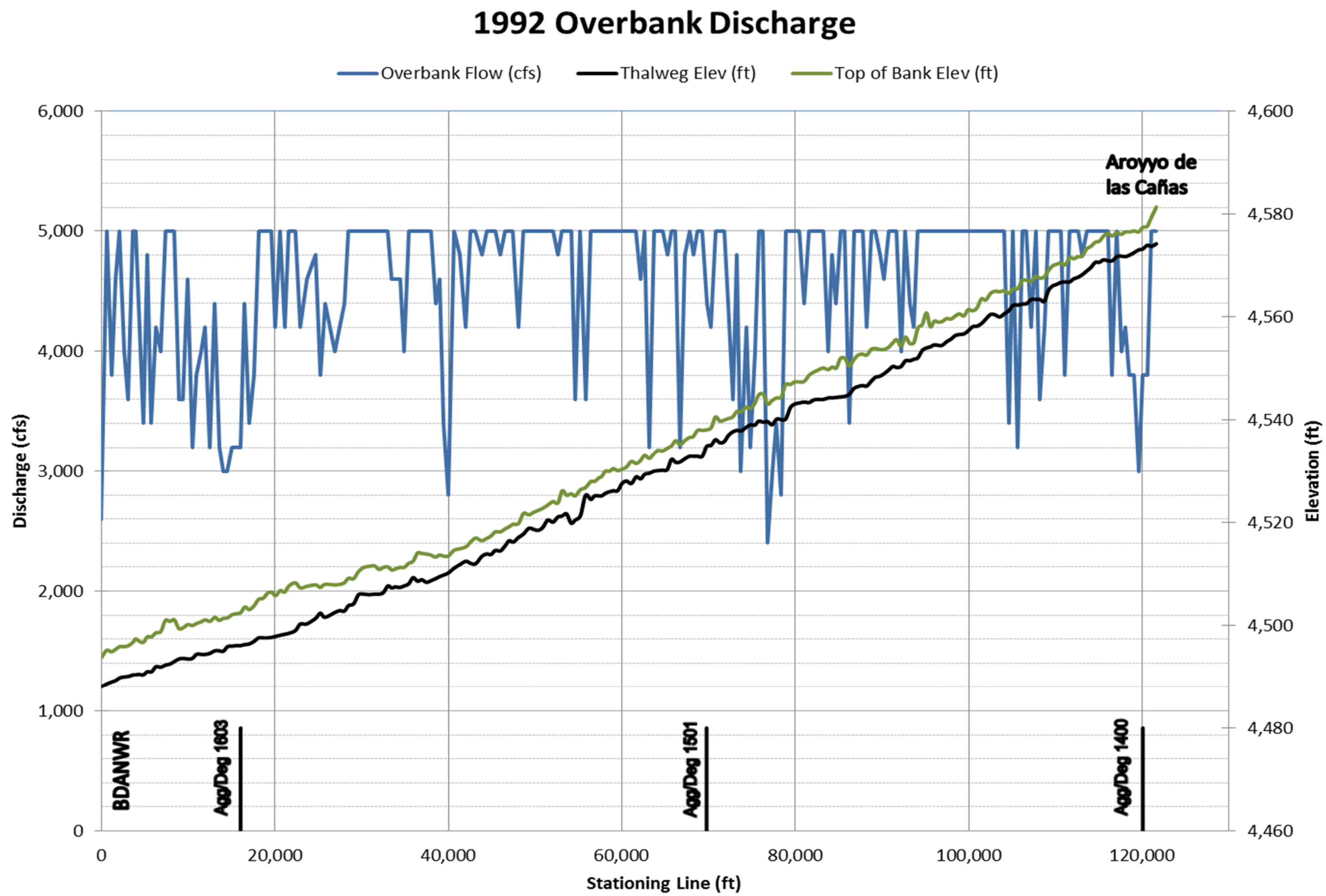

Figure 27 – 1992 Overbank flow vs. upstream distance

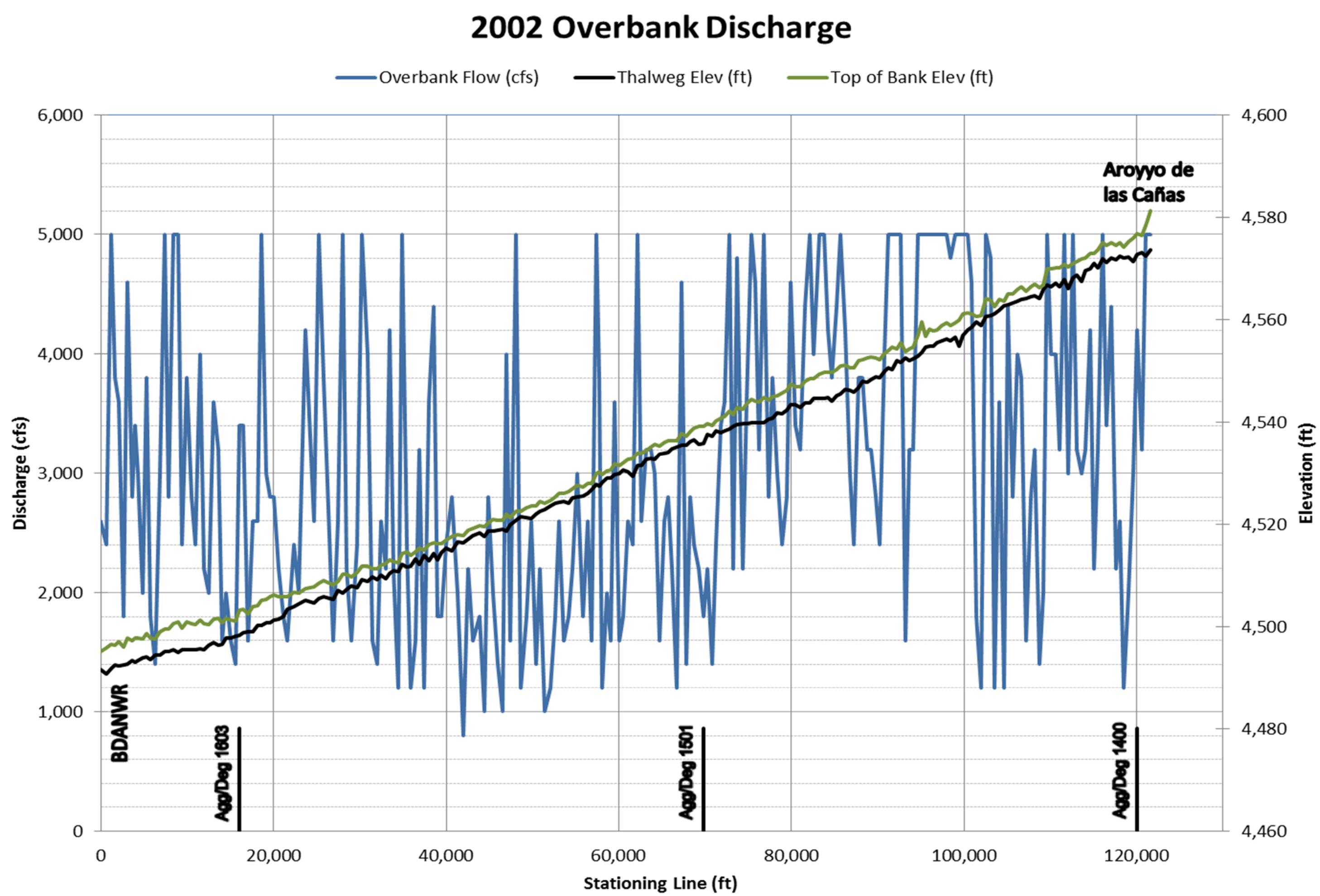

Figure 28 – 2002 Overbank flow vs. upstream distance

The lowest overbank flows for each dataset are shown in Table 5, Table 6, and Table 7. Table 5 is the discharge obtained by adding 0.5 ft to the true bank elevation. Table 6 corresponds to the discharge with a water surface at the same elevation as the true bank elevation. Table 7 is the discharge obtained by subtracting 0.5 ft from the true bank elevation. These three comparisons are made to show the variability in the data and the effect of adding to, subtracting from, or retaining the true bank elevation in the analysis. These flows represent the most likely range of overbank flows given the accuracy of the original channel geometry data. The lowest flow discharges corresponding to the true bank elevation analysis ranges from 800 to 2,400 cfs. In 2002, the banks overtop at a lower elevation than in 1962 and 1972, while in 1992, the largest flow is contained within the main channel. 1992 followed a period of high flows while the other three years followed a period of drought. It should be noted that the averages (arithmetic mean) presented below are not true averages. The HEC-RAS model was only run up to 5,000 cfs and not every cross-section had overtopped at 5,000 cfs. Also, in Figure 29, the data from Table 6 is plotted for visual reference. Notice the decreasing trend in the plot with 1992 data outlying.

Table 5 – Overbank flow summary for +0.5 ft above true bank elevation

Overbank Flow (cfs) - (+0.5 ft)				
Flow	**1962**	**1972**	**1992**	**2002**
Average	4,416	4,376	4,876	3,980
Low	1,800	2,000	3,200	1,400

Table 6 – Overbank flow summary for true bank elevation

Overbank Flow (cfs) - True Bank Elevation				
Flow	**1962**	**1972**	**1992**	**2002**
Average	3,930	3,748	4,557	3,087
Low	1,000	1,000	2,400	800

Table 7 – Overbank flow summary for -0.5 ft below true bank elevation

Overbank Flow (cfs) - (-0.5 ft)				
Flow	**1962**	**1972**	**1992**	**2002**
Average	3,263	3,137	3,877	2,226
Low	600	400	1,800	400

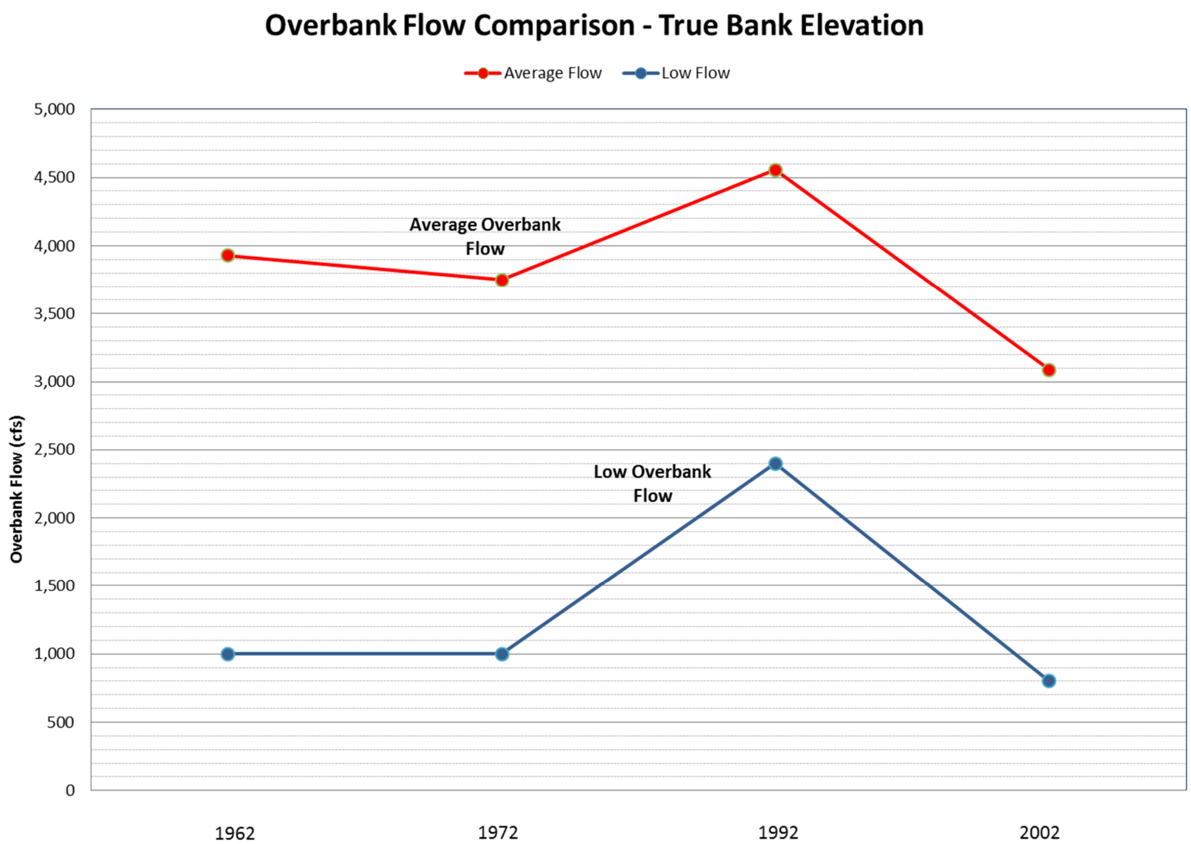

Figure 29 – Overbank Flow Comparison

To compare the overbank discharge using a moving average, Figure 30 is presented. This plot displays all four years and uses the true bank line elevation. To calculate the moving average, the overbank discharge for the 5 cross-sections before and after a single cross-section were all averaged (arithmetic mean) to yield an 11 cross-section moving average. This method takes the abrupt changes in overbank flow out of Figure 25 through Figure 28 and shows an 11 cross-section trend in the datasets. All four years are overlaid in Figure 30 to show the variability in location over time between the datasets. The 2002 thalweg and low top of bank elevations are shown for visual reference.

Notice the low points in each of the datasets in Figure 30. These are subareas of low overbank flow. The 2002 dataset displays the subarea with the lowest overall overbank flow. The flow here is constricted from the aggrading riverbed. This is displayed in the difference between the thalweg and low top of bank elevations in Figure 30. This area corresponds to the location of the sediment plug that formed in the Bosque reach in 2008. Also notice, there are no real trends in the locations of the lowest overbank flows between datasets.

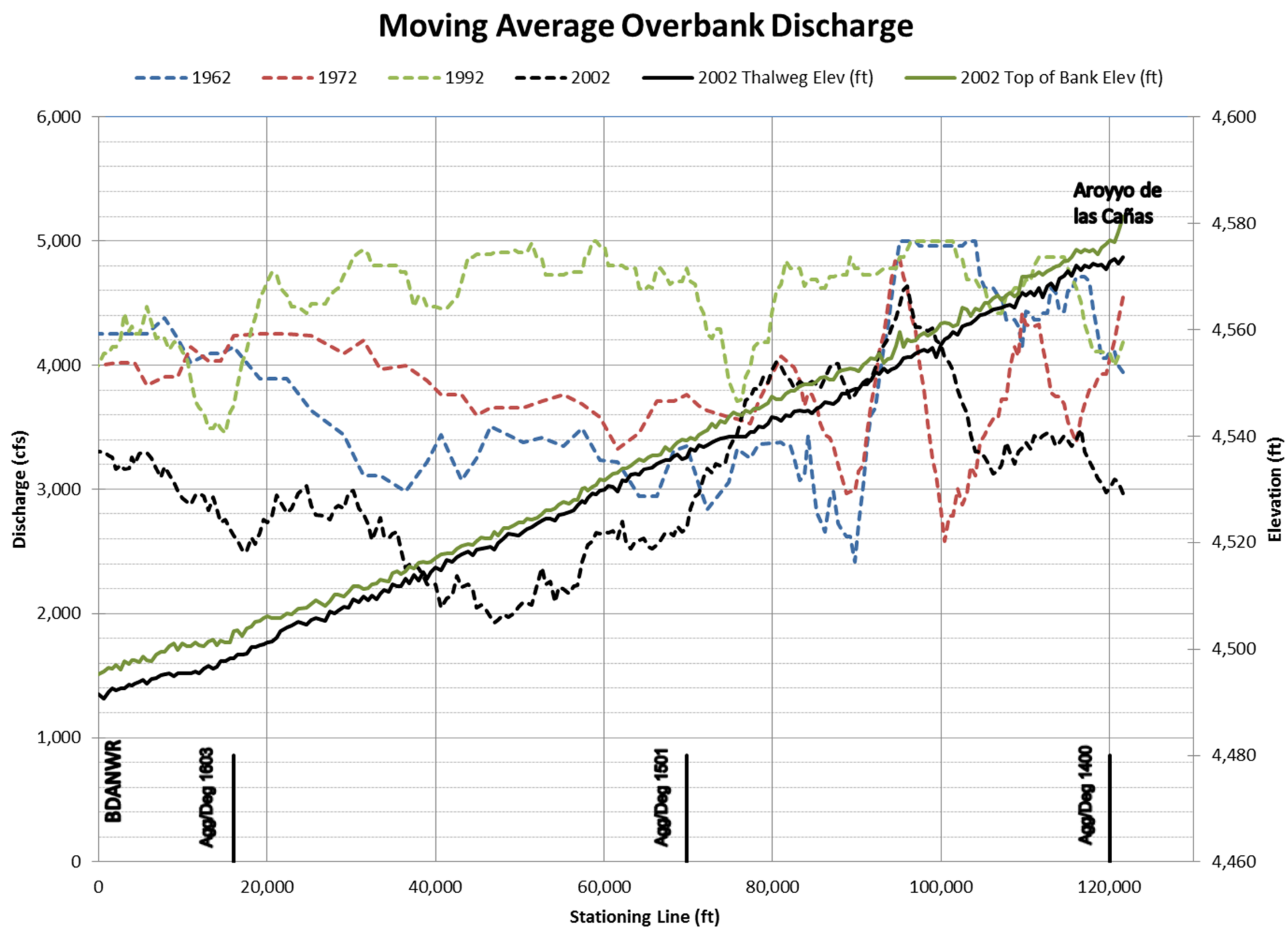

Figure 30 – Moving average overbank flow

To summarize the overbank flow seen in the Bosque reach, Figure 31 is presented. This is a plot of the percentage of cross-sections having overtopped at each discharge. This plot shows the trend in the data between years. 1962 and 1972 seem to exhibit similar overbank data. 2002 data overtop much sooner, as would be expected with the decreasing trend. 1992 still exhibits an outlier trend with greater overbank values. This graph supports the aggradation and perched nature of the Bosque reach in 2002. It would be interesting to determine where 2012 data would fall once they become available for further analysis of the Bosque reach.

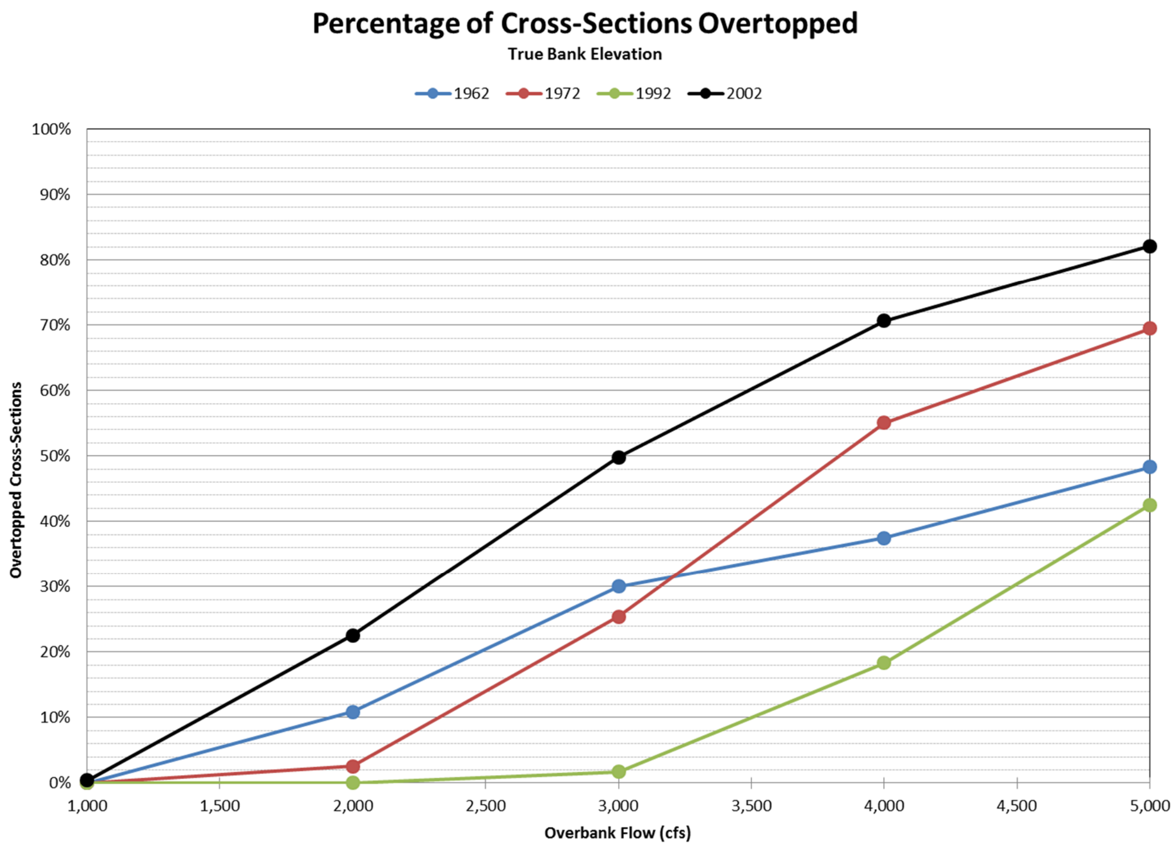

Figure 31 – Percentage of Cross-sections overtopped

To refer back to Figure 11, the chart showing floods and droughts in the Middle Rio Grande, the data for 1962, 1972, and 2002 all follow years of drought. This would account, in part, for the smaller channel seen in the planform data in GIS. Conversely, 1992 data followed two significant floods in the 1980's, both just above 12,000 cfs (well above the channel forming discharge range). Also, there is evidence of vegetation clearing in the 1972 aerial photos prior to these large floods (Baird, personal communication 2011). The Elephant Butte Reservoir is also full during the early 1990's, further displaying the period of high flows in the Middle Rio Grande. These two floods, along with the vegetation clearing, likely account for the different geometry in the 1992 data and the larger channel seen in the river planform in GIS. These planform layers were used to determine where the riverbanks were located. With a much wider river in 1992, the river can convey more flow and thus the channel contains higher flows prior to flow going over bank. These channel geometry changes between datasets can be seen later in the "Cross-Section geometry" section.

The 1992 dataset are sensitive to the change in levee point elevation. Figure 32 shows the comparison for the 1992 data for both true bank elevation and 0.5 ft higher. The red line shows 0.5 ft above the true bank elevation while the blue line shows the results using the true bank elevation. The 1962, 1972, and 2002 are not as sensitive to difference between the true bank elevation and 0.5 ft above and below. Notice the data at 40,000 ft along the stationing line in Figure 32. Using a bank elevation 0.5 ft higher yield an overbank discharge of 4,000 cfs while using the true bank elevation yields an overbank discharge of only 2,800 cfs. Appendix B provides plots displaying the data for both the 0.5 ft above and 0.5 ft below the true bank elevation for all datasets.

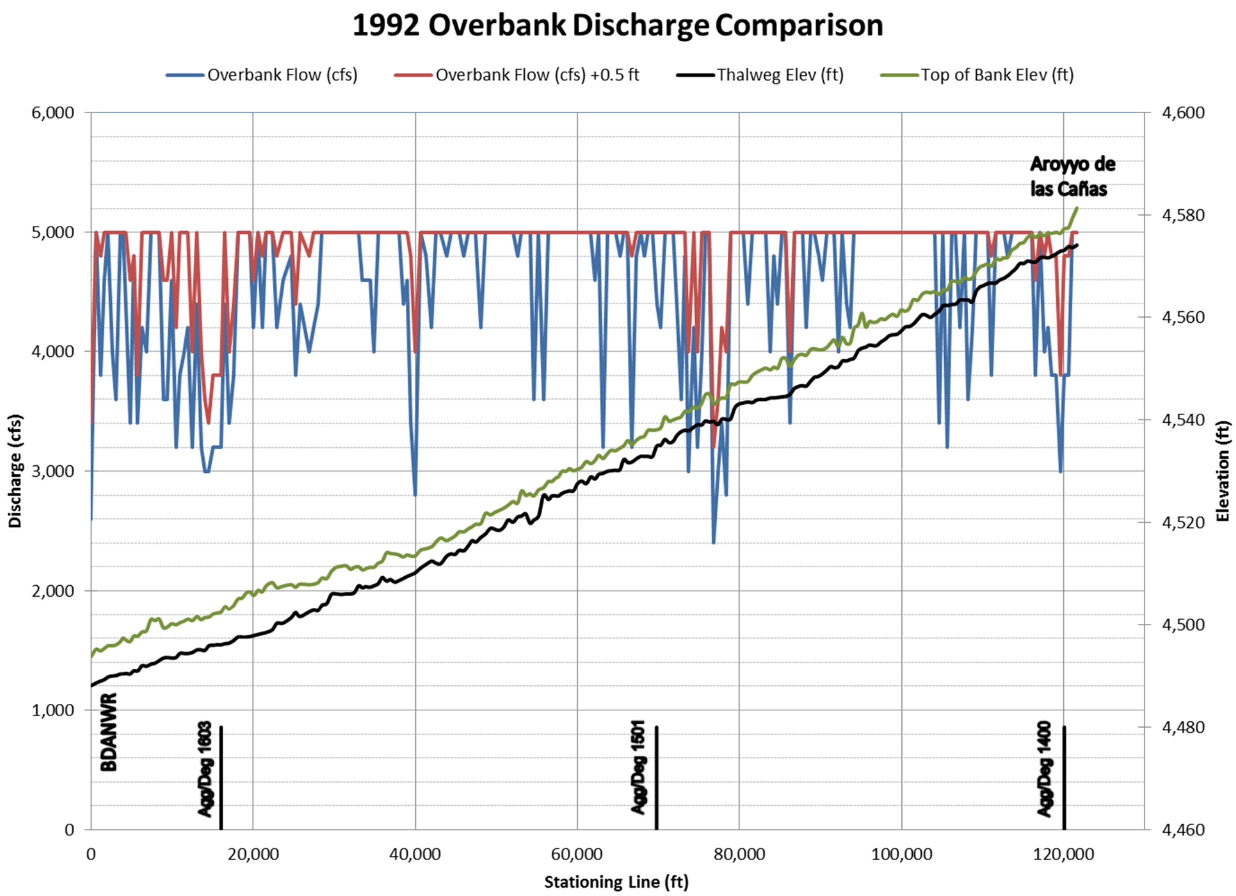

Figure 32 – 1992 comparisons of low bank line elevation and 0.5 ft higher

In addition to the analysis done for all datasets, 1962 data were evaluated up to 7,000 cfs to determine the additional extent of overbank flows. The plot below in Figure 33 shows the red line, the analysis performed up to 7,000 cfs, and the blue line, the original analysis performed up to 5,000 cfs. This data presented in Figure 33 uses the true bank line elevation for the analysis. Clearly, the low overbank flows remain the same and are identical in both plots. This analysis was done to determine if anything significant could be gained by increasing the range of discharges analyzed in this report. The data here would extend the upper range of the analysis and would increase the accuracy of the average overbank flow shown above in Table 6. However, even at 7,000 cfs, not every cross-section had overtopped its banks. At 5,000 cfs 48% of the cross-sections have overtopped. When the upper range for the discharge was increased to 7,000 cfs, 73% of the cross-sections have overtopped. Increasing the upper range for discharges would be beneficial if the true average overbank flow needed to be determined. However, since determining the low overbank flows is the goal of this report 5,000 cfs is sufficient.

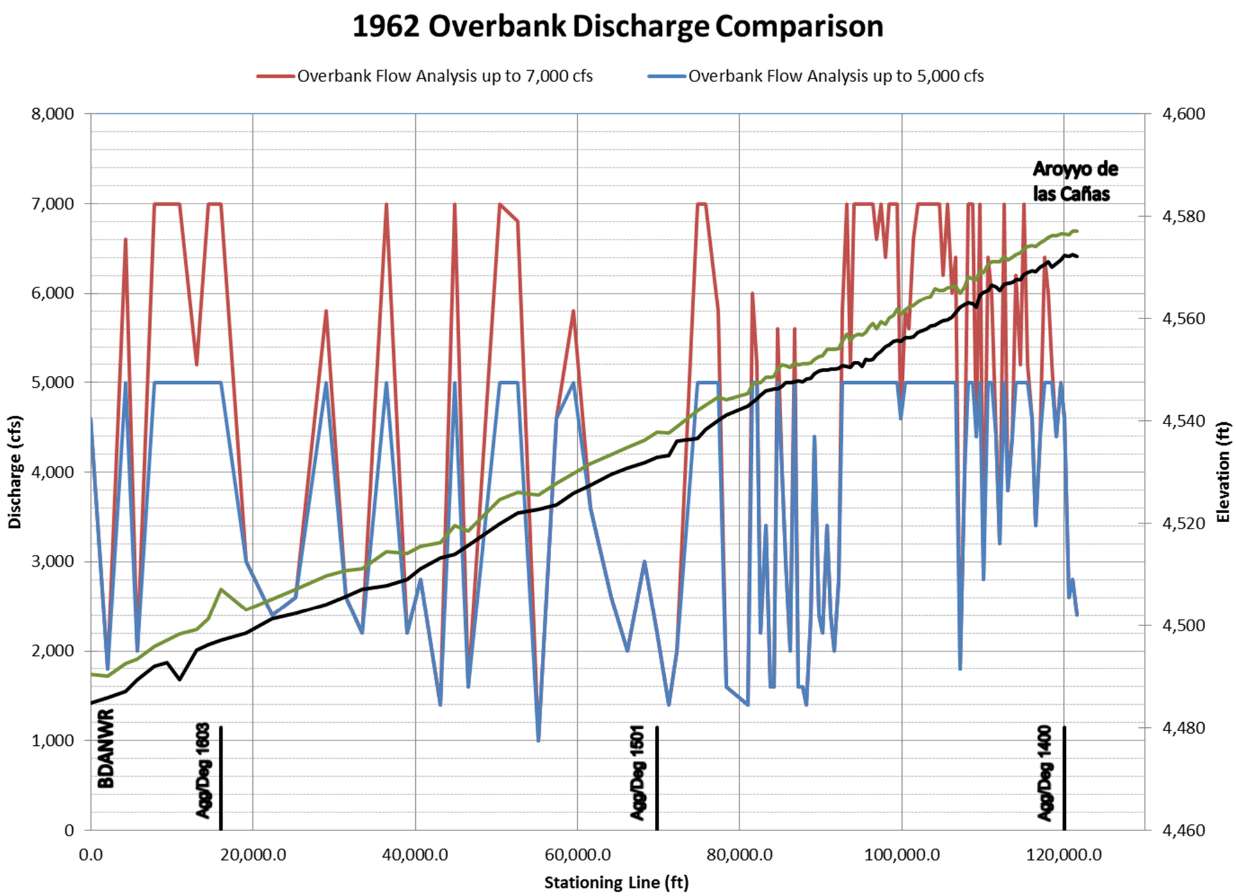

Figure 33 – 7,000 cfs vs. 5,000 cfs overbank limits for 1962 data

Finally, it would be interesting to determine if there is a specific trend in the location of the low overbank values between years within the Bosque reach. To attempt to achieve this, the five lowest overbank values for each year were determined from the above plots and all added to one plot to see if the data points cluster in any one area. If they did cluster, this would result in a possible "Hot Spot" area where frequent overbank flows would occur regardless of the year. In Table 8, the data for these low overbank flows and their location are presented using the true bank elevation. Further, in Figure 34, these data are graphed to show any clusters of points. Notice the five black dots clustered near Agg/Deg 1550. These are 2002 data points and are near the location of the 2008 sediment plug. This will be discussed further in the next section. 1992, 1972, and 1962 each show three point clusters, however, they are each in different locations. These data suggest there is no trend in the location of the lowest overbank flow. Thus, there is no area that appears to be more susceptible to overbank flow in the Bosque reach between 1962 and 2002. As more data become available, this would be useful to track and manage.

Table 8 – Low overbank flow and location

Low Overbank Flow Values - True Bank Elevation							
1962		1972		1992		2002	
Flow (cfs)	Agg/Deg	Flow (cfs)	Agg/Deg	Flow (cfs)	Agg/Deg	Flow (cfs)	Agg/Deg
1,400	1552	1,200	1428	2,800	1484	1,000	1537
1,000	1530	2,000	1436	3,000	1486	1,200	1542
1,400	1498	2,000	1438	2,400	1487	1,000	1546
1,400	1479	1,000	1498	2,800	1557	1,000	1550
1,400	1465	1,200	1501	2,600	1637	800	1554

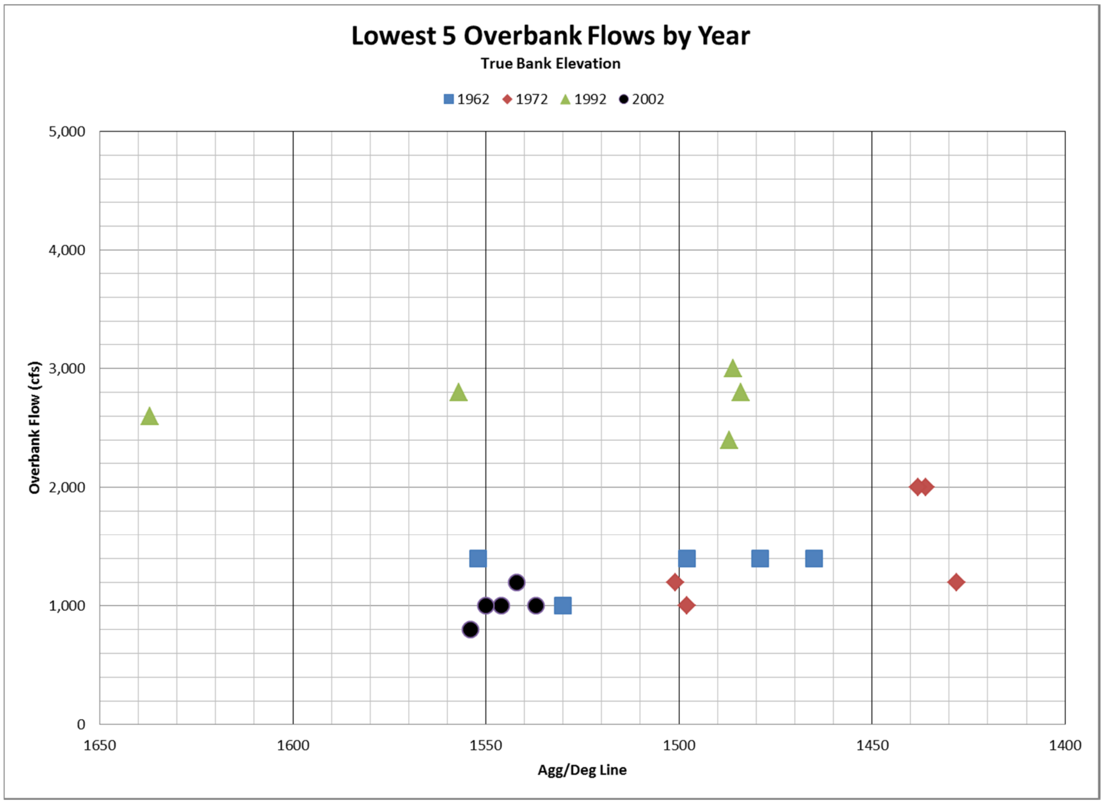

Figure 34 – Low overbank flow data and location for all years

4.3 At-a-Station Hydraulic Geometry

The reach averaged at-a-station hydraulic geometry is presented here for comparison. These data use the following variables as calculated by the HEC-RAS model: cross-section averaged velocity, top width, and cross-sectional area. These values were calculated at every cross-section and averaged over the entire Bosque reach at each flow rate for every year under consideration. The mean flow depth at each cross-section was calculated by dividing the cross-sectional area by the top width of the channel. Figure 35, Figure 36, and Figure 37 are presented to illustrate the change in mean flow depth, velocity, and top width, respectively, as a function of the discharge. Each plot contains reach-averaged data for each of the 25 flows modeled by HEC-RAS in this study.

Notice in Figure 35, the decrease in mean flow depth shown in the 2002 data at approximately 2,000 cfs. The channel width increases with rising discharge. When the flow goes over bank, the mean cross-section flow depth decreases due to the shallow depth flow spreading onto the floodplain.

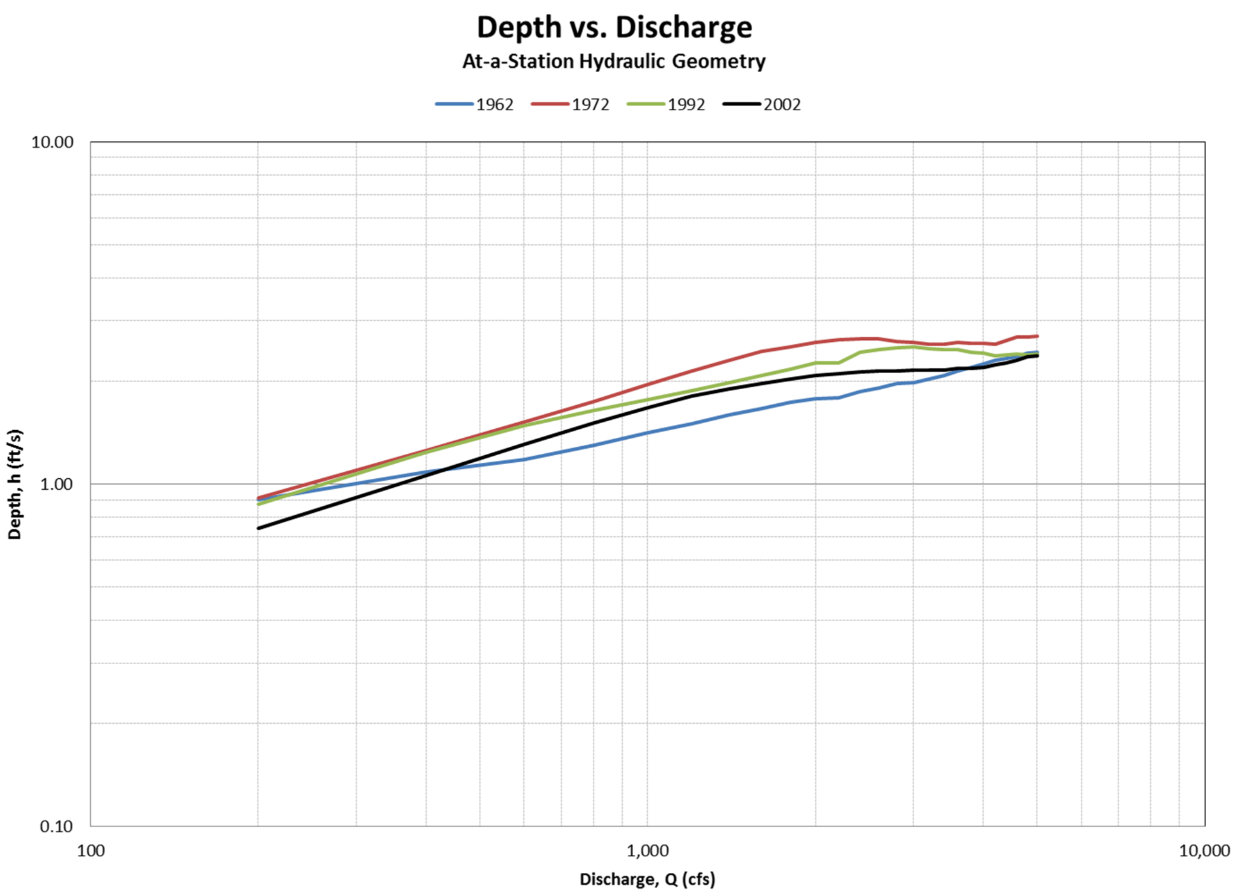

Figure 35 – Mean flow depth vs. discharge at-a-station relationship

Figure 36 shows a decrease in velocity in the 2002 data at approximately 2,000 cfs. This is also due to flow going over bank at approximately 2,000 cfs and spreading out in the hydraulically rougher adjoining riparian zone thus decreasing the mean cross-sectional velocity. For the aggrading river in the Bosque reach, a reduction in cross-sectional average velocity could be one of the contributing causes of an increased rate of sediment deposition. The vertical suspended sediment concentration profile, ratio of suspended load to total load, duration of overbank flows, and other factors also influence sediment plug formation Boroughs et al (2011). In 2002 the point of maximum velocity versus discharge is lower than other datasets suggesting greater plug formation potential.

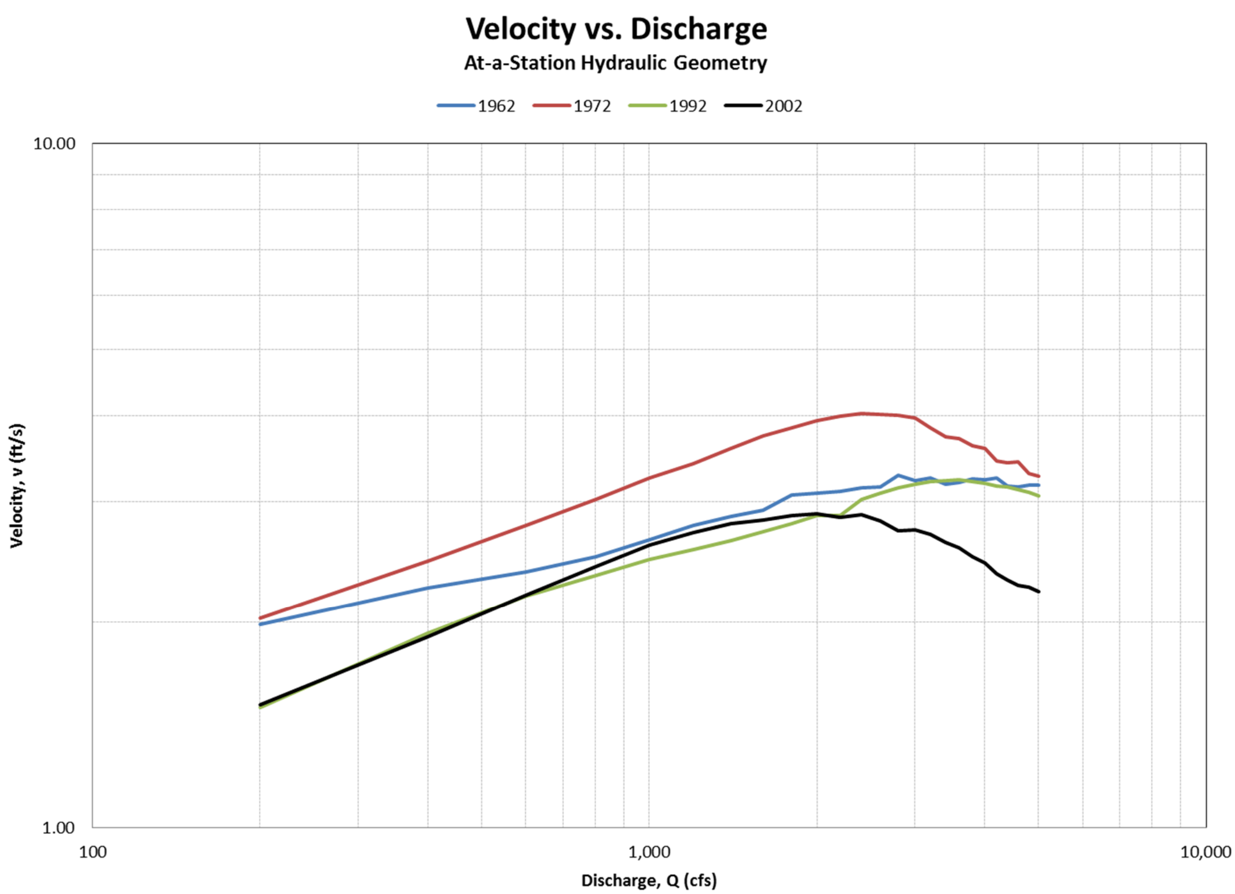

Figure 36 – Velocity vs. discharge at-a-station relationship

Notice the break in slope in Figure 37 depicting the top width versus discharge relationship. As described by Julien (2002), this break in slope can be an indicator of bankfull flow. This is because, beyond the bankfull discharge the width of the channel will suddenly increase as flow leaves the main channel and enters the floodplain. Notice the 1992 data with the largest discharge at the break in slope at approximately 2,200 cfs. The 2002 data show the smallest discharge at the break in slope at approximately 1,000 cfs. 1962 and 1972 have a break in slope at approximately 1,200 cfs and 1,600 cfs, respectively. These figures were created using reach-averaged values and do not give the same level of detail shown in the preceding section. Still, the same overall trend is shown.

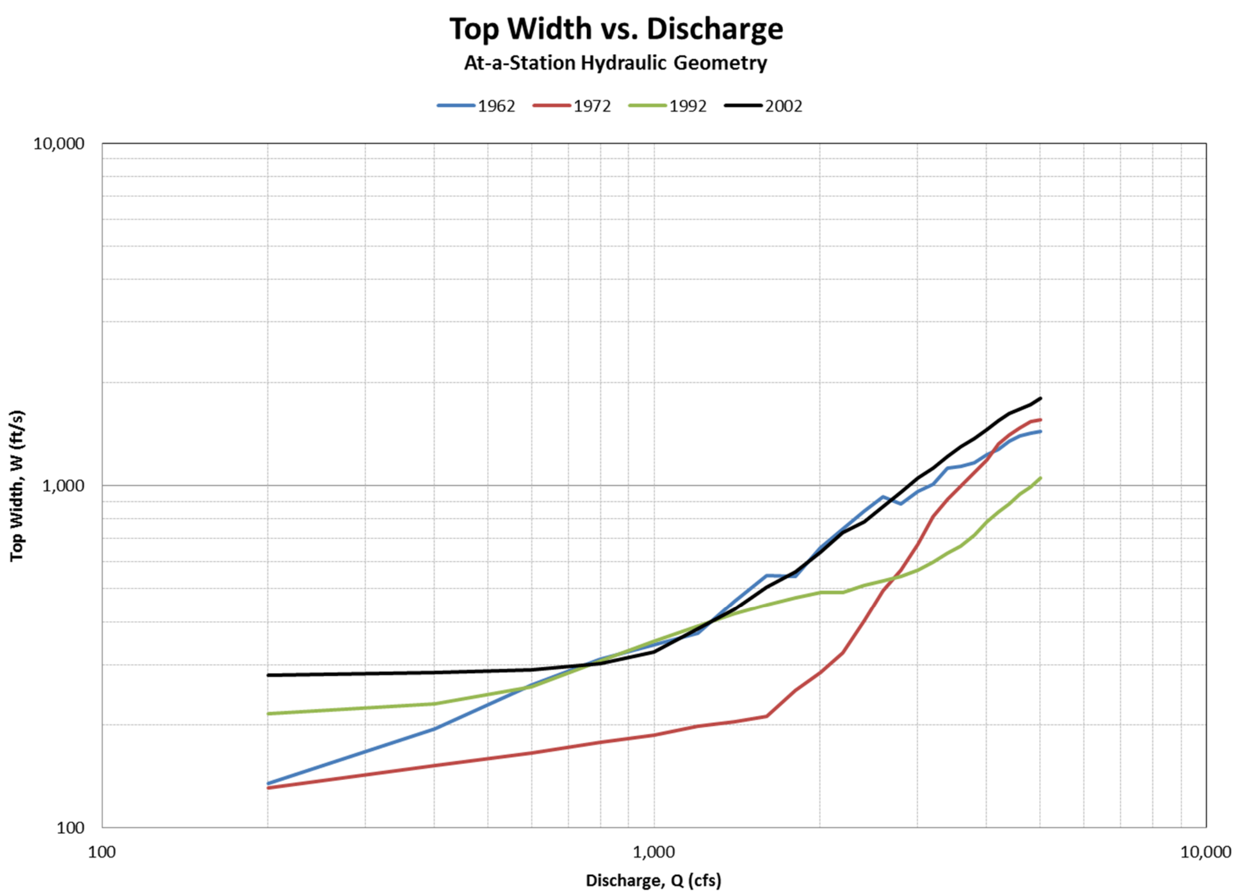

Figure 37 – Width vs. discharge at-a-station relationship

4.4 Cross-Section Geometry

To show the changes in the cross-sectional geometry, 50 locations (Agg/Deg lines) were chosen. The upstream and downstream cross-sections were both selected since they represent the boundary conditions as well as 48 other cross-sections. The 48 other cross-sections begin at Agg/Deg 1400 and span approximately every 5 cross-sections. Data were not always available at every 5 cross-sections in 1962 and 1972. For this reason, the next closest cross-section was chosen that contained data for all four years to represent that location. Table 9 lists the cross-sections used for this geometry comparison. The distance between cross-sections is approximately 2,500 feet but varies slightly along the reach. Also, as a representative three to be presented in the body of this report, cross-sections at Agg/Deg lines 1400, 1501, and 1603 are displayed and discussed below. The remainder of the cross-sections presented for comparison can be found in Appendix C of this report.

Table 9 – Cross-Sections for Geometric Comparison

50 Cross-Sections				
Agg/Deg				
1397	1445	1495	1545	1595
1400	1450	1500	1550	1600
1405	1455	1505	1555	1605
1410	1460	1510	1560	1610
1415	1465	1515	1565	1615
1420	1470	1520	1570	1620
1425	1475	1525	1575	1625
1430	1480	1530	1580	1630
1435	1485	1535	1585	1635
1440	1490	1540	1590	1637

In Figure 38, Agg/Deg line 1400 (upstream), the most noticeable change between the years is the shift of the main channel toward the east (left). The main channel in 1962 is shown in blue. In 1972 the main channel moves west (right). In 1992, the main channel has moved back to the east. By 2002 the channel is almost in the same position having moved slightly west (right) again. Notice the black line, 2002 data, just to the left of the LFCC levee. According to the aerial photographs the main channel is still between about station 325 and 575, thus this is likely a secondary channel that formed due to overbank flow collecting at the toe of the levee forming a flow path causing erosion. This secondary channel may have vegetated and with increased flow resistance did not become the main channel. More information would be needed to determine the reason behind this formation in the geometry. Also, notice at this location, near the upstream end of the reach, not much aggradation or degradation is visible between the years. The years seem to both aggrade and degrade. From 1962 to 1972 slight degradation can be seen, while between 1972 and 1992 aggradation can be seen. From 1992 to 2002, again, degradation can be seen.

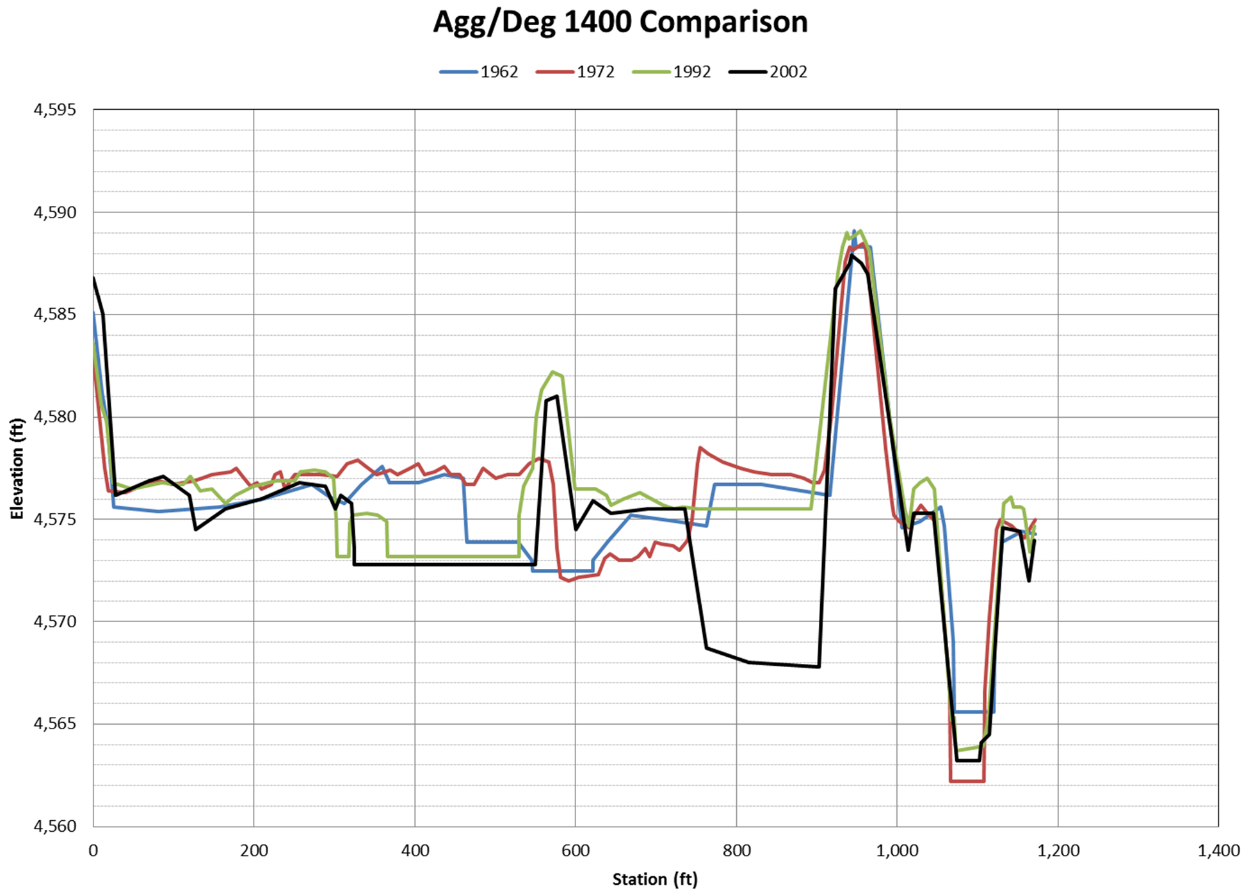

Figure 38 – Agg/Deg 1400 geometry for 1692, 1972, 1992, and 2002

Agg/Deg 1501 (mid-channel) is shown in Figure 39. Here the most noticeable trend is aggradation since 1972. The 2002 data (black line) shows a significant rise in the cross-sectional ground surface elevation. Notice the LFCC on the right of the graph. The differences in the water surface elevation in the LFCC can be attributed to differing flows in the LFCC when the aerial photograph was taken and any sediment deposition. Remember from Figure 6, in section 2.2.2, the water surface in the aerial photography will show up as a flat line. Notice the peaks of the LFCC banks are approximately the same for all years. At this cross-section, the main channel can also be seen moving positions within the floodplain. After 1962 the main channel moves east (left) and remains there for the data analyzed.

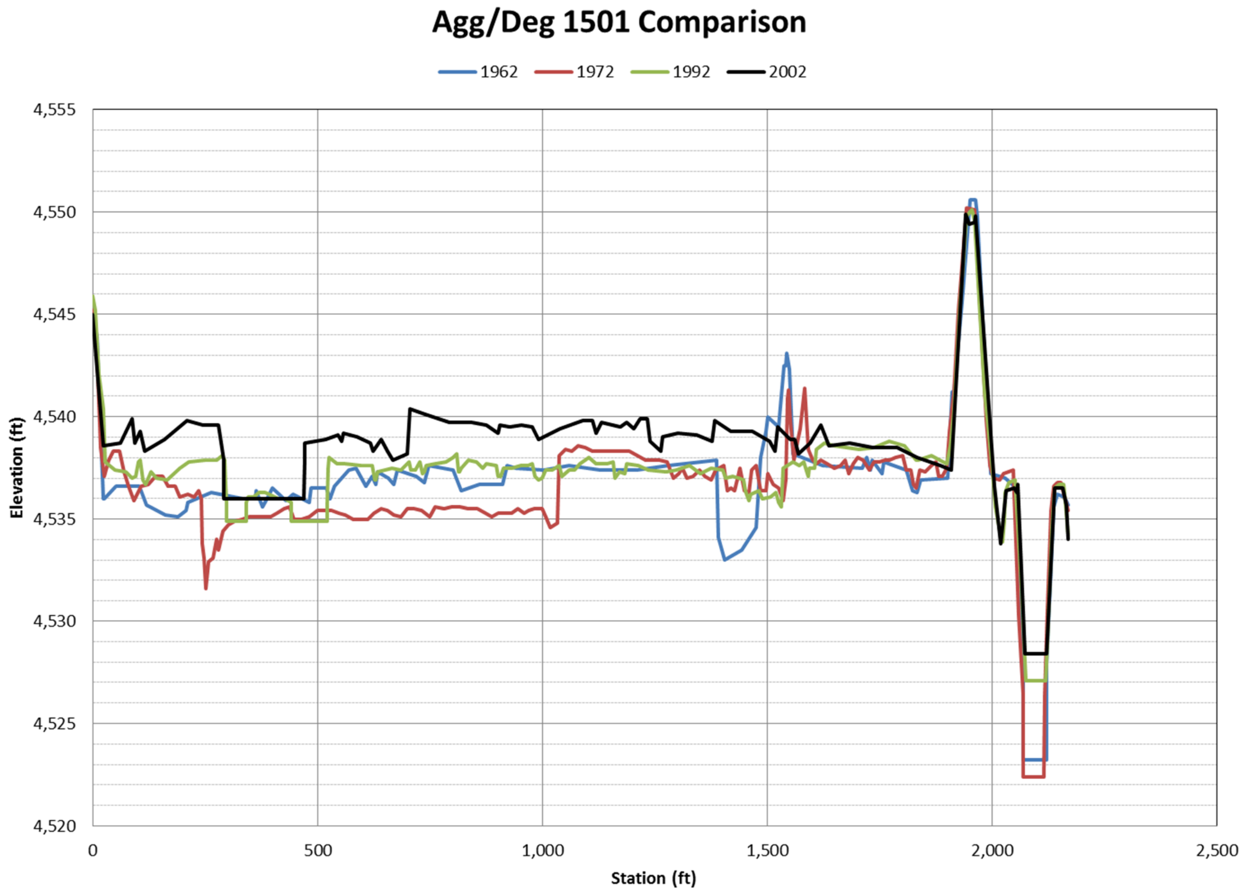

Figure 39 – Agg/Deg 1501 geometry for 1692, 1972, 1992, and 2002

Agg/Deg 1603 (downstream) is shown in Figure 40. Here the most noticeable trend is that of aggradation of the thalweg. Notice the wide channel shown in the 1962 data that actually consist of two channels. In 1972, it can be seen that the right channel from 1962 has degraded and widened to contain the entire main channel flow. In 1992 aggradation can be seen and there is further aggradation in 2002. The downstream end of the Bosque reach experienced the most prominent aggradational trend. The floodplain shows a slightly different trend, as 1992 had the highest level of aggradation. This is most likely due to the two floods that occurred in the Middle Rio Grande in the late 1980's.

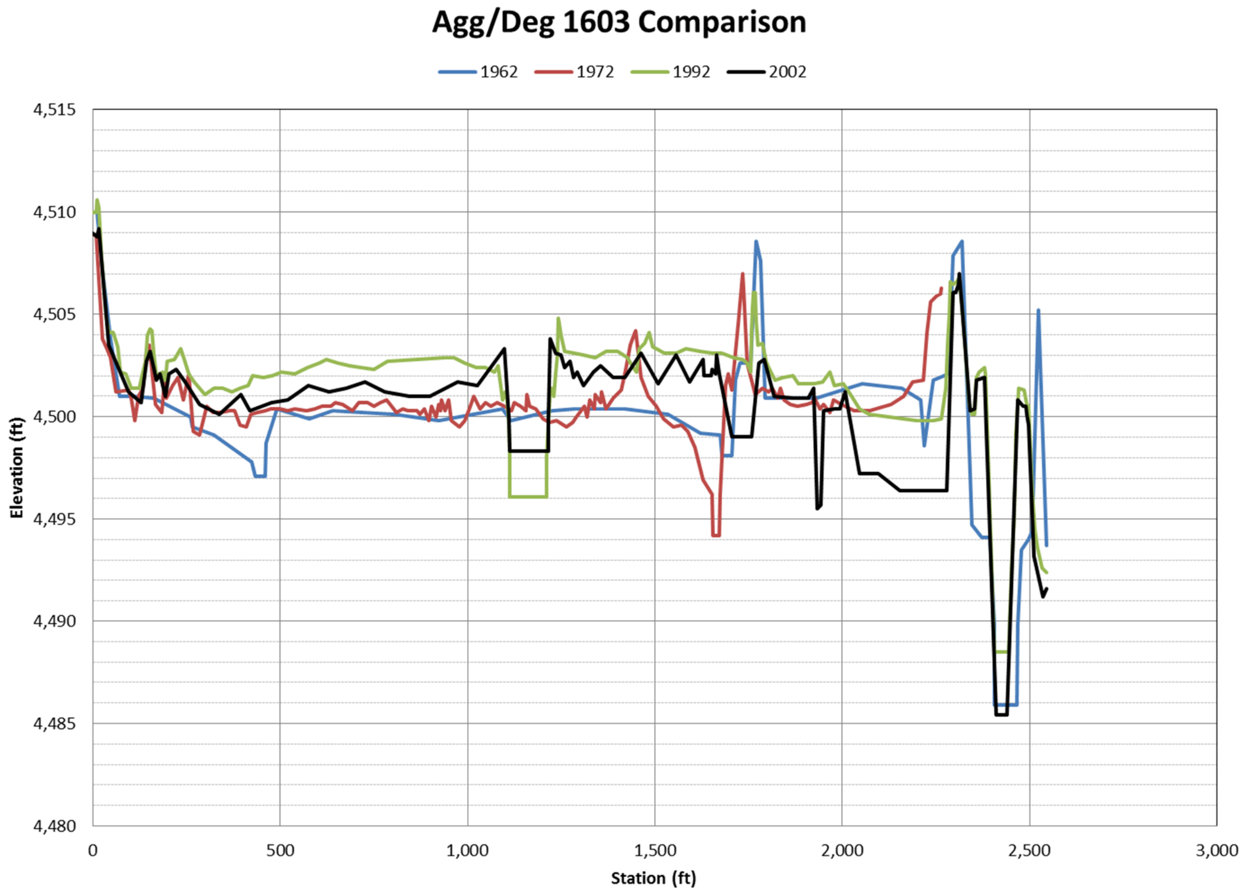

Figure 40 – Agg/Deg 1603 geometry for 1692, 1972, 1992, and 2002

Overall, the cross-section geometries show interesting trends depicting aggradation, degradation, and main channel location shifts within the Rio Grande Valley. Both the channel thalweg and the valley floodplain exhibit trends of aggradation and degradation. The remainder of the cross-sections presented for comparison can be found in Appendix C of this report.

4.5 2008 Sediment Plug

Overbank flow can be a main contributor to the formation of sediment plugs. This is discussed in a paper by Boroughs et al. entitled "Criteria for the formation of Sediment Plugs in Alluvial Rivers" published in the Journal of Hydraulic Engineering in May 2011. Boroughs et al. (2011) state there are four possible contributors to sediment plug formation. They include significant loss of flow to overbank areas, prolonged overbank flows for several days or weeks, upstream sediments supply exceeding a local sediment transport capacity, and a non-uniform vertical total sediment distribution profile. Boroughs et al. (2011) go on to state encroachment of the vegetation from the riparian zone can increase hydraulic roughness in the main channel. Also, long-term aggregation can contribute to the decrease in sediment transport capacity. "Alluvial rivers are prone to sediment plug formation at the location of a significant constriction" (Boroughs et al., 2011).

This study focuses on the location of possible areas prone to overbank flows. Depending on the intensity and duration of the storm, the overbank flow event can last several days or weeks. Constrictions can be seen in the HEC-RAS river cross-sections through either riverbed aggradation or channel narrowing. These constrictions can force water overbank and further induce sedimentation in the main channel.

It is interesting to note the plot of overbank flow vs. downstream distance for the 2002 dataset in light of the sediment plug that formed within the Bosque reach in 2008. The location of the 2008 sediment plug is shown below in an aerial photograph in *Figure 41*. This plug occurred between Agg/Deg lines 1531 and 1550, which equates to a plug approximately 2 miles in length. A larger image to show its location is depicted in Figure 42.

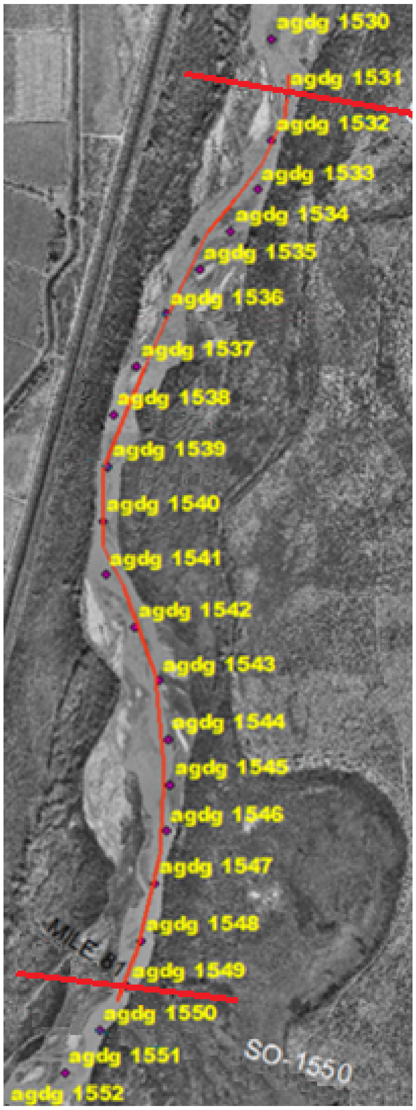

Figure 41 – Aerial photograph showing precise location of 2008 sediment plug

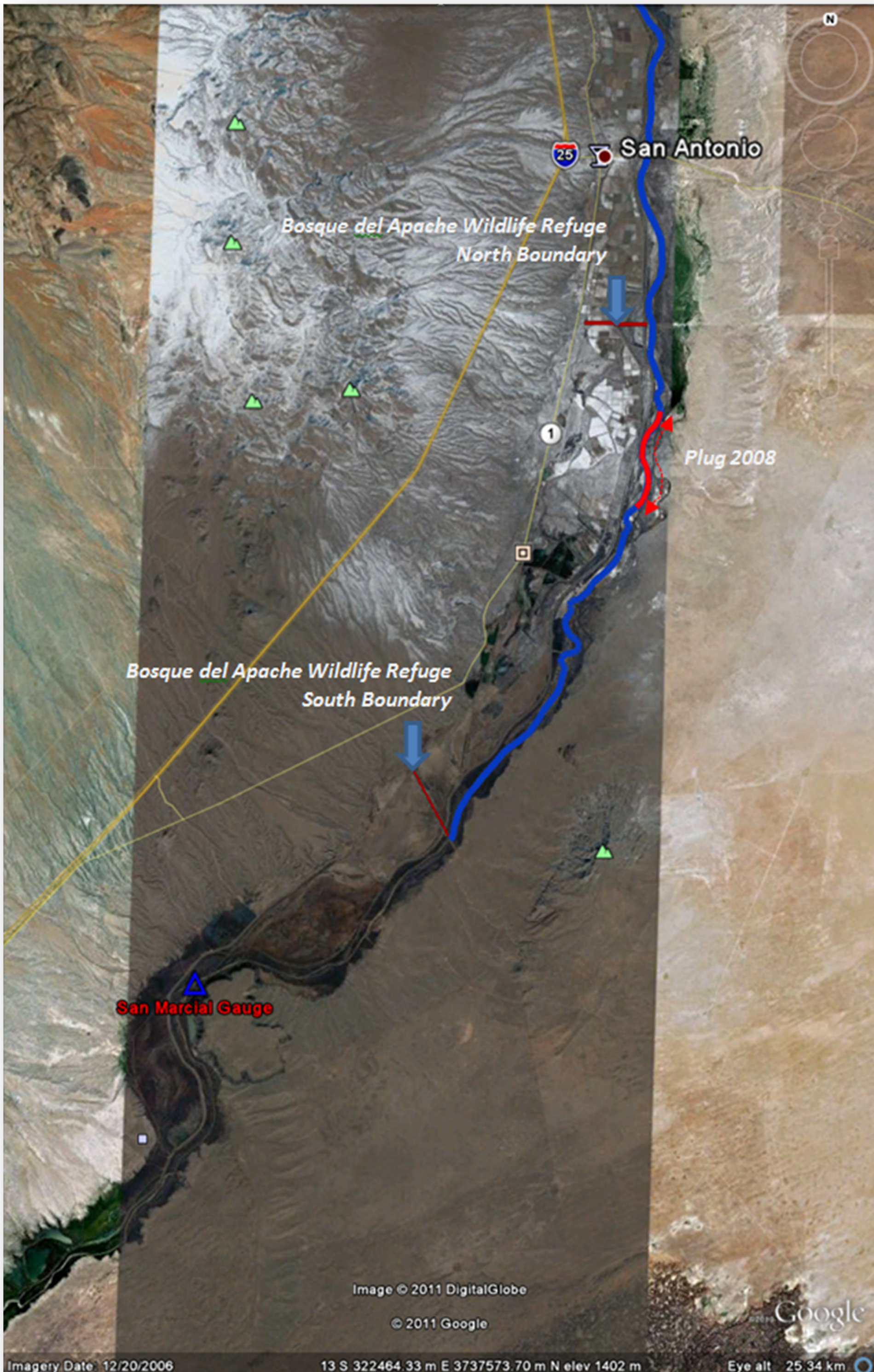

Figure 42 – Aerial photograph showing the location of the 2008 sediment plug

Notice the plot of the overbank flow versus downstream distance in 2002 shown below in Figure 43. This plot uses the true bank elevation. The low overbank flow for the Bosque reach is approximately 800 cfs (low bank elevation) and 1400 cfs (0.5 ft higher) in 2002. This low overbank flow occurs at Agg/Deg line 1554. This corresponds to a location near that of the sediment plug that formed in 2008. The location would not be expected to match up exactly as the plug does not form for another 6 years after the data were surveyed.

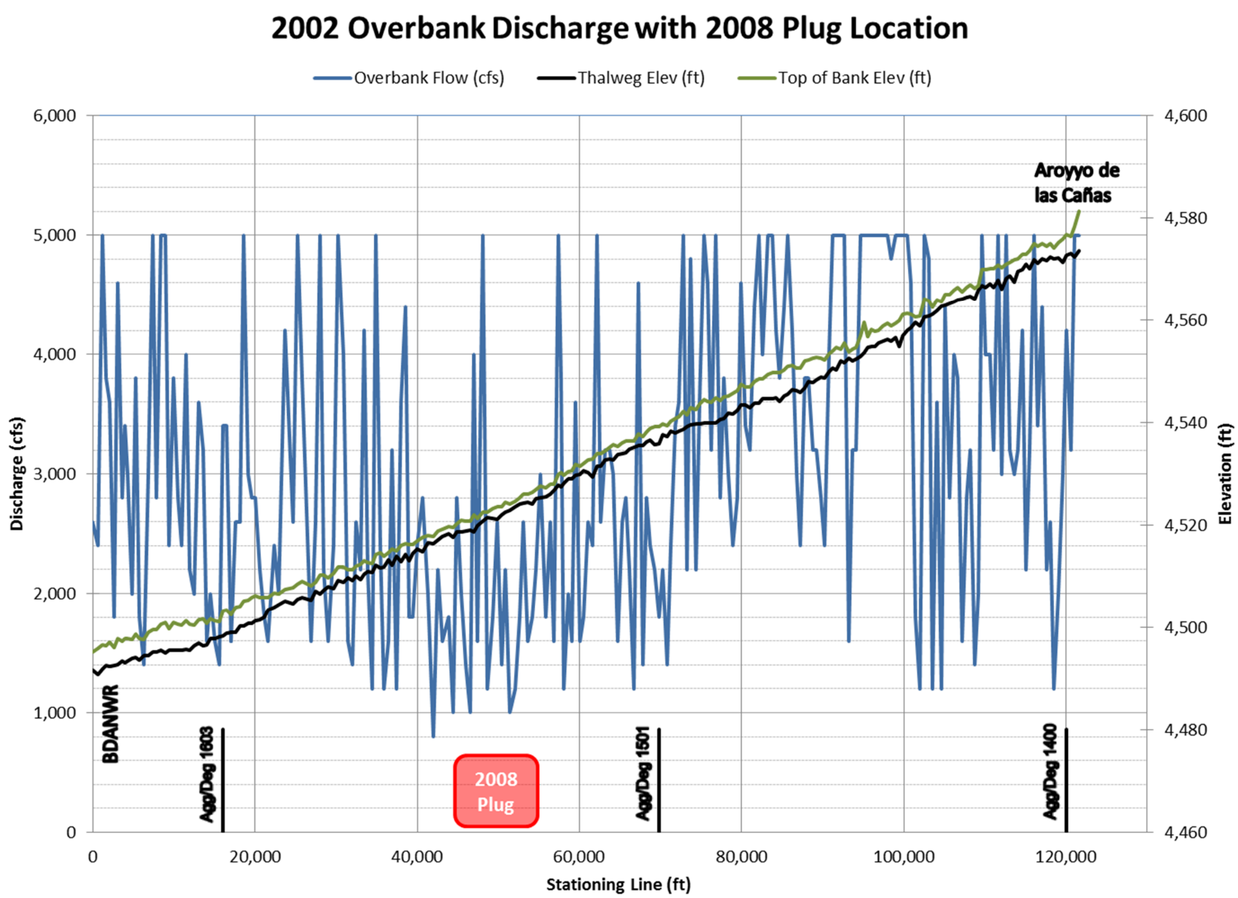

Figure 43 – Overbank flow comparison with sediment plug location

Also, presented here are a series of plots similar to those from the previous section depicting the 2002 cross-sectional geometry corresponding to the plug's location. Here, however, only 3 plots (Figure 44, Figure 45, and Figure 46) are shown to illustrate the cross-sections located within the sediment plug boundaries. They are located at the cross-sections near the upstream, mid-point, and downstream faces of the 2008 sediment plug. As stated above, the sediment plug extended from Agg/Deg 1531 to Agg/Deg 1550. To represent these 3 areas, cross-sections at Agg/Deg 1530, 1539 and 1549 are displayed.

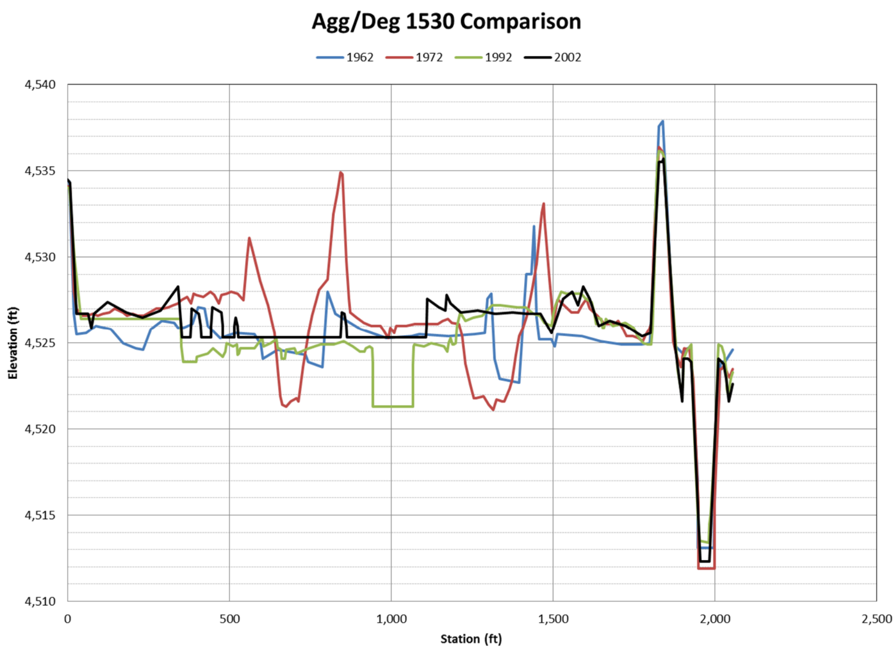

Figure 44 – 2002 data near upstream face of 2008 sediment plug

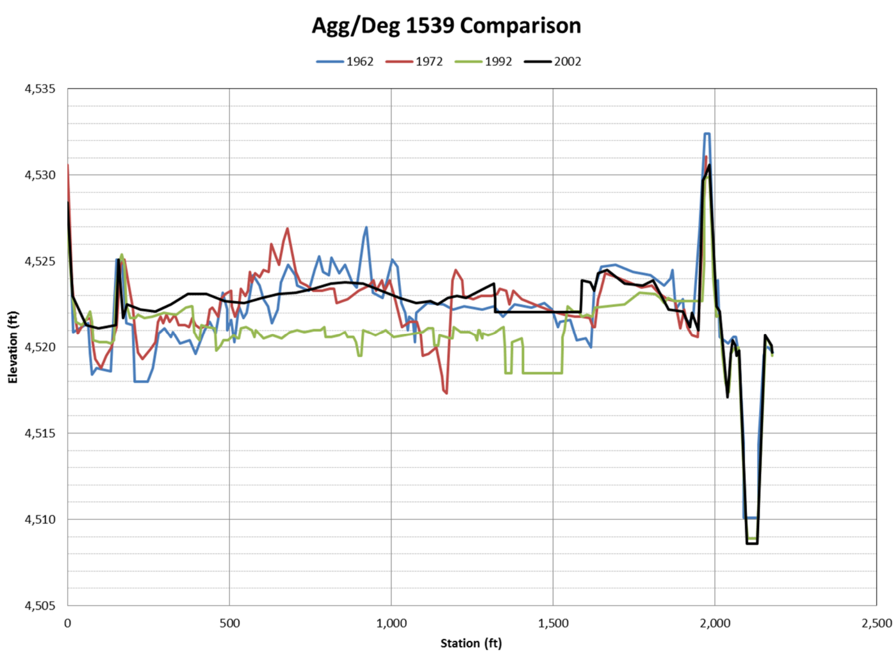

Figure 45 – 2002 data near mid-point of 2008 sediment plug

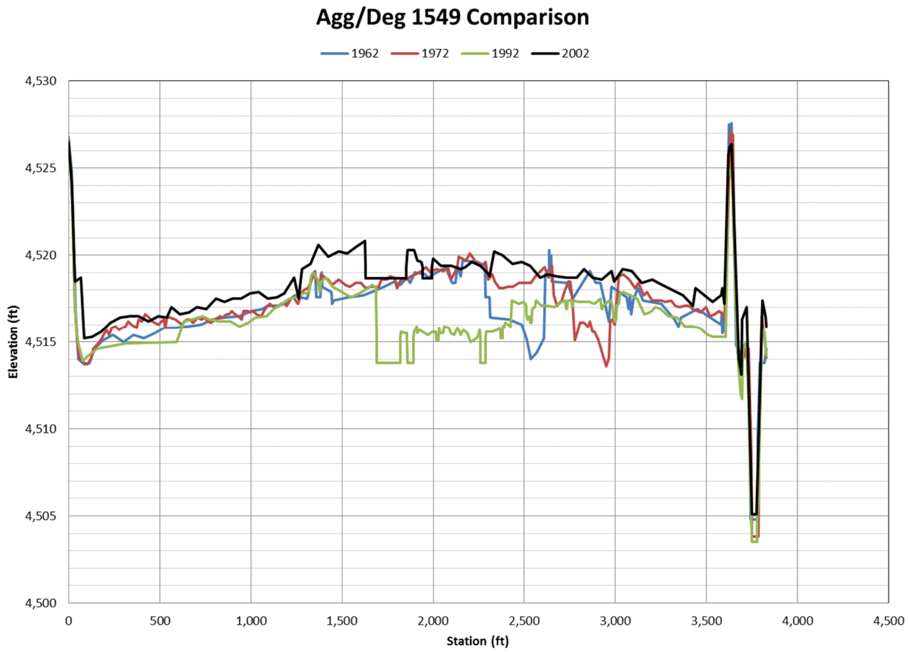

Figure 46 – 2002 data near downstream face of 2008 sediment plug

2002 data are shown in black. Notice how wide and shallow the river appears at Agg/Deg 1530 in comparison to the previous years of data available for the Bosque reach. At Agg/Deg 1539 near the mid-point of the 2008 plug, the river cross-section displays significant aggradation. Finally, near the downstream face at Agg/Deg 1549, the cross-section displays a severely perched river, as the channel thalweg elevation is much higher than the surrounding floodplain. It all three plots, the river displays a small and constricted channel in comparison to previous year's data. While there has been noticeable aggradation since 1962, the 1962 cross-section contains evidence of channel perching as well, indicating longer-term aggradation.

The 2002 data are still only one year of data that have similarities to the sediment plug formation, but it does raise the importance of overbank flows and the subsequent loss of flow to the overbank area to the formation of sediment plugs. This is discussed by Boroughs et al. (2011) as one of the contributing factors to sediment plug formation. As more sediment plugs are tracked and studied and once the 2012 survey data are available, it will be interesting to perform the same analysis to see if there are any similarities or areas that may be susceptible to sediment plug formation in the future.

Section 5: Conclusions

HEC-RAS was used to model the Bosque reach with flows ranging from 200 to 5,000 cfs in 200 cfs increments. From this analysis, the water surface elevation profiles show the overall trends in the Bosque reach from 1962 up through 2002. One trend is that of aggradation in the downstream end of the Bosque reach. The water surface elevation profiles allow for a direct analysis of overbank flows within the reach. When plotted versus the low top of bank elevation at each cross-section, it becomes evident where the “Hot Spots” for overbank flows are located each year. The results show the temporal and spatial variability in the flow that will overtop the banks of the Bosque reach. Figure 47 shows the results for the Bosque reach spanning the four years of provided data using the true bank elevation. This plot displays the low overbank flow as a function of the year data was analyzed.

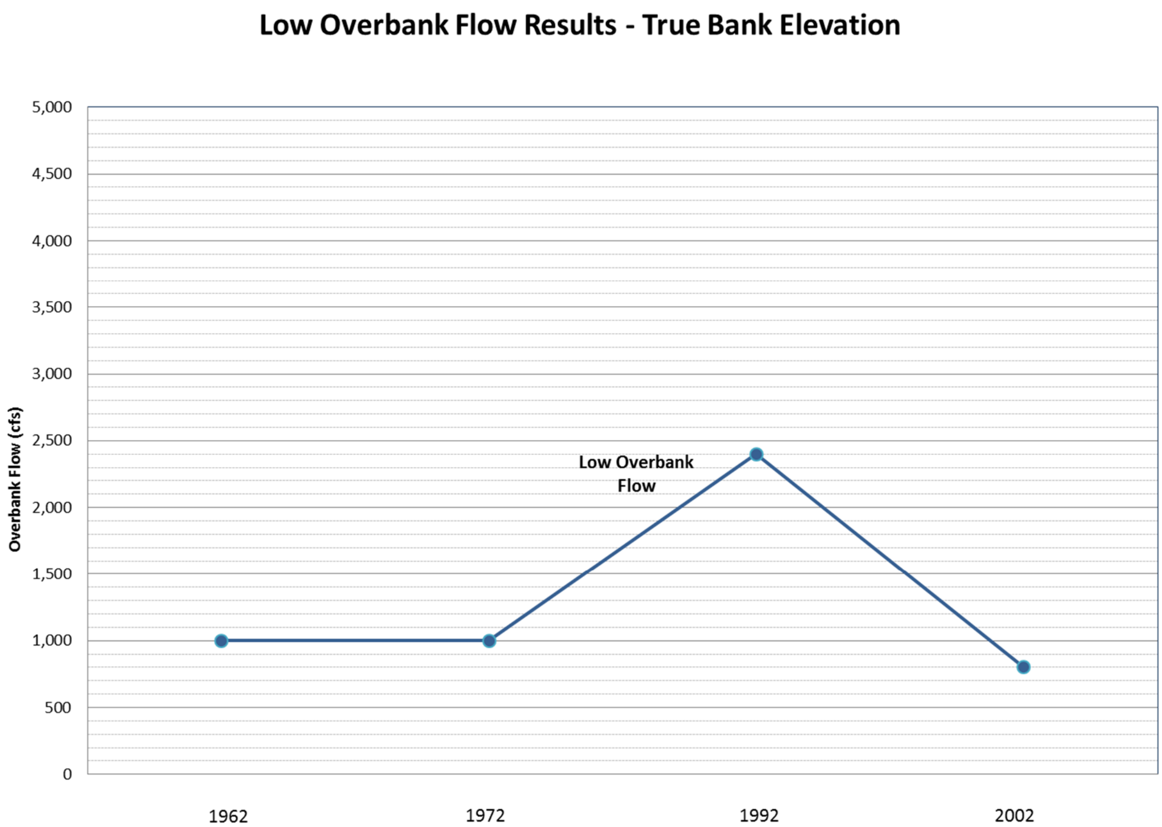

Figure 47 – Overbank flow summary of results

Below, in Table 10, the values for the lowest overbank flows and their location are presented for comparison. Figure 47 and Table 10 display the trend in the Bosque reach data over time. The flow the channel can convey before it overtops its banks is reduced since 1962. While both 1962 and 1972 produce similar data (1,000 cfs), the 2002 data show the channel has a much-reduced capacity with a low overbank flow discharge of 800 cfs. The 1992 low overbank discharge is three times the 2002 data at 2,400 cfs.

Table 10 – Low Overbank Flow Summary

Low Overbank Flow Values - True Bank Elevation							
1962		**1972**		**1992**		**2002**	
Flow (cfs)	Agg/Deg	Flow (cfs)	Agg/Deg	Flow (cfs)	Agg/Deg	Flow (cfs)	Agg/Deg
1,000	1530	1,000	1498	2,400	1487	800	1554

This 1992 dataset succeeded a period of high flows, flows much higher than the channel forming discharge range. For this reason, the 1992 data show the channel is able to convey much higher discharges before overtopping its banks and reaching the floodplain. Figure 48 shows the datasets in comparison to the period of high flows preceding 1992 and the period of drought preceding 1962, 1972, and 2002. The drought preceding 1962 and 1972 started in approximately 1940 and lasted up until about 1980. The period of drought preceding 2002 appears to only span about 8-9 years and began around 1996. Notice the two floods that occurred in approximately 1980 and 1985. These floods, both over 12,000 cfs, had a large impact on the channel size and slope in the 1992 survey. This flow peak is clearly much larger than the channel forming discharge. The GIS planform layer reflects this larger river channel. This helps explain why the 1992 dataset show a much different river channel in both geometry and capacity.

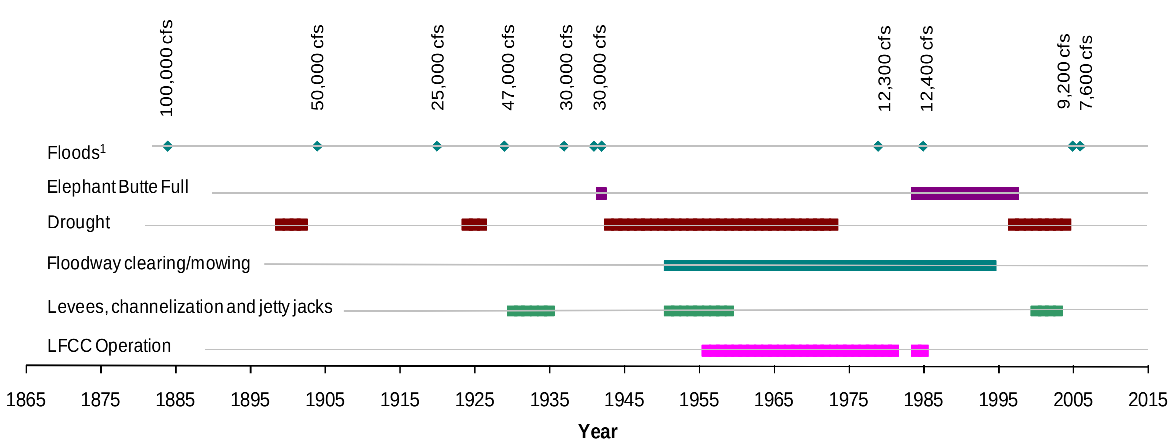

Figure 48 – Rio Grande floods and droughts (Reclamation)

The percentage of cross-sections having been overtopped at each respective flow was plotted (Figure 49) for all four years under consideration. The 2002 data show the highest overall percentage of cross-sections having been overtopped at each respective flow. This is as expected with the decreased capacity of the Bosque reach in 2002. Conversely, the 1992 data show the greatest channel capacity with the lowest number of cross-sections overall having been overtopped. The 1962 and 1972 data each show similar data, however, the 1972 data show more cross-sections having been overtopped at 5,000 cfs. 2012 data, once available, will add to this topic of overbank flow to determine if this trend continues in the Bosque reach.

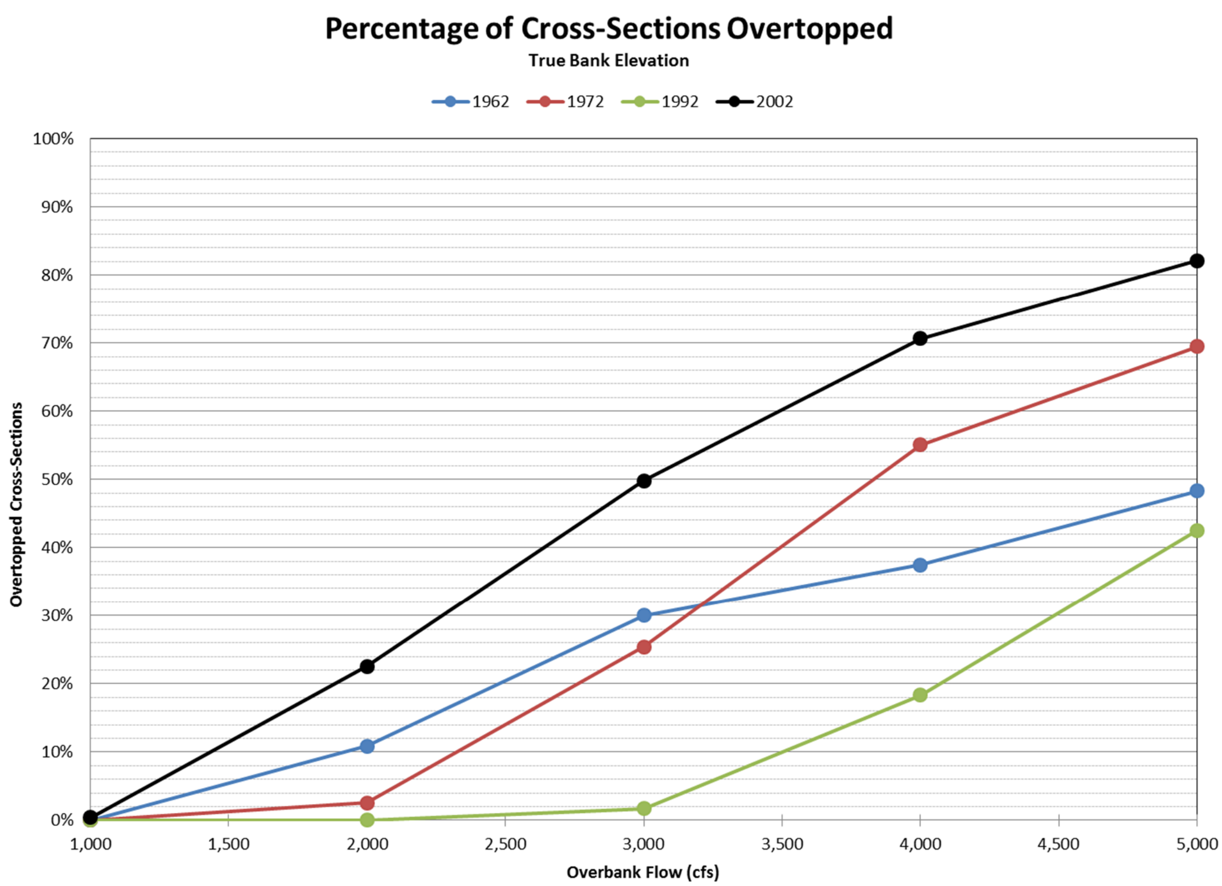

Figure 49 – Overtopped cross-sections by percentage

The reach averaged at-a-station hydraulic geometry showed a similar trend to that observed in the detailed analysis of overbank flows. These figures were created using reach-averaged values and do not give the same level of detail shown in the main analysis. The break in slope in the plot of top width versus discharge corresponds to the average top width's increase associated with overbank flows. The 1992 data showed the largest corresponding discharge at the break in slope at approximately 2,200 cfs. The 2002 data showed the smallest discharge at approximately 1,000 cfs. 1962 and 1972 displayed values of 1,200 cfs and 1,600 cfs, respectively. This trend supports the findings of the main detailed analysis. Also displayed by the reach averaged at-a-station hydraulic geometry is the decrease in velocity in the 2002 dataset corresponding to an increase in discharge above 2,000 cfs. This observation is important to note. As the flow velocity decreases, so does the sediment transport capacity of the system. This can in turn induce sedimentation and further aggrade the riverbed.

The cross-section geometry comparison showed periods of both aggradation and degradation with an overall aggradational trend. This is supported by the lower overbank flow values in the 2002 dataset. Also, the channel cross-section comparisons showed the main channel moving within the Rio Grande Valley. The channel may be scouring and depositing on its banks to change its path, but with the perched nature of the Bosque reach, it is also possible the channel has avulsed. This process will carve a new channel and leave abandoned historic channels. In time, these abandoned channels may once again become the main channel as the river's course continues to change.

Finally, the 2002 data appears to support the identification and location of the 2008 sediment plug. Figure 50 shows the location of the lowest 5 flows for each dataset. Notice the cluster of connected black dots located near Agg/Deg 1550. These three points correspond to an area with the lowest overall overbank flows in 2002. Multiple cross-sections near Agg/Deg line 1550 experienced sediment deposition and reduced capacity to transport sediment with banks that overtop at the lowest overall discharge in this reach. In 2008 a sediment plug formed near this location between Agg/Deg 1531 and Agg/Deg 1550. Boroughs et al. (2011) state alluvial rivers are prone to sediment plugs occurring as a result of aggradation resulting from overbank flows. With a higher sediment concentration near the bed, the water lost to the overbank area will carry with it a lower concentration of sediment. This may induce sedimentation and further aggrade the main channel riverbed. This process can continue until the main channel is completely plugged with sediment. This occurred in 2008 in the Bosque reach. While overbank flows are not the only contributing factor to sediment plugs, they cannot be ignored. As more data become available and more sediment plugs are tracked, this analysis can be further developed.

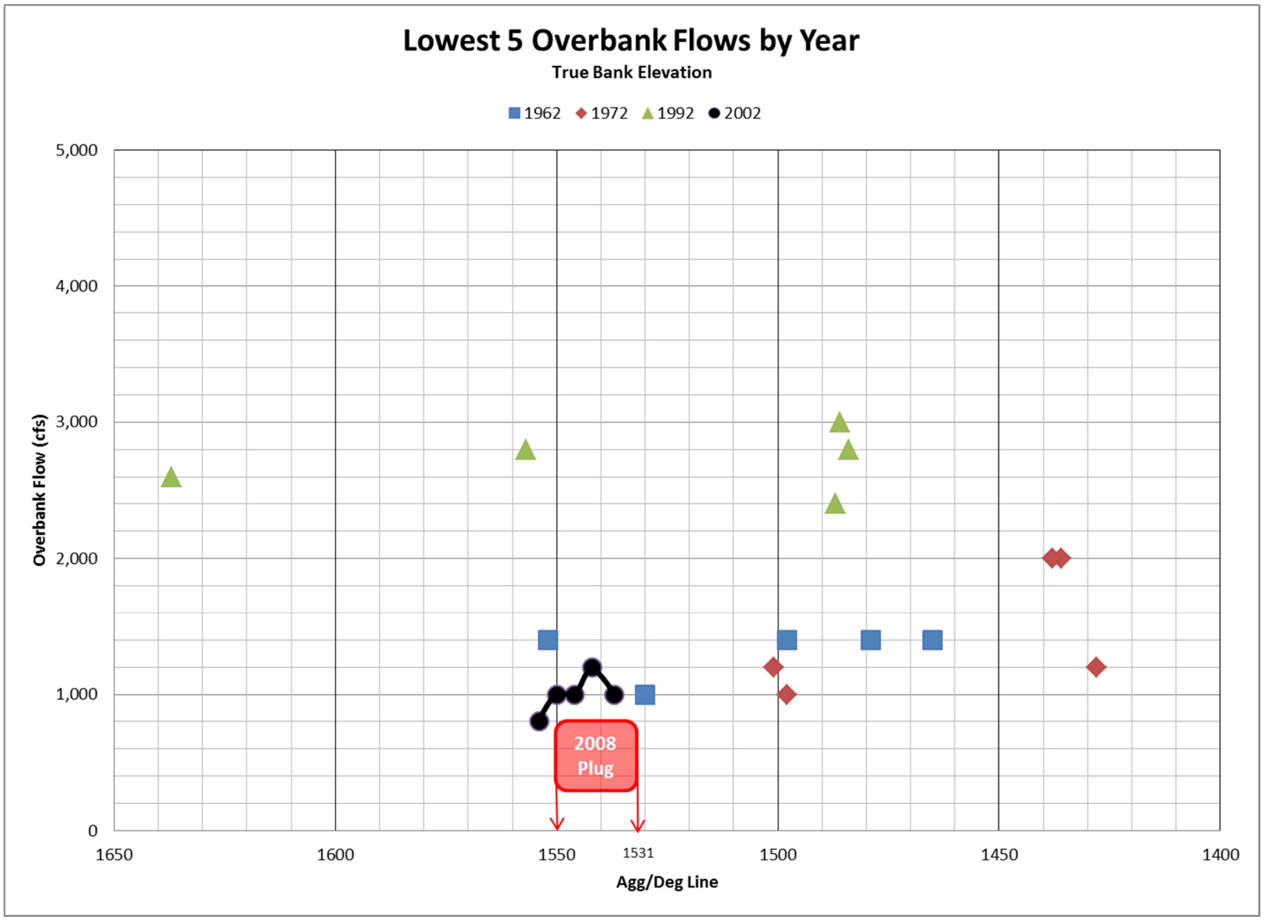

Figure 50 – Location of low overbank flows and sediment plug

After sediment plugs form, removal can be a very costly endeavor. The 2008 sediment plug was approximately 2 miles long and required large earth moving equipment to be removed. It is possible for sediment plugs to recede naturally, however, it may take a long time. Sediment plugs can completely stop the flow. In the Rio Grande, delivering water downstream is imperative in light of the 1938 Rio Grande Compact requiring water deliveries downstream to the rest of New Mexico, Texas, and Mexico.

This 1-dimensional overbank flow analysis provided useful results in the study of the Bosque reach of the Middle Rio Grande. The spatial variability in the data was as expected with a natural river channel. Also, the data showed the decreasing trend in the capacity of the Bosque reach over time. This was as expected with an aggrading river bed. This analysis would prove beneficial for other reaches of the Middle Rio Grande as well. It would be worthwhile to determine if these other surrounding reaches displayed the same trends in water surface elevation profiles and overbank flows. There have been other plugs that have formed in the Middle Rio Grande outside the Bosque reach. This analysis, if completed near the sites of the other sediment plugs, may provide similar results. Also, further investigation can be done using this approach once the 2012 data are available for the Bosque reach.

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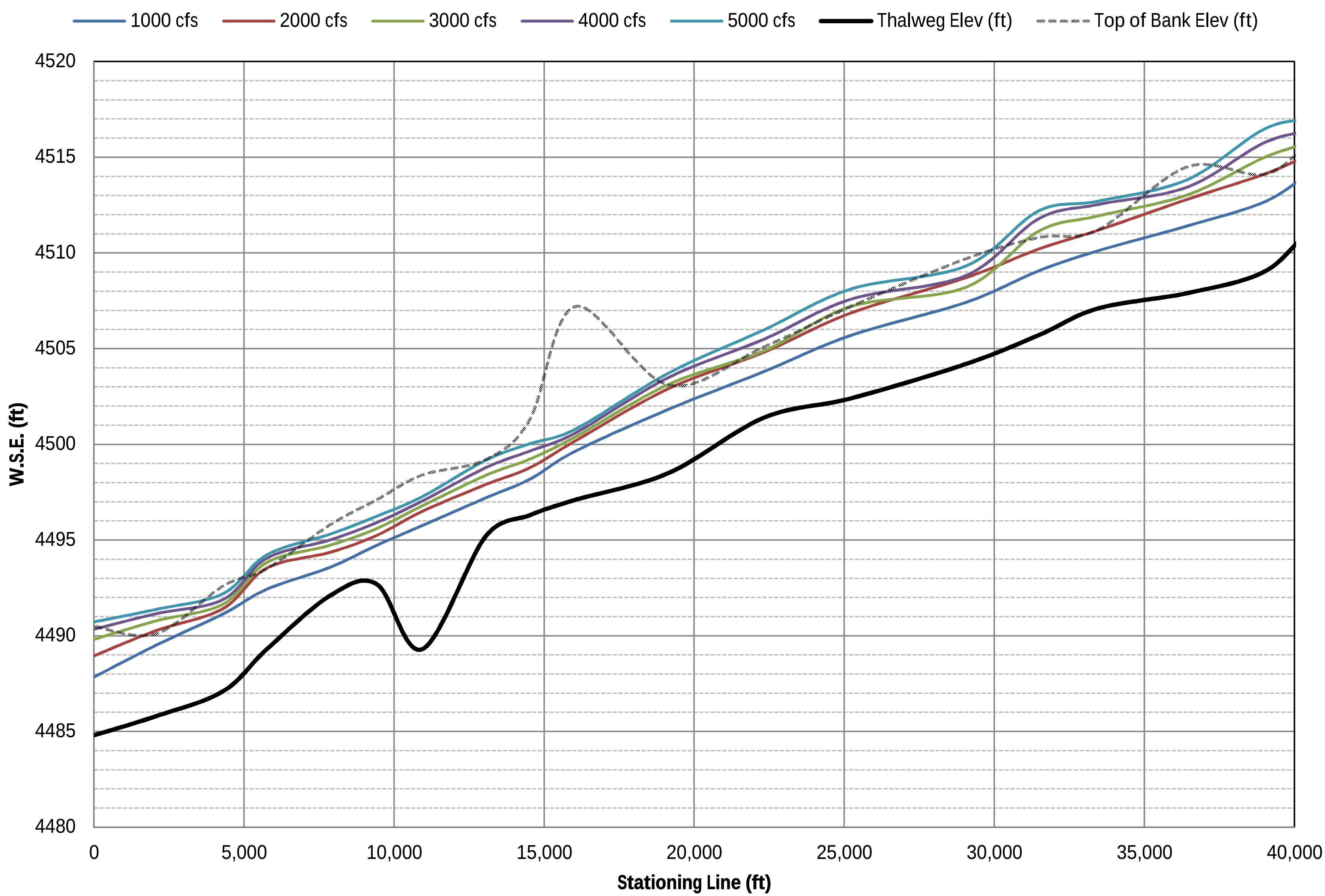
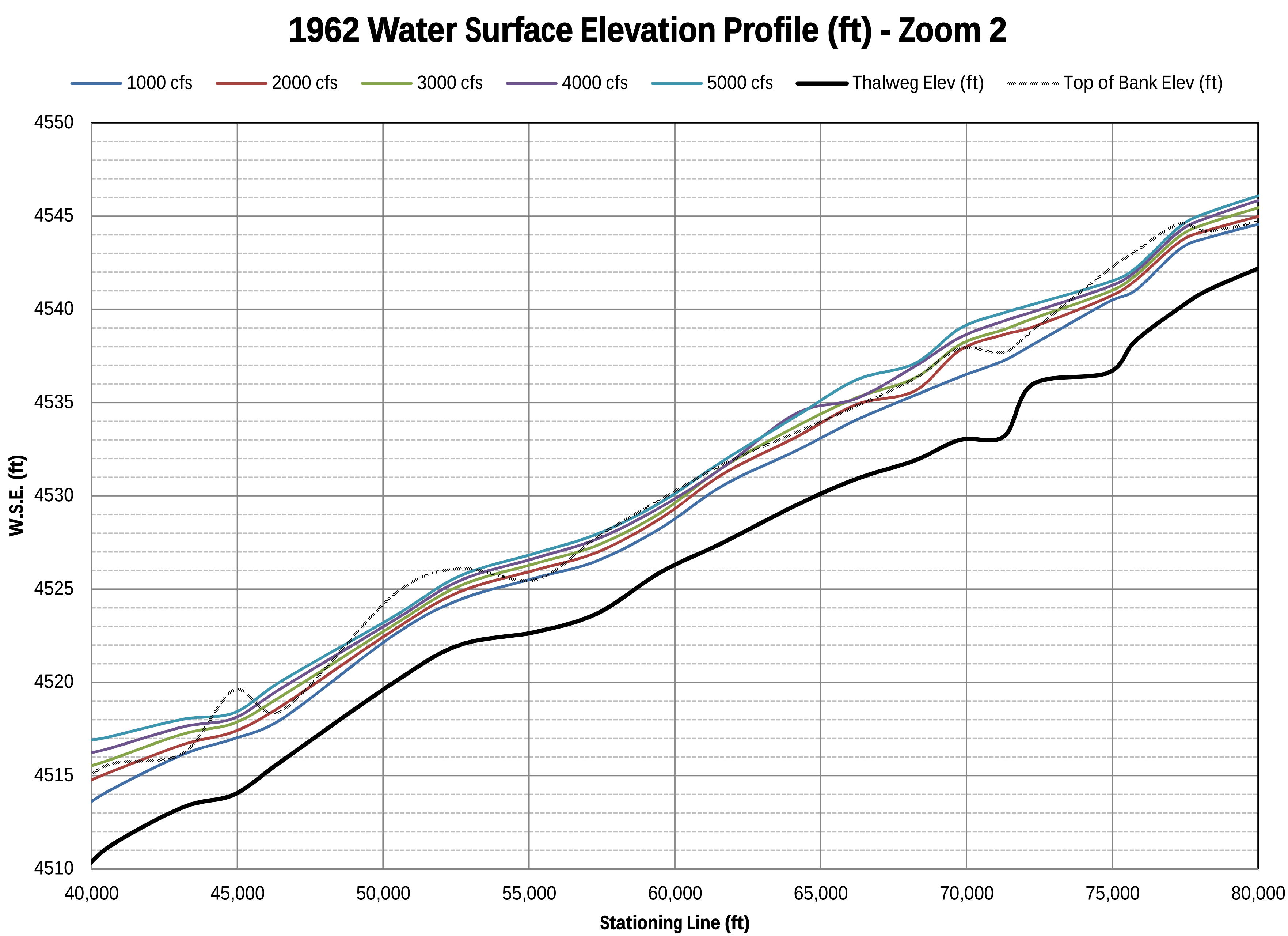
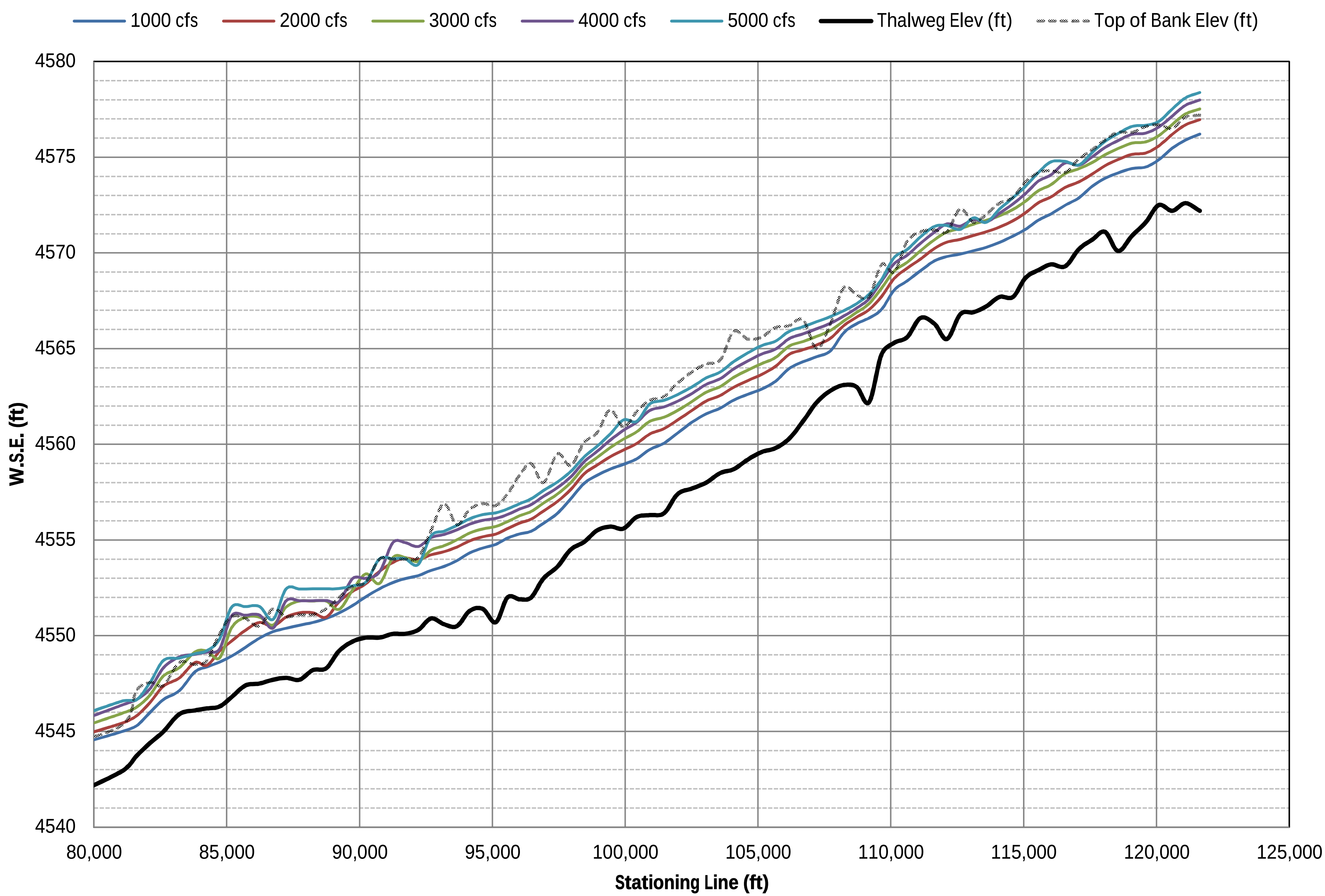
Appendix A – Water Surface Elevation Profiles (Zoom)

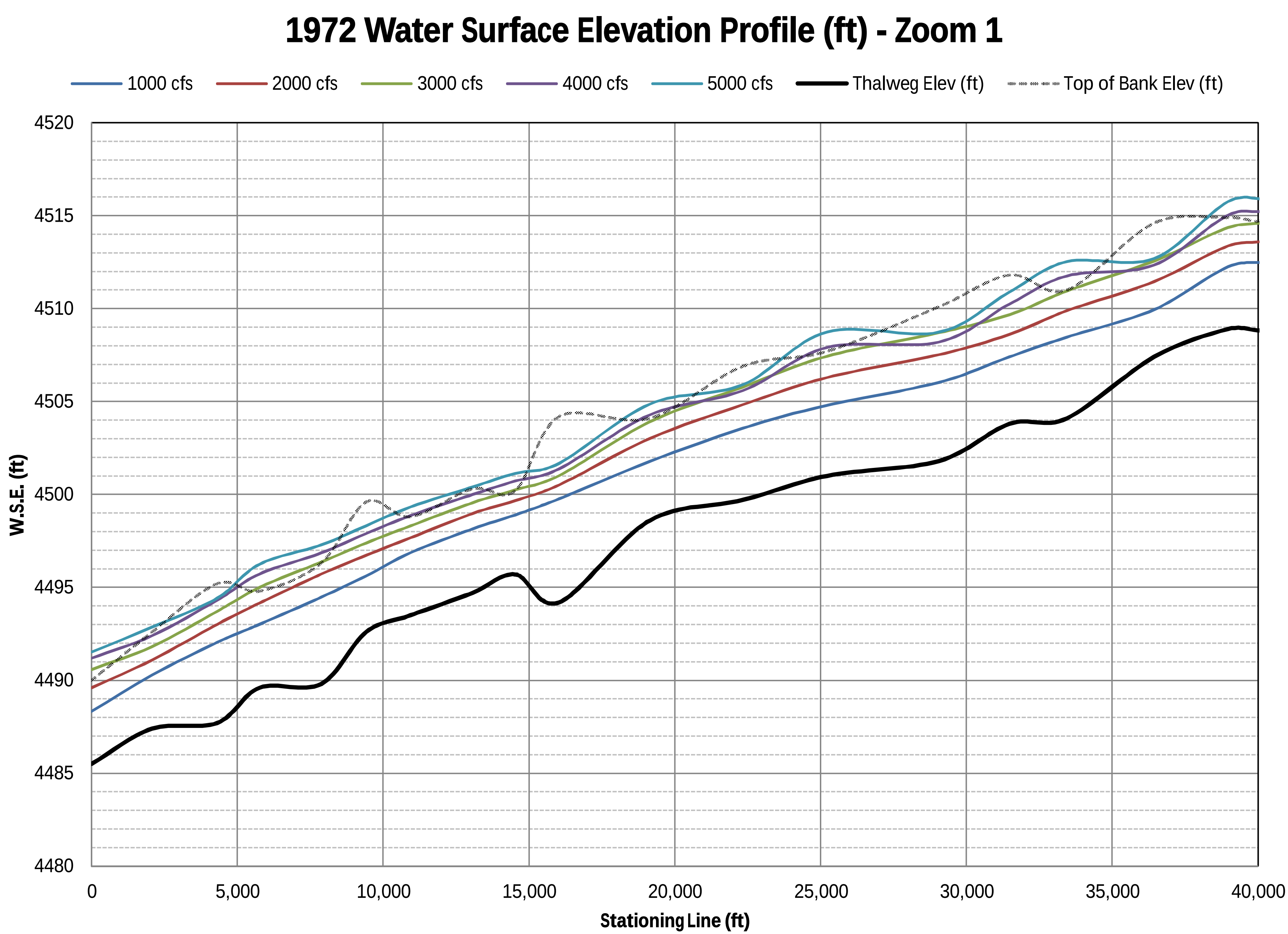
1962 Water Surface Elevation Profile (ft) - Zoom 1



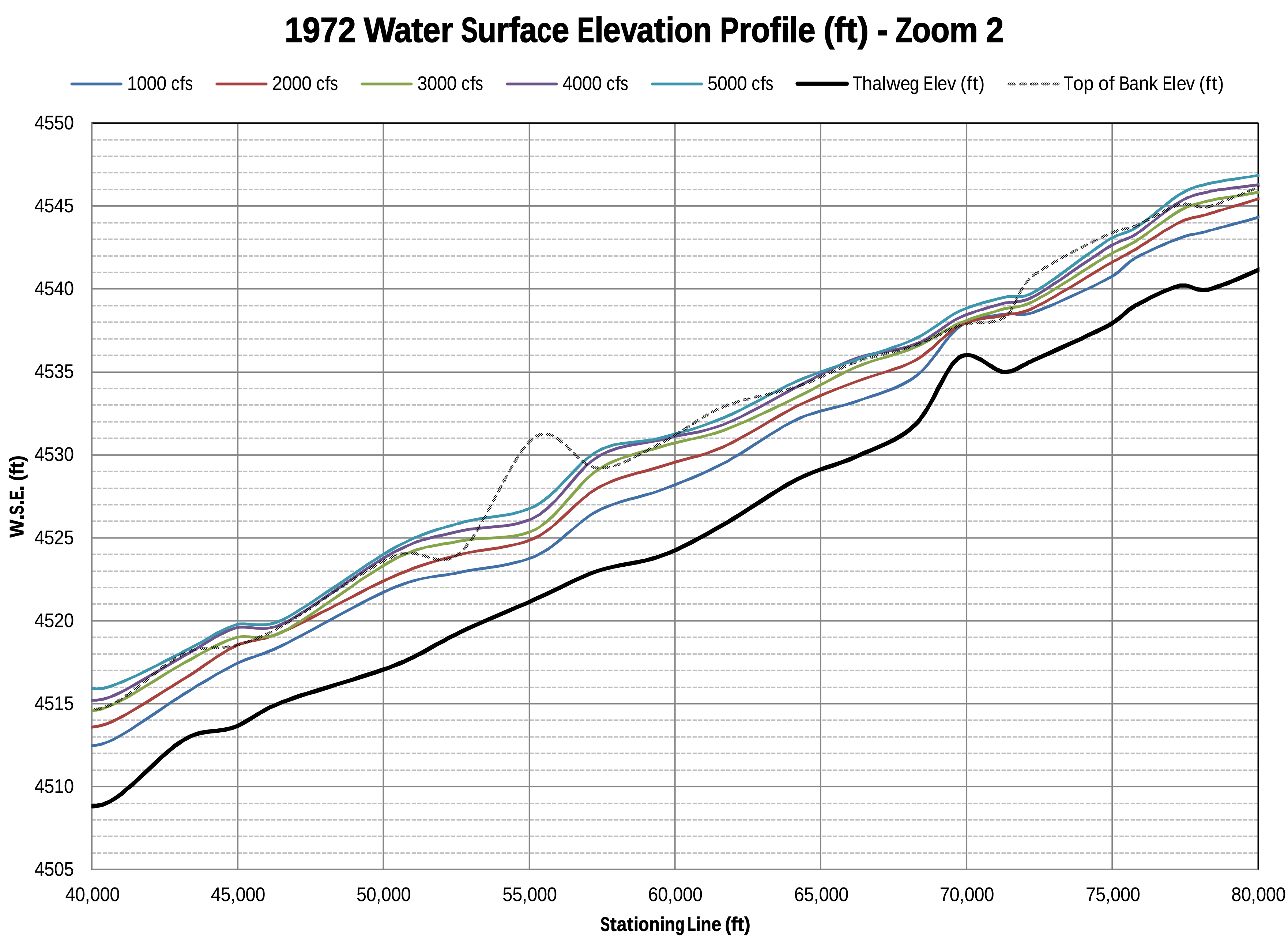

1962 Water Surface Elevation Profile (ft) - Zoom 2
1000 cfs
2000 cfs
3000 cfs
4000 cfs
5000 cfs
Thalweg Elev (ft)
Top of Bank Elev (ft)
W.S.E. (ft)
4550
4545
4540
4535
4530
4525
4520
4515
4510
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
Stationing Line (ft)

1962 Water Surface Elevation Profile (ft) - Zoom 3

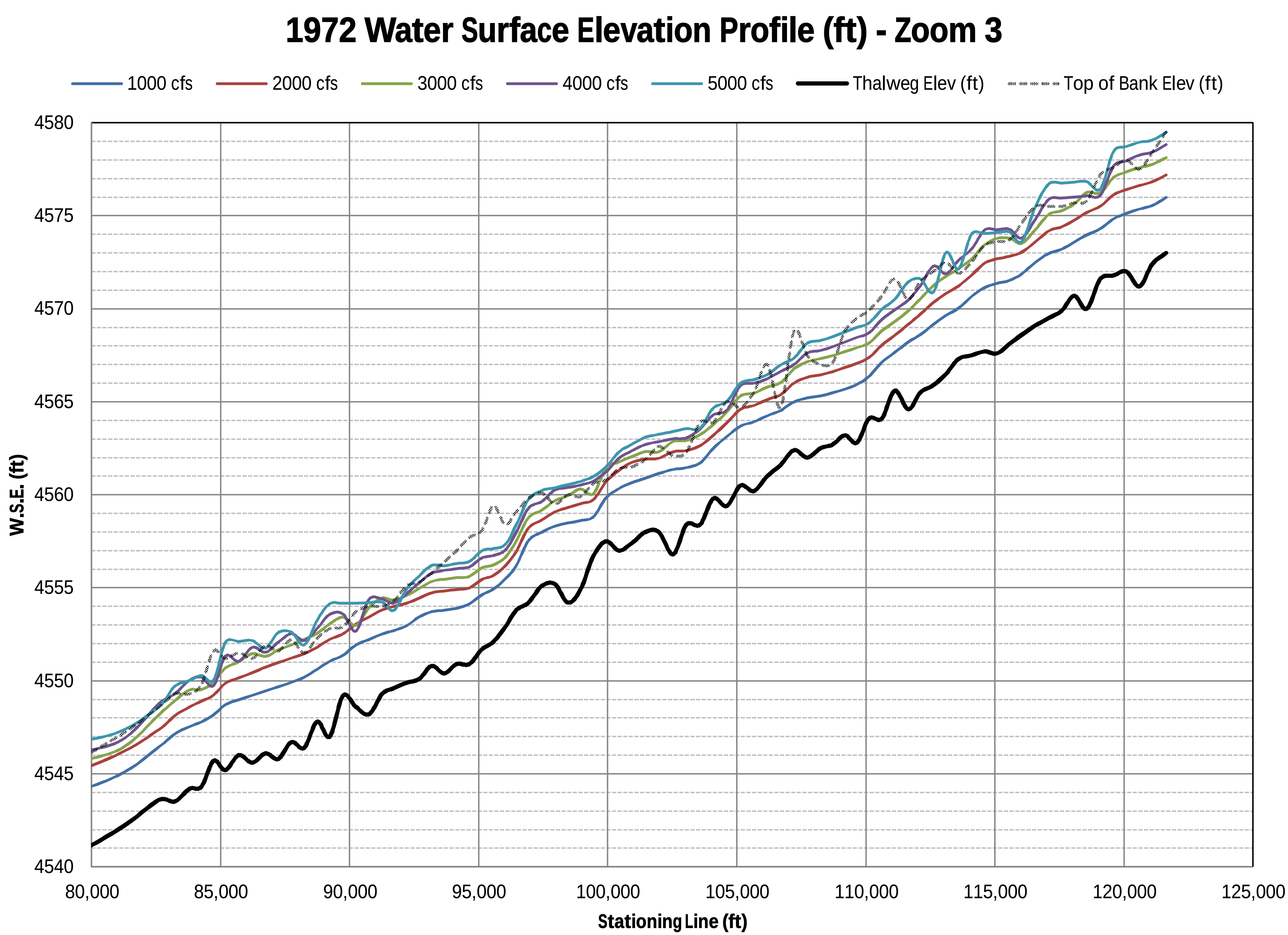




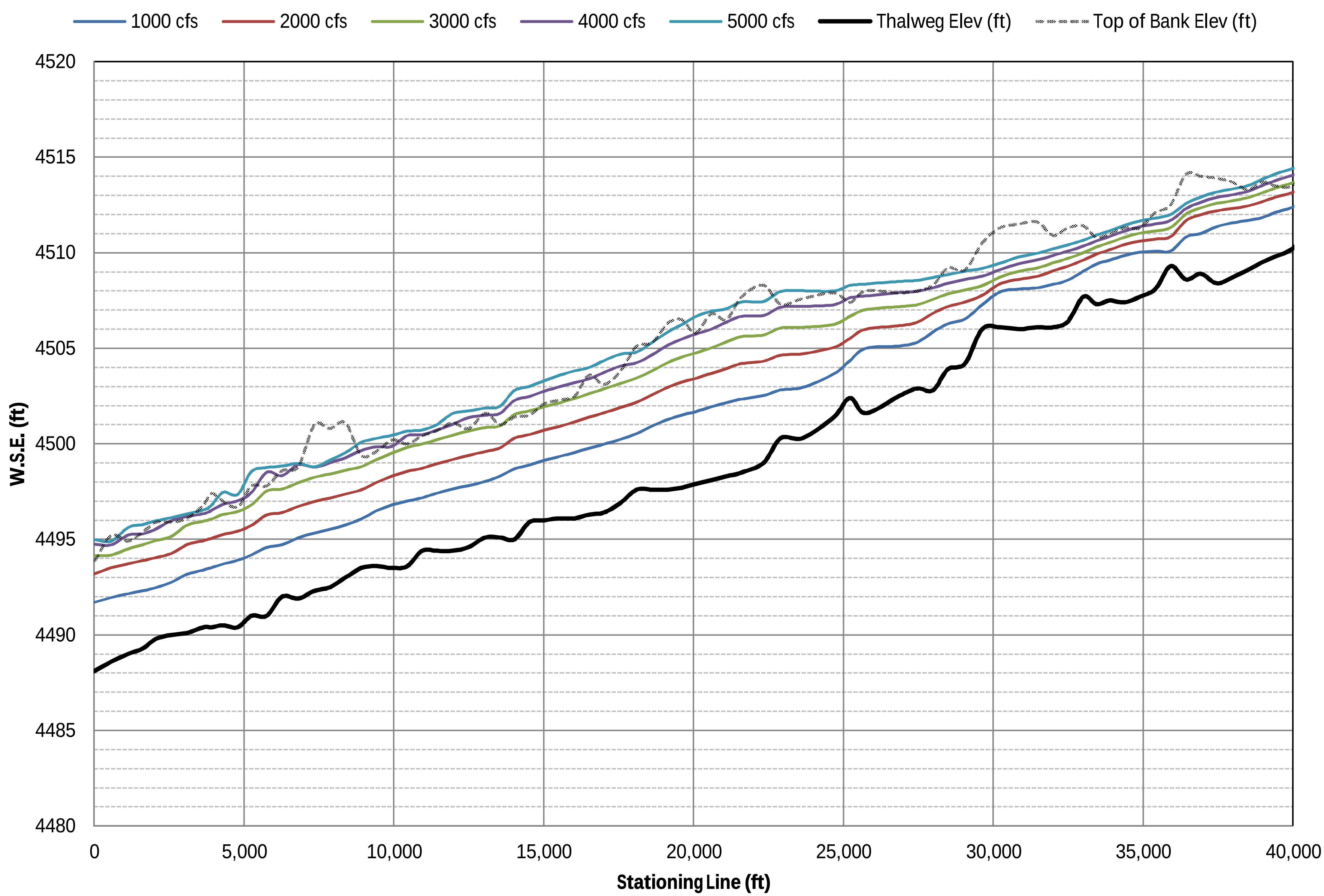
1972 Water Surface Elevation Profile (ft) - Zoom 1
1000 cfs
2000 cfs
3000 cfs
4000 cfs
5000 cfs
Thalweg Elev (ft)
Top of Bank Elev (ft)
W.S.E. (ft)
4520
4515
4510
4505
4500
4495
4490
4485
4480
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
Stationing Line (ft)



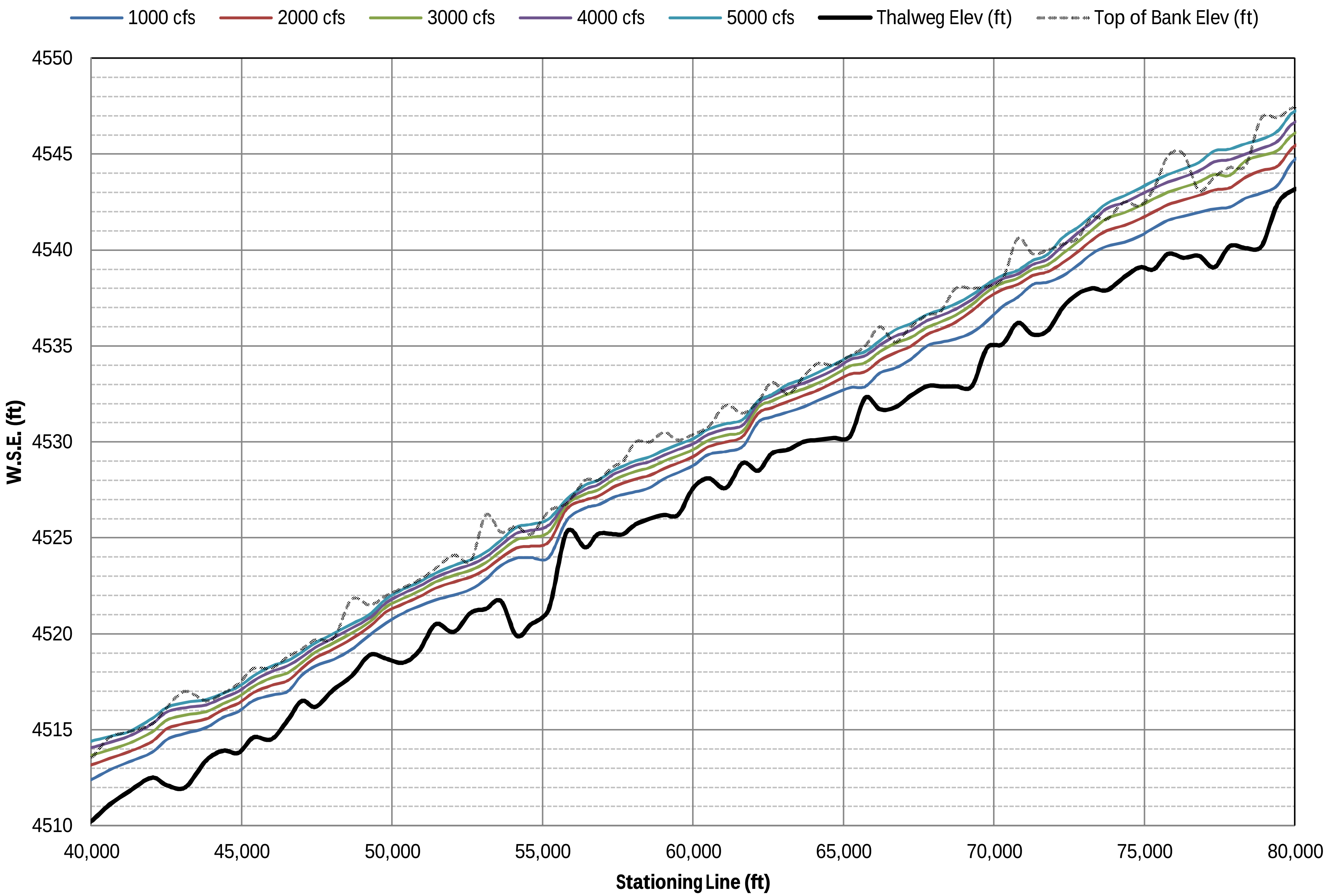
1972 Water Surface Elevation Profile (ft) - Zoom 2
1000 cfs
2000 cfs
3000 cfs
4000 cfs
5000 cfs
Thalweg Elev (ft)
Top of Bank Elev (ft)
W.S.E. (ft)
4550
4545
4540
4535
4530
4525
4520
4515
4510
4505
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
Stationing Line (ft)


1972 Water Surface Elevation Profile (ft) - Zoom 3
1000 cfs
2000 cfs
3000 cfs
4000 cfs
5000 cfs
Thalweg Elev (ft)
Top of Bank Elev (ft)
W.S.E. (ft)
4580
4575
4570
4565
4560
4555
4550
4545
4540
80,000
85,000
90,000
95,000
100,000
105,000
110,000
115,000
120,000
125,000
Stationing Line (ft)

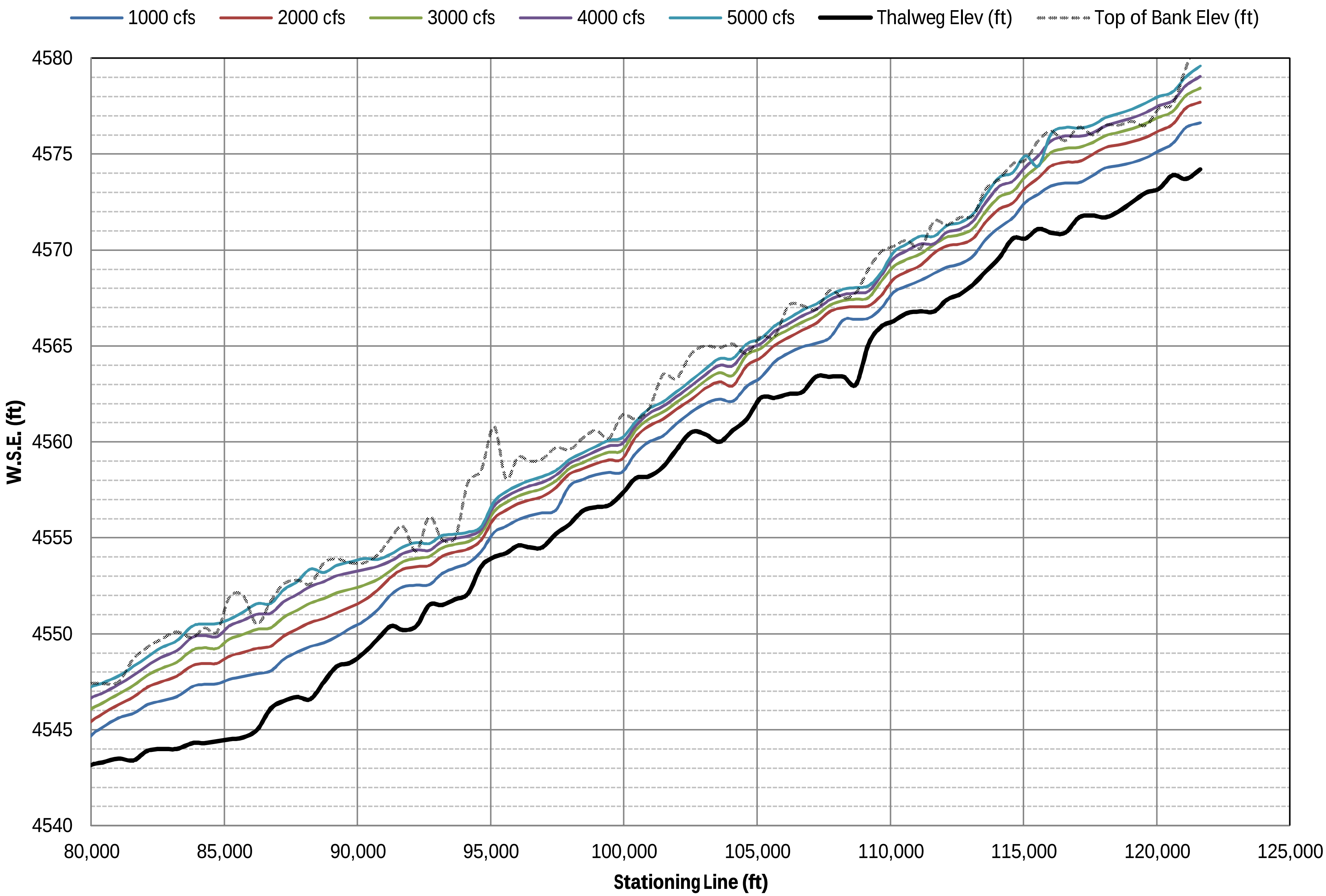
1992 Water Surface Elevation Profile (ft) - Zoom 1

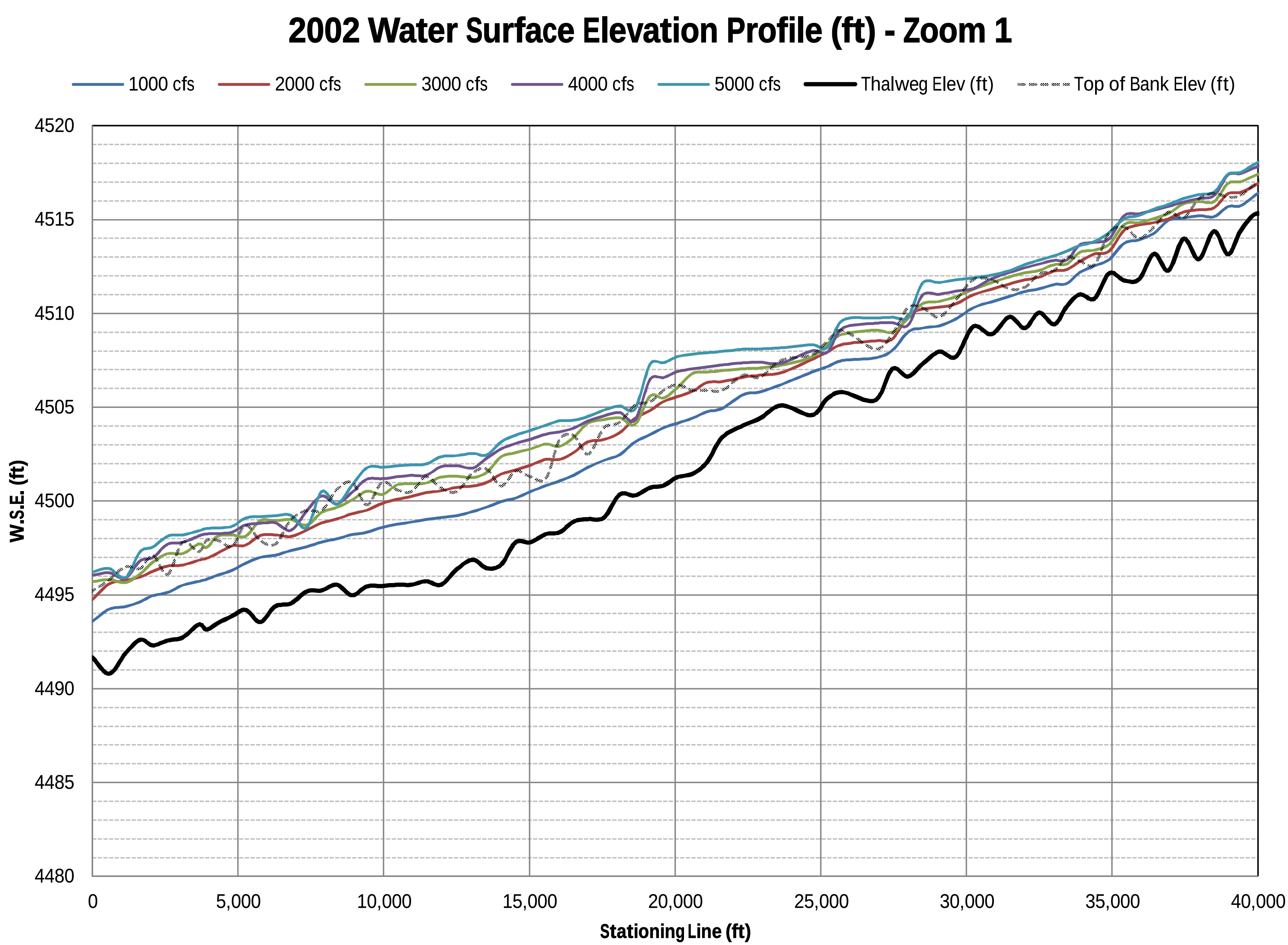


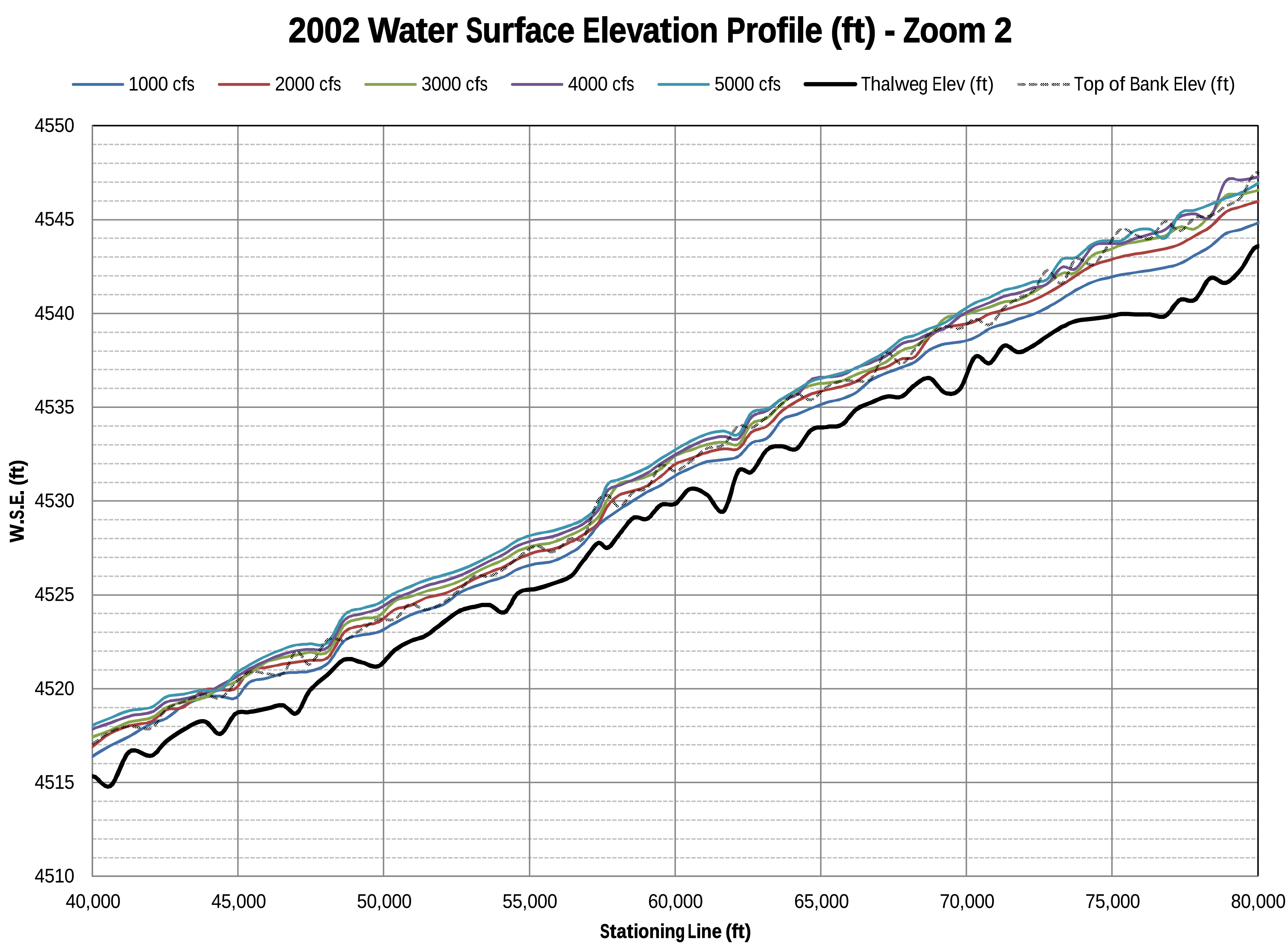
1992 Water Surface Elevation Profile (ft) - Zoom 2



1992 Water Surface Elevation Profile (ft) - Zoom 3

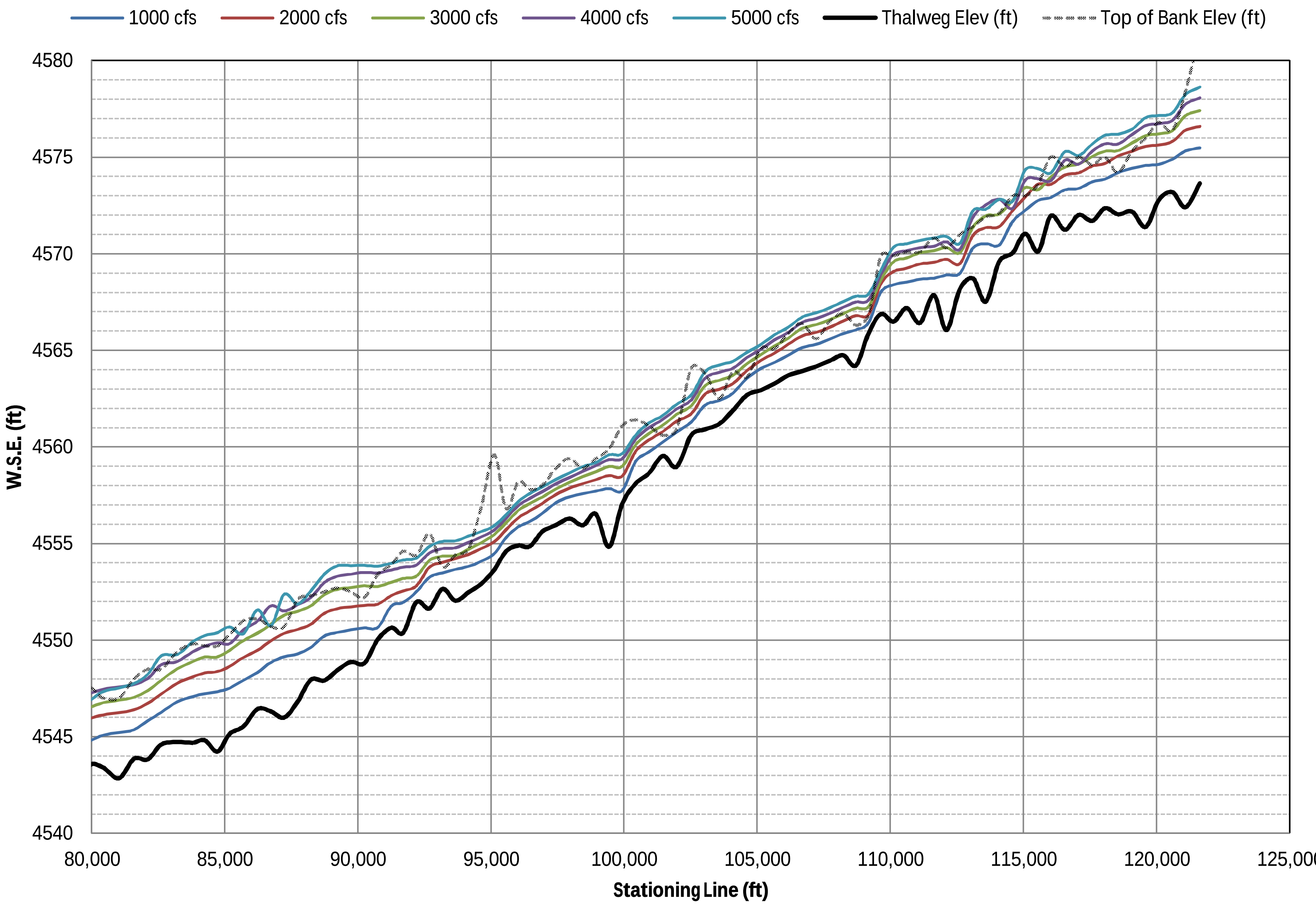



2002 Water Surface Elevation Profile (ft) - Zoom 1
1000 cfs
2000 cfs
3000 cfs
4000 cfs
5000 cfs
Thalweg Elev (ft)
Top of Bank Elev (ft)
W.S.E. (ft)
4520
4515
4510
4505
4500
4495
4490
4485
4480
0
5,000
10,000
15,000
20,000
25,000
30,000
35,000
40,000
Stationing Line (ft)



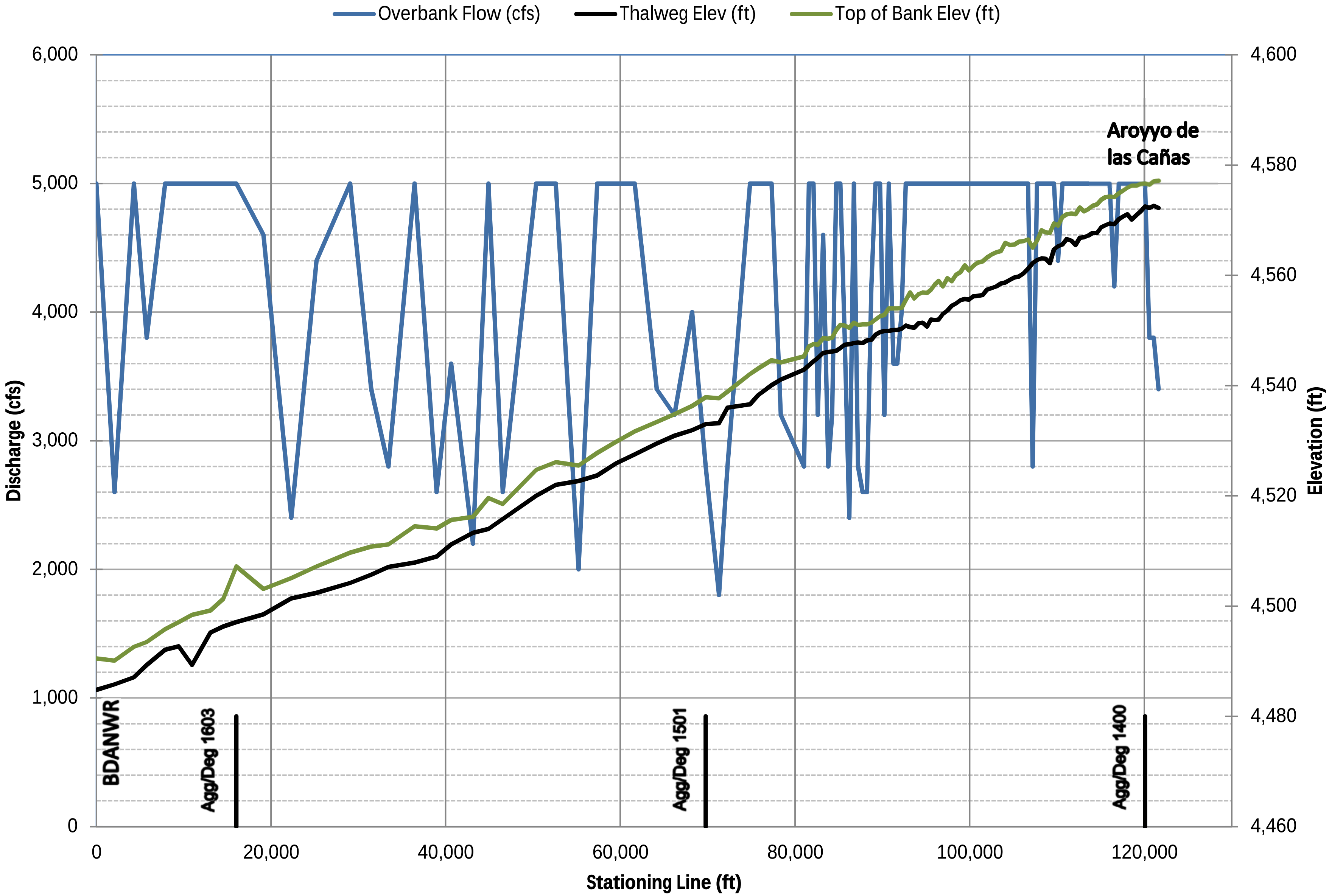
2002 Water Surface Elevation Profile (ft) - Zoom 2
1000 cfs
2000 cfs
3000 cfs
4000 cfs
5000 cfs
Thalweg Elev (ft)
Top of Bank Elev (ft)
W.S.E. (ft)
4550
4545
4540
4535
4530
4525
4520
4515
4510
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
Stationing Line (ft)

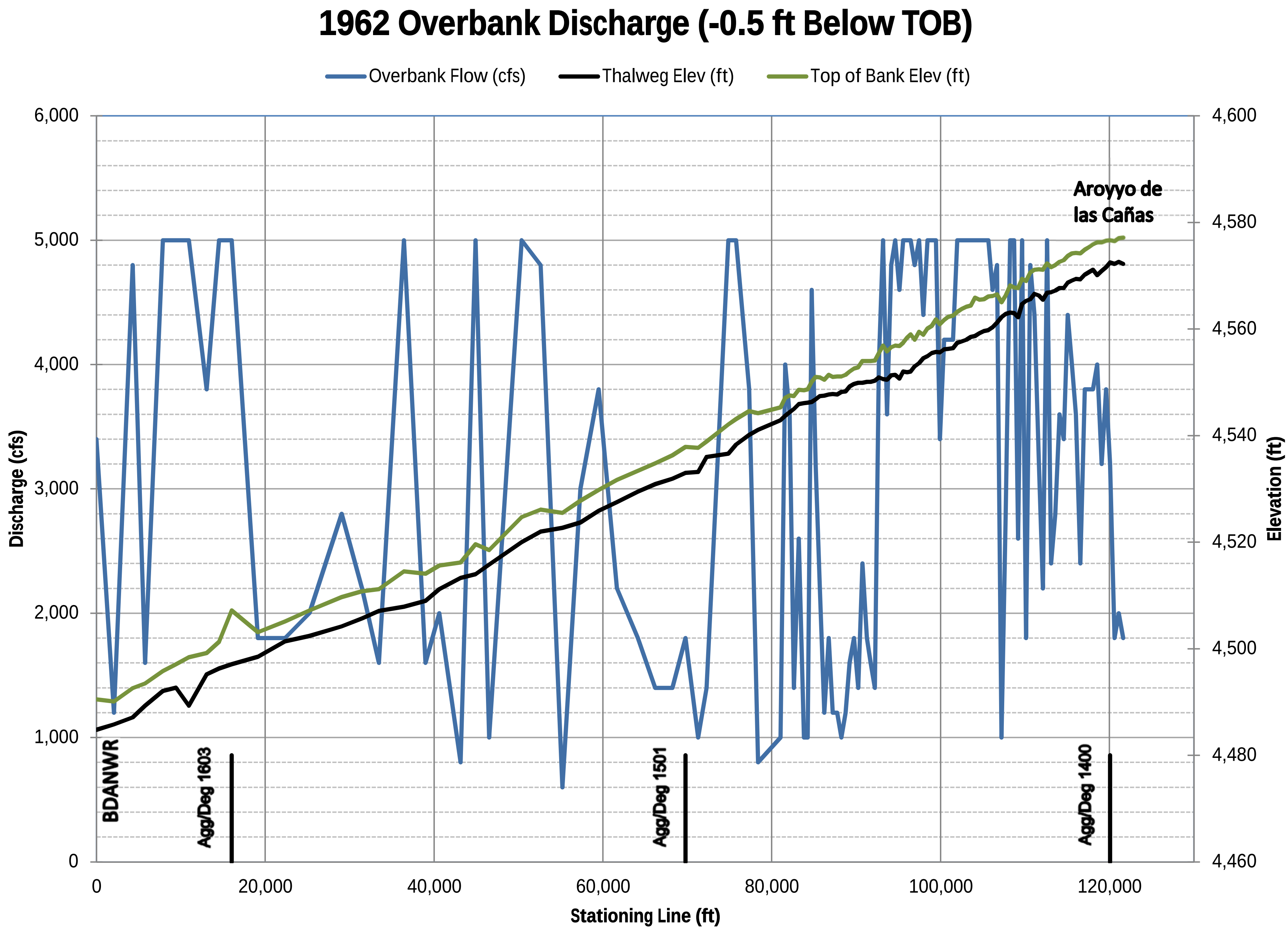
2002 Water Surface Elevation Profile (ft) - Zoom 3



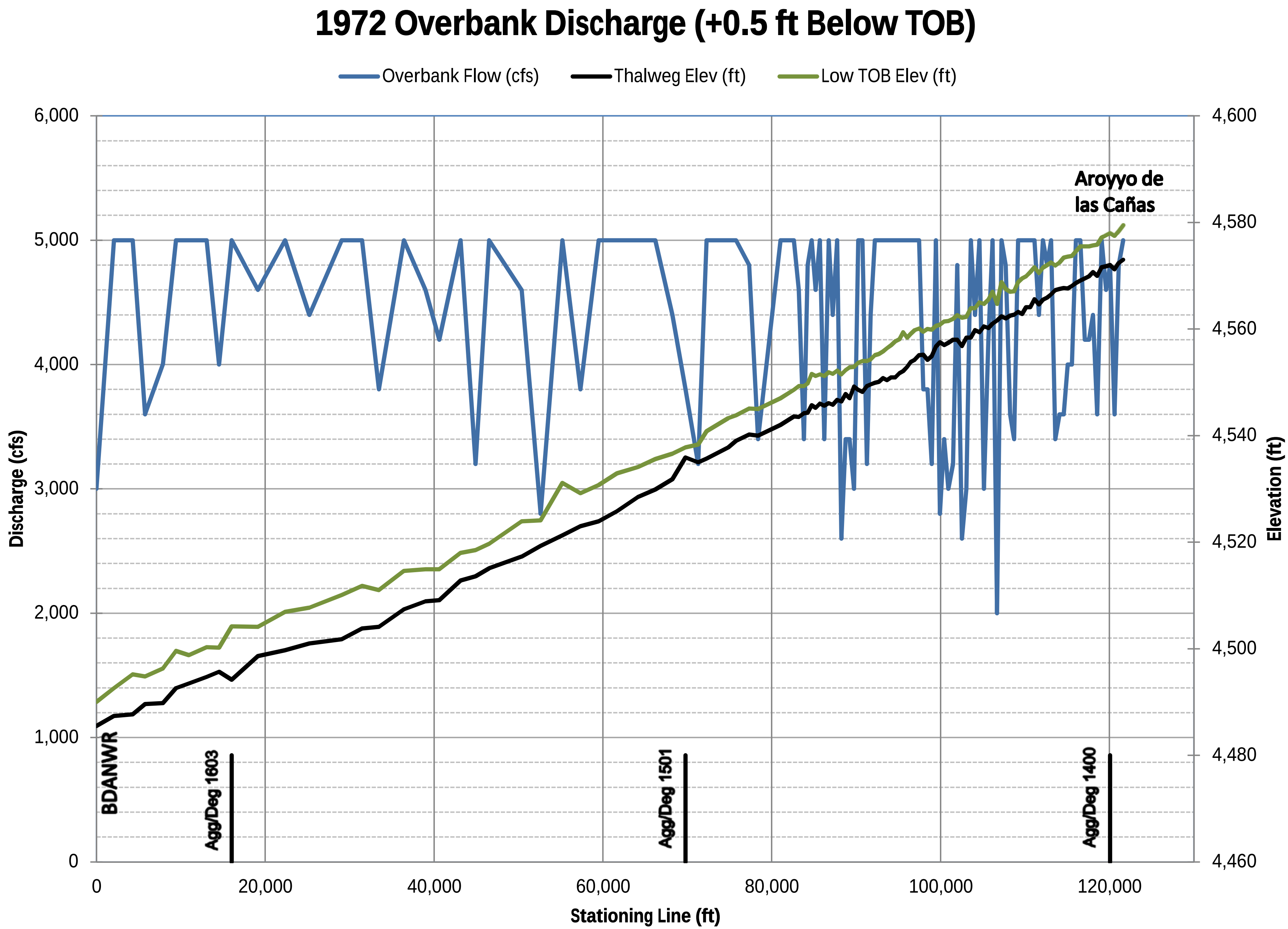
Appendix B – Overbank Flow (+0.5 ft and -0.5 ft bank elevation)

1962 Overbank Discharge (+0.5 ft Below TOB)

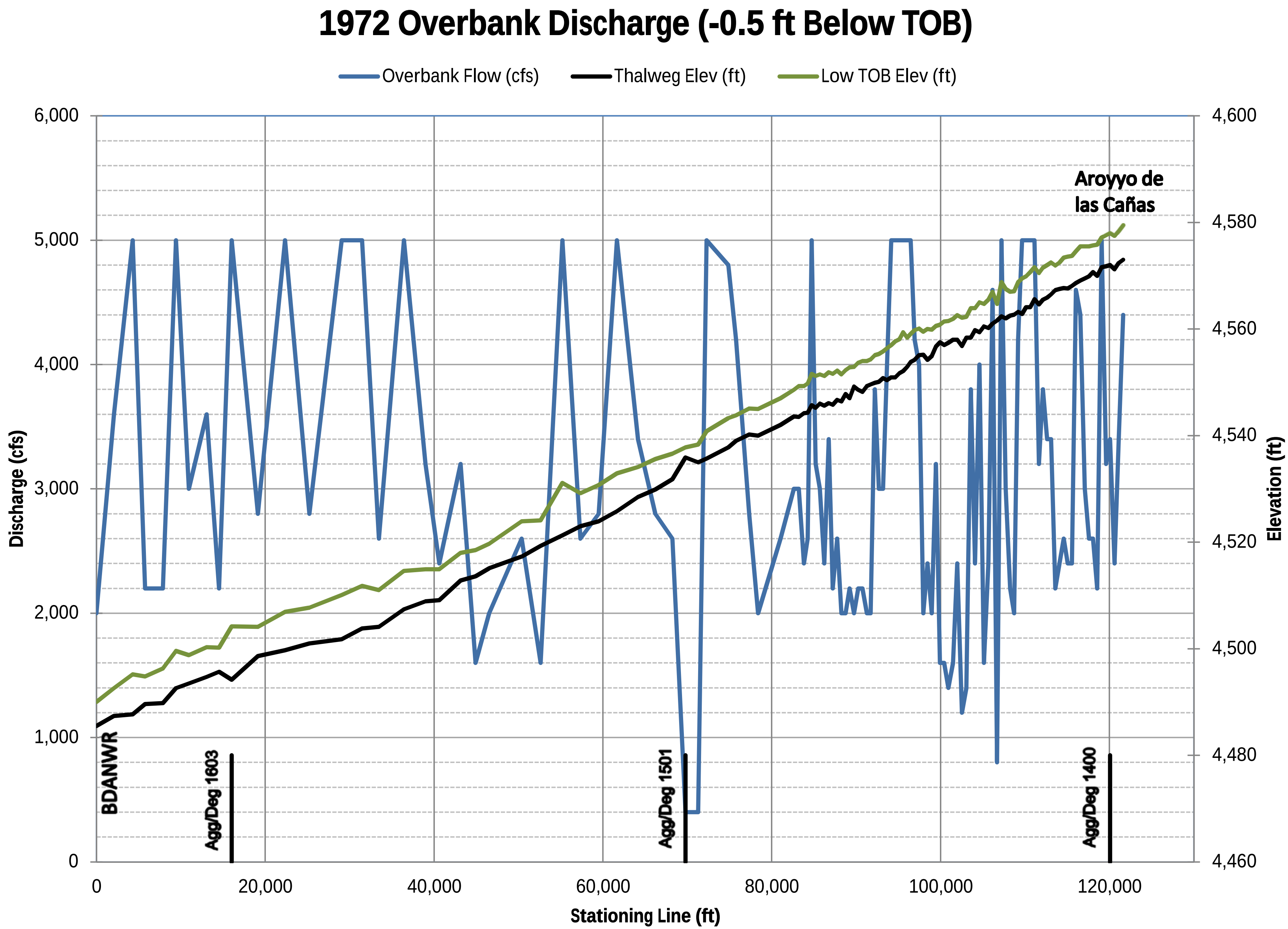




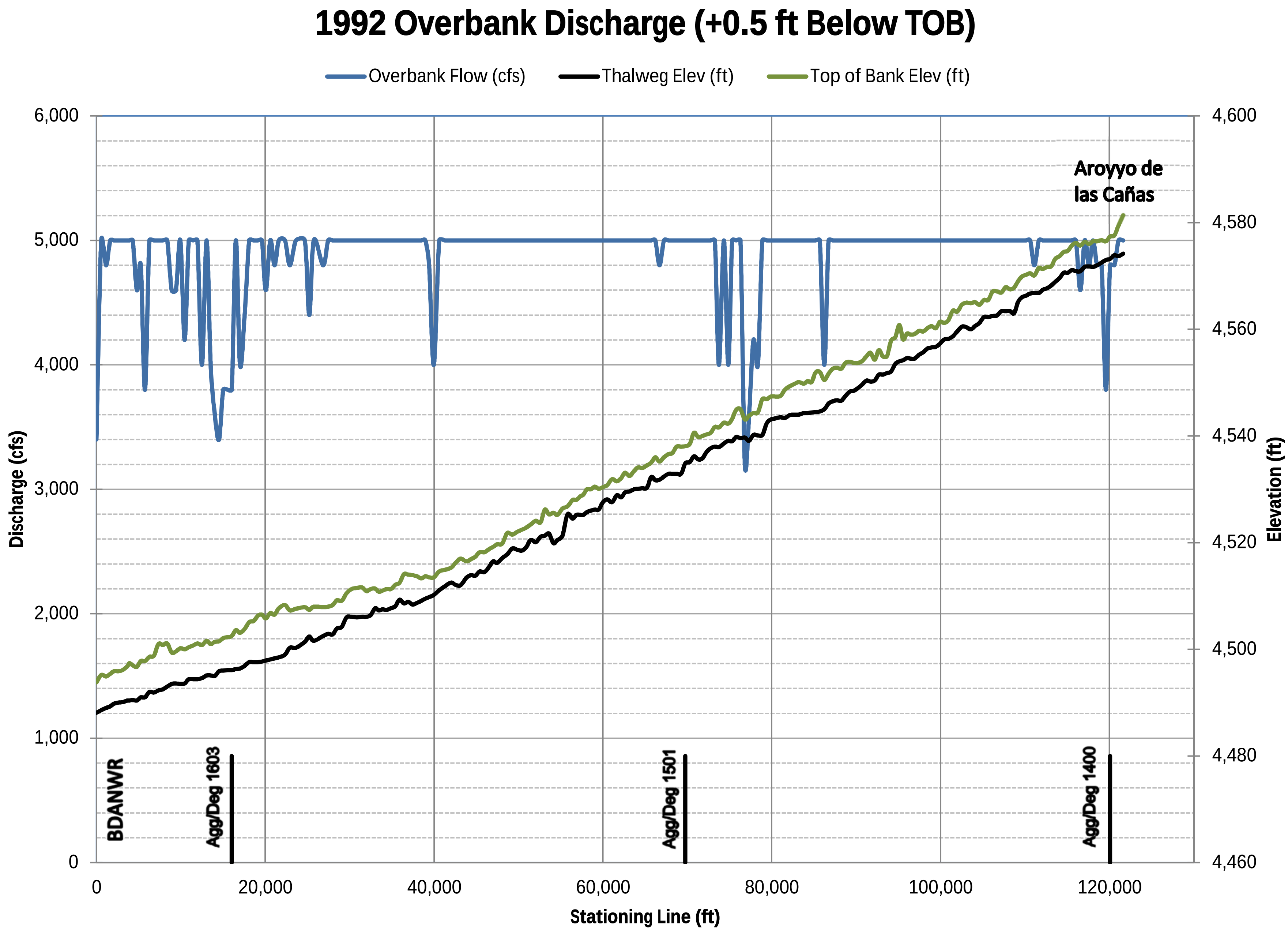
1962 Overbank Discharge (-0.5 ft Below TOB)
Overbank Flow (cfs)
Thalweg Elev (ft)
Top of Bank Elev (ft)
Discharge (cfs)
Elevation (ft)
Stationing Line (ft)
Aroyyo de las Cañas
BDANWR
Agg/Deg 1603
Agg/Deg 1501
Agg/Deg 1400
6,000
5,000
4,000
3,000
2,000
1,000
0
4,600
4,580
4,560
4,540
4,520
4,500
4,480
4,460
20,000
40,000
60,000
80,000
100,000
120,000

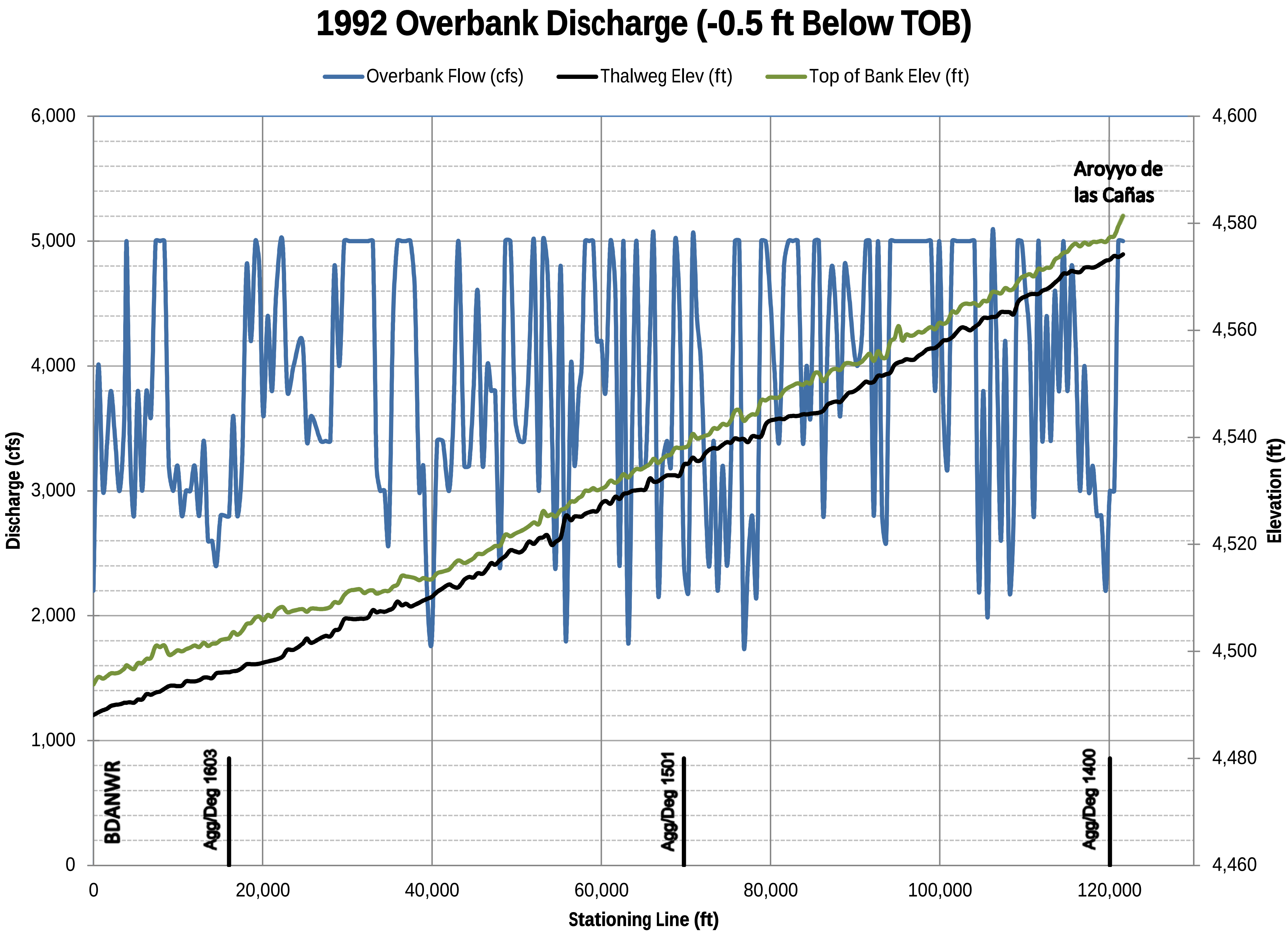


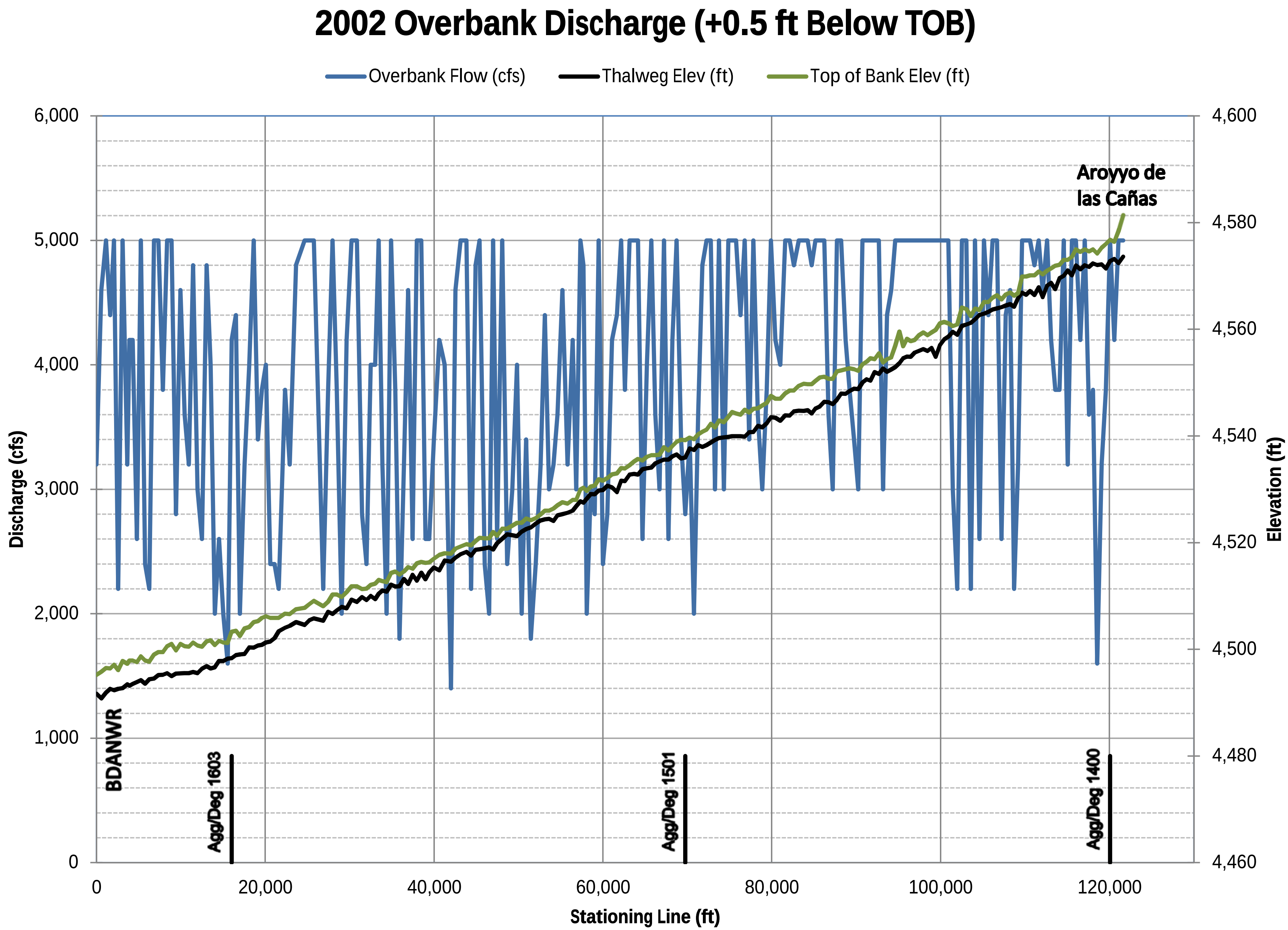
1972 Overbank Discharge (+0.5 ft Below TOB)
Overbank Flow (cfs)
Thalweg Elev (ft)
Low TOB Elev (ft)
Discharge (cfs)
Elevation (ft)
Stationing Line (ft)
Aroyyo de las Cañas
BDANWR
Agg/Deg 1603
Agg/Deg 1501
Agg/Deg 1400
6,000
5,000
4,000
3,000
2,000
1,000
0
4,600
4,580
4,560
4,540
4,520
4,500
4,480
4,460
0
20,000
40,000
60,000
80,000
100,000
120,000

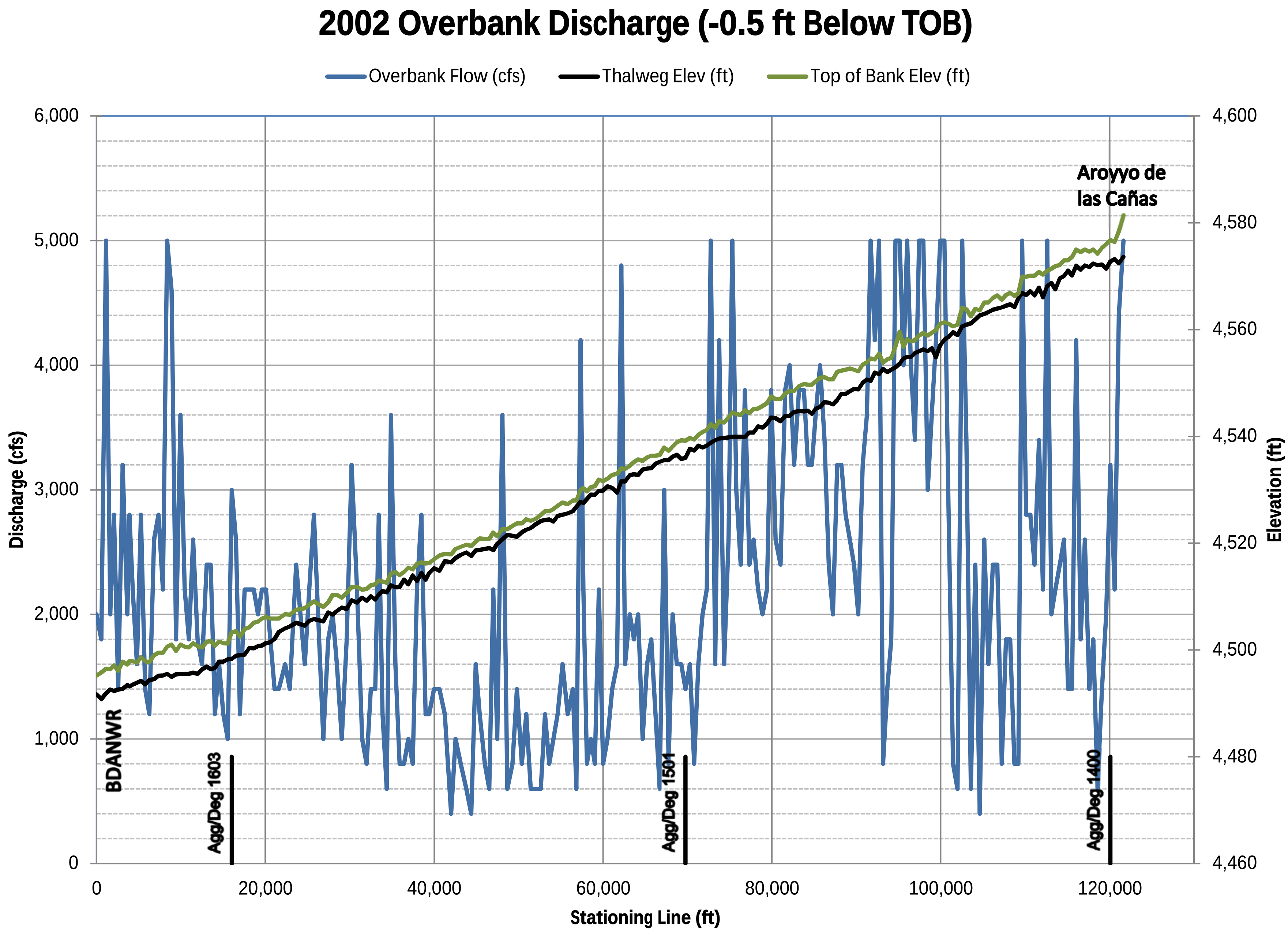


1972 Overbank Discharge (-0.5 ft Below TOB)
Overbank Flow (cfs)
Thalweg Elev (ft)
Low TOB Elev (ft)
Discharge (cfs)
Elevation (ft)
Stationing Line (ft)
Aroyyo de las Cañas
BDANWR
Agg/Deg 1603
Agg/Deg 1501
Agg/Deg 1400
6,000
5,000
4,000
3,000
2,000
1,000
0
4,600
4,580
4,560
4,540
4,520
4,500
4,480
4,460
0
20,000
40,000
60,000
80,000
100,000
120,000

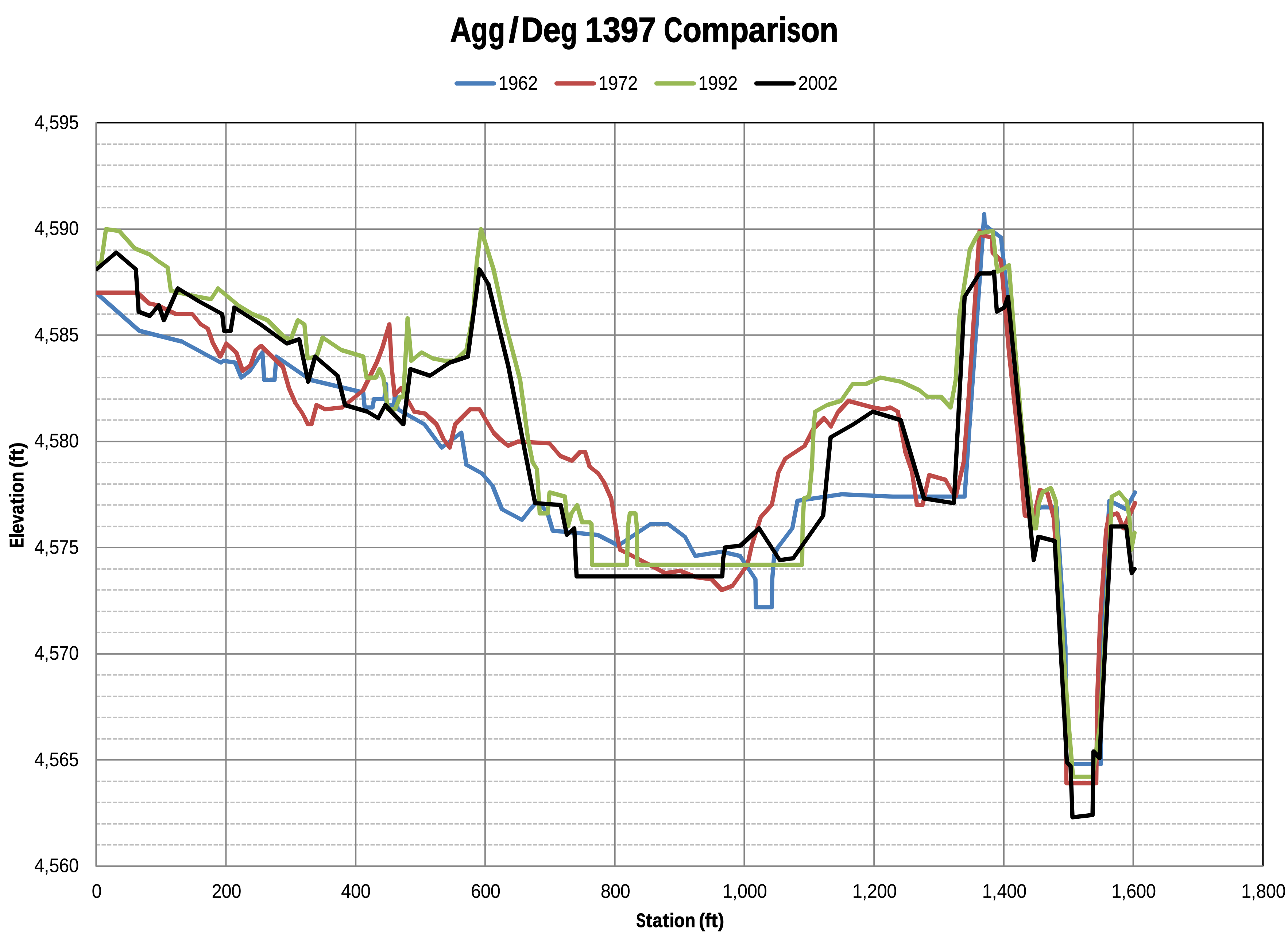

1992 Overbank Discharge (+0.5 ft Below TOB)
Overbank Flow (cfs)
Thalweg Elev (ft)
Top of Bank Elev (ft)
Discharge (cfs)
Elevation (ft)
Stationing Line (ft)
6,000
5,000
4,000
3,000
2,000
1,000
0
4,600
4,580
4,560
4,540
4,520
4,500
4,480
4,460
0
20,000
40,000
60,000
80,000
100,000
120,000
Aroyyo de las Cañas
BDANWR
Agg/Deg 1603
Agg/Deg 1501
Agg/Deg 1400

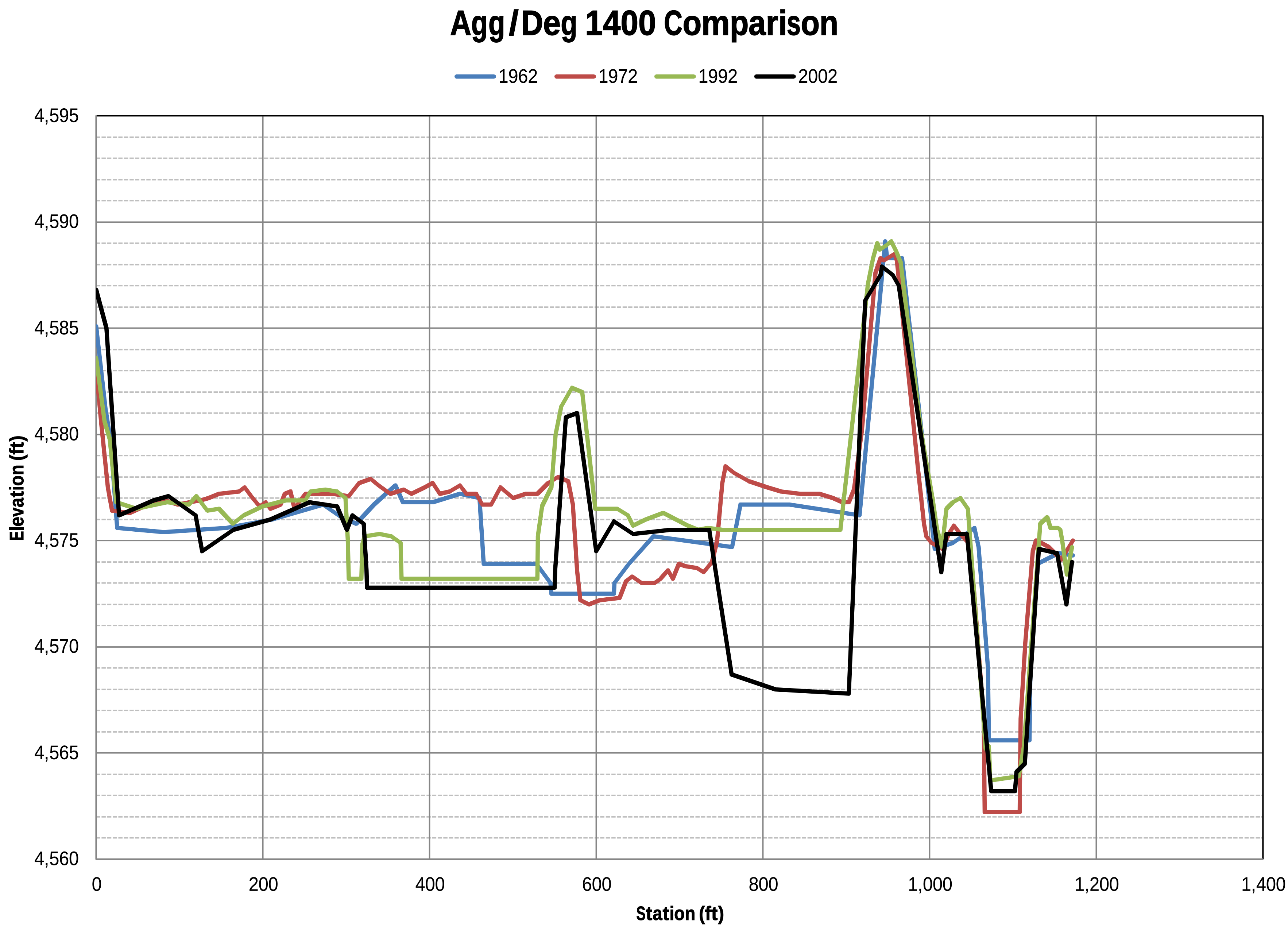

1992 Overbank Discharge (-0.5 ft Below TOB)
Overbank Flow (cfs)
Thalweg Elev (ft)
Top of Bank Elev (ft)
Discharge (cfs)
Elevation (ft)
Stationing Line (ft)
6,000
5,000
4,000
3,000
2,000
1,000
0
4,600
4,580
4,560
4,540
4,520
4,500
4,480
4,460
0
20,000
40,000
60,000
80,000
100,000
120,000
Aroyyo de las Cañas
BDANWR
Agg/Deg 1603
Agg/Deg 1501
Agg/Deg 1400

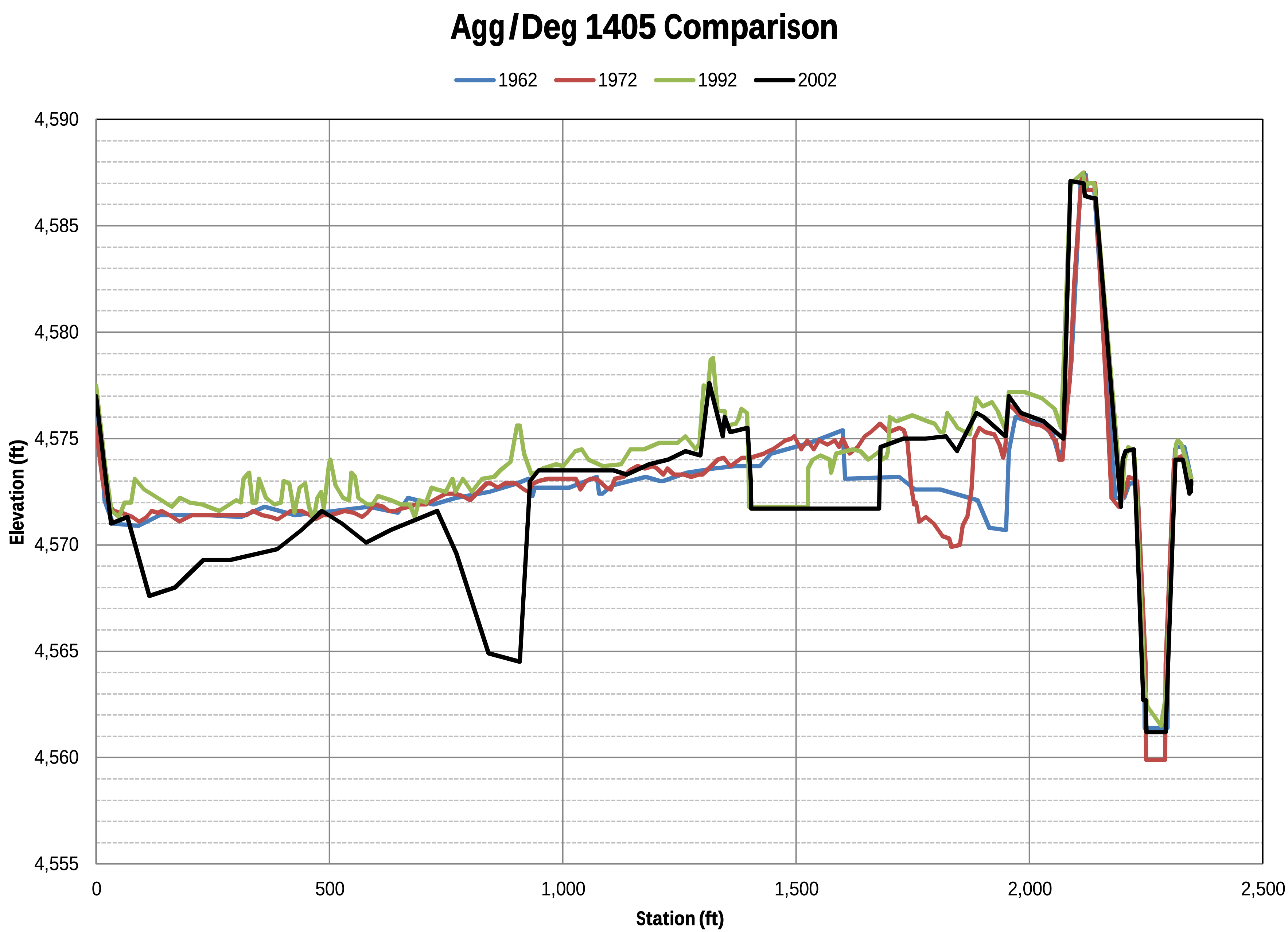

2002 Overbank Discharge (+0.5 ft Below TOB)
Overbank Flow (cfs)
Thalweg Elev (ft)
Top of Bank Elev (ft)
Discharge (cfs)
Elevation (ft)
Stationing Line (ft)
0
1,000
2,000
3,000
4,000
5,000
6,000
4,460
4,480
4,500
4,520
4,540
4,560
4,580
4,600
0
20,000
40,000
60,000
80,000
100,000
120,000
Aroyyo de las Cañas
BDANWR
Agg/Deg 1603
Agg/Deg 1501
Agg/Deg 1400

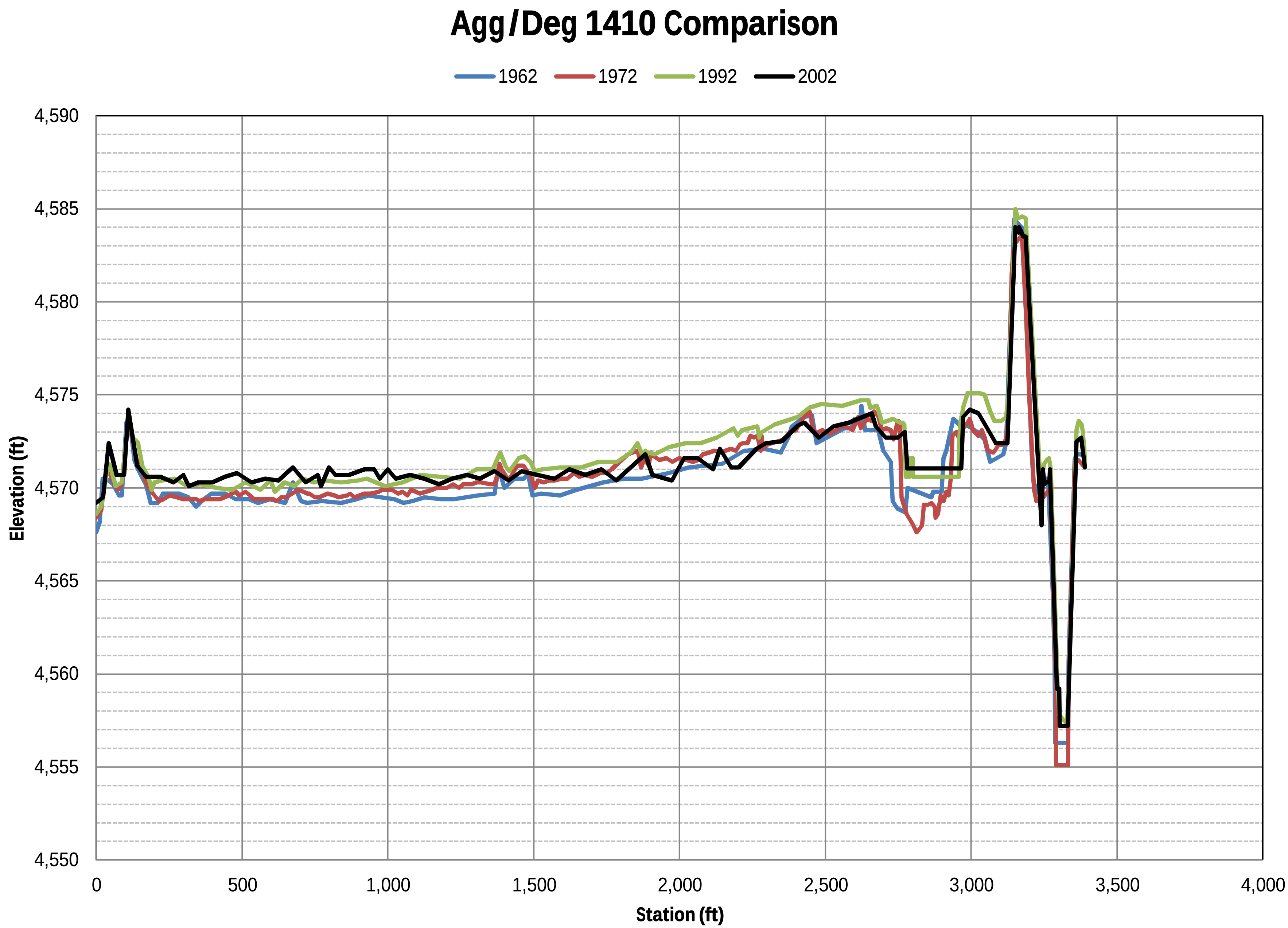

2002 Overbank Discharge (-0.5 ft Below TOB)
Overbank Flow (cfs)
Thalweg Elev (ft)
Top of Bank Elev (ft)
Discharge (cfs)
Elevation (ft)
Stationing Line (ft)
6,000
5,000
4,000
3,000
2,000
1,000
0
4,600
4,580
4,560
4,540
4,520
4,500
4,480
4,460
0
20,000
40,000
60,000
80,000
100,000
120,000
Aroyyo de las Cañas
BDANWR
Agg/Deg 1603
Agg/Deg 1501
Agg/Deg 1400

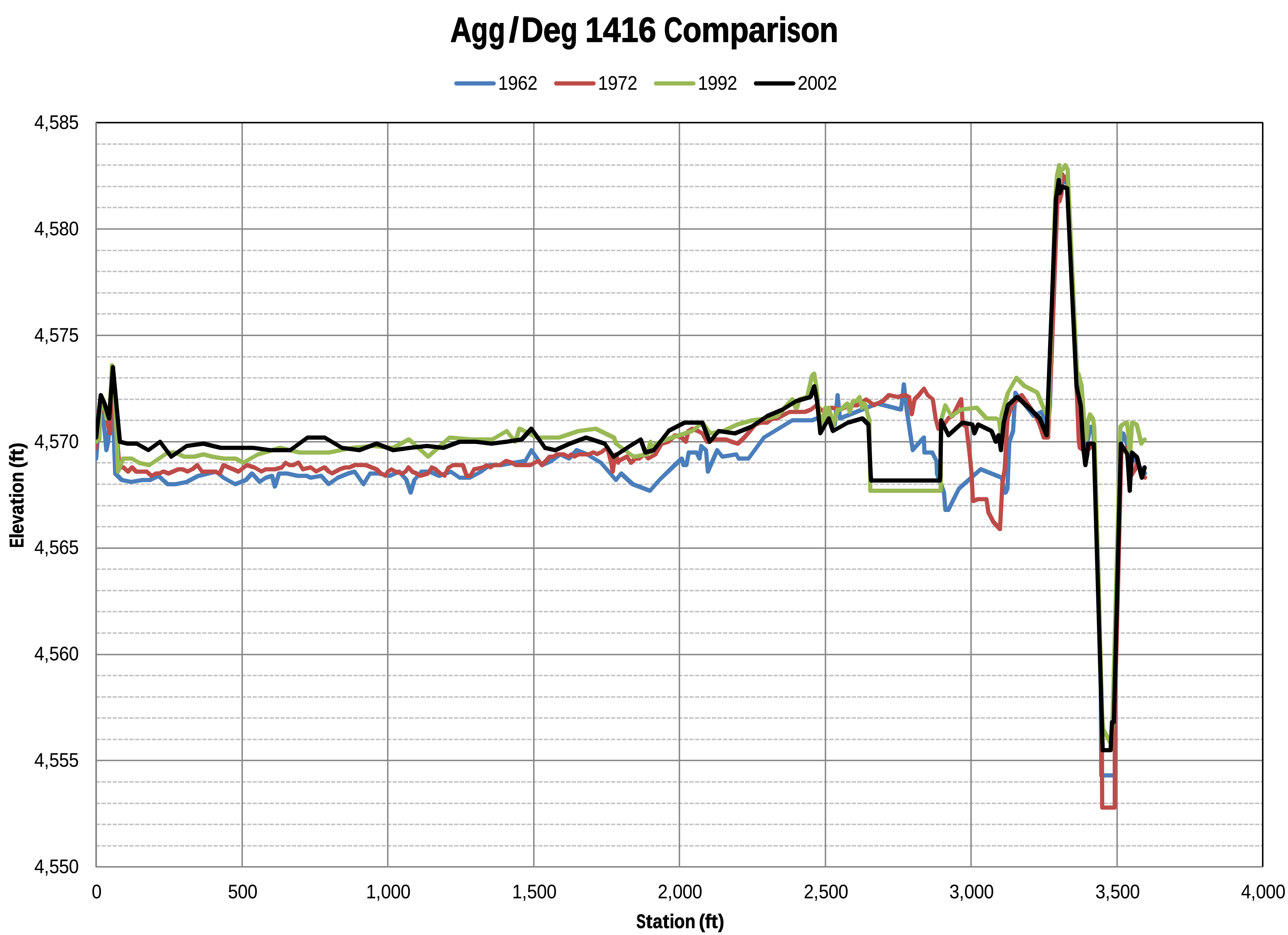
Appendix C – Cross-Section Geometry

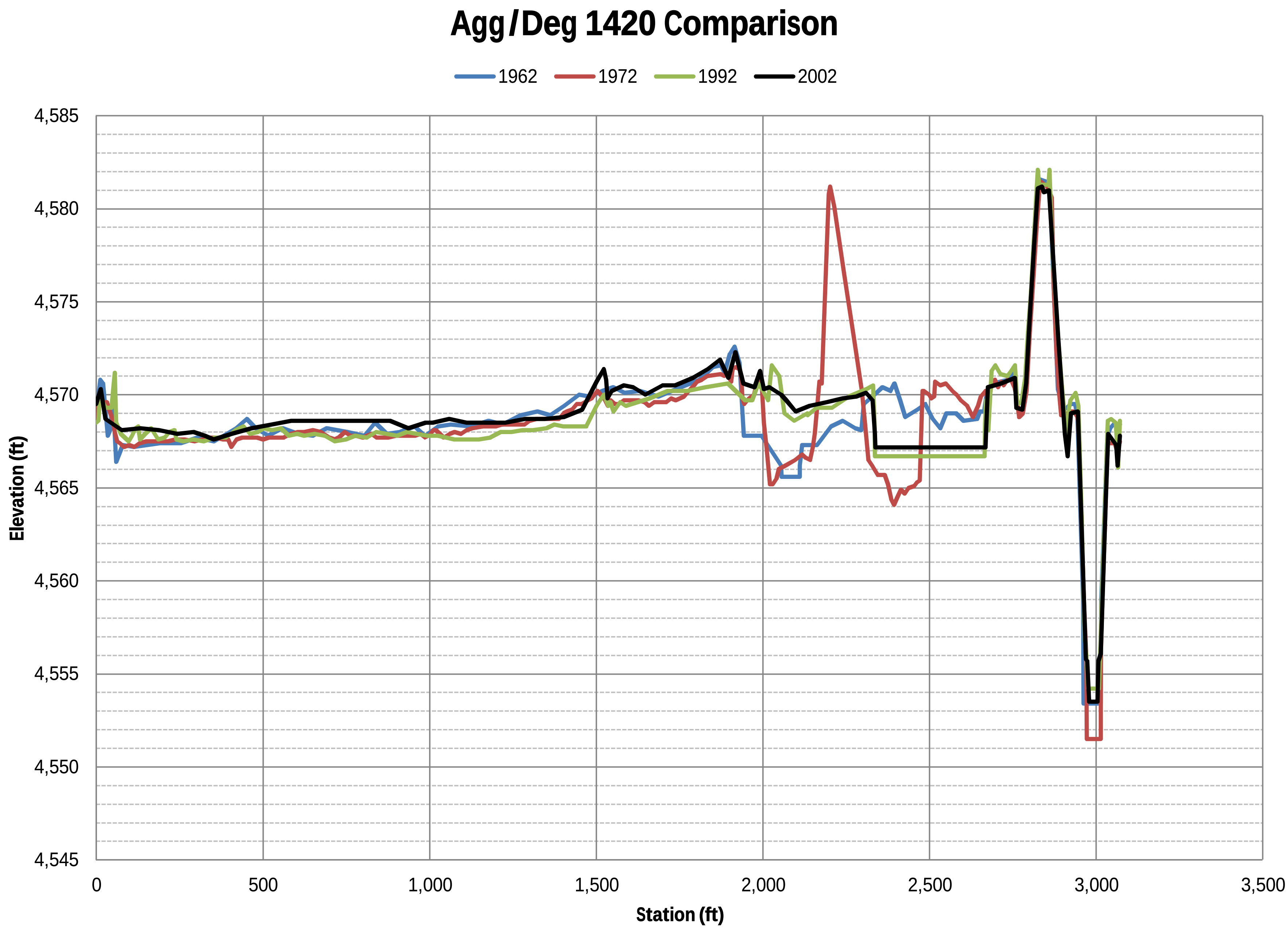

Agg/Deg 1397 Comparison
1962
1972
1992
2002
4,595
4,590
4,585
4,580
4,575
4,570
4,565
4,560
Elevation (ft)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
Station (ft)


Agg/Deg 1400 Comparison
1962
1972
1992
2002
4,595
4,590
4,585
4,580
4,575
4,570
4,565
4,560
Elevation (ft)
0
200
400
600
800
1,000
1,200
1,400
Station (ft)

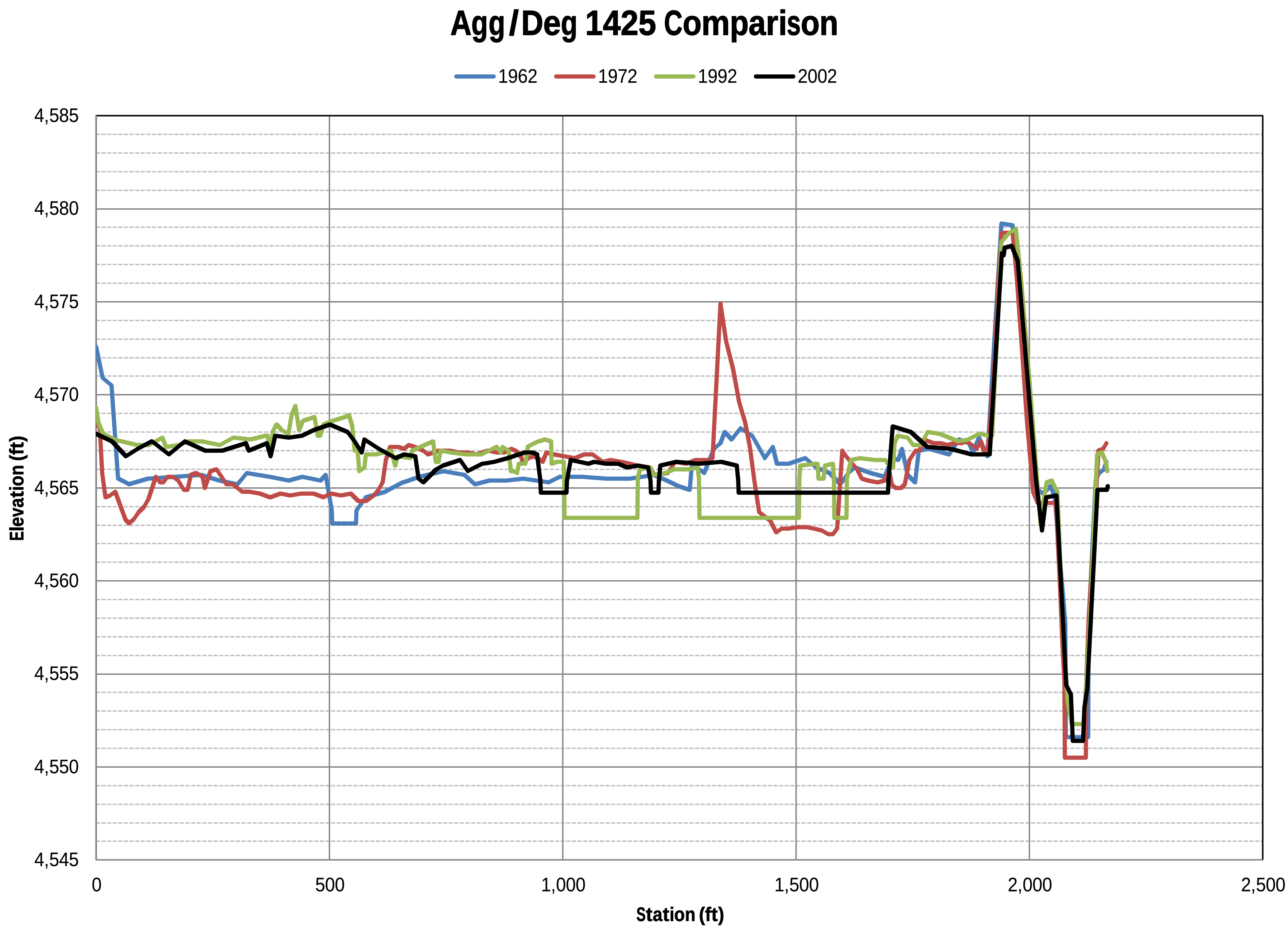

Agg/Deg 1405 Comparison
1962
1972
1992
2002
4,590
4,585
4,580
4,575
4,570
4,565
4,560
4,555
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)


Agg/Deg 1410 Comparison
1962
1972
1992
2002
Elevation (ft)
4,590
4,585
4,580
4,575
4,570
4,565
4,560
4,555
4,550
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Station (ft)

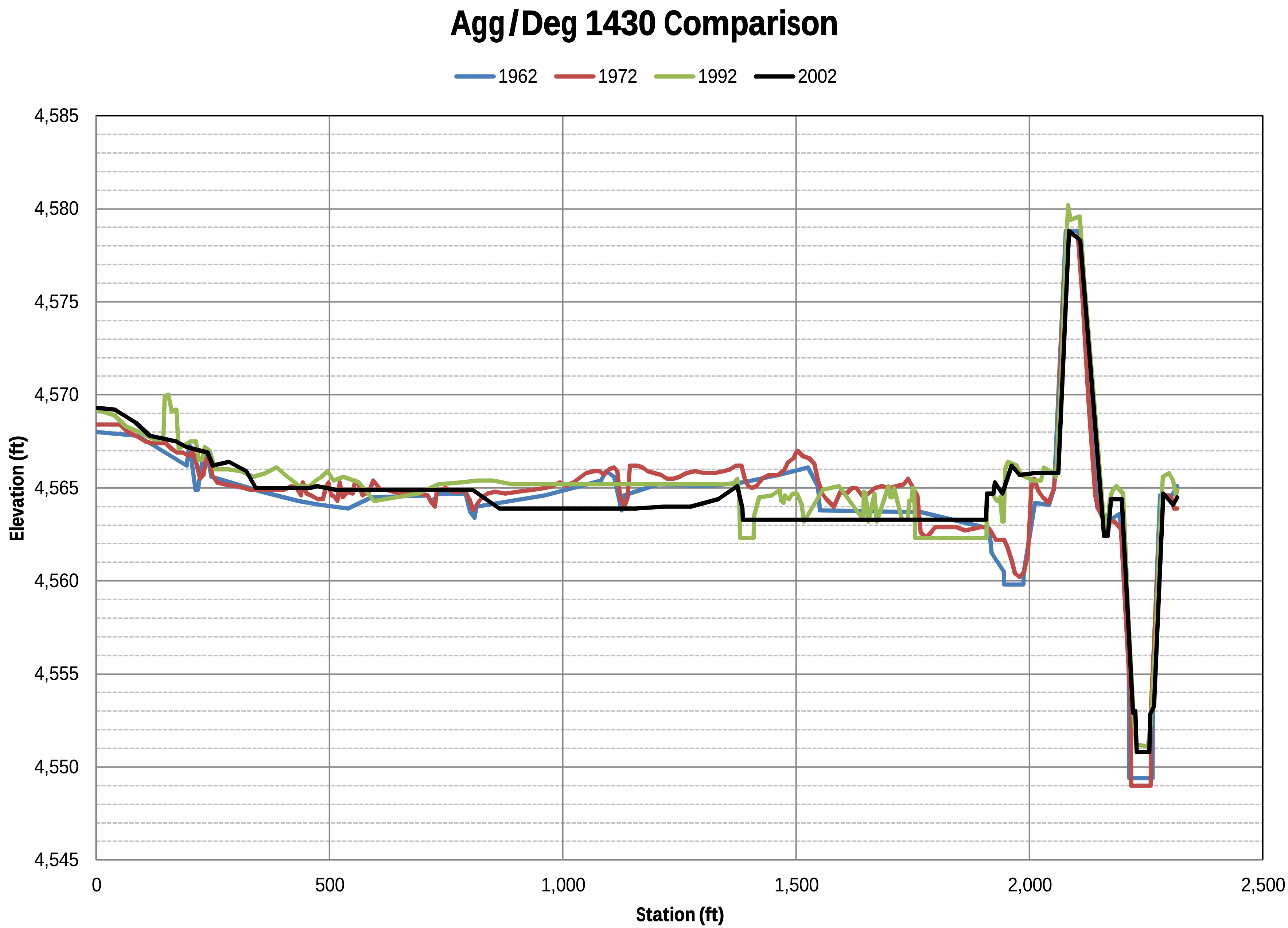

Agg/Deg 1416 Comparison
1962
1972
1992
2002
Elevation (ft)
4,585
4,580
4,575
4,570
4,565
4,560
4,555
4,550
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Station (ft)



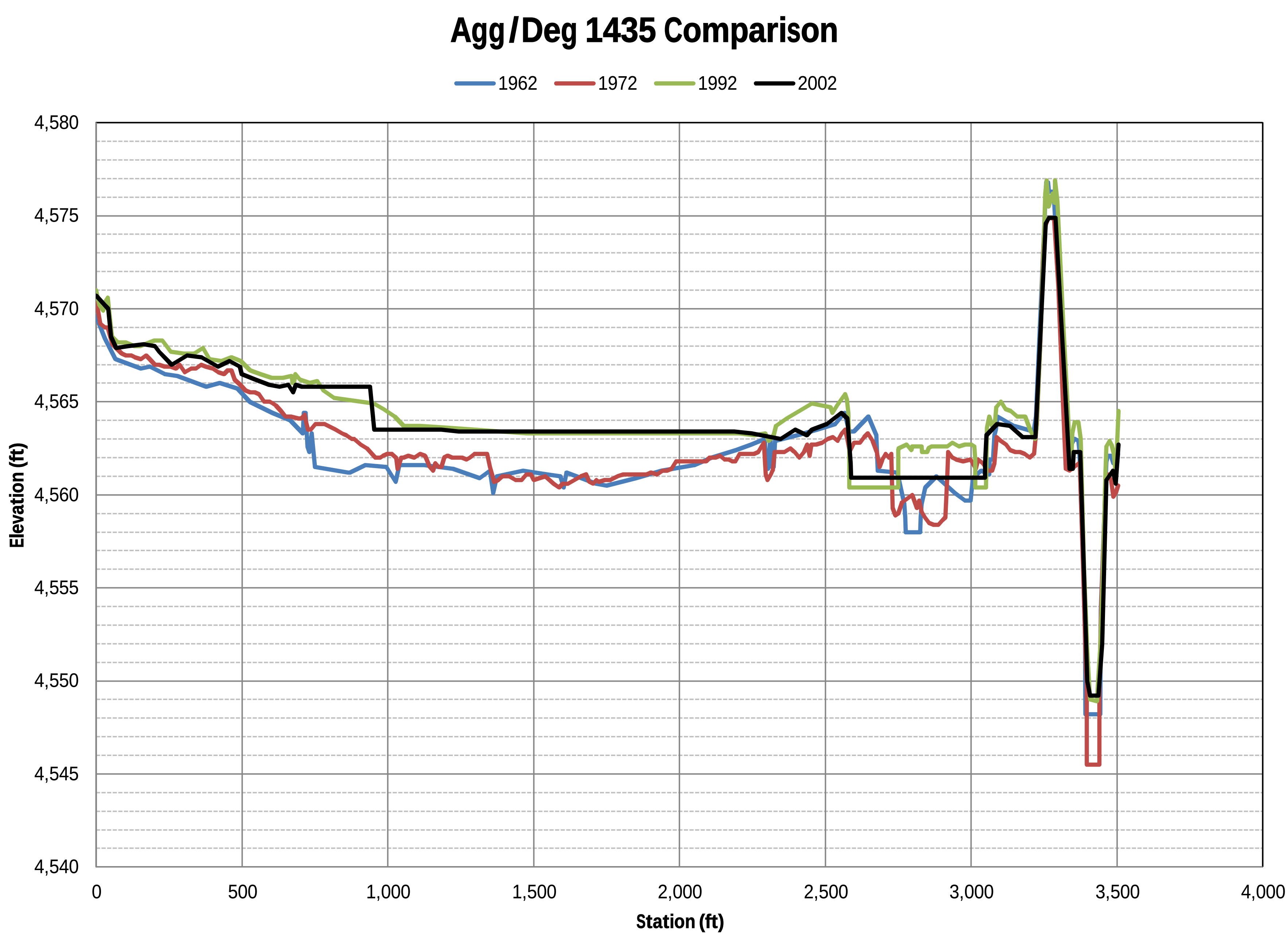
Agg/Deg 1420 Comparison
1962
1972
1992
2002
Elevation (ft)
4,585
4,580
4,575
4,570
4,565
4,560
4,555
4,550
4,545
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Station (ft)



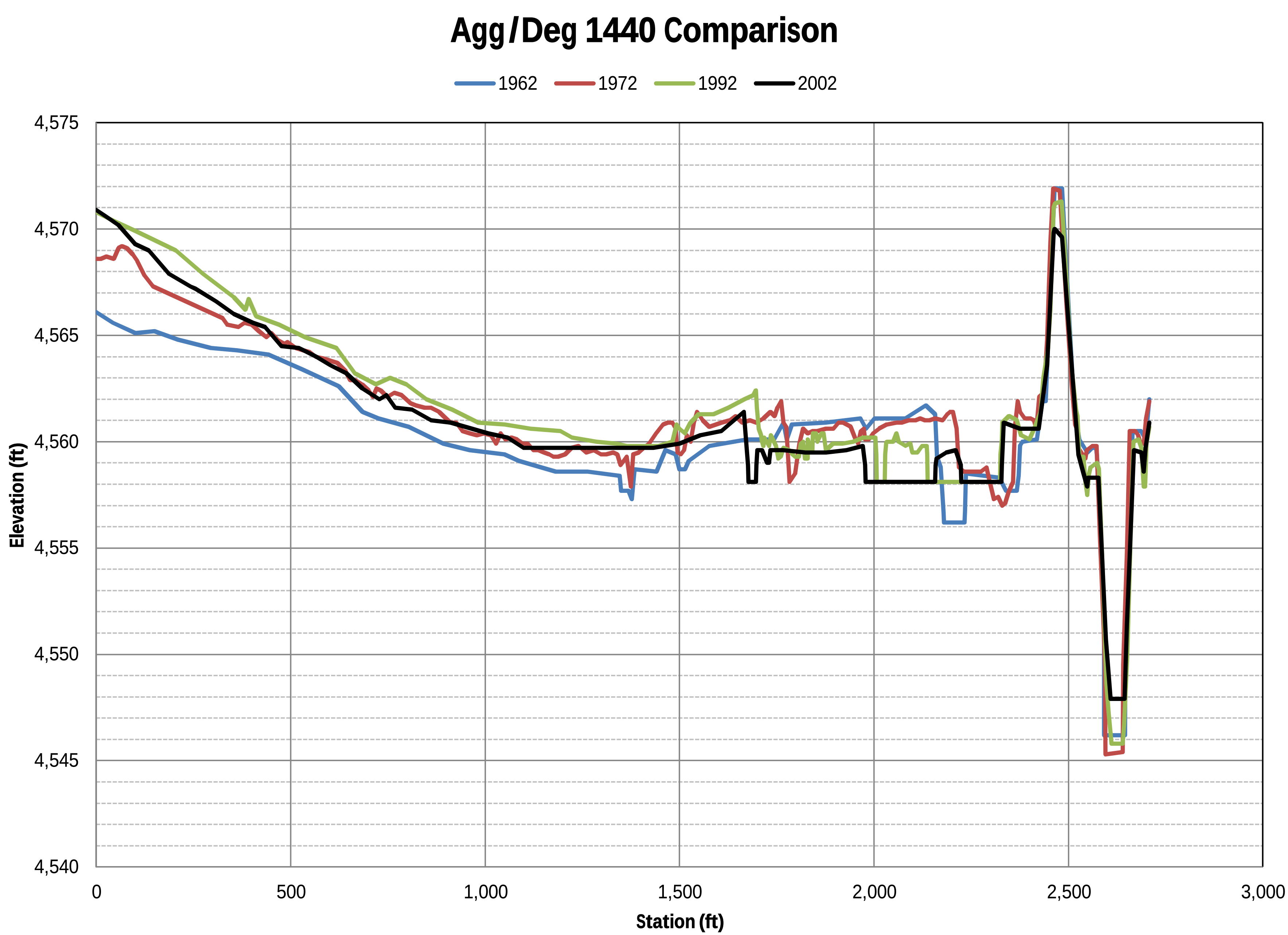
Agg/Deg 1425 Comparison
1962
1972
1992
2002
4,585
4,580
4,575
4,570
4,565
4,560
4,555
4,550
4,545
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)

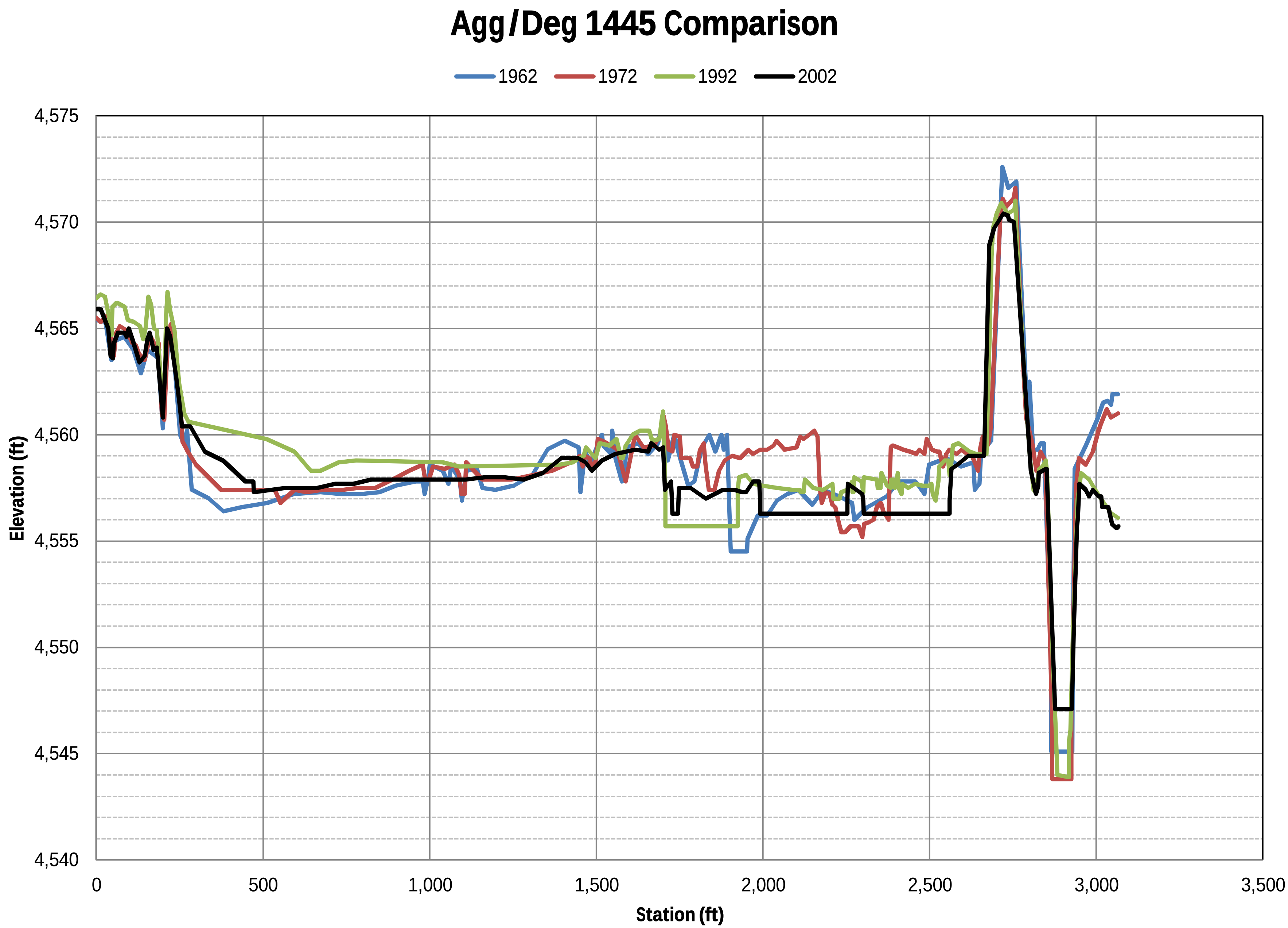


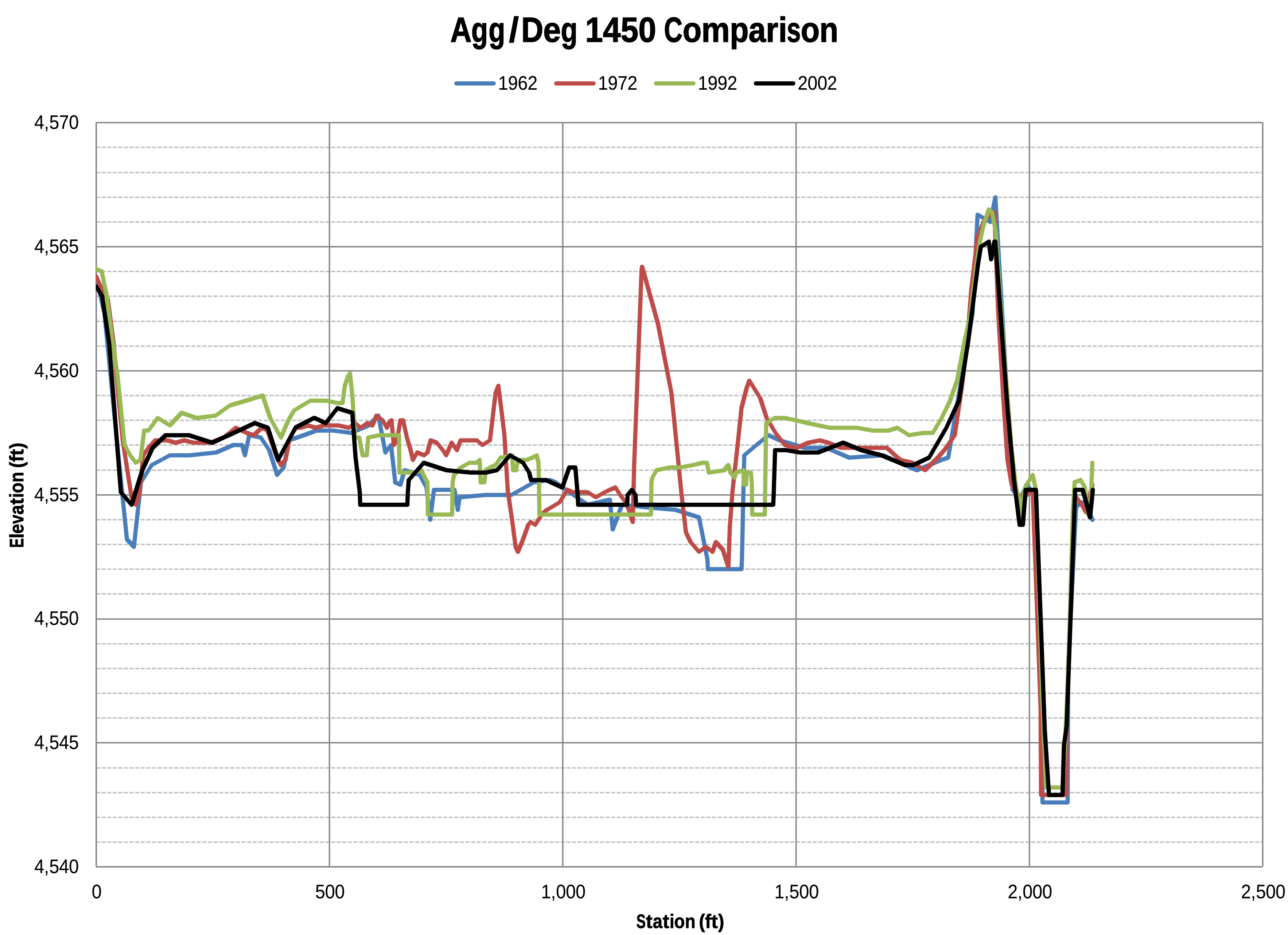
Agg/Deg 1430 Comparison
1962
1972
1992
2002
4,585
4,580
4,575
4,570
4,565
4,560
4,555
4,550
4,545
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)

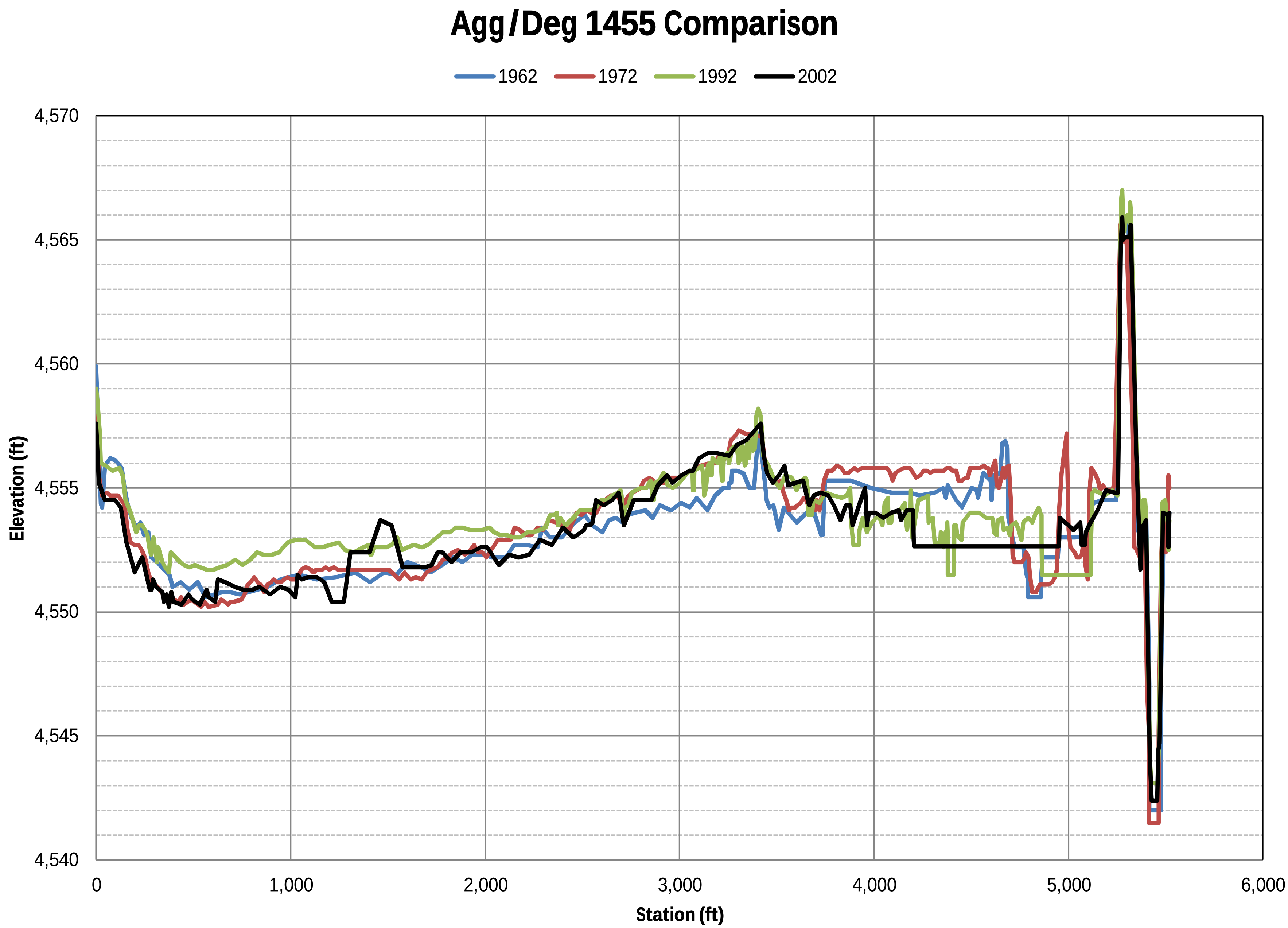


Agg/Deg 1435 Comparison
1962
1972
1992
2002
Elevation (ft)
4,580
4,575
4,570
4,565
4,560
4,555
4,550
4,545
4,540
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Station (ft)

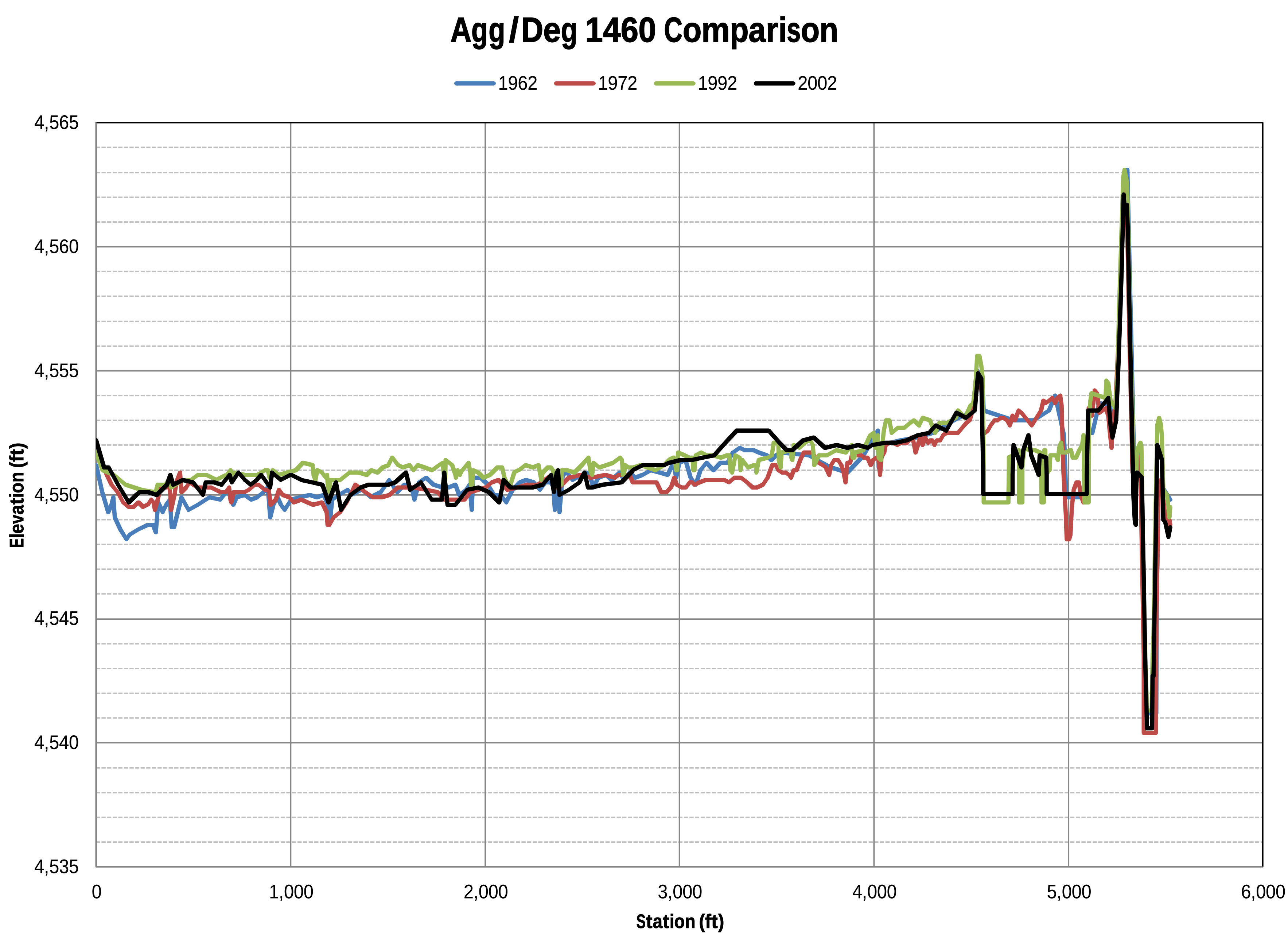

Agg/Deg 1440 Comparison
1962
1972
1992
2002
4,575
4,570
4,565
4,560
4,555
4,550
4,545
4,540
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)

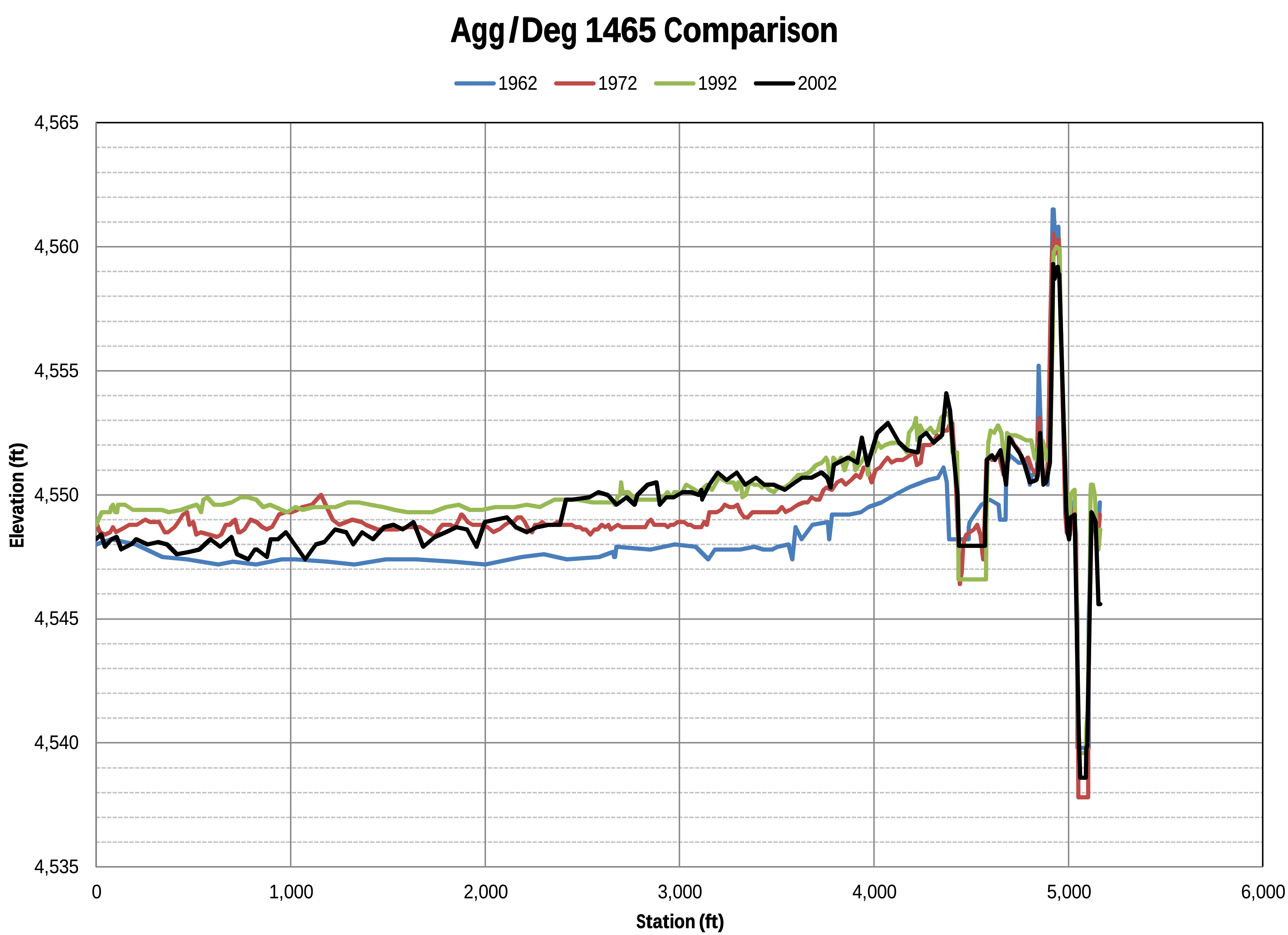

Agg/Deg 1445 Comparison
1962
1972
1992
2002
Elevation (ft)
4,575
4,570
4,565
4,560
4,555
4,550
4,545
4,540
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Station (ft)


Agg/Deg 1450 Comparison
1962
1972
1992
2002
4,570
4,565
4,560
4,555
4,550
4,545
4,540
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)

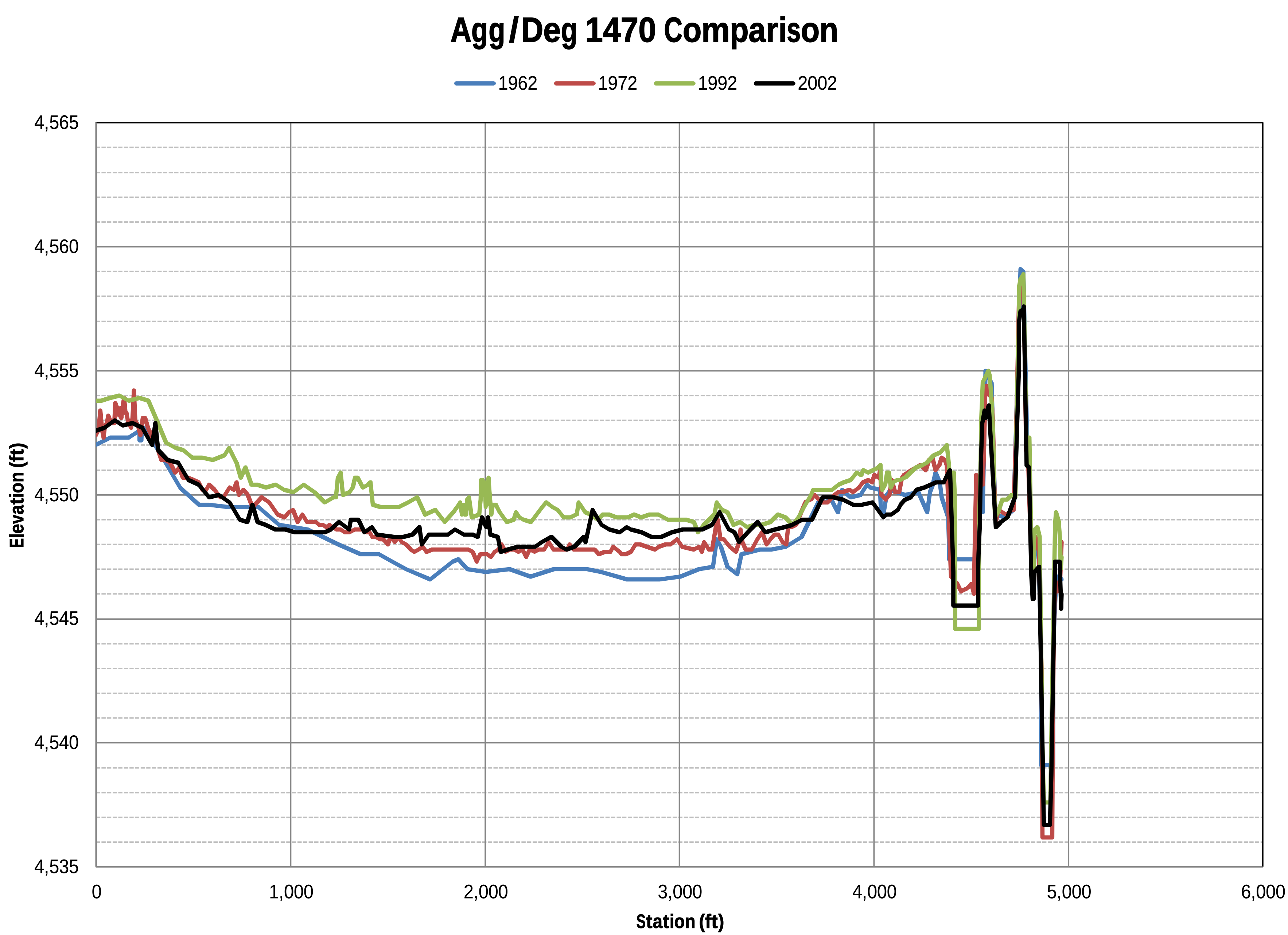


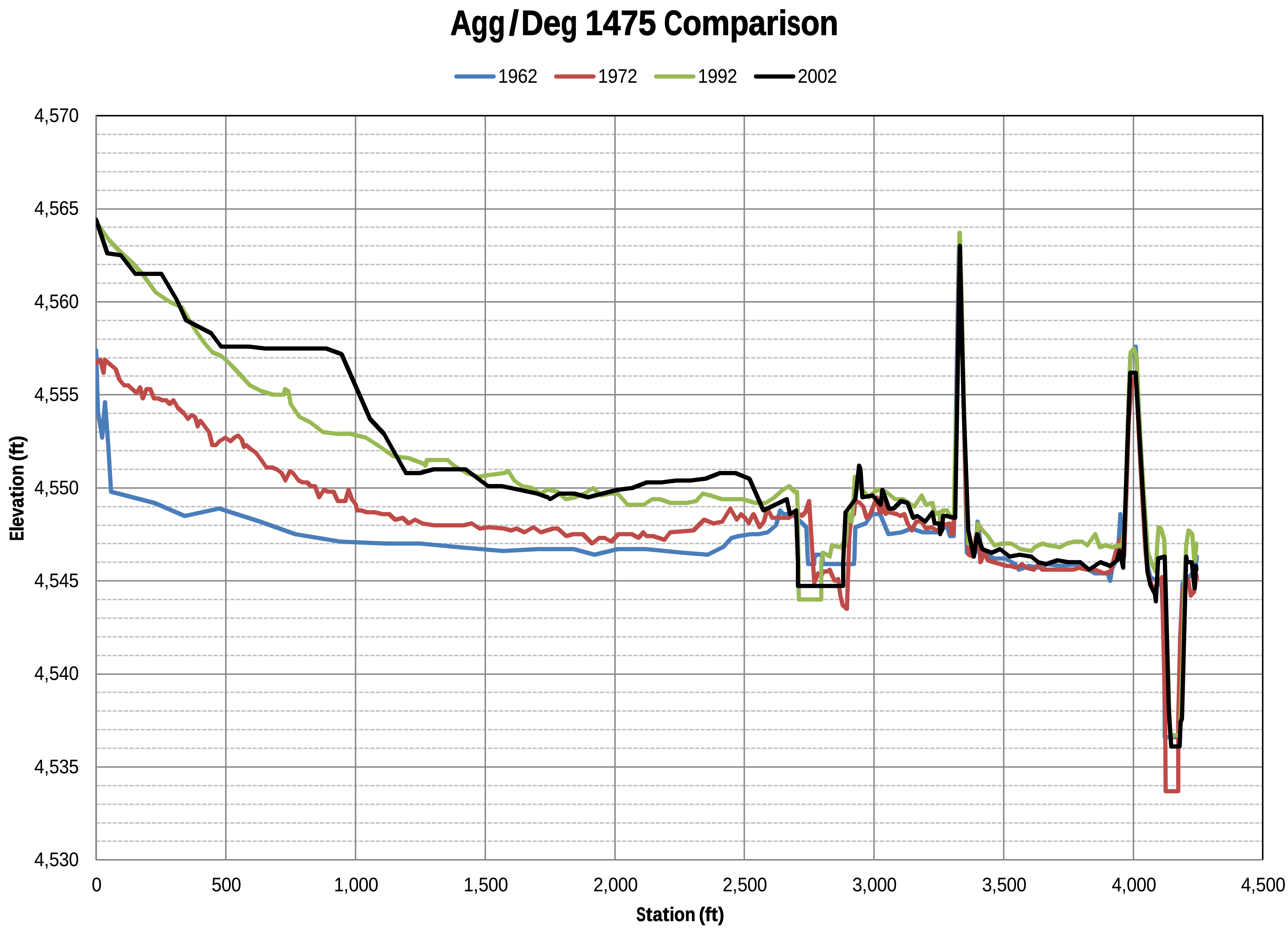
Agg/Deg 1455 Comparison
1962
1972
1992
2002
4,570
4,565
4,560
4,555
4,550
4,545
4,540
Elevation (ft)
0
1,000
2,000
3,000
4,000
5,000
6,000
Station (ft)


Agg/Deg 1460 Comparison
1962
1972
1992
2002
4,565
4,560
4,555
4,550
4,545
4,540
4,535
Elevation (ft)
0
1,000
2,000
3,000
4,000
5,000
6,000
Station (ft)

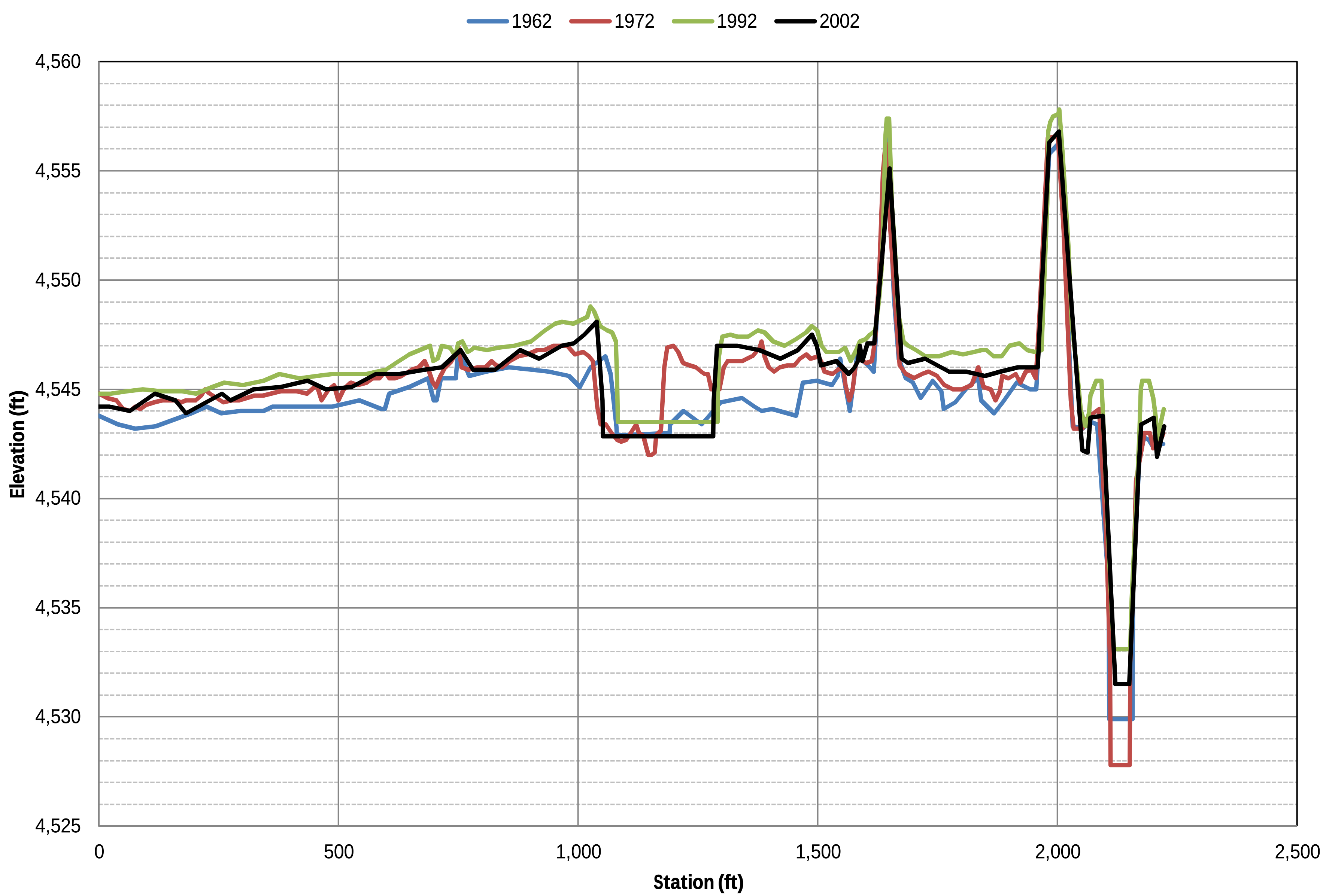


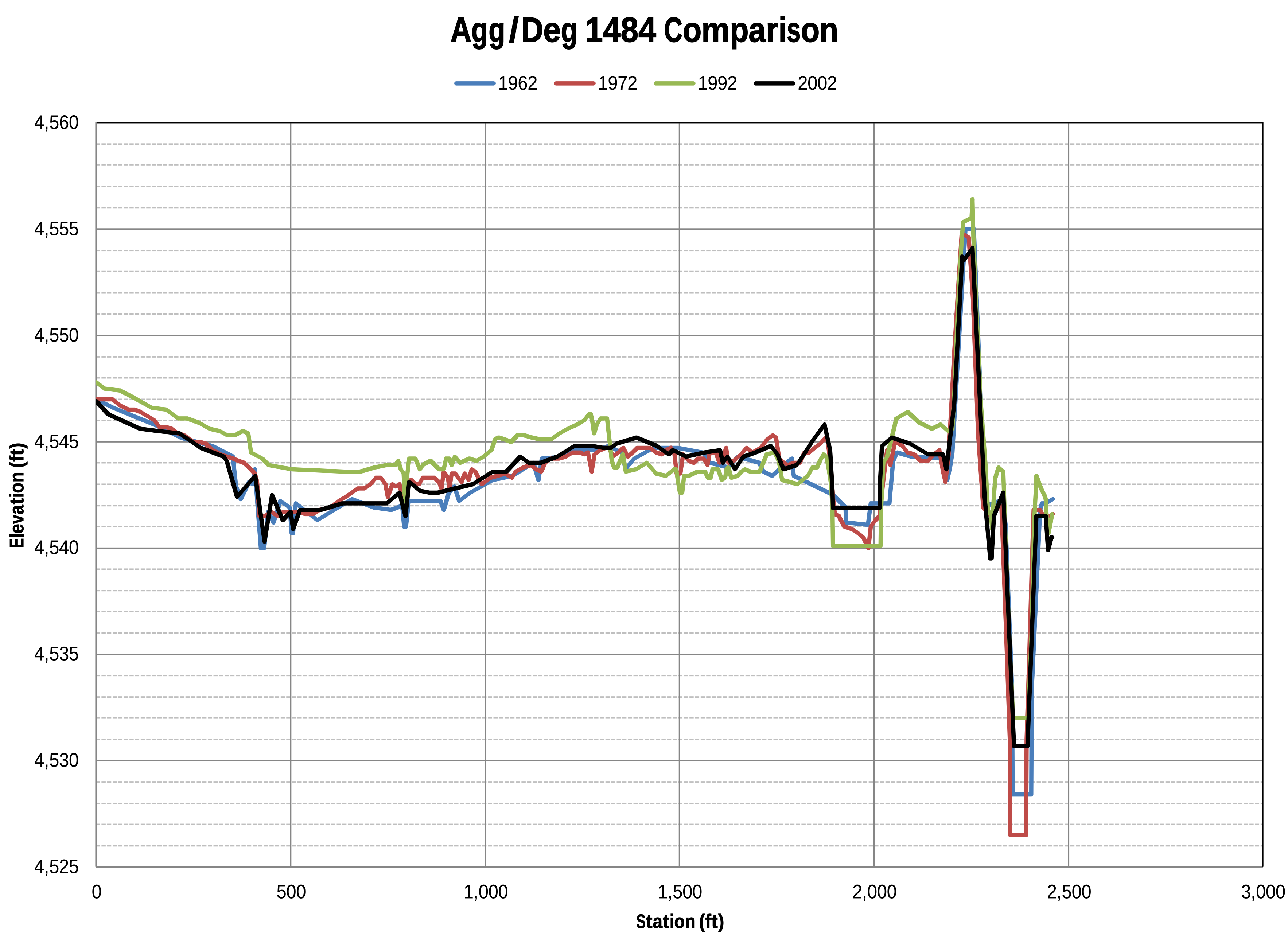
Agg/Deg 1465 Comparison
1962
1972
1992
2002
4,565
4,560
4,555
4,550
4,545
4,540
4,535
Elevation (ft)
0
1,000
2,000
3,000
4,000
5,000
6,000
Station (ft)

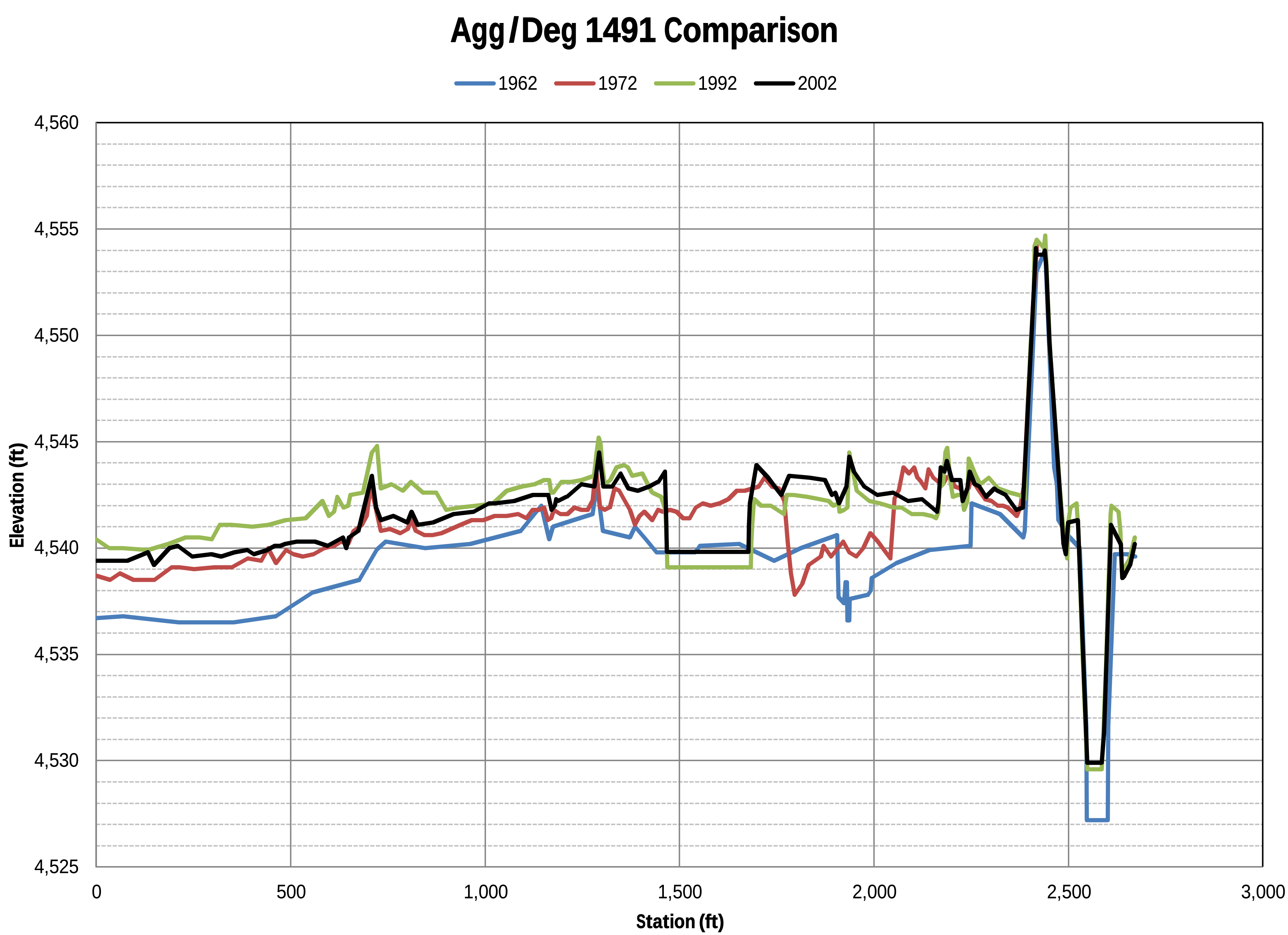

Agg/Deg 1470 Comparison
1962
1972
1992
2002
4,565
4,560
4,555
4,550
4,545
4,540
4,535
Elevation (ft)
0
1,000
2,000
3,000
4,000
5,000
6,000
Station (ft)

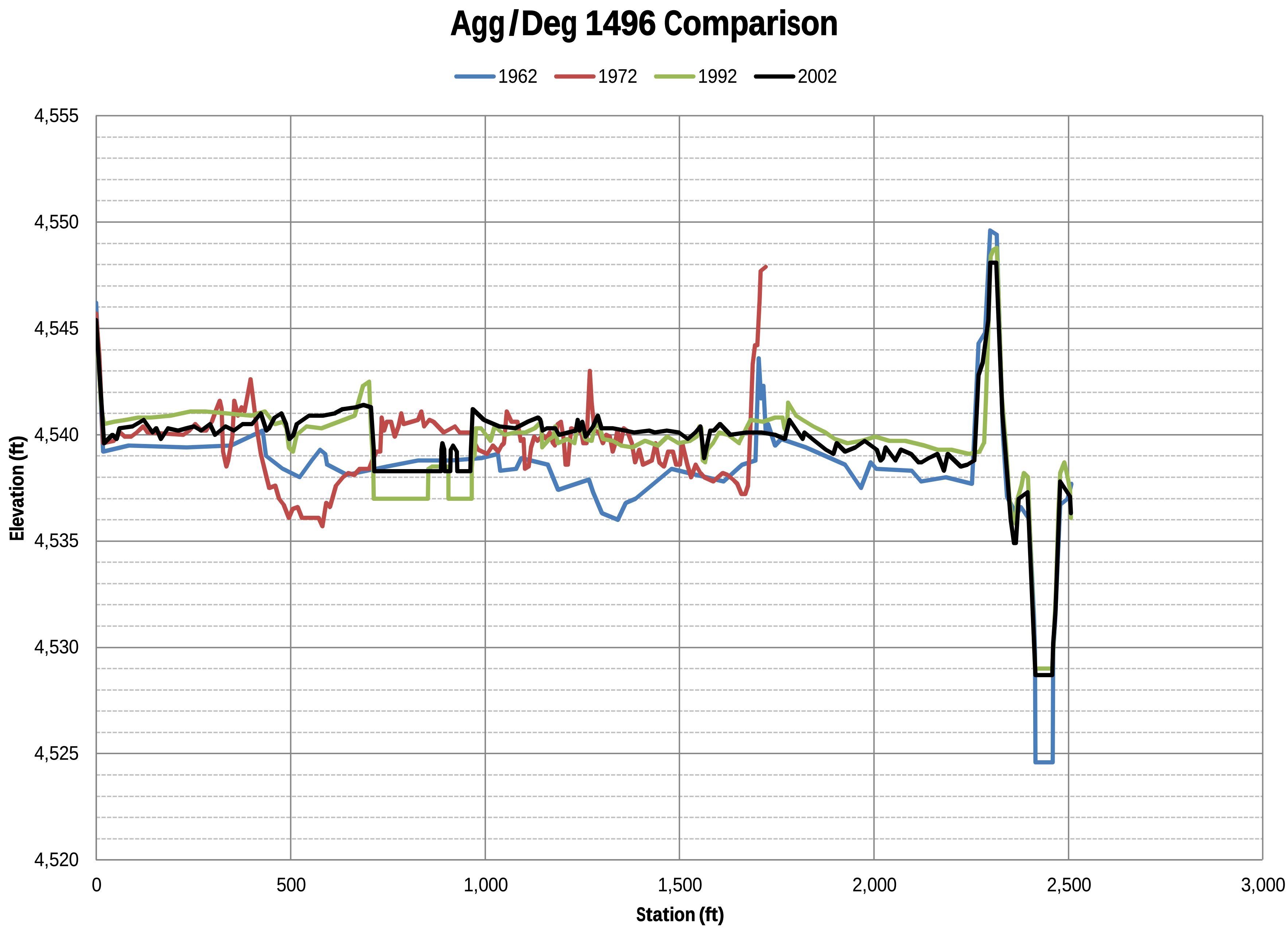

Agg/Deg 1475 Comparison
1962
1972
1992
2002
4,570
4,565
4,560
4,555
4,550
4,545
4,540
4,535
4,530
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
Station (ft)

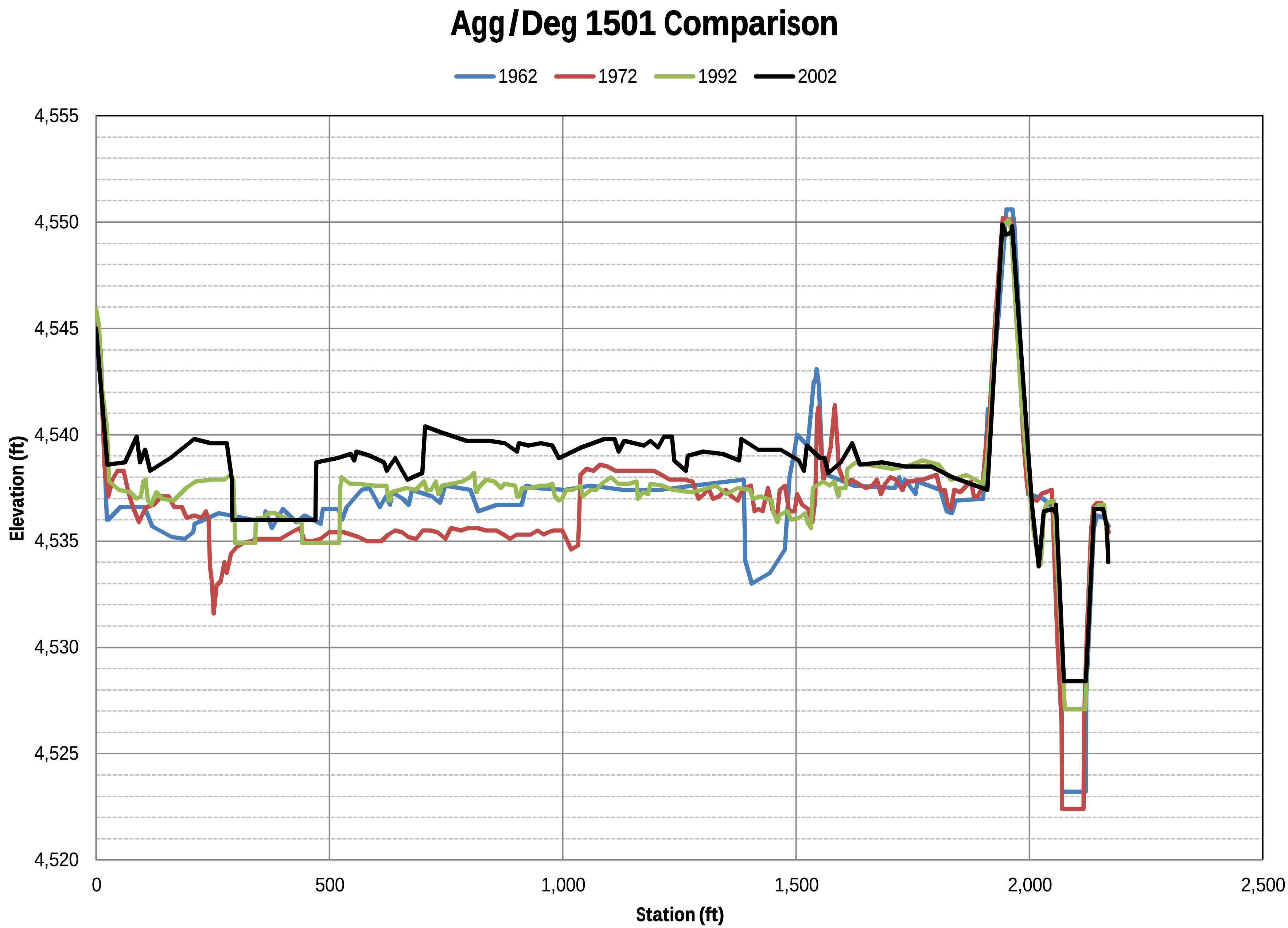
Agg/Deg 1479 Comparison

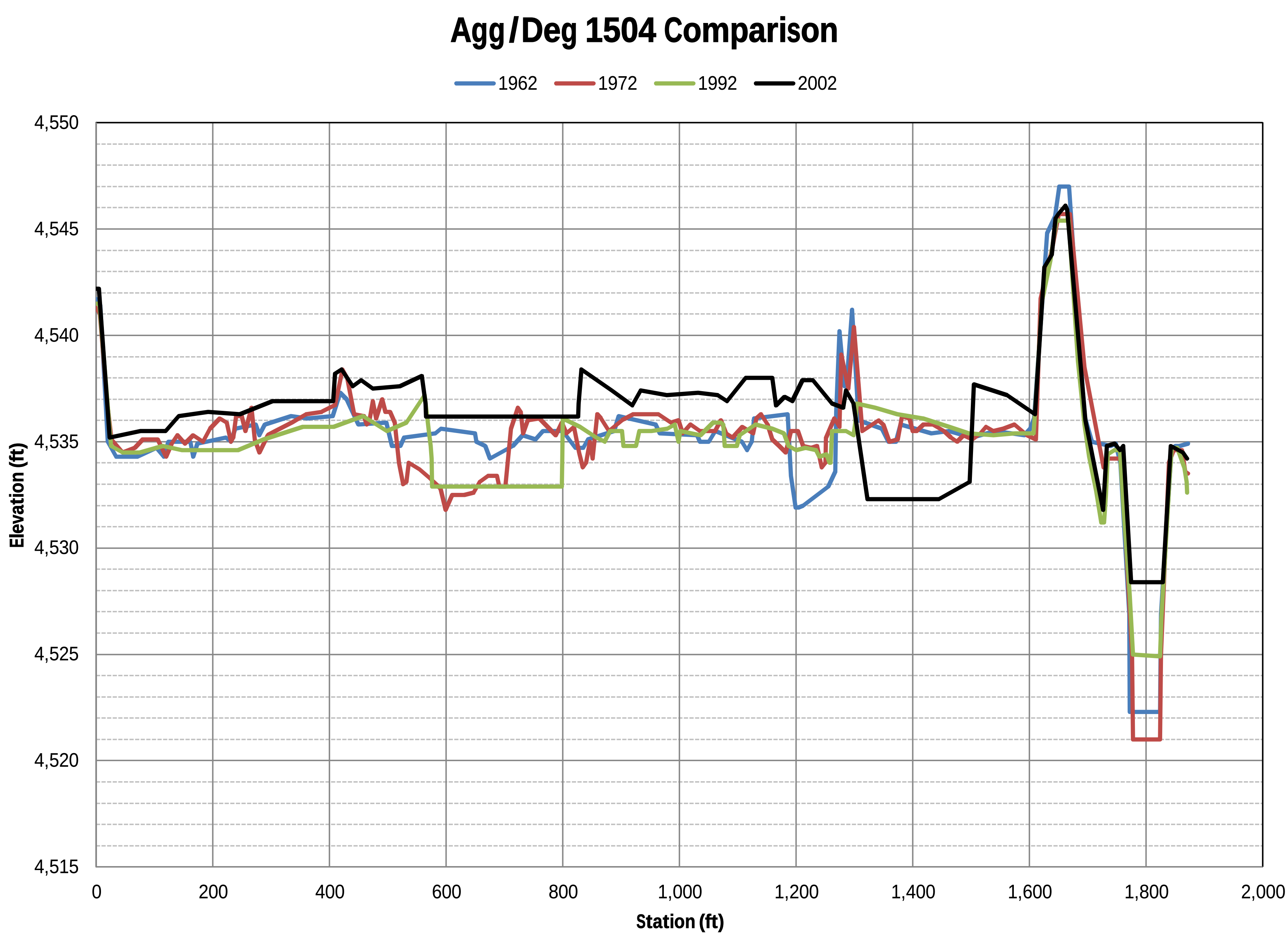


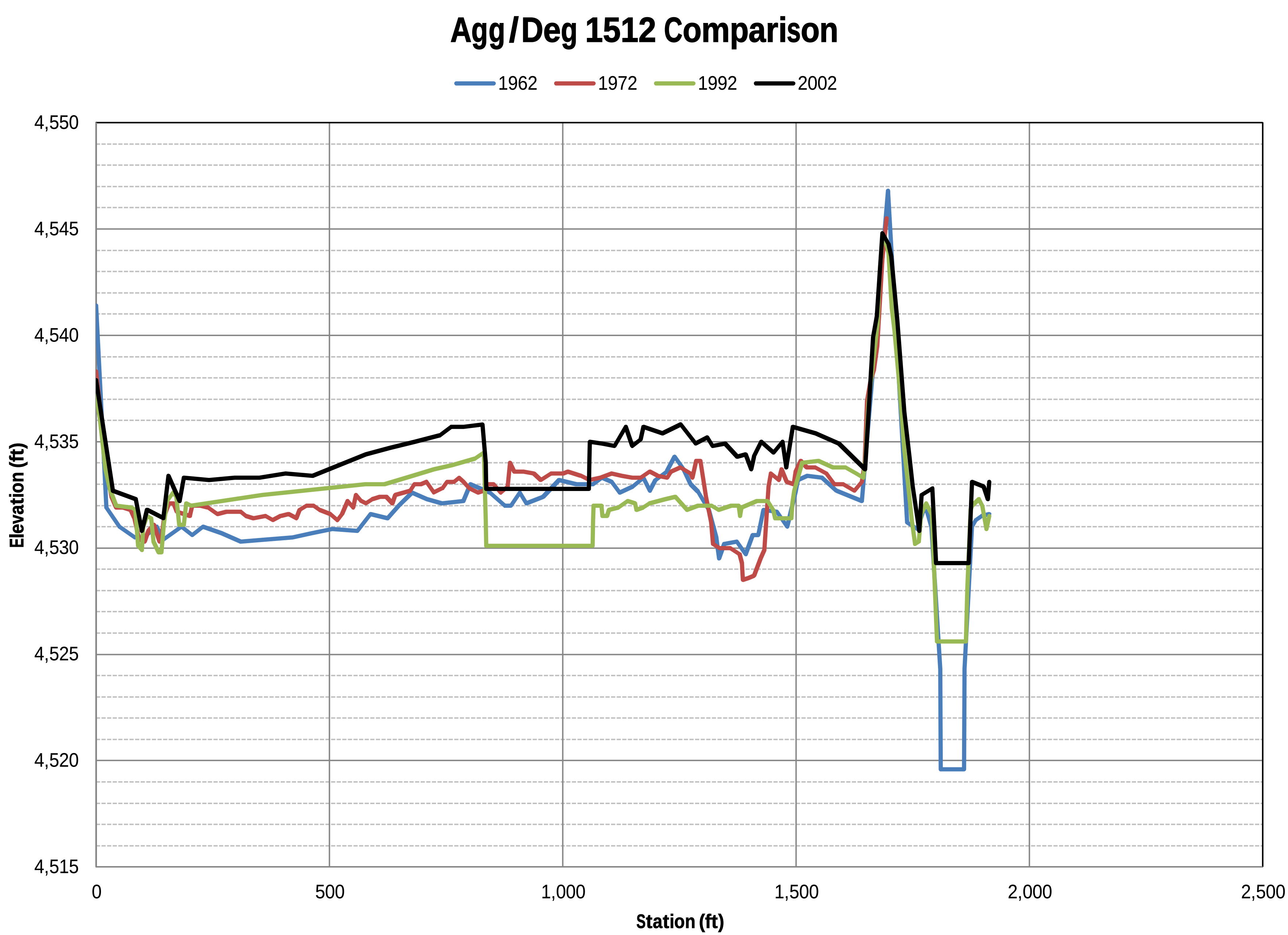

Agg/Deg 1484 Comparison
1962
1972
1992
2002
4,560
4,555
4,550
4,545
4,540
4,535
4,530
4,525
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)


Agg/Deg 1491 Comparison
1962
1972
1992
2002
Elevation (ft)
4,560
4,555
4,550
4,545
4,540
4,535
4,530
4,525
Station (ft)
0
500
1,000
1,500
2,000
2,500
3,000

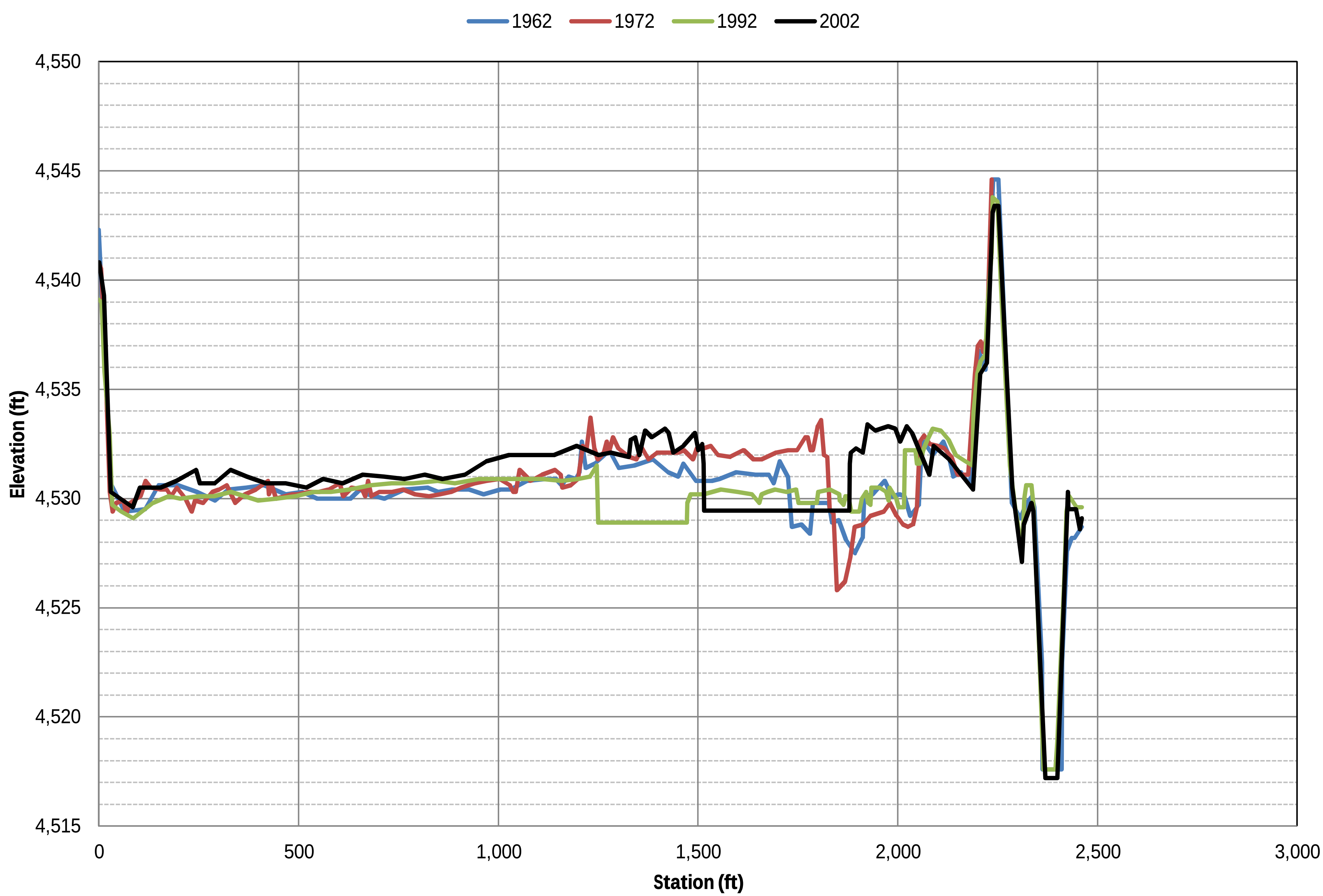

Agg/Deg 1496 Comparison
1962
1972
1992
2002
Elevation (ft)
4,555
4,550
4,545
4,540
4,535
4,530
4,525
4,520
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)

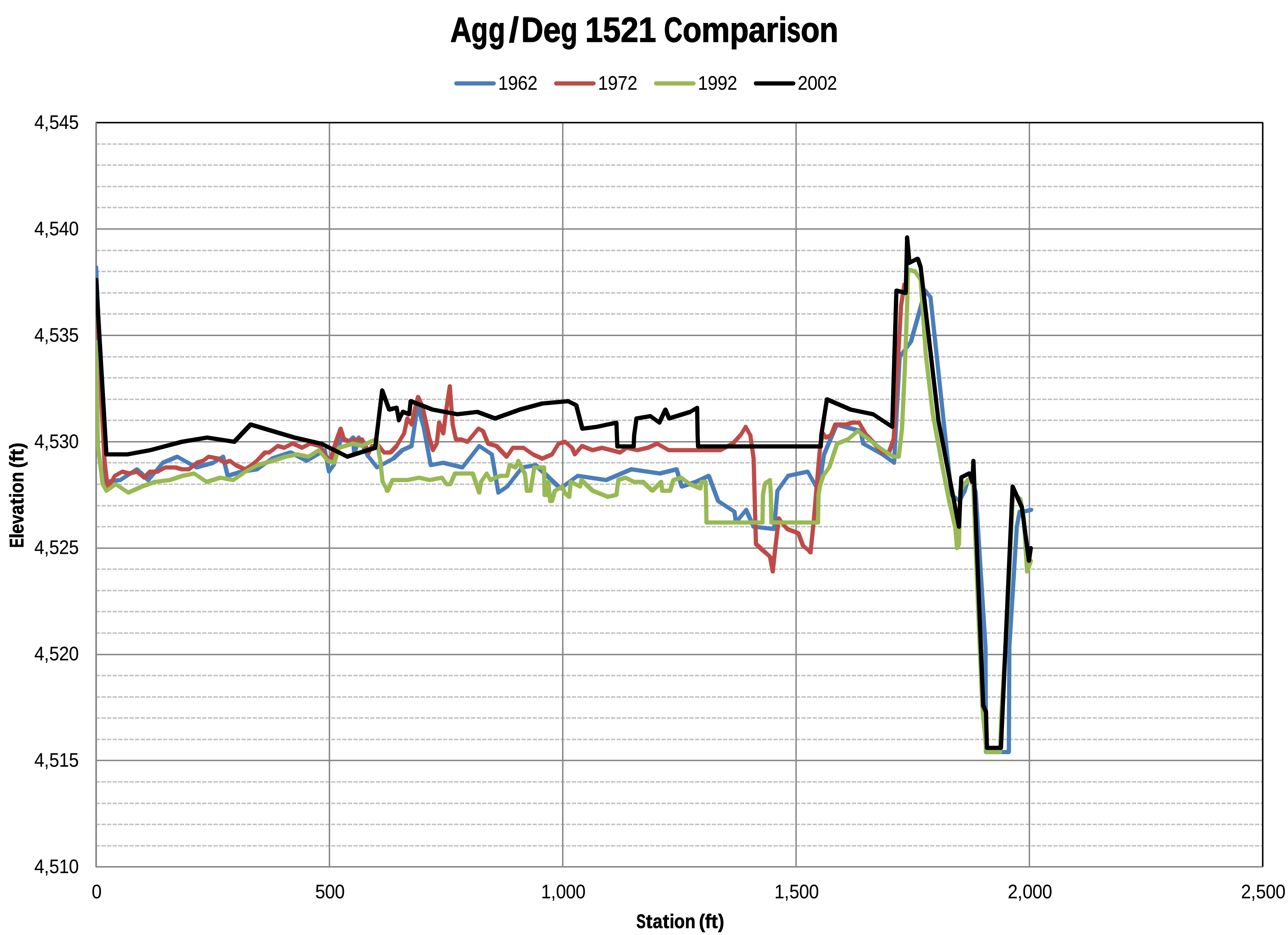

Agg/Deg 1501 Comparison
1962
1972
1992
2002
4,555
4,550
4,545
4,540
4,535
4,530
4,525
4,520
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)


Agg/Deg 1504 Comparison
1962
1972
1992
2002
4,550
4,545
4,540
4,535
4,530
4,525
4,520
4,515
Elevation (ft)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
2,000
Station (ft)


Agg/Deg 1512 Comparison
1962
1972
1992
2002
4,550
4,545
4,540
4,535
4,530
4,525
4,520
4,515
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)

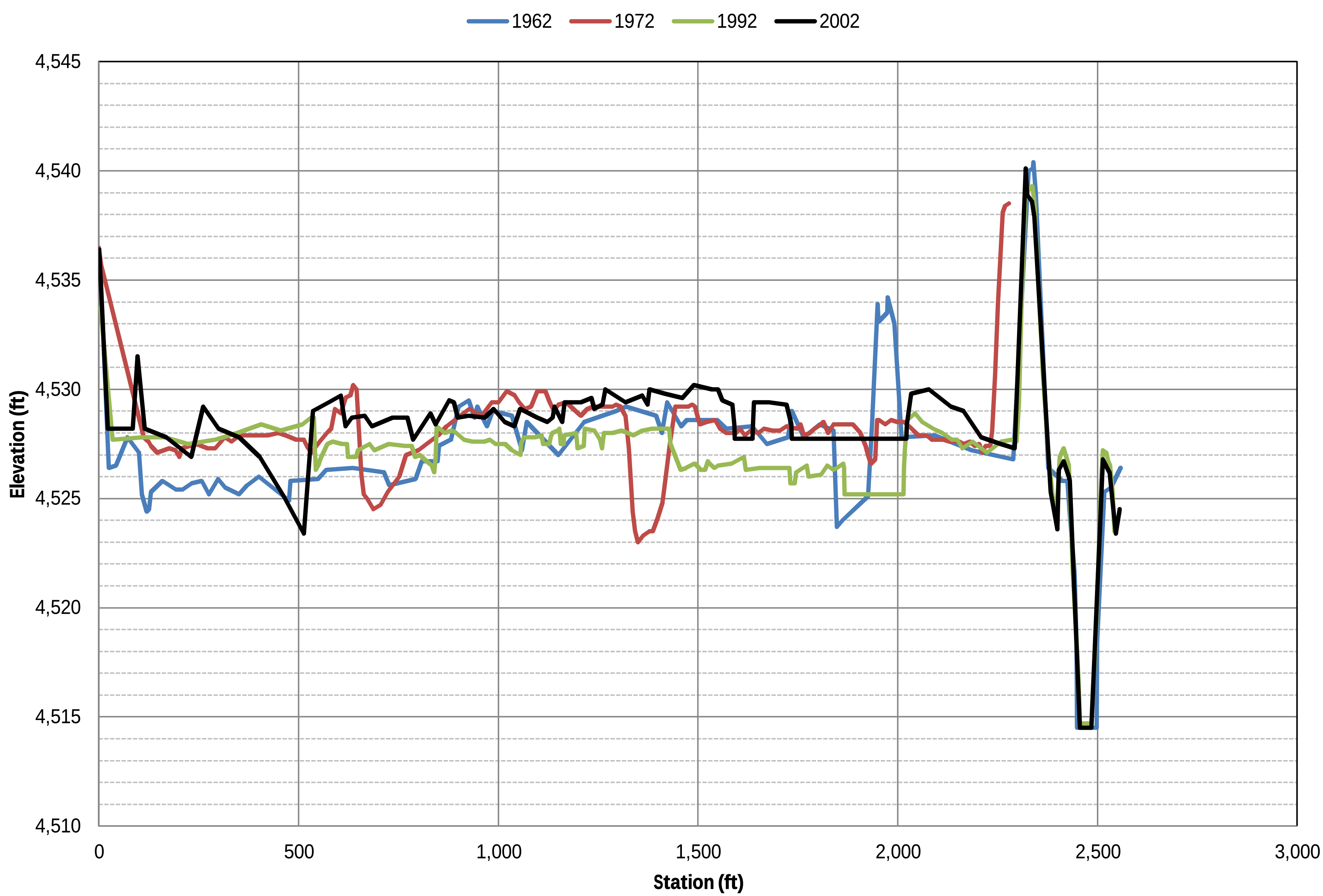
Agg/Deg 1517 Comparison

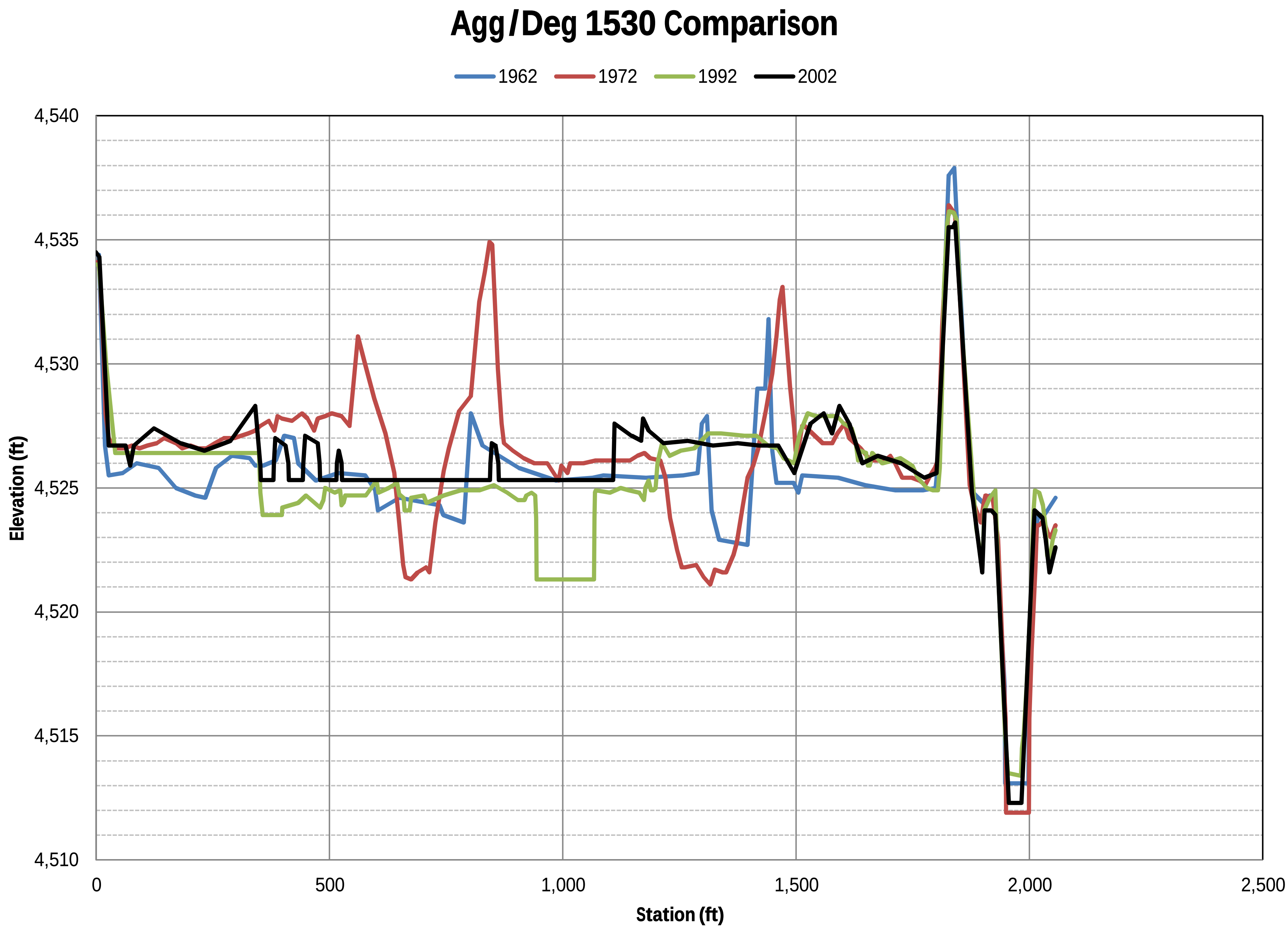


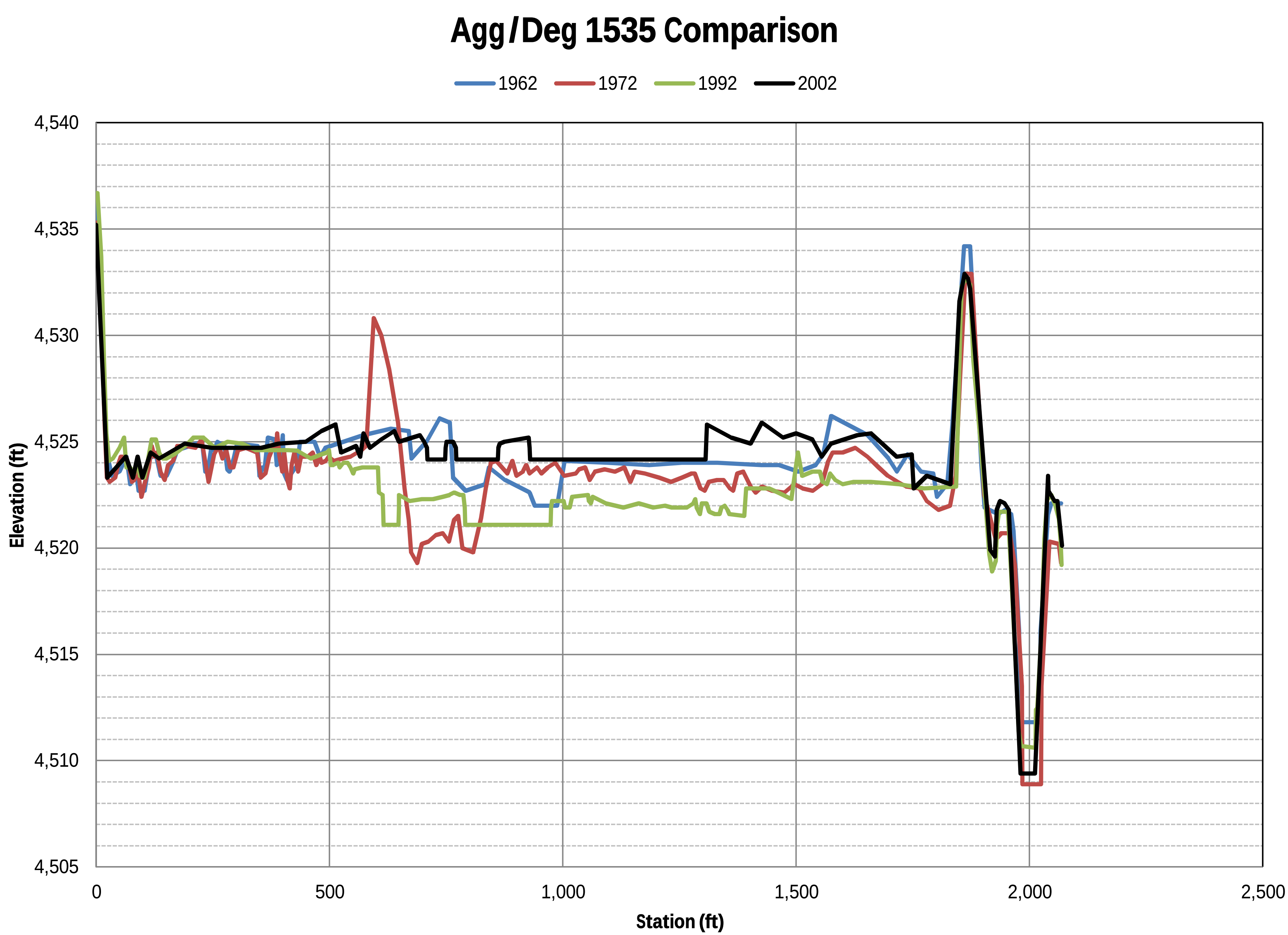


Agg/Deg 1521 Comparison
1962
1972
1992
2002
4,545
4,540
4,535
4,530
4,525
4,520
4,515
4,510
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)

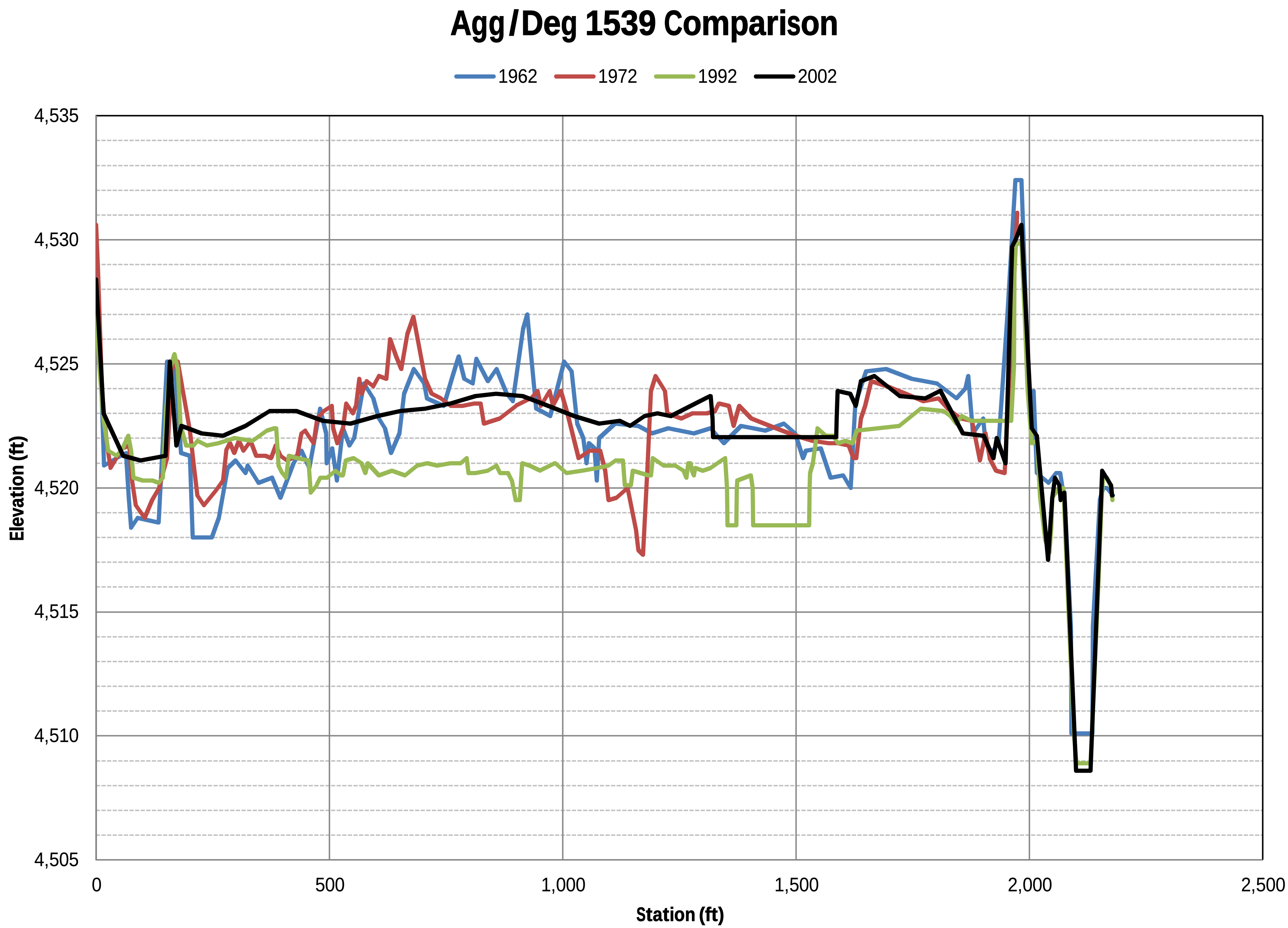
Agg/Deg 1526 Comparison



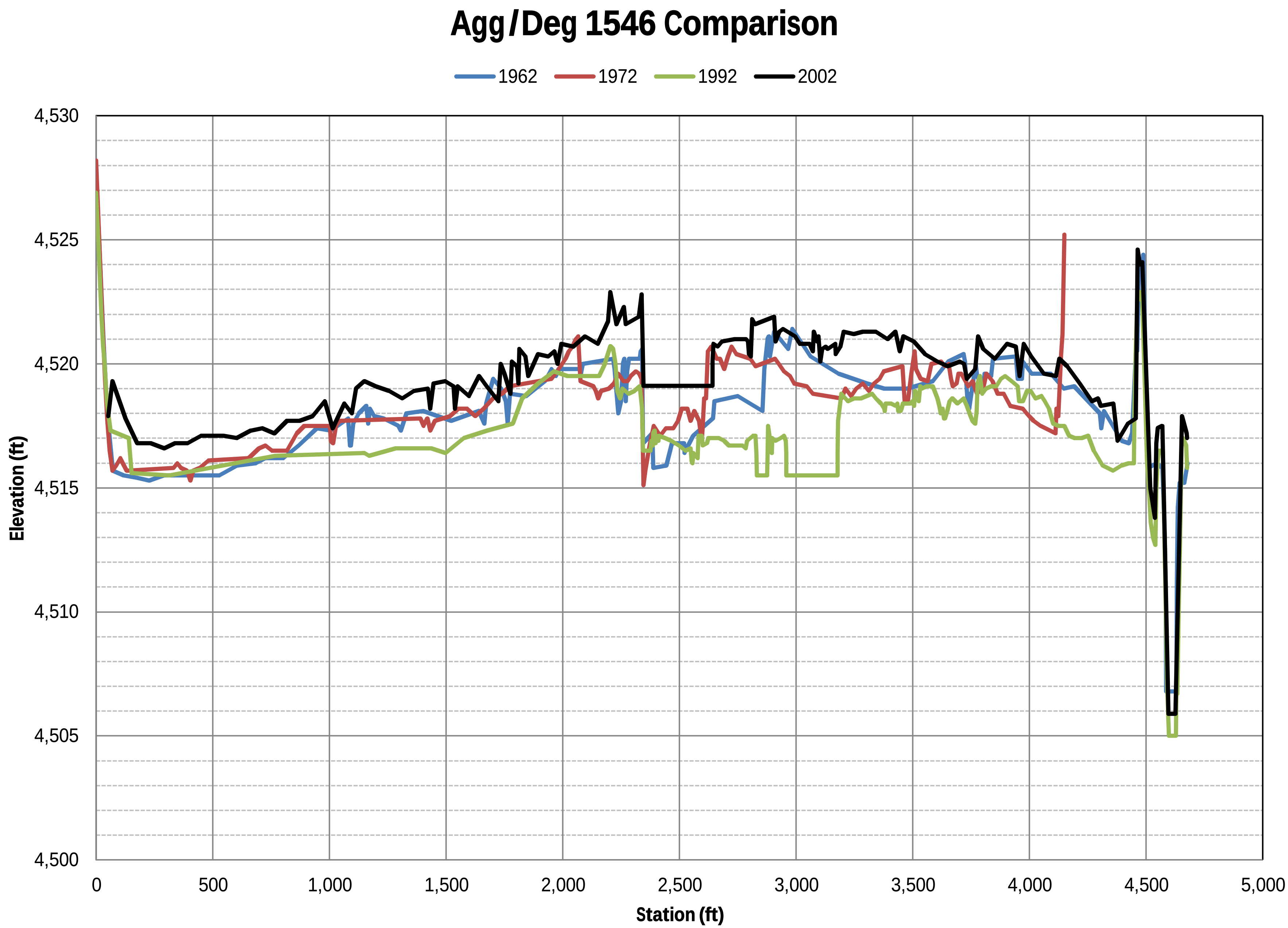

Agg/Deg 1530 Comparison
1962
1972
1992
2002
Elevation (ft)
4,540
4,535
4,530
4,525
4,520
4,515
4,510
Station (ft)
0
500
1,000
1,500
2,000
2,500



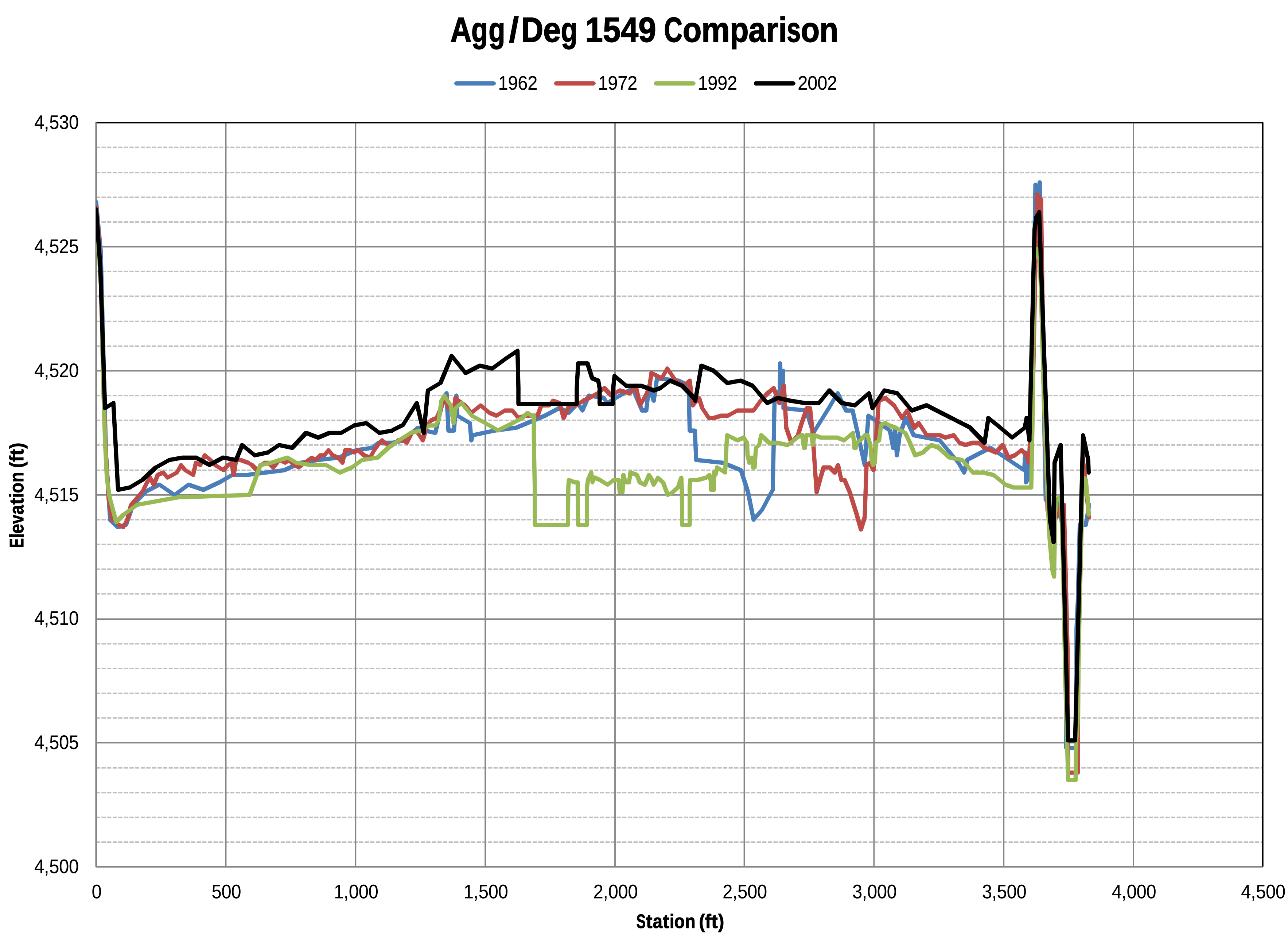
Agg/Deg 1535 Comparison
1962
1972
1992
2002
4,540
4,535
4,530
4,525
4,520
4,515
4,510
4,505
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)

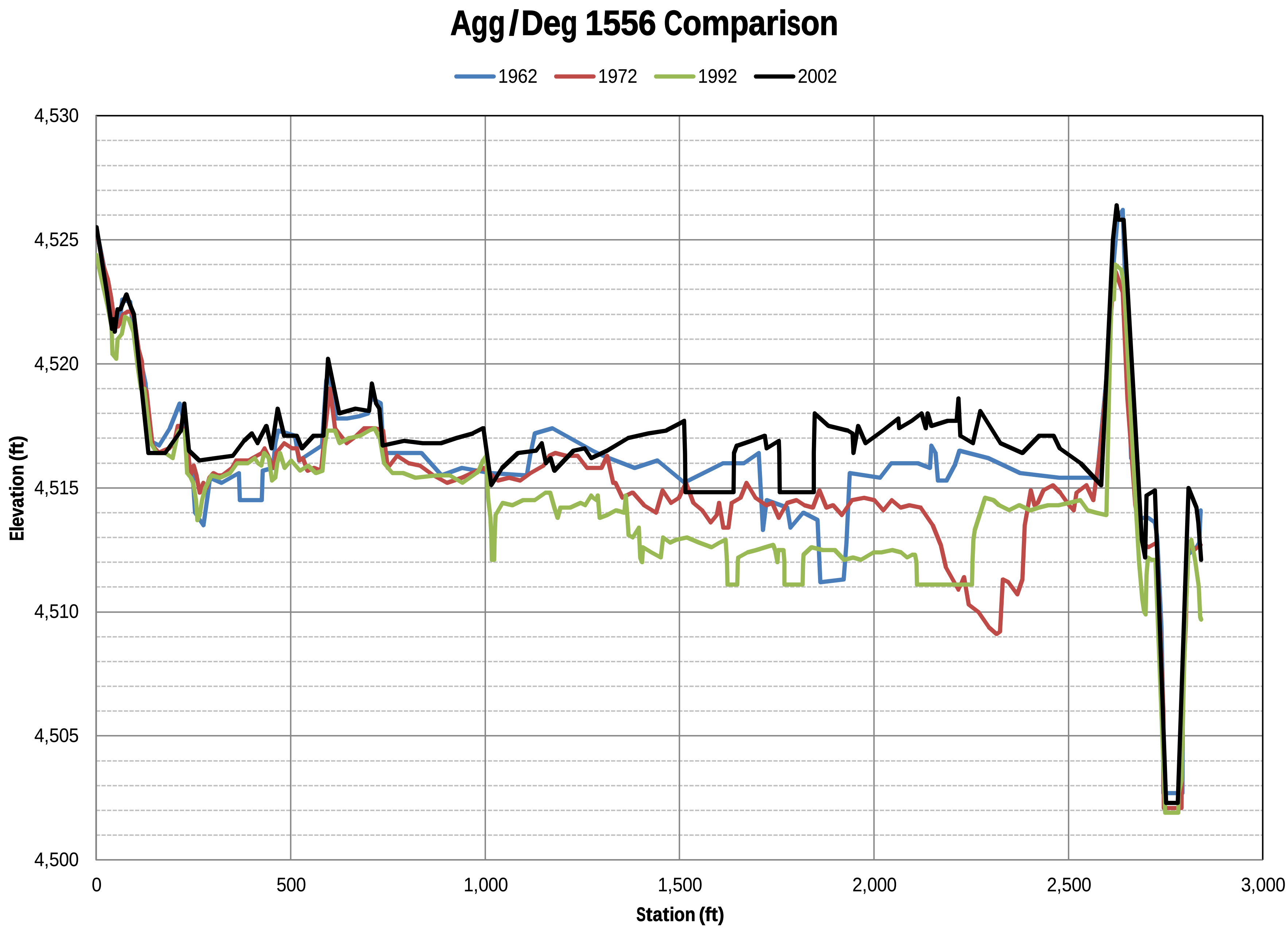


Agg/Deg 1539 Comparison
1962
1972
1992
2002
4,535
4,530
4,525
4,520
4,515
4,510
4,505
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)

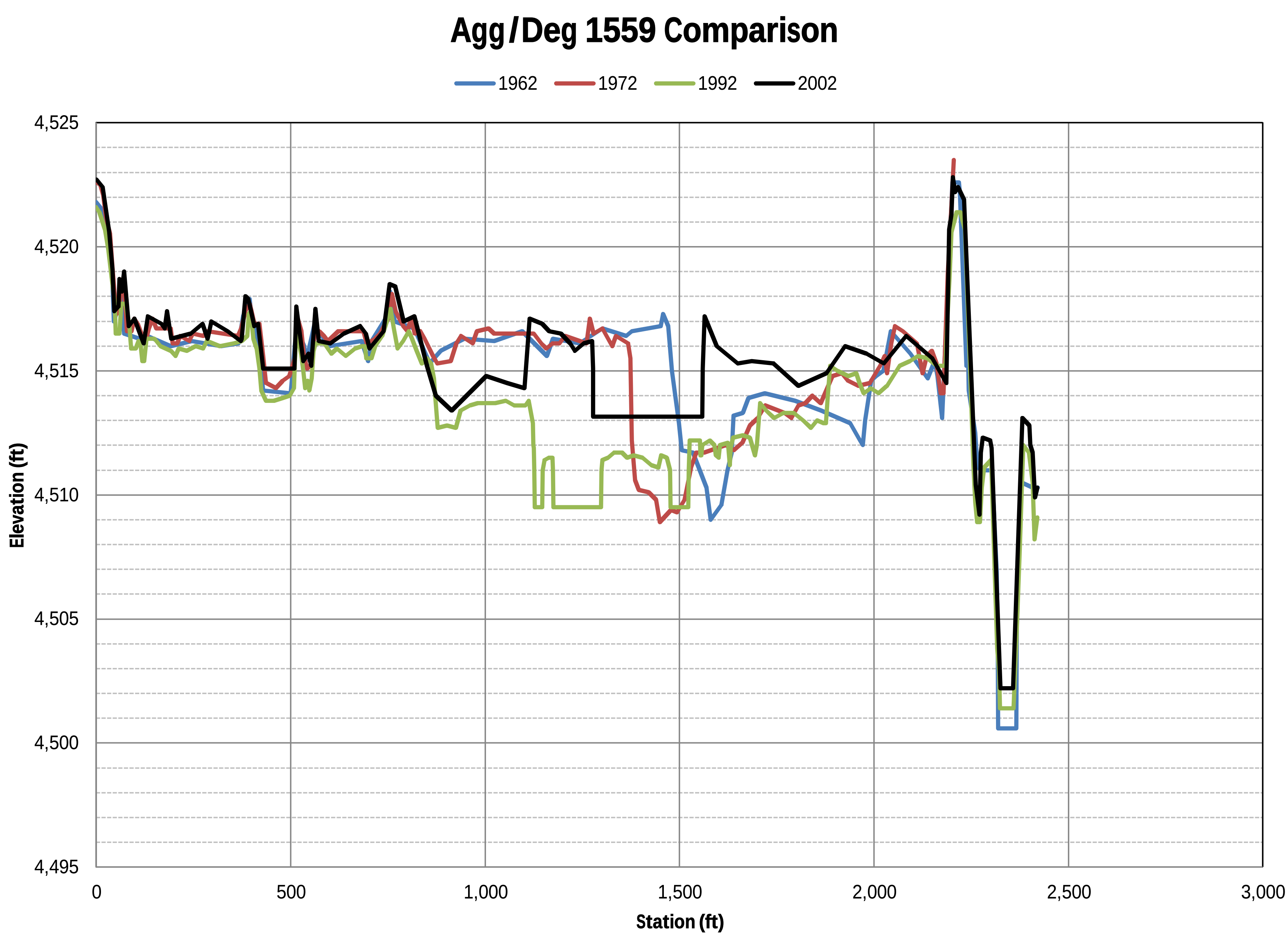


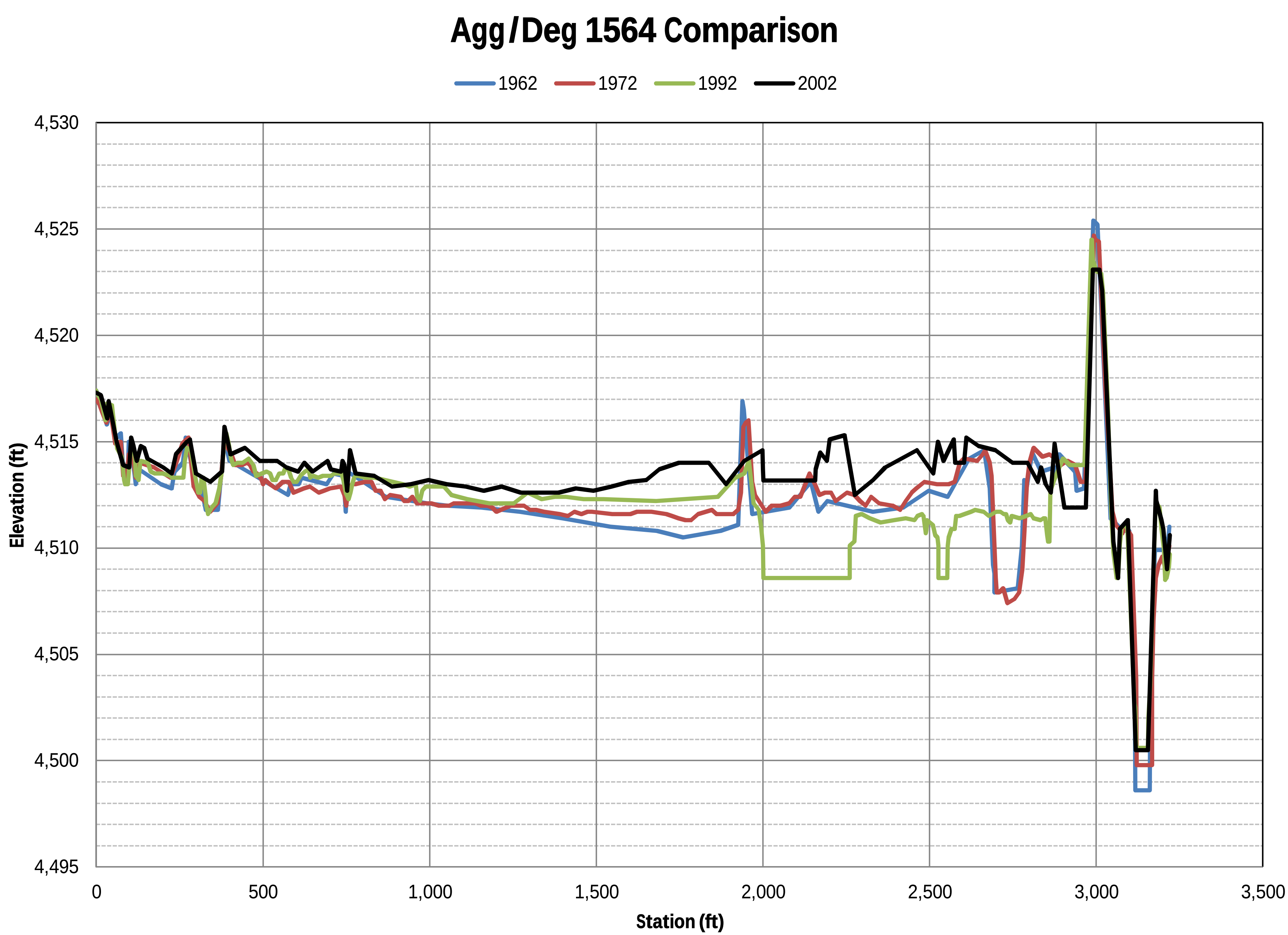
Agg/Deg 1546 Comparison
1962
1972
1992
2002
4,530
4,525
4,520
4,515
4,510
4,505
4,500
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
5,000
Station (ft)

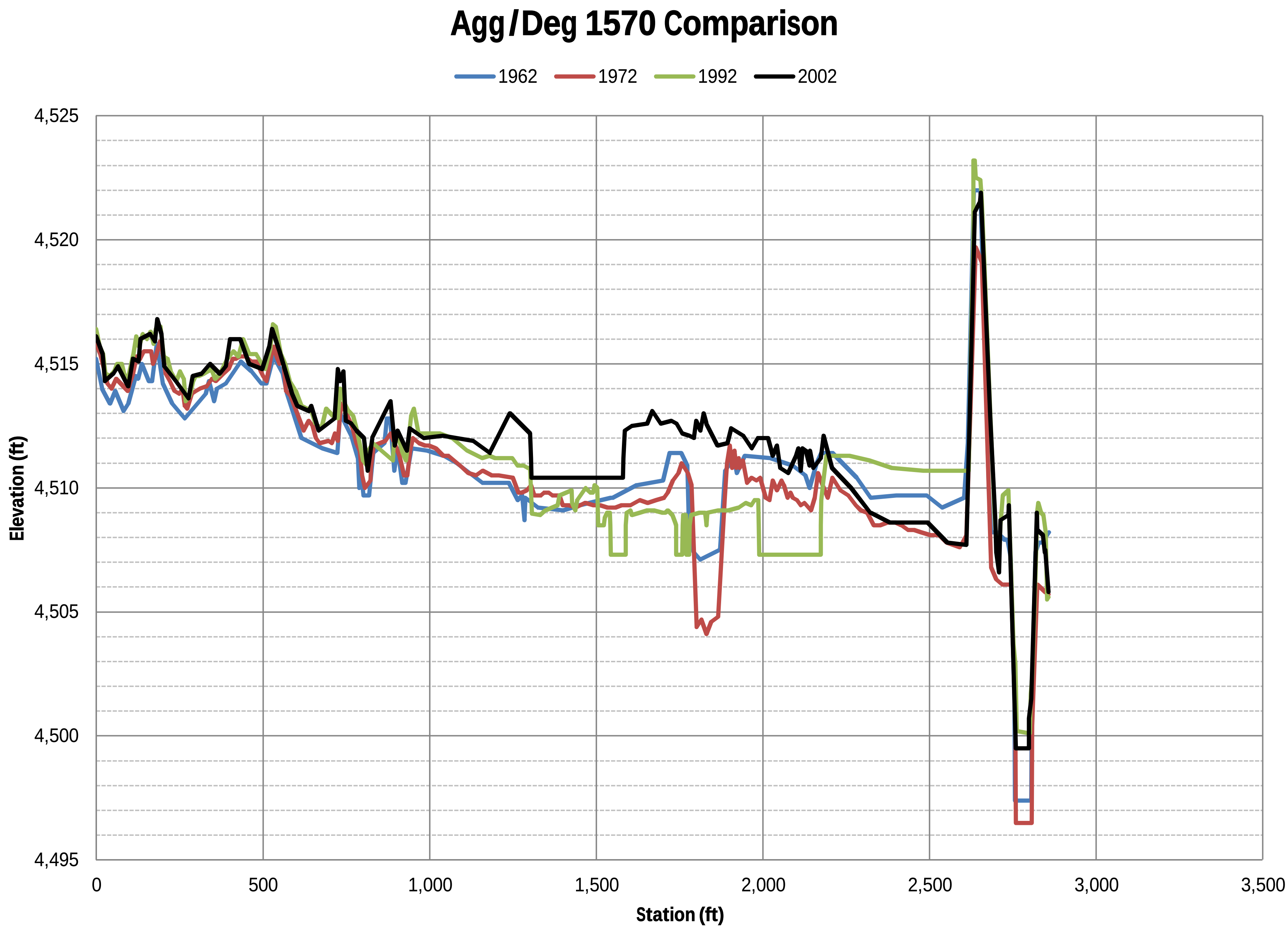

Agg/Deg 1549 Comparison
1962
1972
1992
2002
4,530
4,525
4,520
4,515
4,510
4,505
4,500
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
Station (ft)

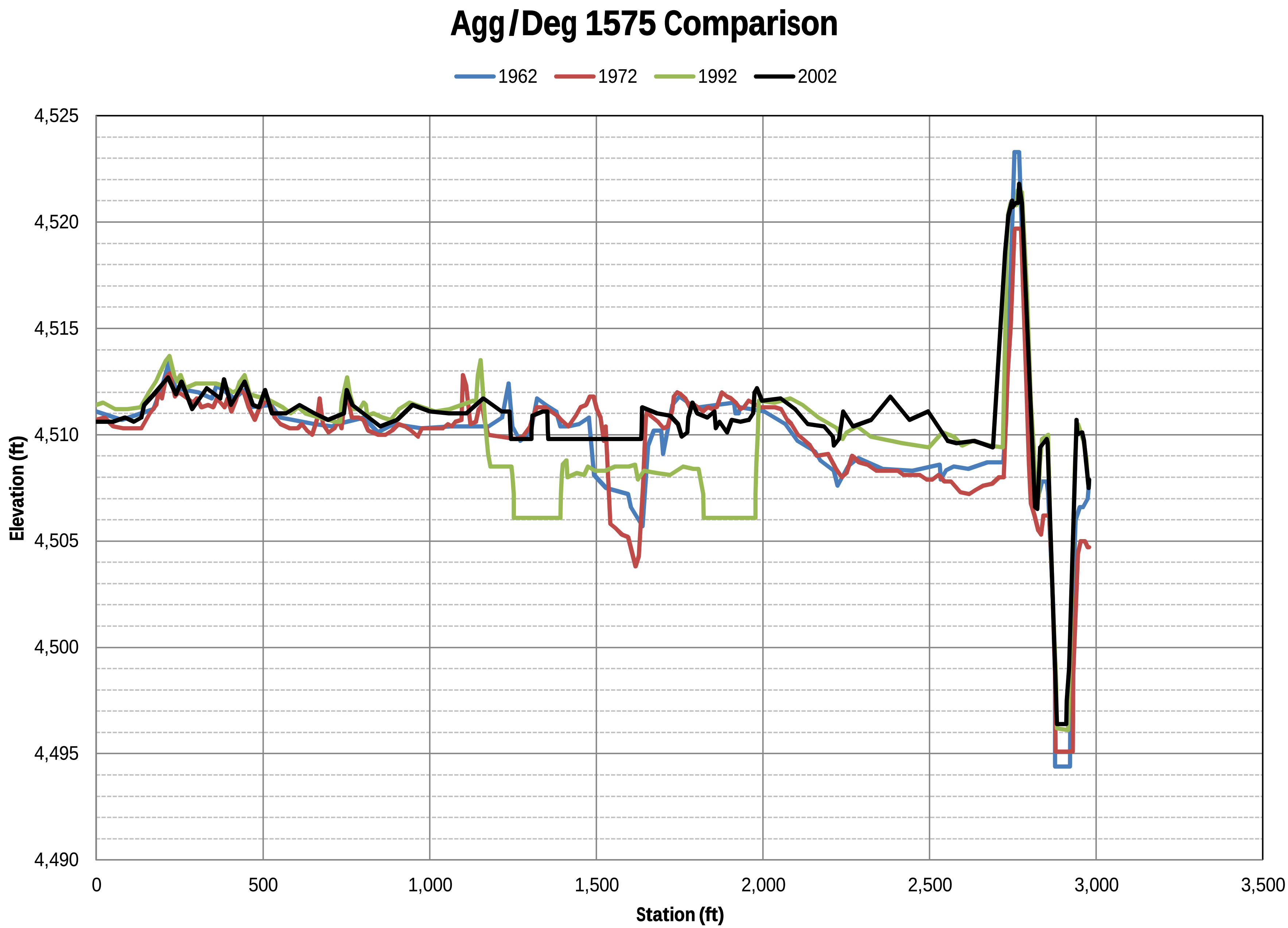


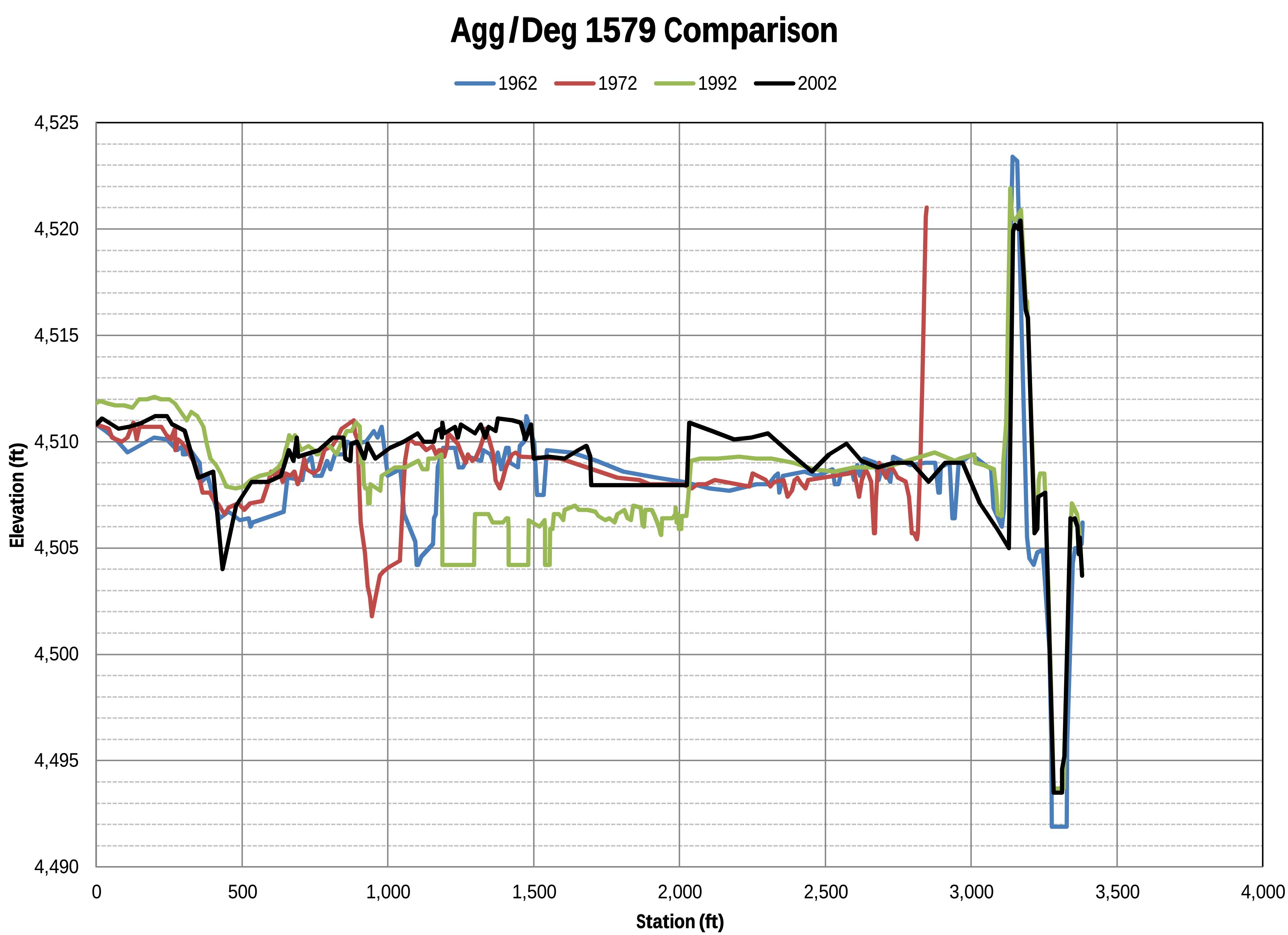
Agg/Deg 1556 Comparison
1962
1972
1992
2002
4,530
4,525
4,520
4,515
4,510
4,505
4,500
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)

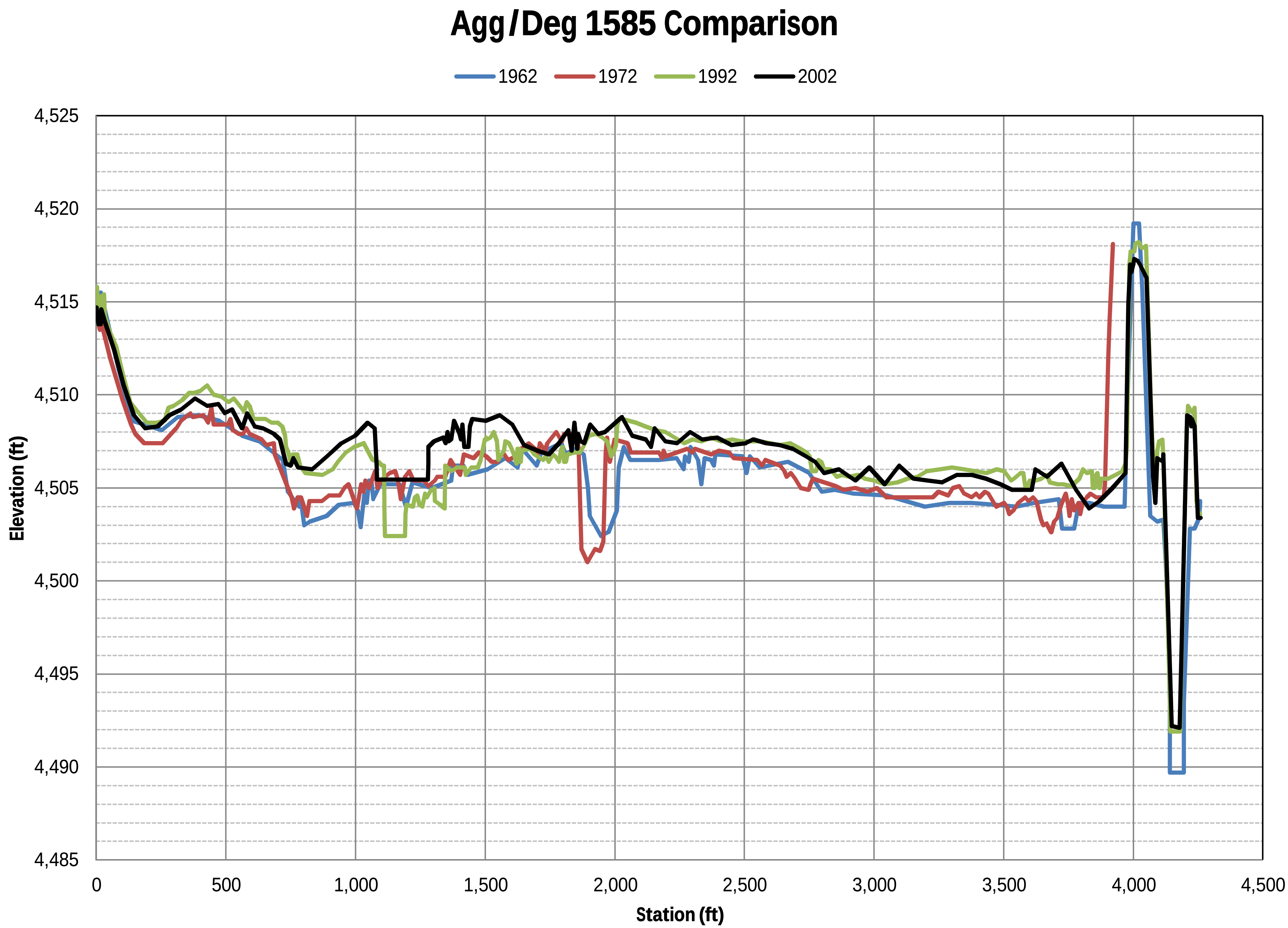

Agg/Deg 1559 Comparison
1962
1972
1992
2002
4,525
4,520
4,515
4,510
4,505
4,500
4,495
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)


Agg/Deg 1564 Comparison
1962
1972
1992
2002
4,530
4,525
4,520
4,515
4,510
4,505
4,500
4,495
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Station (ft)

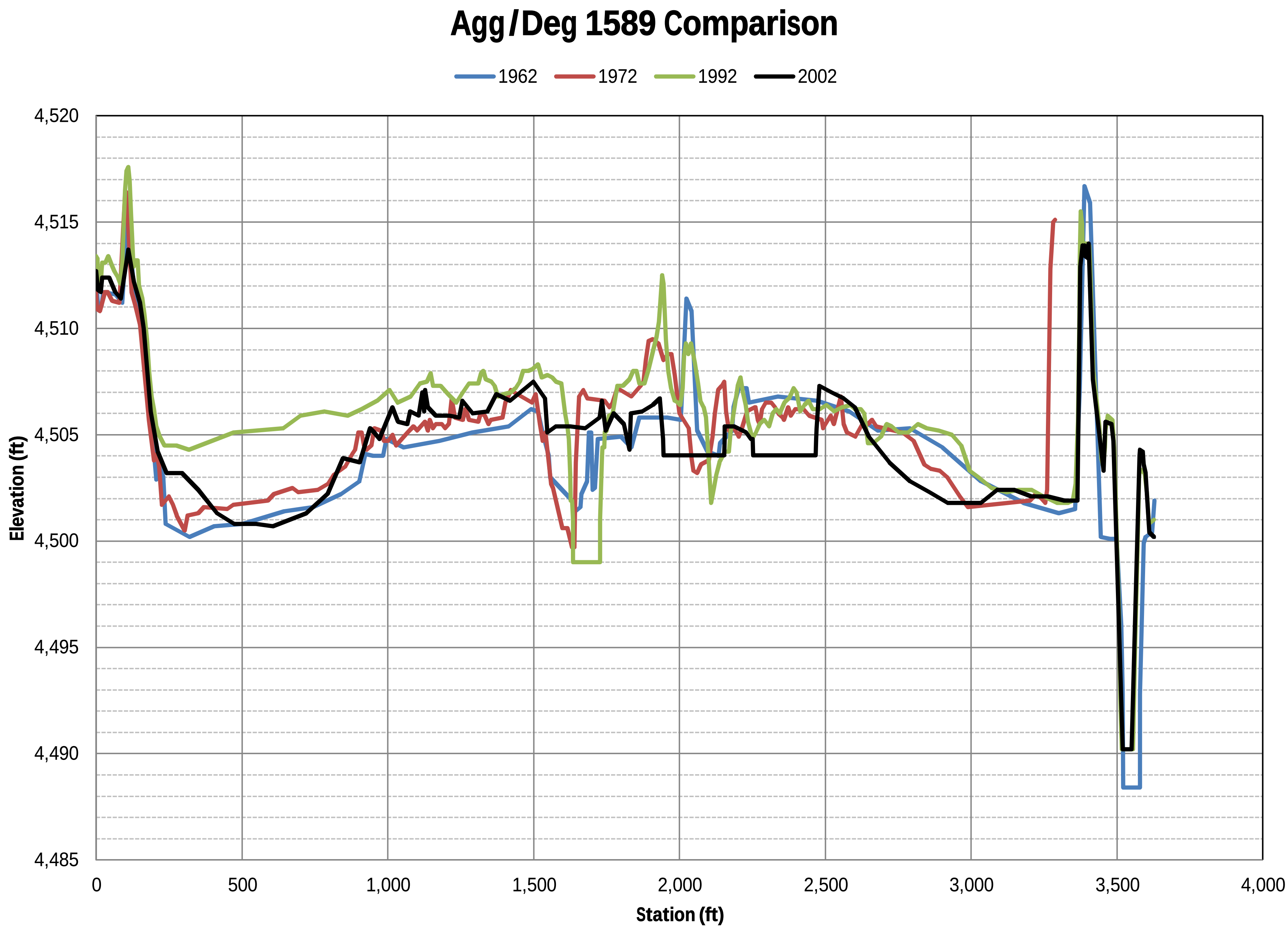

Agg/Deg 1570 Comparison
1962
1972
1992
2002
4,525
4,520
4,515
4,510
4,505
4,500
4,495
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Station (ft)


Agg/Deg 1575 Comparison
1962
1972
1992
2002
Elevation (ft)
4,525
4,520
4,515
4,510
4,505
4,500
4,495
4,490
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Station (ft)

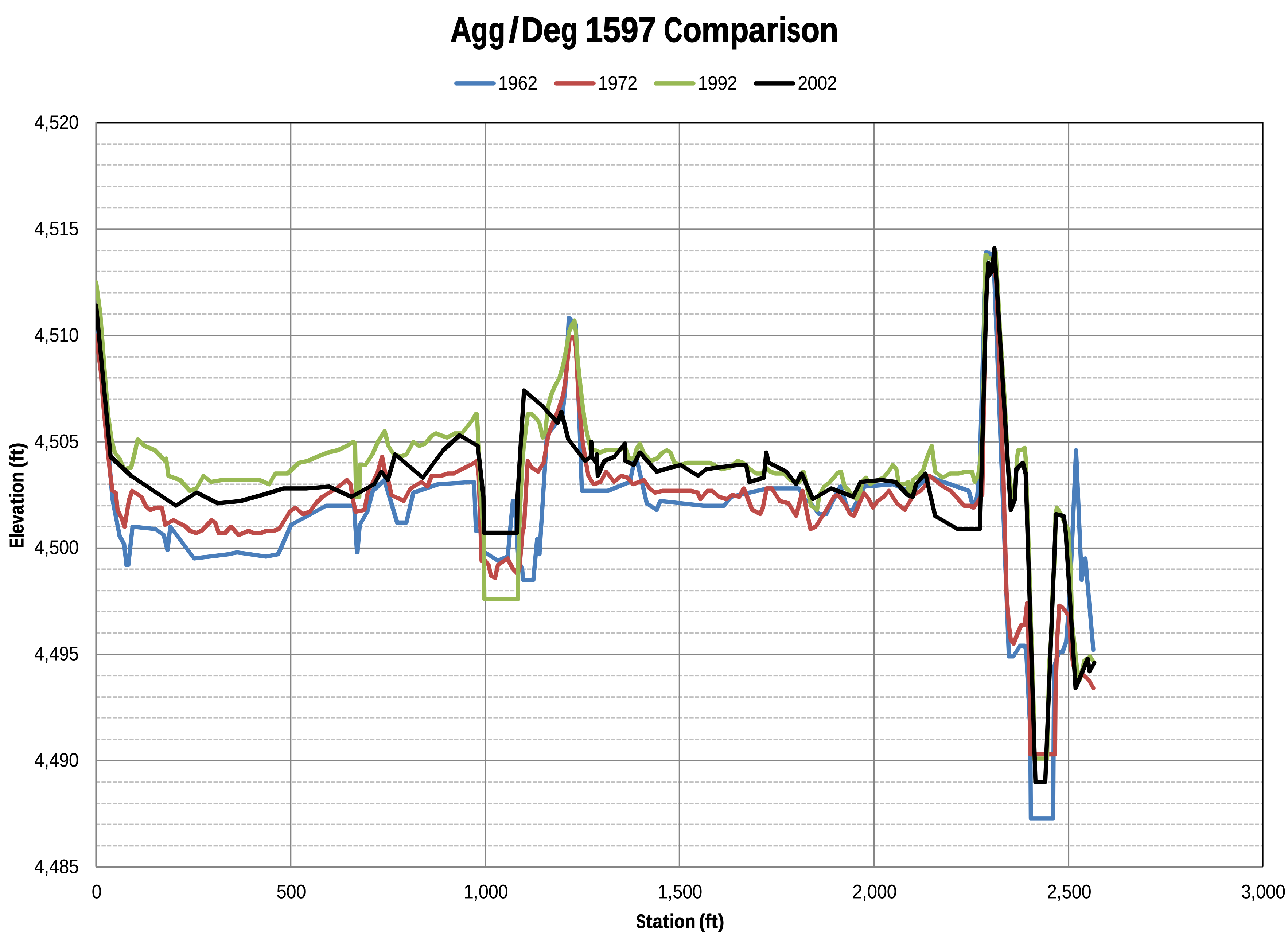

Agg/Deg 1579 Comparison
1962
1972
1992
2002
4,525
4,520
4,515
4,510
4,505
4,500
4,495
4,490
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Station (ft)

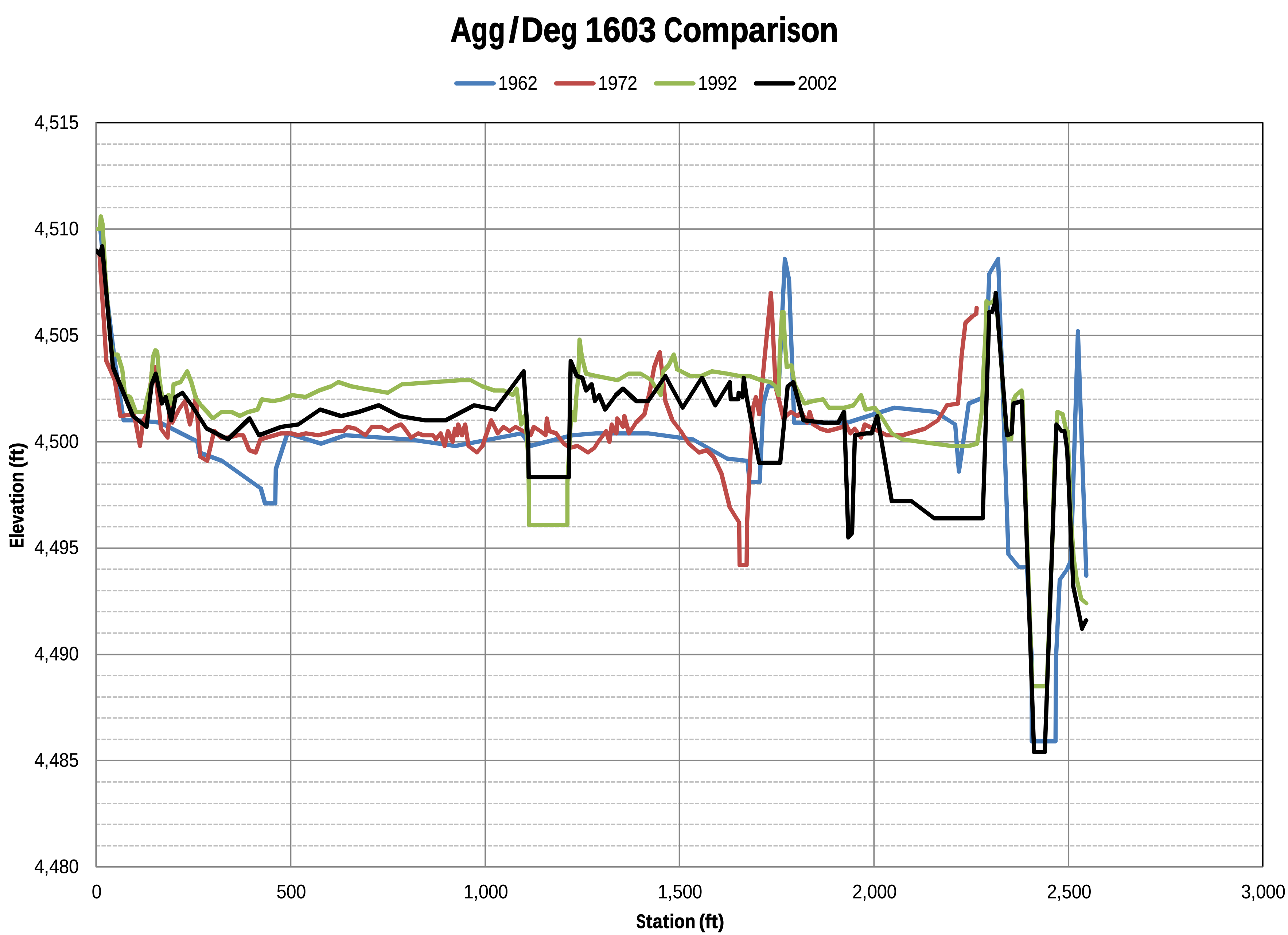


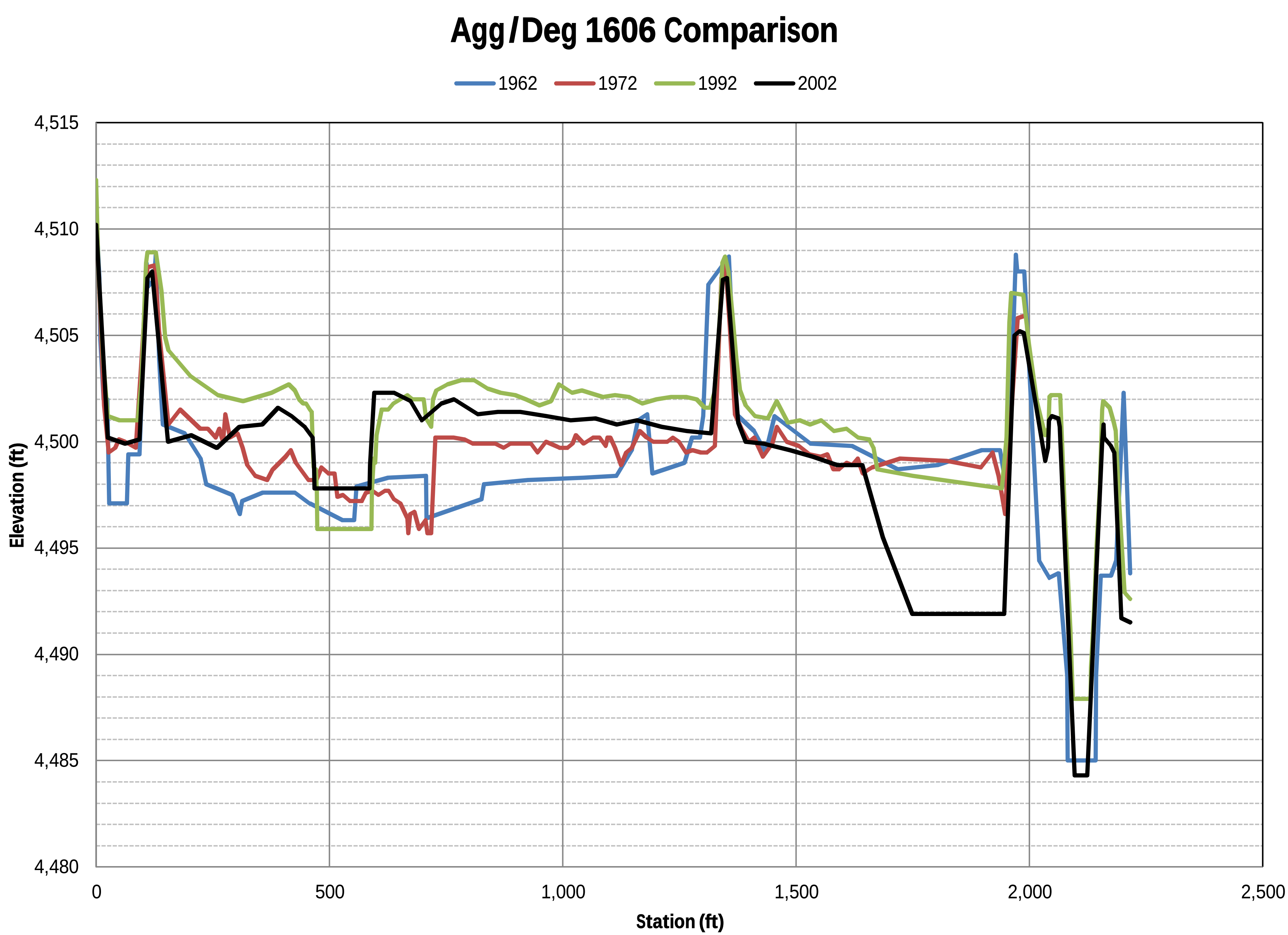
Agg/Deg 1585 Comparison
1962
1972
1992
2002
4,525
4,520
4,515
4,510
4,505
4,500
4,495
4,490
4,485
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
4,500
Station (ft)

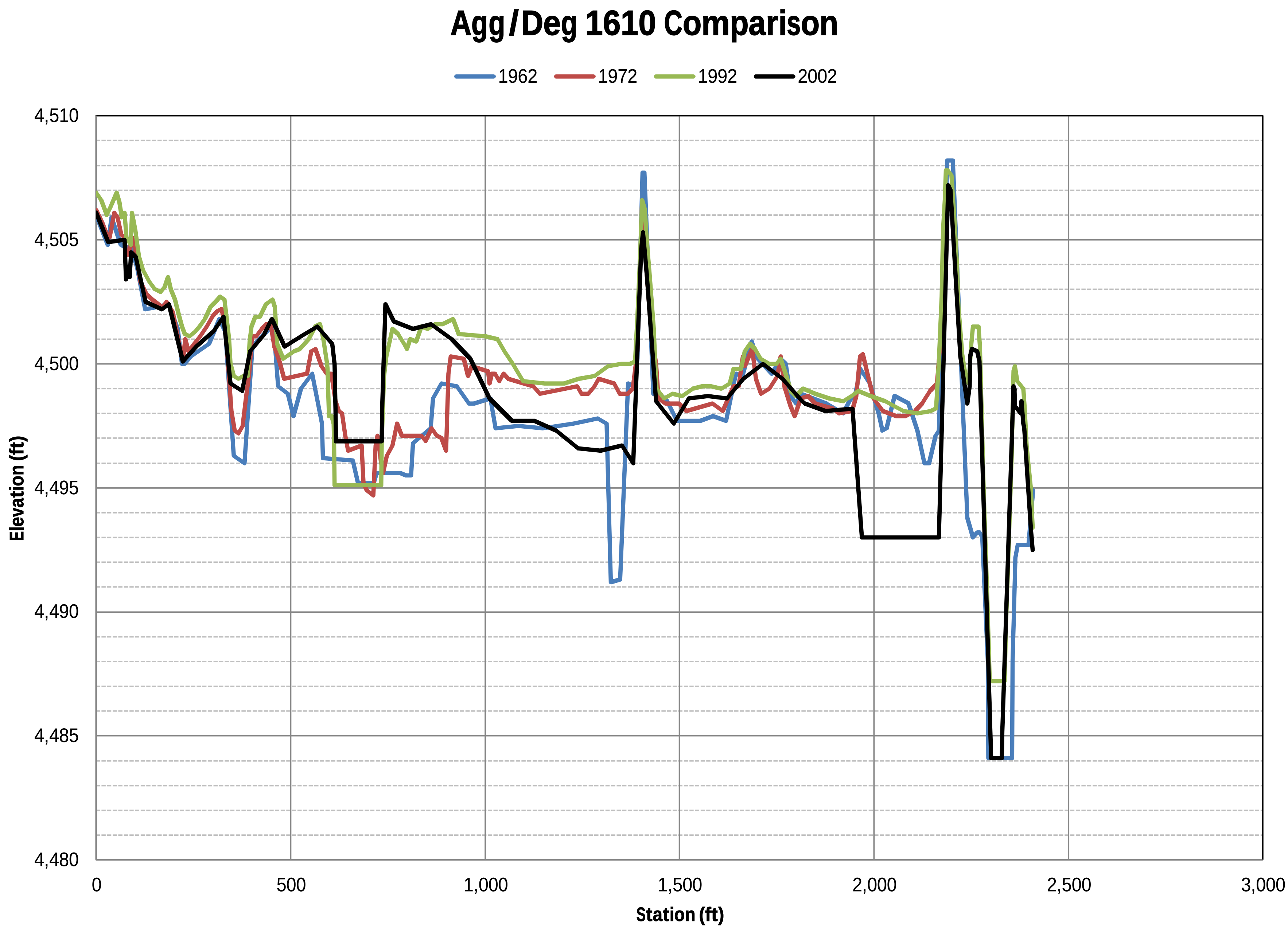


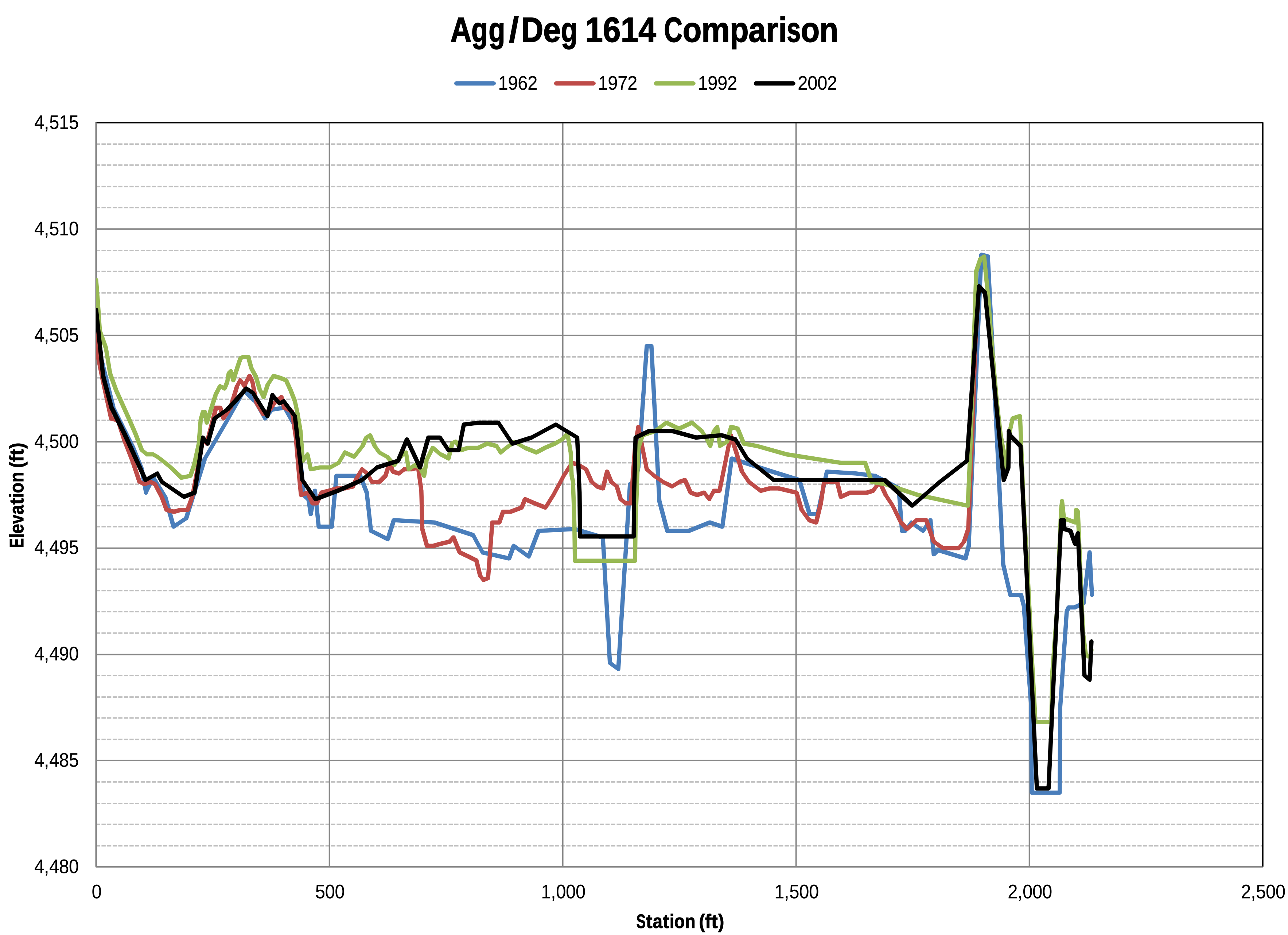
Agg/Deg 1589 Comparison
1962
1972
1992
2002
4,520
4,515
4,510
4,505
4,500
4,495
4,490
4,485
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
4,000
Station (ft)


Agg/Deg 1597 Comparison
1962
1972
1992
2002
Elevation (ft)
4,520
4,515
4,510
4,505
4,500
4,495
4,490
4,485
Station (ft)
0
500
1,000
1,500
2,000
2,500
3,000

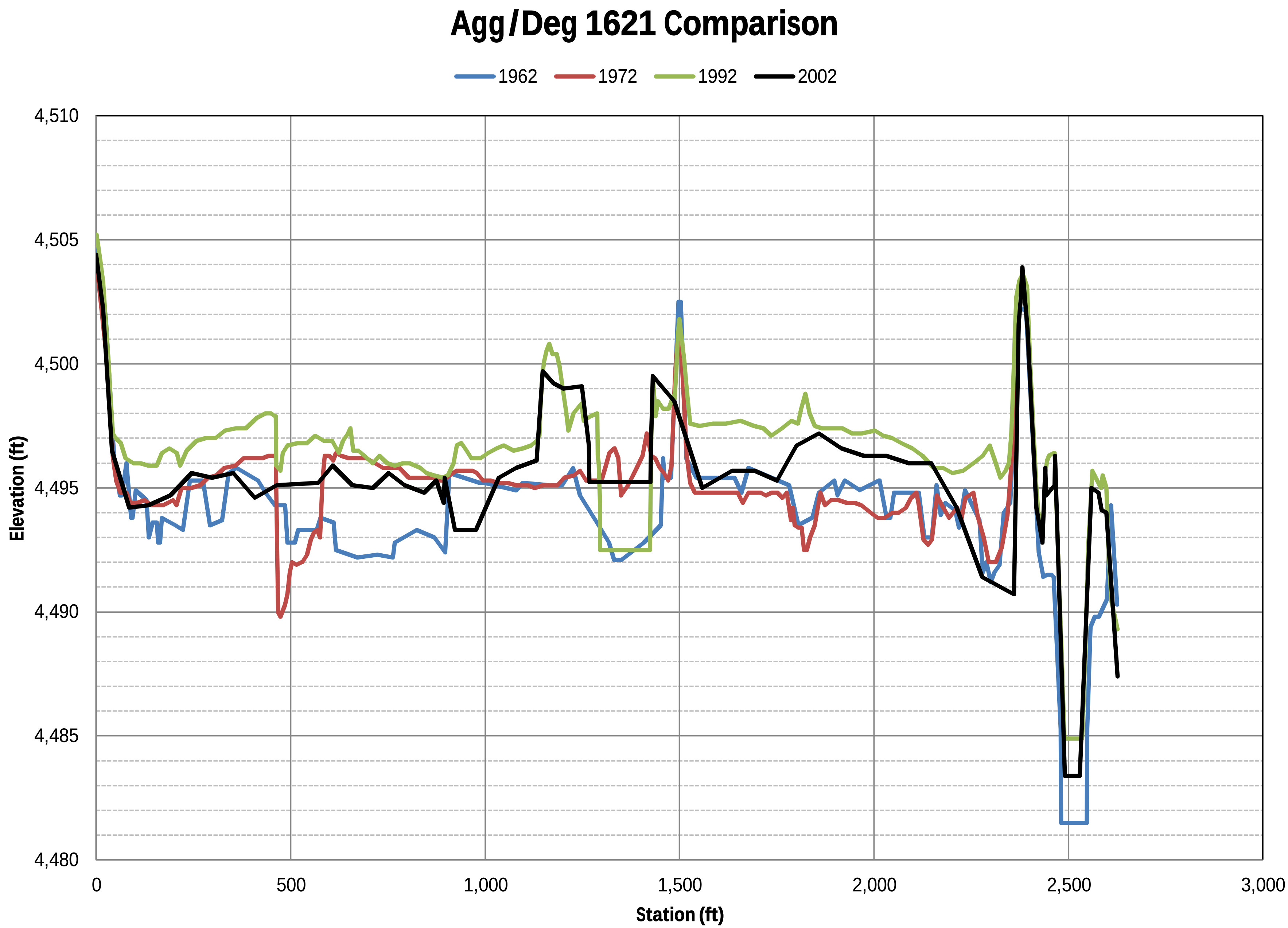

Agg/Deg 1603 Comparison
1962
1972
1992
2002
4,515
4,510
4,505
4,500
4,495
4,490
4,485
4,480
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)

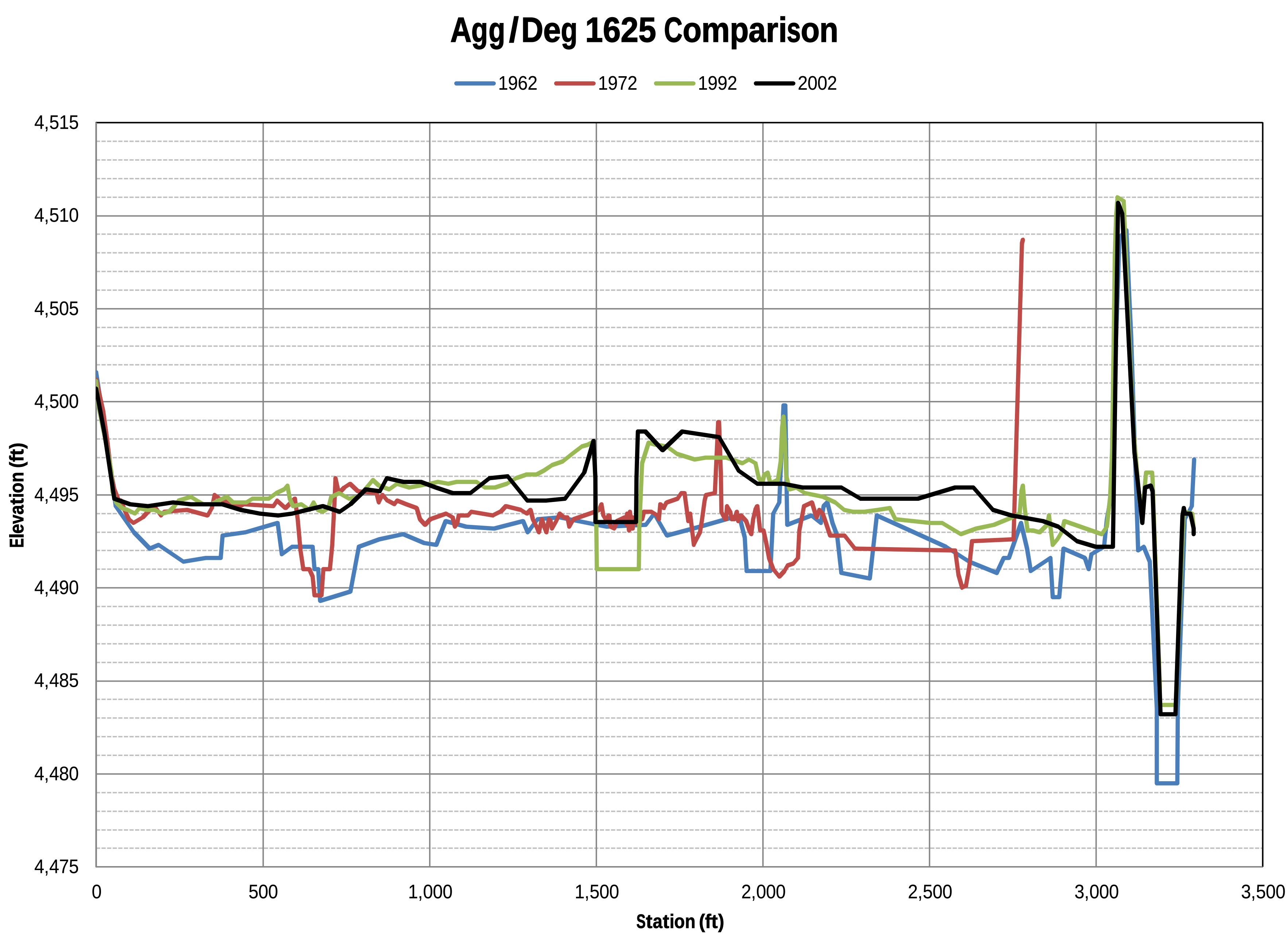

Agg/Deg 1606 Comparison
1962
1972
1992
2002
4,515
4,510
4,505
4,500
4,495
4,490
4,485
4,480
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)

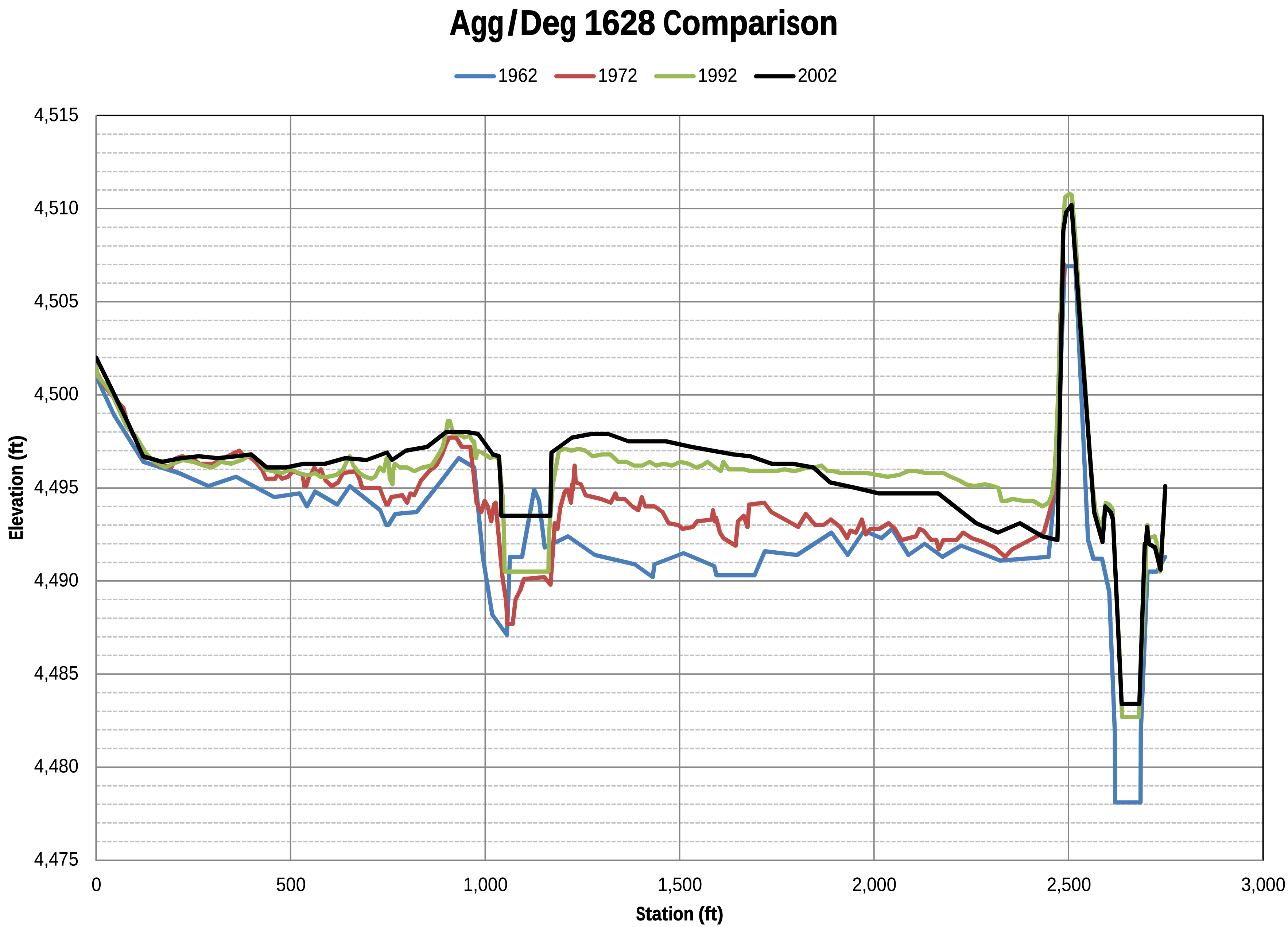

Agg/Deg 1610 Comparison
1962
1972
1992
2002
4,510
4,505
4,500
4,495
4,490
4,485
4,480
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)

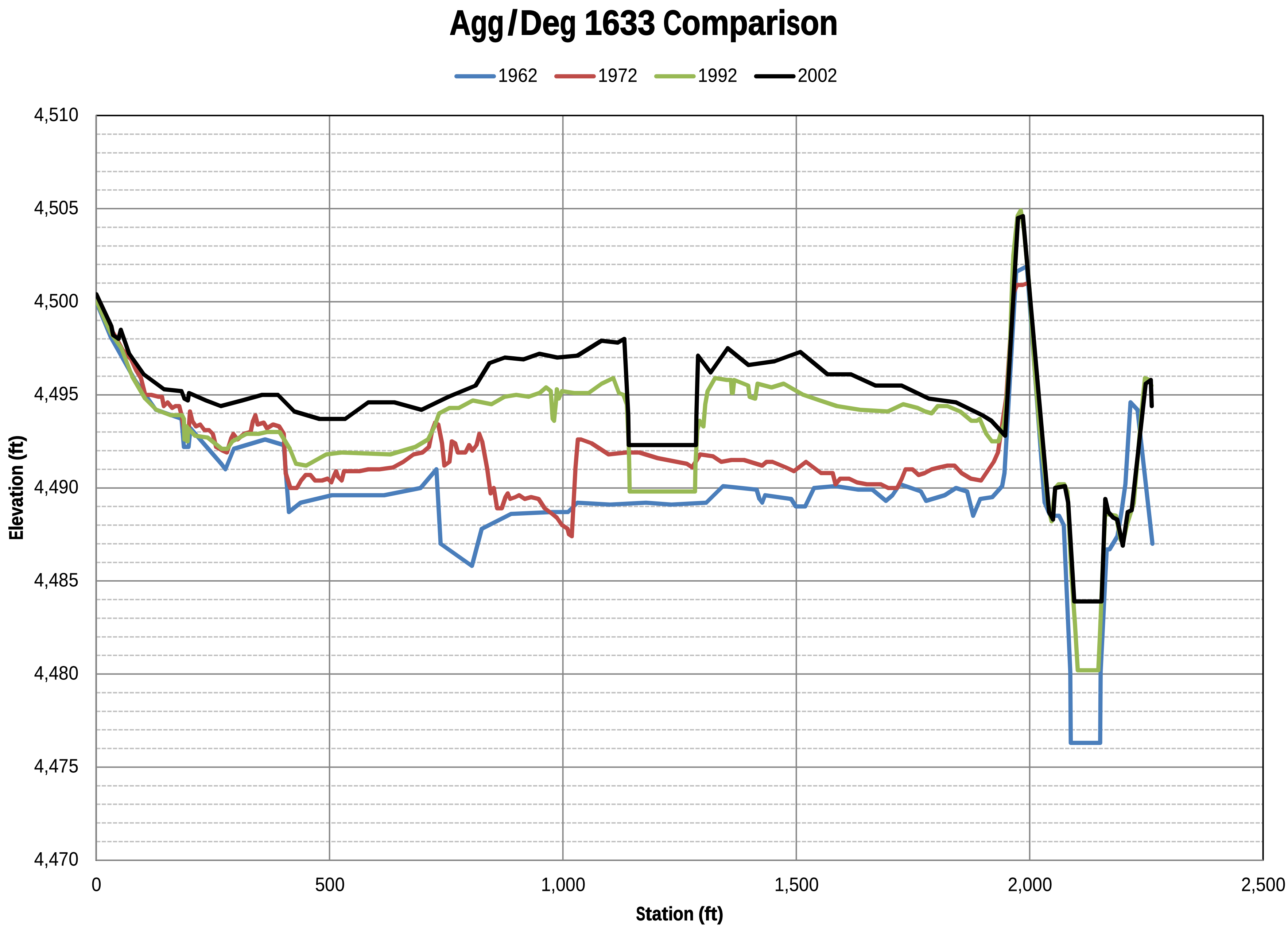


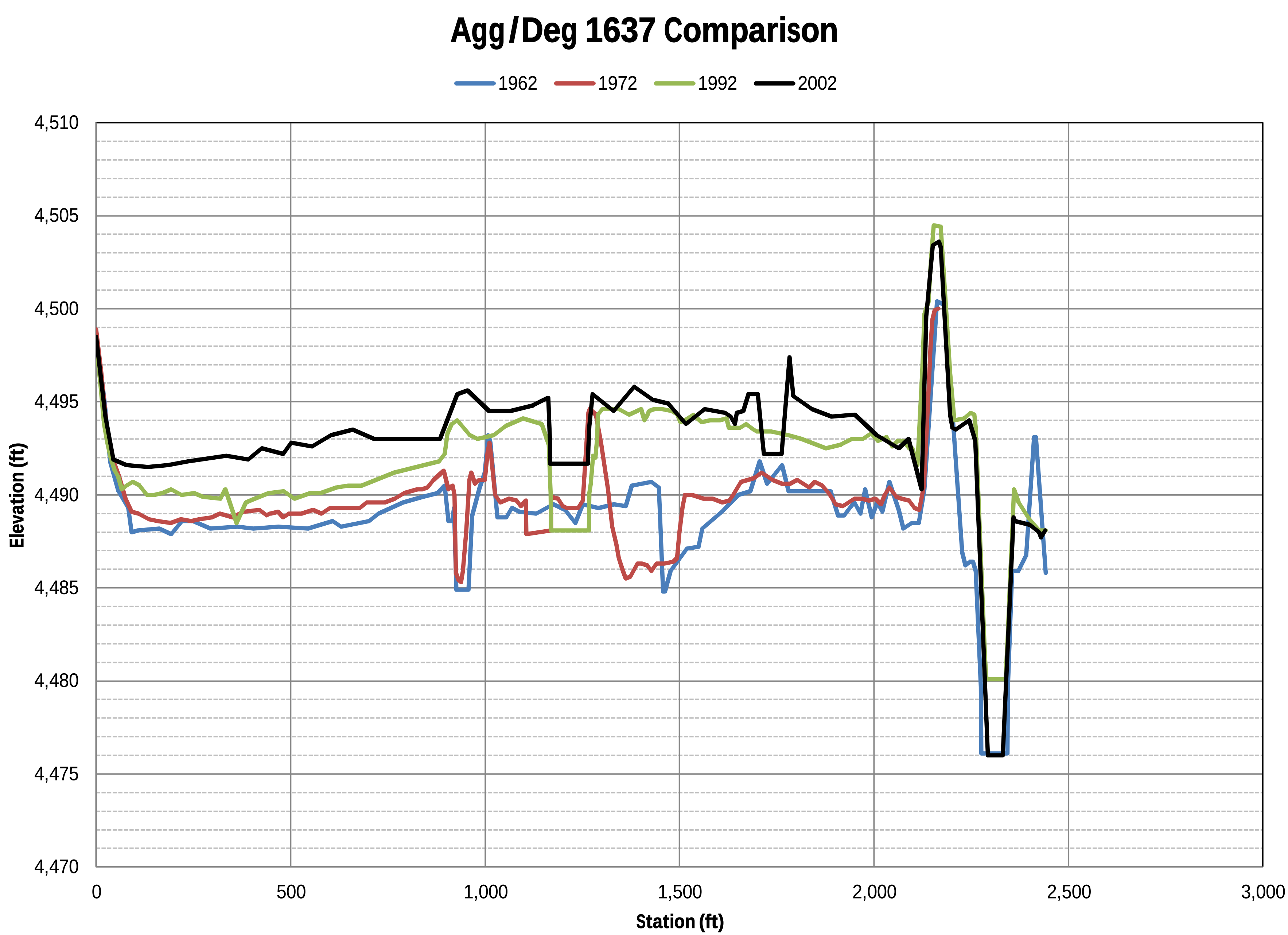
Agg/Deg 1614 Comparison
1962
1972
1992
2002
Elevation (ft)
4,515
4,510
4,505
4,500
4,495
4,490
4,485
4,480
0
500
1,000
1,500
2,000
2,500
Station (ft)


Agg/Deg 1621 Comparison
1962
1972
1992
2002
4,510
4,505
4,500
4,495
4,490
4,485
4,480
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)


Agg/Deg 1625 Comparison
1962
1972
1992
2002
4,515
4,510
4,505
4,500
4,495
4,490
4,485
4,480
4,475
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Station (ft)


Agg/Deg 1628 Comparison
1962
1972
1992
2002
Elevation (ft)
4,515
4,510
4,505
4,500
4,495
4,490
4,485
4,480
4,475
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)


Agg/Deg 1633 Comparison
1962
1972
1992
2002
4,510
4,505
4,500
4,495
4,490
4,485
4,480
4,475
4,470
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
Station (ft)


Agg/Deg 1637 Comparison
1962
1972
1992
2002
4,510
4,505
4,500
4,495
4,490
4,485
4,480
4,475
4,470
Elevation (ft)
0
500
1,000
1,500
2,000
2,500
3,000
Station (ft)

Appendix D – Microsoft Excel Tables

River Sta	Agg/Deg	Main Channel Dist from u/s (ft)	Reach Lengths (ft)	Stationing Line Channel Distance (ft)	Thalweg Elev (ft)	Left TOB Sta (ft)	Left TOB Elev (ft)	Right TOB Sta (ft)	Right TOB Elev (ft)	Low TOB Elev (ft)	Max Bank Width (ft)	Max Bankfull Depth (ft)	Geometric W/D_{max} Ratio
175	1397	5004	518	121,632.3	4572.2	681.0	4577.2	1082	4577.2	4577.2	401.0	5.0	80.2
174	1398	5522	506	121,092.6	4572.6	547.0	4578.0	932	4577.1	4577.1	385.0	4.5	85.6
173	1399	6028	513	120,596.1	4572.2	574.0	4576.5	844	4577.7	4576.5	270.0	4.3	62.8
172	1400	6541	514	120,088.2	4572.5	436.0	4577.2	773	4576.7	4576.7	337.0	4.2	80.2
171	1401	7054	496	119,597.3	4571.6	348.0	4576.6	728	4577.4	4576.6	380.0	5.0	76.0
170	1402	7550	495	119,082.0	4570.9	317.0	4576.3	807	4576.5	4576.3	490.0	5.4	90.7
169	1403	8046	517	118,555.9	4570.1	766.0	4576.3	1180	4577	4576.3	414.0	6.2	66.8
168	1404	8562	519	118,066.0	4571.1	1402.0	4575.9	1751	4576.5	4575.9	349.0	4.8	72.7
167	1405	9081	513	117,591.5	4570.7	1600.0	4575.4	1970	4576	4575.4	370.0	4.7	78.7
166	1406	9594	516	117,083.1	4570.2	1707.0	4574.9	2111	4575.6	4574.9	404.0	4.7	86.0
165	1407	10110	536	116,562.5	4569.3	1858.0	4574.2	2170	4577.2	4574.2	312.0	4.9	63.7
164	1408	10646	478	116,033.2	4569.4	1952.0	4574.3	2268	4576.3	4574.3	316.0	4.9	64.5
163	1409	11124	489	115,556.8	4569.1	2322.0	4574.6	2605	4574.2	4574.2	283.0	5.1	55.5
162	1410	11613	464	115,071.0	4568.7	2624.0	4574.4	2939	4573.7	4573.7	315.0	5.0	63.0
161	1411	12077	506	114,598.3	4567.7	2824.0	4572.9	3145	4573	4572.9	321.0	5.2	61.7
160	1412	12583	533	114,093.0	4567.7	2833.0	4572.9	3205	4572.6	4572.6	372.0	4.9	75.9
159	1413	13116	527	113,588.4	4567.2	2858.0	4572.8	3208	4572	4572.0	350.0	4.8	72.9
158	1414	13642	495	113,104.6	4566.9	2819.0	4571.7	3227	4571.6	4571.6	408.0	4.7	86.8
157	1416	14137	508	112,617.7	4566.8	2769.0	4572.7	3152	4572.3	4572.3	383.0	5.5	69.6
156	1417	14646	492	112,112.4	4565.5	2550.0	4571.1	2922	4572.4	4571.1	372.0	5.6	66.4
155	1418	15138	532	111,641.7	4566.3	2246.0	4571.2	2646	4571.4	4571.2	400.0	4.9	81.6
154	1419	15670	545	111,117.7	4566.6	1989.0	4571.1	2545	4571.4	4571.1	556.0	4.5	123.6
153	1420	16215	558	110,616.5	4565.6	1914.0	4572.6	2395	4570.6	4570.6	481.0	5.0	96.2
152	1421	16772	575	110,122.6	4565.3	1652.0	4570.7	2027	4569	4569.0	375.0	3.7	101.4
151	1422	17347	628	109,651.5	4564.7	1244.0	4569.6	1694	4569.4	4569.4	450.0	4.7	95.7
150	1423	17975	691	109,182.3	4562.2	866.0	4567.9	1254	4567.7	4567.7	388.0	5.5	70.5
149	1424	18666	622	108,711.8	4563.0	379.0	4569.5	1428	4567.8	4567.8	1049.0	4.8	218.5
148	1425	19288	493	108,237.9	4563.1	33.0	4570.5	1381	4568.2	4568.2	1348.0	5.1	264.3
147	1426	19781	779	107,726.0	4562.8	778.0	4567.2	1747	4566.3	4566.3	969.0	3.5	276.9
146	1427	20560	674	107,216.2	4562.2	1116.0	4567.8	1930	4565	4565.0	814.0	2.8	290.7
145	1428	21234	520	106,693.6	4561.2	1461.0	4566.5	2160	4577.8	4566.5	699.0	5.3	131.9
144	1429	21753	518	106,175.0	4560.3	1410.0	4566.2	2104.48	4578.15	4566.2	694.5	5.9	117.7
143	1430	22272	521	105,657.4	4559.8	1526.0	4566.1	2078.01	4578.8	4566.1	552.0	6.3	87.6
142	1431	22793	551	105,140.5	4559.6	1657.0	4565.6	2264	4578.3	4565.6	607.0	6.0	101.2
141	1432	23344	534	104,612.7	4559.2	2033.0	4565.5	2454	4565.6	4565.5	421.0	6.3	66.8
140	1433	23878	506	104,086.3	4558.7	1984.0	4565.9	2349	4565.9	4565.9	365.0	7.2	50.7
139	1434	24385	516	103,579.6	4558.5	2822.0	4564.4	3184	4564.6	4564.4	362.0	5.9	61.4
138	1435	24901	543	103,050.2	4558.0	2647.0	4564.2	3090	4564.2	4564.2	443.0	6.2	71.5
137	1436	25443	541	102,531.9	4557.7	2627.0	4563.8	3098	4564	4563.8	471.0	6.1	77.2
136	1437	25984	510	101,974.8	4557.4	2827.0	4563.7	3289	4563.2	4563.2	462.0	5.8	79.7
135	1438	26494	531	101,463.7	4556.4	2029.0	4562.5	2611	4573.8	4562.5	582.0	6.1	95.4
134	1439	27025	534	100,929.2	4556.3	2197.0	4562.3	2773	4574.3	4562.3	576.0	6.0	96.0
133	1440	27558	520	100,433.4	4556.2	2133.0	4561.7	2464.29	4571.89	4561.7	331.3	5.5	60.2
132	1441	28078	498	99,932.0	4555.6	2200.0	4560.9	2522.07	4571.5	4560.9	322.1	5.3	60.8
131	1442	28576	519	99,440.5	4555.7	2252.0	4561.8	2647.04	4571	4561.8	395.0	6.1	64.8
130	1443	29094	497	98,941.6	4555.5	2154.0	4560.6	2528	4561.3	4560.6	374.0	5.1	73.3
129	1444	29591	523	98,456.4	4554.9	2003.0	4560.1	2520	4560.8	4560.1	517.0	5.2	99.4
128	1445	30114	467	97,950.6	4554.5	1892.0	4560.0	2553.12	4558.9	4558.9	661.1	4.4	150.3
127	1446	30581	496	97,445.7	4553.6	1667.0	4559.5	2263	4559.6	4559.5	596.0	5.9	101.0
126	1447	31077	508	96,929.2	4553.0	1746.0	4558.9	2319	4558	4558.0	573.0	5.0	114.6
125	1448	31585	487	96,460.1	4552.0	1579.0	4559.0	2120	4559.6	4559.0	541.0	7.0	77.3
124	1449	32072	450	96,030.1	4551.9	1425.0	4558.4	1978	4558.4	4558.4	553.0	6.5	85.1
123	1450	32523	397	95,570.9	4552.0	605.0	4558.2	1441	4557.4	4557.4	836.0	5.4	154.8
122	1451	32920	423	95,127.2	4550.7	937.0	4556.8	1711	4561	4556.8	774.0	6.1	126.9
121	1452	33343	497	94,637.8	4551.4	1122.0	4557.3	2344	4556.9	4556.9	1222.0	5.5	222.2
120	1453	33840	495	94,150.1	4551.3	1255.0	4557.1	1994	4556.6	4556.6	739.0	5.3	139.4
119	1454	34336	485	93,665.6	4550.5	4396.0	4555.8	4949	4556.4	4555.8	553.0	5.3	104.3
118	1455	34820	491	93,180.7	4550.6	4675.0	4556.9	5275.07	4565.8	4556.9	600.1	6.3	95.2
117	1456	35311	487	92,694.0	4550.9	4634.0	4555.5	5300	4564	4555.5	666.0	4.6	144.8
116	1457	35798	497	92,206.4	4550.3	4842.0	4555.0	5154	4554.1	4554.1	312.0	3.8	82.1
115	1458	36295	444	91,705.1	4550.1	4874.0	4554.0	5339.31	4564.63	4554.0	465.3	3.9	119.3

114	1459	36739	513	91,260.8	4550.1	4883.0	4554.0	5163	4554	4554.0	280.0	3.9	71.8
113	1460	37252	505	90,749.6	4549.9	4932.0	4554.0	5278.3	4562.7	4554.0	346.3	4.1	84.5
112	1461	37757	491	90,242.6	4549.9	4853.0	4552.8	5060	4553.1	4552.8	207.0	2.9	71.4
111	1462	38247	512	89,743.6	4549.7	4685.0	4552.6	4901	4552.7	4552.6	216.0	2.9	74.5
110	1463	38759	486	89,229.2	4549.2	4532.0	4552.0	4843	4552.1	4552.0	311.0	2.8	111.1
109	1464	39245	507	88,742.7	4548.3	4500.0	4551.4	4800	4551.8	4551.4	300.0	3.1	96.8
108	1465	39752	496	88,237.8	4548.2	4357.0	4551.1	4698	4551.6	4551.1	341.0	2.9	117.6
107	1466	40248	507	87,741.7	4547.7	4402.0	4551.2	4723	4551.1	4551.1	321.0	3.4	94.4
106	1467	40755	493	87,234.3	4547.8	4400.0	4551.5	4653	4551	4551.0	253.0	3.2	79.1
105	1468	41249	507	86,741.6	4547.7	4419.0	4552.1	4662	4551.4	4551.4	243.0	3.7	65.7
104	1469	41755	512	86,230.4	4547.5	4416.0	4550.5	4584	4550.5	4550.5	168.0	3.0	56.0
103	1470	42267	510	85,703.3	4547.4	4317.0	4550.9	4574	4555	4550.9	257.0	3.5	73.4
102	1471	42777	448	85,190.0	4546.8	4203.0	4551.0	4454	4555.3	4551.0	251.0	4.2	59.8
101	1472	43225	451	84,728.9	4546.3	3707.0	4550.1	3953	4555.2	4550.1	246.0	3.8	64.7
100	1473	43676	446	84,255.4	4546.2	3440.0	4548.7	3872	4559.2	4548.7	432.0	2.5	172.8
99	1474	44122	595	83,804.6	4546.1	3327.0	4548.5	3696	4566	4548.5	369.0	2.4	153.8
98	1475	44717	595	83,214.1	4545.9	2685.0	4548.6	3328	4562.9	4548.6	643.0	2.7	238.1
97	1476	45312	509	82,622.3	4545.0	2367.0	4548.7	2682	4547.4	4547.4	315.0	2.4	131.3
96	1477	45821	550	82,116.9	4544.4	2066.0	4549.2	2392.83	4547.56	4547.6	326.8	3.2	103.4
95	1478	46371	571	81,591.7	4543.7	2340.0	4547.1	3007	4559	4547.1	667.0	3.4	196.2
94	1479	46942	2,672	81,030.2	4542.9	1057.0	4546.5	1469	4545.3	4545.3	412.0	2.4	171.7
93	1484	49614	1,045	78,366.9	4541.1	1789.0	4544.2	2059	4544.5	4544.2	270.0	3.1	87.1
92	1486	50659	1,548	77,324.2	4540.1	2406.0	4544.7	3202	4544.6	4544.6	796.0	4.5	176.9
91	1489	52207	924	75,787.4	4538.3	1940.0	4543.2	2536	4543.1	4543.1	596.0	4.8	124.2
90	1491	53131	2,469	74,855.8	4536.6	1287.0	4543.0	2251	4542.1	4542.1	964.0	5.5	175.3
89	1496	55599	1,121	72,286.7	4536.0	1093.0	4538.9	1703	4543.6	4538.9	610.0	2.9	210.3
88	1498	56720	1,411	71,291.0	4533.2	1497.0	4539.1	1713	4537.7	4537.7	216.0	4.5	48.0
87	1501	58131	1,444	69,775.9	4533.0	1388.0	4537.9	1544	4543.1	4537.9	156.0	4.9	31.8
86	1504	59575	2,031	68,230.6	4531.9	1185.0	4536.3	1296	4541.2	4536.3	111.0	4.4	25.2
85	1508	61606	1,972	66,213.4	4530.9	1246.0	4534.8	1487	4535	4534.8	241.0	3.9	61.8
84	1512	63578	2,592	64,162.0	4529.5	1240.0	4534.3	1524	4533.4	4533.4	284.0	3.9	72.8
83	1517	66170	2,145	61,658.6	4527.5	1705.0	4531.7	2065	4532.6	4531.7	360.0	4.2	85.7
82	1521	68315	2,935	59,508.5	4525.9	821.0	4529.8	1587	4530.8	4529.8	766.0	3.9	196.4
81	1526	71250	2,266	57,344.1	4523.7	72.0	4527.8	1975	4534.2	4527.8	1903.0	4.1	464.1
80	1530	73516	2,529	55,213.1	4522.7	577.0	4525.5	1441	4531.8	4525.5	864.0	2.8	308.6
79	1535	76046	2,114	52,621.2	4522.0	736.0	4526.1	1575	4526.2	4526.1	839.0	4.1	204.6
78	1539	78160	3,794	50,373.6	4520.0	1003.0	4525.1	1650	4524.7	4524.7	647.0	4.7	137.7
77	1546	81953	1,789	46,536.7	4515.8	2340.0	4520.6	2649	4518.5	4518.5	309.0	2.7	114.4
76	1549	83742	1,517	44,907.2	4514.0	2245.0	4519.6	2638	4520.3	4519.6	393.0	5.6	70.2
75	1552	85259	2,226	43,133.8	4513.3	3511.0	4516.2	3702	4517.6	4516.2	191.0	2.9	65.9
74	1556	87485	1,535	40,616.4	4511.2	1704.0	4516.4	1937	4515.6	4515.6	233.0	4.4	53.0
73	1559	89020	2,382	38,975.1	4509.0	1458.0	4517.3	1719	4514.1	4514.1	261.0	5.1	51.2
72	1564	91402	2,925	36,433.8	4507.9	2663.0	4514.6	2808	4514.5	4514.5	145.0	6.6	22.0
71	1570	94327	1,929	33,452.0	4507.1	1755.0	4511.4	1913	4511.2	4511.2	158.0	4.1	38.5
70	1575	96256	2,012	31,474.9	4505.7	1478.0	4510.8	1749	4511.8	4510.8	271.0	5.1	53.1
69	1579	98268	3,061	29,060.3	4504.2	979.0	4510.7	1189	4509.7	4509.7	210.0	5.5	38.2
68	1585	101329	2,176	25,219.5	4502.4	1794.0	4507.4	2035	4507.2	4507.2	241.0	4.8	50.2
67	1589	103505	2,970	22,337.2	4501.4	1490.0	4506.2	1689	4505.1	4505.1	199.0	3.7	53.8
66	1597	106475	3,316	19,144.8	4498.5	972.0	4503.1	1215	4510.8	4503.1	243.0	4.6	52.8
65	1603	109792	1,766	16,039.9	4497.1	25.0	4507.2	1771	4508.6	4507.2	1746.0	10.1	172.9
64	1606	111558	1,486	14,527.1	4496.3	7.0	4507.7	1181	4501.3	4501.3	1174.0	5.0	234.8
63	1610	113044	2,058	13,056.4	4495.2	316.0	4501.8	888	4499.2	4499.2	572.0	4.0	143.0
62	1614	115102	1,625	10,943.3	4489.3	566.0	4498.4	1180	4504.5	4498.4	614.0	9.1	67.5
61	1617	116727	1,643	9,418.8	4492.7	423.0	4497.1	1274	4503.5	4497.1	851.0	4.4	193.4
60	1621	118371	2,208	7,874.3	4492.1	361.0	4495.8	1497	4502.5	4495.8	1136.0	3.7	307.0
59	1625	120579	1,865	5,762.7	4489.3	544.0	4493.5	2061	4499.8	4493.5	1517.0	4.2	361.2
58	1628	122444	2,278	4,304.9	4487.1	932.0	4496.6	1891	4492.6	4492.6	959.0	5.5	174.4
57	1633	124722	2,167	2,075.6	4485.8	729.0	4491.0	1583	4490.1	4490.1	854.0	4.3	198.6
56	1637	126890	#REF!	0.0	4484.8	896.0	4490.5	1706	4491.8	4490.5	810.0	5.7	142.1

River Sta	Agg/Deg	Main Channel Dist from u/s (ft)	Reach Lengths (ft)	Stationing Line Channel Distance (ft)	Thalweg Elev (ft)	Left TOB Sta (ft)	Left TOB Elev (ft)	Right TOB Sta (ft)	Right TOB Elev (ft)	Low TOB Elev (ft)	Max Bank Width (ft)	Max Bankfull Depth (ft)	Geometric W/D_{max} Ratio
171	1397	5287	519	121,632.3	4573.0	754.0	4579.5	1160	4581.9	4579.5	406.0	6.5	62.5
170	1398	5806	512	121,092.6	4572.4	622.0	4578.4	1004	4581.3	4578.4	382.0	6.0	63.7
169	1399	6318	523	120,596.1	4571.2	613.0	4577.5	841	4579	4577.5	228.0	6.3	36.2
168	1400	6841	526	120,088.2	4572.0	554.0	4578.0	755	4578.5	4578.0	201.0	6.0	33.5
167	1401	7368	485	119,597.3	4571.8	514.0	4577.6	715	4578.2	4577.6	201.0	5.8	34.7
166	1402	7853	481	119,082.0	4571.6	642.0	4577.2	789	4577.5	4577.2	147.0	5.6	26.3
165	1403	8334	520	118,555.9	4570.0	995.0	4575.8	1173	4577.1	4575.8	178.0	5.8	30.7
164	1404	8854	525	118,066.0	4570.7	1519.0	4575.7	1685	4576.6	4575.7	166.0	5.0	33.2
163	1405	9379	529	117,591.5	4569.9	1721.0	4575.5	1955	4576.6	4575.5	234.0	5.6	41.8
162	1406	9908	529	117,083.1	4569.5	1906.0	4575.5	2096	4575.8	4575.5	190.0	6.0	31.7
161	1407	10437	535	116,562.5	4569.1	1922.0	4575.5	2165	4576.6	4575.5	243.0	6.4	38.0
160	1408	10972	479	116,033.2	4568.6	2053.0	4574.6	2264	4576.8	4574.6	211.0	6.0	35.2
159	1409	11451	489	115,556.8	4568.1	2403.0	4573.7	2623	4575.4	4573.7	220.0	5.6	39.3
158	1410	11940	464	115,071.0	4567.6	2748.0	4573.6	2994	4573.7	4573.6	246.0	6.0	41.0
157	1411	12404	495	114,598.3	4567.7	2871.0	4573.6	3035	4573.4	4573.4	164.0	5.7	28.8
156	1412	12899	516	114,093.0	4567.5	2807.0	4573.6	2980	4572.5	4572.5	173.0	5.0	34.6
155	1413	13415	520	113,588.4	4567.3	2882.0	4573.2	3015	4571.9	4571.9	133.0	4.6	28.9
154	1414	13934	499	113,104.6	4566.5	2993.0	4572.6	3127	4572.5	4572.5	134.0	6.0	22.3
153	1416	14433	501	112,617.7	4565.9	2965.0	4572.0	3174	4572.2	4572.0	209.0	6.1	34.3
152	1417	14935	484	112,112.4	4565.5	2787.0	4571.5	2925	4572.3	4571.5	138.0	6.0	23.0
151	1418	15419	530	111,641.7	4564.6	2554.0	4570.5	2734	4575.6	4570.5	180.0	5.9	30.5
150	1419	15949	497	111,117.7	4565.6	2286.0	4575.5	2565	4571.6	4571.6	279.0	6.0	46.5
149	1420	16446	495	110,616.5	4564.1	2201.0	4581.2	2517	4570.7	4570.7	316.0	6.6	47.9
148	1421	16942	485	110,122.6	4564.1	1995.0	4578.8	2290	4569.9	4569.9	295.0	5.8	50.9
147	1422	17426	472	109,651.5	4562.8	1793.0	4581.6	2247	4569.5	4569.5	454.0	6.7	67.8
146	1423	17898	444	109,182.3	4563.2	1760.0	4578.2	2133	4568.8	4568.8	373.0	5.6	66.6
145	1424	18342	446	108,711.8	4562.7	1815.0	4575.9	2104	4567.1	4567.1	289.0	4.4	65.7
144	1425	18788	519	108,237.9	4562.5	1338.0	4574.9	1599	4567	4567.0	261.0	4.5	58.0
143	1426	19307	502	107,726.0	4562.0	1599.0	4576.3	1902	4567.5	4567.5	303.0	5.5	55.1
142	1427	19809	513	107,216.2	4562.4	1714.0	4568.8	1948	4569	4568.8	234.0	6.4	36.6
141	1428	20322	527	106,693.6	4561.6	1675.0	4564.7	1824	4566.2	4564.7	149.0	3.1	48.1
140	1429	20849	532	106,175.0	4561.0	1663.0	4567.0	2095.98	4569.99	4567.0	433.0	6.0	72.2
139	1430	21381	517	105,657.4	4560.2	1740.0	4565.5	2069.2	4573.12	4565.5	329.2	5.3	62.1
138	1431	21898	532	105,140.5	4560.5	1890.0	4564.7	2255.36	4572.22	4564.7	365.4	4.2	87.0
137	1432	22430	527	104,612.7	4559.4	2211.0	4565.0	2395	4565	4565.0	184.0	5.6	32.9
136	1433	22957	509	104,086.3	4559.8	2069.0	4563.9	2307	4564.2	4563.9	238.0	4.1	58.0
135	1434	23466	525	103,579.6	4558.4	2830.0	4564.7	3099	4563.9	4563.9	269.0	5.5	48.9
134	1435	23991	541	103,050.2	4558.4	2645.0	4563.3	2921	4562.3	4562.3	276.0	3.9	70.8
133	1436	24532	547	102,531.9	4556.8	2811.0	4562.1	3107	4562.8	4562.1	296.0	5.3	55.8
132	1437	25079	510	101,974.8	4558.0	3063.0	4562.6	3284	4563.1	4562.6	221.0	4.6	48.0
131	1438	25589	531	101,463.7	4558.0	2335.0	4561.9	2599	4570.6	4561.9	264.0	3.9	67.7
130	1439	26120	506	100,929.2	4557.4	2507.0	4561.5	2759	4567.6	4561.5	252.0	4.1	61.5
129	1440	26626	511	100,433.4	4557.0	2203.0	4561.4	2454	4569.4	4561.4	251.0	4.4	57.0
128	1441	27137	494	99,932.0	4557.5	2251.0	4560.8	2509.99	4568.8	4560.8	259.0	3.3	78.5
127	1442	27631	503	99,440.5	4556.7	2324.0	4560.6	2637.89	4567.69	4560.6	313.9	3.9	80.5
126	1443	28135	481	98,941.6	4554.9	2306.0	4559.9	2489	4560.3	4559.9	183.0	5.0	36.6
125	1444	28616	501	98,456.4	4554.2	2241.0	4560.1	2453	4560	4560.0	212.0	5.8	36.6
124	1445	29117	486	97,950.6	4555.2	2154.0	4560.2	2389	4559.5	4559.5	235.0	4.3	54.7
123	1446	29603	513	97,445.7	4555.1	2002.0	4560.1	2271	4560.4	4560.1	269.0	5.0	53.8
122	1447	30116	474	96,929.2	4554.2	2034.0	4559.8	2391	4559.8	4559.8	357.0	5.6	63.7
121	1448	30590	434	96,460.1	4553.8	1898.0	4559.1	2128	4560.4	4559.1	230.0	5.3	43.4
120	1449	31025	484	96,030.1	4552.9	1670.0	4558.4	2010	4559.7	4558.4	340.0	5.5	61.8
119	1450	31509	547	95,570.9	4552.1	862.0	4559.4	1400	4559.6	4559.4	538.0	7.3	73.7
118	1451	32055	595	95,127.2	4551.7	693.0	4558.1	1747	4562.5	4558.1	1054.0	6.4	164.7
117	1452	32650	501	94,637.8	4550.9	1424.0	4557.7	2349	4563.2	4557.7	925.0	6.8	136.0
116	1453	33152	538	94,150.1	4550.9	1012.0	4557.0	1931	4564.1	4557.0	919.0	6.1	150.7
115	1454	33690	530	93,665.6	4550.4	4163.0	4556.4	4828	4561.6	4556.4	665.0	6.0	110.8
114	1455	34220	480	93,180.7	4550.8	4693.0	4555.9	5118	4555.8	4555.8	425.0	5.0	85.0
113	1456	34700	481	92,694.0	4550.1	4819.0	4557.5	5149	4555.3	4555.3	330.0	5.2	63.5
112	1457	35181	494	92,206.4	4549.9	4826.0	4555.6	5187	4555.1	4555.1	361.0	5.2	69.4
111	1458	35675	441	91,705.1	4549.6	4907.0	4554.5	5166	4554.3	4554.3	259.0	4.7	55.1

110	1459	36117	513	91,260.8	4549.3	4955.0	4554.0	5157	4554.1	4554.0	202.0	4.7	43.0
109	1460	36630	505	90,749.6	4548.2	4958.0	4554.0	5134	4554.2	4554.0	176.0	5.8	30.3
108	1461	37135	492	90,242.6	4548.6	4877.0	4553.7	5043	4555.2	4553.7	166.0	5.1	32.5
107	1462	37626	513	89,743.6	4549.2	4715.0	4553.4	4886	4552.9	4552.9	171.0	3.7	46.2
106	1463	38139	487	89,229.2	4547.0	4580.0	4553.5	4762	4552.8	4552.8	182.0	5.8	31.4
105	1464	38626	508	88,742.7	4547.8	4407.0	4553.4	4683	4552.3	4552.3	276.0	4.5	61.3
104	1465	39134	497	88,237.8	4546.4	4403.0	4552.9	4586	4551.5	4551.5	183.0	5.1	35.9
103	1466	39631	510	87,741.7	4546.7	4396.0	4552.2	4673	4552.7	4552.2	277.0	5.5	50.4
102	1467	40141	494	87,234.3	4545.8	4409.0	4552.2	4627	4551.6	4551.6	218.0	5.8	37.6
101	1468	40635	506	86,741.6	4546.1	4410.0	4552.3	4624	4551.9	4551.9	214.0	5.8	36.9
100	1469	41141	512	86,230.4	4545.6	4398.0	4551.2	4561	4551.2	4551.2	163.0	5.6	29.1
99	1470	41653	511	85,703.3	4546.0	4348.0	4551.5	4579	4554.4	4551.5	231.0	5.5	42.0
98	1471	42163	450	85,190.0	4545.2	4240.0	4551.2	4460	4556	4551.2	220.0	6.0	36.7
97	1472	42613	451	84,728.9	4545.7	3718.0	4551.6	3963	4555.5	4551.6	245.0	5.9	41.5
96	1473	43064	446	84,255.4	4544.3	3481.0	4549.8	3871	4559	4549.8	390.0	5.5	70.9
95	1474	43510	595	83,804.6	4544.2	3345.0	4549.3	3700	4564.6	4549.3	355.0	5.1	69.6
94	1475	44105	595	83,214.1	4543.5	2750.0	4549.3	3331	4562.8	4549.3	581.0	5.8	100.2
93	1476	44700	1,574	82,622.3	4543.6	2386.0	4549.4	2612	4548.6	4548.6	226.0	5.0	45.2
92	1479	46274	2,672	81,030.2	4542.0	977.0	4547.0	1646	4556.2	4547.0	669.0	5.0	133.8
91	1484	48946	1,039	78,366.9	4540.0	1875.0	4545.2	2054	4545	4545.0	179.0	5.0	35.8
90	1486	49985	1,503	77,324.2	4540.2	2340.0	4549.0	3163	4545.1	4545.1	823.0	4.9	168.0
89	1489	51488	882	75,787.4	4539.0	2273.0	4543.8	2507	4544	4543.8	234.0	4.8	48.7
88	1491	52370	2,440	74,855.8	4537.8	1718.0	4543.3	2075	4543.8	4543.3	357.0	5.5	64.9
87	1496	54811	969	72,286.7	4535.7	396.8	4542.6	733.44	4540.8	4540.8	336.6	5.1	66.0
86	1498	55780	1,423	71,291.0	4535.0	1165.0	4538.3	1644	4539.1	4538.3	479.0	3.3	145.2
85	1501	57203	1,452	69,775.9	4535.9	1278.0	4537.8	1548	4541.3	4537.8	270.0	1.9	142.1
84	1504	58655	2,009	68,230.6	4531.8	422.0	4538.4	723	4536.6	4536.6	301.0	4.8	62.7
83	1508	60664	1,964	66,213.4	4529.9	1198.0	4535.6	1498	4535.7	4535.6	300.0	5.7	52.6
82	1512	62627	2,571	64,162.0	4528.5	1295.0	4534.1	1510	4534.1	4534.1	215.0	5.6	38.4
81	1517	65198	2,104	61,658.6	4525.8	1808.0	4533.6	2066	4532.9	4532.9	258.0	7.1	36.3
80	1521	67302	2,256	59,508.5	4523.9	1392.0	4530.7	1584	4530.8	4530.7	192.0	6.8	28.2
79	1526	69558	2,136	57,344.1	4523.0	1117.6	4529.9	1443.09	4529.2	4529.2	325.5	6.2	52.5
78	1530	71694	2,411	55,213.1	4521.3	561.0	4531.1	843	4534.9	4531.1	282.0	9.8	28.8
77	1535	74104	2,158	52,621.2	4519.3	595.0	4530.8	857	4524.1	4524.1	262.0	4.8	54.6
76	1539	76262	3,802	50,373.6	4517.3	996.0	4523.9	1199	4524.5	4523.9	203.0	6.6	30.8
75	1546	80064	2,317	46,536.7	4515.1	2312.4	4519.7	2635.1	4520.7	4519.7	322.7	4.6	70.1
74	1549	82381	1,594	44,907.2	4513.6	2753.0	4518.5	3045	4518.9	4518.5	292.0	4.9	59.6
73	1552	83974	3,348	43,133.8	4512.8	2931.8	4518.2	3131.64	4518	4518.0	199.8	5.2	38.4
72	1556	87322	1,551	40,616.4	4509.1	1314.0	4516.3	2403	4514.9	4514.9	1089.0	5.8	187.8
71	1559	88873	2,357	38,975.1	4508.9	1269.0	4517.1	1917	4514.9	4514.9	648.0	6.0	108.0
70	1564	91231	2,923	36,433.8	4507.4	2666.0	4514.6	2812	4514.7	4514.6	146.0	7.2	20.3
69	1570	94153	1,929	33,452.0	4504.1	1757.0	4511.0	1900	4511.7	4511.0	143.0	6.9	20.7
68	1575	96082	2,230	31,474.9	4503.8	1492.0	4511.8	1743	4512	4511.8	251.0	8.0	31.4
67	1579	98312	3,081	29,060.3	4501.8	881.8	4511.0	1076.68	4510.1	4510.1	194.9	8.3	23.5
66	1585	101394	2,169	25,219.5	4501.0	1853.3	4507.9	1970.07	4507.7	4507.7	116.8	6.7	17.4
65	1589	103562	2,974	22,337.2	4499.7	1505.9	4506.9	1907.61	4509.5	4506.9	401.7	7.2	55.8
64	1597	106536	3,273	19,144.8	4498.6	979.0	4504.1	1217	4509.9	4504.1	238.0	5.5	43.3
63	1603	109809	1,588	16,039.9	4494.2	1449.5	4504.2	1734.17	4507	4504.2	284.6	10.0	28.5
62	1606	111398	1,477	14,527.1	4495.7	303.0	4500.4	727	4500.2	4500.2	424.0	4.5	94.2
61	1610	112875	2,061	13,056.4	4494.7	564.0	4500.6	912	4500.3	4500.3	348.0	5.6	62.1
60	1614	114935	1,542	10,943.3	4493.5	690.0	4498.8	1162	4500.7	4498.8	472.0	5.3	89.1
59	1617	116477	1,858	9,418.8	4492.6	974.0	4499.6	1278	4502.3	4499.6	304.0	7.0	43.4
58	1621	118335	2,215	7,874.3	4489.8	461.0	4496.3	1501	4501.5	4496.3	1040.0	6.5	160.0
57	1625	120550	1,872	5,762.7	4489.6	596.4	4494.8	1865.17	4498.9	4494.8	1268.8	5.2	244.0
56	1628	122422	2,140	4,304.9	4487.7	926.0	4497.7	1224	4495.2	4495.2	298.0	7.5	39.7
55	1633	124562	2,611	2,075.6	4487.4	821.0	4492.9	1032	4492.6	4492.6	211.0	5.2	40.6
54	1637	127173	#REF!	0.0	4485.5	1269.0	4494.6	1514	4490	4490.0	245.0	4.5	54.4

River Sta	Agg/Deg	Main Channel Dist from u/s (ft)	Reach Lengths (ft)	Stationing Line Channel Distance (ft)	Thalweg Elev (ft)	Left TOB Sta (ft)	Left TOB Elev (ft)	Right TOB Sta (ft)	Right TOB Elev (ft)	Low TOB Elev (ft)	Max Bank Width (ft)	Max Bankfull Depth (ft)	Geometric W/D_{max} Ratio
384	1397	4919	538	121,632.3	4574.2	593.0	4590.0	1109	4581.4	4581.4	516.0	7.2	71.7
383	1398	5456	492	121,092.6	4573.7	411.0	4580.7	751	4579.5	4579.5	340.0	5.8	58.6
382	1399	5948	497	120,596.1	4573.9	389.0	4577.6	648	4583.7	4577.6	259.0	3.7	70.0
381	1400	6446	488	120,088.2	4573.2	275.0	4577.4	571	4582.2	4577.4	296.0	4.2	70.5
380	1401	6934	513	119,597.3	4573.0	182.0	4576.5	446	4577.5	4576.5	264.0	3.5	75.4
379	1402	7447	524	119,082.0	4572.5	248.0	4578.1	476	4576.7	4576.7	228.0	4.2	54.3
378	1403	7971	489	118,555.9	4572.0	595.0	4577.3	830	4576.5	4576.5	235.0	4.5	52.2
377	1404	8460	463	118,066.0	4571.7	1099.0	4579.3	1434	4576.5	4576.5	335.0	4.8	69.8
376	1405	8923	492	117,591.5	4571.8	1322.0	4578.8	1701	4576	4576.0	379.0	4.2	90.2
375	1406	9415	531	117,083.1	4571.7	1591.0	4576.5	2132	4576.4	4576.4	541.0	4.7	115.1
374	1407	9946	526	116,562.5	4570.9	1782.0	4575.7	2200	4577.4	4575.7	418.0	4.8	87.1
373	1408	10472	476	116,033.2	4570.9	1920.0	4576.2	2255	4578.2	4576.2	335.0	5.3	63.2
372	1409	10948	491	115,556.8	4571.1	2393.0	4575.7	2636	4577.4	4575.7	243.0	4.6	52.8
371	1410	11439	472	115,071.0	4570.6	2647.0	4574.7	2988	4575.1	4574.7	341.0	4.1	83.2
370	1411	11911	505	114,598.3	4570.6	2731.0	4575.1	3088	4574.5	4574.5	357.0	3.9	91.5
369	1412	12416	500	114,093.0	4569.6	2663.0	4574.6	2997	4573.7	4573.7	334.0	4.1	81.5
368	1413	12916	482	113,588.4	4568.9	2625.0	4574.9	2896	4573.2	4573.2	271.0	4.3	63.0
367	1414	13398	489	113,104.6	4568.2	2659.0	4573.0	2920	4571.8	4571.8	261.0	3.6	72.5
366	1416	13887	513	112,617.7	4567.7	2617.0	4572.1	2912	4571.7	4571.7	295.0	4.0	73.8
365	1417	14400	476	112,112.4	4567.4	2451.0	4571.5	2850	4571.3	4571.3	399.0	3.9	102.3
364	1418	14876	526	111,641.7	4566.8	2282.0	4571.5	2821	4571.7	4571.5	539.0	4.7	114.7
363	1419	15402	496	111,117.7	4566.8	2332.0	4570.1	2748	4571.5	4570.1	416.0	3.3	126.1
362	1420	15898	488	110,616.5	4566.7	2330.0	4570.5	2697	4571.6	4570.5	367.0	3.8	96.6
361	1421	16386	472	110,122.6	4566.3	1660.0	4573.9	2482	4570.2	4570.2	822.0	3.9	210.8
360	1422	16858	534	109,651.5	4566.0	1789.0	4569.9	2311	4570.3	4569.9	522.0	3.9	133.8
359	1423	17392	541	109,182.3	4565.1	1353.0	4570.6	2231	4569	4569.0	878.0	3.9	225.1
358	1424	17933	532	108,711.8	4563.0	1279.0	4567.8	2150	4569.1	4567.8	871.0	4.8	181.5
357	1425	18465	706	108,237.9	4563.4	975.0	4567.5	1782	4568	4567.5	807.0	4.1	196.8
356	1426	19171	526	107,726.0	4563.4	1087.0	4568.2	2032	4567.9	4567.9	945.0	4.5	210.0
355	1427	19698	512	107,216.2	4563.4	1267.0	4567.0	2116	4566.9	4566.9	849.0	3.5	242.6
354	1428	20210	519	106,693.6	4562.6	1359.0	4567.1	2038	4567.2	4567.1	679.0	4.5	150.9
353	1429	20728	518	106,175.0	4562.5	1423.0	4567.1	1984	4567.2	4567.1	561.0	4.6	122.0
352	1430	21246	517	105,657.4	4562.3	1374.0	4565.5	1954	4566.4	4565.5	580.0	3.2	181.3
351	1431	21763	529	105,140.5	4562.3	1538.0	4565.5	2161	4566	4565.5	623.0	3.2	194.7
350	1432	22292	528	104,612.7	4561.2	1801.0	4564.6	2400	4565.6	4564.6	599.0	3.4	176.2
349	1433	22820	503	104,086.3	4560.6	1789.0	4565.1	2339	4565.4	4565.1	550.0	4.5	122.2
348	1434	23323	601	103,579.6	4560.0	2640.0	4564.9	3198	4565.2	4564.9	558.0	4.9	113.9
347	1435	23924	538	103,050.2	4560.4	2567.0	4565.4	3102	4565	4565.0	535.0	4.6	116.3
346	1436	24462	567	102,531.9	4560.5	2599.0	4565.4	3115	4564.6	4564.6	516.0	4.1	125.9
345	1437	25029	506	101,974.8	4559.6	2726.0	4564.3	3312	4563.3	4563.3	586.0	3.7	158.4
344	1438	25535	530	101,463.7	4558.7	1907.0	4563.5	2606	4573	4563.5	699.0	4.8	145.6
343	1439	26066	498	100,929.2	4558.2	2016.0	4561.7	2768	4573.1	4561.7	752.0	3.5	214.9
342	1440	26564	503	100,433.4	4558.1	1696.0	4562.4	2347	4561.2	4561.2	651.0	3.1	210.0
341	1441	27067	517	99,932.0	4557.3	1758.0	4561.4	2515	4570.5	4561.4	757.0	4.1	184.6
340	1442	27584	507	99,440.5	4556.7	1908.0	4560.6	2521	4560.2	4560.2	613.0	3.5	175.1
339	1443	28091	476	98,941.6	4556.6	1927.0	4560.8	2525	4560.6	4560.6	598.0	4.0	149.5
338	1444	28567	511	98,456.4	4556.4	1811.0	4560.2	2519	4560.7	4560.2	708.0	3.8	186.3
337	1445	29078	459	97,950.6	4555.7	1700.0	4561.1	2587.5	4559.59	4559.6	887.5	3.9	228.1
336	1446	29537	490	97,445.7	4555.2	1509.0	4559.7	2612	4570.7	4559.7	1103.0	4.5	245.1
335	1447	30027	543	96,929.2	4554.5	1517.0	4559.1	2483	4560.5	4559.1	966.0	4.6	210.0
334	1448	30570	493	96,460.1	4554.5	1365.0	4559.0	2183	4559	4559.0	818.0	4.5	181.8
333	1449	31064	584	96,030.1	4554.6	1318.0	4559.8	2027	4559.2	4559.2	709.0	4.6	154.1
332	1450	31648	524	95,570.9	4554.2	544.0	4559.9	1454	4558.1	4558.1	910.0	3.9	233.3
331	1451	32172	456	95,127.2	4554.0	706.0	4561.8	1734	4560.8	4560.8	1028.0	6.8	151.2
330	1452	32628	479	94,637.8	4553.5	1042.0	4558.5	2353	4559.4	4558.5	1311.0	5.0	262.2
329	1453	33106	479	94,150.1	4552.1	341.0	4557.9	1971	4557.9	4557.9	1630.0	5.8	281.0
328	1454	33586	481	93,665.6	4551.8	3439.0	4555.0	4926	4555.7	4555.0	1487.0	3.2	464.7
327	1455	34067	485	93,180.7	4551.5	3878.0	4555.0	5133	4554.9	4554.9	1255.0	3.4	369.1
326	1456	34552	479	92,694.0	4551.5	4553.0	4556.1	5303	4563.5	4556.1	750.0	4.6	163.0
325	1457	35031	490	92,206.4	4550.4	4621.0	4554.3	5175	4555.01	4554.3	554.0	3.9	142.1
324	1458	35521	433	91,705.1	4550.2	4645.0	4556.2	5233.99	4555.6	4555.6	589.0	5.4	109.1

323	1459	35954	507	91,260.8	4550.4	4591.0	4555.0	5324	4562.1	4555.0	733.0	4.6	159.3
322	1460	36461	501	90,749.6	4549.7	4542.0	4555.6	5118	4554.1	4554.1	576.0	4.4	130.9
321	1461	36962	504	90,242.6	4549.0	4548.0	4553.7	5245	4560.7	4553.7	697.0	4.7	148.3
320	1462	37465	513	89,743.6	4548.5	4472.0	4554.9	4933	4553.7	4553.7	461.0	5.2	88.7
319	1463	37978	487	89,229.2	4548.3	4391.0	4554.5	4762	4553.9	4553.9	371.0	5.6	66.3
318	1464	38465	505	88,742.7	4547.5	4466.0	4553.7	4693	4553.7	4553.7	227.0	6.2	36.6
317	1465	38970	494	88,237.8	4546.6	4373.0	4553.3	4600	4552.6	4552.6	227.0	6.0	37.8
316	1466	39464	507	87,741.7	4546.7	4383.0	4553.2	4543	4552.8	4552.8	160.0	6.1	26.2
315	1467	39971	493	87,234.3	4546.5	4322.0	4552.7	4492	4552.6	4552.6	170.0	6.1	27.9
314	1468	40464	509	86,741.6	4546.1	4305.0	4552.2	4460	4551.7	4551.7	155.0	5.6	27.7
313	1469	40973	523	86,230.4	4545.0	4289.0	4551.8	4486	4550.5	4550.5	197.0	5.5	35.8
312	1470	41496	517	85,703.3	4544.6	4375.0	4552.0	4588	4555	4552.0	213.0	7.4	28.8
311	1471	42013	463	85,190.0	4544.5	4244.0	4551.9	4522	4553.6	4551.9	278.0	7.4	37.6
310	1472	42476	474	84,728.9	4544.4	3667.0	4550.1	3986	4554.6	4550.1	319.0	5.7	56.0
309	1473	42950	451	84,255.4	4544.3	3356.0	4550.3	3875	4558.8	4550.3	519.0	6.0	86.5
308	1474	43401	591	83,804.6	4544.3	3202.0	4549.8	3701	4565.2	4549.8	499.0	5.5	90.7
307	1475	43992	597	83,214.1	4544.0	2672.0	4550.1	3329	4563.7	4550.1	657.0	6.1	107.7
306	1476	44588	498	82,622.3	4544.0	2381.0	4550.4	2605	4549.7	4549.7	224.0	5.7	39.3
305	1477	45086	526	82,116.9	4543.9	2116.0	4549.3	2860	4559.4	4549.3	744.0	5.4	137.8
304	1478	45612	564	81,591.7	4543.4	2248.0	4548.7	3015	4559.9	4548.7	767.0	5.3	144.7
303	1479	46175	589	81,030.2	4543.5	1026.0	4548.8	1318	4547.5	4547.5	292.0	4.0	73.0
302	1480	46764	527	80,432.7	4543.3	2253.0	4548.4	2696	4547.4	4547.4	443.0	4.1	108.0
301	1481	47291	499	79,915.2	4543.1	2002.0	4548.5	2464	4547.4	4547.4	462.0	4.3	107.4
300	1482	47790	531	79,424.3	4542.4	1094.0	4547.7	1363	4546.9	4546.9	269.0	4.5	59.8
299	1483	48321	526	78,894.5	4540.2	1415.0	4547.3	1611	4546.9	4546.9	196.0	6.7	29.3
298	1484	48847	528	78,366.9	4540.1	1870.0	4544.4	2086	4546.4	4544.4	216.0	4.3	50.2
297	1485	49375	515	77,838.6	4540.2	1875.0	4544.3	2133	4546	4544.3	258.0	4.1	62.9
296	1486	49890	503	77,324.2	4539.1	2922.0	4543.8	3208	4545.1	4543.8	286.0	4.7	60.9
295	1487	50393	513	76,817.8	4539.7	3092.0	4545.6	3321	4543.1	4543.1	229.0	3.4	67.4
294	1488	50905	517	76,303.0	4539.6	2590.0	4545.9	2892	4545	4545.0	302.0	5.4	55.9
293	1489	51422	476	75,787.4	4539.8	1887.0	4544.9	2278	4545	4544.9	391.0	5.1	76.7
292	1490	51898	459	75,317.2	4539.0	1642.0	4544.2	1983	4543.2	4543.2	341.0	4.2	81.2
291	1491	52357	521	74,855.8	4539.1	1292.0	4545.2	1691	4542.3	4542.3	399.0	3.2	124.7
290	1492	52878	588	74,339.6	4538.6	1226.0	4544.4	1481	4542.5	4542.5	255.0	3.9	65.4
289	1493	53466	486	73,753.3	4537.9	983.0	4543.1	1197	4541.6	4541.6	214.0	3.7	57.8
288	1494	53952	501	73,274.1	4538.0	891.0	4543.3	1138	4541.7	4541.7	247.0	3.7	66.8
287	1495	54453	485	72,772.6	4537.7	753.0	4541.8	1013	4540.6	4540.6	260.0	2.9	89.7
286	1496	54938	495	72,286.7	4537.0	701.0	4542.5	976	4540.3	4540.3	275.0	3.3	83.3
285	1497	55433	522	71,786.3	4535.8	555.0	4540.2	828	4540	4540.0	273.0	4.2	65.0
284	1498	55956	507	71,291.0	4535.6	436.0	4540.0	899	4539.8	4539.8	463.0	4.2	110.2
283	1499	56463	520	70,796.8	4536.2	365.0	4543.0	1371	4540.6	4540.6	1006.0	4.4	228.6
282	1500	56983	523	70,292.6	4535.1	348.0	4540.4	1668	4538.5	4538.5	1320.0	3.4	388.2
281	1501	57505	508	69,775.9	4534.9	288.0	4538.1	1628	4538.7	4538.1	1340.0	3.2	418.7
280	1502	58014	522	69,267.8	4532.9	328.0	4538.0	1487	4538.4	4538.0	1159.0	5.1	227.3
279	1503	58536	505	68,731.9	4532.9	406.0	4538.2	1350	4538	4538.0	944.0	5.1	185.1
278	1504	59041	510	68,230.6	4532.9	563.0	4537.2	1304	4536.8	4536.8	741.0	3.9	190.0
277	1505	59552	556	67,770.1	4532.9	621.0	4537.2	1445	4536.6	4536.6	824.0	3.7	222.7
276	1506	60108	523	67,237.6	4532.4	783.0	4536.5	1461	4536	4536.0	678.0	3.6	188.3
275	1507	60631	500	66,713.7	4531.8	831.0	4536.1	1466	4535.2	4535.2	635.0	3.4	186.8
274	1508	61130	492	66,213.4	4531.7	842.0	4536.0	1501	4536.4	4536.0	659.0	4.3	153.3
273	1509	61622	512	65,728.2	4532.3	781.0	4535.0	1479	4535	4535.0	698.0	2.7	258.5
272	1510	62134	537	65,225.4	4530.3	791.0	4534.5	1492	4534.7	4534.5	701.0	4.2	166.9
271	1511	62671	477	64,677.7	4530.2	808.0	4534.0	1493	4534.3	4534.0	685.0	3.8	180.3
270	1512	63148	490	64,162.0	4530.1	831.0	4534.5	1548	4534.1	4534.1	717.0	4.0	179.3
269	1513	63638	506	63,678.2	4530.0	807.0	4533.4	1510	4533.4	4533.4	703.0	3.4	206.8
268	1514	64144	579	63,167.2	4529.6	814.0	4532.5	1555	4532.8	4532.5	741.0	2.9	255.5
267	1515	64722	440	62,622.1	4529.4	1128.0	4533.5	1910	4533.1	4533.1	782.0	3.7	211.4
266	1516	65162	444	62,170.5	4528.5	1231.0	4532.1	2006	4533.2	4532.1	775.0	3.6	215.3
265	1517	65606	545	61,658.6	4528.9	1246.0	4531.5	2088	4533.2	4531.5	842.0	2.6	323.8
264	1518	66151	548	61,090.7	4527.6	1112.0	4531.9	2035	4532	4531.9	923.0	4.3	214.7
263	1519	66699	551	60,519.3	4528.1	869.0	4530.8	1860	4531.8	4530.8	991.0	2.7	367.0
262	1520	67250	519	60,011.8	4527.6	848.0	4530.4	1602	4530.7	4530.4	754.0	2.8	269.3
261	1521	67769	470	59,508.5	4526.2	601.0	4530.1	1632	4530.5	4530.1	1031.0	3.9	264.4
260	1522	68239	473	59,041.2	4526.2	750.0	4530.5	1599	4541.1	4530.5	849.0	4.3	197.4

259	1523	68712	488	58,572.1	4526.0	875.0	4530.0	1774	4531.2	4530.0	899.0	4.0	224.8
258	1524	69200	506	58,093.3	4525.7	962.0	4530.0	1947	4534.4	4530.0	985.0	4.3	229.1
257	1525	69706	334	57,688.2	4525.2	971.0	4529.0	2236	4529.1	4529.0	1265.0	3.8	332.9
256	1526	70040	500	57,344.1	4525.2	538.0	4528.7	2043	4528.9	4528.7	1505.0	3.5	430.0
255	1527	70541	513	56,848.5	4525.2	149.0	4528.0	1818	4530	4528.0	1669.0	2.8	596.1
254	1528	71054	561	56,419.1	4524.5	275.0	4528.0	1600	4528.5	4528.0	1325.0	3.5	378.6
253	1529	71614	541	55,808.3	4525.3	384.5	4526.8	1292	4527.9	4526.8	907.5	1.5	605.0
252	1530	72155	617	55,213.1	4521.3	349.0	4526.4	1213	4526.8	4526.4	864.0	5.1	169.4
251	1531	72772	485	54,625.3	4520.5	372.0	4527.2	1110	4525.2	4525.2	738.0	4.7	157.0
250	1532	73257	521	54,138.9	4519.9	381.0	4525.9	1136	4525.6	4525.6	755.0	5.7	132.5
249	1533	73778	525	53,623.1	4521.7	292.0	4526.2	927	4525.3	4525.3	635.0	3.6	176.4
248	1534	74303	473	53,121.8	4521.3	561.0	4526.6	1229	4526.2	4526.2	668.0	4.9	136.3
247	1535	74776	638	52,621.2	4521.1	604.0	4523.8	1504	4524.5	4523.8	900.0	2.7	333.3
246	1536	75414	606	52,055.7	4520.1	541.0	4524.1	1613	4525.3	4524.1	1072.0	4.0	268.0
245	1537	76019	524	51,449.7	4520.5	602.0	4523.7	1696	4523.4	4523.4	1094.0	2.9	377.2
244	1538	76543	521	50,898.6	4519.1	731.0	4523.6	1907	4522.8	4522.8	1176.0	3.7	317.8
243	1539	77064	557	50,373.6	4518.5	386.0	4522.4	1546	4522.4	4522.4	1160.0	3.9	297.4
242	1540	77621	590	49,814.2	4518.7	307.0	4522.0	1371	4524.2	4522.0	1064.0	3.3	322.4
241	1541	78210	568	49,268.7	4518.9	501.0	4521.5	1736	4522.9	4521.5	1235.0	2.6	475.0
240	1542	78778	569	48,663.0	4517.8	289.0	4523.1	1702	4521.8	4521.8	1413.0	4.0	353.3
239	1543	79347	574	48,068.2	4517.1	640.0	4519.8	1640	4521.9	4519.8	1000.0	2.7	370.4
238	1544	79921	507	47,462.7	4516.2	2047.0	4519.7	3056	4520.4	4519.7	1009.0	3.5	288.3
237	1545	80428	531	47,002.9	4516.5	2107.0	4522.5	3258	4519.2	4519.2	1151.0	2.7	426.3
236	1546	80959	564	46,536.7	4515.5	2202.7	4520.7	3193	4518.8	4518.8	990.3	3.3	300.1
235	1547	81523	582	45,991.2	4514.5	2341.0	4520.5	2966	4518.2	4518.2	625.0	3.7	168.9
234	1548	82105	518	45,400.1	4514.6	1940.0	4519.5	2682	4518.2	4518.2	742.0	3.6	206.1
233	1549	82623	505	44,907.2	4513.8	1687.0	4518.2	2432	4517.4	4517.4	745.0	3.6	206.9
232	1550	83128	523	44,384.7	4513.9	2787.0	4518.0	3834	4516.9	4516.9	1047.0	3.0	349.0
231	1551	83651	505	43,824.7	4513.4	3022.0	4517.3	4121	4516.5	4516.5	1099.0	3.1	354.5
230	1552	84155	503	43,133.8	4512.0	2832.0	4517.0	4221	4517.2	4517.0	1389.0	5.0	277.8
229	1553	84659	517	42,533.2	4512.1	2257.0	4518.1	3118	4516.2	4516.2	861.0	4.1	210.0
228	1554	85175	645	42,020.5	4512.5	1566.0	4518.1	2667	4515.3	4515.3	1101.0	2.8	393.2
227	1555	85821	663	41,270.8	4511.8	1541.0	4515.8	2558	4514.9	4514.9	1017.0	3.1	328.1
226	1556	86484	587	40,616.4	4511.1	1362.0	4514.7	2286	4514.6	4514.6	924.0	3.5	264.0
225	1557	87071	521	39,973.3	4510.2	1516.0	4513.5	2228	4514.8	4513.5	712.0	3.3	215.8
224	1558	87592	496	39,416.8	4509.8	1235.0	4513.5	1697	4513.7	4513.5	462.0	3.7	124.9
223	1559	88088	524	38,975.1	4509.5	1112.0	4513.8	1707	4513.7	4513.7	595.0	4.2	141.7
222	1560	88613	539	38,498.8	4509.1	1567.0	4514.3	2055	4513.3	4513.3	488.0	4.2	116.2
221	1561	89152	508	37,972.3	4508.7	1886.0	4513.7	2797	4516.3	4513.7	911.0	5.0	182.2
220	1562	89660	518	37,455.1	4508.4	1721.0	4514.7	2734	4513.9	4513.9	1013.0	5.5	184.2
219	1563	90179	497	36,929.7	4508.9	1905.0	4517.0	2796	4514	4514.0	891.0	5.1	174.7
218	1564	90675	515	36,433.8	4508.6	1958.0	4514.1	2985	4524.5	4514.1	1027.0	5.5	186.7
217	1565	91191	508	35,920.6	4509.3	1797.0	4512.9	2687	4512.5	4512.5	890.0	3.2	278.1
216	1566	91698	507	35,413.0	4508.1	1543.0	4512.2	2452	4512.1	4512.1	909.0	4.0	227.3
215	1567	92205	499	34,896.6	4507.7	1487.0	4511.3	2313	4511.6	4511.3	826.0	3.6	229.4
214	1568	92704	532	34,391.2	4507.4	1335.0	4511.3	2170	4511.7	4511.3	835.0	3.9	214.1
213	1569	93236	432	33,883.8	4507.5	1278.0	4511.0	2100	4512.1	4511.0	822.0	3.5	234.9
212	1570	93668	416	33,452.0	4507.3	1301.0	4510.8	2190	4511.3	4510.8	889.0	3.5	254.0
211	1572	94084	509	33,014.6	4507.7	1144.0	4512.5	2122	4511.4	4511.4	978.0	3.7	264.3
210	1573	94593	522	32,490.1	4506.4	1265.0	4514.2	2280	4511.3	4511.3	1015.0	4.9	207.1
209	1574	95115	506	32,000.6	4506.1	1025.0	4517.6	2092	4510.9	4510.9	1067.0	4.8	222.3
208	1575	95621	581	31,474.9	4506.1	1153.0	4513.5	1987	4511.6	4511.6	834.0	5.5	151.6
207	1576	96202	562	30,857.7	4506.0	1292.0	4515.4	1957	4511.5	4511.5	665.0	5.5	120.9
206	1577	96764	471	30,228.1	4506.1	1207.0	4511.3	2028	4511.67	4511.3	821.0	5.2	157.9
205	1578	97234	528	29,633.4	4506.0	771.0	4511.2	1787	4510.5	4510.5	1016.0	4.5	225.8
204	1579	97763	723	29,060.3	4504.2	1183.0	4509.4	2040	4509.1	4509.1	857.0	4.9	174.9
203	1580	98485	535	28,488.1	4503.9	1216.0	4509.8	2314	4509.2	4509.2	1098.0	5.3	207.2
202	1581	99020	517	27,990.7	4502.8	1450.0	4508.9	2366	4508.3	4508.3	916.0	5.5	166.5
201	1582	99537	647	27,454.5	4502.9	1543.0	4508.0	2259	4508.7	4508.0	716.0	5.1	140.4
200	1583	100184	966	26,862.9	4502.5	1351.0	4507.9	2181	4508.7	4507.9	830.0	5.4	153.7
199	1584	101150	489	25,750.4	4501.6	1080.0	4509.6	1536	4508	4508.0	456.0	6.4	71.3
198	1585	101639	678	25,219.5	4502.4	1033.0	4507.4	1498	4507.6	4507.4	465.0	5.0	93.0
197	1586	102316	638	24,688.8	4501.4	1728.0	4507.9	2097	4509.2	4507.9	369.0	6.5	56.8
196	1587	102955	612	23,644.8	4500.3	2001.0	4508.1	2521	4507.6	4507.6	520.0	7.3	71.2

195	1588	103567	636	22,917.1	4500.3	2186.0	4508.5	2774	4507.3	4507.3	588.0	7.0	84.0
194	1589	104203	491	22,337.2	4499.0	1515.0	4508.3	1940	4512.5	4508.3	425.0	9.3	45.7
193	1591	104694	534	21,613.0	4498.5	1556.0	4507.7	1945	4510	4507.7	389.0	9.2	42.3
192	1592	105228	517	21,101.3	4498.3	1059.0	4507.5	1271	4506.5	4506.5	212.0	8.2	25.9
191	1594	105745	511	20,599.7	4498.1	943.0	4506.8	1104	4507.5	4506.8	161.0	8.7	18.5
190	1595	106256	463	20,068.4	4497.9	658.0	4505.8	836	4508.2	4505.8	178.0	7.9	22.5
189	1596	106719	467	19,605.2	4497.7	1280.0	4506.5	1485	4508.3	4506.5	205.0	8.8	23.3
188	1597	107186	532	19,144.8	4497.6	979.0	4506.3	1230	4510.7	4506.3	251.0	8.7	28.9
187	1598	107717	525	18,621.0	4497.6	577.0	4506.1	734	4505.3	4505.3	157.0	7.7	20.4
186	1599	108243	558	18,101.6	4497.6	828.0	4505.1	1058	4505.5	4505.1	230.0	7.5	30.7
185	1600	108800	578	17,561.1	4496.9	751.0	4505.0	888	4503.8	4503.8	137.0	6.9	19.9
184	1601	109378	529	17,010.0	4496.4	583.0	4504.6	698	4503.1	4503.1	115.0	6.7	17.2
183	1602	109907	477	16,520.7	4496.3	943.0	4503.6	1732	4507.1	4503.6	789.0	7.3	108.1
182	1603	110385	460	16,039.9	4496.1	1081.0	4502.5	1767	4506.1	4502.5	686.0	6.4	107.2
181	1604	110845	542	15,565.3	4496.1	967.0	4502.3	1109	4503.9	4502.3	142.0	6.2	22.9
180	1605	111387	496	15,028.6	4496.0	868.0	4502.1	1643	4510.4	4502.1	775.0	6.1	127.0
179	1606	111883	497	14,527.1	4495.9	413.0	4502.7	612	4501.5	4501.5	199.0	5.6	35.5
178	1607	112380	486	14,027.8	4495.0	186.0	4513.5	514	4501.4	4501.4	328.0	6.4	51.3
177	1608	112867	483	13,539.3	4495.1	338.0	4514.3	633	4501	4501.0	295.0	5.9	50.0
176	1610	113349	552	13,056.4	4495.1	576.0	4501.6	1404	4506.6	4501.6	828.0	6.5	127.4
175	1611	113901	540	12,502.0	4494.6	801.0	4500.8	1561	4505.1	4500.8	760.0	6.2	122.6
174	1612	114441	511	11,966.0	4494.4	920.0	4501.1	1513	4504.3	4501.1	593.0	6.7	88.5
173	1613	114951	508	11,452.3	4494.4	613.0	4500.7	952	4503.9	4500.7	339.0	6.3	53.8
172	1614	115459	488	10,943.3	4494.4	1010.0	4500.4	1222	4500.9	4500.4	212.0	6.0	35.3
171	1615	115947	510	10,454.9	4493.6	1127.0	4500.0	1293	4500.3	4500.0	166.0	6.4	25.9
170	1616	116457	526	9,945.4	4493.5	1077.0	4500.3	1310	4500.2	4500.2	233.0	6.7	34.8
169	1617	116983	505	9,418.8	4493.6	1138.0	4499.6	1312	4499.8	4499.6	174.0	6.0	29.0
168	1618	117487	525	8,913.2	4493.5	1257.0	4499.4	1439	4501.5	4499.4	182.0	5.9	30.8
167	1619	118012	514	8,388.2	4493.0	1100.0	4501.1	1385	4501.4	4501.1	285.0	8.1	35.2
166	1621	118526	518	7,874.3	4492.5	1165.0	4500.8	1500	4501.8	4500.8	335.0	8.3	40.4
165	1622	119044	541	7,356.5	4492.3	1332.0	4502.4	1737	4501	4501.0	405.0	8.7	46.6
164	1623	119585	537	6,812.7	4491.9	1518.0	4498.8	1713	4498.8	4498.8	195.0	6.9	28.3
163	1624	120122	510	6,274.0	4492.0	1881.0	4500.9	2032	4498.6	4498.6	151.0	6.6	22.9
162	1625	120633	503	5,762.7	4491.0	1488.0	4497.8	2061	4499.2	4497.8	573.0	6.8	84.3
161	1626	121136	458	5,257.4	4491.0	998.0	4499.0	1216	4497.8	4497.8	218.0	6.8	32.1
160	1627	121594	488	4,795.4	4490.4	712.0	4499.5	883	4496.7	4496.7	171.0	6.3	27.1
159	1628	122083	380	4,304.9	4490.5	909.0	4498.6	1190	4497	4497.0	281.0	6.5	43.2
158	1629	122463	258	3,920.7	4490.4	1140.0	4497.4	1279	4497.6	4497.4	139.0	7.0	19.9
157	1630	122721	538	3,652.3	4490.4	1142.0	4496.8	1324	4497.1	4496.8	182.0	6.4	28.4
156	1631	123259	527	3,101.5	4490.1	1323.0	4496.1	1504	4496.5	4496.1	181.0	6.0	30.2
155	1632	123786	510	2,581.8	4490.0	1280.0	4495.9	1450	4496.1	4495.9	170.0	5.9	28.8
154	1633	124296	438	2,075.6	4489.8	1108.0	4495.9	1326	4495.9	4495.9	218.0	6.1	35.7
153	1634	124735	501	1,638.6	4489.3	851.0	4495.5	1023	4495.4	4495.4	172.0	6.1	28.2
152	1635	125235	563	1,136.8	4489.0	1015.0	4494.9	1227	4495.7	4494.9	212.0	5.9	35.9
151	1636	125798	575	575.2	4488.6	1044.0	4495.5	1233	4495.2	4495.2	189.0	6.6	28.6
150	1637	126373	#REF!	0.0	4488.1	1146.0	4493.8	1302	4494.6	4493.8	156.0	5.7	27.4

River Sta	Agg/Deg	Main Channel Dist from u/s (ft)	Reach Lengths (ft)	Stationing Line Channel Distance (ft)	Thalweg Elev (ft)	Left TOB Sta (ft)	Left TOB Elev (ft)	Right TOB Sta (ft)	Right TOB Elev (ft)	Low TOB Elev (ft)	Max Bank Width (ft)	Max Bankfull Depth (ft)	Geometric W/D_{max} Ratio
396	1397	5,065	515	121,632.3	4573.6	591.4	4588.1	1197.6	4581.4	4581.4	606.2	7.8	78.1
395	1398	5,580	495	121,092.6	4572.4	428.0	4579.7	738.9	4578.4	4578.4	310.9	6.0	51.9
394	1399	6,075	507	120,596.1	4573.2	475.8	4576.4	638.5	4582.2	4576.4	162.7	3.2	50.7
393	1400	6,582	495	120,088.2	4572.8	255.8	4576.8	576.9	4581	4576.8	321.1	4.0	79.9
392	1401	7,077	512	119,597.3	4571.4	184.5	4576.0	449.5	4576.6	4576.0	265.0	4.6	57.5
391	1402	7,589	530	119,082.0	4572.2	248.0	4576.5	451.3	4575.3	4575.3	203.3	3.1	65.2
390	1403	8,119	491	118,555.9	4572.0	588.6	4576.0	815.4	4574.2	4574.2	226.8	2.2	105.0
389	1404	8,610	491	118,066.0	4572.4	1148.1	4575.0	1388.2	4575	4575.0	240.1	2.6	90.9
388	1405	9,100	489	117,591.5	4571.7	1314.0	4577.6	1680.2	4574.6	4574.6	366.2	2.9	126.3
387	1406	9,590	500	117,083.1	4572.0	1578.1	4576.5	2021.3	4575	4575.0	443.2	3.0	148.2
386	1407	10,090	558	116,562.5	4571.2	1807.4	4574.5	2191.5	4576.5	4574.5	384.1	3.3	117.8
385	1408	10,647	478	116,033.2	4572.0	1920.8	4575.0	2257.9	4577	4575.0	337.1	3.0	110.9
384	1409	11,125	487	115,556.8	4570.1	2423.9	4573.6	2632.3	4576	4573.6	208.4	3.5	59.9
383	1410	11,612	472	115,071.0	4571.0	2771.4	4573.0	2993.9	4574.2	4573.0	222.5	2.0	113.5
382	1411	12,084	523	114,598.3	4570.0	2854.3	4573.0	3075.7	4575	4573.0	221.4	3.0	74.8
381	1412	12,608	507	114,093.0	4569.6	2663.8	4572.5	2978.6	4572.1	4572.1	314.8	2.5	125.9
380	1413	13,114	494	113,588.4	4567.5	2622.5	4573.9	2876.4	4571.9	4571.9	253.9	4.4	58.0
379	1414	13,608	485	113,104.6	4568.7	2657.9	4572.2	2969.1	4571.4	4571.4	311.2	2.7	116.6
378	1416	14,093	510	112,617.7	4568.2	2626.3	4571.1	2897.3	4571	4571.0	271.0	2.8	95.8
377	1417	14,604	479	112,112.4	4566.1	2459.8	4570.4	2831.6	4570.3	4570.3	371.8	4.3	87.5
376	1418	15,082	547	111,641.7	4567.9	2249.1	4570.8	2857.6	4570.8	4570.8	608.5	2.9	207.0
375	1419	15,629	549	111,117.7	4566.4	2324.2	4570.1	2730.9	4570.5	4570.1	406.7	3.7	110.5
374	1420	16,178	472	110,616.5	4567.2	2310.1	4570.1	2825.2	4581.1	4570.1	515.1	2.9	177.0
373	1421	16,650	446	110,122.6	4566.5	2124.6	4569.9	2489	4570	4569.9	364.4	3.4	106.9
372	1422	17,096	442	109,651.5	4566.9	1770.1	4569.9	2309.4	4569.9	4569.9	539.3	3.0	178.6
371	1423	17,538	431	109,182.3	4565.9	1699.7	4566.8	2266.3	4567.9	4566.8	566.6	0.9	602.8
370	1424	17,969	506	108,711.8	4564.2	1520.2	4566.3	2146.3	4568.2	4566.3	626.1	2.1	301.0
369	1425	18,475	533	108,237.9	4564.7	935.8	4566.9	1706.6	4568.3	4566.9	770.8	2.2	356.9
368	1426	19,008	500	107,726.0	4564.5	1448.5	4566.5	2008.6	4566.8	4566.5	560.1	2.0	274.6
367	1427	19,508	541	107,216.2	4564.2	1429.9	4565.6	2104.2	4567.7	4565.6	674.3	1.4	471.5
366	1428	20,049	623	106,693.6	4563.9	1300.0	4567.2	2033.8	4566.4	4566.4	733.8	2.5	297.1
365	1429	20,672	567	106,175.0	4563.7	1421.2	4565.9	1988.4	4566.3	4565.9	567.2	2.2	259.0
364	1430	21,239	541	105,657.4	4563.3	1373.3	4565.1	1961.3	4566.2	4565.1	588.0	1.8	323.1
363	1431	21,780	538	105,140.5	4562.9	1539.7	4565.1	2268	4578.4	4565.1	728.3	2.2	337.2
362	1432	22,318	554	104,612.7	4562.7	1798.2	4563.6	2418.1	4566.4	4563.6	619.9	0.9	673.8
361	1433	22,872	526	104,086.3	4561.9	1702.4	4564.1	2328	4563.9	4563.9	625.6	2.0	309.7
360	1434	23,397	533	103,579.6	4561.2	2661.8	4562.5	3154	4564.6	4562.5	492.2	1.3	375.7
359	1435	23,930	519	103,050.2	4560.9	2555.0	4564.4	3089.51	4563.8	4563.8	534.5	2.9	185.0
358	1436	24,450	577	102,531.9	4560.6	2573.3	4564.1	3262.5	4572.68	4564.1	689.2	3.5	198.0
357	1437	25,027	517	101,974.8	4559.0	2923.5	4560.9	3260.3	4562.7	4560.9	336.8	1.9	174.5
356	1438	25,544	563	101,463.7	4559.5	1957.8	4560.6	2611.42	4573.1	4560.6	653.6	1.1	610.9
355	1439	26,106	513	100,929.2	4558.6	2004.5	4561.1	2771.88	4572.69	4561.1	767.4	2.5	310.7
354	1440	26,619	501	100,433.4	4558.1	1665.7	4561.4	2458.93	4569.81	4561.4	793.2	3.3	240.4
353	1441	27,120	490	99,932.0	4557.1	1720.1	4561.1	2518.9	4569.7	4561.1	798.8	4.1	197.2
352	1442	27,610	504	99,440.5	4554.8	1862.0	4559.9	2649.92	4569.8	4559.9	787.9	5.1	155.4
351	1443	28,115	497	98,941.6	4556.5	1932.0	4559.4	2559.2	4560.7	4559.4	627.2	2.9	218.5
350	1444	28,612	547	98,456.4	4556.0	1797.9	4558.9	2546.9	4560.3	4558.9	749.0	2.9	253.9
349	1445	29,159	504	97,950.6	4556.3	1700.1	4559.4	2693.75	4569.69	4559.4	993.7	3.1	319.5
348	1446	29,663	560	97,445.7	4556.0	1499.7	4558.9	2608.93	4568.78	4558.9	1109.2	2.9	377.3
347	1447	30,223	503	96,929.2	4555.6	1515.9	4558.0	2523.6	4559.6	4558.0	1007.7	2.4	421.6
346	1448	30,726	442	96,460.1	4554.9	1331.4	4558.1	2179.7	4557.8	4557.8	848.3	2.9	287.6
345	1449	31,168	424	96,030.1	4554.9	1318.8	4558.2	2039.6	4558.3	4558.2	720.8	3.3	218.4
344	1450	31,592	394	95,570.9	4554.6	548.3	4558.3	1454.8	4556.8	4556.8	906.5	2.2	412.0
343	1451	31,986	503	95,127.2	4553.6	705.7	4559.6	1745.4	4561.3	4559.6	1039.7	6.0	174.4
342	1452	32,489	588	94,637.8	4552.9	965.3	4557.5	2426.9	4556.9	4556.9	1461.6	4.0	366.3
341	1453	33,077	500	94,150.1	4552.5	695.7	4554.8	1845.4	4554.7	4554.7	1149.7	2.2	515.6
340	1454	33,577	482	93,665.6	4552.0	3642.9	4555.3	4738.6	4554.4	4554.4	1095.7	2.4	464.3
339	1455	34,059	505	93,180.7	4552.7	4202.3	4554.1	4955.2	4553.8	4553.8	752.9	1.2	654.7
338	1456	34,564	552	92,694.0	4551.6	4541.0	4555.5	5179.6	4555.6	4555.5	638.6	3.9	165.4
337	1457	35,117	526	92,206.4	4552.0	4629.4	4554.4	5141.6	4554.5	4554.4	512.2	2.4	210.8
336	1458	35,643	443	91,705.1	4550.4	4628.3	4554.6	5201.37	4554.6	4554.6	573.1	4.2	135.8

335	1459	36,086	511	91,260.8	4550.6	4587.2	4554.2	5151.81	4553.9	4553.9	564.6	3.3	173.2
334	1460	36,598	558	90,749.6	4550.0	4535.3	4554.9	5100.6	4553.4	4553.4	565.3	3.4	167.7
333	1461	37,156	524	90,242.6	4548.8	4546.8	4552.7	5030.5	4552.2	4552.2	483.7	3.4	142.3
332	1462	37,680	537	89,743.6	4548.9	4471.4	4553.5	4874.3	4552.5	4552.5	402.9	3.6	111.0
331	1463	38,217	491	89,229.2	4548.4	4410.9	4553.6	4750.5	4552.7	4552.7	339.6	4.3	79.7
330	1464	38,708	506	88,742.7	4547.9	4388.5	4553.7	4731.2	4552.5	4552.5	342.7	4.6	74.7
329	1465	39,214	494	88,237.8	4548.0	4371.3	4554.1	4694.9	4552.3	4552.3	323.6	4.4	74.4
328	1466	39,708	507	87,741.7	4546.8	4387.7	4552.6	4625.6	4552.1	4552.1	237.9	5.3	45.1
327	1467	40,215	492	87,234.3	4546.0	4324.9	4552.1	4467.5	4550.7	4550.7	142.6	4.7	30.3
326	1468	40,707	510	86,741.6	4546.3	4309.3	4551.7	4485.7	4550.7	4550.7	176.4	4.4	40.2
325	1469	41,217	526	86,230.4	4546.4	4319.9	4551.3	4566.7	4551.1	4551.1	246.8	4.7	52.8
324	1470	41,743	516	85,703.3	4545.5	4392.1	4551.0	4589.1	4553.6	4551.0	197.0	5.5	36.0
323	1471	42,259	462	85,190.0	4545.2	4206.6	4550.3	4503.9	4551.3	4550.3	297.3	5.2	57.7
322	1472	42,721	461	84,728.9	4544.2	3678.2	4549.7	3981.8	4553.7	4549.7	303.6	5.5	55.5
321	1473	43,182	453	84,255.4	4544.8	3328.0	4549.7	3875.2	4558.1	4549.7	547.2	4.9	112.1
320	1474	43,635	592	83,804.6	4544.7	3190.4	4549.8	3700.2	4563.7	4549.8	509.8	5.1	99.8
319	1475	44,228	597	83,214.1	4544.7	2663.2	4549.4	3331.2	4563	4549.4	668.0	4.7	143.0
318	1476	44,824	500	82,622.3	4544.6	2378.7	4548.5	3130.2	4554.6	4548.5	751.5	3.9	192.7
317	1477	45,325	527	82,116.9	4543.8	2076.8	4549.1	2295.1	4548.5	4548.5	218.3	4.7	46.7
316	1478	45,851	558	81,591.7	4543.9	2239.1	4548.0	3014.1	4559	4548.0	775.0	4.1	187.2
315	1479	46,409	605	81,030.2	4542.9	1038.3	4548.1	1289.9	4547	4547.0	251.6	4.1	60.6
314	1480	47,014	512	80,432.7	4543.4	2275.7	4548.5	2684.5	4547	4547.0	408.8	3.6	113.9
313	1481	47,526	490	79,915.2	4543.5	2082.3	4547.7	2453.1	4547.5	4547.5	370.8	4.0	93.2
312	1482	48,015	530	79,424.3	4542.4	1086.8	4546.2	1306.6	4548	4546.2	219.8	3.8	57.2
311	1483	48,545	527	78,894.5	4541.6	1424.9	4545.7	1583	4545.9	4545.7	158.1	4.1	38.8
310	1484	49,072	528	78,366.9	4541.9	1872.4	4545.8	2045.7	4545.2	4545.2	173.3	3.3	52.2
309	1485	49,600	516	77,838.6	4540.7	1891.1	4545.2	2026	4545.1	4545.1	134.9	4.4	30.9
308	1486	50,116	506	77,324.2	4540.7	2875.9	4544.4	3092.9	4545.3	4544.4	217.0	3.7	59.0
307	1487	50,622	511	76,817.8	4539.9	3102.0	4545.0	3322.4	4544.9	4544.9	220.4	5.0	43.7
306	1488	51,134	515	76,303.0	4539.9	2583.8	4544.4	2834.1	4544	4544.0	250.3	4.1	61.7
305	1489	51,648	470	75,787.4	4540.0	1895.7	4544.2	2183.6	4544.4	4544.2	287.9	4.3	67.7
304	1490	52,118	461	75,317.2	4540.0	1645.9	4544.5	1916.3	4544.8	4544.5	270.4	4.5	59.6
303	1491	52,579	520	74,855.8	4539.8	1462.4	4543.6	1697.2	4543.9	4543.6	234.8	3.8	62.3
302	1492	53,099	580	74,339.6	4539.7	1238.2	4543.5	1458.6	4542.6	4542.6	220.4	2.9	76.8
301	1493	53,679	484	73,753.3	4539.6	984.3	4543.1	1194	4542.9	4542.9	209.7	3.3	63.5
300	1494	54,163	505	73,274.1	4539.3	891.5	4541.7	1118.6	4541.6	4541.6	227.1	2.3	97.5
299	1495	54,668	485	72,772.6	4538.8	741.0	4542.3	1006.4	4542.3	4542.3	265.4	3.5	75.6
298	1496	55,153	508	72,286.7	4538.3	706.7	4541.3	968.3	4541.2	4541.2	261.6	2.9	89.6
297	1497	55,661	505	71,786.3	4537.9	521.7	4540.8	826.8	4540.9	4540.8	305.1	2.9	106.3
296	1498	56,167	496	71,291.0	4538.3	437.2	4540.3	887.9	4540.6	4540.3	450.7	2.0	223.1
295	1499	56,662	508	70,796.8	4537.4	358.8	4541.7	680.7	4539.4	4539.4	321.9	2.0	157.0
294	1500	57,170	515	70,292.6	4537.7	340.4	4540.9	643.7	4539.7	4539.7	303.3	2.0	150.1
293	1501	57,686	509	69,775.9	4536.0	209.8	4539.8	557.5	4539.2	4539.2	347.7	3.2	108.0
292	1502	58,194	534	69,267.8	4535.8	285.8	4539.7	511.2	4539.3	4539.3	225.4	3.5	63.9
291	1503	58,728	535	68,731.9	4536.6	367.4	4538.9	581.7	4538.9	4538.9	214.3	2.3	91.2
290	1504	59,263	460	68,230.6	4536.2	558.1	4538.1	831.4	4538.4	4538.1	273.3	1.9	143.1
289	1505	59,723	549	67,770.1	4535.6	726.4	4538.3	1195.4	4537.3	4537.3	469.0	1.7	271.1
288	1506	60,271	567	67,237.6	4535.6	817.2	4538.1	1378	4537.9	4537.9	560.8	2.3	239.7
287	1507	60,838	501	66,713.7	4535.2	1085.3	4536.5	1484.2	4536.7	4536.5	398.9	1.3	316.6
286	1508	61,339	486	66,213.4	4534.9	1064.2	4536.4	1503.4	4537.2	4536.4	439.2	1.5	288.9
285	1509	61,825	514	65,728.2	4534.1	891.1	4536.8	1472.7	4536.4	4536.4	581.6	2.3	250.7
284	1510	62,338	539	65,225.4	4534.0	898.2	4536.3	1403.6	4536.1	4536.1	505.4	2.2	235.1
283	1511	62,878	502	64,677.7	4533.8	833.5	4535.9	1205.4	4535.4	4535.4	371.9	1.6	231.0
282	1512	63,379	485	64,162.0	4532.8	827.3	4535.8	1134.8	4535.7	4535.7	307.5	2.9	105.3
281	1513	63,864	513	63,678.2	4532.9	816.9	4535.2	1143.1	4535.2	4535.2	326.2	2.3	142.4
280	1514	64,377	552	63,167.2	4532.8	812.1	4534.9	1258.2	4534.5	4534.5	446.1	1.8	254.9
279	1515	64,929	502	62,622.1	4531.6	1107.9	4534.5	1566.2	4533.9	4533.9	458.3	2.3	195.0
278	1516	65,431	548	62,170.5	4531.6	1225.6	4534.0	1696.5	4534	4534.0	470.9	2.4	196.2
277	1517	65,979	565	61,658.6	4529.5	1492.2	4533.0	1923.8	4533.4	4533.0	431.6	3.6	121.6
276	1518	66,544	550	61,090.7	4530.3	1598.1	4532.8	1936.2	4533.4	4532.8	338.1	2.5	137.4
275	1519	67,094	510	60,519.3	4530.7	1428.5	4532.1	1842.6	4532.9	4532.1	414.1	1.5	285.6
274	1520	67,603	506	60,011.8	4529.9	1194.6	4531.6	1631.3	4532.1	4531.6	436.7	1.7	251.0
273	1521	68,109	470	59,508.5	4529.8	1010.5	4531.9	1565.6	4532	4531.9	555.1	2.1	263.1
272	1522	68,579	472	59,041.2	4529.1	1138.4	4530.7	1547.1	4531.3	4530.7	408.7	1.6	249.2

271	1523	69,051	515	58,572.1	4529.1	1320.5	4530.5	1765.8	4533.6	4530.5	445.3	1.4	320.4
270	1524	69,566	397	58,093.3	4528.3	1617.2	4529.7	1949.8	4530.5	4529.7	332.6	1.4	229.4
269	1525	69,963	308	57,688.2	4527.5	2000.4	4530.3	2227.2	4532.1	4530.3	226.8	2.8	81.3
268	1526	70,271	478	57,344.1	4527.8	1550.5	4530.0	2078.2	4530	4530.0	527.7	2.3	234.5
267	1527	70,749	440	56,848.5	4526.8	686.3	4528.1	1817.9	4528	4528.0	1131.6	1.2	959.0
266	1528	71,189	617	56,419.1	4526.0	526.6	4528.0	1651.3	4529	4528.0	1124.7	2.0	562.4
265	1529	71,806	580	55,808.3	4525.6	634.0	4527.9	1688.5	4527.3	4527.3	1054.5	1.7	620.3
264	1530	72,386	623	55,213.1	4525.3	340.7	4528.3	1110.1	4527.6	4527.6	769.4	2.3	337.5
263	1531	73,009	485	54,625.3	4525.1	367.7	4527.6	754	4527	4527.0	386.3	1.9	205.5
262	1532	73,494	547	54,138.9	4524.1	386.3	4526.9	596.9	4526.4	4526.4	210.6	2.3	90.4
261	1533	74,041	620	53,623.1	4524.5	287.3	4526.6	746.5	4526	4526.0	459.2	1.5	298.2
260	1534	74,661	506	53,121.8	4524.4	567.9	4526.0	1232.9	4526.3	4526.0	665.0	1.6	408.0
259	1535	75,167	503	52,621.2	4524.2	693.2	4525.3	1308.7	4525.8	4525.3	615.5	1.1	539.9
258	1536	75,670	627	52,055.7	4523.6	1025.9	4524.6	1607.4	4525.1	4524.6	581.5	1.1	553.8
257	1537	76,297	570	51,449.7	4522.8	1142.0	4524.7	1617.3	4524.2	4524.2	475.3	1.4	349.5
256	1538	76,867	533	50,898.6	4522.5	1601.7	4524.5	1925.5	4524.9	4524.5	323.8	2.0	163.5
255	1539	77,400	560	50,373.6	4522.1	1316.5	4523.7	1588.5	4523.9	4523.7	272.0	1.6	164.8
254	1540	77,960	558	49,814.2	4521.2	1054.0	4524.1	1287	4523.7	4523.7	233.0	2.5	93.2
253	1541	78,518	613	49,268.7	4521.4	1071.8	4523.5	1543.8	4523.2	4523.2	472.0	1.8	260.8
252	1542	79,132	579	48,663.0	4521.6	917.2	4522.6	1408.5	4523.4	4522.6	491.3	1.0	472.4
251	1543	79,711	559	48,068.2	4520.7	730.3	4522.6	1211.6	4523	4522.6	481.3	1.9	258.8
250	1544	80,270	604	47,462.7	4519.9	2149.7	4521.3	2965.1	4522.4	4521.3	815.4	1.4	582.4
249	1545	80,874	486	47,002.9	4518.7	2195.9	4522.0	2827.2	4522.3	4522.0	631.3	3.3	190.7
248	1546	81,360	535	46,536.7	4519.1	2337.8	4522.8	2645.6	4520.8	4520.8	307.8	1.7	182.1
247	1547	81,895	593	45,991.2	4518.9	2328.3	4522.7	2682.4	4520.8	4520.8	354.1	1.9	190.4
246	1548	82,488	506	45,400.1	4518.8	1971.0	4521.6	2382.6	4520.9	4520.9	411.6	2.1	192.3
245	1549	82,994	516	44,907.2	4518.7	1624.2	4520.8	1857.9	4520.3	4520.3	233.7	1.6	142.5
244	1550	83,510	522	44,384.7	4517.6	2783.6	4520.5	3181.7	4519.5	4519.5	398.1	1.9	208.4
243	1551	84,032	878	43,824.7	4518.3	3025.8	4519.9	3768	4519.7	4519.7	742.2	1.4	519.0
242	1552	84,910	529	43,133.8	4517.8	3152.4	4519.3	3760.7	4519.5	4519.3	608.3	1.5	411.0
241	1553	85,438	670	42,533.2	4517.2	2827.7	4518.9	3354.8	4519.1	4518.9	527.1	1.7	308.2
240	1554	86,108	517	42,020.5	4516.4	2317.9	4519.5	2617.8	4517.9	4517.9	299.9	1.5	204.0
239	1555	86,626	525	41,270.8	4516.6	1899.9	4518.0	2295.9	4518.1	4518.0	396.0	1.4	291.2
238	1556	87,151	528	40,616.4	4514.8	1511.8	4517.7	1847.4	4518	4517.7	335.6	2.9	116.5
237	1557	87,679	561	39,973.3	4515.3	1532.5	4517.0	1850.9	4518.3	4517.0	318.4	1.7	190.7
236	1558	88,240	441	39,416.8	4514.4	1305.9	4517.6	1670.8	4516.3	4516.3	364.9	1.9	194.1
235	1559	88,681	476	38,975.1	4513.2	1275.4	4516.2	1563.9	4517.2	4516.2	288.5	3.1	94.6
234	1560	89,157	502	38,498.8	4514.4	1727.0	4516.4	2086.2	4516.7	4516.4	359.2	2.0	177.8
233	1561	89,659	519	37,972.3	4512.9	1946.3	4516.2	2425.1	4516.1	4516.1	478.8	3.2	149.2
232	1562	90,178	536	37,455.1	4514.0	1770.4	4515.1	2253.7	4515.4	4515.1	483.3	1.1	431.5
231	1563	90,714	498	36,929.7	4512.3	1904.3	4515.6	2200.8	4515.4	4515.4	296.5	3.1	95.0
230	1564	91,212	513	36,433.8	4513.2	1998.0	4514.6	2244.4	4515.3	4514.6	246.4	1.4	173.5
229	1565	91,725	507	35,920.6	4511.8	1786.8	4514.0	2063.9	4514.6	4514.0	277.1	2.2	127.1
228	1566	92,233	524	35,413.0	4511.8	1603.7	4514.6	1920.9	4514.7	4514.6	317.2	2.8	111.7
227	1567	92,756	505	34,896.6	4512.1	1498.7	4514.4	1857.5	4514.3	4514.3	358.8	2.2	166.1
226	1568	93,261	506	34,391.2	4510.8	1378.6	4513.5	1690.7	4512.6	4512.6	312.1	1.8	172.4
225	1569	93,767	447	33,883.8	4511.0	1267.2	4513.2	1635.7	4512.8	4512.8	368.5	1.8	205.9
224	1570	94,214	420	33,452.0	4510.4	1241.4	4513.0	1667.9	4513.1	4513.0	426.5	2.6	164.0
223	1572	94,633	508	33,014.6	4509.4	1194.0	4512.5	1558.6	4512.3	4512.3	364.6	2.9	126.6
222	1573	95,142	550	32,490.1	4510.0	1383.8	4512.5	1719.4	4512.1	4512.1	335.6	2.1	162.9
221	1574	95,692	533	32,000.6	4509.2	1197.0	4511.4	1539.3	4511.8	4511.4	342.3	2.2	157.0
220	1575	96,225	569	31,474.9	4509.8	1161.5	4511.7	1637.6	4511.3	4511.3	476.1	1.5	319.5
219	1576	96,794	571	30,857.7	4508.9	1264.6	4511.8	1917	4512	4511.8	652.4	2.9	224.2
218	1577	97,365	603	30,228.1	4509.3	1213.6	4511.9	1865.7	4511.8	4511.8	652.1	2.5	260.8
217	1578	97,968	564	29,633.4	4507.7	1303.2	4510.7	1761.8	4510.9	4510.7	458.6	3.0	152.4
216	1579	98,531	501	29,060.3	4508.0	1680.9	4509.8	2033.7	4510.9	4509.8	352.8	1.8	191.7
215	1580	99,032	497	28,488.1	4507.3	1791.5	4510.3	2192.2	4510.8	4510.3	400.7	3.0	133.6
214	1581	99,528	537	27,990.7	4506.6	2044.1	4510.4	2291.4	4510.3	4510.3	247.3	3.7	67.6
213	1582	100,066	616	27,454.5	4507.0	2039.3	4508.9	2250.2	4509.2	4508.9	210.9	1.9	113.4
212	1583	100,681	1,045	26,862.9	4505.4	1663.9	4508.1	2180.3	4508.9	4508.1	516.4	2.7	189.2
211	1584	101,726	511	25,750.4	4505.8	1052.6	4509.1	1609.3	4509.6	4509.1	556.7	3.3	168.7
210	1585	102,238	520	25,219.5	4505.5	1046.4	4508.5	1379.1	4508.6	4508.5	332.7	3.1	109.1
209	1586	102,758	918	24,688.8	4504.6	1224.0	4508.2	1576.8	4507.8	4507.8	352.8	3.2	109.6
208	1587	103,676	653	23,644.8	4505.1	2081.4	4508.3	2668.5	4507.5	4507.5	587.1	2.4	244.6

207	1588	104,329	590	22,917.1	4504.4	2744.0	4507.2	3312.6	4506.6	4506.6	568.6	2.2	259.6
206	1589	104,919	942	22,337.2	4504.0	1932.4	4506.7	2479	4507.3	4506.7	546.6	2.7	204.7
205	1591	105,860	529	21,613.0	4503.4	1408.5	4506.8	1622.8	4505.9	4505.9	214.3	2.5	85.4
204	1592	106,390	521	21,101.3	4502.1	1093.3	4505.9	1281.5	4506.3	4505.9	188.2	3.8	49.3
203	1594	106,910	514	20,599.7	4501.5	947.0	4505.9	1053.6	4506.6	4505.9	106.6	4.4	24.0
202	1595	107,424	465	20,068.4	4501.3	610.4	4506.2	768.4	4506.8	4506.2	158.0	4.9	32.0
201	1596	107,888	467	19,605.2	4500.8	1283.1	4505.9	1420.7	4508.1	4505.9	137.6	5.1	27.1
200	1597	108,355	531	19,144.8	4500.7	934.0	4505.3	1099.9	4507.4	4505.3	165.9	4.6	36.1
199	1598	108,886	524	18,621.0	4500.3	600.6	4505.1	732.2	4505.3	4505.1	131.6	4.8	27.4
198	1599	109,409	558	18,101.6	4500.4	813.8	4504.6	973.9	4504.2	4504.2	160.1	3.8	41.6
197	1600	109,967	576	17,561.1	4499.1	724.9	4504.2	875.6	4503.9	4503.9	150.7	4.8	31.5
196	1601	110,543	532	17,010.0	4499.0	523.4	4503.9	668.1	4502.5	4502.5	144.7	3.5	41.8
195	1602	111,075	490	16,520.7	4498.9	880.7	4504.0	1127.7	4503.5	4503.5	247.0	4.6	53.8
194	1603	111,565	460	16,039.9	4498.3	1098.1	4503.3	1220.2	4503.8	4503.3	122.1	5.0	24.6
193	1604	112,025	538	15,565.3	4498.2	973.8	4501.2	1108.4	4504.6	4501.2	134.6	3.0	45.5
192	1605	112,563	498	15,028.6	4497.8	895.7	4501.3	1060.7	4501.9	4501.3	165.0	3.5	47.1
191	1606	113,061	498	14,527.1	4497.8	389.2	4501.6	595.1	4502.3	4501.6	205.9	3.8	54.2
190	1607	113,559	488	14,027.8	4496.6	376.0	4500.8	502.3	4501.9	4500.8	126.3	4.2	30.1
189	1608	114,046	484	13,539.3	4496.4	490.4	4502.8	646.6	4501.7	4501.7	156.2	5.3	29.6
188	1610	114,530	553	13,056.4	4496.9	567.7	4501.5	743	4502.4	4501.5	175.3	4.6	37.9
187	1611	115,083	537	12,502.0	4496.4	792.5	4500.5	989.3	4501.2	4500.5	196.8	4.1	47.5
186	1612	115,620	514	11,966.0	4495.5	953.3	4500.7	1130.9	4500.8	4500.7	177.6	5.2	34.4
185	1613	116,134	508	11,452.3	4495.7	496.0	4501.5	765	4501.3	4501.3	269.0	5.6	48.3
184	1614	116,642	487	10,943.3	4495.5	984.8	4500.8	1184.5	4500.5	4500.5	199.7	5.0	40.3
183	1615	117,129	510	10,454.9	4495.5	1123.2	4500.7	1298.2	4500.6	4500.6	175.0	5.1	34.6
182	1616	117,640	527	9,945.4	4495.5	1140.6	4501.0	1283.3	4501.3	4501.0	142.7	5.5	25.8
181	1617	118,166	504	9,418.8	4495.5	1157.0	4500.5	1274.8	4499.8	4499.8	117.8	4.4	27.1
180	1618	118,671	524	8,913.2	4495.0	1202.3	4501.0	1383.2	4501.2	4501.0	180.9	6.0	30.0
179	1619	119,195	514	8,388.2	4495.5	1105.2	4501.8	1316.6	4500.6	4500.6	211.4	5.1	41.8
178	1621	119,709	519	7,874.3	4495.2	1148.0	4499.7	1431.3	4499.5	4499.5	283.3	4.3	66.5
177	1622	120,228	542	7,356.5	4495.2	1333.1	4500.8	1658.9	4499.5	4499.5	325.8	4.3	75.4
176	1623	120,770	535	6,812.7	4494.5	1535.1	4499.1	1705.7	4499	4499.0	170.6	4.5	38.3
175	1624	121,305	511	6,274.0	4494.4	1895.7	4497.7	2019.4	4499	4497.7	123.7	3.3	37.4
174	1625	121,816	504	5,762.7	4493.6	1492.0	4497.9	1625.3	4498.4	4497.9	133.3	4.3	30.6
173	1626	122,321	461	5,257.4	4494.2	1046.6	4498.7	1194.4	4498.7	4498.7	147.8	4.5	32.8
172	1627	122,782	490	4,795.4	4493.9	711.6	4499.7	925.1	4497.6	4497.6	213.5	3.7	57.2
171	1628	123,272	385	4,304.9	4493.5	952.9	4498.0	1275.2	4497.9	4497.9	322.3	4.4	73.3
170	1629	123,657	265	3,920.7	4493.2	1073.3	4497.9	1399.7	4498	4497.9	326.4	4.8	68.7
169	1630	123,922	543	3,652.3	4493.4	1138.6	4497.5	1424.3	4497.3	4497.3	285.7	3.9	73.6
168	1631	124,465	522	3,101.5	4492.7	1309.6	4498.1	1554.1	4497.8	4497.8	244.5	5.1	48.2
167	1632	124,987	509	2,581.8	4492.6	1267.4	4497.7	1490.5	4496.1	4496.1	223.1	3.5	63.2
166	1633	125,496	435	2,075.6	4492.3	1131.7	4498.0	1289.5	4497.1	4497.1	157.8	4.8	32.9
165	1634	125,931	505	1,638.6	4492.6	857.0	4497.8	1005.8	4496.4	4496.4	148.8	3.8	39.3
164	1635	126,436	556	1,136.8	4491.9	1013.5	4496.5	1199.4	4496.6	4496.5	185.9	4.6	40.2
163	1636	126,992	574	575.2	4490.8	1044.6	4495.8	1178.7	4496	4495.8	134.1	5.0	26.8
162	1637	127,567	529	0.0	4491.7	1162.2	4495.2	1276.2	4495.4	4495.2	114.0	3.5	32.3

200 cfs		400 cfs		600 cfs		800 cfs		1000 cfs		1200 cfs		1400 cfs		1600 cfs		1800 cfs		2000 cfs		2200 cfs		2400 cfs	
W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)
4574.9	2.3	4575.4	1.8	4575.8	1.4	4576.0	1.2	4576.2	1.0	4576.4	0.8	4576.5	0.7	4576.7	0.5	4576.8	0.4	4577.0	0.2	4577.1	0.1	4577.2	0.0
4574.5	2.7	4575.0	2.1	4575.5	1.6	4575.7	1.4	4575.9	1.2	4576.1	1.0	4576.3	0.9	4576.4	0.7	4576.6	0.6	4576.7	0.4	4576.8	0.3	4576.9	0.2
4574.1	2.4	4574.6	1.9	4575.0	1.5	4575.2	1.3	4575.5	1.0	4575.7	0.8	4575.8	0.7	4576.0	0.5	4576.1	0.4	4576.2	0.3	4576.3	0.2	4576.4	0.1
4573.7	3.0	4574.2	2.5	4574.4	2.3	4574.7	2.0	4574.9	1.8	4575.1	1.6	4575.2	1.5	4575.4	1.3	4575.5	1.2	4575.6	1.1	4575.7	1.0	4575.8	0.9
4573.2	3.4	4573.8	2.8	4574.1	2.6	4574.3	2.3	4574.5	2.1	4574.7	1.9	4574.8	1.8	4575.0	1.6	4575.1	1.5	4575.2	1.4	4575.4	1.3	4575.5	1.1
4573.1	3.2	4573.7	2.6	4574.0	2.3	4574.2	2.1	4574.4	1.9	4574.6	1.7	4574.8	1.6	4574.9	1.4	4575.0	1.3	4575.2	1.2	4575.3	1.0	4575.4	0.9
4572.9	3.4	4573.5	2.8	4573.8	2.5	4574.0	2.3	4574.2	2.1	4574.4	1.9	4574.5	1.8	4574.6	1.7	4574.8	1.5	4574.9	1.4	4575.0	1.3	4575.1	1.2
4572.7	3.2	4573.2	2.7	4573.5	2.4	4573.7	2.2	4573.9	2.0	4574.1	1.8	4574.2	1.7	4574.3	1.6	4574.4	1.5	4574.6	1.3	4574.7	1.2	4574.8	1.1
4572.3	3.1	4572.8	2.6	4573.0	2.4	4573.3	2.1	4573.5	1.9	4573.6	1.8	4573.8	1.6	4573.9	1.5	4574.0	1.4	4574.1	1.3	4574.3	1.1	4574.4	1.0
4571.4	3.5	4572.0	2.9	4572.5	2.4	4572.7	2.2	4572.9	2.0	4573.1	1.8	4573.2	1.7	4573.4	1.5	4573.6	1.3	4573.7	1.2	4573.9	1.0	4574.0	0.9
4571.1	3.1	4571.6	2.6	4572.0	2.2	4572.3	1.9	4572.5	1.7	4572.7	1.5	4572.9	1.3	4573.1	1.1	4573.3	0.9	4573.4	0.8	4573.6	0.6	4573.7	0.5
4570.9	3.4	4571.3	3.0	4571.6	2.7	4571.8	2.5	4572.0	2.3	4572.3	2.1	4572.4	1.9	4572.6	1.7	4572.8	1.5	4572.9	1.4	4573.1	1.2	4573.2	1.1
4570.6	3.6	4571.0	3.3	4571.2	3.0	4571.5	2.7	4571.7	2.5	4571.9	2.3	4572.1	2.1	4572.3	1.9	4572.5	1.7	4572.6	1.6	4572.8	1.4	4572.9	1.3
4570.0	3.7	4570.4	3.3	4570.7	3.0	4571.0	2.7	4571.2	2.5	4571.5	2.3	4571.6	2.1	4571.8	1.9	4572.0	1.7	4572.1	1.6	4572.2	1.5	4572.4	1.3
4569.7	3.2	4570.1	2.8	4570.4	2.5	4570.7	2.2	4570.9	2.0	4571.1	1.8	4571.3	1.6	4571.4	1.5	4571.6	1.3	4571.7	1.2	4571.8	1.1	4571.9	1.0
4569.3	3.3	4569.8	2.9	4570.1	2.5	4570.4	2.3	4570.6	2.1	4570.7	1.9	4570.9	1.7	4571.1	1.5	4571.2	1.4	4571.4	1.3	4571.5	1.1	4571.6	1.0
4569.0	3.0	4569.4	2.6	4569.8	2.2	4570.1	1.9	4570.3	1.7	4570.5	1.5	4570.7	1.3	4570.8	1.2	4571.0	1.0	4571.1	0.9	4571.2	0.8	4571.4	0.6
4568.9	2.8	4569.2	2.4	4569.6	2.0	4569.9	1.7	4570.1	1.5	4570.3	1.3	4570.5	1.1	4570.6	1.0	4570.8	0.8	4570.9	0.7	4571.0	0.6	4571.2	0.4
4568.6	3.8	4569.0	3.3	4569.4	2.9	4569.7	2.6	4569.9	2.4	4570.1	2.2	4570.3	2.0	4570.4	1.9	4570.6	1.7	4570.7	1.6	4570.8	1.5	4571.0	1.4
4568.3	2.8	4568.8	2.3	4569.3	1.9	4569.6	1.5	4569.8	1.3	4570.0	1.1	4570.2	1.0	4570.3	0.8	4570.4	0.7	4570.6	0.5	4570.7	0.4	4570.8	0.3
4568.1	3.1	4568.6	2.6	4569.0	2.2	4569.4	1.8	4569.6	1.6	4569.7	1.5	4569.9	1.3	4570.0	1.2	4570.1	1.1	4570.2	1.0	4570.3	0.9	4570.4	0.8
4567.6	3.5	4568.2	3.0	4568.6	2.5	4568.9	2.3	4569.1	2.0	4569.2	1.9	4569.4	1.8	4569.5	1.6	4569.6	1.5	4569.7	1.4	4569.8	1.3	4569.9	1.2
4567.2	3.4	4567.7	2.9	4568.1	2.5	4568.4	2.3	4568.5	2.1	4568.7	1.9	4568.9	1.8	4569.0	1.6	4569.1	1.5	4569.2	1.4	4569.3	1.3	4569.4	1.2
4566.9	2.1	4567.3	1.7	4567.6	1.4	4567.9	1.1	4568.1	0.9	4568.2	0.8	4568.4	0.6	4568.5	0.5	4568.6	0.4	4568.7	0.3	4568.8	0.2	4568.8	0.2
4565.8	3.6	4566.4	3.0	4566.6	2.8	4566.8	2.6	4567.1	2.3	4567.2	2.2	4567.4	2.0	4567.5	1.9	4567.6	1.8	4567.7	1.7	4567.8	1.6	4567.9	1.5
4565.3	2.4	4565.9	1.8	4566.3	1.4	4566.5	1.2	4566.6	1.1	4566.7	1.0	4566.8	0.9	4566.9	0.8	4567.0	0.7	4567.0	0.7	4567.1	0.6	4567.2	0.5
4565.0	2.8	4565.6	2.2	4566.1	1.7	4566.2	1.6	4566.3	1.5	4566.4	1.4	4566.5	1.4	4566.5	1.3	4566.6	1.2	4566.6	1.2	4566.7	1.1	4566.7	1.1
4564.5	3.8	4565.1	3.1	4565.6	2.6	4565.7	2.5	4565.8	2.4	4565.9	2.3	4566.0	2.2	4566.1	2.1	4566.2	2.0	4566.2	2.0	4566.3	1.9	4566.3	1.9
4563.8	2.5	4564.3	2.1	4564.5	1.8	4564.7	1.6	4564.9	1.4	4565.0	1.3	4565.2	1.1	4565.3	1.0	4565.5	0.9	4565.5	0.8	4565.6	0.7	4565.7	0.6
4563.3	1.7	4563.8	1.2	4564.1	0.9	4564.4	0.6	4564.6	0.4	4564.7	0.3	4564.9	0.1	4565.0	0.0	4565.1	-0.1	4565.2	-0.2	4565.3	-0.3	4565.4	-0.4
4562.8	3.8	4563.3	3.2	4563.7	2.8	4564.1	2.4	4564.3	2.2	4564.5	2.0	4564.6	1.9	4564.7	1.8	4564.8	1.7	4564.9	1.6	4565.0	1.5	4565.1	1.4
4562.0	4.2	4562.7	3.6	4563.2	3.0	4563.7	2.5	4564.0	2.2	4564.2	2.0	4564.3	1.9	4564.5	1.7	4564.6	1.6	4564.7	1.5	4564.8	1.4	4564.9	1.3
4561.4	4.7	4562.2	3.9	4562.8	3.4	4563.0	3.1	4563.3	2.8	4563.5	2.6	4563.7	2.4	4563.9	2.2	4564.0	2.1	4564.1	2.0	4564.2	1.9	4564.3	1.8
4561.2	4.5	4562.0	3.6	4562.5	3.2	4562.7	2.9	4562.9	2.7	4563.1	2.5	4563.2	2.4	4563.4	2.2	4563.5	2.1	4563.7	2.0	4563.8	1.8	4563.9	1.7
4561.0	4.5	4561.8	3.7	4562.2	3.3	4562.4	3.1	4562.6	2.9	4562.8	2.7	4562.9	2.6	4563.1	2.4	4563.2	2.3	4563.3	2.2	4563.5	2.1	4563.6	1.9
4560.7	5.3	4561.4	4.5	4561.8	4.1	4562.1	3.8	4562.3	3.6	4562.5	3.4	4562.6	3.3	4562.7	3.2	4562.9	3.0	4563.0	2.9	4563.1	2.8	4563.2	2.7
4560.2	4.2	4560.8	3.6	4561.3	3.1	4561.7	2.7	4561.9	2.5	4562.0	2.4	4562.2	2.2	4562.3	2.1	4562.4	2.0	4562.6	1.8	4562.7	1.8	4562.8	1.6
4559.9	4.3	4560.5	3.7	4560.9	3.3	4561.4	2.8	4561.6	2.6	4561.7	2.5	4561.9	2.3	4562.1	2.1	4562.2	2.0	4562.3	1.9	4562.4	1.8	4562.5	1.8
4559.4	4.4	4560.1	3.7	4560.6	3.3	4560.9	2.9	4561.2	2.6	4561.3	2.5	4561.4	2.4	4561.6	2.2	4561.7	2.1	4561.8	2.0	4561.9	1.9	4562.0	1.8
4558.7	4.5	4559.6	3.6	4560.0	3.2	4560.3	2.9	4560.6	2.6	4560.9	2.3	4561.0	2.2	4561.1	2.1	4561.2	2.0	4561.3	1.9	4561.4	1.8	4561.5	1.7
4558.3	4.2	4559.2	3.3	4559.6	2.9	4559.9	2.6	4560.1	2.4	4560.3	2.2	4560.4	2.1	4560.6	1.9	4560.7	1.8	4560.8	1.7	4560.9	1.6	4561.1	1.4
4558.1	4.2	4558.9	3.4	4559.3	3.0	4559.5	2.8	4559.7	2.6	4559.9	2.4	4560.1	2.2	4560.2	2.1	4560.4	1.9	4560.5	1.8	4560.7	1.6	4560.8	1.5
4557.7	4.0	4558.3	3.4	4558.8	2.9	4559.0	2.7	4559.2	2.5	4559.4	2.3	4559.6	2.1	4559.8	1.9	4559.9	1.8	4560.0	1.7	4560.2	1.5	4560.3	1.4
4557.5	3.4	4558.0	2.9	4558.5	2.4	4558.8	2.1	4559.0	1.9	4559.1	1.8	4559.3	1.6	4559.4	1.5	4559.6	1.3	4559.7	1.2	4559.8	1.1	4559.9	1.0
4557.3	4.5	4557.9	3.9	4558.2	3.6	4558.5	3.3	4558.7	3.1	4558.9	2.9	4559.0	2.8	4559.1	2.7	4559.2	2.6	4559.4	2.4	4559.5	2.3	4559.6	2.2
4556.8	3.8	4557.4	3.2	4557.8	2.8	4558.2	2.4	4558.4	2.2	4558.5	2.1	4558.6	2.0	4558.7	1.9	4558.8	1.8	4558.9	1.7	4559.0	1.6	4559.1	1.5
4556.3	3.8	4557.0	3.2	4557.4	2.8	4557.8	2.3	4558.0	2.1	4558.1	2.0	4558.2	1.9	4558.3	1.8	4558.4	1.7	4558.5	1.6	4558.5	1.6	4558.6	1.5
4555.6	3.3	4556.3	2.6	4556.6	2.3	4557.0	1.9	4557.2	1.7	4557.3	1.6	4557.4	1.5	4557.6	1.4	4557.6	1.3	4557.6	1.3	4557.7	1.2	4557.8	1.1
4554.7	4.8	4555.5	4.1	4555.8	3.7	4556.1	3.4	4556.4	3.1	4556.6	2.9	4556.7	2.8	4556.8	2.7	4556.9	2.6	4557.0	2.5	4557.1	2.4	4557.2	2.3
4554.3	3.8	4555.0	3.0	4555.4	2.6	4555.6	2.4	4555.9	2.1	4556.1	1.9	4556.2	1.8	4556.3	1.7	4556.4	1.6	4556.5	1.5	4556.6	1.4	4556.7	1.3
4553.9	5.1	4554.5	4.5	4555.0	4.0	4555.3	3.7	4555.5	3.5	4555.6	3.4	4555.8	3.2	4555.9	3.1	4556.0	3.0	4556.1	2.9	4556.2	2.8	4556.3	2.7
4553.6	4.8	4554.2	4.2	4554.9	3.5	4555.2	3.3	4555.3	3.1	4555.5	2.9	4555.6	2.8	4555.7	2.7	4555.8	2.6	4555.9	2.5	4556.0	2.4	4556.1	2.3
4553.3	4.1	4554.0	3.4	4554.7	2.7	4555.0	2.4	4555.1	2.3	4555.2	2.2	4555.3	2.1	4555.4	2.0	4555.5	1.9	4555.6	1.8	4555.7	1.7	4555.8	1.6
4553.1	3.7	4553.7	3.1	4554.3	2.5	4554.6	2.2	4554.8	2.0	4554.9	1.9	4555.0	1.8	4555.1	1.7	4555.2	1.6	4555.3	1.5	4555.4	1.4	4555.5	1.3
4552.9	4.0	4553.5	3.4	4554.0	2.9	4554.4	2.5	4554.6	2.3	4554.7	2.2	4554.9	2.0	4555.0	1.9	4555.1	1.8	4555.2	1.7	4555.3	1.6	4555.4	1.5
4552.6	4.0	4553.3	3.3	4553.8	2.9	4554.1	2.5	4554.3	2.3	4554.5	2.1	4554.6	2.0	4554.8	1.8	4554.9	1.7	4555.0	1.6	4555.0	1.6	4555.1	1.5
4552.3	3.5	4553.1	2.8	4553.5	2.3	4553.7	2.1	4553.9	1.9	4554.1	1.7	4554.3	1.5	4554.4	1.4	4554.6	1.2	4554.6	1.2	4554.7	1.1	4554.8	1.0
4552.1	4.8	4552.9	4.0	4553.2	3.7	4553.4	3.5	4553.6	3.3	4553.8	3.1	4554.0	2.9	4554.2	2.7	4554.4	2.5	4554.4	2.5	4554.4	2.5	4554.5	2.4
4551.9	3.6	4552.7	2.8	4553.0	2.5	4553.2	2.3	4553.4	2.1	4553.6	1.9	4553.9	1.6	4554.1	1.4	4554.3	1.3	4554.2	1.3	4554.3	1.3	4554.4	1.1
4551.6	2.5	4552.3	1.8	4552.6	1.5	4552.9	1.2	4553.1	1.0	4553.4	0.7	4553.6	0.5	4553.9	0.3	4554.1	0.0	4554.0	0.1	4553.9	0.2	4554.0	0.1
4551.4	2.6	4551.9	2.1	4552.3	1.7	4552.7	1.3	4553.0	1.0	4553.3	0.8	4553.5	0.5	4553.7	0.3	4553.9	0.1	4554.1	-0.1	4554.0	0.0	4554.1	-0.1
4551.3	2.8	4551.8	2.2	4552.2	1.9	4552.5	1.5	4552.8	1.2	4553.0	1.0	4553.3	0.7	4553.5	0.5	4553.7	0.3	4553.8	0.2	4553.7	0.3	4554.1	-0.1
4551.1	2.9	4551.5	2.5	4551.9	2.1	4552.2	1.8	4552.5	1.6	4552.7	1.3	4552.9	1.1	4553.1	0.9	4553.3	0.7	4553.4	0.6	4552.2	1.8	4553.7	0.3
4550.8	2.0	4551.2	1.6	4551.5	1.3	4551.8	1.0	4552.0	0.8	4552.3	0.6	4552.4	0.4	4552.6	0.2	4552.8	0.1	4552.7	0.1	4552.9	-0.1	4552.1	0.7
4550.4	2.2	4550.8	1.8	4551.1	1.5	4551.4	1.2	4551.6	1.0	4551.8	0.8	4551.9	0.7	4552.1	0.5	4552.2	0.4	4552.3	0.3	4552.4	0.2	4552.7	-0.1
4550.0	2.0	4550.5	1.6	4550.7	1.3	4551.0	1.0	4551.2	0.8	4551.4	0.6	4551.4	0.6	4551.6	0.4	4551.7	0.3	4551.8	0.2	4551.9	0.1	4551.1	0.9
4549.7	1.7	4550.1	1.3	4550.4	1.0	4550.7	0.8	4550.9	0.5	4551.1	0.3	4551.0	0.4	4551.1	0.3	4551.2	0.2	4551.0	0.4	4551.2	0.3	4551.6	-0.2
4549.3	1.8	4549.8	1.3	4550.1	1.0	4550.4	0.7	4550.7	0.4	4551.0	0.2	4551.1	0.0	4551.2	-0.1	4551.4	-0.3	4551.2	-0.1	4551.4	-0.3	4551.6	-0.4
4549.1	2.0	4549.6	1.6	4549.9	1.2	4550.3	0.8	4550.6	0.6	4550.8	0.3	4551.0	0.1	4551.2	-0.1	4551.4	-0.3	4551.2	-0.1	4551.4	-0.3	4551.6	-0.4
4548.9	2.1	4549.4	1.6	4549.8	1.3	4550.1	0.9	4550.4	0.6	4550.6	0.4	4550.9	0.1	4551.1	-0.1	4551.2	-0.2	4551.0	0.0	4551.2	-0.1	4551.3	-0.3
4548.7	2.7	4549.2	2.2	4549.6	1.8	4549.9	1.5	4550.2	1.2	4550.5	0.9	4550.7	0.7	4550.9	0.5	4551.0	0.4	4550.5	0.9	4550.7	0.7	4550.8	0.6
4548.5	2.0	4548.9	1.6	4549.3	1.2	4549.6	0.9	4549.9	0.6	4550.1	0.4	4550.3	0.2	4550.5	0.0	4550.5	0.0	4550.7	-0.2	4550.9	-0.4	4551.1	-0.6
4548.2	2.8	4548.5	2.4	4548.9	2.0	4549.1	1.8	4549.4	1.5	4549.6	1.3	4549.8	1.1	4549.9	1.0	4550.1	0.8	4550.3	0.6	4550.4	0.5	4550.6	0.3
4547.6	3.4	4548.0	3.0	4548.4	2.6	4548.7	2.3	4548.9	2.1	4549.2	1.8	4549.2	1.8	4549.3	1.7	4549.5	1.5	4549.7	1.3	4549.9	1.1	4550.0	1.0
4547.3	2.8	4547.8	2.3	4548.1	2.0	4548.4	1.7	4548.6	1.5	4548.8	1.3	4548.6	1.5	4548.5	1.6	4548.6	1.5	4549.2	0.9	4548.3	1.8	4548.5	1.6
4547.2	1.5	4547.6	1.1	4547.9	0.8	4548.1	0.6	4548.4	0.3	4548.6	0.1	4548.7	0.0	4548.7	0.0	4548.8	-0.1	4548.5	0.3	4548.8	-0.1	4548.9	-0.2
4547.0	1.5	4547.4	1.1	4547.7	0.8	4547.9	0.6	4548.1	0.4	4548.3	0.2	4548.5	0.0	4548.7	-0.2	4548.5	0.1	4548.6	-0.1	4548.7	-0.2	4548.8	-0.3
4546.4	2.2	4546.6	2.0	4546.8	1.8	4547.0	1.6	4547.1	1.5	4547.3	1.3	4547.4	1.2	4547.6	1.1	4547.7	0.9	4547.8	0.8	4547.9	0.7	4548.0	0.6
4545.7	1.7	4546.0	1.4	4546.3	1.1	4546.5	0.9	4546.7	0.7	4546.8	0.6	4547.0	0.4	4547.1	0.3	4547.3	0.1	4547.4	0.0	4547.5	-0.1	4547.6	-0.2
4545.1	2.5	4545.4	2.2	4545.7	1.9	4545.9	1.7	4546.0	1.6	4546.1	1.5	4546.2	1.4	4546.3	1.2	4546.4	1.2	4546.5	1.0	4546.6	1.0	4546.7	0.9
4544.3	2.8	4544.7	2.4	4545.0	2.1	4545.1	2.0	4545.3	1.8	4545.4	1.7	4545.6	1.5	4545.6	1.5	4545.8	1.3	4545.8	1.3	4545.9	1.2	4546.0	1.1
4544.0	1.3	4544.3	1.0	4544.6	0.7	4544.8	0.5	4545.0	0.3	4545.2	0.1	4545.3	0.0	4545.2	0.1	4545.6	-0.3	4545.4	-0.1	4545.5	-0.2	4545.6	-0.3
4542.5	1.7	4543.2	1.0	4543.5	0.7	4543.7	0.5	4543.9	0.3	4544.0	0.2	4544.1	0.1	4544.2	0.0	4544.2	0.0	4544.3	-0.1	4544.4	-0.2	4544.4	-0.2
4541.8	2.8	4542.6	2.0	4542.8	1.8	4543.1	1.5	4543.2	1.4	4543.4	1.3	4543.4	1.2	4543.5	1.1	4543.6	1.0	4543.6	1.0	4543.7	0.9	4543.8	0.8
4539.6	3.5	4540.4	2.8	4540.7	2.4	4540.9	2.2	4541.0	2.1	4541.1	2.0	4541.2	1.9	4541.3	1.8	4541.4	1.7	4541.5	1.6	4541.6	1.5	4541.6	1.5
4539.1	3.0	4539.7	2.4	4540.1	2.0	4540.3	1.8	4540.4	1.7	4540.5	1.6	4540.6	1.6	4540.6	1.5	4540.6	1.5	4540.7	1.5	4540.7	1.4	4540.8	1.3
4537.0	1.9	4537.4	1.5	4537.7	1.2	4537.9	1.0	4538.1	0.8	4538.3	0.6	4538.5	0.4	4538.7	0.3	4538.9	0.0	4539.1	-0.2	4539.1	-0.2	4539.2	-0.3
4535.6	2.1	4536.2	1.5	4536.6	1.1	4536.9	0.8	4537.3	0.4	4537.6	0.1	4537.8	-0.1	4538.1	-0.4	4538.4	-0.7	4538.7	-0.9	4538.5	-0.8	4538.7	-1.0
4534.6	3.3	4535.2	2.7	4535.6	2.3	4536.0	1.9	4536.4	1.5	4536.7	1.2	4537.0	0.9	4537.3	0.6	4537.5	0.4	4537.8	0.1	4537.9	0.0	4538.2	-0.3
4533.7	2.6	4534.3	2.0	4534.8	1.5	4535.1	1.2	4535.4	0.9	4535.6	0.7	4535.8	0.5	4536.0	0.3	4536.2	0.1	4535.6	0.7	4535.9	0.4	4535.9	0.4
4532.5	2.3	4533.0	1.8	4533.6	1.2	4533.8	1.0	4534.1	0.7	4534.2	0.6	4534.4	0.4	4534.6	0.2	4534.7	0.1	4534.9	-0.1	4534.8	0.0	4534.9	-0.1
4531.3	2.1	4531.8	1.6	4532.0	1.4	4532.3	1.1	4532.4	1.0	4532.6	0.8	4532.8	0.6	4532.9	0.5	4533.0	0.4	4533.2	0.3	4533.3	0.1	4533.4	0.0
4529.0	2.7	4529.5	2.2	4530.0	1.7	4530.3	1.4	4530.6	1.1	4530.7	1.0	4530.9	0.8	4531.0	0.7	4531.1	0.6	4531.2	0.5	4531.3	0.4	4531.3	0.4
4527.3	2.5	4527.8	2.0	4528.1	1.7	4528.3	1.5	4528.3	1.5	4528.4	1.4	4528.6	1.3	4528.7	1.2	4528.7	1.1	4528.8	1.0	4528.9	0.9	4528.9	0.9
4525.5	2.3	4525.8	2.0	4526.1	1.7	4526.2	1.6	4526.5	1.3	4526.6	1.2	4526.7	1.1	4526.8	1.0	4526.9	0.9	4527.0	0.8	4527.1	0.7	4527.1	0.7
4524.3	1.2	4524.9	0.6	4525.1	0.4	4525.3	0.2	4525.6	-0.1	4525.7	-0.2	4525.8	-0.3	4525.9	-0.4	4525.9	-0.4	4526.0	-0.5	4526.1	-0.6	4526.2	-0.7
4523.3	2.8	4524.0	2.1	4524.2	1.9	4524.3	1.8	4524.4	1.7	4524.5	1.6	4524.6	1.5	4524.7	1.4	4524.8	1.3	4524.9	1.3	4524.9	1.2	4525.0	1.1

4521.6	3.1	4521.9	2.8	4522.0	2.7	4522.4	2.3	4522.5	2.2	4522.6	2.1	4522.7	2.1	4522.7	2.0	4522.8	1.9	4522.8	1.9	4522.9	1.8	4522.9	1.8
4517.0	1.5	4517.4	1.1	4517.7	0.8	4517.9	0.6	4518.1	0.4	4518.2	0.3	4518.4	0.1	4518.5	0.0	4518.6	-0.1	4518.8	-0.3	4518.9	-0.4	4519.0	-0.5
4515.6	4.1	4516.0	3.6	4516.6	3.1	4516.8	2.8	4517.0	2.6	4517.2	2.4	4517.0	2.6	4517.2	2.4	4517.3	2.3	4517.4	2.2	4517.5	2.1	4517.5	2.1
4514.4	1.8	4514.9	1.3	4515.4	0.8	4515.9	0.3	4516.1	0.1	4516.0	0.2	4516.3	-0.1	4516.4	-0.2	4516.5	-0.3	4516.7	-0.5	4516.8	-0.6	4516.9	-0.7
4512.4	3.2	4513.0	2.6	4513.5	2.1	4514.0	1.6	4514.2	1.4	4514.5	1.1	4514.7	0.9	4514.9	0.7	4515.0	0.6	4515.2	0.4	4515.3	0.3	4515.4	0.2
4510.7	3.4	4511.4	2.7	4512.0	2.1	4512.3	1.8	4512.7	1.5	4513.0	1.1	4513.3	0.8	4513.6	0.5	4513.9	0.2	4514.1	0.0	4514.3	-0.2	4514.4	-0.3
4509.5	5.0	4510.1	4.4	4510.6	3.9	4511.0	3.5	4511.4	3.1	4511.7	2.8	4512.0	2.5	4512.3	2.2	4512.6	1.9	4512.8	1.7	4512.8	1.7	4512.7	1.8
4508.6	2.6	4509.1	2.1	4509.5	1.7	4509.8	1.4	4510.1	1.1	4510.4	0.8	4510.6	0.6	4510.8	0.4	4511.0	0.2	4511.2	0.0	4511.4	-0.2	4511.5	-0.3
4507.8	3.0	4508.2	2.6	4508.6	2.3	4508.8	2.0	4509.1	1.7	4509.3	1.5	4509.5	1.3	4509.8	1.0	4510.0	0.8	4510.2	0.6	4510.4	0.4	4510.6	0.2
4505.6	4.1	4506.3	3.4	4506.7	3.0	4507.1	2.6	4507.4	2.3	4507.7	2.0	4508.0	1.7	4508.2	1.5	4508.5	1.2	4508.7	1.0	4508.9	0.8	4509.1	0.6
4504.2	3.0	4504.7	2.5	4505.1	2.1	4505.4	1.8	4505.7	1.5	4505.9	1.3	4506.2	1.0	4506.4	0.8	4506.7	0.5	4506.9	0.3	4507.1	0.1	4507.1	0.1
4502.6	2.5	4503.0	2.1	4503.3	1.8	4503.6	1.6	4503.8	1.3	4504.1	1.0	4504.3	0.8	4504.5	0.7	4504.6	0.5	4504.8	0.3	4505.0	0.1	4505.8	-0.7
4500.4	2.7	4500.9	2.2	4501.3	1.8	4501.6	1.5	4501.8	1.3	4502.0	1.1	4502.3	0.8	4502.5	0.6	4502.7	0.4	4502.9	0.2	4503.1	0.0	4501.6	1.5
4498.5	8.7	4498.9	8.3	4499.3	7.9	4499.5	7.7	4499.6	7.6	4499.8	7.4	4500.0	7.2	4500.1	7.1	4500.1	7.1	4500.2	7.0	4500.2	7.0	4500.3	6.9
4497.4	3.9	4497.7	3.6	4497.9	3.4	4498.0	3.3	4498.2	3.1	4498.4	2.9	4498.5	2.8	4498.6	2.7	4498.7	2.6	4498.8	2.5	4498.9	2.4	4499.0	2.3
4495.9	3.3	4496.3	2.9	4496.6	2.6	4496.9	2.3	4497.2	2.0	4497.4	1.8	4497.6	1.6	4497.7	1.5	4497.8	1.4	4497.9	1.3	4498.0	1.2	4498.1	1.1
4494.2	4.2	4494.9	3.5	4495.2	3.2	4495.4	3.0	4495.8	2.6	4496.0	2.4	4496.2	2.2	4496.3	2.1	4496.4	2.0	4496.5	1.9	4496.6	1.8	4496.6	1.8
4494.0	3.1	4494.3	2.8	4494.5	2.6	4494.6	2.5	4494.7	2.4	4494.8	2.3	4495.0	2.2	4495.1	2.0	4495.2	2.0	4495.2	1.9	4495.3	1.8	4495.4	1.7
4492.7	3.1	4493.0	2.8	4493.1	2.7	4493.3	2.5	4493.6	2.2	4493.8	2.0	4494.0	1.9	4494.1	1.7	4494.2	1.6	4494.4	1.4	4494.5	1.4	4494.5	1.3
4490.6	2.9	4491.3	2.2	4491.8	1.7	4492.1	1.4	4492.4	1.1	4492.7	0.8	4492.9	0.6	4493.1	0.4	4493.3	0.2	4493.5	0.0	4493.6	-0.1	4493.7	-0.1
4489.0	3.6	4489.8	2.9	4490.6	2.0	4491.0	1.6	4491.1	1.5	4491.2	1.4	4491.3	1.3	4491.4	1.2	4491.4	1.2	4491.4	1.2	4491.4	1.2	4491.5	1.2
4487.7	2.5	4488.4	1.7	4489.0	1.1	4489.4	0.8	4489.5	0.6	4489.7	0.4	4489.8	0.3	4490.0	0.1	4490.1	0.0	4490.3	-0.2	4490.4	-0.3	4490.5	-0.4
4486.4	4.1	4486.9	3.6	4487.3	3.2	4487.6	2.9	4487.8	2.7	4488.1	2.4	4488.3	2.2	4488.5	2.0	4488.7	1.8	4489.0	1.6	4489.2	1.3	4489.4	1.1

2600 cfs		2800 cfs		3000 cfs		3200 cfs		3400 cfs		3600 cfs		3800 cfs		4000 cfs		4200 cfs		4400 cfs		4600 cfs		4800 cfs		5000 cfs		Overtopping
W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	Flow (cfs)
4577.3	-0.1	4577.4	-0.2	4577.5	-0.3	4577.6	-0.4	4577.7	-0.5	4577.8	-0.6	4577.9	-0.7	4578.0	-0.8	4578.1	-0.9	4578.2	-1.0	4578.2	-1.0	4578.3	-1.1	4578.4	-1.2	3,400
4577.0	0.1	4577.2	0.0	4577.3	-0.2	4577.4	-0.3	4577.5	-0.3	4577.5	-0.4	4577.6	-0.5	4577.7	-0.6	4577.8	-0.7	4577.9	-0.8	4578.0	-0.8	4578.0	-0.9	4578.1	-1.0	3,800
4576.5	0.0	4576.6	-0.1	4576.7	-0.2	4576.8	-0.3	4576.9	-0.4	4577.0	-0.5	4577.1	-0.6	4577.2	-0.6	4577.2	-0.7	4577.3	-0.8	4577.4	-0.9	4577.5	-1.0	4577.5	-1.0	3,800
4575.9	0.8	4576.0	0.7	4576.1	0.6	4576.2	0.5	4576.3	0.4	4576.4	0.3	4576.5	0.2	4576.6	0.1	4576.7	0.0	4576.7	0.0	4576.8	-0.1	4576.9	-0.2	4576.9	-0.2	5,000
4575.6	1.0	4575.7	0.9	4575.8	0.8	4575.9	0.7	4576.0	0.6	4576.1	0.5	4576.2	0.4	4576.3	0.3	4576.4	0.3	4576.4	0.3	4576.5	0.1	4576.5	0.1	4576.7	-0.1	5,000
4575.5	0.8	4575.6	0.7	4575.7	0.6	4575.8	0.5	4575.9	0.4	4576.0	0.3	4576.1	0.2	4576.2	0.1	4576.3	0.0	4576.3	0.0	4576.4	-0.1	4576.5	-0.2	4576.6	-0.3	5,000
4575.2	1.1	4575.3	1.0	4575.5	0.9	4575.5	0.8	4575.6	0.7	4575.7	0.6	4575.8	0.5	4575.9	0.4	4576.0	0.3	4576.0	0.3	4576.1	0.2	4576.2	0.1	4576.2	0.1	5,000
4574.9	1.0	4575.0	0.9	4575.1	0.8	4575.1	0.8	4575.2	0.7	4575.3	0.6	4575.4	0.5	4575.5	0.4	4575.6	0.3	4575.5	0.4	4575.7	0.2	4575.8	0.1	4575.8	0.1	5,000
4574.5	0.9	4574.6	0.8	4574.7	0.7	4574.6	0.8	4574.7	0.7	4574.8	0.6	4574.9	0.5	4575.0	0.4	4575.1	0.3	4574.8	0.6	4575.1	0.3	4575.2	0.2	4575.3	0.1	5,000
4574.1	0.8	4574.3	0.6	4574.4	0.5	4574.1	0.8	4574.2	0.7	4574.4	0.5	4574.5	0.4	4574.6	0.3	4574.7	0.2	4575.0	-0.1	4574.4	0.5	4574.5	0.4	4574.6	0.3	5,000
4573.9	0.3	4574.0	0.2	4574.1	0.1	4574.2	0.0	4574.3	-0.1	4574.5	-0.3	4574.6	-0.4	4574.7	-0.5	4574.8	-0.6	4574.9	-0.7	4574.6	-0.4	4574.7	-0.5	4574.8	-0.6	4,200
4573.3	1.0	4573.5	0.9	4573.6	0.7	4573.7	0.6	4573.8	0.5	4573.9	0.4	4574.0	0.3	4574.1	0.2	4574.2	0.1	4574.3	0.0	4574.6	-0.3	4574.7	-0.3	4574.8	-0.5	5,000
4573.0	1.2	4573.1	1.1	4573.3	0.9	4573.4	0.8	4573.5	0.7	4573.6	0.6	4573.7	0.5	4573.8	0.4	4573.9	0.3	4574.0	0.2	4574.0	0.2	4574.1	0.1	4574.2	0.0	5,000
4572.5	1.2	4572.6	1.1	4572.7	1.0	4572.8	0.9	4572.9	0.8	4573.0	0.7	4573.1	0.6	4573.1	0.6	4573.2	0.5	4573.3	0.4	4573.3	0.4	4573.4	0.3	4573.5	0.2	5,000
4572.1	0.8	4572.2	0.7	4572.3	0.6	4572.3	0.6	4572.4	0.5	4572.5	0.4	4572.6	0.3	4572.6	0.3	4572.6	0.3	4572.8	0.1	4572.8	0.1	4572.8	0.1	4572.9	0.0	5,000
4571.7	0.9	4571.8	0.8	4571.9	0.7	4571.9	0.7	4572.0	0.6	4572.1	0.5	4572.2	0.4	4572.1	0.5	4572.2	0.5	4572.4	0.2	4572.2	0.4	4572.2	0.4	4572.3	0.3	5,000
4571.5	0.5	4571.6	0.4	4571.7	0.3	4571.7	0.4	4571.8	0.3	4571.9	0.1	4571.9	0.1	4571.6	0.4	4571.7	0.3	4572.0	0.0	4571.5	0.5	4571.5	0.5	4571.6	0.4	5,000
4571.3	0.3	4571.4	0.2	4571.5	0.1	4571.4	0.2	4571.5	0.1	4571.6	0.0	4571.7	-0.1	4571.8	-0.1	4571.8	-0.2	4571.7	-0.1	4571.7	-0.1	4571.8	-0.1	4571.8	-0.2	5,000
4571.1	1.2	4571.2	1.1	4571.3	1.0	4571.1	1.2	4571.2	1.2	4571.2	1.1	4571.3	1.0	4571.4	0.9	4571.5	0.8	4571.1	1.2	4571.1	1.2	4571.2	1.1	4571.2	1.1	5,000
4570.9	0.2	4571.0	0.1	4571.1	0.0	4571.1	0.0	4571.2	-0.1	4571.3	-0.2	4571.4	-0.3	4571.5	-0.4	4571.6	-0.5	4571.3	-0.2	4571.3	-0.2	4571.4	-0.3	4571.4	-0.3	5,000
4570.5	0.7	4570.6	0.6	4570.7	0.5	4570.8	0.4	4570.9	0.3	4570.9	0.3	4571.0	0.2	4571.1	0.1	4571.2	0.1	4571.2	0.0	4571.2	0.0	4571.3	-0.1	4571.4	-0.2	5,000
4570.0	1.1	4570.0	1.1	4570.1	1.0	4570.2	0.9	4570.3	0.8	4570.4	0.8	4570.4	0.7	4570.5	0.6	4570.6	0.5	4570.7	0.5	4570.7	0.4	4570.8	0.3	4570.8	0.3	5,000
4569.5	1.1	4569.5	1.2	4569.5	1.1	4569.6	1.0	4569.7	0.9	4569.7	0.9	4569.8	0.8	4569.9	0.7	4569.9	0.7	4570.0	0.6	4570.1	0.5	4570.1	0.5	4570.2	0.4	5,000
4568.9	0.1	4569.0	0.0	4569.1	-0.1	4569.1	-0.1	4569.2	-0.2	4569.3	-0.3	4569.4	-0.4	4569.4	-0.4	4569.5	-0.5	4569.6	-0.6	4569.6	-0.6	4569.7	-0.7	4569.8	-0.8	4,400
4568.0	1.4	4568.1	1.3	4568.2	1.2	4568.2	1.2	4568.3	1.1	4568.4	1.0	4568.5	0.9	4568.5	0.9	4568.6	0.8	4568.5	0.9	4568.5	0.9	4568.6	0.8	4568.6	0.8	5,000
4567.2	0.5	4567.3	0.4	4567.4	0.3	4567.4	0.3	4567.5	0.2	4567.5	0.2	4567.6	0.1	4567.6	0.1	4567.7	0.1	4567.7	0.0	4567.8	-0.1	4567.8	-0.1	4567.8	-0.1	5,000
4566.8	1.0	4566.8	1.0	4566.9	0.9	4566.9	0.9	4567.0	0.8	4567.0	0.8	4567.1	0.7	4567.1	0.7	4567.2	0.6	4567.2	0.6	4567.3	0.5	4567.3	0.5	4567.4	0.4	5,000
4566.4	1.8	4566.4	1.8	4566.5	1.8	4566.5	1.7	4566.6	1.6	4566.6	1.6	4566.7	1.5	4566.7	1.5	4566.8	1.4	4566.8	1.4	4566.9	1.3	4566.9	1.3	4567.0	1.2	5,000
4565.8	0.5	4565.9	0.4	4566.0	0.4	4566.0	0.3	4566.1	0.2	4566.2	0.1	4566.3	0.1	4566.3	0.0	4566.4	-0.1	4566.5	-0.2	4566.5	-0.2	4566.6	-0.3	4566.7	-0.4	5,000
4565.5	-0.5	4565.6	-0.6	4565.6	-0.6	4565.7	-0.7	4565.8	-0.8	4565.9	-0.9	4566.0	-1.0	4566.0	-1.0	4566.1	-1.1	4566.2	-1.2	4566.3	-1.3	4566.3	-1.3	4566.4	-1.4	2,800
4565.2	1.3	4565.3	1.2	4565.4	1.1	4565.5	1.0	4565.5	1.0	4565.6	0.9	4565.7	0.8	4565.8	0.7	4565.9	0.6	4565.9	0.6	4566.0	0.5	4566.1	0.4	4566.1	0.4	5,000
4565.0	1.2	4565.1	1.1	4565.1	1.1	4565.2	1.0	4565.3	0.9	4565.4	0.8	4565.5	0.8	4565.5	0.7	4565.6	0.6	4565.7	0.5	4565.8	0.4	4565.8	0.4	4565.9	0.3	5,000
4564.4	1.8	4564.4	1.7	4564.5	1.6	4564.6	1.5	4564.7	1.4	4564.8	1.3	4564.9	1.2	4565.0	1.1	4565.1	1.0	4565.1	1.0	4565.2	0.9	4565.3	0.8	4565.4	0.7	5,000
4564.0	1.6	4564.1	1.5	4564.2	1.4	4564.3	1.3	4564.4	1.2	4564.5	1.1	4564.6	1.0	4564.7	0.9	4564.8	0.8	4564.9	0.7	4565.0	0.6	4565.1	0.5	4565.2	0.4	5,000
4563.7	1.8	4563.8	1.7	4563.9	1.6	4564.0	1.5	4564.1	1.4	4564.2	1.3	4564.3	1.2	4564.4	1.1	4564.4	1.1	4564.5	1.0	4564.6	0.9	4564.7	0.8	4564.8	0.7	5,000
4563.3	2.6	4563.4	2.5	4563.5	2.4	4563.6	2.3	4563.7	2.2	4563.8	2.1	4563.9	2.0	4563.9	2.0	4564.0	1.9	4564.1	1.8	4564.2	1.7	4564.3	1.6	4564.3	1.6	5,000
4562.8	1.6	4562.9	1.5	4563.0	1.4	4563.1	1.3	4563.2	1.2	4563.3	1.1	4563.4	1.0	4563.4	1.0	4563.5	0.9	4563.6	0.8	4563.6	0.8	4563.7	0.7	4563.8	0.6	5,000
4562.5	1.7	4562.6	1.6	4562.7	1.5	4562.8	1.4	4562.9	1.3	4563.0	1.2	4563.1	1.1	4563.1	1.1	4563.2	1.0	4563.3	0.9	4563.3	0.9	4563.4	0.8	4563.5	0.7	5,000
4562.1	1.7	4562.2	1.6	4562.3	1.6	4562.3	1.5	4562.4	1.4	4562.5	1.3	4562.6	1.2	4562.7	1.1	4562.8	1.1	4562.8	1.0	4562.9	0.9	4562.9	0.9	4563.0	0.8	5,000
4561.6	1.6	4561.7	1.5	4561.8	1.4	4561.9	1.3	4562.0	1.2	4562.1	1.1	4562.2	1.0	4562.3	0.9	4562.3	0.9	4562.4	0.8	4562.4	0.8	4562.5	0.7	4562.6	0.6	5,000
4561.2	1.3	4561.3	1.2	4561.4	1.1	4561.5	1.0	4561.6	0.9	4561.8	0.8	4561.9	0.6	4562.0	0.5	4562.1	0.4	4562.2	0.3	4562.1	0.4	4562.2	0.3	4562.3	0.2	5,000
4561.0	1.4	4561.1	1.2	4561.2	1.1	4561.3	1.0	4561.4	0.9	4561.6	0.7	4561.7	0.6	4561.8	0.5	4561.9	0.4	4562.0	0.3	4561.9	0.4	4562.0	0.3	4562.1	0.2	5,000
4560.4	1.3	4560.5	1.2	4560.7	1.1	4560.8	0.9	4560.9	0.8	4561.0	0.7	4561.1	0.6	4561.2	0.6	4561.2	0.5	4561.3	0.4	4561.1	0.6	4561.2	0.6	4561.2	0.5	5,000
4560.1	0.8	4560.2	0.7	4560.3	0.6	4560.4	0.5	4560.5	0.4	4560.6	0.3	4560.7	0.3	4560.7	0.2	4560.8	0.1	4560.9	0.0	4561.1	-0.2	4561.2	-0.3	4561.3	-0.4	5,000
4559.7	2.2	4559.8	2.1	4559.8	2.0	4559.9	1.9	4560.0	1.8	4560.1	1.7	4560.1	1.7	4560.2	1.6	4560.3	1.5	4560.4	1.4	4560.4	1.4	4560.5	1.3	4560.5	1.3	5,000
4559.2	1.4	4559.2	1.4	4559.3	1.3	4559.4	1.2	4559.4	1.2	4559.5	1.1	4559.6	1.0	4559.6	1.0	4559.7	0.9	4559.7	0.9	4559.8	0.8	4559.9	0.8	4559.9	0.7	5,000
4558.7	1.4	4558.8	1.4	4558.8	1.3	4558.9	1.2	4558.9	1.2	4559.0	1.1	4559.0	1.1	4559.1	1.0	4559.1	1.0	4559.2	0.9	4559.2	0.9	4559.3	0.8	4559.3	0.8	5,000
4557.9	1.0	4557.9	1.0	4558.0	0.9	4558.1	0.8	4558.1	0.8	4558.2	0.7	4558.3	0.6	4558.3	0.6	4558.4	0.5	4558.4	0.5	4558.5	0.4	4558.5	0.4	4558.6	0.3	5,000
4557.3	2.2	4557.3	2.2	4557.4	2.1	4557.5	2.0	4557.5	2.0	4557.6	1.9	4557.7	1.8	4557.7	1.8	4557.8	1.7	4557.9	1.6	4557.9	1.6	4558.0	1.5	4558.0	1.5	5,000
4556.8	1.2	4556.9	1.1	4556.9	1.1	4557.0	1.0	4557.1	0.9	4557.1	0.9	4557.2	0.8	4557.3	0.7	4557.3	0.7	4557.4	0.6	4557.5	0.5	4557.5	0.5	4557.6	0.4	5,000
4556.3	2.7	4556.4	2.6	4556.5	2.5	4556.6	2.4	4556.6	2.4	4556.7	2.3	4556.8	2.2	4556.9	2.1	4556.9	2.1	4557.0	2.0	4557.0	2.0	4557.1	1.9	4557.2	1.9	5,000
4556.1	2.3	4556.2	2.2	4556.3	2.1	4556.3	2.1	4556.4	2.0	4556.5	1.9	4556.6	1.8	4556.6	1.8	4556.7	1.7	4556.7	1.7	4556.8	1.6	4556.9	1.5	4556.9	1.5	5,000
4555.8	1.6	4555.9	1.5	4556.0	1.4	4556.0	1.4	4556.1	1.3	4556.2	1.2	4556.3	1.1	4556.3	1.1	4556.4	1.0	4556.4	1.0	4556.5	0.9	4556.6	0.8	4556.6	0.8	5,000
4555.6	1.3	4555.7	1.2	4555.7	1.1	4555.8	1.0	4555.9	0.9	4556.0	0.8	4556.0	0.8	4556.1	0.7	4556.2	0.7	4556.2	0.6	4556.3	0.5	4556.4	0.4	4556.4	0.4	5,000
4555.4	1.5	4555.5	1.4	4555.6	1.3	4555.7	1.2	4555.7	1.2	4555.9	1.0	4555.9	1.0	4556.0	0.9	4556.0	0.9	4556.1	0.8	4556.2	0.7	4556.3	0.6	4556.3	0.6	5,000
4555.2	1.4	4555.3	1.3	4555.4	1.2	4555.5	1.1	4555.5	1.1	4555.6	1.0	4555.7	0.9	4555.8	0.8	4555.8	0.8	4555.9	0.7	4556.0	0.6	4556.1	0.5	4556.1	0.5	5,000
4554.9	0.9	4555.0	0.8	4555.0	0.8	4555.1	0.7	4555.2	0.7	4555.3	0.5	4555.4	0.4	4555.5	0.3	4555.5	0.3	4555.6	0.2	4555.7	0.1	4555.8	0.0	4555.8	0.0	5,000
4554.6	2.3	4554.8	2.1	4554.7	2.2	4554.8	2.1	4554.8	2.1	4555.1	1.8	4555.2	1.7	4555.3	1.6	4555.2	1.7	4555.3	1.6	4555.4	1.5	4555.5	1.4	4555.5	1.4	5,000
4554.4	1.1	4554.6	0.9	4554.5	1.0	4554.6	0.9	4554.6	0.9	4554.9	0.6	4555.0	0.5	4555.1	0.4	4554.9	0.6	4555.1	0.4	4555.2	0.3	4555.4	0.1	4555.2	0.3	5,000
4554.0	0.2	4554.2	-0.1	4553.9	0.2	4554.1	0.1	4553.8	0.3	4554.4	-0.3	4554.5	-0.4	4554.7	-0.6	4555.0	-0.9	4555.2	-1.1	4555.3	-1.2	4555.4	-1.3	4553.7	0.4	4,000
4554.1	-0.1	4554.3	-0.3	4554.1	-0.1	4554.3	-0.3	4554.1	-0.1	4554.6	-0.6	4554.7	-0.7	4554.9	-0.9	4555.0	-1.0	4555.2	-1.1	4555.3	-1.3	4555.4	-1.4	4554.0	0.0	3,600
4554.1	-0.1	4553.9	0.1	4554.1	-0.1	4554.3	-0.3	4554.1	-0.1	4554.6	-0.6	4554.7	-0.7	4554.9	-0.9	4555.0	-1.0	4555.2	-1.1	4555.3	-1.3	4555.4	-1.4	4554.0	0.0	3,600
4552.5	1.5	4552.6	1.4	4552.7	1.3	4552.9	1.1	4554.1	-0.1	4553.1	0.9	4553.2	0.8	4553.3	0.7	4553.4	0.6	4553.5	0.5	4553.6	0.4	4553.6	0.4	4554.0	0.0	5,000
4552.9	-0.1	4553.0	-0.2	4553.2	-0.4	4553.4	-0.6	4552.7	0.1	4552.8	0.0	4552.9	-0.1	4553.0	-0.2	4553.1	-0.3	4552.8	0.0	4552.8	0.0	4552.8	0.0	4552.8	0.0	3,200
4552.9	-0.3	4551.9	0.7	4552.4	0.2	4552.5	0.1	4552.6	0.0	4552.8	-0.2	4552.9	-0.3	4553.0	-0.4	4553.1	-0.5	4552.6	0.0	4552.6	0.0	4552.6	0.0	4552.6	0.0	5,000
4551.2	0.8	4551.3	0.7	4551.4	0.6	4551.4	0.6	4551.5	0.5	4551.6	0.4	4551.7	0.3	4551.8	0.2	4551.9	0.1	4552.1	-0.1	4552.2	-0.2	4552.3	-0.3	4552.5	-0.5	5,000
4551.7	-0.3	4551.6	-0.2	4551.8	-0.4	4551.8	-0.4	4551.6	-0.2	4551.8	-0.4	4551.9	-0.5	4551.8	-0.4	4552.0	-0.6	4552.1	-0.7	4552.2	-0.8	4552.3	-0.9	4552.5	-1.1	4,200
4551.7	-0.6	4551.6	-0.5	4551.8	-0.7	4551.8	-0.7	4551.6	-0.5	4551.7	-0.6	4551.9	-0.8	4551.8	-0.7	4552.0	-0.9	4552.1	-1.0	4552.2	-1.1	4552.3	-1.2	4552.5	-1.3	2,600
4551.7	-0.6	4551.6	-0.5	4551.8	-0.7	4551.8	-0.7	4551.6	-0.5	4551.7	-0.6	4551.9	-0.8	4551.8	-0.7	4552.0	-0.9	4552.1	-1.0	4552.2	-1.1	4552.3	-1.2	4552.4	-1.3	2,600
4551.5	-0.5	4551.6	-0.6	4551.5	-0.5	4551.4	-0.4	4551.6	-0.6	4551.7	-0.7	4551.9	-0.9	4551.8	-0.8	4552.0	-0.9	4552.1	-1.1	4552.2	-1.2	4552.3	-1.3	4552.4	-1.4	2,800
4551.0	0.4	4551.1	0.3	4550.6	0.8	4550.7	0.7	4550.8	0.6	4551.0	0.4	4551.1	0.3	4550.4	1.0	4550.5	0.9	4550.6	0.8	4550.7	0.7	4550.8	0.6	4550.9	0.5	5,000
4551.2	-0.7	4551.4	-0.9	4551.0	-0.5	4551.1	-0.6	4551.3	-0.8	4551.4	-0.9	4551.6	-1.1	4551.1	-0.6	4551.0	-0.5	4551.2	-0.7	4551.3	-0.8	4551.4	-0.9	4551.5	-1.0	2,400
4550.7	0.2	4550.9	0.0	4551.0	-0.1	4551.1	-0.2	4551.3	-0.4	4551.4	-0.5	4551.5	-0.6	4551.1	-0.2	4551.0	-0.1	4551.1	-0.2	4551.3	-0.4	4551.4	-0.5	4551.5	-0.6	3,800
4550.2	0.8	4550.3	0.7	4550.4	0.6	4550.6	0.4	4550.7	0.3	4550.8	0.2	4550.9	0.1	4551.1	-0.1	4551.0	0.0	4551.1	-0.1	4551.3	-0.3	4551.4	-0.4	4551.5	-0.5	5,000
4548.6	1.5	4548.7	1.4	4548.8	1.3	4548.9	1.2	4549.0	1.1	4549.2	1.0	4549.3	0.9	4549.3	0.8	4549.5	0.6	4549.6	0.6	4549.6	0.5	4549.8	0.4	4549.8	0.3	5,000
4549.0	-0.3	4549.1	-0.4	4549.2	-0.5	4549.3	-0.6	4548.9	-0.2	4549.0	-0.3	4549.1	-0.4	4549.1	-0.4	4549.2	-0.5	4549.3	-0.6	4549.4	-0.7	4549.5	-0.8	4549.2	-0.5	3,200
4548.9	-0.4	4549.1	-0.6	4549.2	-0.6	4549.3	-0.8	4548.8	-0.3	4548.9	-0.4	4549.0	-0.4	4549.0	-0.5	4549.1	-0.6	4549.2	-0.7	4549.3	-0.8	4549.4	-0.9	4549.1	-0.6	2,800
4548.1	0.5	4548.2	0.4	4548.3	0.3	4548.4	0.2	4548.6	0.0	4548.7	-0.1	4548.8	-0.2	4548.9	-0.3	4549.0	-0.4	4549.1	-0.5	4549.2	-0.6	4549.2	-0.6	4548.8	-0.2	4,600
4547.7	-0.3	4547.8	-0.4	4547.9	-0.5	4548.0	-0.6	4548.1	-0.7	4548.2	-0.8	4548.3	-0.9	4548.3	-0.9	4548.4	-1.0	4548.5	-1.1	4548.6	-1.2	4548.6	-1.2	4548.7	-1.3	3,200
4546.8	0.8	4546.8	0.7	4546.9	0.7	4547.0	0.6	4547.1	0.5	4547.1	0.5	4547.2	0.4	4547.2	0.3	4547.3	0.3	4547.4	0.2	4547.4	0.1	4547.5	0.1	4547.6	0.0	5,000
4546.1	1.0	4546.2	0.9	4546.3	0.9	4546.3	0.8	4546.4	0.7	4546.5	0.6	4546.6	0.5	4546.7	0.5	4546.7	0.4	4546.8	0.3	4546.8	0.3	4546.6	0.5	4546.6	0.5	5,000
4545.7	-0.4	4545.8	-0.5	4545.9	-0.6	4546.0	-0.7	4546.1	-0.8	4546.2	-0.9	4546.3	-1.0	4546.4	-1.1	4546.4	-1.1	4546.5	-1.2	4546.4	-1.1	4546.5	-1.2	4546.6	-1.3	2,800
4544.5	-0.3	4544.6	-0.4	4544.7	-0.5	4544.7	-0.5	4544.8	-0.6	4544.9	-0.7	4544.9	-0.7	4545.0	-0.8	4545.0	-0.8	4545.1	-0.9	4545.1	-0.9	4545.2	-1.0	4545.2	-1.0	3,200
4543.8	0.8	4543.9	0.7	4543.9	0.7	4544.0	0.6	4544.1	0.6	4544.1	0.5	4544.2	0.5	4544.2	0.4	4544.3	0.3	4544.3	0.3	4544.4	0.3	4544.4	0.2	4544.5	0.2	5,000
4541.7	1.4	4541.8	1.3	4541.8	1.3	4541.9	1.3	4541.9	1.2	4541.9	1.2	4542.0	1.1	4542.0	1.1	4542.1	1.1	4542.1	1.0	4542.1	1.0	4542.2	0.9	4542.2	0.9	5,000
4540.8	1.3	4540.9	1.2	4540.9	1.2	4541.0	1.1	4541.1	1.1	4541.1	1.0	4541.2	1.0	4541.2	0.9	4541.3	0.9	4541.3	0.8	4541.4	0.8	4541.4	0.7	4541.5	0.7	5,000
4539.4	-0.5	4539.5	-0.6	4539.5	-0.6	4539.6	-0.7	4539.6	-0.7	4539.7	-0.8	4539.8	-0.9	4539.9	-1.0	4540.0	-1.1	4540.0	-1.1	4540.1	-1.2	4540.2	-1.3	4540.3	-1.4	2,800
4538.9	-1.2	4539.0	-1.3	4538.9	-1.2	4539.0	-1.3	4539.1	-1.4	4539.2	-1.5	4539.3	-1.6	4539.4	-1.7	4539.5	-1.8	4539.6	-1.9	4539.7	-2.0	4539.7	-2.0	4539.8	-2.1	1,800
4538.4	-0.5	4538.6	-0.7	4538.1	-0.2	4538.2	-0.3	4538.3	-0.4	4538.4	-0.5	4538.5	-0.6	4538.5	-0.6	4538.6	-0.7	4538.7	-0.8	4538.8	-0.9	4538.9	-1.0	4539.0	-1.1	2,800
4536.0	0.4	4536.0	0.3	4536.3	0.0	4536.4	-0.1	4536.5	-0.2	4536.6	-0.3	4536.7	-0.3	4536.9	-0.6	4537.0	-0.7	4536.9	-0.6	4537.0	-0.7	4537.0	-0.7	4537.1	-0.8	4,000
4535.0	-0.2	4535.1	-0.3	4535.3	-0.4	4535.4	-0.6	4535.5	-0.7	4535.6	-0.8	4535.7	-0.9	4535.2	-0.4	4535.3	-0.5	4536.0	-1.1	4536.0	-1.2	4536.1	-1.3	4536.2	-1.4	3,200
4533.5	-0.1	4533.6	-0.2	4533.7	-0.3	4533.8	-0.4	4533.9	-0.5	4533.6	-0.2	4533.6	-0.2	4534.4	-1.0	4534.5	-1.1	4534.1	-0.7	4534.1	-0.7	4534.2	-0.8	4534.3	-0.9	3,400
4531.4	0.3	4531.5	0.2	4531.5	0.2	4531.6	0.1	4531.7	0.0	4531.7	0.0	4531.9	-0.2	4531.5	0.2	4531.7	0.0	4531.7	0.0	4531.8	-0.1	4531.8	-0.1	4531.9	-0.2	5,000
4529.0	0.8	4529.0	0.8	4529.1	0.7	4529.2	0.7	4529.2	0.6	4529.3	0.5	4529.3	0.5	4529.4	0.4	4529.4	0.4	4529.5	0.3	4529.5	0.3	4529.6	0.2	4529.6	0.2	5,000
4527.2	0.6	4527.3	0.5	4527.4	0.4	4527.4	0.4	4527.5	0.3	4527.6	0.3	4527.6	0.2	4527.7	0.1	4527.8	0.1	4527.8	0.0	4527.9	-0.1	4527.9	-0.1	4528.0	-0.2	5,000
4526.2	-0.7	4526.3	-0.8	4526.4	-0.9	4526.4	-0.9	4526.5	-1.0	4526.6	-1.1	4526.6	-1.1	4526.7	-1.2	4526.7	-1.2	4526.8	-1.3	4526.8	-1.3	4526.9	-1.4	4526.9	-1.4	2,000
4525.1	1.1	4525.1	1.0	4525.2	0.9	4525.2	0.9	4525.3	0.8	4525.3	0.8	4525.4	0.7	4525.5	0.7	4525.5	0.6	4525.6	0.6	4525.6	0.5	4525.7	0.5	4525.7	0.4	5,000

4523.0	1.7	4523.0	1.7	4523.1	1.6	4523.1	1.6	4523.2	1.5	4523.2	1.5	4523.3	1.4	4523.3	1.4	4523.4	1.3	4523.4	1.3	4523.5	1.2	4523.5	1.2	4523.5	1.2	5,000
4519.1	-0.6	4519.2	-0.7	4519.3	-0.8	4519.4	-0.9	4519.5	-0.9	4519.5	-1.0	4519.6	-1.1	4519.7	-1.2	4519.8	-1.3	4519.9	-1.4	4519.9	-1.4	4520.0	-1.5	4520.1	-1.6	2,600
4517.7	1.9	4517.7	1.9	4517.8	1.8	4517.9	1.7	4518.0	1.6	4518.0	1.6	4518.1	1.5	4518.1	1.5	4518.2	1.5	4518.2	1.4	4518.3	1.3	4518.3	1.3	4518.4	1.2	5,000
4517.0	-0.8	4517.1	-0.9	4517.2	-1.0	4517.3	-1.1	4517.4	-1.2	4517.5	-1.3	4517.6	-1.4	4517.6	-1.4	4517.7	-1.5	4517.8	-1.6	4517.9	-1.7	4517.9	-1.7	4518.0	-1.8	2,200
4515.6	0.0	4515.7	-0.1	4515.8	-0.2	4516.0	-0.4	4516.1	-0.5	4516.2	-0.6	4516.3	-0.7	4516.5	-0.9	4516.6	-1.0	4516.7	-1.1	4516.8	-1.2	4517.0	-1.4	4517.1	-1.5	3,600
4514.6	-0.5	4514.8	-0.7	4515.0	-0.9	4515.1	-1.0	4515.3	-1.2	4515.4	-1.3	4515.6	-1.5	4515.7	-1.6	4515.9	-1.8	4516.0	-1.9	4516.2	-2.1	4516.3	-2.2	4516.5	-2.3	2,600
4512.8	1.7	4512.9	1.6	4513.0	1.5	4513.1	1.4	4513.2	1.3	4513.3	1.2	4513.4	1.1	4513.4	1.1	4513.5	1.0	4513.7	0.8	4513.7	0.8	4513.8	0.7	4513.8	0.7	5,000
4511.7	-0.5	4511.8	-0.6	4511.9	-0.7	4512.1	-0.9	4512.2	-1.0	4512.3	-1.1	4512.4	-1.2	4512.5	-1.3	4512.6	-1.4	4512.4	-1.2	4512.5	-1.3	4512.6	-1.4	4512.7	-1.5	2,800
4510.8	0.0	4510.9	-0.1	4511.1	-0.3	4511.3	-0.5	4511.4	-0.6	4511.5	-0.7	4511.7	-0.9	4511.8	-1.0	4511.7	-0.9	4511.8	-1.0	4512.0	-1.2	4512.1	-1.3	4512.2	-1.4	3,400
4508.0	1.8	4509.5	0.2	4508.2	1.5	4508.3	1.4	4508.4	1.3	4508.6	1.1	4508.7	1.0	4508.8	0.9	4508.9	0.8	4509.0	0.7	4509.1	0.6	4509.2	0.5	4509.3	0.4	5,000
4507.3	-0.1	4506.9	0.3	4507.2	0.0	4507.3	-0.1	4507.4	-0.2	4507.4	-0.2	4507.5	-0.3	4507.6	-0.4	4507.7	-0.5	4507.8	-0.6	4507.9	-0.7	4508.0	-0.8	4508.1	-0.9	4,400
4506.0	-0.9	4505.6	-0.5	4504.9	0.2	4505.1	0.0	4505.2	-0.1	4505.3	-0.2	4505.4	-0.3	4505.5	-0.4	4505.6	-0.5	4505.7	-0.6	4505.8	-0.7	4505.9	-0.8	4506.0	-0.9	2,400
4501.7	1.4	4502.9	0.2	4503.1	0.0	4503.2	-0.1	4503.3	-0.2	4503.4	-0.3	4503.4	-0.3	4503.5	-0.4	4503.6	-0.4	4503.6	-0.5	4503.7	-0.5	4503.7	-0.6	4503.7	-0.6	4,600
4500.3	6.9	4500.4	6.8	4500.4	6.8	4500.4	6.8	4500.5	6.7	4500.5	6.7	4500.6	6.6	4500.6	6.6	4500.6	6.6	4500.7	6.5	4500.7	6.5	4500.8	6.4	4500.8	6.4	5,000
4499.1	2.2	4499.1	2.2	4499.2	2.1	4499.3	2.0	4499.4	1.9	4499.5	1.8	4499.6	1.7	4499.7	1.7	4499.7	1.6	4499.8	1.5	4499.9	1.4	4500.0	1.3	4500.0	1.3	5,000
4498.2	1.0	4498.3	0.9	4498.4	0.8	4498.5	0.7	4498.5	0.7	4498.6	0.6	4498.7	0.5	4498.8	0.4	4498.9	0.3	4499.0	0.3	4499.0	0.2	4499.1	0.1	4499.2	0.0	5,000
4496.7	1.7	4496.7	1.7	4496.8	1.6	4496.9	1.5	4496.9	1.5	4497.0	1.4	4497.0	1.4	4497.0	1.4	4497.1	1.3	4497.1	1.3	4497.2	1.2	4497.2	1.2	4497.3	1.1	5,000
4495.5	1.6	4495.5	1.6	4495.6	1.5	4495.7	1.4	4495.7	1.4	4495.8	1.3	4495.9	1.3	4495.9	1.2	4496.0	1.1	4496.1	1.0	4496.2	1.0	4496.2	0.9	4496.2	0.9	5,000
4494.6	1.2	4494.7	1.1	4494.7	1.1	4494.8	1.0	4494.9	0.9	4494.9	0.9	4495.0	0.9	4495.0	0.8	4495.1	0.7	4495.2	0.7	4495.2	0.6	4495.3	0.5	4495.3	0.5	5,000
4493.7	-0.2	4493.8	-0.3	4493.8	-0.3	4493.9	-0.4	4493.9	-0.4	4494.0	-0.4	4494.0	-0.5	4494.1	-0.6	4494.1	-0.6	4494.1	-0.6	4494.2	-0.6	4494.2	-0.7	4494.2	-0.7	3,800
4491.5	1.1	4491.6	1.0	4491.7	1.0	4491.7	0.9	4491.8	0.8	4491.8	0.8	4491.8	0.8	4491.9	0.7	4492.0	0.7	4492.0	0.6	4492.1	0.5	4492.1	0.5	4492.2	0.4	5,000
4490.6	-0.5	4490.7	-0.6	4490.8	-0.7	4490.9	-0.8	4490.9	-0.8	4491.0	-0.9	4491.1	-1.0	4491.2	-1.0	4491.2	-1.1	4491.3	-1.2	4491.2	-1.1	4491.3	-1.2	4491.4	-1.3	2,600
4489.6	0.9	4489.7	0.8	4489.8	0.7	4489.9	0.6	4490.1	0.4	4490.1	0.4	4490.2	0.3	4490.3	0.2	4490.4	0.1	4490.5	0.0	4490.5	0.0	4490.6	-0.1	4490.7	-0.2	5,000

200 cfs		400 cfs		600 cfs		800 cfs		1000 cfs		1200 cfs		1400 cfs		1600 cfs		1800 cfs		2000 cfs		2200 cfs		2400 cfs	
W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)
4574.6	4.9	4575.1	4.4	4575.4	4.1	4575.7	3.8	4576.0	3.5	4576.2	3.3	4576.5	3.0	4576.7	2.8	4576.7	2.8	4577.2	2.3	4577.4	2.1	4577.6	1.9
4573.7	4.7	4574.4	4.0	4574.9	3.5	4575.2	3.2	4575.6	2.8	4575.8	2.6	4576.1	2.3	4576.4	2.0	4576.4	2.0	4576.8	1.6	4577.1	1.3	4577.3	1.1
4573.8	3.8	4574.3	3.2	4574.7	2.8	4575.1	2.4	4575.4	2.1	4575.6	1.9	4575.9	1.6	4576.2	1.3	4576.2	1.3	4576.6	0.9	4576.8	0.7	4577.1	0.4
4573.6	4.4	4574.1	3.9	4574.5	3.5	4574.8	3.2	4575.1	2.9	4575.4	2.6	4575.7	2.3	4575.9	2.1	4575.9	2.1	4576.4	1.6	4576.6	1.4	4576.8	1.2
4573.2	4.4	4573.7	3.9	4574.2	3.4	4574.5	3.1	4574.8	2.8	4575.1	2.5	4575.4	2.2	4575.7	1.9	4575.7	1.9	4576.1	1.5	4576.4	1.2	4576.6	1.0
4572.7	4.5	4573.2	4.0	4573.6	3.6	4574.0	3.2	4574.3	2.9	4574.6	2.6	4574.8	2.4	4575.1	2.1	4575.1	2.1	4575.5	1.7	4575.7	1.5	4575.9	1.3
4572.4	3.4	4572.9	2.9	4573.3	2.5	4573.7	2.1	4574.0	1.8	4574.3	1.6	4574.5	1.3	4574.7	1.1	4574.7	1.1	4575.2	0.6	4575.4	0.4	4575.6	0.2
4572.1	3.6	4572.6	3.1	4573.0	2.7	4573.3	2.4	4573.6	2.1	4573.9	1.8	4574.1	1.6	4574.3	1.4	4574.3	1.4	4574.8	0.9	4575.0	0.7	4575.2	0.5
4571.7	3.8	4572.2	3.3	4572.6	2.9	4572.9	2.6	4573.2	2.3	4573.5	2.0	4573.7	1.8	4574.0	1.5	4574.0	1.5	4574.4	1.1	4574.6	0.9	4574.8	0.7
4571.4	4.1	4571.9	3.6	4572.3	3.2	4572.7	2.8	4573.0	2.5	4573.2	2.3	4573.5	2.0	4573.7	1.8	4573.7	1.8	4574.2	1.3	4574.4	1.1	4574.6	0.9
4571.0	4.5	4571.5	4.0	4571.9	3.6	4572.2	3.3	4572.5	3.0	4572.7	2.8	4573.0	2.5	4573.2	2.3	4573.2	2.3	4573.6	1.9	4573.8	1.7	4574.0	1.5
4570.5	4.1	4571.0	3.6	4571.3	3.3	4571.6	3.0	4571.9	2.7	4572.1	2.5	4572.4	2.2	4572.6	2.0	4572.6	2.0	4573.0	1.6	4573.3	1.4	4573.5	1.2
4570.0	3.8	4570.5	3.2	4570.9	2.8	4571.2	2.5	4571.5	2.2	4571.8	1.9	4572.1	1.6	4572.3	1.4	4572.3	1.4	4572.8	0.9	4573.0	0.7	4573.3	0.4
4569.7	3.9	4570.2	3.4	4570.7	2.9	4571.0	2.6	4571.4	2.2	4571.7	1.9	4571.9	1.7	4572.2	1.4	4572.2	1.4	4572.7	0.9	4572.9	0.7	4573.1	0.5
4569.5	3.9	4570.0	3.4	4570.5	2.9	4570.8	2.6	4571.1	2.3	4571.4	2.0	4571.7	1.7	4572.0	1.4	4572.0	1.4	4572.5	0.9	4572.7	0.7	4572.9	0.5
4569.2	3.3	4569.7	2.8	4570.1	2.4	4570.4	2.1	4570.7	1.8	4570.9	1.6	4571.2	1.3	4571.4	1.1	4571.4	1.1	4571.8	0.7	4572.0	0.5	4572.2	0.3
4568.5	3.4	4569.0	2.9	4569.4	2.5	4569.7	2.2	4570.0	1.9	4570.3	1.6	4570.6	1.3	4570.8	1.1	4570.8	1.1	4571.2	0.7	4571.4	0.5	4571.6	0.3
4568.1	4.4	4568.6	3.9	4569.0	3.5	4569.3	3.2	4569.6	2.9	4569.9	2.6	4570.2	2.3	4570.4	2.1	4570.4	2.1	4570.8	1.7	4571.0	1.5	4571.2	1.3
4567.6	4.4	4568.1	3.9	4568.5	3.5	4568.9	3.1	4569.2	2.8	4569.4	2.6	4569.7	2.3	4569.9	2.1	4569.9	2.1	4570.3	1.7	4570.5	1.5	4570.7	1.3
4567.0	4.5	4567.6	3.9	4568.0	3.5	4568.3	3.2	4568.6	2.9	4568.9	2.6	4569.1	2.4	4569.3	2.2	4569.3	2.2	4569.7	1.8	4569.9	1.6	4570.1	1.4
4566.9	3.6	4567.4	3.1	4567.7	2.8	4568.0	2.5	4568.2	2.3	4568.4	2.1	4568.6	1.9	4568.8	1.7	4568.8	1.7	4569.2	1.3	4569.3	1.2	4569.5	1.0
4566.5	5.1	4566.9	4.7	4567.2	4.4	4567.4	4.2	4567.7	4.0	4567.9	3.7	4568.1	3.6	4568.2	3.4	4568.2	3.4	4568.6	3.0	4568.7	2.9	4568.9	2.7
4566.0	4.7	4566.4	4.3	4566.7	4.1	4566.9	3.8	4567.1	3.6	4567.3	3.4	4567.5	3.2	4567.7	3.0	4567.7	3.0	4568.0	2.7	4568.2	2.5	4568.4	2.3
4565.3	4.6	4565.6	4.3	4565.9	4.0	4566.1	3.8	4566.4	3.5	4566.6	3.3	4566.8	3.1	4567.0	2.9	4567.0	2.9	4567.4	2.5	4567.6	2.3	4567.7	2.2
4564.6	4.9	4565.0	4.5	4565.3	4.2	4565.7	3.9	4565.9	3.6	4566.2	3.3	4566.4	3.1	4566.7	2.8	4566.7	2.8	4567.1	2.4	4567.3	2.2	4567.4	2.1
4564.2	4.6	4564.7	4.1	4565.1	3.7	4565.4	3.4	4565.7	3.1	4565.9	2.9	4566.2	2.6	4566.4	2.4	4566.4	2.4	4566.8	2.0	4567.0	1.8	4567.2	1.6
4563.9	3.2	4564.4	2.7	4564.8	2.3	4565.2	1.9	4565.5	1.6	4565.7	1.4	4566.0	1.1	4566.2	0.9	4566.2	0.9	4566.6	0.5	4566.8	0.3	4567.0	0.1
4563.7	3.3	4564.3	2.7	4564.7	2.3	4565.0	2.0	4565.3	1.7	4565.6	1.4	4565.8	1.2	4566.0	1.0	4566.0	1.0	4566.5	0.6	4566.6	0.4	4566.8	0.2
4563.6	3.9	4564.2	3.3	4564.6	2.9	4564.9	2.6	4565.2	2.3	4565.5	2.0	4565.7	1.8	4565.9	1.6	4565.9	1.6	4566.3	1.2	4566.5	1.0	4566.7	0.8
4563.5	5.3	4564.0	4.8	4564.4	4.4	4564.7	4.1	4565.0	3.8	4565.2	3.6	4565.4	3.4	4565.6	3.2	4565.6	3.2	4566.0	2.8	4566.2	2.6	4566.3	2.5
4563.2	1.5	4563.8	0.9	4564.1	0.6	4564.3	0.4	4564.5	0.2	4564.7	0.0	4564.9	-0.2	4565.1	-0.4	4565.1	-0.4	4565.4	-0.7	4565.5	-0.8	4565.7	-0.9
4563.0	4.0	4563.5	3.5	4563.8	3.2	4564.0	3.0	4564.3	2.8	4564.4	2.6	4564.6	2.4	4564.8	2.2	4564.8	2.2	4565.1	1.9	4565.3	1.7	4565.4	1.6
4562.7	2.8	4563.2	2.3	4563.5	2.0	4563.7	1.8	4563.9	1.6	4564.1	1.4	4564.3	1.2	4564.5	1.0	4564.5	1.0	4564.8	0.7	4564.9	0.6	4565.1	0.4
4562.4	2.3	4562.9	1.8	4563.2	1.5	4563.5	1.2	4563.7	1.0	4563.9	0.8	4564.1	0.6	4564.3	0.4	4564.3	0.4	4564.6	0.1	4564.7	0.0	4564.9	-0.2
4562.0	3.1	4562.5	2.6	4562.7	2.3	4563.0	2.1	4563.1	1.9	4563.3	1.7	4563.5	1.5	4563.6	1.4	4563.6	1.4	4563.9	1.1	4564.0	1.0	4564.1	0.9
4561.4	2.5	4561.9	2.0	4562.2	1.7	4562.3	1.6	4562.5	1.4	4562.6	1.3	4562.8	1.1	4562.9	1.0	4562.9	1.0	4563.2	0.7	4563.3	0.6	4563.4	0.5
4560.2	3.7	4560.6	3.3	4561.1	2.8	4561.4	2.5	4561.7	2.2	4562.0	1.9	4562.2	1.7	4562.4	1.5	4562.4	1.5	4562.6	1.3	4562.8	1.1	4562.9	1.0
4560.0	2.4	4560.5	1.8	4560.8	1.5	4561.2	1.1	4561.5	0.8	4561.7	0.6	4562.0	0.3	4562.2	0.1	4562.2	0.1	4562.4	-0.1	4562.5	-0.2	4562.6	-0.3
4559.9	2.2	4560.4	1.7	4560.8	1.4	4561.1	1.0	4561.4	0.7	4561.6	0.5	4561.9	0.2	4562.1	0.0	4562.1	0.0	4562.3	-0.2	4562.4	-0.3	4562.6	-0.5
4559.8	2.9	4560.2	2.4	4560.6	2.0	4560.9	1.7	4561.1	1.5	4561.4	1.2	4561.6	1.0	4561.8	0.8	4561.8	0.8	4562.0	0.6	4562.0	0.6	4562.2	0.5
4559.5	2.4	4559.9	2.0	4560.3	1.6	4560.6	1.3	4560.9	1.0	4561.1	0.8	4561.4	0.5	4561.6	0.3	4561.6	0.3	4561.9	0.0	4562.0	-0.1	4562.1	-0.2
4559.3	2.2	4559.7	1.8	4560.1	1.4	4560.4	1.1	4560.7	0.9	4560.9	0.6	4561.1	0.4	4561.3	0.2	4561.3	0.2	4561.7	-0.2	4561.8	-0.3	4561.9	-0.4
4559.1	2.3	4559.5	1.9	4559.8	1.6	4560.1	1.3	4560.3	1.1	4560.6	0.8	4560.8	0.6	4561.0	0.4	4561.0	0.4	4561.3	0.1	4561.2	0.2	4561.3	0.1
4558.8	2.1	4559.1	1.7	4559.4	1.4	4559.6	1.2	4559.8	1.0	4560.0	0.8	4560.2	0.6	4560.4	0.4	4560.4	0.4	4560.7	0.1	4560.9	-0.1	4561.0	-0.2
4557.8	2.8	4558.0	2.6	4558.3	2.4	4558.6	2.0	4558.8	1.8	4559.0	1.6	4559.2	1.4	4559.4	1.2	4559.4	1.2	4559.7	0.9	4559.9	0.7	4560.0	0.6
4557.2	2.7	4557.7	2.2	4558.1	1.8	4558.4	1.5	4558.6	1.3	4558.8	1.1	4559.0	0.9	4559.2	0.7	4559.2	0.7	4559.5	0.4	4559.7	0.2	4559.8	0.1
4557.2	2.8	4557.6	2.4	4558.0	2.0	4558.3	1.7	4558.5	1.5	4558.7	1.3	4558.9	1.1	4559.0	1.0	4559.0	1.0	4559.3	0.7	4559.5	0.6	4559.6	0.4
4557.1	2.4	4557.5	2.0	4557.9	1.6	4558.1	1.4	4558.3	1.2	4558.5	1.0	4558.7	0.8	4558.8	0.7	4558.8	0.7	4559.1	0.4	4559.2	0.3	4559.3	0.2
4556.7	3.4	4557.2	2.9	4557.6	2.5	4557.8	2.3	4558.0	2.1	4558.1	2.0	4558.3	1.8	4558.4	1.7	4558.4	1.7	4558.6	1.5	4558.8	1.4	4558.9	1.2
4556.1	3.8	4556.6	3.2	4557.1	2.7	4557.3	2.5	4557.5	2.3	4557.7	2.1	4557.9	1.9	4558.0	1.8	4558.0	1.8	4558.2	1.6	4558.3	1.5	4558.4	1.4
4555.0	4.1	4555.4	3.7	4555.8	3.3	4556.0	3.1	4556.2	2.9	4556.5	2.6	4556.6	2.5	4556.7	2.4	4556.7	2.4	4557.0	2.1	4557.1	2.0	4557.2	1.9
4554.2	4.2	4554.7	3.7	4555.0	3.4	4555.3	3.1	4555.5	2.9	4555.7	2.7	4555.9	2.5	4556.0	2.4	4556.0	2.4	4556.2	2.2	4556.3	2.1	4556.4	2.0
4553.7	5.8	4554.1	5.3	4554.4	5.0	4554.7	4.7	4554.9	4.5	4555.1	4.3	4555.3	4.1	4555.4	4.0	4555.4	4.0	4555.7	3.7	4555.8	3.6	4555.9	3.5
4553.2	4.9	4553.7	4.4	4554.1	4.0	4554.4	3.7	4554.6	3.5	4554.8	3.3	4555.0	3.1	4555.1	3.0	4555.1	3.0	4555.5	2.7	4555.6	2.5	4555.7	2.4
4552.8	4.9	4553.3	4.4	4553.7	4.1	4554.0	3.8	4554.1	3.6	4554.3	3.4	4554.5	3.2	4554.7	3.1	4554.7	3.1	4555.0	2.7	4555.2	2.6	4555.2	2.5
4552.6	4.4	4553.1	3.9	4553.4	3.6	4553.7	3.3	4553.9	3.1	4554.1	2.9	4554.3	2.7	4554.5	2.5	4554.5	2.5	4554.9	2.1	4555.1	1.9	4555.2	1.8
4552.6	3.8	4553.0	3.4	4553.3	3.1	4553.6	2.8	4553.8	2.6	4554.0	2.4	4554.2	2.2	4554.4	2.0	4554.4	2.0	4554.8	1.6	4555.0	1.4	4555.1	1.3
4552.6	3.2	4553.0	2.8	4553.3	2.6	4553.5	2.3	4553.7	2.1	4553.9	1.9	4554.1	1.7	4554.3	1.5	4554.3	1.5	4554.7	1.1	4554.9	0.9	4555.0	0.8
4552.4	2.9	4552.8	2.5	4553.0	2.3	4553.2	2.1	4553.4	1.9	4553.6	1.7	4553.9	1.4	4554.1	1.3	4554.1	1.3	4554.5	0.9	4554.6	0.7	4554.7	0.7
4551.8	3.4	4552.2	3.0	4552.4	2.7	4552.7	2.4	4553.0	2.1	4553.2	1.9	4553.5	1.6	4553.7	1.4	4553.7	1.4	4554.2	0.9	4554.4	0.8	4554.3	0.8
4551.2	3.1	4551.7	2.6	4552.0	2.3	4552.4	1.9	4552.7	1.6	4553.0	1.3	4553.3	1.1	4553.5	0.8	4553.5	0.8	4554.0	0.3	4554.2	0.1	4554.1	0.2
4550.9	3.1	4551.4	2.6	4551.9	2.1	4552.2	1.8	4552.5	1.5	4552.8	1.2	4553.1	0.9	4553.3	0.7	4553.3	0.7	4553.8	0.2	4554.0	0.0	4554.2	-0.2
4550.6	3.4	4551.2	2.8	4551.6	2.4	4551.9	2.1	4552.2	1.8	4552.5	1.5	4552.7	1.3	4553.0	1.0	4553.0	1.0	4553.4	0.6	4553.7	0.4	4553.8	0.2
4550.5	3.2	4551.0	2.8	4551.3	2.4	4551.6	2.1	4551.9	1.8	4552.2	1.5	4552.4	1.3	4552.6	1.1	4552.6	1.1	4553.1	0.6	4553.2	0.5	4553.4	0.3
4550.0	2.9	4550.4	2.5	4550.8	2.1	4551.1	1.8	4551.4	1.5	4551.6	1.3	4551.9	1.0	4552.1	0.8	4552.1	0.8	4552.5	0.4	4552.7	0.2	4552.9	0.0
4549.7	3.2	4550.1	2.7	4550.5	2.4	4550.8	2.0	4551.1	1.8	4551.3	1.5	4551.6	1.2	4551.8	1.0	4551.8	1.0	4552.2	0.6	4552.4	0.4	4552.6	0.2
4549.4	2.9	4549.8	2.5	4550.1	2.2	4550.4	1.9	4550.6	1.7	4550.9	1.4	4551.1	1.2	4551.4	0.9	4551.4	0.9	4551.8	0.5	4552.0	0.3	4552.2	0.1
4548.8	2.8	4549.2	2.3	4549.6	1.9	4549.9	1.6	4550.2	1.3	4550.5	1.0	4550.7	0.8	4551.0	0.5	4551.0	0.5	4551.5	0.1	4551.7	-0.2	4551.9	-0.4
4548.3	3.9	4548.8	3.4	4549.2	3.0	4549.6	2.6	4549.9	2.3	4550.2	2.0	4550.5	1.7	4550.7	1.5	4550.7	1.5	4551.2	1.0	4551.4	0.8	4551.6	0.6
4548.1	3.5	4548.6	3.0	4549.0	2.6	4549.4	2.2	4549.7	1.9	4550.0	1.6	4550.2	1.4	4550.5	1.1	4550.5	1.1	4551.0	0.6	4551.2	0.4	4551.4	0.2
4547.8	4.1	4548.4	3.5	4548.8	3.1	4549.1	2.8	4549.5	2.4	4549.8	2.1	4550.0	1.9	4550.3	1.6	4550.3	1.6	4550.7	1.2	4551.0	0.9	4551.2	0.7
4547.6	3.6	4548.2	3.1	4548.6	2.6	4548.9	2.3	4549.2	2.0	4549.5	1.7	4549.8	1.4	4550.0	1.2	4550.0	1.2	4550.4	0.8	4550.6	0.6	4550.8	0.4
4547.5	4.0	4548.0	3.5	4548.4	3.1	4548.7	2.8	4549.0	2.5	4549.3	2.3	4549.5	2.0	4549.7	1.8	4549.7	1.8	4550.2	1.3	4550.4	1.1	4550.6	0.9
4547.3	3.9	4547.8	3.4	4548.1	3.1	4548.4	2.8	4548.7	2.5	4549.0	2.2	4549.2	2.0	4549.5	1.8	4549.5	1.8	4549.9	1.3	4550.1	1.1	4550.2	1.0
4546.9	4.7	4547.3	4.3	4547.6	4.0	4547.9	3.7	4548.2	3.4	4548.4	3.2	4548.6	3.0	4548.9	2.8	4548.9	2.8	4549.2	2.4	4549.4	2.2	4549.6	2.0
4546.3	3.5	4546.8	3.0	4547.2	2.6	4547.5	2.3	4547.8	2.0	4548.0	1.8	4548.3	1.5	4548.5	1.3	4548.5	1.3	4548.9	0.9	4549.1	0.7	4549.3	0.6
4546.1	3.2	4546.6	2.7	4547.0	2.3	4547.3	2.0	4547.5	1.8	4547.8	1.5	4548.0	1.3	4548.2	1.1	4548.2	1.1	4548.6	0.7	4548.8	0.5	4548.9	0.4
4545.9	3.4	4546.3	3.0	4546.6	2.7	4546.9	2.4	4547.1	2.2	4547.4	1.9	4547.6	1.7	4547.8	1.6	4547.8	1.6	4548.1	1.2	4548.3	1.0	4548.4	0.9
4545.5	3.2	4545.8	2.9	4546.0	2.6	4546.2	2.4	4546.5	2.2	4546.7	1.9	4546.9	1.8	4547.0	1.6	4547.0	1.6	4547.4	1.2	4547.6	1.1	4547.7	0.9
4543.4	3.6	4543.9	3.1	4544.3	2.7	4544.6	2.4	4544.9	2.1	4545.2	1.8	4545.4	1.6	4545.6	1.4	4545.6	1.4	4546.1	0.9	4546.2	0.8	4546.4	0.6
4542.2	2.8	4542.6	2.4	4543.0	2.0	4543.3	1.7	4543.5	1.5	4543.8	1.2	4544.0	1.0	4544.2	0.8	4544.2	0.8	4544.6	0.4	4544.7	0.3	4544.9	0.1
4541.9	3.3	4542.2	2.9	4542.6	2.5	4542.8	2.3	4543.1	2.0	4543.3	1.8	4543.5	1.6	4543.7	1.4	4543.7	1.4	4544.0	1.1	4544.2	0.9	4544.3	0.8
4540.9	2.9	4541.3	2.5	4541.6	2.3	4541.7	2.1	4541.9	1.9	4541.9	1.9	4542.1	1.7	4542.2	1.6	4542.2	1.6	4542.4	1.4	4542.5	1.3	4542.6	1.2
4539.2	4.1	4539.8	3.5	4540.2	3.1	4540.5	2.8	4540.6	2.7	4541.0	2.3	4541.1	2.2	4541.2	2.1	4541.2	2.1	4541.5	1.8	4541.6	1.7	4541.7	1.6
4537.5	3.3	4537.9	2.9	4538.2	2.6	4538.4	2.4	4538.6	2.2	4538.5	2.4	4538.6	2.2	4538.7	2.1	4538.7	2.1	4538.9	1.9	4538.9	1.9	4539.0	1.8
4537.5	0.8	4537.8	0.5	4538.1	0.2	4538.3	0.0	4538.5	-0.2	4538.1	0.2	4538.2	0.1	4538.3	0.0	4538.3	0.0	4538.4	-0.1	4538.5	-0.2	4538.6	-0.3
4537.0	0.8	4537.3	0.5	4537.5	0.3	4537.6	0.2	4537.8	0.1	4537.8	0.0	4537.8	0.0	4537.8	0.0	4537.8	0.0	4537.8	0.0	4537.8	0.0	4537.8	0.0
4533.6	3.0	4534.0	2.6	4534.3	2.3	4534.5	2.1	4534.7	1.9	4534.9	1.7	4535.1	1.5	4535.3	1.3	4535.3	1.3	4535.7	0.9	4535.9	0.7	4536.1	0.5
4532.0	3.6	4532.3	3.3	4532.6	3.0	4532.9	2.7	4533.2	2.4	4533.5	2.1	4533.8	1.8	4534.0	1.6	4534.0	1.6	4534.4	1.2	4534.7	1.0	4534.8	0.8
4530.4	3.8	4530.9	3.2	4531.5	2.6	4531.8	2.3	4532.1	2.0	4532.3	1.8	4532.5	1.6	4532.7	1.4	4532.7	1.4	4532.9	1.2	4533.0	1.1	4533.1	1.0
4527.7	5.2	4528.3	4.6	4528.9	4.0	4529.2	3.7	4529.5	3.4	4529.7	3.2	4529.9	3.0	4530.1	2.8	4530.1	2.8	4530.5	2.4	4530.7	2.2	4530.9	2.0
4526.2	4.5	4526.7	4.0	4527.1	3.6	4527.5	3.2	4527.9	2.8	4528.2	2.5	4528.5	2.2	4528.8	1.9	4528.8	1.9	4529.3	1.4	4529.6	1.1	4529.8	0.9
4524.7	4.5	4525.4	3.8	4525.9	3.3	4526.3	2.9	4526.6	2.6	4526.9	2.3	4527.2	2.0	4527.5	1.7	4527.5	1.7	4528.0	1.2	4528.4	0.8	4528.6	0.6
4522.6	8.5	4523.1	8.1	4523.3	7.8	4523.6	7.5	4523.9	7.2	4524.2	6.9	4524.4	6.7	4524.6	6.5	4524.6	6.5	4525.0	6.1	4524.9	6.2	4525.0	6.1
4521.2	2.9	4521.8	2.4	4522.3	1.8	4522.7	1.5	4522.9	1.2	4523.2	0.9	4523.4	0.7	4523.6	0.5	4523.6	0.5	4524.0	0.1	4524.1	0.0	4524.4	-0.3
4520.4	3.5	4520.9	3.0	4521.4	2.5	4521.8	2.1	4522.0	1.9	4522.2	1.7	4522.3	1.6	4522.5	1.4	4522.5	1.4	4522.7	1.2	4522.8	1.1	4523.4	0.5

4517.5	2.2	4517.9	1.8	4518.1	1.6	4518.3	1.4	4518.5	1.2	4518.7	1.0	4518.9	0.8	4519.0	0.7	4519.0	0.7	4519.3	0.4	4519.4	0.3	4519.0	0.7
4516.0	2.5	4516.5	2.0	4516.8	1.7	4517.1	1.4	4517.4	1.1	4517.6	0.9	4517.9	0.6	4518.1	0.4	4518.1	0.4	4518.5	0.0	4518.3	0.2	4518.6	-0.1
4514.3	3.7	4514.8	3.2	4515.1	2.9	4515.3	2.7	4515.6	2.4	4515.8	2.3	4515.9	2.1	4516.1	1.9	4516.1	1.9	4516.5	1.5	4516.6	1.4	4517.3	0.8
4511.1	3.8	4511.7	3.2	4512.1	2.8	4512.5	2.4	4512.8	2.1	4513.0	1.9	4513.2	1.7	4513.4	1.5	4513.4	1.5	4513.9	1.0	4514.2	0.8	4514.4	0.5
4510.7	4.3	4511.2	3.8	4511.6	3.3	4512.0	2.9	4512.3	2.6	4512.5	2.4	4512.7	2.2	4512.9	2.0	4512.9	2.0	4513.4	1.5	4513.6	1.3	4513.8	1.1
4508.4	6.2	4508.7	5.9	4509.1	5.5	4509.5	5.1	4509.9	4.7	4510.3	4.3	4510.6	4.0	4510.9	3.7	4510.9	3.7	4511.5	3.2	4511.7	2.9	4511.9	2.7
4506.5	4.5	4507.2	3.8	4507.7	3.3	4508.1	2.9	4508.5	2.5	4508.8	2.2	4509.1	1.9	4509.4	1.6	4509.4	1.6	4509.9	1.1	4510.1	0.9	4510.3	0.7
4506.1	5.8	4506.5	5.3	4506.8	5.0	4507.1	4.7	4507.4	4.4	4507.7	4.1	4507.9	3.9	4508.2	3.7	4508.2	3.7	4508.6	3.2	4508.8	3.0	4509.1	2.8
4504.3	5.8	4504.8	5.3	4505.3	4.8	4505.7	4.4	4506.0	4.1	4506.4	3.7	4506.7	3.4	4507.0	3.1	4507.0	3.1	4507.5	2.6	4507.8	2.3	4508.0	2.1
4502.8	4.9	4503.5	4.2	4504.0	3.7	4504.4	3.3	4504.8	2.9	4505.1	2.6	4505.5	2.2	4505.8	1.9	4505.8	1.9	4506.3	1.4	4506.6	1.1	4506.8	0.9
4502.2	4.8	4502.7	4.2	4503.0	3.9	4503.3	3.6	4503.6	3.3	4503.9	3.0	4504.1	2.8	4504.4	2.5	4504.4	2.5	4504.8	2.1	4505.0	1.9	4505.2	1.7
4499.7	4.5	4500.3	3.8	4500.8	3.3	4501.3	2.8	4501.8	2.3	4502.1	2.0	4502.3	1.8	4502.6	1.5	4502.6	1.5	4503.0	1.1	4503.2	0.9	4503.4	0.7
4498.1	6.1	4498.6	5.6	4499.1	5.1	4499.4	4.8	4499.8	4.4	4500.0	4.2	4500.1	4.1	4500.3	3.9	4500.3	3.9	4500.5	3.7	4500.6	3.6	4500.7	3.5
4497.8	2.4	4498.2	2.0	4498.5	1.7	4498.7	1.5	4498.9	1.3	4499.1	1.1	4499.3	0.9	4499.4	0.8	4499.4	0.8	4499.7	0.5	4499.8	0.4	4499.9	0.3
4496.8	3.5	4497.3	3.0	4497.6	2.7	4497.9	2.4	4498.1	2.2	4498.4	1.9	4498.6	1.8	4498.7	1.6	4498.7	1.6	4499.0	1.3	4499.1	1.2	4499.2	1.1
4495.7	3.1	4496.1	2.7	4496.4	2.4	4496.6	2.2	4496.9	1.9	4497.1	1.7	4497.3	1.6	4497.4	1.4	4497.4	1.4	4497.7	1.1	4497.8	1.0	4498.0	0.9
4494.0	5.6	4494.8	4.9	4495.1	4.5	4495.3	4.3	4495.6	4.0	4495.9	3.7	4496.1	3.5	4496.3	3.3	4496.3	3.3	4496.7	2.9	4496.9	2.7	4497.1	2.5
4492.7	3.6	4493.4	2.9	4493.8	2.5	4494.1	2.2	4494.5	1.8	4494.8	1.5	4495.0	1.3	4495.3	1.0	4495.3	1.0	4495.7	0.6	4495.9	0.4	4496.1	0.3
4491.5	3.3	4492.0	2.8	4492.4	2.4	4492.7	2.1	4493.0	1.8	4493.3	1.5	4493.5	1.3	4493.8	1.1	4493.8	1.1	4494.2	0.6	4494.4	0.4	4494.5	0.3
4490.6	4.6	4491.1	4.1	4491.5	3.7	4491.8	3.4	4492.0	3.2	4492.3	2.9	4492.5	2.7	4492.7	2.5	4492.7	2.5	4493.0	2.2	4493.2	2.0	4493.3	1.9
4489.5	3.1	4489.8	2.8	4490.0	2.6	4490.1	2.5	4490.3	2.3	4490.4	2.2	4490.6	2.0	4490.8	1.8	4490.8	1.8	4491.1	1.5	4491.3	1.3	4491.4	1.2
4486.8	3.2	4487.2	2.8	4487.6	2.4	4488.0	2.0	4488.3	1.7	4488.6	1.4	4488.9	1.1	4489.1	0.9	4489.1	0.9	4489.6	0.4	4489.8	0.2	4490.0	0.0

2600 cfs		2800 cfs		3000 cfs		3200 cfs		3400 cfs		3600 cfs		3800 cfs		4000 cfs		4200 cfs		4400 cfs		4600 cfs		4800 cfs		5000 cfs		Overtopping Flow (cfs)
W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	
4577.8	1.7	4578.0	1.5	4578.1	1.4	4578.3	1.2	4578.4	1.1	4578.6	0.9	4578.7	0.8	4578.8	0.7	4579.0	0.5	4579.1	0.4	4579.2	0.3	4579.4	0.1	4579.5	0.0	5,000
4577.5	0.9	4577.6	0.8	4577.8	0.6	4577.9	0.5	4578.0	0.4	4578.2	0.2	4578.3	0.1	4578.4	0.0	4578.5	-0.1	4578.7	-0.3	4578.8	-0.4	4578.9	-0.5	4579.1	-0.7	4,800
4577.3	0.3	4577.4	0.1	4577.6	-0.1	4577.7	-0.2	4577.8	-0.3	4578.0	-0.5	4578.2	-0.6	4578.3	-0.8	4578.4	-0.9	4578.5	-1.0	4578.7	-1.2	4578.8	-1.3	4579.0	-1.4	3,600
4577.0	1.0	4577.2	0.8	4577.4	0.6	4577.4	0.6	4577.6	0.4	4577.8	0.3	4577.9	0.1	4578.0	0.1	4578.1	-0.1	4578.3	-0.3	4578.4	-0.4	4578.6	-0.6	4578.7	-0.7	4,800
4576.8	0.8	4576.9	0.7	4577.1	0.5	4577.1	0.5	4577.2	0.4	4577.4	0.2	4577.5	0.1	4577.7	-0.1	4577.8	-0.2	4578.0	-0.4	4578.2	-0.6	4578.3	-0.7	4578.5	-0.9	4,600
4576.1	1.1	4576.1	1.1	4576.2	1.0	4576.1	1.1	4576.0	1.2	4576.3	0.9	4576.0	1.2	4576.1	1.1	4576.2	1.0	4576.3	0.9	4576.2	1.0	4576.4	0.8	4576.4	0.8	5,000
4575.8	0.0	4576.1	-0.3	4576.3	-0.4	4576.1	-0.3	4575.9	-0.1	4576.4	-0.6	4575.9	-0.1	4576.1	-0.3	4576.2	-0.4	4576.4	-0.6	4576.3	-0.5	4576.7	-0.9	4576.8	-1.0	3,600
4575.4	0.3	4575.5	0.2	4575.6	0.1	4576.0	-0.3	4575.8	-0.1	4575.3	0.4	4575.9	-0.2	4576.0	-0.3	4576.2	-0.4	4576.4	-0.7	4576.2	-0.5	4576.7	-0.9	4576.8	-1.1	4,400
4575.0	0.5	4575.2	0.3	4575.3	0.2	4575.4	0.1	4575.8	-0.3	4575.6	-0.1	4575.8	-0.3	4575.9	-0.4	4576.1	-0.6	4576.3	-0.8	4576.2	-0.6	4576.6	-1.1	4576.8	-1.3	4,200
4574.8	0.7	4575.0	0.5	4575.1	0.4	4575.2	0.3	4575.4	0.1	4575.6	-0.1	4575.7	-0.2	4575.9	-0.4	4576.0	-0.5	4576.3	-0.8	4576.1	-0.6	4576.6	-1.1	4576.7	-1.2	4,200
4574.2	1.4	4574.3	1.2	4574.3	1.3	4574.3	1.2	4574.5	1.0	4574.6	0.9	4574.7	0.8	4574.8	0.7	4574.9	0.6	4575.2	0.3	4574.0	1.5	4575.4	0.1	4575.5	0.0	5,000
4573.7	1.0	4573.8	0.8	4573.5	1.1	4573.3	1.3	4573.5	1.1	4573.6	1.0	4573.6	1.0	4573.8	0.8	4573.9	0.7	4573.4	1.2	4574.7	-0.1	4573.6	1.1	4573.6	1.0	5,000
4573.5	0.2	4573.6	0.1	4573.8	-0.1	4573.7	0.0	4573.9	-0.2	4574.0	-0.3	4574.1	-0.4	4574.3	-0.6	4574.4	-0.7	4573.9	-0.2	4574.6	-0.9	4574.0	-0.3	4574.1	-0.4	4,000
4573.3	0.3	4573.5	0.1	4573.8	-0.2	4573.7	-0.1	4573.9	-0.3	4574.0	-0.4	4574.1	-0.5	4574.3	-0.6	4574.4	-0.8	4573.9	-0.3	4574.6	-1.0	4574.0	-0.4	4574.1	-0.5	4,000
4573.1	0.3	4573.3	0.1	4573.4	0.0	4573.7	-0.3	4573.8	-0.4	4574.0	-0.6	4574.0	-0.6	4574.2	-0.8	4574.3	-0.9	4573.8	-0.4	4574.6	-1.2	4573.9	-0.5	4574.1	-0.7	3,600
4572.4	0.1	4572.5	0.0	4572.7	-0.2	4572.8	-0.3	4573.0	-0.5	4573.1	-0.6	4573.0	-0.5	4573.2	-0.7	4573.2	-0.7	4573.8	-1.3	4572.4	0.1	4573.9	-1.4	4574.0	-1.5	3,600
4571.8	0.1	4572.0	-0.1	4572.2	-0.3	4572.3	-0.4	4572.5	-0.6	4572.7	-0.8	4572.2	-0.3	4572.6	-0.7	4572.4	-0.5	4572.8	-0.9	4573.2	-1.3	4572.0	-0.1	4572.1	-0.2	3,400
4571.4	1.1	4571.6	0.9	4571.7	0.8	4571.9	0.6	4572.1	0.4	4572.2	0.3	4572.7	-0.2	4571.9	0.6	4572.9	-0.4	4571.8	0.8	4571.9	0.6	4572.7	-0.2	4573.0	-0.5	5,000
4570.9	1.1	4571.1	0.9	4571.3	0.8	4571.4	0.6	4571.6	0.4	4571.7	0.3	4571.9	0.1	4572.3	-0.3	4572.0	0.0	4572.3	-0.3	4572.4	-0.4	4572.6	-0.6	4570.9	1.1	4,800
4570.2	1.3	4570.4	1.1	4570.5	1.0	4570.7	0.8	4570.8	0.7	4571.0	0.5	4571.1	0.4	4571.2	0.3	4570.3	1.3	4570.3	1.2	4570.3	1.2	4570.5	1.0	4571.6	-0.1	5,000
4569.6	0.9	4569.8	0.8	4569.9	0.6	4570.0	0.5	4570.1	0.4	4570.3	0.3	4570.4	0.1	4570.5	0.0	4570.9	-0.4	4571.1	-0.6	4571.2	-0.7	4571.3	-0.8	4571.4	-0.9	4,400
4569.0	2.6	4569.2	2.4	4569.3	2.3	4569.4	2.2	4569.6	2.0	4569.7	1.9	4569.8	1.8	4569.9	1.7	4570.1	1.5	4570.2	1.4	4570.3	1.3	4570.4	1.2	4570.5	1.1	5,000
4568.5	2.2	4568.7	2.0	4568.8	1.9	4568.9	1.8	4569.1	1.6	4569.2	1.5	4569.3	1.4	4569.4	1.3	4569.5	1.2	4569.7	1.1	4569.8	0.9	4569.9	0.8	4570.0	0.7	5,000
4567.9	2.0	4568.0	1.9	4568.2	1.7	4568.2	1.7	4568.4	1.5	4568.5	1.4	4568.6	1.3	4568.7	1.2	4568.8	1.1	4568.9	1.0	4569.1	0.8	4569.2	0.8	4569.2	0.7	5,000
4567.6	1.9	4567.8	1.7	4567.9	1.6	4568.0	1.5	4568.1	1.4	4568.2	1.3	4568.4	1.1	4568.5	1.0	4568.6	0.9	4568.7	0.8	4568.8	0.7	4568.9	0.6	4569.0	0.5	5,000
4567.4	1.4	4567.5	1.3	4567.7	1.1	4567.7	1.1	4567.9	0.9	4568.0	0.8	4568.1	0.7	4568.2	0.6	4568.3	0.5	4568.5	0.4	4568.6	0.2	4568.7	0.1	4568.8	0.1	5,000
4567.2	-0.1	4567.3	-0.2	4567.5	-0.4	4567.5	-0.4	4567.6	-0.5	4567.7	-0.6	4567.9	-0.8	4568.0	-0.9	4568.1	-1.0	4568.2	-1.1	4568.3	-1.2	4568.4	-1.3	4568.5	-1.4	3,400
4567.0	0.0	4567.2	-0.2	4567.3	-0.3	4567.3	-0.3	4567.4	-0.4	4567.6	-0.6	4567.7	-0.7	4567.8	-0.8	4567.9	-0.9	4568.0	-1.0	4568.1	-1.1	4568.2	-1.2	4568.3	-1.3	3,600
4566.8	0.7	4567.0	0.5	4567.2	0.4	4567.1	0.4	4567.2	0.3	4567.3	0.2	4567.5	0.0	4567.6	-0.1	4567.7	-0.2	4567.9	-0.4	4568.0	-0.5	4568.1	-0.6	4568.2	-0.6	4,800
4566.5	2.3	4566.6	2.2	4566.8	2.0	4566.6	2.2	4566.7	2.1	4566.8	2.0	4566.9	1.9	4567.0	1.8	4567.1	1.7	4567.2	1.6	4567.3	1.5	4567.4	1.4	4567.4	1.4	5,000
4565.8	-1.1	4565.9	-1.2	4566.0	-1.3	4566.2	-1.5	4566.3	-1.6	4566.4	-1.7	4566.5	-1.8	4566.6	-1.9	4566.7	-2.0	4566.8	-2.1	4566.9	-2.2	4567.0	-2.3	4567.0	-2.3	2,000
4565.5	1.5	4565.7	1.3	4565.8	1.2	4565.8	1.2	4565.9	1.1	4566.0	1.0	4566.1	0.9	4566.2	0.8	4566.3	0.7	4566.4	0.6	4566.5	0.5	4566.6	0.4	4566.5	0.5	5,000
4565.2	0.3	4565.3	0.2	4565.5	0.0	4565.6	-0.1	4565.7	-0.2	4565.8	-0.3	4565.9	-0.4	4566.0	-0.5	4566.1	-0.6	4566.2	-0.7	4566.3	-0.8	4566.4	-0.9	4566.2	-0.7	4,200
4565.0	-0.3	4565.2	-0.5	4565.3	-0.6	4565.4	-0.7	4565.5	-0.8	4565.6	-0.9	4565.8	-1.1	4565.9	-1.2	4566.0	-1.3	4566.1	-1.4	4566.2	-1.5	4566.3	-1.6	4566.0	-1.3	3,000
4564.2	0.8	4564.3	0.7	4564.5	0.6	4564.3	0.7	4564.4	0.6	4564.5	0.6	4564.5	0.5	4564.6	0.4	4564.6	0.4	4564.6	0.4	4564.7	0.4	4564.7	0.3	4565.0	0.0	5,000
4563.5	0.4	4563.7	0.2	4563.8	0.1	4563.9	0.0	4564.0	-0.1	4564.1	-0.2	4564.2	-0.3	4564.3	-0.4	4564.4	-0.5	4564.4	-0.5	4564.5	-0.6	4564.6	-0.7	4564.7	-0.8	4,400
4563.0	0.9	4563.1	0.8	4563.2	0.7	4563.4	0.5	4563.3	0.6	4563.4	0.5	4563.5	0.4	4563.5	0.4	4563.6	0.3	4563.4	0.5	4563.5	0.4	4563.5	0.4	4563.6	0.3	5,000
4562.7	-0.4	4562.8	-0.5	4562.9	-0.6	4563.0	-0.7	4562.9	-0.6	4562.9	-0.6	4563.0	-0.7	4563.1	-0.8	4563.1	-0.8	4563.3	-1.0	4563.4	-1.1	4563.5	-1.2	4563.6	-1.3	3,000
4562.6	-0.5	4562.7	-0.6	4562.9	-0.8	4563.0	-0.9	4562.8	-0.7	4562.8	-0.7	4562.9	-0.8	4563.0	-0.9	4563.1	-1.0	4563.2	-1.1	4563.3	-1.1	4563.3	-1.2	4563.4	-1.3	2,600
4562.1	0.5	4562.2	0.4	4562.3	0.3	4562.4	0.2	4562.7	-0.1	4562.7	-0.1	4562.8	-0.2	4562.9	-0.3	4562.9	-0.3	4563.0	-0.4	4563.1	-0.5	4563.2	-0.6	4563.3	-0.6	4,800
4562.1	-0.2	4562.2	-0.3	4562.3	-0.4	4562.4	-0.5	4562.6	-0.7	4562.5	-0.6	4562.6	-0.7	4562.7	-0.8	4562.8	-0.9	4562.9	-1.0	4563.0	-1.1	4563.0	-1.1	4563.1	-1.2	3,200
4561.8	-0.3	4561.9	-0.4	4562.1	-0.6	4562.2	-0.7	4562.3	-0.8	4562.3	-0.8	4562.2	-0.7	4562.4	-0.9	4562.4	-0.9	4562.5	-1.0	4562.6	-1.1	4562.6	-1.1	4562.7	-1.2	3,000
4561.5	-0.1	4561.6	-0.2	4561.8	-0.4	4561.9	-0.5	4562.0	-0.6	4561.8	-0.4	4561.9	-0.5	4562.0	-0.6	4562.0	-0.6	4562.1	-0.7	4562.2	-0.8	4562.3	-0.9	4562.3	-0.9	3,400
4561.2	-0.4	4561.3	-0.5	4561.5	-0.6	4561.6	-0.8	4561.8	-0.9	4561.1	-0.3	4561.2	-0.4	4561.2	-0.4	4561.3	-0.5	4561.4	-0.6	4561.4	-0.6	4561.5	-0.6	4561.5	-0.7	2,800
4559.9	0.7	4560.0	0.6	4560.1	0.6	4560.1	0.5	4560.0	0.6	4560.7	-0.1	4560.8	-0.2	4560.7	-0.1	4560.8	-0.2	4560.9	-0.3	4561.0	-0.4	4560.9	-0.3	4561.0	-0.4	5,000
4560.0	-0.1	4560.2	-0.3	4560.3	-0.4	4560.4	-0.5	4560.4	-0.5	4560.5	-0.6	4560.6	-0.7	4560.5	-0.6	4560.6	-0.7	4560.7	-0.8	4560.8	-0.9	4560.6	-0.7	4560.7	-0.8	3,200
4559.7	0.3	4559.8	0.2	4560.0	0.1	4560.1	-0.1	4560.3	-0.3	4560.4	-0.4	4560.5	-0.5	4560.4	-0.4	4560.5	-0.5	4560.6	-0.6	4560.7	-0.7	4560.5	-0.5	4560.6	-0.6	3,800
4559.5	0.1	4559.6	-0.1	4559.7	-0.2	4559.8	-0.3	4559.9	-0.4	4560.0	-0.5	4560.1	-0.6	4560.3	-0.8	4560.4	-0.9	4560.5	-1.0	4560.6	-1.1	4560.3	-0.8	4560.4	-0.9	3,800
4559.0	1.1	4559.1	1.0	4559.2	0.9	4559.3	0.8	4559.4	0.7	4559.5	0.6	4559.6	0.6	4559.6	0.5	4559.7	0.4	4559.8	0.3	4559.9	0.2	4560.1	0.0	4560.2	-0.1	5,000
4558.6	1.3	4558.7	1.1	4558.8	1.0	4558.9	0.9	4559.0	0.8	4559.1	0.7	4559.2	0.6	4559.3	0.5	4559.4	0.4	4559.5	0.3	4559.6	0.2	4559.7	0.2	4559.8	0.1	5,000
4557.3	1.8	4557.4	1.7	4557.5	1.6	4557.6	1.5	4557.7	1.4	4557.8	1.3	4557.9	1.2	4558.0	1.1	4558.1	1.0	4558.2	0.9	4558.2	0.9	4558.3	0.8	4558.4	0.7	5,000
4556.5	1.9	4556.6	1.8	4556.6	1.8	4556.7	1.7	4556.8	1.6	4556.9	1.5	4557.0	1.4	4557.0	1.4	4557.1	1.3	4557.1	1.3	4557.2	1.2	4557.3	1.1	4557.3	1.1	5,000
4556.0	3.4	4556.1	3.3	4556.2	3.2	4556.3	3.1	4556.4	3.0	4556.5	2.9	4556.6	2.8	4556.7	2.7	4556.8	2.6	4556.9	2.5	4556.9	2.5	4557.0	2.4	4557.1	2.3	5,000
4555.8	2.3	4555.9	2.2	4556.1	2.0	4556.2	2.0	4556.3	1.8	4556.4	1.7	4556.5	1.6	4556.6	1.5	4556.7	1.4	4556.7	1.4	4556.8	1.3	4556.9	1.2	4557.0	1.1	5,000
4555.3	2.4	4555.5	2.3	4555.6	2.1	4555.7	2.1	4555.8	1.9	4555.9	1.8	4556.0	1.7	4556.1	1.6	4556.2	1.5	4556.1	1.6	4556.2	1.5	4556.3	1.4	4556.4	1.3	5,000
4555.2	1.8	4555.4	1.6	4555.5	1.5	4555.6	1.4	4555.7	1.3	4555.8	1.2	4555.9	1.1	4556.0	1.0	4556.1	0.9	4556.0	1.0	4556.1	0.9	4556.2	0.8	4556.3	0.7	5,000
4555.2	1.3	4555.3	1.1	4555.5	0.9	4555.5	0.9	4555.6	0.8	4555.7	0.7	4555.9	0.5	4555.9	0.5	4556.0	0.4	4555.9	0.5	4556.0	0.4	4556.1	0.3	4556.2	0.2	5,000
4555.0	0.8	4555.2	0.6	4555.3	0.5	4555.4	0.4	4555.5	0.3	4555.6	0.2	4555.7	0.1	4555.8	0.0	4555.8	0.0	4555.9	-0.1	4556.0	-0.2	4556.1	-0.3	4556.2	-0.4	5,000
4554.7	0.7	4554.8	0.5	4555.0	0.3	4554.9	0.4	4555.0	0.3	4555.1	0.2	4555.2	0.1	4555.3	0.0	4555.3	0.0	4555.4	-0.1	4555.5	-0.2	4555.6	-0.3	4555.6	-0.3	5,000
4554.2	0.9	4554.4	0.7	4554.6	0.5	4554.4	0.8	4554.5	0.6	4554.6	0.5	4554.7	0.4	4554.7	0.4	4554.5	0.6	4554.6	0.5	4554.8	0.4	4554.9	0.3	4554.9	0.2	5,000
4553.9	0.4	4554.1	0.2	4554.3	0.0	4554.5	-0.2	4554.1	0.3	4554.2	0.2	4554.3	0.0	4554.2	0.1	4554.8	-0.5	4554.9	-0.6	4555.1	-0.8	4553.7	0.6	4553.8	0.5	4,400
4554.0	0.0	4554.2	-0.2	4554.5	-0.4	4554.5	-0.5	4554.2	-0.2	4554.3	-0.3	4554.5	-0.5	4554.4	-0.4	4554.8	-0.8	4554.9	-0.9	4555.1	-1.1	4554.1	-0.1	4554.2	-0.2	3,200
4554.0	0.0	4554.2	-0.2	4553.9	0.1	4554.0	0.1	4553.1	0.9	4553.1	0.9	4553.1	0.9	4554.4	-0.4	4553.0	1.0	4553.1	0.9	4553.3	0.7	4554.1	-0.1	4554.2	-0.2	5,000
4553.6	0.1	4553.7	0.0	4553.0	0.7	4553.1	0.6	4553.7	0.0	4553.8	-0.1	4553.9	-0.2	4552.7	1.0	4553.7	0.0	4553.8	-0.1	4554.0	-0.3	4554.1	-0.4	4554.2	-0.5	5,000
4553.1	-0.2	4553.2	-0.3	4553.4	-0.5	4553.6	-0.7	4553.7	-0.8	4553.8	-0.9	4553.9	-1.0	4553.6	-0.7	4553.7	-0.8	4553.8	-0.9	4554.0	-1.1	4554.1	-1.2	4554.2	-1.3	3,000
4552.8	0.0	4552.9	-0.1	4553.1	-0.3	4553.2	-0.4	4553.3	-0.5	4553.4	-0.5	4553.4	-0.6	4553.6	-0.8	4553.7	-0.9	4553.8	-1.0	4553.9	-1.1	4554.0	-1.2	4554.1	-1.3	3,400
4552.4	-0.1	4552.4	-0.1	4552.6	-0.3	4552.7	-0.4	4552.8	-0.5	4552.7	-0.4	4552.7	-0.4	4552.8	-0.5	4552.9	-0.6	4553.0	-0.7	4553.1	-0.8	4553.2	-0.9	4553.3	-0.9	3,400
4552.1	-0.6	4552.1	-0.6	4552.2	-0.7	4552.3	-0.8	4552.5	-1.0	4552.2	-0.7	4552.1	-0.6	4552.2	-0.7	4552.1	-0.6	4552.2	-0.7	4551.6	-0.1	4551.8	-0.3	4551.9	-0.4	2,600
4551.8	0.4	4551.8	0.4	4551.9	0.3	4552.1	0.1	4552.2	0.0	4552.5	-0.3	4552.4	-0.2	4552.5	-0.3	4552.5	-0.3	4552.7	-0.5	4552.3	-0.1	4552.5	-0.3	4552.6	-0.4	5,000
4551.6	0.0	4551.5	0.1	4551.7	-0.1	4551.8	-0.2	4551.9	-0.3	4552.1	-0.5	4552.0	-0.4	4552.1	-0.5	4552.0	-0.4	4552.1	-0.5	4552.3	-0.7	4552.5	-0.8	4552.6	-1.0	4,400
4551.4	0.5	4551.2	0.7	4551.3	0.6	4551.4	0.5	4551.6	0.3	4551.7	0.2	4551.5	0.4	4551.5	0.4	4551.3	0.6	4551.4	0.5	4551.5	0.4	4551.6	0.3	4551.8	0.1	5,000
4551.0	0.2	4551.3	-0.1	4551.5	-0.3	4551.6	-0.4	4551.7	-0.5	4551.9	-0.7	4551.8	-0.6	4551.8	-0.6	4551.6	-0.4	4551.7	-0.5	4551.9	-0.7	4552.0	-0.8	4552.2	-1.0	3,400
4550.7	0.8	4550.9	0.6	4551.0	0.5	4551.1	0.4	4551.2	0.3	4551.4	0.1	4551.7	-0.2	4551.1	0.4	4551.6	-0.1	4551.7	-0.2	4551.8	-0.3	4552.0	-0.5	4552.1	-0.6	5,000
4550.4	0.8	4550.6	0.6	4550.7	0.5	4550.7	0.5	4550.9	0.3	4551.0	0.2	4551.2	0.1	4551.3	-0.1	4551.5	-0.3	4551.6	-0.4	4551.8	-0.6	4551.9	-0.7	4552.1	-0.9	4,600
4549.8	1.9	4549.9	1.7	4549.9	1.7	4549.6	2.0	4549.7	1.9	4549.5	2.1	4549.7	1.9	4549.7	1.9	4549.7	1.9	4549.8	1.8	4549.9	1.7	4550.0	1.6	4550.0	1.6	5,000
4549.4	0.4	4549.6	0.2	4549.5	0.3	4549.8	0.0	4550.0	-0.2	4549.9	-0.1	4550.1	-0.3	4550.2	-0.4	4550.0	-0.2	4550.1	-0.3	4550.3	-0.5	4550.4	-0.6	4550.3	-0.5	4,800
4549.1	0.2	4549.3	0.0	4549.5	-0.2	4549.7	-0.4	4549.8	-0.5	4549.7	-0.4	4549.9	-0.6	4550.0	-0.7	4549.8	-0.5	4549.9	-0.6	4550.1	-0.8	4550.2	-0.9	4550.0	-0.7	3,400
4548.6	0.7	4548.8	0.6	4548.9	0.4	4549.1	0.2	4549.2	0.1	4549.4	-0.1	4549.2	0.1	4549.3	0.0	4549.5	-0.2	4549.6	-0.3	4549.9	-0.6	4550.0	-0.7	4549.7	-0.4	4,600
4547.9	0.8	4548.0	0.6	4548.2	0.4	4548.3	0.3	4548.5	0.2	4548.6	0.0	4548.7	-0.1	4548.8	-0.2	4548.9	-0.3	4549.0	-0.4	4548.5	0.1	4548.5	0.1	4548.6	0.0	5,000
4546.6	0.4	4546.7	0.3	4546.3	0.7	4546.4	0.6	4546.5	0.5	4546.6	0.4	4546.6	0.4	4546.7	0.3	4546.8	0.2	4546.9	0.1	4547.1	-0.1	4547.2	-0.1	4547.2	-0.2	5,000
4545.0	0.0	4545.1	-0.1	4545.3	-0.3	4545.5	-0.5	4545.6	-0.6	4545.7	-0.7	4545.8	-0.8	4545.9	-0.9	4546.0	-1.0	4546.1	-1.1	4546.2	-1.2	4546.3	-1.3	4546.4	-1.4	3,400
4544.5	0.6	4544.6	0.5	4544.7	0.4	4544.9	0.2	4545.0	0.1	4545.1	0.0	4545.2	-0.1	4545.3	-0.2	4545.4	-0.3	4545.5	-0.3	4545.5	-0.4	4545.6	-0.5	4545.7	-0.6	4,800
4542.7	1.1	4542.8	1.0	4542.9	0.9	4543.0	0.8	4543.1	0.8	4543.1	0.7	4543.2	0.6	4543.3	0.5	4543.4	0.4	4543.5	0.4	4543.5	0.3	4543.6	0.2	4543.7	0.1	5,000
4541.8	1.5	4541.9	1.4	4542.0	1.3	4542.1	1.2	4542.2	1.1	4542.3	1.0	4542.4	0.9	4542.5	0.8	4542.6	0.7	4542.7	0.6	4542.8	0.5	4542.9	0.4	4542.9	0.4	5,000
4539.1	1.7	4539.2	1.6	4539.3	1.6	4539.3	1.5	4539.4	1.4	4539.5	1.4	4539.5	1.3	4539.5	1.3	4539.6	1.2	4539.6	1.2	4539.7	1.1	4539.7	1.1	4539.8	1.0	5,000
4538.6	-0.3	4538.7	-0.4	4538.8	-0.5	4538.9	-0.6	4538.9	-0.6	4539.0	-0.7	4539.1	-0.8	4539.1	-0.8	4539.2	-0.9	4539.3	-1.0	4539.3	-1.0	4539.4	-1.1	4539.5	-1.2	3,200
4537.8	0.0	4537.8	0.0	4538.0	-0.1	4538.1	-0.3	4538.0	-0.2	4538.1	-0.3	4538.4	-0.6	4538.3	-0.5	4538.4	-0.6	4538.4	-0.6	4538.5	-0.7	4538.6	-0.8	4538.7	-0.9	3,800
4536.2	0.4	4536.3	0.3	4536.5	0.1	4536.6	0.0	4536.7	-0.1	4536.8	-0.2	4536.6	0.0	4536.7	-0.1	4536.7	-0.1	4537.1	-0.5	4537.2	-0.6	4536.9	-0.3	4537.0	-0.4	4,400
4535.0	0.6	4535.2	0.4	4535.3	0.3	4535.4	0.2	4535.6	0.0	4535.6	0.0	4535.7	-0.1	4535.8	-0.2	4535.9	-0.3	4535.6	0.0	4535.6	0.0	4535.7	-0.1	4535.7	-0.1	5,000
4533.3	0.9	4533.4	0.7	4533.5	0.6	4533.6	0.5	4533.7	0.4	4533.9	0.2	4534.0	0.1	4534.1	0.0	4534.0	0.1	4534.2	0.0	4534.3	-0.1	4534.3	-0.2	4534.4	-0.3	5,000
4531.1	1.8	4531.3	1.6	4531.5	1.4	4531.6	1.3	4531.7	1.2	4531.6	1.3	4531.7	1.2	4531.8	1.1	4531.9	1.0	4532.0	0.9	4532.1	0.8	4532.2	0.8	4532.2	0.7	5,000
4530.1	0.6	4530.3	0.4	4530.5	0.2	4530.5	0.2	4530.6	0.1	4530.7	0.0	4530.8	-0.1	4530.9	-0.2	4530.8	-0.1	4530.8	-0.1	4530.9	-0.2	4530.9	-0.2	4531.0	-0.3	5,000
4528.9	0.3	4529.0	0.2	4529.1	0.1	4529.4	-0.2	4529.5	-0.3	4529.6	-0.4	4529.8	-0.6	4529.9	-0.7	4530.1	-0.9	4529.9	-0.7	4530.0	-0.8	4530.1	-0.9	4530.2	-1.0	3,800
4525.1	6.0	4525.4	5.7	4525.5	5.6	4525.7	5.4	4525.9	5.3	4526.0	5.1	4526.1	5.0	4526.3	4.8	4526.4	4.7	4526.5	4.6	4526.7	4.4	4526.8	4.3	4526.9	4.2	5,000
4524.5	-0.4	4524.7	-0.6	4524.8	-0.7	4524.9	-0.8	4525.1	-0.9	4525.2	-1.1	4525.3	-1.2	4525.4	-1.3	4525.5	-1.4	4525.6	-1.5	4525.8	-1.6	4525.6	-1.5	4525.9	-1.8	2,800
4523.5	0.4	4523.6	0.3	4523.7	0.2	4523.8	0.1	4523.9	0.0	4524.0	-0.1	4524.1	-0.2	4524.1	-0.2	4524.3	-0.4	4524.4	-0.5	4524.5	-0.6	4524.7	-0.8	4524.4	-0.5	4,600

4519.1	0.6	4519.3	0.4	4519.3	0.4	4519.4	0.3	4519.5	0.2	4519.6	0.1	4519.7	0.0	4519.8	-0.1	4519.8	-0.1	4519.9	-0.2	4519.9	-0.2	4520.0	-0.3	4520.1	-0.4	5,000
4518.7	-0.2	4518.8	-0.3	4519.0	-0.5	4519.1	-0.6	4519.2	-0.7	4519.3	-0.8	4519.5	-0.9	4519.6	-1.1	4519.4	-0.9	4519.5	-1.0	4519.6	-1.1	4519.7	-1.2	4519.7	-1.2	3,200
4517.4	0.6	4517.4	0.6	4517.4	0.6	4517.5	0.5	4517.6	0.4	4517.7	0.3	4517.8	0.2	4517.9	0.1	4518.0	0.0	4518.0	0.0	4518.0	0.0	4518.1	-0.1	4518.1	-0.1	5,000
4514.6	0.3	4514.7	0.2	4514.9	0.0	4515.0	-0.1	4515.1	-0.2	4515.2	-0.3	4515.3	-0.4	4515.4	-0.5	4515.5	-0.6	4515.7	-0.8	4515.8	-0.9	4515.9	-1.0	4516.0	-1.1	4,200
4514.0	0.9	4514.2	0.7	4514.4	0.5	4514.5	0.4	4514.6	0.3	4514.8	0.1	4514.9	0.0	4515.0	-0.1	4515.2	-0.3	4515.3	-0.4	4515.5	-0.6	4515.6	-0.7	4515.8	-0.9	4,600
4512.1	2.5	4512.4	2.2	4512.6	2.0	4512.5	2.1	4512.6	2.0	4512.8	1.8	4512.9	1.7	4512.3	2.3	4512.4	2.2	4512.5	2.1	4512.5	2.1	4512.6	2.0	4512.7	1.9	5,000
4510.6	0.4	4510.8	0.3	4511.0	0.1	4511.2	-0.2	4511.3	-0.3	4511.5	-0.4	4511.6	-0.6	4511.8	-0.8	4511.9	-0.9	4512.1	-1.1	4512.2	-1.2	4512.4	-1.4	4512.5	-1.5	3,800
4509.3	2.5	4509.5	2.3	4509.7	2.1	4509.9	1.9	4509.8	2.0	4510.0	1.8	4510.1	1.7	4510.2	1.6	4510.4	1.4	4510.5	1.3	4510.6	1.2	4510.8	1.0	4510.9	0.9	5,000
4508.3	1.8	4508.5	1.6	4508.7	1.4	4508.9	1.2	4508.3	1.8	4508.3	1.8	4508.4	1.7	4508.2	1.9	4508.3	1.8	4508.4	1.7	4508.5	1.6	4508.6	1.5	4508.7	1.4	5,000
4507.0	0.7	4507.2	0.5	4507.4	0.3	4507.7	0.1	4507.9	-0.2	4507.9	-0.2	4507.8	-0.1	4507.9	-0.2	4508.1	-0.4	4508.3	-0.6	4508.4	-0.7	4508.6	-0.9	4508.7	-1.0	4,400
4505.4	1.5	4505.6	1.3	4505.8	1.1	4506.0	0.9	4505.3	1.6	4506.3	0.6	4505.5	1.4	4505.6	1.3	4505.7	1.2	4505.8	1.1	4505.8	1.1	4505.9	1.0	4505.9	1.0	5,000
4503.6	0.5	4503.8	0.4	4503.9	0.2	4504.1	0.0	4504.3	-0.2	4504.0	0.1	4504.2	-0.1	4504.3	-0.2	4504.4	-0.3	4504.5	-0.4	4504.6	-0.5	4504.8	-0.6	4504.9	-0.8	4,600
4500.8	3.4	4500.9	3.3	4501.0	3.2	4501.1	3.1	4501.2	3.0	4501.2	3.0	4501.3	2.9	4501.4	2.8	4501.4	2.8	4501.5	2.7	4501.6	2.6	4501.6	2.6	4501.7	2.5	5,000
4500.0	0.2	4500.1	0.1	4500.3	-0.1	4500.4	-0.2	4500.5	-0.3	4500.6	-0.4	4500.7	-0.4	4500.7	-0.5	4500.8	-0.6	4500.9	-0.7	4501.0	-0.8	4501.1	-0.9	4501.1	-0.9	4,000
4499.3	1.0	4499.4	0.9	4499.6	0.8	4499.7	0.7	4499.8	0.5	4499.9	0.4	4500.0	0.4	4500.0	0.3	4500.1	0.2	4500.2	0.1	4500.2	0.1	4500.3	0.0	4500.4	-0.1	5,000
4498.1	0.7	4498.2	0.6	4498.3	0.5	4498.4	0.4	4498.5	0.3	4498.7	0.2	4498.8	0.0	4498.9	-0.1	4499.0	-0.2	4499.1	-0.3	4499.2	-0.3	4499.2	-0.4	4499.3	-0.5	5,000
4497.2	2.4	4497.4	2.3	4497.4	2.2	4497.5	2.1	4497.6	2.0	4497.7	1.9	4497.8	1.8	4497.9	1.7	4498.0	1.6	4498.1	1.5	4498.2	1.5	4498.2	1.4	4498.3	1.3	5,000
4496.2	0.1	4496.3	0.0	4496.4	-0.1	4496.5	-0.2	4496.6	-0.3	4496.7	-0.4	4496.8	-0.4	4496.9	-0.6	4496.9	-0.6	4497.0	-0.7	4497.1	-0.8	4497.2	-0.9	4497.3	-1.0	4,000
4494.7	0.1	4494.8	0.0	4495.0	-0.2	4495.2	-0.3	4495.3	-0.5	4495.4	-0.6	4495.6	-0.8	4495.7	-0.9	4495.8	-1.0	4496.0	-1.2	4496.0	-1.2	4496.1	-1.3	4496.3	-1.4	3,600
4493.4	1.8	4493.6	1.6	4493.7	1.5	4493.8	1.4	4494.0	1.2	4494.1	1.1	4494.2	1.0	4494.3	0.9	4494.4	0.8	4494.5	0.7	4494.3	0.9	4494.4	0.8	4494.4	0.8	5,000
4491.5	1.1	4491.7	0.9	4491.8	0.8	4491.9	0.7	4492.1	0.6	4492.2	0.4	4492.3	0.3	4492.4	0.2	4492.5	0.1	4492.6	0.0	4492.7	-0.1	4492.8	-0.2	4492.9	-0.3	5,000
4490.2	-0.2	4490.4	-0.4	4490.6	-0.6	4490.8	-0.8	4490.8	-0.8	4490.9	-0.9	4491.1	-1.1	4491.2	-1.2	4491.1	-1.1	4491.2	-1.2	4491.3	-1.3	4491.4	-1.4	4491.5	-1.5	3,000

200 cfs		400 cfs		600 cfs		800 cfs		1000 cfs		1200 cfs		1400 cfs		1600 cfs		1800 cfs		2000 cfs		2200 cfs		2400 cfs	
W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)
4575.0	6.4	4575.5	5.9	4575.9	5.5	4576.2	5.2	4576.6	4.8	4576.9	4.5	4577.1	4.3	4577.3	4.1	4577.5	3.9	4577.7	3.7	4577.9	3.5	4578.0	3.4
4574.9	4.6	4575.4	4.1	4575.7	3.8	4576.0	3.5	4576.4	3.1	4576.6	2.9	4576.9	2.6	4577.1	2.4	4577.3	2.3	4577.4	2.1	4577.5	2.0	4577.7	1.8
4574.5	3.2	4574.8	2.8	4575.1	2.5	4575.3	2.3	4575.6	2.1	4575.8	1.8	4576.0	1.6	4576.2	1.4	4576.4	1.2	4576.6	1.1	4576.7	0.9	4576.8	0.8
4574.0	3.4	4574.3	3.1	4574.6	2.8	4574.9	2.5	4575.2	2.2	4575.5	1.9	4575.7	1.7	4575.9	1.5	4576.1	1.3	4576.2	1.2	4576.4	1.0	4576.5	0.9
4573.6	2.9	4574.0	2.6	4574.3	2.3	4574.5	2.0	4574.8	1.7	4575.1	1.4	4575.4	1.1	4575.6	0.9	4575.7	0.8	4575.9	0.6	4576.0	0.5	4576.2	0.3
4573.2	3.6	4573.6	3.1	4573.9	2.8	4574.3	2.4	4574.6	2.1	4574.9	1.8	4575.2	1.6	4575.3	1.4	4575.5	1.2	4575.7	1.1	4575.8	0.9	4575.9	0.8
4573.0	3.5	4573.4	3.1	4573.8	2.7	4574.1	2.4	4574.4	2.1	4574.8	1.7	4575.0	1.5	4575.2	1.3	4575.3	1.2	4575.5	1.0	4575.6	0.9	4575.8	0.7
4572.9	3.6	4573.3	3.2	4573.7	2.9	4574.0	2.5	4574.3	2.2	4574.7	1.8	4574.9	1.6	4575.1	1.4	4575.2	1.3	4575.3	1.2	4575.5	1.0	4575.6	0.9
4572.8	3.2	4573.1	2.9	4573.4	2.6	4573.6	2.4	4573.9	2.1	4574.3	1.7	4574.6	1.4	4574.7	1.3	4574.9	1.1	4575.0	1.0	4575.1	0.9	4575.2	0.8
4572.1	4.3	4572.6	3.8	4572.9	3.5	4573.2	3.2	4573.5	2.9	4573.8	2.6	4574.1	2.3	4574.3	2.1	4574.5	1.9	4574.6	1.8	4574.8	1.6	4574.9	1.5
4572.1	3.6	4572.5	3.2	4572.9	2.8	4573.2	2.5	4573.5	2.2	4573.8	1.9	4574.0	1.7	4574.2	1.5	4574.4	1.3	4574.6	1.1	4574.7	1.0	4574.9	0.8
4572.0	4.2	4572.5	3.8	4572.8	3.4	4573.1	3.1	4573.3	2.9	4573.7	2.5	4573.9	2.3	4574.0	2.2	4574.2	2.0	4574.4	1.8	4574.5	1.7	4574.7	1.5
4571.8	3.9	4572.2	3.5	4572.4	3.3	4572.7	3.0	4572.9	2.8	4573.1	2.6	4573.3	2.4	4573.4	2.3	4573.6	2.1	4573.8	1.9	4573.9	1.8	4574.0	1.7
4571.5	3.2	4571.8	2.9	4572.1	2.6	4572.3	2.4	4572.5	2.2	4572.7	2.0	4572.8	1.9	4573.0	1.7	4573.1	1.6	4573.2	1.5	4573.4	1.3	4573.5	1.2
4571.0	3.5	4571.2	3.3	4571.3	3.2	4571.5	3.0	4571.7	2.8	4571.8	2.7	4572.0	2.5	4572.2	2.3	4572.3	2.2	4572.5	2.0	4572.6	1.9	4572.7	1.8
4570.1	3.6	4570.5	3.2	4570.7	3.0	4571.0	2.7	4571.2	2.5	4571.4	2.3	4571.6	2.1	4571.8	1.9	4572.0	1.7	4572.1	1.6	4572.3	1.4	4572.4	1.3
4569.6	3.6	4569.9	3.3	4570.1	3.1	4570.4	2.8	4570.6	2.6	4570.8	2.4	4571.0	2.2	4571.2	2.0	4571.4	1.8	4571.5	1.7	4571.6	1.6	4571.7	1.5
4568.8	3.0	4569.1	2.7	4569.3	2.5	4569.5	2.3	4569.7	2.1	4569.9	1.9	4570.1	1.7	4570.3	1.5	4570.5	1.3	4570.6	1.2	4570.7	1.1	4570.8	1.0
4568.3	3.4	4568.6	3.1	4568.8	2.9	4569.1	2.6	4569.3	2.4	4569.5	2.2	4569.7	2.0	4570.0	1.7	4570.2	1.5	4570.3	1.4	4570.4	1.3	4570.5	1.2
4567.9	3.4	4568.3	3.0	4568.6	2.7	4568.9	2.4	4569.1	2.2	4569.3	2.0	4569.6	1.7	4569.8	1.5	4570.1	1.2	4570.2	1.1	4570.3	1.0	4570.4	0.9
4567.7	3.8	4568.1	3.4	4568.3	3.2	4568.6	2.9	4568.8	2.7	4569.0	2.5	4569.2	2.3	4569.4	2.1	4569.7	1.8	4569.8	1.7	4569.9	1.6	4570.0	1.5
4567.5	2.6	4567.8	2.3	4568.0	2.1	4568.2	1.9	4568.4	1.7	4568.6	1.5	4568.8	1.3	4568.9	1.2	4569.1	1.0	4569.2	0.9	4569.3	0.8	4569.4	0.7
4567.2	3.3	4567.5	3.0	4567.7	2.8	4567.9	2.6	4568.1	2.4	4568.3	2.2	4568.4	2.1	4568.6	1.9	4568.7	1.8	4568.9	1.6	4569.0	1.5	4569.2	1.4
4566.9	3.3	4567.2	3.0	4567.4	2.8	4567.6	2.6	4567.8	2.4	4568.0	2.3	4568.1	2.1	4568.2	2.0	4568.4	1.8	4568.5	1.7	4568.7	1.6	4568.8	1.4
4566.6	3.3	4566.8	3.1	4566.9	3.0	4566.9	3.0	4567.0	2.9	4567.1	2.8	4567.2	2.7	4567.3	2.6	4567.5	2.4	4567.6	2.3	4567.8	2.1	4567.9	2.0
4565.3	3.7	4565.5	3.6	4565.7	3.3	4566.2	2.8	4566.5	2.6	4566.6	2.4	4566.7	2.3	4566.9	2.1	4567.0	2.0	4567.1	1.9	4567.2	1.8	4567.3	1.7
4564.8	3.0	4565.2	2.6	4565.6	2.2	4566.0	1.8	4566.4	1.4	4566.5	1.3	4566.7	1.1	4566.8	1.0	4567.0	0.9	4567.1	0.8	4567.1	0.7	4567.2	0.6
4564.8	2.7	4565.2	2.3	4565.6	1.9	4566.0	1.5	4566.4	1.1	4566.5	1.0	4566.6	0.9	4566.8	0.7	4566.9	0.6	4567.0	0.5	4567.1	0.4	4567.2	0.4
4564.7	3.3	4564.9	3.0	4565.1	2.8	4565.3	2.6	4565.4	2.5	4566.2	1.7	4566.4	1.5	4566.6	1.3	4566.7	1.2	4566.8	1.1	4566.9	1.0	4566.9	1.0
4563.8	3.1	4564.2	2.7	4564.5	2.4	4564.8	2.1	4565.1	1.8	4565.4	1.5	4565.7	1.2	4565.9	1.0	4566.1	0.8	4566.2	0.7	4566.3	0.6	4566.4	0.5
4563.5	3.6	4564.0	3.1	4564.3	2.8	4564.6	2.5	4565.0	2.2	4565.2	1.9	4565.4	1.7	4565.6	1.5	4565.7	1.4	4565.8	1.3	4565.9	1.2	4566.0	1.1
4563.4	3.7	4563.8	3.3	4564.1	3.0	4564.3	2.8	4564.6	2.5	4564.8	2.3	4565.0	2.1	4565.2	1.9	4565.3	1.8	4565.4	1.7	4565.5	1.6	4565.6	1.5
4563.2	2.3	4563.5	2.0	4563.8	1.7	4564.0	1.5	4564.2	1.3	4564.3	1.2	4564.5	1.0	4564.8	0.7	4564.9	0.6	4565.0	0.5	4565.1	0.4	4565.2	0.3
4562.6	2.9	4562.8	2.7	4563.0	2.5	4563.2	2.3	4563.4	2.1	4563.6	1.9	4563.8	1.7	4564.1	1.4	4564.3	1.2	4564.4	1.1	4564.5	1.0	4564.6	0.9
4561.8	2.8	4562.2	2.5	4562.4	2.2	4562.7	1.9	4562.9	1.7	4563.1	1.5	4563.4	1.2	4563.6	1.0	4563.8	0.8	4564.0	0.6	4564.1	0.5	4564.3	0.4
4561.2	3.9	4561.5	3.6	4561.8	3.3	4562.0	3.1	4562.1	3.0	4562.3	2.8	4562.4	2.7	4562.6	2.5	4562.7	2.4	4562.9	2.2	4563.1	2.1	4563.1	2.0
4561.3	3.6	4561.6	3.3	4561.8	3.1	4562.0	2.9	4562.2	2.7	4562.4	2.5	4562.6	2.3	4562.8	2.1	4562.9	2.0	4563.1	1.8	4563.2	1.7	4563.3	1.6
4561.2	3.8	4561.5	3.5	4561.7	3.3	4561.9	3.1	4562.0	3.0	4562.1	2.9	4562.3	2.7	4562.4	2.6	4562.5	2.5	4562.8	2.2	4562.9	2.1	4563.0	2.0
4560.9	3.7	4561.1	3.5	4561.2	3.4	4561.4	3.2	4561.6	3.0	4561.7	2.9	4561.9	2.7	4562.0	2.6	4562.1	2.5	4562.2	2.4	4562.3	2.3	4562.4	2.2
4560.0	3.3	4560.3	3.0	4560.5	2.8	4560.7	2.6	4561.0	2.4	4561.2	2.1	4561.4	1.9	4561.5	1.8	4561.6	1.7	4561.7	1.6	4561.8	1.5	4561.9	1.4
4559.2	4.3	4559.6	3.9	4559.8	3.7	4560.1	3.4	4560.3	3.2	4560.6	2.9	4560.8	2.7	4561.0	2.5	4561.1	2.4	4561.2	2.3	4561.3	2.2	4561.3	2.2
4559.0	2.7	4559.3	2.4	4559.6	2.1	4559.8	1.9	4560.0	1.7	4560.2	1.5	4560.4	1.3	4560.6	1.1	4560.7	1.0	4560.8	0.9	4560.9	0.8	4561.0	0.7
4558.7	2.5	4559.0	2.2	4559.2	2.0	4559.3	1.9	4559.4	1.8	4559.6	1.6	4559.8	1.4	4560.0	1.2	4560.1	1.1	4560.2	1.0	4560.3	0.9	4560.4	0.8
4557.6	3.8	4557.7	3.7	4557.9	3.5	4558.1	3.3	4558.4	3.0	4558.6	2.8	4558.7	2.7	4558.9	2.5	4559.0	2.4	4559.1	2.3	4559.2	2.2	4559.3	2.1
4557.3	2.9	4557.6	2.6	4557.8	2.4	4558.1	2.1	4558.4	1.8	4558.6	1.6	4558.7	1.5	4558.9	1.3	4559.0	1.2	4559.1	1.1	4559.2	1.1	4559.2	1.0
4557.2	3.4	4557.4	3.2	4557.7	2.9	4557.9	2.7	4558.3	2.3	4558.4	2.2	4558.6	2.0	4558.7	1.9	4558.8	1.8	4558.9	1.7	4559.0	1.7	4559.0	1.6
4556.8	3.4	4557.1	3.1	4557.4	2.8	4557.6	2.6	4558.1	2.1	4558.2	2.0	4558.3	1.9	4558.4	1.8	4558.5	1.7	4558.6	1.6	4558.7	1.5	4558.7	1.5
4556.4	3.2	4556.7	2.9	4557.0	2.6	4557.3	2.3	4557.7	1.9	4557.9	1.7	4558.0	1.6	4558.1	1.5	4558.2	1.4	4558.3	1.3	4558.4	1.2	4558.5	1.1
4555.6	4.1	4555.8	3.9	4556.0	3.7	4556.3	3.4	4556.5	3.3	4556.7	3.0	4557.0	2.7	4557.2	2.5	4557.4	2.3	4557.6	2.1	4557.7	2.0	4557.8	1.9
4555.3	3.8	4555.6	3.5	4555.9	3.2	4556.1	3.0	4556.3	2.8	4556.5	2.6	4556.7	2.4	4556.9	2.2	4557.1	2.1	4557.2	2.0	4557.3	1.9	4557.3	1.8
4555.2	3.8	4555.5	3.5	4555.7	3.3	4555.9	3.1	4556.2	2.9	4556.4	2.6	4556.6	2.4	4556.8	2.3	4556.9	2.1	4557.0	2.0	4557.1	1.9	4557.2	1.9
4555.1	4.1	4555.4	3.8	4555.6	3.6	4555.8	3.4	4555.9	3.3	4556.2	3.1	4556.4	2.8	4556.6	2.6	4556.7	2.5	4556.8	2.4	4556.9	2.3	4557.0	2.2
4554.8	3.3	4555.0	3.1	4555.3	2.9	4555.4	2.7	4555.6	2.5	4555.8	2.3	4556.0	2.1	4556.1	2.0	4556.3	1.8	4556.4	1.7	4556.5	1.6	4556.6	1.5
4554.5	6.3	4554.8	6.0	4555.0	5.9	4555.1	5.7	4555.3	5.5	4555.4	5.4	4555.6	5.2	4555.7	5.1	4555.9	4.9	4556.0	4.8	4556.1	4.7	4556.2	4.6
4553.8	4.8	4553.9	4.6	4554.1	4.4	4554.2	4.3	4554.3	4.2	4554.4	4.1	4554.5	4.0	4554.6	3.9	4554.7	3.8	4554.9	3.6	4555.0	3.5	4555.1	3.4
4552.6	5.3	4552.9	5.0	4553.2	4.7	4553.5	4.4	4553.7	4.2	4553.9	4.0	4554.1	3.8	4554.2	3.7	4554.3	3.6	4554.4	3.5	4554.5	3.4	4554.6	3.3
4552.4	2.6	4552.7	2.3	4553.0	2.0	4553.2	1.8	4553.4	1.6	4553.6	1.4	4553.9	1.1	4554.0	1.0	4554.2	0.9	4554.3	0.7	4554.4	0.6	4554.4	0.6
4552.2	2.7	4552.5	2.4	4552.8	2.1	4553.0	1.9	4553.1	1.8	4553.3	1.6	4553.6	1.3	4553.8	1.1	4553.9	1.0	4554.0	0.9	4554.1	0.8	4554.2	0.7
4551.7	4.4	4551.9	4.2	4552.0	4.1	4552.3	3.8	4552.6	3.5	4552.8	3.3	4553.2	2.9	4553.4	2.8	4553.5	2.6	4553.6	2.5	4553.7	2.4	4553.8	2.3
4551.3	3.1	4551.7	2.6	4552.0	2.3	4552.3	2.0	4552.5	1.8	4552.8	1.5	4553.2	1.1	4553.3	1.0	4553.4	0.9	4553.5	0.8	4553.6	0.7	4553.7	0.6
4551.2	4.4	4551.6	4.0	4551.9	3.7	4552.2	3.4	4552.4	3.2	4552.7	2.9	4553.1	2.5	4553.2	2.4	4553.3	2.3	4553.4	2.2	4553.5	2.2	4553.5	2.1
4551.0	4.0	4551.3	3.7	4551.6	3.4	4551.8	3.2	4552.0	3.0	4552.3	2.7	4552.7	2.3	4552.8	2.2	4552.9	2.1	4553.0	2.0	4553.0	2.0	4553.1	1.9
4550.3	3.8	4550.6	3.5	4550.8	3.3	4551.0	3.1	4551.2	2.9	4551.5	2.6	4551.9	2.2	4552.1	2.1	4552.2	1.9	4552.3	1.8	4552.4	1.7	4552.5	1.6
4549.6	4.1	4549.9	3.8	4550.2	3.5	4550.4	3.3	4550.7	3.0	4550.9	2.8	4551.2	2.5	4551.4	2.3	4551.6	2.1	4551.7	2.0	4551.9	1.8	4552.1	1.6
4549.2	4.5	4549.5	4.2	4549.8	3.9	4550.0	3.7	4550.3	3.4	4550.6	3.1	4550.8	2.9	4551.0	2.7	4551.2	2.5	4551.4	2.3	4551.6	2.1	4551.8	1.9
4548.8	5.1	4549.1	4.8	4549.3	4.6	4549.6	4.3	4549.9	4.0	4550.1	3.8	4550.4	3.5	4550.7	3.3	4550.9	3.0	4551.1	2.8	4551.3	2.6	4551.5	2.4
4548.0	5.7	4548.5	5.2	4548.9	4.8	4549.2	4.5	4549.5	4.2	4549.8	3.9	4550.1	3.6	4550.3	3.4	4550.6	3.1	4550.8	2.9	4551.0	2.7	4551.2	2.5
4547.8	4.8	4548.3	4.3	4548.7	3.9	4549.0	3.6	4549.3	3.3	4549.6	3.0	4549.9	2.7	4550.1	2.5	4550.4	2.2	4550.6	2.0	4550.8	1.8	4551.0	1.6
4547.7	5.1	4548.1	4.7	4548.5	4.3	4548.8	4.0	4549.1	3.8	4549.3	3.5	4549.6	3.2	4549.8	3.0	4550.0	2.8	4550.3	2.6	4550.5	2.3	4550.7	2.1
4547.4	5.2	4547.8	4.8	4548.1	4.5	4548.4	4.2	4548.7	3.9	4549.0	3.7	4549.2	3.4	4549.4	3.2	4549.7	2.9	4549.9	2.7	4550.1	2.5	4550.3	2.3
4546.5	5.2	4546.9	4.8	4547.3	4.4	4547.7	4.0	4548.1	3.6	4548.4	3.3	4548.7	3.1	4548.9	2.8	4549.1	2.6	4549.4	2.3	4549.6	2.1	4549.8	1.9
4546.0	4.5	4546.6	3.9	4547.1	3.4	4547.6	2.9	4547.9	2.6	4548.3	2.3	4548.5	2.0	4548.8	1.7	4549.0	1.5	4549.2	1.3	4549.5	1.1	4549.7	0.8
4545.9	6.1	4546.5	5.5	4547.0	5.0	4547.4	4.6	4547.8	4.2	4548.1	3.9	4548.4	3.6	4548.6	3.4	4548.8	3.2	4549.0	3.0	4549.2	2.8	4549.4	2.6
4545.7	6.2	4546.3	5.6	4546.8	5.1	4547.3	4.6	4547.6	4.3	4547.9	4.0	4548.2	3.7	4548.4	3.5	4548.6	3.3	4548.8	3.1	4549.0	2.9	4549.2	2.7
4545.6	4.5	4546.2	3.9	4546.6	3.5	4547.1	3.0	4547.4	2.7	4547.7	2.4	4547.9	2.2	4548.1	2.0	4548.3	1.8	4548.5	1.6	4548.6	1.5	4548.8	1.3
4545.5	4.8	4546.1	4.2	4546.6	3.7	4547.0	3.3	4547.4	2.9	4547.7	2.6	4547.9	2.4	4548.1	2.2	4548.3	2.0	4548.5	1.8	4548.6	1.7	4548.8	1.5
4545.4	4.4	4546.0	3.8	4546.5	3.3	4546.9	2.9	4547.3	2.6	4547.6	2.2	4547.8	2.0	4548.0	1.8	4548.2	1.6	4548.3	1.5	4548.5	1.3	4548.7	1.1
4545.2	4.9	4545.7	4.4	4546.1	4.0	4546.4	3.7	4546.7	3.4	4547.0	3.1	4547.2	2.9	4547.4	2.7	4547.6	2.5	4547.8	2.3	4548.0	2.2	4548.1	2.0
4545.0	4.7	4545.5	4.2	4545.9	3.8	4546.2	3.5	4546.5	3.2	4546.8	2.9	4547.0	2.7	4547.2	2.6	4547.3	2.4	4547.5	2.2	4547.6	2.1	4547.8	1.9
4544.8	4.5	4545.3	4.0	4545.7	3.6	4546.1	3.3	4546.3	3.0	4546.6	2.7	4546.8	2.5	4546.9	2.4	4547.1	2.2	4547.2	2.1	4547.4	1.9	4547.5	1.8
4544.5	4.2	4545.0	3.7	4545.3	3.4	4545.6	3.1	4545.9	2.8	4546.1	2.6	4546.3	2.4	4546.4	2.3	4546.6	2.1	4546.7	2.0	4546.8	1.9	4547.0	1.8
4544.4	3.1	4544.8	2.8	4545.1	2.4	4545.4	2.1	4545.6	1.9	4545.8	1.7	4545.9	1.6	4546.1	1.4	4546.2	1.3	4546.3	1.2	4546.4	1.1	4546.5	1.0
4544.1	3.3	4544.4	3.0	4544.7	2.7	4544.9	2.5	4545.1	2.3	4545.3	2.1	4545.5	1.9	4545.6	1.8	4545.7	1.7	4545.8	1.6	4545.9	1.5	4546.1	1.3
4543.7	3.7	4544.0	3.4	4544.2	3.2	4544.4	3.0	4544.6	2.8	4544.8	2.6	4544.9	2.5	4545.0	2.4	4545.2	2.2	4545.3	2.1	4545.5	1.9	4545.6	1.8
4542.7	4.2	4542.9	4.0	4543.1	3.8	4543.2	3.7	4543.4	3.5	4543.5	3.4	4543.7	3.2	4543.9	3.0	4544.2	2.7	4544.4	2.5	4544.6	2.3	4544.8	2.1
4541.4	5.5	4541.9	5.0	4542.3	4.6	4542.7	4.2	4543.0	3.9	4543.2	3.7	4543.5	3.4	4543.7	3.2	4543.9	3.0	4544.2	2.8	4544.4	2.5	4544.5	2.4
4541.2	3.2	4541.7	2.7	4542.1	2.3	4542.4	2.0	4542.7	1.7	4543.0	1.4	4543.2	1.2	4543.4	1.0	4543.6	0.8	4543.8	0.6	4544.0	0.4	4544.1	0.3
4540.8	3.5	4541.3	3.0	4541.7	2.6	4542.0	2.3	4542.2	2.1	4542.5	1.8	4542.7	1.6	4542.9	1.4	4543.1	1.2	4543.2	1.1	4543.4	0.9	4543.6	0.7
4540.8	3.0	4541.2	2.6	4541.6	2.2	4541.9	1.9	4542.2	1.7	4542.4	1.4	4542.6	1.2	4542.8	1.0	4543.0	0.9	4543.1	0.7	4543.3	0.5	4543.4	0.4
4540.7	2.4	4541.1	2.0	4541.5	1.6	4541.7	1.4	4542.0	1.1	4542.2	0.9	4542.4	0.8	4542.5	0.6	4542.7	0.4	4542.9	0.3	4543.0	0.1	4543.2	0.0
4540.6	4.4	4541.0	4.1	4541.3	3.7	4541.6	3.4	4541.8	3.2	4542.0	3.0	4542.1	2.9	4542.3	2.7	4542.5	2.5	4542.6	2.4	4542.8	2.2	4542.9	2.1
4540.3	4.6	4540.7	4.2	4541.1	3.8	4541.4	3.5	4541.6	3.3	4541.7	3.2	4541.9	3.0	4542.1	2.8	4542.2	2.7	4542.4	2.5	4542.5	2.4	4542.6	2.3
4540.0	3.2	4540.3	2.9	4540.7	2.5	4541.0	2.3	4541.2	2.1	4541.3	1.9	4541.5	1.7	4541.7	1.5	4541.8	1.4	4542.0	1.2	4542.1	1.1	4542.3	0.9

4539.7	2.6	4540.0	2.3	4540.3	2.1	4540.5	1.8	4540.7	1.6	4540.9	1.4	4541.1	1.2	4541.3	1.0	4541.5	0.8	4541.6	0.7	4541.8	0.5	4541.9	0.4
4539.1	3.4	4539.6	2.9	4539.9	2.6	4540.2	2.3	4540.4	2.1	4540.6	1.9	4540.8	1.7	4541.0	1.5	4541.1	1.4	4541.3	1.2	4541.4	1.1	4541.6	0.9
4538.9	2.7	4539.4	2.2	4539.7	1.9	4540.0	1.6	4540.2	1.4	4540.4	1.2	4540.6	1.0	4540.7	0.9	4540.9	0.7	4541.0	0.6	4541.2	0.5	4541.3	0.3
4538.7	3.0	4539.1	2.6	4539.4	2.3	4539.6	2.1	4539.8	1.9	4540.0	1.7	4540.1	1.6	4540.3	1.4	4540.4	1.3	4540.5	1.2	4540.6	1.1	4540.8	0.9
4538.3	2.3	4538.6	2.0	4538.7	1.9	4538.9	1.7	4539.2	1.4	4539.4	1.2	4539.5	1.1	4539.7	1.0	4539.8	0.8	4539.9	0.7	4540.0	0.6	4540.1	0.5
4537.3	3.0	4537.7	2.6	4538.0	2.3	4538.3	2.0	4538.7	1.7	4538.8	1.5	4539.0	1.3	4539.1	1.2	4539.2	1.1	4539.3	1.0	4539.4	0.9	4539.5	0.8
4537.0	3.0	4537.5	2.5	4537.8	2.2	4538.1	1.9	4538.3	1.7	4538.5	1.5	4538.6	1.4	4538.7	1.3	4538.8	1.2	4538.9	1.1	4539.0	1.1	4539.0	1.0
4537.0	2.8	4537.4	2.4	4537.7	2.1	4538.0	1.8	4538.2	1.6	4538.3	1.5	4538.4	1.4	4538.5	1.3	4538.6	1.2	4538.7	1.1	4538.7	1.1	4538.8	1.0
4536.7	3.9	4537.0	3.6	4537.2	3.4	4537.4	3.2	4537.5	3.1	4537.7	2.9	4537.8	2.8	4537.9	2.7	4538.1	2.5	4538.2	2.4	4538.3	2.3	4538.4	2.2
4535.9	2.6	4536.4	2.1	4536.7	1.8	4536.9	1.6	4537.1	1.4	4537.2	1.3	4537.4	1.1	4537.6	0.9	4537.8	0.7	4537.9	0.6	4538.0	0.5	4538.1	0.4
4535.3	2.8	4535.6	2.5	4535.8	2.3	4536.1	2.0	4536.3	1.8	4536.6	1.5	4536.9	1.3	4537.2	0.9	4537.3	0.8	4537.5	0.6	4537.6	0.5	4537.7	0.5
4534.2	3.8	4534.7	3.3	4535.1	2.9	4535.4	2.6	4535.7	2.3	4536.0	2.0	4536.3	1.7	4536.6	1.4	4536.7	1.3	4536.8	1.2	4536.9	1.1	4537.0	1.0
4534.1	3.9	4534.6	3.4	4534.9	3.1	4535.2	2.8	4535.4	2.6	4535.6	2.4	4535.8	2.2	4536.0	2.0	4536.1	1.9	4536.2	1.8	4536.3	1.7	4536.4	1.6
4534.1	2.7	4534.5	2.3	4534.8	2.0	4535.1	1.8	4535.2	1.6	4535.4	1.4	4535.6	1.2	4535.7	1.1	4535.8	1.0	4535.9	0.9	4536.0	0.8	4536.0	0.8
4534.0	2.6	4534.4	2.2	4534.7	1.9	4534.9	1.7	4535.0	1.6	4535.1	1.5	4535.3	1.3	4535.4	1.2	4535.5	1.1	4535.6	1.0	4535.7	0.9	4535.7	0.9
4533.7	2.4	4533.9	2.1	4534.0	2.0	4534.1	1.9	4534.3	1.7	4534.5	1.5	4534.6	1.4	4534.8	1.2	4534.9	1.1	4535.0	1.0	4535.1	0.9	4535.2	0.8
4532.8	2.4	4533.2	2.1	4533.4	1.8	4533.6	1.6	4533.8	1.4	4534.0	1.2	4534.2	1.0	4534.3	0.9	4534.5	0.7	4534.6	0.6	4534.8	0.4	4534.9	0.3
4532.8	3.2	4533.0	3.0	4533.3	2.7	4533.4	2.6	4533.6	2.4	4533.7	2.3	4533.8	2.2	4533.9	2.1	4534.1	1.9	4534.2	1.8	4534.4	1.6	4534.5	1.5
4532.5	2.5	4532.6	2.4	4532.7	2.3	4532.8	2.2	4532.9	2.1	4533.1	1.9	4533.3	1.7	4533.4	1.6	4533.6	1.4	4533.7	1.3	4533.8	1.2	4533.9	1.1
4531.5	3.0	4531.9	2.6	4532.2	2.3	4532.5	2.0	4532.8	1.7	4533.0	1.5	4533.2	1.3	4533.3	1.2	4533.4	1.1	4533.5	1.0	4533.6	0.9	4533.7	0.8
4531.3	2.7	4531.6	2.4	4531.9	2.1	4532.2	1.8	4532.5	1.5	4532.7	1.3	4532.8	1.2	4532.9	1.1	4533.0	1.0	4533.1	0.9	4533.2	0.8	4533.3	0.7
4530.8	3.3	4531.2	2.9	4531.5	2.6	4531.9	2.2	4532.2	1.9	4532.3	1.8	4532.4	1.7	4532.5	1.6	4532.6	1.5	4532.7	1.4	4532.8	1.3	4532.9	1.2
4530.6	2.8	4530.9	2.5	4531.3	2.1	4531.6	1.8	4531.8	1.6	4532.0	1.4	4532.1	1.3	4532.2	1.2	4532.3	1.1	4532.4	1.0	4532.5	0.9	4532.6	0.8
4530.3	2.2	4530.7	1.8	4531.1	1.4	4531.4	1.1	4531.6	0.9	4531.7	0.8	4531.8	0.7	4531.9	0.6	4532.0	0.5	4532.1	0.4	4532.2	0.3	4532.3	0.2
4530.0	3.2	4530.4	2.7	4530.9	2.2	4531.1	2.0	4531.3	1.8	4531.4	1.7	4531.5	1.6	4531.6	1.5	4531.7	1.4	4531.8	1.3	4531.9	1.2	4531.9	1.2
4529.7	2.4	4530.2	1.9	4530.7	1.4	4530.9	1.2	4531.0	1.1	4531.1	1.0	4531.2	0.9	4531.3	0.8	4531.4	0.7	4531.5	0.6	4531.6	0.5	4531.6	0.5
4529.2	2.3	4529.4	2.1	4529.5	2.0	4529.7	1.8	4529.8	1.7	4529.9	1.6	4530.0	1.5	4530.1	1.4	4530.2	1.3	4530.3	1.2	4530.4	1.1	4530.5	1.1
4528.9	3.0	4529.1	2.8	4529.2	2.7	4529.4	2.5	4529.5	2.4	4529.6	2.3	4529.7	2.2	4529.8	2.1	4529.9	2.0	4530.0	1.9	4530.1	1.8	4530.1	1.8
4528.9	1.9	4529.0	1.8	4529.1	1.7	4529.2	1.6	4529.3	1.5	4529.4	1.4	4529.5	1.3	4529.6	1.2	4529.7	1.1	4529.8	1.1	4529.8	1.0	4529.9	0.9
4527.8	2.6	4528.0	2.4	4528.4	2.0	4528.6	1.8	4528.8	1.6	4528.9	1.5	4529.0	1.4	4529.1	1.3	4529.2	1.2	4529.2	1.2	4529.3	1.1	4529.4	1.0
4527.2	2.9	4527.6	2.5	4528.0	2.1	4528.2	1.9	4528.4	1.7	4528.5	1.6	4528.6	1.5	4528.7	1.4	4528.8	1.3	4528.9	1.2	4529.0	1.1	4529.1	1.1
4527.0	3.5	4527.4	3.1	4527.7	2.8	4527.9	2.6	4528.1	2.4	4528.2	2.3	4528.3	2.2	4528.4	2.1	4528.5	2.0	4528.6	1.9	4528.7	1.8	4528.8	1.7
4526.6	3.4	4526.9	3.1	4527.2	2.8	4527.4	2.6	4527.6	2.4	4527.8	2.2	4528.0	2.1	4528.1	1.9	4528.2	1.8	4528.3	1.7	4528.4	1.6	4528.4	1.6
4526.3	3.7	4526.8	3.3	4527.0	3.0	4527.2	2.8	4527.4	2.6	4527.6	2.4	4527.7	2.3	4527.9	2.1	4528.0	2.0	4528.1	1.9	4528.2	1.9	4528.2	1.8
4526.3	2.8	4526.7	2.3	4526.9	2.1	4527.1	1.9	4527.3	1.7	4527.4	1.6	4527.5	1.5	4527.7	1.3	4527.8	1.2	4527.9	1.1	4527.9	1.1	4528.0	1.0
4526.2	2.5	4526.6	2.1	4526.8	1.9	4527.0	1.7	4527.1	1.6	4527.2	1.5	4527.3	1.4	4527.5	1.3	4527.6	1.1	4527.6	1.1	4527.7	1.0	4527.8	0.9
4525.9	2.1	4526.2	1.8	4526.4	1.6	4526.6	1.4	4526.7	1.3	4526.8	1.2	4526.9	1.1	4527.0	1.0	4527.1	0.9	4527.2	0.8	4527.3	0.8	4527.3	0.7
4525.8	2.2	4526.1	1.9	4526.3	1.7	4526.4	1.6	4526.6	1.4	4526.7	1.4	4526.7	1.3	4526.8	1.2	4526.9	1.1	4527.0	1.0	4527.1	0.9	4527.1	0.9
4525.5	1.3	4525.7	1.2	4525.7	1.1	4525.8	1.0	4525.9	0.9	4526.0	0.9	4526.1	0.8	4526.2	0.6	4526.4	0.4	4526.5	0.3	4526.6	0.2	4526.7	0.2
4522.7	3.7	4523.2	3.2	4523.6	2.8	4523.8	2.6	4524.0	2.4	4524.2	2.2	4524.3	2.1	4524.5	1.9	4524.6	1.8	4524.8	1.6	4524.9	1.5	4525.0	1.4
4522.7	2.5	4523.2	2.0	4523.6	1.6	4523.8	1.4	4524.0	1.2	4524.1	1.1	4524.2	1.0	4524.3	0.9	4524.5	0.8	4524.6	0.6	4524.7	0.5	4524.8	0.4
4522.7	2.9	4523.2	2.4	4523.6	2.1	4523.8	1.8	4523.9	1.7	4524.1	1.5	4524.2	1.4	4524.3	1.3	4524.4	1.2	4524.5	1.1	4524.6	1.0	4524.7	0.9
4522.3	3.0	4522.7	2.6	4523.1	2.2	4523.4	1.9	4523.6	1.7	4523.6	1.7	4523.7	1.6	4523.8	1.5	4523.9	1.4	4524.0	1.3	4524.0	1.3	4524.1	1.2
4522.0	4.3	4522.3	3.9	4522.5	3.7	4522.7	3.5	4522.9	3.3	4523.0	3.2	4523.1	3.1	4523.2	3.0	4523.3	2.9	4523.4	2.8	4523.4	2.8	4523.5	2.7
4521.4	2.4	4521.6	2.2	4521.8	2.1	4522.0	1.8	4522.3	1.5	4522.5	1.3	4522.7	1.1	4522.8	1.0	4522.9	0.9	4523.0	0.8	4523.1	0.8	4523.1	0.7
4521.0	3.1	4521.2	2.9	4521.5	2.6	4521.8	2.3	4522.0	2.1	4522.2	1.9	4522.4	1.7	4522.5	1.6	4522.6	1.5	4522.7	1.4	4522.8	1.3	4522.9	1.2
4520.7	2.7	4520.9	2.5	4521.1	2.3	4521.6	1.8	4521.8	1.6	4521.9	1.5	4522.1	1.3	4522.2	1.2	4522.3	1.1	4522.4	1.0	4522.5	0.9	4522.5	0.9
4519.9	2.9	4520.4	2.4	4520.8	2.0	4521.3	1.5	4521.4	1.4	4521.6	1.2	4521.7	1.1	4521.8	1.0	4521.9	0.9	4521.9	0.9	4522.0	0.8	4522.1	0.8
4519.7	2.7	4520.2	2.3	4520.5	1.9	4520.9	1.5	4521.1	1.3	4521.3	1.1	4521.3	1.1	4521.4	1.0	4521.5	0.9	4521.6	0.8	4521.6	0.8	4521.7	0.7
4519.6	2.4	4519.9	2.1	4520.1	1.9	4520.3	1.7	4520.6	1.4	4520.8	1.2	4520.9	1.1	4521.0	1.0	4521.1	0.9	4521.1	0.9	4521.2	0.8	4521.3	0.8
4519.2	2.3	4519.4	2.1	4519.6	1.9	4519.8	1.7	4520.0	1.6	4520.1	1.4	4520.2	1.3	4520.3	1.2	4520.3	1.2	4520.4	1.1	4520.4	1.1	4520.5	1.0
4518.3	3.5	4518.5	3.3	4518.8	3.0	4519.0	2.8	4519.2	2.6	4519.3	2.5	4519.5	2.3	4519.6	2.2	4519.7	2.1	4519.7	2.1	4519.8	2.0	4519.9	1.9
4517.5	2.3	4517.9	1.9	4518.3	1.5	4518.5	1.3	4518.7	1.1	4518.8	1.0	4518.9	0.9	4519.0	0.8	4519.1	0.7	4519.2	0.6	4519.3	0.5	4519.4	0.4
4517.3	2.4	4517.7	2.0	4518.0	1.8	4518.2	1.5	4518.3	1.4	4518.5	1.3	4518.5	1.2	4518.6	1.1	4518.7	1.0	4518.8	0.9	4518.8	0.9	4518.9	0.8
4517.1	2.1	4517.4	1.8	4517.5	1.8	4517.7	1.5	4517.8	1.4	4517.9	1.3	4518.0	1.2	4518.1	1.1	4518.1	1.1	4518.2	1.0	4518.3	0.9	4518.3	0.9
4515.8	3.0	4516.1	2.7	4516.6	2.2	4516.8	2.0	4517.0	1.8	4517.1	1.7	4517.3	1.5	4517.4	1.4	4517.5	1.3	4517.6	1.2	4517.7	1.2	4517.7	1.1
4515.4	2.8	4515.9	2.3	4516.4	1.8	4516.7	1.5	4516.8	1.4	4516.9	1.3	4517.0	1.2	4517.1	1.1	4517.2	1.0	4517.3	0.9	4517.4	0.8	4517.5	0.7
4515.1	3.1	4515.6	2.6	4516.2	2.1	4516.4	1.8	4516.5	1.7	4516.6	1.6	4516.7	1.5	4516.8	1.4	4516.9	1.3	4516.9	1.3	4517.0	1.2	4517.1	1.1
4514.8	2.6	4515.2	2.2	4515.6	1.8	4515.8	1.6	4516.0	1.4	4516.1	1.3	4516.2	1.2	4516.3	1.1	4516.3	1.1	4516.4	1.0	4516.5	0.9	4516.5	0.9
4514.6	2.3	4515.0	1.9	4515.2	1.7	4515.5	1.4	4515.6	1.3	4515.8	1.1	4515.8	1.1	4515.9	1.0	4516.0	0.9	4516.0	0.9	4516.1	0.8	4516.2	0.7
4513.7	2.8	4513.9	2.6	4514.5	2.0	4514.9	1.6	4515.1	1.4	4515.2	1.3	4515.3	1.2	4515.4	1.1	4515.5	1.0	4515.6	0.9	4515.6	0.9	4515.7	0.8
4513.4	3.6	4513.9	3.1	4514.3	2.7	4514.7	2.4	4514.8	2.2	4514.9	2.1	4515.0	2.0	4515.1	1.9	4515.2	1.8	4515.3	1.7	4515.4	1.6	4515.5	1.5
4513.3	2.9	4513.7	2.5	4514.1	2.1	4514.4	1.8	4514.5	1.7	4514.6	1.6	4514.8	1.4	4514.9	1.3	4515.0	1.2	4515.1	1.1	4515.2	1.1	4515.3	0.9
4513.0	2.4	4513.2	2.1	4513.5	1.9	4513.7	1.6	4513.8	1.5	4513.9	1.4	4514.1	1.2	4514.2	1.1	4514.3	1.0	4514.4	0.9	4514.5	0.8	4514.6	0.7
4512.3	2.6	4512.6	2.3	4513.0	1.9	4513.2	1.7	4513.3	1.6	4513.5	1.4	4513.6	1.3	4513.7	1.2	4513.8	1.1	4513.9	1.0	4513.9	1.0	4514.0	0.9
4511.7	2.9	4512.0	2.6	4512.5	2.1	4512.8	1.9	4512.9	1.7	4513.0	1.6	4513.2	1.5	4513.3	1.3	4513.4	1.2	4513.5	1.1	4513.6	1.0	4513.7	0.9
4511.0	2.6	4511.4	2.1	4511.8	1.7	4512.2	1.3	4512.4	1.1	4512.6	0.9	4512.7	0.8	4512.9	0.6	4513.0	0.5	4513.2	0.4	4513.3	0.2	4513.4	0.1
4510.6	2.9	4511.0	2.5	4511.5	2.0	4511.9	1.6	4512.1	1.4	4512.3	1.2	4512.5	1.0	4512.7	0.9	4512.8	0.7	4512.9	0.6	4513.0	0.5	4513.1	0.4
4510.2	3.5	4510.7	3.0	4511.2	2.5	4511.6	2.1	4511.8	1.9	4512.1	1.6	4512.3	1.4	4512.4	1.3	4512.6	1.1	4512.7	1.0	4512.8	0.9	4512.9	0.8
4510.1	3.2	4510.6	2.7	4511.1	2.2	4511.5	1.8	4511.7	1.6	4511.9	1.4	4512.1	1.3	4512.2	1.1	4512.4	0.9	4512.5	0.9	4512.6	0.8	4512.6	0.7
4510.1	3.6	4510.5	3.2	4511.0	2.7	4511.4	2.3	4511.6	2.1	4511.7	2.0	4511.9	1.8	4512.1	1.6	4512.2	1.5	4512.3	1.4	4512.4	1.3	4512.5	1.2
4510.0	3.9	4510.4	3.5	4510.8	3.1	4511.2	2.7	4511.4	2.5	4511.6	2.3	4511.7	2.2	4511.9	2.0	4512.1	1.8	4512.2	1.7	4512.3	1.6	4512.4	1.5
4509.9	4.1	4510.2	3.8	4510.5	3.5	4510.8	3.2	4511.0	3.0	4511.2	2.8	4511.4	2.6	4511.7	2.3	4511.9	2.1	4512.0	2.0	4512.1	1.9	4512.2	1.8
4509.8	4.3	4510.1	4.0	4510.4	3.7	4510.6	3.5	4510.8	3.3	4511.0	3.1	4511.1	3.0	4511.4	2.7	4511.6	2.5	4511.7	2.4	4511.8	2.3	4511.9	2.3
4509.6	2.9	4509.7	2.8	4509.9	2.6	4510.0	2.5	4510.1	2.4	4510.2	2.3	4510.4	2.1	4510.6	1.9	4510.7	1.8	4510.8	1.7	4511.0	1.6	4511.1	1.4
4508.7	3.5	4509.1	3.0	4509.4	2.7	4509.8	2.3	4510.1	2.0	4510.3	1.9	4510.4	1.7	4510.5	1.6	4510.6	1.5	4510.7	1.4	4510.8	1.3	4510.9	1.2
4508.6	2.8	4509.0	2.3	4509.3	2.0	4509.8	1.5	4510.0	1.3	4510.2	1.1	4510.3	1.0	4510.4	0.9	4510.5	0.8	4510.6	0.7	4510.7	0.6	4510.8	0.5
4508.5	2.8	4508.9	2.4	4509.2	2.1	4509.6	1.7	4509.9	1.4	4510.0	1.3	4510.1	1.2	4510.2	1.1	4510.3	1.0	4510.4	0.9	4510.5	0.8	4510.6	0.7
4508.4	2.6	4508.8	2.3	4509.1	1.9	4509.4	1.6	4509.6	1.4	4509.7	1.3	4509.9	1.1	4510.0	1.0	4510.1	0.9	4510.2	0.9	4510.2	0.8	4510.3	0.7
4508.3	2.5	4508.6	2.2	4508.9	1.9	4509.3	1.6	4509.4	1.4	4509.5	1.3	4509.6	1.2	4509.8	1.1	4509.8	1.0	4509.9	0.9	4510.0	0.8	4510.1	0.7
4508.0	3.4	4508.2	3.2	4508.5	2.9	4508.8	2.6	4509.0	2.4	4509.2	2.2	4509.3	2.1	4509.4	2.0	4509.5	1.9	4509.6	1.8	4509.7	1.7	4509.8	1.6
4507.2	4.1	4507.6	3.7	4508.0	3.4	4508.3	3.0	4508.6	2.7	4508.8	2.5	4509.0	2.3	4509.1	2.2	4509.2	2.1	4509.3	2.0	4509.4	1.9	4509.5	1.8
4507.1	3.8	4507.5	3.4	4507.8	3.1	4508.1	2.8	4508.3	2.6	4508.6	2.3	4508.7	2.2	4508.9	2.0	4509.0	1.9	4509.1	1.8	4509.1	1.8	4509.2	1.7
4507.1	4.6	4507.4	4.2	4507.7	3.9	4508.0	3.6	4508.2	3.4	4508.3	3.3	4508.4	3.2	4508.6	3.0	4508.7	2.9	4508.8	2.8	4508.9	2.8	4509.0	2.7
4507.0	4.5	4507.4	4.1	4507.7	3.8	4508.0	3.5	4508.1	3.4	4508.2	3.3	4508.3	3.2	4508.4	3.1	4508.5	3.0	4508.6	2.9	4508.7	2.8	4508.8	2.7
4507.0	4.3	4507.3	4.0	4507.6	3.8	4507.9	3.4	4508.0	3.4	4508.1	3.3	4508.1	3.2	4508.2	3.1	4508.3	3.0	4508.4	2.9	4508.5	2.9	4508.5	2.8
4506.4	4.1	4506.6	3.9	4506.7	3.8	4506.9	3.6	4507.3	3.2	4507.4	3.1	4507.5	3.0	4507.6	2.9	4507.7	2.8	4507.8	2.7	4507.9	2.6	4508.0	2.5
4505.0	4.1	4505.3	3.8	4505.7	3.4	4506.2	2.9	4506.5	2.6	4506.8	2.3	4507.0	2.1	4507.1	2.0	4507.3	1.8	4507.4	1.7	4507.6	1.6	4507.7	1.4
4504.5	4.7	4505.0	4.2	4505.4	3.8	4505.9	3.3	4506.3	2.9	4506.5	2.7	4506.7	2.5	4506.9	2.3	4507.0	2.2	4507.2	2.0	4507.3	1.9	4507.5	1.8
4504.1	4.2	4504.5	3.8	4504.9	3.4	4505.5	2.9	4505.9	2.4	4506.1	2.2	4506.4	1.9	4506.6	1.8	4506.7	1.6	4506.8	1.5	4507.0	1.3	4507.1	1.2
4503.7	4.3	4504.2	3.9	4504.6	3.4	4505.0	3.0	4505.3	2.7	4505.6	2.4	4505.8	2.2	4506.0	2.0	4506.2	1.8	4506.4	1.6	4506.5	1.5	4506.7	1.3
4503.5	4.4	4504.0	3.9	4504.5	3.4	4504.9	3.0	4505.1	2.8	4505.4	2.5	4505.6	2.3	4505.8	2.1	4506.0	1.9	4506.2	1.7	4506.4	1.5	4506.6	1.3
4503.4	4.6	4503.9	4.1	4504.4	3.6	4504.8	3.2	4505.0	3.0	4505.2	2.8	4505.4	2.6	4505.6	2.4	4505.8	2.2	4506.0	2.0	4506.2	1.8	4506.4	1.6
4503.3	4.1	4503.5	3.9	4503.8	3.6	4504.1	3.3	4504.4	3.0	4504.6	2.8	4504.9	2.5	4505.1	2.3	4505.3	2.1	4505.5	1.9	4505.8	1.6	4506.0	1.4
4502.1	5.8	4502.5	5.4	4502.9	5.0	4503.3	4.6	4503.7	4.2	4504.0	3.9	4504.3	3.6	4504.5	3.4	4504.8	3.1	4505.1	2.8	4505.3	2.6	4505.5	2.4
4501.4	6.2	4501.8	5.9	4502.1	5.5	4502.6	5.0	4503.0	4.7	4503.4	4.2	4503.7	3.9	4504.1	3.5	4504.4	3.2	4504.7	2.9	4505.0	2.6	4505.3	2.3

4500.8	6.5	4501.3	6.0	4501.8	5.5	4502.4	4.9	4502.8	4.5	4503.3	4.0	4503.6	3.7	4504.0	3.3	4504.3	3.0	4504.6	2.7	4505.0	2.4	4505.2	2.1
4500.2	8.1	4500.9	7.4	4501.5	6.8	4502.1	6.3	4502.5	5.8	4503.0	5.3	4503.4	4.9	4503.7	4.6	4504.0	4.3	4504.3	4.0	4504.6	3.7	4504.9	3.4
4500.0	7.8	4500.7	7.0	4501.3	6.4	4501.9	5.8	4502.3	5.4	4502.8	4.9	4503.2	4.5	4503.5	4.2	4503.9	3.8	4504.2	3.5	4504.5	3.2	4504.8	2.9
4499.8	6.7	4500.6	5.9	4501.2	5.3	4501.7	4.8	4502.2	4.4	4502.6	3.9	4503.0	3.6	4503.3	3.2	4503.6	2.9	4503.9	2.6	4504.2	2.3	4504.5	2.0
4499.6	7.2	4500.4	6.4	4501.0	5.8	4501.5	5.3	4501.9	4.9	4502.4	4.4	4502.7	4.1	4503.1	3.7	4503.4	3.4	4503.7	3.1	4504.0	2.8	4504.3	2.6
4499.5	6.4	4500.2	5.6	4500.7	5.1	4501.2	4.6	4501.7	4.1	4502.1	3.7	4502.5	3.4	4502.8	3.0	4503.1	2.7	4503.4	2.4	4503.7	2.1	4504.0	1.8
4499.3	7.2	4500.0	6.5	4500.6	5.9	4501.1	5.4	4501.5	5.0	4501.9	4.6	4502.3	4.2	4502.6	3.9	4502.9	3.6	4503.2	3.3	4503.5	3.0	4503.8	2.7
4499.2	7.1	4499.9	6.4	4500.4	5.9	4500.9	5.4	4501.3	5.0	4501.7	4.6	4502.0	4.3	4502.4	3.9	4502.7	3.6	4503.0	3.3	4503.2	3.1	4503.5	2.8
4499.0	6.3	4499.6	5.7	4500.1	5.2	4500.5	4.8	4500.9	4.4	4501.3	4.0	4501.7	3.7	4502.0	3.3	4502.3	3.0	4502.6	2.7	4502.8	2.5	4503.1	2.2
4498.6	6.6	4499.2	6.0	4499.7	5.4	4500.1	5.0	4500.5	4.6	4500.9	4.2	4501.3	3.8	4501.6	3.5	4501.9	3.2	4502.2	2.9	4502.5	2.6	4502.7	2.4
4498.1	5.7	4498.8	5.0	4499.3	4.5	4499.8	4.0	4500.2	3.6	4500.6	3.2	4501.0	2.8	4501.3	2.5	4501.6	2.2	4501.9	1.9	4502.2	1.6	4502.4	1.4
4497.9	5.2	4498.5	4.6	4499.1	4.0	4499.5	3.6	4500.0	3.1	4500.4	2.8	4500.7	2.4	4501.0	2.1	4501.3	1.8	4501.6	1.5	4501.9	1.2	4502.2	0.9
4497.7	5.9	4498.4	5.3	4498.9	4.7	4499.3	4.3	4499.8	3.8	4500.1	3.5	4500.5	3.1	4500.8	2.8	4501.1	2.5	4501.4	2.2	4501.7	1.9	4501.9	1.7
4497.5	5.0	4498.2	4.3	4498.7	3.8	4499.1	3.4	4499.6	2.9	4499.9	2.6	4500.3	2.3	4500.6	1.9	4500.9	1.6	4501.1	1.4	4501.4	1.1	4501.7	0.8
4497.4	4.9	4498.0	4.3	4498.5	3.8	4498.9	3.4	4499.4	2.9	4499.7	2.6	4500.0	2.3	4500.4	1.9	4500.7	1.7	4500.9	1.4	4501.2	1.1	4501.5	0.8
4497.2	5.0	4497.8	4.4	4498.3	3.8	4498.7	3.4	4499.1	3.0	4499.5	2.6	4499.8	2.3	4500.1	2.0	4500.4	1.7	4500.7	1.4	4501.0	1.1	4501.3	0.8
4496.8	4.7	4497.5	4.1	4498.0	3.5	4498.5	3.1	4498.9	2.6	4499.3	2.3	4499.6	1.9	4499.9	1.6	4500.2	1.3	4500.5	1.0	4500.8	0.8	4501.0	0.5
4496.6	4.8	4497.3	4.1	4497.8	3.6	4498.3	3.1	4498.7	2.7	4499.1	2.3	4499.4	2.0	4499.7	1.7	4500.0	1.4	4500.3	1.1	4500.6	0.8	4500.8	0.6
4496.4	4.6	4497.0	4.0	4497.5	3.5	4497.9	3.1	4498.3	2.7	4498.6	2.4	4498.9	2.1	4499.2	1.8	4499.5	1.5	4499.8	1.2	4500.0	1.0	4500.3	0.7
4496.1	5.5	4496.7	4.9	4497.2	4.4	4497.6	4.0	4498.0	3.6	4498.4	3.2	4498.7	2.9	4499.0	2.6	4499.3	2.3	4499.6	2.0	4499.9	1.7	4500.1	1.5
4495.9	4.9	4496.5	4.3	4497.0	3.8	4497.4	3.4	4497.8	3.0	4498.2	2.6	4498.5	2.3	4498.8	2.0	4499.1	1.7	4499.4	1.4	4499.7	1.1	4500.0	0.9
4495.7	5.4	4496.3	4.8	4496.8	4.3	4497.3	3.9	4497.6	3.5	4498.0	3.1	4498.3	2.8	4498.6	2.5	4498.9	2.2	4499.2	1.9	4499.5	1.7	4499.7	1.4
4495.6	5.1	4496.2	4.6	4496.6	4.1	4497.0	3.7	4497.4	3.3	4497.8	2.9	4498.1	2.6	4498.4	2.3	4498.7	2.0	4499.0	1.7	4499.2	1.5	4499.5	1.2
4495.2	5.2	4495.9	4.5	4496.4	4.0	4496.8	3.6	4497.2	3.2	4497.5	2.9	4497.8	2.6	4498.2	2.3	4498.4	2.0	4498.7	1.7	4499.0	1.4	4499.3	1.1
4495.1	4.9	4495.7	4.3	4496.2	3.8	4496.6	3.4	4497.0	3.0	4497.4	2.6	4497.7	2.3	4498.0	2.0	4498.3	1.7	4498.6	1.4	4498.8	1.2	4499.1	0.9
4495.0	5.2	4495.6	4.6	4496.0	4.2	4496.4	3.8	4496.8	3.4	4497.1	3.1	4497.5	2.8	4497.8	2.4	4498.0	2.2	4498.3	1.9	4498.6	1.6	4498.8	1.4
4494.8	4.8	4495.3	4.3	4495.8	3.9	4496.1	3.5	4496.5	3.1	4496.8	2.8	4497.1	2.5	4497.4	2.2	4497.7	1.9	4498.0	1.6	4498.2	1.4	4498.5	1.1
4494.4	5.0	4494.9	4.5	4495.3	4.1	4495.7	3.7	4496.1	3.3	4496.4	3.0	4496.7	2.7	4497.0	2.4	4497.3	2.1	4497.6	1.8	4497.9	1.5	4498.1	1.3
4493.9	7.2	4494.5	6.6	4494.9	6.2	4495.4	5.7	4495.8	5.4	4496.1	5.0	4496.5	4.6	4496.8	4.3	4497.1	4.0	4497.4	3.7	4497.7	3.5	4497.9	3.2
4493.6	7.2	4494.2	6.6	4494.7	6.1	4495.1	5.7	4495.5	5.3	4495.9	4.9	4496.2	4.6	4496.6	4.2	4496.9	3.9	4497.2	3.6	4497.4	3.4	4497.7	3.1
4493.4	7.6	4494.0	7.0	4494.5	6.5	4494.9	6.1	4495.3	5.7	4495.7	5.3	4496.1	4.9	4496.4	4.6	4496.7	4.3	4497.0	4.0	4497.3	3.7	4497.5	3.5
4493.2	5.6	4493.8	5.1	4494.2	4.6	4494.7	4.1	4495.1	3.7	4495.5	3.4	4495.8	3.0	4496.1	2.7	4496.4	2.4	4496.7	2.1	4497.0	1.8	4497.3	1.5
4492.6	6.0	4493.3	5.3	4493.8	4.8	4494.3	4.3	4494.7	3.9	4495.1	3.5	4495.5	3.1	4495.8	2.8	4496.1	2.5	4496.4	2.2	4496.7	1.9	4497.0	1.7
4492.4	5.4	4493.1	4.7	4493.7	4.1	4494.2	3.7	4494.6	3.2	4495.0	2.8	4495.3	2.5	4495.7	2.1	4496.0	1.8	4496.3	1.5	4496.6	1.2	4496.8	1.0
4492.2	5.6	4492.9	4.9	4493.4	4.4	4493.8	4.0	4494.2	3.6	4494.6	3.2	4494.9	2.9	4495.2	2.6	4495.5	2.3	4495.7	2.1	4496.0	1.8	4496.2	1.6
4492.0	4.7	4492.6	4.1	4493.1	3.6	4493.5	3.2	4493.9	2.8	4494.3	2.4	4494.6	2.1	4494.9	1.8	4495.2	1.5	4495.4	1.3	4495.7	1.0	4495.9	0.8
4491.8	5.2	4492.4	4.6	4492.9	4.1	4493.3	3.7	4493.7	3.3	4494.1	2.9	4494.4	2.6	4494.7	2.3	4495.0	2.0	4495.3	1.8	4495.5	1.5	4495.8	1.3
4491.7	5.7	4492.3	5.1	4492.7	4.7	4493.1	4.3	4493.5	3.9	4493.9	3.5	4494.2	3.2	4494.5	2.9	4494.8	2.6	4495.1	2.3	4495.3	2.1	4495.6	1.8
4491.6	5.3	4492.1	4.7	4492.6	4.2	4493.0	3.8	4493.4	3.4	4493.8	3.0	4494.1	2.7	4494.4	2.4	4494.7	2.1	4494.9	1.9	4495.2	1.6	4495.4	1.4
4491.4	4.7	4491.9	4.2	4492.4	3.7	4492.8	3.3	4493.2	2.9	4493.5	2.6	4493.9	2.2	4494.2	1.9	4494.5	1.6	4494.7	1.4	4495.0	1.1	4495.2	0.9
4491.1	4.8	4491.6	4.3	4492.0	3.9	4492.4	3.5	4492.8	3.1	4493.1	2.8	4493.4	2.5	4493.7	2.2	4494.0	1.9	4494.3	1.6	4494.5	1.4	4494.8	1.1
4490.6	5.3	4491.2	4.7	4491.6	4.3	4492.1	3.8	4492.5	3.4	4492.9	3.0	4493.2	2.7	4493.5	2.4	4493.8	2.1	4494.1	1.8	4494.3	1.6	4494.6	1.3
4490.3	5.1	4490.9	4.5	4491.4	4.0	4491.9	3.5	4492.3	3.1	4492.7	2.7	4493.0	2.4	4493.3	2.1	4493.6	1.8	4493.9	1.5	4494.2	1.3	4494.4	1.0
4490.1	4.8	4490.7	4.2	4491.3	3.6	4491.7	3.2	4492.2	2.8	4492.5	2.4	4492.9	2.0	4493.2	1.7	4493.5	1.4	4493.7	1.2	4494.0	0.9	4494.2	0.7
4489.9	5.3	4490.5	4.7	4491.1	4.1	4491.5	3.7	4492.0	3.3	4492.3	2.9	4492.7	2.6	4493.0	2.2	4493.2	2.0	4493.5	1.7	4493.8	1.4	4494.0	1.2
4489.7	4.1	4490.3	3.5	4490.8	3.0	4491.3	2.5	4491.7	2.1	4492.1	1.8	4492.4	1.4	4492.7	1.1	4492.9	0.9	4493.2	0.6	4493.4	0.4	4493.7	0.1

2600 cfs		2800 cfs		3000 cfs		3200 cfs		3400 cfs		3600 cfs		3800 cfs		4000 cfs		4200 cfs		4400 cfs		4600 cfs		4800 cfs		5000 cfs		Overtopping Flow (cfs)
W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	
4578.2	3.2	4578.3	3.1	4578.4	3.0	4578.6	2.8	4578.7	2.7	4578.8	2.6	4578.9	2.5	4579.1	2.3	4579.2	2.2	4579.3	2.1	4579.4	2.0	4579.5	1.9	4579.6	1.8	5,000
4577.8	1.7	4577.9	1.6	4578.1	1.4	4578.2	1.3	4578.3	1.2	4578.4	1.1	4578.5	1.0	4578.6	0.9	4578.7	0.8	4578.8	0.7	4578.9	0.6	4578.9	0.6	4579.0	0.5	5,000
4577.0	0.6	4577.1	0.5	4577.2	0.4	4577.3	0.3	4577.5	0.1	4577.6	0.0	4577.7	-0.1	4577.8	-0.2	4577.9	-0.3	4578.0	-0.4	4578.1	-0.5	4578.2	-0.6	4578.2	-0.6	4,800
4576.7	0.7	4576.8	0.6	4576.9	0.5	4577.1	0.3	4577.2	0.2	4577.3	0.1	4577.4	0.0	4577.5	-0.1	4577.6	-0.2	4577.7	-0.3	4577.9	-0.5	4577.9	-0.5	4578.0	-0.6	4,800
4576.3	0.2	4576.5	0.0	4576.6	-0.1	4576.7	-0.2	4576.9	-0.4	4577.0	-0.5	4577.1	-0.6	4577.2	-0.7	4577.3	-0.8	4577.4	-0.9	4577.5	-1.0	4577.6	-1.1	4577.7	-1.2	3,800
4576.1	0.6	4576.2	0.5	4576.3	0.4	4576.5	0.2	4576.6	0.1	4576.7	0.0	4576.8	-0.1	4576.9	-0.2	4577.0	-0.3	4577.1	-0.4	4577.2	-0.5	4577.3	-0.6	4577.4	-0.7	4,800
4575.9	0.6	4576.0	0.5	4576.1	0.4	4576.3	0.3	4576.4	0.1	4576.5	0.0	4576.6	-0.1	4576.7	-0.2	4576.8	-0.3	4576.9	-0.4	4577.0	-0.5	4577.1	-0.6	4577.1	-0.6	4,800
4575.7	0.8	4575.8	0.7	4576.0	0.5	4576.1	0.4	4576.2	0.3	4576.3	0.2	4576.4	0.1	4576.5	0.0	4576.6	-0.1	4576.7	-0.2	4576.8	-0.3	4576.9	-0.4	4576.9	-0.4	5,000
4575.4	0.6	4575.5	0.5	4575.6	0.4	4575.7	0.3	4575.8	0.2	4575.9	0.1	4576.0	0.0	4576.1	-0.1	4576.2	-0.2	4576.3	-0.3	4576.4	-0.4	4576.5	-0.5	4576.5	-0.5	4,800
4575.1	1.3	4575.2	1.2	4575.4	1.0	4575.5	0.9	4575.6	0.8	4575.8	0.6	4575.8	0.6	4575.9	0.5	4576.0	0.4	4576.2	0.3	4576.3	0.1	4576.4	0.0	4576.4	0.0	5,000
4575.0	0.7	4575.2	0.5	4575.3	0.4	4575.4	0.3	4575.6	0.1	4575.7	0.0	4575.8	-0.1	4575.9	-0.2	4576.1	-0.4	4576.2	-0.5	4576.3	-0.6	4576.4	-0.7	4576.4	-0.7	4,600
4574.8	1.4	4575.0	1.3	4575.1	1.1	4575.2	1.0	4575.3	0.9	4575.5	0.8	4575.6	0.6	4575.7	0.5	4575.8	0.4	4575.9	0.3	4576.0	0.2	4576.1	0.1	4576.1	0.1	5,000
4574.2	1.5	4574.3	1.4	4574.4	1.3	4574.5	1.2	4574.6	1.1	4574.7	1.0	4574.8	0.9	4574.9	0.8	4575.0	0.7	4575.1	0.6	4575.2	0.5	4575.3	0.4	4574.4	1.3	5,000
4573.6	1.1	4573.7	1.0	4573.8	0.9	4573.9	0.8	4574.0	0.7	4574.1	0.6	4574.2	0.5	4574.3	0.4	4574.4	0.3	4574.5	0.2	4574.6	0.1	4574.7	0.0	4574.9	-0.2	5,000
4572.8	1.7	4573.0	1.6	4573.1	1.4	4573.2	1.3	4573.3	1.2	4573.4	1.1	4573.5	1.0	4573.6	0.9	4573.7	0.8	4573.8	0.7	4573.9	0.6	4574.0	0.5	4574.0	0.5	5,000
4572.5	1.2	4572.7	1.1	4572.8	0.9	4572.9	0.8	4573.0	0.7	4573.1	0.6	4573.2	0.5	4573.3	0.4	4573.4	0.3	4573.5	0.2	4573.6	0.1	4573.7	0.0	4573.8	-0.1	5,000
4571.8	1.4	4571.9	1.3	4572.0	1.2	4572.1	1.1	4572.2	1.0	4572.3	0.9	4572.4	0.8	4572.5	0.7	4572.6	0.6	4572.7	0.5	4572.7	0.5	4572.8	0.4	4572.9	0.3	5,000
4570.9	0.9	4571.0	0.8	4571.1	0.7	4571.2	0.6	4571.3	0.5	4571.4	0.4	4571.4	0.4	4571.5	0.3	4571.6	0.2	4571.7	0.1	4571.7	0.1	4571.8	0.0	4571.9	-0.1	5,000
4570.6	1.1	4570.7	1.0	4570.8	0.9	4570.9	0.8	4571.0	0.7	4571.1	0.6	4571.0	0.7	4571.1	0.6	4571.2	0.5	4571.2	0.5	4571.3	0.4	4571.4	0.3	4571.4	0.3	5,000
4570.5	0.8	4570.6	0.7	4570.7	0.6	4570.8	0.5	4570.8	0.5	4570.9	0.4	4570.9	0.4	4570.9	0.4	4571.0	0.3	4571.1	0.2	4571.1	0.2	4571.2	0.1	4571.3	0.0	5,000
4570.1	1.4	4570.2	1.3	4570.3	1.2	4570.4	1.1	4570.5	1.0	4570.6	0.9	4570.3	1.3	4570.3	1.2	4570.4	1.1	4570.5	1.0	4570.6	0.9	4570.6	0.9	4570.7	0.8	5,000
4569.6	0.5	4569.7	0.4	4569.8	0.3	4569.9	0.2	4570.0	0.1	4570.1	0.0	4570.2	-0.1	4570.3	-0.2	4570.4	-0.3	4570.5	-0.4	4570.6	-0.5	4570.6	-0.5	4570.7	-0.6	4,800
4569.3	1.2	4569.4	1.1	4569.5	1.0	4569.6	0.9	4569.7	0.8	4569.8	0.7	4569.9	0.6	4570.0	0.5	4570.0	0.5	4570.1	0.4	4570.2	0.3	4570.3	0.3	4570.3	0.2	5,000
4568.9	1.3	4569.0	1.2	4569.1	1.1	4569.3	0.9	4569.4	0.8	4569.4	0.8	4569.5	0.7	4569.6	0.6	4569.6	0.6	4569.7	0.5	4569.8	0.4	4569.8	0.4	4569.9	0.3	5,000
4568.1	1.8	4568.2	1.7	4568.4	1.5	4568.5	1.4	4568.6	1.3	4568.6	1.3	4568.6	1.3	4568.7	1.2	4568.7	1.2	4568.7	1.2	4568.8	1.1	4568.8	1.1	4568.8	1.1	5,000
4567.4	1.6	4567.4	1.6	4567.5	1.5	4567.6	1.4	4567.7	1.3	4567.7	1.3	4567.8	1.2	4567.9	1.1	4567.9	1.1	4568.0	1.0	4568.0	1.0	4568.1	0.9	4568.1	0.9	5,000
4567.3	0.5	4567.4	0.4	4567.4	0.4	4567.5	0.3	4567.6	0.2	4567.6	0.2	4567.7	0.1	4567.8	0.0	4567.8	0.0	4567.9	-0.1	4567.9	-0.1	4568.0	-0.2	4568.1	-0.3	5,000
4567.2	0.3	4567.3	0.2	4567.4	0.1	4567.4	0.1	4567.5	0.0	4567.6	-0.1	4567.6	-0.1	4567.7	-0.2	4567.7	-0.2	4567.8	-0.3	4567.9	-0.4	4567.9	-0.4	4568.0	-0.5	5,000
4567.0	0.9	4567.1	0.8	4567.1	0.8	4567.2	0.7	4567.2	0.7	4567.3	0.6	4567.3	0.6	4567.4	0.5	4567.5	0.4	4567.5	0.4	4567.5	0.4	4567.6	0.3	4567.6	0.3	5,000
4566.4	0.5	4566.5	0.4	4566.6	0.3	4566.6	0.3	4566.7	0.2	4566.8	0.1	4566.8	0.1	4566.9	0.0	4567.0	-0.1	4567.0	-0.1	4567.1	-0.2	4567.1	-0.2	4567.2	-0.3	5,000
4566.1	1.0	4566.2	0.9	4566.2	0.9	4566.3	0.8	4566.4	0.7	4566.4	0.7	4566.5	0.6	4566.6	0.5	4566.6	0.5	4566.7	0.4	4566.8	0.4	4566.8	0.3	4566.9	0.2	5,000
4565.7	1.4	4565.8	1.3	4565.9	1.3	4565.9	1.2	4566.0	1.1	4566.0	1.1	4566.1	1.0	4566.2	1.0	4566.2	0.9	4566.3	0.8	4566.3	0.8	4566.4	0.7	4566.4	0.7	5,000
4565.3	0.2	4565.4	0.1	4565.5	0.0	4565.5	0.0	4565.6	-0.1	4565.7	-0.2	4565.7	-0.2	4565.8	-0.3	4565.8	-0.3	4565.9	-0.4	4565.9	-0.4	4566.0	-0.5	4566.1	-0.6	5,000
4564.7	0.8	4564.8	0.7	4564.9	0.6	4565.0	0.6	4565.0	0.6	4565.0	0.5	4565.1	0.4	4565.1	0.4	4565.2	0.3	4565.2	0.3	4565.3	0.2	4565.3	0.2	4565.4	0.1	5,000
4564.4	0.3	4564.5	0.2	4564.5	0.1	4564.6	0.0	4564.6	0.0	4564.7	-0.1	4564.8	-0.1	4564.8	-0.2	4564.9	-0.3	4564.9	-0.3	4565.0	-0.4	4565.1	-0.4	4565.1	-0.5	5,000
4563.2	1.9	4563.4	1.8	4563.5	1.6	4563.6	1.5	4563.7	1.4	4563.8	1.3	4563.9	1.2	4564.0	1.1	4564.1	1.1	4564.1	1.0	4564.2	0.9	4564.3	0.8	4564.4	0.8	5,000
4563.4	1.5	4563.5	1.4	4563.6	1.3	4563.7	1.2	4563.8	1.1	4563.8	1.1	4563.9	1.0	4564.0	0.9	4564.1	0.8	4564.1	0.8	4564.2	0.7	4564.3	0.6	4564.3	0.6	5,000
4563.0	2.0	4563.1	1.9	4563.2	1.8	4563.3	1.8	4563.3	1.7	4563.4	1.6	4563.4	1.6	4563.5	1.5	4563.6	1.4	4563.6	1.4	4563.7	1.3	4563.7	1.3	4563.8	1.2	5,000
4562.5	2.1	4562.5	2.1	4562.6	2.0	4562.7	1.9	4562.7	1.9	4562.8	1.8	4562.9	1.7	4562.9	1.7	4563.0	1.6	4563.0	1.6	4563.1	1.5	4563.2	1.4	4563.2	1.4	5,000
4561.9	1.4	4562.0	1.3	4562.1	1.2	4562.1	1.2	4562.2	1.1	4562.2	1.1	4562.3	1.0	4562.4	0.9	4562.4	0.9	4562.5	0.8	4562.5	0.8	4562.6	0.7	4562.6	0.7	5,000
4561.4	2.1	4561.5	2.0	4561.6	1.9	4561.6	1.9	4561.7	1.8	4561.7	1.8	4561.8	1.7	4561.9	1.6	4561.9	1.6	4562.0	1.5	4562.0	1.5	4562.1	1.4	4562.1	1.4	5,000
4561.1	0.6	4561.1	0.6	4561.2	0.5	4561.2	0.5	4561.3	0.4	4561.4	0.3	4561.4	0.3	4561.5	0.2	4561.5	0.2	4561.6	0.1	4561.6	0.1	4561.7	0.0	4561.7	0.0	5,000
4560.5	0.7	4560.5	0.7	4560.6	0.6	4560.7	0.5	4560.7	0.5	4560.7	0.5	4560.8	0.4	4560.8	0.4	4560.9	0.3	4560.9	0.3	4561.0	0.3	4561.0	0.2	4561.0	0.2	5,000
4559.4	2.0	4559.5	1.9	4559.6	1.8	4559.6	1.8	4559.7	1.7	4559.8	1.6	4559.9	1.5	4559.9	1.5	4560.0	1.4	4560.0	1.4	4560.1	1.3	4560.2	1.2	4560.2	1.2	5,000
4559.3	0.9	4559.4	0.8	4559.5	0.7	4559.5	0.7	4559.6	0.6	4559.7	0.5	4559.7	0.5	4559.8	0.4	4559.9	0.3	4559.9	0.3	4560.0	0.2	4560.0	0.2	4560.1	0.1	5,000
4559.1	1.5	4559.2	1.4	4559.2	1.4	4559.3	1.3	4559.3	1.3	4559.4	1.2	4559.5	1.1	4559.5	1.1	4559.6	1.0	4559.6	1.0	4559.7	0.9	4559.7	0.9	4559.8	0.8	5,000
4558.8	1.4	4558.9	1.3	4558.9	1.3	4559.0	1.2	4559.0	1.2	4559.1	1.1	4559.2	1.1	4559.2	1.0	4559.2	1.0	4559.3	0.9	4559.3	0.9	4559.4	0.8	4559.4	0.8	5,000
4558.5	1.1	4558.6	1.0	4558.6	1.0	4558.7	0.9	4558.7	0.9	4558.8	0.8	4558.8	0.8	4558.9	0.7	4558.9	0.7	4559.0	0.6	4559.0	0.6	4559.0	0.6	4559.1	0.5	5,000
4557.9	1.8	4557.9	1.8	4558.0	1.7	4558.0	1.7	4558.1	1.6	4558.2	1.6	4558.2	1.5	4558.3	1.4	4558.3	1.4	4558.4	1.3	4558.4	1.3	4558.5	1.2	4558.5	1.2	5,000
4557.4	1.7	4557.5	1.6	4557.6	1.5	4557.6	1.5	4557.7	1.4	4557.8	1.3	4557.8	1.3	4557.9	1.2	4558.0	1.2	4558.0	1.1	4558.1	1.0	4558.1	1.0	4558.2	0.9	5,000
4557.2	1.8	4557.3	1.7	4557.4	1.6	4557.5	1.6	4557.5	1.5	4557.6	1.4	4557.6	1.4	4557.7	1.3	4557.8	1.2	4557.8	1.2	4557.9	1.1	4557.9	1.1	4558.0	1.0	5,000
4557.0	2.2	4557.1	2.1	4557.2	2.0	4557.2	2.0	4557.3	1.9	4557.4	1.8	4557.4	1.8	4557.5	1.7	4557.5	1.7	4557.6	1.6	4557.6	1.6	4557.7	1.5	4557.7	1.5	5,000
4556.7	1.4	4556.8	1.3	4556.8	1.3	4556.9	1.2	4557.0	1.1	4557.0	1.1	4557.1	1.0	4557.1	1.0	4557.2	0.9	4557.2	0.9	4557.3	0.8	4557.3	0.8	4557.4	0.7	5,000
4556.3	4.6	4556.3	4.5	4556.4	4.4	4556.5	4.4	4556.5	4.3	4556.6	4.2	4556.6	4.2	4556.7	4.1	4556.7	4.1	4556.8	4.0	4556.8	4.0	4556.9	3.9	4556.9	3.9	5,000
4555.1	3.4	4555.2	3.3	4555.2	3.3	4555.3	3.2	4555.3	3.2	4555.3	3.2	4555.4	3.1	4555.4	3.1	4555.5	3.1	4555.5	3.0	4555.5	3.0	4555.5	3.0	4555.6	2.9	5,000
4554.7	3.2	4554.7	3.2	4554.8	3.1	4554.9	3.0	4554.9	3.0	4555.0	2.9	4555.1	2.8	4555.1	2.8	4555.2	2.7	4555.2	2.7	4555.3	2.6	4555.3	2.6	4555.3	2.6	5,000
4554.5	0.5	4554.6	0.4	4554.7	0.3	4554.7	0.3	4554.8	0.2	4554.9	0.1	4555.0	0.1	4555.0	0.0	4555.1	-0.1	4555.1	-0.1	4555.1	-0.1	4555.1	-0.1	4555.2	-0.2	5,000
4554.3	0.6	4554.4	0.5	4554.5	0.4	4554.6	0.3	4554.6	0.3	4554.7	0.2	4554.8	0.1	4554.8	0.1	4554.9	0.0	4555.0	-0.1	4555.0	-0.1	4555.1	-0.2	4555.1	-0.2	5,000
4553.9	2.3	4553.9	2.2	4554.0	2.1	4554.1	2.0	4554.2	1.9	4554.3	1.8	4554.4	1.7	4554.4	1.8	4554.4	1.7	4554.5	1.6	4554.6	1.5	4554.7	1.4	4554.7	1.4	5,000
4553.8	0.5	4553.9	0.4	4553.9	0.4	4554.0	0.3	4554.1	0.2	4554.2	0.1	4554.3	0.0	4554.4	-0.1	4554.5	-0.2	4554.6	-0.3	4554.6	-0.3	4554.7	-0.4	4554.8	-0.4	5,000
4553.6	2.0	4553.7	1.9	4553.8	1.8	4553.8	1.8	4553.9	1.7	4554.0	1.6	4554.1	1.5	4554.2	1.4	4554.3	1.3	4554.4	1.2	4554.4	1.2	4554.5	1.1	4554.5	1.1	5,000
4553.2	1.8	4553.2	1.8	4553.3	1.7	4553.4	1.6	4553.5	1.5	4553.6	1.4	4553.7	1.3	4553.8	1.2	4553.9	1.1	4554.0	1.0	4554.0	1.0	4554.2	0.9	4554.2	0.9	5,000
4552.6	1.5	4552.7	1.4	4552.8	1.3	4553.0	1.1	4553.1	1.0	4553.2	0.9	4553.4	0.7	4553.5	0.6	4553.7	0.5	4553.8	0.3	4553.8	0.3	4553.9	0.2	4553.9	0.2	5,000
4552.2	1.5	4552.4	1.3	4552.5	1.2	4552.7	1.0	4552.9	0.8	4553.0	0.7	4553.2	0.5	4553.3	0.4	4553.5	0.2	4553.6	0.1	4553.8	-0.1	4554.0	-0.3	4553.9	-0.2	5,000
4552.0	1.7	4552.1	1.6	4552.3	1.4	4552.5	1.2	4552.7	1.0	4552.9	0.8	4553.0	0.7	4553.2	0.5	4553.4	0.3	4553.5	0.2	4553.6	0.1	4553.8	-0.1	4553.8	-0.1	5,000
4551.7	2.2	4551.9	2.0	4552.1	1.8	4552.3	1.6	4552.5	1.4	4552.7	1.2	4552.9	1.0	4553.0	0.9	4553.2	0.7	4553.3	0.6	4553.5	0.4	4553.7	0.3	4553.6	0.3	5,000
4551.4	2.3	4551.7	2.1	4551.8	1.9	4552.0	1.7	4552.2	1.5	4552.4	1.3	4552.6	1.1	4552.7	1.0	4552.9	0.8	4553.0	0.7	4553.2	0.5	4553.3	0.4	4553.2	0.5	5,000
4551.2	1.4	4551.4	1.2	4551.6	1.0	4551.8	0.8	4552.0	0.6	4552.1	0.5	4552.3	0.3	4552.5	0.1	4552.6	0.0	4552.8	-0.1	4552.9	-0.3	4553.1	-0.4	4553.4	-0.8	5,000
4550.9	1.9	4551.1	1.8	4551.2	1.6	4551.4	1.4	4551.6	1.2	4551.7	1.1	4551.9	0.9	4552.1	0.8	4552.2	0.6	4552.3	0.5	4552.5	0.3	4552.6	0.2	4552.7	0.1	5,000
4550.5	2.1	4550.7	1.9	4550.9	1.7	4551.0	1.6	4551.2	1.4	4551.4	1.2	4551.5	1.1	4551.7	0.9	4551.8	0.8	4551.9	0.7	4552.1	0.6	4552.2	0.4	4552.3	0.3	5,000
4550.0	1.8	4550.1	1.6	4550.3	1.4	4550.5	1.2	4550.6	1.1	4550.8	0.9	4550.9	0.8	4551.1	0.6	4551.2	0.5	4551.2	0.5	4551.4	0.3	4551.5	0.2	4551.6	0.1	5,000
4549.9	0.6	4550.1	0.4	4550.2	0.3	4550.4	0.1	4550.6	-0.1	4550.7	-0.2	4550.9	-0.4	4551.0	-0.5	4551.2	-0.7	4551.2	-0.7	4551.4	-0.9	4551.5	-1.0	4551.6	-1.1	4,000
4549.6	2.4	4549.8	2.2	4550.0	2.0	4550.1	1.9	4550.3	1.7	4550.4	1.6	4550.6	1.4	4550.7	1.3	4550.8	1.2	4550.8	1.2	4550.9	1.1	4551.0	1.0	4551.1	0.9	5,000
4549.4	2.5	4549.6	2.3	4549.7	2.2	4549.9	2.0	4550.0	1.9	4550.2	1.7	4550.3	1.6	4550.4	1.5	4550.5	1.4	4550.5	1.4	4550.6	1.3	4550.7	1.2	4550.8	1.1	5,000
4549.0	1.2	4549.1	1.0	4549.2	0.9	4549.4	0.7	4549.5	0.6	4549.6	0.5	4549.8	0.4	4549.9	0.3	4550.0	0.1	4550.2	-0.1	4550.3	-0.2	4550.4	-0.3	4550.5	-0.4	5,000
4549.0	1.3	4549.1	1.2	4549.3	1.0	4549.4	0.9	4549.5	0.8	4549.7	0.6	4549.8	0.5	4549.9	0.4	4550.0	0.3	4550.1	0.2	4550.3	0.0	4550.4	-0.1	4550.5	-0.2	5,000
4548.9	0.9	4549.0	0.8	4549.2	0.7	4549.3	0.5	4549.4	0.4	4549.6	0.2	4549.7	0.1	4549.8	0.0	4549.9	-0.1	4550.1	-0.3	4550.2	-0.4	4550.3	-0.5	4550.4	-0.6	5,000
4548.3	1.9	4548.4	1.7	4548.5	1.6	4548.7	1.5	4548.8	1.3	4548.9	1.2	4549.0	1.1	4549.1	1.0	4549.2	0.9	4549.3	0.8	4549.4	0.7	4549.5	0.6	4549.6	0.5	5,000
4547.9	1.8	4548.1	1.6	4548.2	1.5	4548.3	1.4	4548.4	1.3	4548.5	1.2	4548.7	1.0	4548.8	0.9	4548.9	0.8	4549.0	0.7	4549.1	0.6	4549.2	0.5	4549.3	0.4	5,000
4547.6	1.7	4547.7	1.6	4547.8	1.5	4547.9	1.4	4548.1	1.3	4548.2	1.2	4548.2	1.1	4548.3	1.0	4548.4	0.9	4548.5	0.8	4548.6	0.7	4548.7	0.6	4548.8	0.5	5,000
4547.1	1.6	4547.2	1.5	4547.3	1.4	4547.4	1.3	4547.5	1.2	4547.6	1.1	4547.7	1.0	4547.8	0.9	4547.9	0.8	4548.0	0.7	4548.1	0.6	4548.2	0.5	4548.3	0.4	5,000
4546.6	0.9	4546.8	0.8	4546.9	0.6	4547.0	0.5	4547.1	0.4	4547.2	0.4	4547.3	0.3	4547.4	0.1	4547.4	0.1	4547.5	0.0	4547.6	-0.1	4547.7	-0.2	4547.8	-0.3	5,000
4546.2	1.2	4546.3	1.1	4546.4	1.0	4546.5	0.9	4546.6	0.8	4546.7	0.7	4546.8	0.6	4546.9	0.5	4547.0	0.4	4547.1	0.3	4547.2	0.2	4547.3	0.1	4547.4	0.0	5,000
4545.7	1.7	4545.9	1.5	4546.0	1.4	4546.1	1.3	4546.2	1.2	4546.3	1.1	4546.5	0.9	4546.6	0.8	4546.7	0.7	4546.8	0.6	4546.9	0.5	4547.0	0.4	4547.1	0.3	5,000
4545.0	1.9	4545.1	1.8	4545.2	1.7	4545.3	1.6	4545.3	1.6	4545.4	1.5	4545.6	1.3	4545.7	1.2	4545.8	1.1	4545.9	1.0	4546.0	0.9	4546.1	0.8	4546.2	0.7	5,000
4544.7	2.2	4544.8	2.1	4544.9	2.0	4545.1	1.8	4545.0	1.9	4545.1	1.8	4545.2	1.7	4545.3	1.6	4545.4	1.5	4545.5	1.4	4545.6	1.3	4545.7	1.2	4545.8	1.1	5,000
4544.3	0.1	4544.5	-0.1	4544.7	-0.3	4544.8	-0.4	4544.7	-0.3	4544.8	-0.4	4544.9	-0.5	4545.0	-0.6	4545.1	-0.7	4545.2	-0.8	4545.3	-0.9	4545.4	-1.0	4545.5	-1.1	4,000
4543.7	0.6	4543.8	0.5	4543.9	0.4	4544.0	0.3	4544.3	0.0	4544.5	-0.2	4544.6	-0.3	4544.7	-0.4	4544.8	-0.5	4544.9	-0.6	4545.1	-0.8	4545.2	-0.8	4545.3	-1.0	4,200
4543.6	0.2	4543.7	0.1	4543.9	-0.1	4544.1	-0.3	4544.2	-0.4	4544.3	-0.5	4544.5	-0.7	4544.6	-0.8	4544.7	-0.9	4544.8	-1.0	4544.9	-1.1	4545.1	-1.3	4545.2	-1.4	3,600
4543.3	-0.2	4543.4	-0.3	4543.6	-0.4	4543.7	-0.6	4543.8	-0.7	4543.9	-0.8	4544.0	-0.9	4544.1	-1.0	4544.2	-1.1	4544.3	-1.2	4544.4	-1.3	4544.5	-1.4	4544.6	-1.5	3,200
4543.0	2.0	4543.2	1.8	4543.3	1.7	4543.4	1.6	4543.5	1.5	4543.6	1.4	4543.7	1.3	4543.8	1.2	4543.9	1.1	4544.0	1.0	4544.1	0.9	4544.1	0.9	4544.2	0.8	5,000
4542.8	2.1	4542.9	2.0	4543.0	1.9	4543.1	1.8	4543.2	1.7	4543.4	1.5	4543.5	1.4	4543.5	1.4	4543.6	1.3	4543.7	1.2	4543.8	1.1	4543.9	1.0	4543.9	1.0	5,000
4542.4	0.8	4542.6	0.6	4542.7	0.5	4542.8	0.4	4542.9	0.3	4543.0	0.2	4543.1	0.1	4543.2	0.0	4543.3	-0.1	4543.4	-0.2	4543.5	-0.3	4543.5	-0.3	4543.6	-0.4	5,000

4542.1	0.3	4542.2	0.1	4542.3	0.0	4542.4	-0.1	4542.5	-0.2	4542.7	-0.3	4542.8	-0.5	4542.9	-0.6	4542.9	-0.6	4543.0	-0.7	4543.1	-0.8	4543.1	-0.8	4543.2	-0.9	4,000
4541.7	0.8	4541.8	0.7	4542.0	0.6	4542.1	0.4	4542.2	0.3	4542.3	0.2	4542.4	0.1	4542.5	0.0	4542.6	-0.1	4542.7	-0.2	4542.8	-0.3	4542.8	-0.3	4542.8	-0.3	5,000
4541.4	0.2	4541.5	0.1	4541.6	0.0	4541.8	-0.2	4541.9	-0.3	4542.0	-0.4	4542.1	-0.5	4542.2	-0.6	4542.3	-0.7	4542.4	-0.8	4542.4	-0.8	4542.4	-0.8	4542.4	-0.8	4,000
4540.9	0.8	4541.0	0.7	4541.1	0.6	4541.2	0.5	4541.3	0.4	4541.3	0.4	4541.4	0.3	4541.5	0.2	4541.5	0.2	4541.6	0.1	4541.6	0.1	4541.7	0.0	4541.8	-0.1	5,000
4540.2	0.4	4540.3	0.3	4540.4	0.2	4540.5	0.1	4540.6	0.0	4540.7	-0.1	4540.8	-0.2	4540.9	-0.3	4541.0	-0.4	4541.0	-0.3	4541.0	-0.4	4541.1	-0.5	4541.2	-0.6	5,000
4539.6	0.7	4539.7	0.6	4539.8	0.5	4539.9	0.4	4540.0	0.3	4540.1	0.2	4540.1	0.2	4540.2	0.1	4540.3	0.0	4540.4	-0.1	4540.5	-0.2	4540.6	-0.3	4540.7	-0.3	5,000
4539.1	0.9	4539.2	0.8	4539.2	0.8	4539.3	0.7	4539.4	0.6	4539.4	0.6	4539.5	0.5	4539.5	0.5	4539.6	0.4	4539.6	0.4	4539.7	0.3	4539.7	0.3	4539.8	0.2	5,000
4538.9	0.9	4538.9	0.9	4539.0	0.8	4539.0	0.8	4539.1	0.7	4539.1	0.7	4539.2	0.6	4539.2	0.6	4539.3	0.5	4539.3	0.5	4539.4	0.4	4539.4	0.4	4539.5	0.4	5,000
4538.4	2.2	4538.5	2.1	4538.5	2.1	4538.6	2.0	4538.6	2.0	4538.7	1.9	4538.7	1.9	4538.8	1.9	4538.8	1.8	4538.8	1.8	4538.9	1.7	4538.9	1.7	4538.9	1.7	5,000
4538.2	0.3	4538.2	0.3	4538.3	0.2	4538.3	0.2	4538.4	0.1	4538.4	0.1	4538.5	0.0	4538.5	0.0	4538.5	0.0	4538.6	-0.1	4538.6	-0.1	4538.6	-0.1	4538.7	-0.2	5,000
4537.7	0.4	4537.8	0.3	4537.8	0.3	4537.9	0.2	4537.9	0.2	4538.0	0.1	4538.0	0.1	4538.0	0.1	4538.1	0.0	4538.1	0.0	4538.2	0.0	4538.2	-0.1	4538.2	-0.1	5,000
4537.0	1.0	4537.1	0.9	4537.2	0.9	4537.2	0.8	4537.3	0.7	4537.3	0.7	4537.4	0.6	4537.4	0.6	4537.5	0.5	4537.5	0.5	4537.6	0.4	4537.6	0.4	4537.7	0.4	5,000
4536.5	1.5	4536.6	1.4	4536.6	1.4	4536.7	1.3	4536.7	1.3	4536.8	1.2	4536.9	1.1	4536.9	1.1	4537.0	1.0	4537.0	1.0	4537.1	0.9	4537.1	0.9	4537.2	0.8	5,000
4536.1	0.7	4536.2	0.6	4536.3	0.6	4536.3	0.5	4536.4	0.4	4536.5	0.3	4536.5	0.3	4536.6	0.2	4536.6	0.2	4536.7	0.1	4536.8	0.0	4536.8	0.0	4536.9	-0.1	5,000
4535.8	0.8	4535.9	0.7	4536.0	0.6	4536.0	0.6	4536.1	0.5	4536.2	0.4	4536.2	0.4	4536.3	0.3	4536.4	0.2	4536.4	0.2	4536.5	0.1	4536.6	0.1	4536.6	0.0	5,000
4535.3	0.7	4535.4	0.6	4535.4	0.6	4535.5	0.5	4535.6	0.4	4535.7	0.3	4535.7	0.3	4535.8	0.2	4535.9	0.1	4535.9	0.1	4536.0	0.0	4536.1	-0.1	4536.2	-0.2	5,000
4535.0	0.2	4535.1	0.1	4535.1	0.1	4535.2	0.0	4535.3	-0.1	4535.4	-0.2	4535.4	-0.2	4535.5	-0.3	4535.6	-0.4	4535.6	-0.4	4535.7	-0.5	4535.7	-0.5	4535.8	-0.6	4,800
4534.6	1.4	4534.6	1.4	4534.7	1.3	4534.8	1.2	4534.8	1.2	4534.9	1.1	4535.0	1.0	4535.0	1.0	4535.1	0.9	4535.2	0.9	4535.2	0.8	4535.2	0.8	4535.3	0.7	5,000
4533.9	1.1	4534.0	1.0	4534.1	0.9	4534.2	0.8	4534.3	0.7	4534.4	0.6	4534.4	0.6	4534.5	0.5	4534.6	0.4	4534.6	0.4	4534.7	0.3	4534.7	0.3	4534.7	0.3	5,000
4533.8	0.7	4533.9	0.6	4534.0	0.5	4534.0	0.5	4534.1	0.4	4534.2	0.3	4534.2	0.3	4534.3	0.2	4534.4	0.1	4534.4	0.1	4534.5	0.0	4534.5	0.0	4534.5	0.0	5,000
4533.3	0.7	4533.4	0.6	4533.5	0.5	4533.5	0.5	4533.6	0.4	4533.6	0.4	4533.7	0.3	4533.8	0.3	4533.8	0.2	4533.9	0.1	4533.9	0.1	4534.0	0.0	4534.0	0.0	5,000
4532.9	1.2	4533.0	1.1	4533.1	1.0	4533.1	1.0	4533.2	0.9	4533.3	0.9	4533.3	0.8	4533.4	0.7	4533.4	0.7	4533.5	0.6	4533.5	0.6	4533.6	0.5	4533.6	0.5	5,000
4532.7	0.7	4532.7	0.7	4532.8	0.6	4532.8	0.6	4532.9	0.5	4532.9	0.5	4533.0	0.4	4533.1	0.3	4533.1	0.3	4533.2	0.2	4533.2	0.2	4533.3	0.1	4533.3	0.1	5,000
4532.4	0.1	4532.4	0.1	4532.5	0.0	4532.6	-0.1	4532.6	-0.1	4532.7	-0.2	4532.8	-0.3	4532.8	-0.3	4532.9	-0.4	4532.9	-0.4	4532.9	-0.4	4533.0	-0.5	4533.0	-0.5	5,000
4532.0	1.1	4532.1	1.0	4532.1	1.0	4532.2	0.9	4532.3	0.9	4532.3	0.8	4532.4	0.8	4532.4	0.7	4532.5	0.7	4532.5	0.6	4532.4	0.7	4532.6	0.6	4532.5	0.6	5,000
4531.7	0.4	4531.7	0.4	4531.8	0.3	4531.9	0.3	4531.9	0.2	4531.9	0.2	4532.0	0.1	4532.0	0.1	4532.1	0.1	4532.1	0.0	4532.2	0.0	4532.1	0.0	4532.1	0.0	5,000
4530.5	1.0	4530.5	1.0	4530.6	0.9	4530.6	0.9	4530.7	0.8	4530.7	0.8	4530.8	0.7	4530.9	0.6	4530.9	0.6	4531.0	0.5	4531.1	0.4	4531.1	0.4	4531.2	0.3	5,000
4530.2	1.7	4530.3	1.6	4530.4	1.5	4530.4	1.5	4530.5	1.4	4530.6	1.3	4530.6	1.3	4530.7	1.2	4530.7	1.2	4530.8	1.1	4530.8	1.1	4530.9	1.0	4530.9	1.0	5,000
4530.0	0.8	4530.0	0.8	4530.1	0.7	4530.2	0.7	4530.2	0.6	4530.3	0.5	4530.3	0.5	4530.4	0.4	4530.4	0.4	4530.5	0.3	4530.6	0.3	4530.6	0.2	4530.7	0.1	5,000
4529.5	0.9	4529.5	0.9	4529.6	0.8	4529.7	0.7	4529.7	0.7	4529.8	0.6	4529.8	0.6	4529.9	0.5	4530.0	0.4	4530.0	0.4	4530.1	0.3	4530.1	0.3	4530.2	0.2	5,000
4529.1	1.0	4529.2	0.9	4529.3	0.8	4529.3	0.8	4529.4	0.7	4529.5	0.6	4529.5	0.6	4529.6	0.5	4529.7	0.5	4529.7	0.4	4529.8	0.3	4529.8	0.3	4529.9	0.2	5,000
4528.8	1.7	4528.9	1.6	4529.0	1.5	4529.1	1.4	4529.1	1.4	4529.2	1.3	4529.3	1.3	4529.3	1.2	4529.4	1.1	4529.4	1.1	4529.5	1.0	4529.5	1.0	4529.6	0.9	5,000
4528.5	1.5	4528.6	1.4	4528.7	1.3	4528.7	1.3	4528.8	1.2	4528.9	1.1	4528.9	1.1	4529.0	1.0	4529.0	1.0	4529.1	0.9	4529.1	0.9	4529.2	0.8	4529.2	0.8	5,000
4528.3	1.7	4528.4	1.6	4528.5	1.5	4528.5	1.5	4528.6	1.4	4528.7	1.3	4528.7	1.3	4528.8	1.2	4528.8	1.2	4528.9	1.1	4528.9	1.1	4529.0	1.0	4529.0	1.0	5,000
4528.1	0.9	4528.2	0.8	4528.2	0.8	4528.3	0.7	4528.4	0.6	4528.4	0.6	4528.5	0.5	4528.5	0.5	4528.6	0.4	4528.6	0.4	4528.7	0.3	4528.7	0.3	4528.7	0.3	5,000
4527.9	0.8	4527.9	0.8	4528.0	0.7	4528.1	0.6	4528.1	0.6	4528.2	0.5	4528.2	0.5	4528.3	0.4	4528.3	0.4	4528.4	0.3	4528.4	0.3	4528.5	0.2	4528.5	0.2	5,000
4527.4	0.6	4527.4	0.6	4527.5	0.5	4527.6	0.4	4527.6	0.4	4527.7	0.3	4527.7	0.3	4527.8	0.2	4527.8	0.2	4527.9	0.1	4527.9	0.1	4528.0	0.0	4528.0	0.0	5,000
4527.2	0.8	4527.2	0.8	4527.3	0.7	4527.3	0.7	4527.4	0.6	4527.4	0.6	4527.5	0.5	4527.5	0.5	4527.6	0.4	4527.6	0.4	4527.7	0.4	4527.7	0.3	4527.7	0.3	5,000
4526.7	0.1	4526.7	0.1	4526.7	0.1	4526.8	0.0	4526.8	0.0	4526.8	0.0	4526.9	-0.1	4526.9	-0.1	4526.9	-0.1	4526.9	-0.1	4527.0	-0.2	4527.0	-0.2	4527.0	-0.2	5,000
4525.1	1.3	4525.2	1.2	4525.3	1.1	4525.4	1.0	4525.5	0.9	4525.5	0.9	4525.6	0.8	4525.7	0.7	4525.7	0.7	4525.8	0.6	4525.9	0.5	4525.9	0.5	4526.0	0.4	5,000
4524.9	0.3	4525.0	0.3	4525.0	0.2	4525.1	0.1	4525.2	0.0	4525.3	-0.1	4525.3	-0.1	4525.4	-0.2	4525.5	-0.3	4525.5	-0.3	4525.6	-0.4	4525.6	-0.4	4525.7	-0.5	5,000
4524.8	0.8	4524.8	0.8	4524.9	0.7	4525.0	0.6	4525.1	0.6	4525.1	0.5	4525.2	0.4	4525.2	0.4	4525.3	0.3	4525.4	0.2	4525.4	0.2	4525.5	0.1	4525.6	0.1	5,000
4524.2	1.1	4524.3	1.1	4524.3	1.0	4524.4	0.9	4524.4	0.9	4524.5	0.8	4524.6	0.7	4524.6	0.7	4524.7	0.6	4524.7	0.6	4524.8	0.5	4524.8	0.5	4524.9	0.4	5,000
4523.6	2.6	4523.7	2.6	4523.7	2.5	4523.8	2.4	4523.8	2.4	4523.9	2.3	4523.9	2.3	4524.0	2.2	4524.1	2.1	4524.1	2.1	4524.2	2.1	4524.2	2.0	4524.3	1.9	5,000
4523.2	0.6	4523.3	0.5	4523.3	0.5	4523.4	0.4	4523.4	0.4	4523.5	0.3	4523.6	0.2	4523.6	0.2	4523.7	0.1	4523.7	0.1	4523.8	0.0	4523.8	0.0	4523.9	-0.1	5,000
4522.9	1.2	4523.0	1.1	4523.1	1.1	4523.1	1.0	4523.2	0.9	4523.2	0.9	4523.3	0.8	4523.3	0.8	4523.4	0.7	4523.4	0.7	4523.5	0.6	4523.5	0.6	4523.6	0.5	5,000
4522.6	0.8	4522.7	0.8	4522.7	0.7	4522.8	0.6	4522.8	0.6	4522.9	0.5	4522.9	0.5	4522.9	0.5	4523.0	0.4	4523.0	0.4	4523.1	0.3	4523.1	0.3	4523.2	0.2	5,000
4522.1	0.7	4522.2	0.6	4522.2	0.6	4522.3	0.5	4522.3	0.5	4522.4	0.4	4522.4	0.4	4522.5	0.3	4522.5	0.3	4522.6	0.2	4522.6	0.2	4522.7	0.2	4522.7	0.1	5,000
4521.7	0.7	4521.8	0.6	4521.9	0.5	4521.9	0.5	4522.0	0.4	4522.0	0.4	4522.1	0.3	4522.1	0.3	4522.2	0.3	4522.2	0.2	4522.2	0.2	4522.3	0.1	4522.3	0.1	5,000
4521.3	0.7	4521.4	0.6	4521.4	0.6	4521.5	0.6	4521.5	0.5	4521.5	0.5	4521.6	0.4	4521.6	0.4	4521.7	0.3	4521.7	0.3	4521.7	0.3	4521.8	0.2	4521.8	0.2	5,000
4520.5	1.0	4520.6	0.9	4520.6	0.9	4520.7	0.8	4520.7	0.8	4520.8	0.7	4520.8	0.7	4520.8	0.7	4520.9	0.6	4520.9	0.6	4521.0	0.5	4521.0	0.5	4521.0	0.5	5,000
4519.9	1.9	4520.0	1.8	4520.0	1.8	4520.1	1.7	4520.2	1.7	4520.2	1.6	4520.3	1.6	4520.3	1.5	4520.3	1.5	4520.4	1.4	4520.4	1.4	4520.5	1.3	4520.5	1.3	5,000
4519.4	0.4	4519.5	0.3	4519.5	0.3	4519.6	0.2	4519.6	0.2	4519.7	0.1	4519.7	0.1	4519.8	0.0	4519.8	0.0	4519.9	-0.1	4519.9	-0.1	4520.0	-0.2	4520.0	-0.2	5,000
4518.9	0.8	4519.0	0.7	4519.0	0.7	4519.1	0.6	4519.1	0.6	4519.2	0.5	4519.2	0.5	4519.3	0.4	4519.3	0.4	4519.4	0.3	4519.4	0.3	4519.5	0.2	4519.5	0.2	5,000
4518.4	0.8	4518.4	0.8	4518.5	0.7	4518.6	0.6	4518.6	0.6	4518.7	0.5	4518.7	0.5	4518.8	0.4	4518.8	0.4	4518.9	0.3	4518.9	0.3	4519.0	0.2	4519.0	0.2	5,000
4517.8	1.0	4517.9	0.9	4518.0	0.8	4518.1	0.8	4518.1	0.7	4518.2	0.6	4518.3	0.5	4518.3	0.5	4518.4	0.4	4518.5	0.3	4518.5	0.3	4518.6	0.3	4518.6	0.2	5,000
4517.6	0.6	4517.6	0.6	4517.7	0.5	4517.8	0.4	4517.8	0.4	4517.9	0.3	4518.0	0.2	4518.0	0.2	4518.1	0.1	4518.2	0.1	4518.2	0.0	4518.3	-0.1	4518.3	-0.1	5,000
4517.1	1.1	4517.2	1.0	4517.3	0.9	4517.3	0.9	4517.4	0.8	4517.4	0.8	4517.5	0.7	4517.6	0.6	4517.6	0.6	4517.7	0.6	4517.7	0.5	4517.8	0.4	4517.8	0.4	5,000
4516.6	0.8	4516.7	0.7	4516.7	0.7	4516.8	0.6	4516.8	0.6	4516.9	0.5	4517.0	0.4	4517.0	0.4	4517.1	0.3	4517.1	0.3	4517.2	0.2	4517.2	0.2	4517.3	0.1	5,000
4516.2	0.7	4516.3	0.6	4516.4	0.5	4516.4	0.5	4516.5	0.4	4516.5	0.4	4516.6	0.3	4516.7	0.2	4516.7	0.2	4516.8	0.1	4516.8	0.1	4516.9	0.0	4516.9	0.0	5,000
4515.8	0.7	4515.9	0.6	4515.9	0.6	4516.0	0.5	4516.1	0.4	4516.2	0.3	4516.2	0.3	4516.3	0.2	4516.3	0.2	4516.4	0.1	4516.5	0.0	4516.5	0.0	4516.6	-0.1	5,000
4515.6	1.4	4515.7	1.3	4515.8	1.2	4515.9	1.1	4515.9	1.1	4516.0	1.0	4516.1	0.9	4516.2	0.9	4516.2	0.8	4516.3	0.8	4516.3	0.7	4516.4	0.6	4516.4	0.6	5,000
4515.4	0.8	4515.4	0.8	4515.5	0.7	4515.6	0.6	4515.7	0.5	4515.8	0.4	4515.9	0.3	4515.9	0.3	4515.9	0.3	4516.0	0.2	4516.1	0.1	4516.1	0.1	4516.2	0.0	5,000
4514.7	0.6	4514.8	0.5	4514.9	0.4	4515.0	0.3	4515.1	0.2	4515.2	0.1	4515.2	0.1	4515.3	0.0	4515.4	-0.1	4515.4	-0.1	4515.5	-0.2	4515.5	-0.2	4515.6	-0.3	5,000
4514.1	0.8	4514.2	0.7	4514.3	0.6	4514.4	0.5	4514.5	0.4	4514.5	0.4	4514.6	0.3	4514.7	0.2	4514.7	0.2	4514.8	0.1	4514.9	0.0	4514.9	0.0	4514.9	0.0	5,000
4513.8	0.8	4513.9	0.7	4514.0	0.7	4514.0	0.6	4514.1	0.5	4514.2	0.4	4514.3	0.3	4514.3	0.3	4514.4	0.2	4514.5	0.1	4514.5	0.1	4514.6	0.0	4514.7	0.0	5,000
4513.5	0.0	4513.6	-0.1	4513.7	-0.1	4513.7	-0.2	4513.8	-0.3	4513.9	-0.4	4514.0	-0.5	4514.1	-0.6	4514.1	-0.6	4514.2	-0.7	4514.3	-0.8	4514.3	-0.8	4514.4	-0.9	4,000
4513.2	0.3	4513.3	0.2	4513.4	0.1	4513.5	0.0	4513.5	0.0	4513.6	-0.1	4513.7	-0.2	4513.8	-0.3	4513.9	-0.4	4513.9	-0.4	4514.0	-0.5	4514.1	-0.6	4514.1	-0.6	4,800
4513.0	0.7	4513.1	0.6	4513.1	0.6	4513.2	0.5	4513.3	0.4	4513.4	0.3	4513.4	0.3	4513.5	0.2	4513.6	0.1	4513.7	0.1	4513.7	0.0	4513.8	-0.1	4513.8	-0.1	5,000
4512.7	0.6	4512.8	0.5	4512.9	0.4	4513.0	0.4	4513.0	0.3	4513.1	0.2	4513.2	0.2	4513.2	0.1	4513.3	0.0	4513.3	0.0	4513.4	-0.1	4513.5	-0.1	4513.5	-0.2	5,000
4512.6	1.1	4512.6	1.1	4512.7	1.0	4512.8	0.9	4512.8	0.9	4512.9	0.8	4513.0	0.7	4513.0	0.7	4513.1	0.6	4513.2	0.6	4513.2	0.5	4513.3	0.4	4513.3	0.4	5,000
4512.4	1.5	4512.5	1.4	4512.6	1.3	4512.7	1.3	4512.7	1.2	4512.8	1.1	4512.8	1.1	4512.9	1.0	4513.0	0.9	4513.0	0.9	4513.1	0.8	4513.1	0.8	4513.2	0.7	5,000
4512.2	1.8	4512.3	1.7	4512.4	1.6	4512.4	1.6	4512.5	1.5	4512.5	1.5	4512.6	1.4	4512.6	1.4	4512.7	1.3	4512.8	1.3	4512.8	1.2	4512.9	1.1	4512.9	1.1	5,000
4511.9	2.2	4512.0	2.1	4512.0	2.1	4512.1	2.0	4512.2	2.0	4512.2	1.9	4512.3	1.8	4512.3	1.8	4512.4	1.7	4512.4	1.7	4512.5	1.6	4512.5	1.6	4512.6	1.5	5,000
4511.2	1.4	4511.2	1.3	4511.3	1.2	4511.4	1.1	4511.5	1.0	4511.6	0.9	4511.6	0.9	4511.7	0.8	4511.8	0.8	4511.8	0.7	4511.9	0.6	4511.9	0.6	4512.0	0.5	5,000
4511.0	1.1	4511.1	1.0	4511.1	1.0	4511.2	0.9	4511.3	0.8	4511.4	0.7	4511.4	0.7	4511.5	0.6	4511.6	0.5	4511.6	0.5	4511.7	0.4	4511.8	0.4	4511.8	0.3	5,000
4510.9	0.4	4510.9	0.4	4511.0	0.3	4511.1	0.2	4511.2	0.1	4511.2	0.1	4511.3	0.0	4511.4	-0.1	4511.4	-0.1	4511.5	-0.2	4511.6	-0.3	4511.6	-0.3	4511.7	-0.4	5,000
4510.7	0.6	4510.7	0.6	4510.8	0.5	4510.9	0.4	4510.9	0.4	4511.0	0.3	4511.1	0.2	4511.1	0.2	4511.2	0.1	4511.3	0.0	4511.3	0.0	4511.4	-0.1	4511.4	-0.1	5,000
4510.4	0.6	4510.5	0.5	4510.5	0.5	4510.6	0.4	4510.7	0.3	4510.7	0.3	4510.8	0.2	4510.9	0.1	4510.9	0.1	4511.0	0.0	4511.0	0.0	4511.1	-0.1	4511.2	-0.1	5,000
4510.2	0.6	4510.2	0.6	4510.3	0.5	4510.4	0.4	4510.4	0.4	4510.5	0.3	4510.6	0.2	4510.6	0.2	4510.7	0.1	4510.8	0.1	4510.8	0.0	4510.9	-0.1	4510.9	-0.1	5,000
4509.9	1.5	4509.9	1.5	4510.0	1.4	4510.1	1.3	4510.1	1.3	4510.2	1.2	4510.3	1.1	4510.4	1.0	4510.4	1.0	4510.5	0.9	4510.5	0.9	4510.6	0.8	4510.7	0.7	5,000
4509.5	1.8	4509.6	1.7	4509.7	1.6	4509.8	1.5	4509.9	1.4	4509.9	1.4	4510.0	1.3	4510.1	1.2	4510.2	1.2	4510.2	1.1	4510.3	1.0	4510.4	0.9	4510.4	0.9	5,000
4509.3	1.6	4509.4	1.5	4509.5	1.4	4509.6	1.3	4509.6	1.3	4509.7	1.2	4509.8	1.1	4509.9	1.0	4509.9	1.0	4510.0	0.9	4510.1	0.8	4510.1	0.8	4510.2	0.7	5,000
4509.0	2.6	4509.1	2.5	4509.2	2.4	4509.3	2.3	4509.4	2.2	4509.5	2.1	4509.6	2.1	4509.6	2.0	4509.7	1.9	4509.8	1.8	4509.8	1.8	4509.9	1.7	4510.0	1.6	5,000
4508.9	2.6	4509.0	2.6	4509.0	2.5	4509.1	2.4	4509.2	2.3	4509.3	2.2	4509.4	2.1	4509.4	2.1	4509.5	2.0	4509.6	1.9	4509.6	1.9	4509.7	1.8	4509.8	1.7	5,000
4508.6	2.7	4508.7	2.7	4508.7	2.6	4508.8	2.5	4508.9	2.4	4509.0	2.3	4509.1	2.3	4509.1	2.2	4509.2	2.1	4509.3	2.1	4509.3	2.0	4509.4	1.9	4509.5	1.9	5,000
4508.1	2.4	4508.2	2.3	4508.3	2.2	4508.4	2.1	4508.5	2.0	4508.6	1.9	4508.7	1.8	4508.8	1.7	4508.9	1.6	4508.9	1.6	4509.0	1.5	4509.1	1.4	4509.2	1.3	5,000
4507.8	1.3	4507.9	1.2	4508.1	1.1	4508.2	0.9	4508.3	0.8	4508.4	0.7	4508.5	0.6	4508.6	0.5	4508.7	0.4	4508.8	0.3	4508.9	0.2	4509.0	0.1	4509.0	0.1	5,000
4507.6	1.6	4507.7	1.5	4507.8	1.4	4508.0	1.2	4508.1	1.1	4508.2	1.0	4508.3	0.9	4508.4	0.8	4508.5	0.7	4508.6	0.6	4508.7	0.5	4508.8	0.4	4508.9	0.3	5,000
4507.3	1.0	4507.4	0.9	4507.6	0.7	4507.7	0.6	4507.8	0.5	4508.0	0.3	4508.1	0.2	4508.2	0.1	4508.3	0.0	4508.4	-0.1	4508.5	-0.2	4508.6	-0.3	4508.7	-0.4	5,000
4506.9	1.1	4507.1	0.9	4507.3	0.7	4507.4	0.6	4507.6	0.4	4507.8	0.3	4507.9	0.1	4508.0	0.0	4508.1	-0.1	4508.3	-0.3	4508.4	-0.4	4508.5	-0.5	4508.6	-0.6	5,000
4506.8	1.1	4507.0	0.9	4507.2	0.7	4507.4	0.5	4507.5	0.4	4507.7	0.2	4507.8	0.1	4507.9	0.0	4508.1	-0.2	4508.2	-0.3	4508.3	-0.4	4508.4	-0.5	4508.5	-0.6	4,800
4506.7	1.3	4506.8	1.2	4507.0	1.0	4507.2	0.8	4507.4	0.6	4507.5	0.5	4507.7	0.3	4507.7	0.3	4507.9	0.1	4508.1	-0.1	4508.2	-0.2	4508.3	-0.3	4508.4	-0.4	5,000
4506.3	1.1	4506.5	0.9	4506.7	0.7	4506.9	0.5	4507.1	0.3	4507.2	0.2	4507.4	0.0	4507.6	-0.2	4507.8	-0.4	4508.0	-0.6	4508.1	-0.7	4508.2	-0.8	4508.3	-0.9	4,400
4505.8	2.1	4506.0	1.9	4506.3	1.6	4506.5	1.4	4506.7	1.2	4506.9	1.0	4507.1	0.8	4507.3	0.6	4507.4	0.5	4507.6	0.3	4507.7	0.2	4507.9	0.0	4508.0	-0.1	5,000
4505.6	2.0	4505.9	1.8	4506.1	1.5	4506.3	1.3	4506.6	1.0	4506.8	0.8	4507.0	0.6	4507.2	0.4	4507.4	0.3	4507.5	0.1	4507.8	-0.1	4507.9	-0.3	4508.0	-0.4	5,000

4505.5	1.8	4505.8	1.5	4506.1	1.2	4506.3	1.0	4506.5	0.8	4506.7	0.6	4507.0	0.4	4507.2	0.2	4507.4	-0.1	4507.5	-0.2	4507.7	-0.4	4507.9	-0.6	4508.0	-0.7	4,800
4505.2	3.1	4505.4	2.9	4505.7	2.6	4505.9	2.4	4506.1	2.2	4506.3	2.0	4506.5	1.8	4506.7	1.6	4506.9	1.4	4507.1	1.2	4507.3	1.1	4507.4	0.9	4507.5	0.9	5,000
4505.1	2.6	4505.4	2.3	4505.6	2.1	4505.8	1.9	4506.1	1.6	4506.3	1.4	4506.5	1.2	4506.7	1.0	4506.9	0.8	4507.1	0.6	4507.2	0.5	4507.4	0.3	4507.4	0.3	5,000
4504.8	1.7	4505.1	1.4	4505.3	1.2	4505.6	0.9	4505.8	0.7	4506.0	0.5	4506.2	0.3	4506.4	0.1	4506.6	-0.1	4506.7	-0.2	4506.9	-0.4	4507.1	-0.6	4507.1	-0.6	4,800
4504.5	2.3	4504.8	2.0	4505.0	1.8	4505.2	1.6	4505.5	1.4	4505.7	1.2	4505.8	1.0	4506.0	0.8	4506.2	0.6	4506.3	0.5	4506.5	0.3	4506.6	0.2	4506.9	-0.1	5,000
4504.3	1.6	4504.5	1.3	4504.8	1.1	4505.0	0.8	4505.2	0.6	4505.4	0.4	4505.6	0.3	4505.7	0.1	4506.0	-0.2	4506.2	-0.3	4506.3	-0.5	4506.5	-0.7	4506.7	-0.8	4,600
4504.1	2.4	4504.3	2.2	4504.5	2.0	4504.8	1.8	4505.0	1.5	4505.2	1.4	4505.3	1.2	4505.5	1.0	4505.7	0.9	4505.8	0.7	4506.0	0.6	4506.1	0.4	4506.2	0.3	5,000
4503.8	2.5	4504.0	2.3	4504.3	2.1	4504.5	1.9	4504.7	1.6	4504.8	1.5	4505.0	1.3	4505.2	1.1	4505.3	1.0	4505.5	0.8	4505.6	0.7	4505.7	0.6	4505.9	0.4	5,000
4503.4	1.9	4503.6	1.7	4503.8	1.5	4504.0	1.3	4504.2	1.1	4504.4	0.9	4504.5	0.8	4504.7	0.6	4504.8	0.5	4504.9	0.4	4505.1	0.2	4505.2	0.1	4505.3	0.0	5,000
4503.0	2.1	4503.2	1.9	4503.4	1.7	4503.6	1.5	4503.8	1.3	4504.0	1.1	4504.1	1.0	4504.2	0.9	4504.4	0.7	4504.5	0.6	4504.6	0.5	4504.7	0.4	4504.8	0.3	5,000
4502.7	1.1	4502.9	0.9	4503.2	0.6	4503.4	0.4	4503.5	0.3	4503.7	0.1	4503.9	-0.1	4504.1	-0.3	4504.2	-0.4	4504.3	-0.5	4504.4	-0.6	4504.6	-0.8	4504.7	-0.9	4,400
4502.4	0.7	4502.6	0.5	4502.9	0.2	4503.1	0.1	4503.3	-0.1	4503.4	-0.3	4503.6	-0.5	4503.7	-0.6	4503.9	-0.8	4504.0	-0.9	4504.1	-1.0	4504.2	-1.1	4504.4	-1.3	4,000
4502.2	1.4	4502.4	1.2	4502.6	1.0	4502.8	0.8	4503.0	0.6	4503.1	0.5	4503.3	0.3	4503.4	0.2	4503.5	0.1	4503.7	0.0	4503.8	-0.2	4503.9	-0.3	4504.0	-0.4	5,000
4501.9	0.6	4502.2	0.4	4502.4	0.1	4502.6	-0.1	4502.8	-0.3	4502.9	-0.4	4503.1	-0.6	4503.2	-0.7	4503.3	-0.8	4503.5	-1.0	4503.6	-1.1	4503.7	-1.2	4503.8	-1.3	3,800
4501.7	0.6	4501.9	0.4	4502.2	0.1	4502.4	-0.1	4502.6	-0.3	4502.7	-0.4	4502.9	-0.6	4503.0	-0.7	4503.1	-0.8	4503.3	-0.9	4503.4	-1.1	4503.5	-1.2	4503.6	-1.3	3,800
4501.5	0.6	4501.7	0.4	4502.0	0.2	4502.2	0.0	4502.3	-0.2	4502.5	-0.4	4502.6	-0.5	4502.8	-0.7	4502.9	-0.8	4503.0	-0.9	4503.1	-1.0	4503.2	-1.1	4503.3	-1.2	3,800
4501.3	0.2	4501.5	0.0	4501.7	-0.2	4501.9	-0.4	4502.1	-0.6	4502.2	-0.7	4502.4	-0.9	4502.5	-1.0	4502.6	-1.1	4502.7	-1.2	4502.8	-1.3	4502.9	-1.4	4503.0	-1.5	3,400
4501.1	0.3	4501.3	0.1	4501.5	-0.1	4501.7	-0.3	4501.9	-0.5	4502.0	-0.6	4502.2	-0.8	4502.3	-0.9	4502.4	-1.0	4502.5	-1.1	4502.6	-1.2	4502.7	-1.3	4502.8	-1.4	3,600
4500.5	0.5	4500.7	0.3	4500.9	0.1	4501.1	-0.1	4501.3	-0.3	4501.4	-0.4	4501.5	-0.5	4501.6	-0.6	4501.6	-0.6	4501.7	-0.7	4501.8	-0.8	4501.8	-0.8	4502.0	-1.0	4,000
4500.4	1.2	4500.6	1.0	4500.9	0.8	4501.0	0.6	4501.2	0.4	4501.3	0.3	4501.4	0.2	4501.5	0.1	4501.5	0.1	4501.7	-0.1	4501.7	-0.1	4501.8	-0.2	4501.9	-0.3	5,000
4500.2	0.6	4500.4	0.4	4500.7	0.1	4500.9	-0.1	4501.1	-0.3	4501.2	-0.4	4501.3	-0.5	4501.4	-0.6	4501.4	-0.6	4501.5	-0.7	4501.5	-0.7	4501.6	-0.8	4501.7	-0.9	4,000
4500.0	1.1	4500.2	0.9	4500.5	0.7	4500.6	0.5	4500.8	0.3	4500.9	0.3	4501.0	0.1	4501.0	0.1	4501.3	-0.2	4501.4	-0.3	4501.4	-0.3	4501.5	-0.4	4501.6	-0.5	5,000
4499.7	1.0	4500.0	0.7	4500.2	0.5	4500.4	0.3	4500.6	0.1	4500.6	0.1	4500.7	0.1	4500.7	0.0	4500.8	-0.1	4501.0	-0.3	4500.9	-0.2	4500.9	-0.2	4501.0	-0.3	5,000
4499.5	0.9	4499.8	0.6	4500.0	0.4	4500.2	0.2	4500.3	0.1	4500.3	0.1	4500.4	0.0	4500.5	-0.1	4500.6	-0.2	4500.7	-0.3	4500.6	-0.2	4500.6	-0.2	4500.7	-0.3	5,000
4499.3	0.7	4499.6	0.4	4499.8	0.2	4500.1	-0.1	4500.3	-0.3	4500.2	-0.2	4500.4	-0.4	4500.4	-0.4	4500.5	-0.5	4500.7	-0.7	4500.5	-0.5	4500.5	-0.5	4500.7	-0.7	4,200
4499.1	1.1	4499.3	0.9	4499.5	0.7	4499.7	0.5	4499.9	0.3	4499.8	0.4	4499.9	0.3	4499.9	0.3	4499.9	0.3	4500.0	0.2	4500.3	-0.1	4500.3	-0.1	4500.4	-0.2	5,000
4498.7	0.9	4498.9	0.7	4499.2	0.4	4499.4	0.2	4499.5	0.1	4499.6	0.0	4499.9	-0.3	4499.8	-0.2	4499.9	-0.3	4500.0	-0.4	4500.2	-0.6	4500.2	-0.6	4500.3	-0.7	4,600
4498.3	1.1	4498.6	0.8	4498.8	0.6	4499.0	0.4	4499.2	0.3	4499.5	-0.1	4499.7	-0.3	4499.7	-0.3	4499.7	-0.3	4499.9	-0.5	4500.0	-0.6	4499.9	-0.5	4500.1	-0.7	4,600
4498.2	3.0	4498.4	2.7	4498.6	2.5	4498.9	2.3	4499.0	2.1	4499.2	1.9	4499.4	1.7	4499.3	1.8	4499.3	1.8	4499.4	1.7	4499.6	1.6	4499.4	1.7	4499.5	1.6	5,000
4497.9	2.9	4498.2	2.6	4498.4	2.4	4498.6	2.2	4498.8	2.0	4499.0	1.9	4499.2	1.7	4499.0	1.8	4499.0	1.8	4499.1	1.7	4499.3	1.6	4499.0	1.8	4499.1	1.7	5,000
4497.8	3.2	4498.0	3.0	4498.3	2.8	4498.5	2.5	4498.6	2.4	4498.8	2.2	4499.0	2.0	4498.8	2.2	4498.7	2.3	4498.8	2.2	4499.0	2.0	4498.7	2.3	4498.8	2.2	5,000
4497.5	1.3	4497.7	1.1	4498.0	0.8	4498.2	0.6	4498.3	0.5	4498.4	0.4	4498.6	0.2	4498.9	-0.1	4498.8	0.0	4499.0	-0.2	4499.1	-0.3	4498.9	-0.1	4499.0	-0.2	5,000
4497.2	1.4	4497.4	1.2	4497.6	1.0	4497.8	0.8	4497.9	0.7	4498.1	0.5	4498.2	0.4	4498.3	0.3	4498.7	-0.1	4498.9	-0.3	4499.0	-0.4	4498.7	-0.1	4498.8	-0.2	5,000
4497.1	0.8	4497.3	0.5	4497.5	0.3	4497.8	0.1	4498.0	-0.2	4498.2	-0.4	4498.4	-0.6	4498.5	-0.7	4498.7	-0.9	4498.8	-1.0	4499.0	-1.2	4498.7	-0.8	4498.8	-1.0	3,800
4496.4	1.4	4496.6	1.2	4496.8	1.0	4497.0	0.8	4497.2	0.6	4497.3	0.5	4497.4	0.4	4497.5	0.4	4497.6	0.2	4497.6	0.2	4497.7	0.1	4498.4	-0.6	4498.6	-0.8	4,800
4496.1	0.6	4496.3	0.4	4496.5	0.3	4496.6	0.1	4496.8	-0.1	4496.9	-0.2	4497.1	-0.4	4497.0	-0.3	4497.1	-0.4	4497.2	-0.4	4497.2	-0.5	4497.3	-0.6	4497.4	-0.7	4,600
4495.9	1.1	4496.1	0.9	4496.3	0.7	4496.5	0.5	4496.7	0.3	4496.8	0.2	4496.9	0.1	4496.8	0.2	4496.9	0.1	4497.2	-0.2	4497.3	-0.3	4497.4	-0.4	4497.5	-0.5	5,000
4495.7	1.7	4495.9	1.5	4496.1	1.3	4496.2	1.2	4496.4	1.0	4496.5	0.9	4496.6	0.8	4496.5	0.9	4496.6	0.8	4496.7	0.7	4496.7	0.7	4496.8	0.6	4496.8	0.6	5,000
4495.5	1.3	4495.7	1.1	4496.0	0.9	4496.1	0.7	4496.3	0.5	4496.4	0.4	4496.5	0.3	4496.3	0.5	4496.4	0.4	4496.5	0.3	4496.5	0.3	4496.6	0.2	4496.5	0.3	5,000
4495.3	0.8	4495.5	0.6	4495.7	0.4	4495.9	0.2	4496.1	0.0	4496.3	-0.2	4496.4	-0.3	4496.2	-0.1	4496.3	-0.2	4496.3	-0.2	4496.3	-0.2	4496.5	-0.3	4496.3	-0.2	5,000
4494.8	1.1	4494.9	1.0	4495.2	0.8	4495.3	0.6	4495.5	0.4	4495.6	0.3	4495.6	0.3	4496.0	-0.1	4496.1	-0.2	4496.2	-0.3	4496.2	-0.3	4496.3	-0.4	4496.1	-0.2	5,000
4494.5	1.4	4494.7	1.2	4494.9	1.0	4495.1	0.8	4495.3	0.6	4495.4	0.5	4495.4	0.5	4495.6	0.3	4495.6	0.3	4495.7	0.2	4495.6	0.3	4495.7	0.2	4496.0	-0.1	5,000
4494.3	1.1	4494.5	0.9	4494.7	0.7	4494.8	0.6	4495.0	0.4	4495.1	0.3	4495.2	0.2	4495.3	0.1	4495.4	0.0	4495.4	0.0	4495.6	-0.2	4495.7	-0.3	4495.8	-0.4	5,000
4494.1	0.8	4494.3	0.6	4494.5	0.4	4494.6	0.3	4494.8	0.1	4494.8	0.1	4495.1	-0.2	4495.2	-0.3	4495.3	-0.4	4495.3	-0.4	4495.4	-0.5	4495.5	-0.6	4495.6	-0.7	4,800
4493.8	1.4	4494.0	1.3	4494.2	1.0	4494.2	1.0	4494.4	0.8	4494.4	0.8	4494.6	0.6	4494.7	0.5	4494.8	0.4	4494.7	0.6	4494.7	0.5	4494.8	0.4	4494.9	0.3	5,000
4493.8	0.0	4493.9	-0.1	4494.2	-0.3	4494.2	-0.4	4494.4	-0.6	4494.4	-0.6	4494.6	-0.8	4494.8	-0.9	4494.8	-1.0	4494.7	-0.9	4494.8	-1.0	4494.9	-1.1	4495.0	-1.2	3,400

200 cfs		400 cfs		600 cfs		800 cfs		1000 cfs		1200 cfs		1400 cfs		1600 cfs		1800 cfs		2000 cfs		2200 cfs		2400 cfs	
W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)
4574.1	7.3	4574.5	6.9	4574.9	6.5	4575.2	6.2	4575.5	5.9	4575.7	5.7	4576.0	5.4	4576.2	5.2	4576.4	5.0	4576.6	4.8	4576.8	4.6	4577.0	4.4
4574.1	4.3	4574.4	4.0	4574.8	3.6	4575.1	3.3	4575.3	3.1	4575.6	2.8	4575.8	2.6	4576.0	2.4	4576.2	2.2	4576.4	2.0	4576.6	1.8	4576.7	1.7
4573.9	2.5	4574.2	2.2	4574.4	2.0	4574.7	1.7	4574.9	1.5	4575.1	1.3	4575.3	1.1	4575.5	0.9	4575.7	0.7	4575.8	0.6	4576.0	0.4	4576.1	0.3
4573.2	3.6	4573.7	3.1	4574.1	2.7	4574.4	2.4	4574.6	2.2	4574.9	1.9	4575.1	1.7	4575.3	1.5	4575.5	1.3	4575.6	1.2	4575.8	1.0	4575.9	0.9
4573.2	2.8	4573.7	2.3	4574.0	2.0	4574.3	1.7	4574.6	1.4	4574.8	1.2	4575.0	1.0	4575.2	0.8	4575.4	0.6	4575.6	0.4	4575.7	0.3	4575.9	0.1
4573.2	2.1	4573.6	1.7	4573.9	1.4	4574.2	1.1	4574.4	0.9	4574.6	0.7	4574.8	0.5	4575.0	0.3	4575.2	0.1	4575.3	0.0	4575.5	-0.1	4575.6	-0.3
4573.1	1.1	4573.5	0.8	4573.7	0.5	4574.0	0.2	4574.2	0.0	4574.4	-0.2	4574.6	-0.4	4574.8	-0.6	4574.9	-0.7	4575.1	-0.9	4575.2	-1.0	4575.3	-1.1
4572.8	2.2	4573.1	1.9	4573.4	1.6	4573.7	1.4	4573.9	1.1	4574.1	0.9	4574.3	0.7	4574.4	0.6	4574.6	0.4	4574.7	0.3	4574.8	0.2	4574.9	0.1
4572.7	2.0	4573.0	1.6	4573.3	1.3	4573.5	1.1	4573.7	0.9	4573.9	0.7	4574.1	0.5	4574.3	0.3	4574.5	0.1	4574.5	0.1	4574.6	0.0	4574.8	-0.1
4572.4	2.6	4572.7	2.3	4573.0	2.0	4573.2	1.8	4573.4	1.6	4573.6	1.4	4573.8	1.2	4574.0	1.0	4574.2	0.9	4574.2	0.8	4574.3	0.7	4574.4	0.6
4572.4	2.1	4572.7	1.8	4572.9	1.6	4573.1	1.4	4573.3	1.2	4573.5	1.0	4573.7	0.8	4573.9	0.6	4574.1	0.4	4574.1	0.4	4574.1	0.4	4574.3	0.3
4572.2	2.8	4572.4	2.6	4572.5	2.5	4572.7	2.4	4572.9	2.1	4573.1	1.9	4573.3	1.7	4573.5	1.5	4573.7	1.3	4573.6	1.4	4573.6	1.4	4573.6	1.4
4571.6	2.0	4572.0	1.6	4572.3	1.3	4572.5	1.1	4572.8	0.8	4573.0	0.6	4573.2	0.5	4573.3	0.3	4573.5	0.1	4573.6	0.0	4573.0	0.6	4573.0	0.6
4571.4	1.6	4571.6	1.4	4571.9	1.1	4572.1	0.9	4572.2	0.8	4572.4	0.6	4572.6	0.4	4572.7	0.3	4572.8	0.2	4572.9	0.1	4573.1	-0.1	4573.0	0.0
4570.8	2.3	4571.1	1.9	4571.3	1.7	4571.5	1.5	4571.7	1.3	4571.8	1.2	4571.9	1.1	4572.0	1.0	4572.1	0.9	4572.2	0.8	4572.4	0.6	4572.5	0.6
4569.9	2.2	4570.1	2.1	4570.2	1.9	4570.3	1.8	4570.5	1.7	4570.7	1.4	4570.9	1.2	4571.1	1.0	4571.3	0.9	4571.4	0.7	4571.6	0.5	4571.7	0.4
4569.5	2.4	4569.8	2.1	4570.1	1.8	4570.3	1.6	4570.5	1.4	4570.7	1.2	4570.9	1.0	4571.1	0.8	4571.2	0.7	4571.4	0.5	4571.5	0.4	4571.6	0.3
4569.4	2.0	4569.7	1.7	4569.9	1.5	4570.1	1.3	4570.3	1.1	4570.4	1.0	4570.6	0.8	4570.7	0.7	4570.8	0.6	4570.9	0.5	4571.1	0.3	4571.2	0.3
4568.5	2.5	4568.6	2.4	4568.8	2.2	4568.9	2.1	4569.0	2.0	4569.1	1.9	4569.2	1.8	4569.3	1.7	4569.4	1.6	4569.5	1.5	4569.6	1.4	4569.7	1.3
4568.2	2.1	4568.3	2.0	4568.5	1.8	4568.7	1.6	4568.9	1.4	4569.1	1.2	4569.3	1.0	4569.4	0.9	4569.6	0.7	4569.7	0.6	4569.8	0.5	4570.0	0.3
4568.1	2.8	4568.2	2.6	4568.2	2.6	4568.5	2.3	4568.7	2.1	4568.9	1.9	4569.1	1.7	4569.3	1.5	4569.4	1.4	4569.6	1.3	4569.7	1.1	4569.8	1.0
4567.7	2.5	4568.0	2.1	4568.3	1.8	4568.5	1.6	4568.7	1.4	4568.9	1.2	4569.0	1.1	4569.2	0.9	4569.3	0.8	4569.5	0.6	4569.6	0.5	4569.7	0.4
4567.6	2.5	4567.9	2.2	4568.1	2.0	4568.3	1.8	4568.5	1.6	4568.7	1.4	4568.8	1.3	4569.0	1.1	4569.1	1.0	4569.3	0.9	4569.4	0.7	4569.5	0.6
4567.5	2.4	4567.8	2.1	4568.0	1.9	4568.2	1.7	4568.4	1.5	4568.6	1.3	4568.7	1.2	4568.8	1.1	4569.0	0.9	4569.1	0.8	4569.2	0.7	4569.3	0.6
4567.4	2.5	4567.6	2.3	4567.8	2.1	4567.9	2.0	4568.0	1.9	4568.1	1.8	4568.2	1.7	4568.3	1.6	4568.4	1.5	4568.5	1.4	4568.5	1.4	4568.5	1.4
4566.1	0.8	4566.2	0.6	4566.3	0.5	4566.4	0.4	4566.4	0.4	4566.5	0.3	4566.6	0.2	4566.6	0.2	4566.7	0.1	4566.8	0.0	4566.9	-0.1	4567.0	-0.2
4565.3	1.1	4565.5	0.8	4565.7	0.6	4565.9	0.4	4566.1	0.2	4566.2	0.1	4566.4	-0.1	4566.5	-0.2	4566.7	-0.4	4566.8	-0.5	4566.9	-0.6	4567.0	-0.7
4565.2	1.7	4565.4	1.5	4565.6	1.3	4565.7	1.2	4565.9	1.0	4566.0	0.9	4566.1	0.8	4566.3	0.6	4566.4	0.5	4566.5	0.4	4566.6	0.3	4566.7	0.2
4564.9	1.6	4565.1	1.4	4565.3	1.2	4565.4	1.1	4565.6	0.9	4565.7	0.8	4565.9	0.6	4566.0	0.5	4566.1	0.4	4566.2	0.3	4566.3	0.2	4566.4	0.1
4564.6	1.0	4564.8	0.8	4565.0	0.6	4565.2	0.4	4565.3	0.3	4565.4	0.2	4565.6	0.0	4565.7	-0.1	4565.8	-0.2	4565.9	-0.3	4566.0	-0.4	4566.1	-0.5
4564.4	2.0	4564.6	1.8	4564.8	1.6	4565.0	1.4	4565.1	1.3	4565.3	1.1	4565.4	1.0	4565.5	0.9	4565.6	0.8	4565.8	0.6	4565.8	0.6	4565.9	0.5
4564.1	1.8	4564.3	1.6	4564.5	1.4	4564.6	1.3	4564.8	1.1	4564.9	1.0	4565.0	0.9	4565.1	0.8	4565.2	0.7	4565.3	0.6	4565.4	0.5	4565.5	0.4
4563.7	1.4	4563.9	1.2	4564.1	1.0	4564.3	0.9	4564.4	0.7	4564.5	0.6	4564.6	0.5	4564.7	0.4	4564.8	0.3	4564.9	0.2	4564.9	0.2	4565.0	0.1
4563.4	1.7	4563.6	1.5	4563.8	1.3	4563.9	1.2	4564.1	1.0	4564.1	1.0	4564.2	0.9	4564.3	0.8	4564.4	0.7	4564.5	0.6	4564.5	0.6	4564.6	0.5
4563.0	0.6	4563.2	0.4	4563.4	0.3	4563.5	0.2	4563.5	0.1	4563.6	0.0	4563.7	-0.1	4563.8	-0.2	4563.9	-0.3	4563.9	-0.3	4564.0	-0.4	4564.1	-0.5
4562.2	1.7	4562.3	1.6	4562.5	1.4	4562.7	1.3	4562.8	1.1	4562.9	1.0	4563.0	0.9	4563.1	0.8	4563.2	0.7	4563.3	0.6	4563.4	0.5	4563.5	0.4
4561.6	0.9	4561.9	0.6	4562.1	0.4	4562.3	0.3	4562.4	0.1	4562.5	0.0	4562.7	-0.2	4562.8	-0.3	4562.9	-0.4	4563.0	-0.5	4563.1	-0.6	4563.2	-0.7
4561.4	2.4	4561.7	2.1	4561.9	1.9	4562.0	1.8	4562.2	1.6	4562.3	1.5	4562.4	1.4	4562.5	1.3	4562.6	1.2	4562.7	1.1	4562.8	1.0	4562.9	0.9
4560.9	3.3	4561.0	3.1	4561.1	3.0	4561.2	2.9	4561.3	2.8	4561.4	2.7	4561.5	2.6	4561.6	2.5	4561.6	2.5	4561.7	2.4	4561.8	2.3	4561.9	2.2
4560.0	0.9	4560.2	0.7	4560.5	0.4	4560.6	0.3	4560.8	0.1	4560.9	0.0	4561.0	-0.1	4561.2	-0.3	4561.2	-0.3	4561.3	-0.4	4561.4	-0.5	4561.5	-0.6
4559.8	0.8	4559.9	0.7	4560.0	0.6	4560.1	0.5	4560.3	0.4	4560.4	0.2	4560.5	0.1	4560.6	0.0	4560.7	-0.1	4560.8	-0.2	4560.9	-0.3	4560.9	-0.3
4559.0	2.1	4559.2	1.9	4559.4	1.7	4559.6	1.5	4559.7	1.4	4559.9	1.2	4560.0	1.1	4560.1	1.0	4560.3	0.8	4560.4	0.8	4560.4	0.7	4560.5	0.6
4558.6	2.8	4558.8	2.6	4559.0	2.4	4559.1	2.3	4559.2	2.2	4559.3	2.1	4559.4	2.0	4559.5	1.9	4559.7	1.7	4559.8	1.6	4559.9	1.5	4559.9	1.5
4557.3	3.8	4557.4	3.7	4557.5	3.6	4557.6	3.5	4557.7	3.4	4557.9	3.2	4558.1	3.0	4558.2	2.9	4558.4	2.7	4558.5	2.6	4558.6	2.5	4558.7	2.4
4556.9	3.0	4557.2	2.7	4557.4	2.5	4557.6	2.3	4557.9	2.0	4558.0	1.9	4558.1	1.8	4558.3	1.6	4558.4	1.5	4558.5	1.4	4558.6	1.3	4558.7	1.2
4556.9	2.5	4557.1	2.3	4557.3	2.1	4557.5	1.9	4557.7	1.7	4557.9	1.5	4558.0	1.4	4558.1	1.3	4558.2	1.2	4558.3	1.1	4558.4	1.0	4558.5	0.9
4556.8	2.1	4557.0	1.9	4557.2	1.7	4557.4	1.5	4557.6	1.3	4557.7	1.2	4557.8	1.1	4557.9	1.0	4558.0	0.9	4558.1	0.8	4558.2	0.7	4558.3	0.6
4556.7	2.7	4556.9	2.5	4557.1	2.3	4557.3	2.1	4557.4	2.0	4557.5	1.9	4557.6	1.8	4557.7	1.7	4557.8	1.6	4557.9	1.5	4557.9	1.5	4558.0	1.4
4556.5	2.4	4556.6	2.3	4556.8	2.1	4557.0	1.9	4557.1	1.8	4557.2	1.7	4557.3	1.6	4557.4	1.5	4557.5	1.4	4557.5	1.4	4557.6	1.3	4557.7	1.2
4555.8	2.2	4556.0	2.0	4556.2	1.8	4556.4	1.6	4556.6	1.4	4556.8	1.3	4556.9	1.1	4556.9	1.1	4557.0	1.0	4557.1	0.9	4557.2	0.9	4557.2	0.8
4555.5	2.4	4555.7	2.1	4555.9	1.9	4556.0	1.8	4556.1	1.7	4556.3	1.5	4556.4	1.4	4556.5	1.3	4556.6	1.2	4556.7	1.1	4556.8	1.0	4556.9	0.9
4555.3	2.9	4555.5	2.7	4555.6	2.6	4555.8	2.4	4555.9	2.3	4556.0	2.2	4556.1	2.1	4556.2	2.0	4556.3	1.9	4556.3	1.9	4556.4	1.8	4556.5	1.7
4554.9	1.9	4555.0	1.8	4555.1	1.7	4555.2	1.6	4555.3	1.5	4555.4	1.4	4555.5	1.3	4555.5	1.3	4555.6	1.2	4555.7	1.1	4555.8	1.0	4555.9	0.9
4553.9	5.7	4554.1	5.5	4554.2	5.4	4554.3	5.3	4554.5	5.1	4554.6	5.0	4554.7	4.9	4554.9	4.8	4555.0	4.6	4555.1	4.5	4555.2	4.4	4555.3	4.3
4553.3	3.6	4553.5	3.4	4553.7	3.2	4553.9	3.0	4554.1	2.8	4554.2	2.7	4554.4	2.5	4554.5	2.4	4554.6	2.3	4554.7	2.2	4554.8	2.1	4554.9	2.0
4553.0	1.7	4553.2	1.5	4553.4	1.3	4553.6	1.1	4553.8	0.9	4554.0	0.8	4554.1	0.6	4554.2	0.5	4554.3	0.4	4554.4	0.3	4554.5	0.2	4554.5	0.2
4552.9	1.5	4553.1	1.3	4553.3	1.1	4553.5	0.9	4553.7	0.7	4553.8	0.6	4553.9	0.5	4554.0	0.4	4554.1	0.3	4554.2	0.2	4554.3	0.1	4554.2	0.2
4552.8	1.0	4552.9	0.9	4553.1	0.7	4553.3	0.5	4553.5	0.3	4553.6	0.2	4553.7	0.1	4553.8	0.0	4553.9	-0.1	4554.0	-0.2	4554.1	-0.3	4554.1	-0.3
4552.5	3.1	4552.7	2.8	4552.9	2.6	4553.1	2.4	4553.3	2.2	4553.4	2.1	4553.5	2.0	4553.6	1.9	4553.7	1.8	4553.8	1.7	4553.9	1.6	4553.9	1.6
4552.2	2.3	4552.3	2.1	4552.4	2.0	4552.4	2.0	4552.5	1.9	4552.6	1.8	4552.6	1.8	4552.7	1.7	4552.8	1.6	4552.8	1.6	4552.9	1.5	4552.9	1.5
4551.2	3.4	4551.4	3.2	4551.6	3.0	4551.8	2.8	4552.0	2.7	4552.1	2.5	4552.2	2.4	4552.3	2.3	4552.4	2.2	4552.6	2.1	4552.7	1.9	4552.8	1.8
4551.1	2.8	4551.3	2.6	4551.5	2.4	4551.6	2.3	4551.8	2.1	4551.8	2.1	4551.9	2.0	4552.0	1.9	4552.2	1.7	4552.3	1.6	4552.4	1.5	4552.6	1.3
4550.2	3.2	4550.4	3.0	4550.5	2.9	4550.6	2.8	4550.7	2.7	4550.9	2.5	4551.2	2.2	4551.4	2.0	4551.7	1.8	4551.9	1.5	4552.1	1.3	4552.3	1.1
4549.5	2.7	4549.8	2.4	4550.1	2.1	4550.4	1.8	4550.6	1.6	4550.9	1.3	4551.1	1.1	4551.4	0.8	4551.6	0.6	4551.8	0.4	4552.0	0.2	4552.2	0.0
4549.3	3.2	4549.7	2.8	4550.0	2.5	4550.3	2.2	4550.5	2.0	4550.8	1.7	4551.0	1.5	4551.3	1.2	4551.5	1.0	4551.7	0.8	4551.9	0.6	4552.1	0.4
4549.1	3.6	4549.5	3.2	4549.8	2.9	4550.1	2.6	4550.4	2.3	4550.7	2.0	4550.9	1.8	4551.2	1.5	4551.4	1.3	4551.6	1.1	4551.8	0.9	4552.0	0.7
4548.9	3.6	4549.3	3.2	4549.6	2.9	4549.9	2.6	4550.2	2.3	4550.5	2.0	4550.7	1.8	4551.0	1.6	4551.2	1.3	4551.4	1.1	4551.6	0.9	4551.8	0.7
4548.4	3.9	4548.7	3.6	4549.0	3.3	4549.3	3.0	4549.6	2.7	4549.9	2.4	4550.1	2.2	4550.4	1.9	4550.6	1.7	4550.8	1.5	4551.0	1.3	4551.2	1.1
4547.7	4.4	4548.2	3.9	4548.6	3.5	4549.0	3.1	4549.3	2.8	4549.6	2.5	4549.8	2.3	4550.1	2.0	4550.3	1.8	4550.6	1.6	4550.8	1.3	4551.0	1.1
4547.6	3.1	4548.1	2.6	4548.5	2.2	4548.8	1.9	4549.1	1.6	4549.4	1.3	4549.7	1.0	4549.9	0.8	4550.1	0.6	4550.4	0.3	4550.6	0.1	4550.8	-0.1
4547.5	3.2	4547.9	2.8	4548.3	2.4	4548.6	2.1	4548.9	1.8	4549.1	1.6	4549.3	1.4	4549.6	1.1	4549.8	0.9	4550.0	0.7	4550.2	0.5	4550.3	0.4
4547.0	4.1	4547.4	3.7	4547.7	3.4	4548.0	3.1	4548.3	2.8	4548.6	2.5	4548.8	2.3	4549.0	2.1	4549.3	1.8	4549.5	1.6	4549.7	1.4	4549.8	1.3
4546.4	4.6	4546.9	4.1	4547.3	3.7	4547.6	3.4	4547.9	3.1	4548.2	2.8	4548.4	2.6	4548.7	2.3	4548.9	2.1	4549.1	1.9	4549.3	1.7	4549.5	1.5
4546.0	4.3	4546.5	3.8	4546.9	3.4	4547.2	3.1	4547.5	2.8	4547.8	2.5	4548.0	2.3	4548.2	2.1	4548.5	1.9	4548.6	1.7	4548.8	1.5	4549.0	1.3
4545.9	3.8	4546.4	3.3	4546.8	2.9	4547.1	2.6	4547.3	2.4	4547.6	2.1	4547.8	1.9	4548.0	1.7	4548.2	1.5	4548.4	1.3	4548.5	1.2	4548.7	1.0
4545.9	3.8	4546.3	3.4	4546.7	3.0	4547.0	2.7	4547.2	2.5	4547.5	2.2	4547.7	2.0	4547.9	1.8	4548.1	1.6	4548.3	1.4	4548.5	1.2	4548.7	1.1
4545.8	4.0	4546.2	3.6	4546.5	3.3	4546.8	3.0	4547.1	2.7	4547.3	2.5	4547.5	2.3	4547.7	2.1	4547.9	1.9	4548.1	1.7	4548.3	1.5	4548.4	1.4
4545.6	3.8	4546.0	3.4	4546.3	3.1	4546.6	2.8	4546.8	2.6	4547.0	2.4	4547.2	2.2	4547.4	2.0	4547.6	1.8	4547.8	1.6	4547.9	1.5	4548.1	1.3
4545.1	3.4	4545.5	3.0	4545.8	2.7	4546.1	2.4	4546.3	2.2	4546.5	2.0	4546.7	1.8	4546.9	1.6	4547.0	1.5	4547.2	1.3	4547.4	1.1	4547.5	1.0
4544.8	3.7	4545.1	3.4	4545.4	3.1	4545.6	2.9	4545.8	2.7	4546.0	2.5	4546.2	2.3	4546.4	2.1	4546.6	1.9	4546.7	1.8	4546.9	1.6	4547.0	1.5
4544.2	3.8	4544.6	3.4	4544.9	3.1	4545.1	2.9	4545.4	2.6	4545.6	2.4	4545.8	2.2	4546.0	2.0	4546.2	1.8	4546.4	1.6	4546.6	1.4	4546.7	1.3
4544.2	2.8	4544.5	2.5	4544.8	2.2	4545.0	2.0	4545.2	1.8	4545.4	1.6	4545.7	1.4	4545.9	1.1	4546.1	0.9	4546.3	0.8	4546.4	0.6	4546.5	0.5
4544.2	2.9	4544.4	2.6	4544.7	2.4	4544.9	2.1	4545.1	1.9	4545.3	1.7	4545.5	1.5	4545.7	1.3	4545.9	1.1	4546.1	0.9	4546.3	0.7	4546.4	0.6
4543.8	3.7	4544.0	3.5	4544.3	3.2	4544.5	3.0	4544.8	2.7	4545.0	2.5	4545.3	2.2	4545.5	2.0	4545.7	1.8	4545.9	1.6	4546.1	1.4	4546.2	1.3
4543.0	3.2	4543.5	2.7	4543.9	2.3	4544.2	2.0	4544.5	1.7	4544.8	1.4	4545.0	1.2	4545.3	0.9	4545.5	0.7	4545.7	0.5	4545.9	0.3	4545.9	0.3
4542.9	2.8	4543.3	2.4	4543.7	2.0	4544.0	1.7	4544.3	1.4	4544.5	1.2	4544.8	0.9	4545.0	0.7	4545.2	0.5	4545.4	0.3	4545.6	0.1	4545.8	-0.1
4542.3	2.9	4542.7	2.5	4543.0	2.2	4543.3	1.9	4543.6	1.6	4543.8	1.4	4544.0	1.2	4544.2	1.0	4544.4	0.8	4544.6	0.6	4544.8	0.4	4544.9	0.3
4541.8	3.3	4542.2	2.9	4542.6	2.6	4542.8	2.3	4543.1	2.0	4543.3	1.8	4543.6	1.5	4543.8	1.3	4544.0	1.2	4544.1	1.0	4544.3	0.8	4544.5	0.7
4541.2	3.2	4541.7	2.7	4542.1	2.3	4542.4	2.0	4542.7	1.8	4542.9	1.5	4543.1	1.3	4543.3	1.1	4543.5	0.9	4543.7	0.7	4543.8	0.6	4544.0	0.4
4541.1	3.8	4541.5	3.4	4541.9	3.0	4542.2	2.7	4542.4	2.5	4542.7	2.2	4542.9	2.0	4543.1	1.8	4543.3	1.6	4543.5	1.4	4543.6	1.3	4543.7	1.2
4541.0	3.0	4541.4	2.6	4541.8	2.2	4542.0	2.0	4542.3	1.7	4542.5	1.5	4542.7	1.3	4542.9	1.1	4543.1	0.9	4543.3	0.7	4543.4	0.6	4543.6	0.4
4540.9	3.3	4541.3	2.9	4541.7	2.6	4541.9	2.3	4542.2	2.0	4542.4	1.8	4542.6	1.6	4542.8	1.4	4543.0	1.2	4543.2	1.0	4543.3	0.9	4543.4	0.8
4540.8	3.7	4541.2	3.3	4541.6	2.9	4541.8	2.7	4542.1	2.4	4542.3	2.2	4542.5	2.0	4542.7	1.8	4542.9	1.6	4543.0	1.5	4543.1	1.4	4543.3	1.2
4540.7	2.9	4541.1	2.5	4541.4	2.2	4541.7	1.9	4541.9	1.7	4542.1	1.5	4542.3	1.3	4542.5	1.1	4542.7	0.9	4542.8	0.8	4542.9	0.7	4543.0	0.6
4540.6	2.0	4540.9	1.7	4541.2	1.4	4541.5	1.1	4541.7	0.9	4541.9	0.7	4542.1	0.5	4542.2	0.4	4542.4	0.2	4542.6	0.0	4542.6	0.0	4542.7	-0.1
4540.3	2.6	4540.6	2.3	4540.8	2.1	4541.1	1.8	4541.2	1.7	4541.4	1.5	4541.6	1.3	4541.7	1.2	4541.9	1.0	4542.0	0.9	4542.0	0.9	4542.0	0.9

4539.9	1.7	4540.1	1.5	4540.4	1.2	4540.6	1.0	4540.8	0.8	4540.9	0.7	4541.1	0.5	4541.3	0.4	4541.4	0.2	4541.5	0.1	4541.7	-0.1	4541.8	-0.2
4539.3	3.0	4539.6	2.7	4539.9	2.4	4540.1	2.2	4540.3	2.0	4540.5	1.8	4540.6	1.7	4540.8	1.5	4540.9	1.4	4541.1	1.2	4541.2	1.1	4541.3	1.0
4539.0	2.3	4539.3	1.9	4539.5	1.7	4539.8	1.4	4540.0	1.3	4540.1	1.1	4540.3	0.9	4540.4	0.8	4540.6	0.6	4540.7	0.5	4540.8	0.4	4540.9	0.3
4538.8	2.0	4539.1	1.7	4539.3	1.5	4539.5	1.3	4539.7	1.1	4539.9	0.9	4540.0	0.8	4540.2	0.6	4540.3	0.5	4540.4	0.4	4540.5	0.3	4540.6	0.2
4538.5	1.8	4538.8	1.5	4539.1	1.3	4539.3	1.1	4539.4	0.9	4539.6	0.7	4539.8	0.5	4539.9	0.4	4540.0	0.3	4540.2	0.1	4540.2	0.1	4540.4	-0.1
4538.3	1.1	4538.6	0.8	4538.8	0.6	4539.0	0.4	4539.2	0.2	4539.4	0.0	4539.5	-0.1	4539.7	-0.3	4539.8	-0.4	4540.0	-0.6	4540.0	-0.6	4540.2	-0.8
4537.9	1.8	4538.1	1.6	4538.2	1.5	4538.5	1.2	4538.7	1.0	4538.9	0.8	4539.1	0.6	4539.3	0.4	4539.4	0.3	4539.6	0.1	4539.7	0.0	4539.6	0.1
4537.4	1.8	4537.7	1.5	4538.0	1.2	4538.2	1.0	4538.5	0.7	4538.7	0.5	4538.9	0.3	4539.1	0.1	4539.2	0.0	4539.4	-0.2	4539.5	-0.3	4539.3	-0.1
4537.3	2.0	4537.7	1.6	4537.9	1.4	4538.2	1.1	4538.4	0.9	4538.6	0.7	4538.8	0.5	4538.9	0.4	4539.1	0.2	4539.2	0.1	4539.4	-0.1	4539.1	0.2
4537.3	1.6	4537.5	1.4	4537.7	1.2	4537.9	1.0	4538.1	0.8	4538.2	0.7	4538.4	0.5	4538.5	0.4	4538.6	0.3	4538.8	0.1	4538.9	0.0	4539.0	-0.1
4536.5	1.6	4536.8	1.3	4537.0	1.1	4537.3	0.9	4537.4	0.7	4537.5	0.6	4537.4	0.7	4537.5	0.6	4537.6	0.5	4537.7	0.4	4537.8	0.3	4537.8	0.3
4536.3	1.1	4536.5	0.8	4536.8	0.5	4537.0	0.3	4537.1	0.2	4537.2	0.1	4537.3	0.0	4537.4	-0.1	4537.5	-0.2	4537.6	-0.3	4537.7	-0.3	4537.7	-0.4
4536.1	1.8	4536.3	1.6	4536.5	1.4	4536.7	1.2	4536.8	1.1	4536.8	1.1	4536.8	1.1	4536.9	1.0	4537.0	0.9	4537.1	0.8	4537.1	0.8	4537.2	0.7
4535.8	0.7	4536.0	0.5	4536.2	0.3	4536.3	0.2	4536.4	0.1	4536.6	-0.1	4536.6	-0.1	4536.7	-0.2	4536.8	-0.3	4536.9	-0.4	4536.7	-0.2	4536.8	-0.3
4535.1	1.3	4535.3	1.1	4535.5	0.9	4535.6	0.8	4535.8	0.6	4535.9	0.5	4536.1	0.3	4536.2	0.3	4536.3	0.1	4536.4	0.0	4536.5	-0.1	4536.5	-0.1
4534.6	1.8	4534.9	1.5	4535.1	1.3	4535.3	1.1	4535.5	0.9	4535.6	0.8	4535.8	0.6	4535.9	0.5	4536.0	0.4	4536.1	0.3	4536.2	0.2	4536.2	0.2
4534.5	1.6	4534.7	1.4	4534.9	1.2	4535.1	1.0	4535.3	0.8	4535.4	0.7	4535.6	0.5	4535.7	0.4	4535.8	0.3	4535.9	0.2	4536.1	0.1	4536.0	0.1
4534.0	1.4	4534.3	1.1	4534.6	0.8	4534.8	0.6	4535.0	0.4	4535.1	0.3	4535.3	0.1	4535.5	-0.1	4535.6	-0.2	4535.7	-0.3	4535.8	-0.4	4535.9	-0.5
4533.7	2.0	4534.0	1.7	4534.3	1.4	4534.5	1.2	4534.6	1.1	4534.8	0.9	4534.9	0.8	4535.1	0.6	4535.2	0.5	4535.3	0.4	4535.4	0.3	4535.5	0.2
4533.6	1.6	4533.8	1.4	4534.0	1.2	4534.2	1.0	4534.3	0.9	4534.4	0.8	4534.5	0.7	4534.6	0.6	4534.7	0.5	4534.8	0.4	4534.9	0.3	4535.0	0.2
4533.0	1.6	4533.1	1.4	4533.2	1.3	4533.3	1.3	4533.4	1.1	4533.5	1.0	4533.7	0.8	4533.8	0.7	4533.9	0.6	4534.0	0.5	4534.1	0.4	4534.2	0.3
4532.3	1.6	4532.6	1.3	4532.8	1.1	4532.9	1.0	4533.1	0.8	4533.2	0.7	4533.4	0.5	4533.5	0.4	4533.6	0.3	4533.7	0.2	4533.8	0.1	4533.9	0.0
4531.9	2.1	4532.1	1.9	4532.2	1.8	4532.3	1.7	4532.4	1.6	4532.5	1.5	4532.6	1.4	4532.6	1.4	4532.7	1.3	4532.8	1.2	4532.8	1.2	4532.9	1.1
4531.2	1.8	4531.5	1.5	4531.8	1.2	4532.0	1.0	4532.2	0.8	4532.4	0.6	4532.5	0.5	4532.6	0.4	4532.7	0.3	4532.8	0.2	4532.9	0.1	4533.0	0.0
4531.2	1.6	4531.5	1.3	4531.7	1.1	4531.9	0.9	4532.1	0.7	4532.3	0.5	4532.4	0.4	4532.5	0.3	4532.5	0.3	4532.6	0.2	4532.7	0.1	4532.8	0.0
4530.9	1.2	4531.2	0.9	4531.4	0.7	4531.6	0.5	4531.7	0.4	4531.9	0.2	4531.9	0.2	4532.0	0.1	4532.2	0.0	4532.3	-0.2	4532.4	-0.3	4532.5	-0.4
4530.6	1.0	4530.8	0.8	4531.0	0.6	4531.2	0.4	4531.4	0.2	4531.5	0.1	4531.6	0.0	4531.7	-0.1	4531.9	-0.3	4532.0	-0.4	4532.1	-0.5	4532.2	-0.6
4530.0	1.9	4530.3	1.6	4530.5	1.4	4530.7	1.2	4530.8	1.1	4531.0	0.9	4531.0	0.9	4531.1	0.8	4531.3	0.6	4531.5	0.6	4531.5	0.4	4531.5	0.4
4529.7	1.0	4530.0	0.7	4530.2	0.5	4530.3	0.4	4530.5	0.2	4530.6	0.1	4530.7	0.0	4530.8	-0.1	4531.0	-0.3	4530.8	-0.1	4530.9	-0.2	4531.0	-0.3
4529.5	1.0	4529.6	0.9	4529.7	0.8	4529.9	0.6	4530.0	0.5	4530.1	0.4	4530.2	0.3	4530.3	0.2	4530.4	0.1	4530.5	0.0	4530.7	-0.2	4530.8	-0.3
4528.6	1.1	4528.9	0.8	4529.2	0.5	4529.4	0.3	4529.6	0.1	4529.7	0.0	4529.9	-0.2	4530.0	-0.3	4530.2	-0.5	4530.3	-0.6	4530.5	-0.8	4530.6	-0.9
4528.4	1.9	4528.6	1.7	4528.8	1.5	4529.0	1.3	4529.1	1.2	4529.3	1.1	4529.4	0.9	4529.5	0.8	4529.6	0.7	4529.7	0.6	4529.8	0.5	4529.9	0.4
4528.2	1.8	4528.4	1.6	4528.5	1.5	4528.6	1.4	4528.7	1.3	4528.7	1.3	4528.8	1.2	4528.7	1.3	4528.8	1.2	4528.8	1.2	4528.9	1.1	4528.9	1.1
4527.1	0.9	4527.4	0.6	4527.5	0.5	4527.6	0.4	4527.7	0.3	4527.9	0.1	4528.0	0.0	4528.0	0.0	4528.1	-0.1	4528.2	-0.2	4528.3	-0.3	4528.4	-0.4
4526.5	1.5	4526.8	1.2	4526.9	1.1	4527.1	0.9	4527.2	0.8	4527.4	0.6	4527.5	0.5	4527.7	0.4	4527.7	0.3	4527.8	0.2	4527.9	0.1	4528.0	0.0
4526.0	1.3	4526.2	1.1	4526.4	0.9	4526.6	0.7	4526.8	0.5	4527.0	0.3	4527.1	0.2	4527.3	0.0	4527.3	0.0	4527.4	-0.1	4527.5	-0.2	4527.6	-0.3
4525.8	1.8	4526.0	1.6	4526.3	1.3	4526.5	1.1	4526.7	1.0	4526.8	0.8	4527.0	0.6	4527.2	0.5	4527.2	0.4	4527.3	0.3	4527.3	0.3	4527.4	0.2
4525.4	1.6	4525.7	1.3	4526.0	1.0	4526.2	0.8	4526.4	0.6	4526.6	0.4	4526.8	0.3	4526.9	0.1	4526.8	0.2	4526.9	0.1	4527.0	0.0	4527.1	-0.1
4525.1	1.3	4525.4	1.0	4525.6	0.8	4525.8	0.6	4526.0	0.4	4526.1	0.3	4526.2	0.2	4526.3	0.1	4526.4	0.0	4526.5	-0.1	4526.6	-0.2	4526.7	-0.3
4525.0	1.0	4525.2	0.8	4525.4	0.6	4525.6	0.4	4525.7	0.3	4525.8	0.2	4525.9	0.1	4526.0	0.0	4526.1	-0.1	4526.2	-0.2	4526.3	-0.3	4526.4	-0.4
4524.8	1.2	4525.0	1.0	4525.2	0.8	4525.3	0.7	4525.5	0.6	4525.6	0.4	4525.6	0.4	4525.7	0.3	4525.8	0.2	4525.9	0.1	4525.9	0.1	4526.0	0.0
4524.5	0.8	4524.7	0.6	4524.9	0.4	4525.0	0.3	4525.1	0.2	4525.2	0.2	4525.2	0.1	4525.3	0.0	4525.4	-0.1	4525.5	-0.1	4525.5	-0.2	4525.5	-0.2
4523.8	0.8	4524.0	0.6	4524.2	0.4	4524.4	0.2	4524.5	0.1	4524.6	0.0	4524.8	-0.1	4524.9	-0.3	4524.9	-0.3	4525.1	-0.5	4525.1	-0.5	4525.2	-0.6
4523.3	0.9	4523.6	0.6	4523.8	0.4	4524.0	0.2	4524.2	0.0	4524.4	-0.2	4524.5	-0.3	4524.6	-0.4	4524.7	-0.5	4524.8	-0.6	4524.9	-0.7	4524.9	-0.7
4523.1	1.4	4523.3	1.2	4523.5	1.0	4523.7	0.8	4523.9	0.6	4524.1	0.4	4524.1	0.4	4524.2	0.3	4524.3	0.2	4524.4	0.1	4524.6	-0.1	4524.7	-0.1
4522.5	1.2	4522.8	0.9	4523.1	0.6	4523.3	0.4	4523.5	0.2	4523.7	0.0	4523.8	-0.1	4524.0	-0.3	4524.1	-0.4	4524.2	-0.5	4524.3	-0.6	4524.4	-0.7
4522.2	1.5	4522.5	1.2	4522.7	1.0	4522.9	0.8	4523.0	0.7	4523.1	0.6	4523.3	0.4	4523.4	0.3	4523.5	0.3	4523.6	0.1	4523.6	0.1	4523.6	0.1
4522.1	1.1	4522.3	0.9	4522.5	0.7	4522.7	0.5	4522.9	0.3	4523.0	0.3	4523.1	0.1	4523.2	0.0	4523.3	-0.1	4523.4	-0.2	4523.5	-0.3	4523.5	-0.3
4521.9	0.8	4522.1	0.5	4522.3	0.3	4522.5	0.2	4522.6	0.0	4522.6	0.0	4522.7	-0.1	4522.9	-0.3	4522.9	-0.3	4523.0	-0.4	4523.1	-0.5	4523.2	-0.6
4521.2	1.4	4521.3	1.3	4521.3	1.3	4521.3	1.3	4521.3	1.3	4521.4	1.2	4521.6	1.1	4521.5	1.1	4521.6	1.0	4521.7	1.0	4521.7	0.9	4521.8	0.8
4520.1	1.3	4520.2	1.1	4520.5	0.8	4520.8	0.5	4520.9	0.4	4521.1	0.2	4521.2	0.1	4521.3	0.0	4521.4	-0.1	4521.5	-0.2	4521.6	-0.3	4521.8	-0.5
4519.8	2.2	4520.2	1.8	4520.5	1.5	4520.7	1.3	4520.9	1.1	4521.1	0.9	4521.1	0.9	4521.3	0.8	4521.4	0.6	4521.4	0.6	4521.5	0.5	4521.7	0.4
4519.8	1.0	4520.1	0.7	4520.4	0.4	4520.6	0.2	4520.8	0.0	4521.0	-0.2	4521.0	-0.2	4521.2	-0.4	4521.3	-0.5	4521.3	-0.5	4521.4	-0.6	4521.5	-0.7
4519.6	1.2	4519.9	0.9	4520.2	0.6	4520.4	0.4	4520.6	0.2	4520.7	0.1	4520.9	-0.1	4521.0	-0.2	4521.1	-0.3	4521.1	-0.3	4521.3	-0.5	4521.4	-0.6
4519.4	1.5	4519.7	1.2	4520.0	0.9	4520.2	0.7	4520.4	0.5	4520.5	0.4	4520.7	0.2	4520.8	0.1	4520.9	0.0	4521.0	-0.1	4521.1	-0.2	4521.2	-0.3
4519.0	1.4	4519.1	1.2	4519.3	1.0	4519.4	0.9	4519.5	0.8	4519.6	0.7	4519.7	0.6	4519.8	0.5	4519.9	0.4	4520.0	0.3	4520.1	0.2	4520.2	0.1
4518.8	0.7	4519.1	0.4	4519.3	0.2	4519.5	0.0	4519.6	-0.1	4519.7	-0.2	4519.8	-0.3	4519.7	-0.2	4519.9	-0.4	4519.9	-0.4	4520.1	-0.6	4520.0	-0.4
4518.7	1.0	4519.0	0.7	4519.2	0.5	4519.4	0.3	4519.5	0.2	4519.7	0.1	4519.7	0.0	4519.5	0.2	4519.8	-0.1	4519.9	-0.2	4520.1	-0.4	4519.7	0.0
4518.4	0.9	4518.6	0.7	4518.8	0.5	4519.0	0.3	4519.1	0.2	4519.2	0.1	4519.3	0.0	4519.5	-0.2	4519.0	0.3	4519.0	0.3	4519.1	0.3	4519.2	0.2
4517.5	1.4	4517.9	1.0	4518.1	0.8	4518.3	0.6	4518.4	0.5	4518.6	0.3	4518.7	0.2	4518.8	0.1	4518.9	0.0	4518.9	0.0	4519.0	-0.1	4518.5	0.4
4517.3	0.6	4517.6	0.3	4517.8	0.1	4518.0	-0.1	4518.1	-0.2	4518.3	-0.4	4518.4	-0.5	4518.5	-0.6	4518.7	-0.8	4518.3	-0.4	4518.3	-0.4	4518.3	-0.4
4516.9	1.1	4517.1	0.9	4517.2	0.8	4517.4	0.6	4517.5	0.5	4517.6	0.4	4517.7	0.3	4517.9	0.1	4518.0	0.0	4518.0	0.0	4518.0	0.0	4518.0	0.0
4516.0	1.8	4516.3	1.4	4516.5	1.2	4516.7	1.0	4517.0	0.7	4517.1	0.6	4517.3	0.4	4517.4	0.3	4517.5	0.2	4517.6	0.1	4517.7	0.0	4517.6	0.1
4515.8	1.2	4515.9	1.1	4516.1	0.9	4516.3	0.8	4516.4	0.6	4516.5	0.5	4516.6	0.4	4516.8	0.3	4516.8	0.2	4516.9	0.1	4517.0	0.0	4517.1	-0.1
4514.8	1.5	4515.1	1.2	4515.4	0.9	4515.6	0.7	4515.7	0.6	4515.9	0.4	4516.1	0.2	4516.2	0.1	4516.3	0.0	4516.5	-0.2	4516.6	-0.3	4516.7	-0.4
4514.8	1.4	4515.1	1.1	4515.3	0.9	4515.5	0.7	4515.7	0.5	4515.9	0.3	4516.0	0.2	4516.1	0.1	4516.3	-0.1	4516.4	-0.2	4516.5	-0.3	4516.6	-0.4
4514.7	1.8	4514.8	1.6	4514.9	1.5	4515.1	1.3	4515.2	1.2	4515.3	1.1	4515.4	1.0	4515.5	0.9	4515.5	0.9	4515.6	0.8	4515.7	0.7	4515.8	0.6
4514.3	1.8	4514.5	1.6	4514.7	1.4	4515.0	1.1	4515.2	0.9	4515.4	0.7	4515.5	0.6	4515.3	0.8	4515.4	0.7	4515.5	0.6	4515.7	0.5	4515.7	0.4
4514.2	0.9	4514.3	0.8	4514.6	0.5	4514.8	0.3	4515.1	0.0	4515.3	-0.2	4515.5	-0.4	4515.2	0.0	4515.3	-0.2	4515.4	-0.3	4515.5	-0.4	4515.6	-0.5
4513.8	1.6	4514.2	1.2	4514.5	0.9	4514.7	0.7	4515.0	0.4	4515.2	0.2	4515.3	0.1	4514.8	0.6	4514.9	0.5	4515.0	0.4	4515.2	0.2	4515.2	0.2
4513.6	1.1	4513.8	0.8	4514.0	0.7	4514.1	0.5	4514.3	0.3	4514.4	0.2	4514.6	0.0	4514.6	0.0	4514.7	-0.1	4514.8	-0.2	4515.0	-0.4	4515.0	-0.3
4512.8	1.2	4513.2	0.8	4513.5	0.5	4513.7	0.3	4513.9	0.1	4514.1	-0.1	4514.3	-0.3	4514.4	-0.4	4514.6	-0.6	4514.7	-0.7	4514.9	-0.9	4514.8	-0.8
4512.8	1.8	4513.1	1.5	4513.3	1.3	4513.6	1.1	4513.7	0.9	4513.9	0.7	4514.1	0.6	4514.2	0.4	4514.3	0.3	4514.4	0.2	4514.6	0.1	4514.7	-0.1
4512.4	1.9	4512.6	1.8	4512.7	1.6	4512.8	1.5	4512.9	1.4	4513.0	1.3	4513.1	1.2	4513.2	1.1	4513.2	1.1	4513.4	1.0	4513.4	0.9	4513.5	0.8
4511.7	0.9	4512.0	0.6	4512.2	0.4	4512.4	0.3	4512.5	0.1	4512.7	-0.1	4512.8	-0.2	4513.0	-0.4	4513.1	-0.5	4513.2	-0.6	4513.0	-0.4	4513.1	-0.5
4511.5	1.3	4511.8	1.0	4511.9	0.9	4512.0	0.8	4512.2	0.6	4512.3	0.5	4512.5	0.3	4512.6	0.2	4512.7	0.1	4512.8	0.0	4512.9	-0.1	4513.0	-0.2
4510.7	2.3	4510.8	2.2	4511.2	1.9	4511.4	1.6	4511.6	1.4	4511.8	1.2	4512.0	1.1	4512.1	0.9	4512.2	0.8	4512.3	0.7	4512.4	0.6	4512.5	0.5
4510.5	1.8	4510.8	1.5	4511.1	1.2	4511.3	1.0	4511.5	0.8	4511.7	0.6	4511.9	0.4	4512.0	0.3	4512.1	0.2	4512.3	0.0	4512.3	0.0	4512.4	-0.1
4510.3	1.8	4510.6	1.5	4510.9	1.2	4511.1	1.0	4511.3	0.8	4511.5	0.6	4511.6	0.5	4511.7	0.4	4511.8	0.3	4511.9	0.2	4512.0	0.2	4512.0	0.1
4510.3	1.1	4510.5	0.9	4510.8	0.6	4511.0	0.4	4511.2	0.2	4511.4	0.0	4511.5	-0.1	4511.6	-0.2	4511.7	-0.3	4511.8	-0.4	4511.9	-0.5	4511.9	-0.5
4510.0	1.3	4510.2	1.1	4510.5	0.8	4510.7	0.6	4510.9	0.4	4511.1	0.2	4511.2	0.1	4511.3	0.0	4511.5	-0.2	4511.6	-0.3	4511.7	-0.4	4511.7	-0.4
4509.8	2.0	4510.0	1.8	4510.2	1.6	4510.4	1.4	4510.6	1.2	4510.8	1.0	4510.9	0.9	4511.0	0.8	4511.2	0.6	4511.3	0.5	4511.4	0.4	4511.4	0.4
4509.5	2.3	4509.6	2.2	4509.8	2.0	4510.1	1.7	4510.3	1.5	4510.5	1.3	4510.7	1.2	4510.8	1.1	4510.9	0.9	4511.0	0.8	4511.1	0.7	4511.1	0.7
4508.7	2.0	4509.0	1.7	4509.2	1.5	4509.4	1.3	4509.7	1.0	4510.0	0.8	4510.1	0.6	4510.2	0.5	4510.3	0.4	4510.5	0.2	4510.6	0.1	4510.8	-0.1
4508.3	1.6	4508.6	1.3	4508.8	1.0	4509.1	0.7	4509.3	0.5	4509.6	0.2	4509.8	0.0	4510.0	-0.2	4510.2	-0.4	4510.3	-0.5	4510.5	-0.7	4510.6	-0.8
4507.9	2.4	4508.4	1.9	4508.7	1.6	4509.0	1.3	4509.2	1.1	4509.5	0.9	4509.7	0.6	4509.9	0.4	4510.1	0.3	4510.2	0.1	4510.4	-0.1	4510.6	-0.3
4507.8	2.5	4508.2	2.1	4508.5	1.8	4508.8	1.5	4509.0	1.3	4509.2	1.1	4509.4	0.9	4509.6	0.7	4509.7	0.6	4509.9	0.4	4510.0	0.3	4510.2	0.1
4507.4	1.5	4507.6	1.3	4507.8	1.1	4507.9	1.0	4508.0	0.9	4508.2	0.7	4508.3	0.6	4508.4	0.5	4508.5	0.4	4508.6	0.3	4508.7	0.2	4508.8	0.1
4506.5	1.6	4506.8	1.3	4507.1	1.0	4507.4	0.7	4507.6	0.5	4507.8	0.3	4508.1	0.1	4508.2	-0.1	4508.4	-0.3	4508.5	-0.4	4508.7	-0.6	4508.8	-0.7
4506.4	2.7	4506.7	2.4	4507.0	2.1	4507.3	1.8	4507.5	1.6	4507.7	1.4	4507.9	1.2	4508.1	1.0	4508.2	0.9	4508.4	0.8	4508.5	0.6	4508.6	0.5
4505.9	2.6	4506.3	2.2	4506.7	1.8	4507.0	1.5	4507.2	1.3	4507.3	1.2	4507.5	1.0	4507.7	0.8	4507.8	0.7	4507.9	0.6	4508.1	0.4	4508.2	0.3
4505.8	2.0	4506.1	1.7	4506.4	1.4	4506.7	1.1	4506.9	0.9	4507.0	0.8	4507.2	0.6	4507.3	0.5	4507.4	0.4	4507.5	0.3	4507.6	0.2	4507.7	0.1
4505.5	2.0	4505.7	1.8	4505.9	1.6	4506.1	1.4	4506.2	1.3	4506.4	1.1	4506.6	0.9	4506.7	0.8	4506.8	0.7	4506.8	0.7	4506.9	0.6	4507.0	0.5
4504.9	1.7	4505.1	1.5	4505.4	1.2	4505.6	1.0	4505.8	0.8	4506.0	0.6	4506.3	0.3	4506.4	0.3	4506.5	0.1	4506.7	-0.1	4506.8	-0.2	4506.9	-0.3
4504.6	2.1	4504.9	1.8	4505.2	1.5	4505.4	1.3	4505.7	1.0	4505.9	0.8	4506.2	0.5	4506.2	0.5	4506.4	0.3	4506.6	0.1	4506.7	0.0	4506.9	-0.2
4503.8	2.1	4504.0	1.9	4504.2	1.7	4504.6	1.3	4504.9	1.0	4505.3	0.6	4505.6	0.3	4506.0	-0.1	4506.1	-0.2	4506.4	-0.5	4506.4	-0.5	4506.7	-0.8
4502.9	3.0	4503.5	2.4	4504.0	1.9	4504.4	1.5	4504.8	1.1	4505.1	0.8	4505.4	0.5	4505.7	0.2	4506.0	-0.1	4506.3	-0.4	4506.4	-0.5	4506.6	-0.7
4502.6	3.3	4503.2	2.7	4503.7	2.2	4504.1	1.8	4504.4	1.5	4504.8	1.1	4505.1	0.8	4505.3	0.6	4505.6	0.3	4505.9	0.0	4506.3	-0.4	4506.5	-0.6
4502.3	3.9	4502.9	3.3	4503.4	2.8	4503.8	2.4	4504.1	2.1	4504.5	1.7	4504.8	1.4	4505.1	1.1	4505.3	0.9	4505.6	0.6	4505.8	0.4	4506.0	0.2

4502.1	3.8	4502.7	3.2	4503.2	2.8	4503.6	2.3	4503.9	2.0	4504.2	1.7	4504.5	1.4	4504.8	1.1	4505.1	0.8	4505.3	0.6	4505.5	0.4	4505.8	0.1
4501.9	3.4	4502.4	2.9	4502.8	2.5	4503.2	2.1	4503.5	1.8	4503.8	1.5	4504.1	1.2	4504.4	0.9	4504.6	0.7	4504.8	0.5	4505.0	0.3	4505.2	0.1
4501.6	3.5	4502.1	3.0	4502.5	2.6	4502.8	2.3	4503.2	2.0	4503.5	1.7	4503.7	1.4	4504.0	1.2	4504.2	0.9	4504.4	0.7	4504.6	0.5	4504.8	0.3
4500.9	3.3	4501.3	2.9	4501.8	2.4	4502.1	2.1	4502.5	1.7	4502.8	1.4	4503.1	1.1	4503.2	1.0	4503.4	0.8	4503.6	0.6	4503.9	0.3	4504.0	0.2
4500.4	3.5	4501.0	2.9	4501.5	2.4	4501.8	2.1	4502.2	1.7	4502.5	1.4	4502.8	1.1	4502.8	1.1	4503.1	0.8	4503.3	0.6	4503.5	0.4	4503.7	0.2
4500.2	2.3	4500.7	1.8	4501.1	1.4	4501.5	1.0	4501.8	0.7	4502.1	0.4	4502.3	0.2	4502.7	-0.2	4502.9	-0.4	4503.2	-0.7	4503.4	-0.9	4503.6	-1.1
4499.8	3.7	4500.3	3.2	4500.7	2.8	4501.1	2.4	4501.4	2.1	4501.7	1.8	4501.9	1.6	4502.2	1.4	4502.4	1.1	4502.6	0.9	4502.8	0.7	4503.0	0.5
4499.5	3.8	4500.0	3.3	4500.4	2.9	4500.7	2.6	4501.1	2.2	4501.4	1.9	4501.6	1.7	4501.8	1.5	4502.0	1.3	4502.2	1.1	4502.4	0.9	4502.6	0.7
4499.2	2.0	4499.7	1.5	4500.1	1.1	4500.5	0.7	4500.8	0.4	4501.1	0.1	4501.5	-0.3	4501.8	-0.6	4502.0	-0.8	4502.2	-1.0	4502.4	-1.2	4502.6	-1.4
4499.0	2.3	4499.4	1.9	4499.8	1.5	4500.2	1.1	4500.5	0.8	4500.8	0.5	4501.1	0.2	4501.4	-0.1	4501.7	-0.4	4501.9	-0.6	4502.1	-0.8	4502.3	-1.0
4498.3	3.4	4498.9	2.7	4499.4	2.3	4499.8	1.8	4500.2	1.4	4500.5	1.1	4500.8	0.8	4501.1	0.5	4501.4	0.2	4501.7	0.0	4501.9	-0.3	4502.1	-0.4
4498.1	2.7	4498.7	2.1	4499.2	1.6	4499.6	1.2	4500.0	0.8	4500.3	0.5	4500.6	0.2	4500.9	-0.1	4501.2	-0.4	4501.4	-0.6	4501.7	-0.8	4501.8	-1.0
4498.0	3.8	4498.5	3.2	4498.9	2.8	4499.3	2.4	4499.7	2.0	4500.0	1.7	4500.3	1.4	4500.6	1.1	4500.8	0.9	4501.0	0.7	4501.2	0.6	4501.3	0.4
4497.7	3.8	4498.2	3.3	4498.7	2.8	4499.1	2.4	4499.4	2.1	4499.8	1.7	4500.1	1.4	4500.4	1.1	4500.6	0.9	4500.8	0.7	4501.0	0.6	4501.0	0.5
4497.2	3.3	4497.9	2.6	4498.4	2.1	4498.8	1.7	4499.2	1.3	4499.6	0.9	4499.9	0.6	4500.2	0.3	4500.4	0.1	4500.7	-0.2	4500.9	-0.4	4501.0	-0.5
4497.1	3.6	4497.8	2.9	4498.3	2.4	4498.7	2.0	4499.1	1.6	4499.5	1.2	4499.8	0.9	4500.1	0.6	4500.3	0.4	4500.5	0.2	4500.9	-0.2	4501.0	-0.3
4497.1	4.2	4497.7	3.6	4498.2	3.1	4498.6	2.7	4499.0	2.3	4499.4	1.9	4499.7	1.7	4500.0	1.4	4500.2	1.1	4500.4	0.9	4500.7	0.6	4500.7	0.6
4497.0	3.5	4497.6	2.9	4498.1	2.4	4498.5	2.0	4498.9	1.6	4499.2	1.3	4499.5	1.0	4499.8	0.7	4500.0	0.5	4500.2	0.3	4500.5	0.0	4500.6	-0.1
4496.9	3.7	4497.5	3.1	4498.0	2.6	4498.4	2.2	4498.8	1.8	4499.1	1.5	4499.4	1.2	4499.6	1.0	4499.9	0.7	4500.1	0.5	4500.3	0.3	4500.4	0.2
4496.8	4.2	4497.4	3.6	4497.9	3.1	4498.3	2.8	4498.6	2.4	4498.9	2.1	4499.2	1.8	4499.5	1.6	4499.7	1.3	4499.9	1.1	4500.1	0.9	4500.1	0.9
4496.7	3.2	4497.2	2.6	4497.6	2.2	4498.0	1.8	4498.3	1.5	4498.7	1.2	4498.9	0.9	4499.1	0.7	4499.3	0.5	4499.5	0.3	4499.7	0.1	4500.1	-0.3
4496.6	4.4	4497.1	3.9	4497.5	3.5	4497.9	3.1	4498.2	2.8	4498.5	2.5	4498.7	2.3	4499.0	2.0	4499.2	1.9	4499.3	1.7	4499.5	1.5	4499.7	1.3
4496.4	4.2	4496.9	3.7	4497.3	3.3	4497.7	2.9	4498.0	2.6	4498.3	2.3	4498.5	2.1	4498.7	1.9	4498.9	1.7	4499.0	1.6	4499.2	1.4	4499.4	1.2
4496.2	3.3	4496.7	2.8	4497.1	2.4	4497.5	2.0	4497.8	1.7	4498.1	1.4	4498.3	1.2	4498.6	0.9	4498.7	0.8	4498.8	0.7	4499.1	0.4	4499.2	0.3
4495.9	3.6	4496.4	3.1	4496.8	2.7	4497.2	2.3	4497.6	1.9	4497.9	1.6	4498.0	1.5	4498.3	1.2	4498.4	1.1	4498.5	1.1	4498.7	0.8	4498.8	0.7
4495.6	3.4	4496.2	2.8	4496.6	2.4	4497.0	2.0	4497.4	1.6	4497.7	1.3	4497.7	1.3	4498.0	1.0	4498.1	0.9	4498.1	0.9	4498.3	0.7	4498.5	0.6
4495.4	2.3	4495.9	1.8	4496.4	1.3	4496.8	0.9	4497.1	0.6	4497.4	0.3	4497.8	-0.1	4498.1	-0.4	4498.1	-0.4	4498.2	-0.5	4498.4	-0.7	4498.6	-0.9
4495.3	2.6	4495.8	2.1	4496.3	1.6	4496.7	1.2	4497.0	0.9	4497.3	0.6	4497.6	0.3	4497.9	0.0	4498.1	-0.2	4498.2	-0.3	4498.4	-0.5	4498.6	-0.7
4495.2	3.6	4495.6	3.1	4496.0	2.7	4496.4	2.3	4496.7	2.0	4497.0	1.7	4497.3	1.4	4497.5	1.2	4497.7	1.0	4497.7	1.1	4497.8	0.9	4498.0	0.7
4494.8	2.8	4495.3	2.3	4495.7	2.0	4496.0	1.6	4496.3	1.3	4496.6	1.0	4496.9	0.7	4497.1	0.5	4497.3	0.4	4497.6	0.0	4497.8	-0.2	4498.0	-0.4
4494.5	3.4	4495.0	2.9	4495.4	2.5	4495.7	2.2	4496.1	1.8	4496.4	1.5	4496.6	1.3	4496.9	1.0	4497.0	0.9	4497.2	0.7	4497.4	0.5	4497.6	0.3
4494.3	3.6	4494.8	3.1	4495.2	2.7	4495.5	2.4	4495.8	2.1	4496.1	1.8	4496.4	1.5	4496.7	1.2	4496.7	1.2	4497.0	0.9	4497.1	0.8	4497.3	0.6
4494.1	3.2	4494.6	2.7	4495.0	2.3	4495.4	1.9	4495.7	1.6	4496.0	1.3	4496.3	1.0	4496.6	0.7	4496.6	0.7	4496.9	0.4	4497.0	0.3	4497.2	0.2
4493.9	3.9	4494.4	3.4	4494.8	3.0	4495.2	2.6	4495.5	2.3	4495.8	2.0	4496.1	1.7	4496.4	1.4	4496.4	1.4	4496.6	1.2	4496.8	1.0	4496.8	1.0
4493.6	2.5	4494.1	2.0	4494.5	1.6	4494.8	1.3	4495.1	1.0	4495.4	0.7	4495.7	0.4	4495.9	0.2	4496.3	-0.2	4496.5	-0.4	4496.7	-0.6	4496.8	-0.7
4493.5	3.6	4493.9	3.2	4494.3	2.8	4494.7	2.5	4495.0	2.1	4495.3	1.9	4495.5	1.6	4495.8	1.3	4496.0	1.1	4496.3	0.8	4496.4	0.7	4496.5	0.7
4493.2	3.2	4493.6	2.8	4494.0	2.4	4494.3	2.1	4494.6	1.8	4494.9	1.5	4495.2	1.2	4495.5	0.9	4495.7	0.7	4496.0	0.4	4496.1	0.3	4496.0	0.4
4492.7	3.9	4493.2	3.3	4493.7	2.9	4494.0	2.5	4494.4	2.1	4494.7	1.8	4495.0	1.5	4495.3	1.2	4495.5	1.0	4495.8	0.7	4495.9	0.6	4495.8	0.8
4492.6	3.2	4493.1	2.7	4493.5	2.3	4493.9	1.9	4494.2	1.6	4494.5	1.3	4494.8	1.0	4495.1	0.7	4495.3	0.5	4495.6	0.2	4495.7	0.1	4495.8	0.0
4492.2	3.0	4492.6	2.6	4493.0	2.2	4493.3	1.9	4493.6	1.6	4493.8	1.4	4494.1	1.1	4494.3	0.9	4494.5	0.7	4494.8	0.4	4494.6	0.6	4494.8	0.4

2600 cfs		2800 cfs		3000 cfs		3200 cfs		3400 cfs		3600 cfs		3800 cfs		4000 cfs		4200 cfs		4400 cfs		4600 cfs		4800 cfs		5000 cfs		Overtopping
W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	W.S.E. (ft)	Freeboard (ft)	Flow (cfs)
4577.1	4.3	4577.3	4.1	4577.4	4.0	4577.5	3.9	4577.7	3.7	4577.8	3.6	4577.9	3.5	4578.1	3.3	4578.2	3.2	4578.3	3.1	4578.4	3.0	4578.5	2.9	4578.6	2.8	5,000
4576.9	1.5	4577.0	1.4	4577.2	1.3	4577.3	1.1	4577.4	1.0	4577.5	0.9	4577.6	0.8	4577.7	0.7	4577.9	0.5	4578.0	0.4	4578.1	0.3	4578.1	0.3	4578.2	0.2	5,000
4576.1	0.3	4576.3	0.1	4576.4	0.0	4576.5	-0.1	4576.6	-0.2	4576.7	-0.3	4576.8	-0.4	4576.9	-0.5	4577.0	-0.6	4577.1	-0.7	4577.1	-0.7	4577.2	-0.8	4577.3	-0.9	4,200
4576.0	0.9	4576.1	0.7	4576.2	0.6	4576.3	0.5	4576.4	0.4	4576.5	0.3	4576.6	0.2	4576.7	0.1	4576.9	-0.1	4577.0	-0.2	4577.0	-0.2	4577.1	-0.3	4577.2	-0.4	5,000
4575.9	0.1	4576.0	0.0	4576.1	-0.1	4576.2	-0.2	4576.3	-0.3	4576.4	-0.4	4576.5	-0.5	4576.6	-0.6	4576.8	-0.8	4576.9	-0.9	4576.9	-0.9	4577.0	-0.9	4577.0	-1.0	3,800
4575.5	-0.2	4575.6	-0.3	4575.7	-0.4	4575.8	-0.5	4575.9	-0.6	4576.0	-0.7	4576.1	-0.8	4576.2	-0.9	4576.3	-1.0	4576.4	-1.1	4576.3	-1.0	4576.4	-1.1	4576.5	-1.1	3,200
4575.2	-0.9	4575.3	-1.1	4575.3	-1.1	4575.4	-1.2	4575.4	-1.2	4575.5	-1.3	4575.6	-1.4	4575.7	-1.5	4575.8	-1.6	4575.9	-1.7	4576.1	-1.9	4576.1	-1.9	4576.2	-2.0	1,600
4575.1	-0.1	4575.2	-0.2	4575.3	-0.3	4575.4	-0.4	4575.4	-0.4	4575.5	-0.5	4575.6	-0.6	4575.7	-0.7	4575.9	-0.9	4575.9	-0.9	4576.0	-1.0	4576.1	-1.1	4576.1	-1.1	3,800
4574.9	-0.3	4575.0	-0.4	4575.0	-0.4	4575.1	-0.5	4575.1	-0.5	4575.2	-0.5	4575.2	-0.6	4575.3	-0.7	4575.5	-0.9	4575.6	-1.0	4575.7	-1.0	4575.6	-1.0	4575.7	-1.1	3,600
4574.5	0.5	4574.6	0.4	4574.7	0.4	4574.7	0.4	4574.4	0.6	4574.5	0.6	4574.6	0.4	4574.6	0.4	4575.0	0.0	4575.1	-0.1	4575.2	-0.2	4575.0	0.0	4575.1	-0.1	5,000
4574.4	0.1	4574.5	0.0	4574.5	0.0	4574.4	0.1	4574.6	-0.1	4574.7	-0.1	4574.7	-0.2	4574.8	-0.3	4575.1	-0.6	4575.3	-0.8	4575.4	-0.9	4575.2	-0.7	4575.3	-0.8	4,200
4573.7	1.3	4573.9	1.1	4574.0	1.0	4573.6	1.4	4573.7	1.3	4573.7	1.3	4573.7	1.3	4573.8	1.2	4574.6	0.4	4574.7	0.4	4574.8	0.3	4574.0	1.0	4574.2	0.8	5,000
4573.1	0.5	4573.2	0.4	4573.3	0.3	4573.6	0.0	4573.7	-0.1	4573.7	-0.1	4573.8	-0.2	4573.9	-0.3	4573.0	0.6	4573.0	0.6	4573.1	0.5	4573.6	0.0	4574.4	-0.8	5,000
4573.2	-0.2	4573.3	-0.3	4573.4	-0.4	4573.6	-0.6	4573.7	-0.7	4573.6	-0.6	4573.7	-0.7	4573.8	-0.8	4573.2	-0.2	4573.3	-0.3	4573.4	-0.4	4573.5	-0.5	4574.3	-1.3	3,200
4572.6	0.4	4572.7	0.3	4572.8	0.2	4572.9	0.1	4572.9	0.1	4572.2	0.8	4572.3	0.7	4572.4	0.6	4573.0	0.0	4573.1	-0.1	4573.2	-0.2	4573.3	-0.3	4572.7	0.3	5,000
4571.8	0.3	4572.0	0.2	4572.1	0.0	4572.2	-0.1	4572.3	-0.2	4572.6	-0.5	4572.7	-0.6	4572.8	-0.7	4572.9	-0.8	4573.0	-0.9	4573.1	-1.0	4573.2	-1.1	4572.8	-0.7	3,800
4571.7	0.2	4571.9	0.0	4572.0	-0.1	4572.1	-0.2	4572.2	-0.3	4572.3	-0.4	4572.4	-0.5	4572.5	-0.6	4572.6	-0.7	4572.7	-0.8	4572.8	-0.9	4572.9	-1.0	4572.3	-0.4	3,800
4571.2	0.2	4571.3	0.1	4571.4	0.0	4571.5	-0.1	4571.6	-0.2	4571.7	-0.3	4571.8	-0.4	4571.9	-0.5	4572.0	-0.6	4572.1	-0.7	4572.1	-0.7	4572.2	-0.8	4572.2	-0.8	4,200
4569.8	1.2	4569.9	1.1	4570.1	0.9	4570.1	0.9	4570.1	0.9	4570.2	0.8	4570.2	0.8	4570.2	0.8	4570.3	0.7	4570.4	0.6	4570.5	0.6	4570.5	0.5	4570.5	0.5	5,000
4570.1	0.2	4570.2	0.1	4570.3	0.0	4570.4	-0.1	4570.5	-0.2	4570.6	-0.3	4570.6	-0.3	4570.6	-0.3	4570.7	-0.4	4570.8	-0.5	4570.9	-0.6	4570.9	-0.6	4570.9	-0.6	4,600
4569.9	0.9	4570.0	0.8	4570.2	0.6	4570.2	0.6	4570.3	0.5	4570.4	0.4	4570.4	0.4	4570.4	0.4	4570.5	0.3	4570.5	0.3	4570.6	0.2	4570.7	0.1	4570.8	0.0	5,000
4569.8	0.3	4570.0	0.2	4570.1	0.1	4570.2	-0.1	4570.3	-0.2	4570.4	-0.3	4570.4	-0.3	4570.3	-0.2	4570.4	-0.3	4570.5	-0.4	4570.5	-0.4	4570.6	-0.5	4570.7	-0.6	4,800
4569.6	0.5	4569.7	0.4	4569.8	0.3	4569.9	0.2	4570.0	0.1	4570.1	0.1	4570.0	0.1	4570.2	-0.1	4570.2	-0.1	4570.3	-0.2	4570.4	-0.3	4570.5	-0.3	4570.5	-0.4	5,000
4569.4	0.5	4569.5	0.4	4569.6	0.3	4569.7	0.2	4569.8	0.1	4569.8	0.1	4569.9	0.0	4570.0	-0.1	4570.0	-0.1	4570.1	-0.2	4570.2	-0.3	4570.3	-0.4	4570.3	-0.4	5,000
4568.6	1.3	4568.6	1.3	4568.6	1.3	4568.7	1.2	4568.8	1.1	4568.8	1.1	4568.9	1.0	4568.9	1.0	4569.0	0.9	4569.0	0.9	4569.1	0.8	4569.1	0.8	4569.2	0.8	5,000
4567.1	-0.3	4567.2	-0.4	4567.3	-0.5	4567.3	-0.5	4567.4	-0.6	4567.5	-0.7	4567.5	-0.7	4567.6	-0.8	4567.7	-0.9	4567.7	-0.9	4567.8	-1.0	4567.9	-1.1	4567.9	-1.1	3,200
4567.0	-0.7	4567.1	-0.8	4567.2	-0.9	4567.2	-0.9	4567.3	-1.0	4567.4	-1.1	4567.4	-1.1	4567.5	-1.2	4567.6	-1.3	4567.6	-1.3	4567.7	-1.4	4567.7	-1.4	4567.8	-1.5	2,200
4566.8	0.1	4566.8	0.1	4566.9	0.0	4567.0	-0.1	4567.0	-0.1	4567.1	-0.2	4567.2	-0.3	4567.2	-0.3	4567.3	-0.4	4567.4	-0.5	4567.4	-0.5	4567.5	-0.6	4567.5	-0.6	4,600
4566.4	0.1	4566.5	0.0	4566.6	-0.1	4566.7	-0.2	4566.7	-0.2	4566.8	-0.3	4566.9	-0.4	4566.9	-0.4	4567.0	-0.5	4567.0	-0.5	4567.1	-0.6	4567.1	-0.6	4567.2	-0.7	4,400
4566.2	-0.6	4566.3	-0.6	4566.3	-0.7	4566.4	-0.8	4566.5	-0.9	4566.5	-0.9	4566.6	-1.0	4566.7	-1.0	4566.7	-1.1	4566.8	-1.2	4566.8	-1.2	4566.9	-1.3	4566.9	-1.3	2,600
4566.0	0.4	4566.1	0.3	4566.1	0.3	4566.2	0.2	4566.3	0.1	4566.4	0.0	4566.4	0.0	4566.4	0.0	4566.5	-0.1	4566.6	-0.2	4566.6	-0.2	4566.7	-0.3	4566.7	-0.3	5,000
4565.6	0.3	4565.6	0.3	4565.6	0.3	4565.7	0.2	4565.8	0.1	4565.8	0.1	4565.9	0.0	4565.9	0.0	4566.0	-0.1	4566.0	-0.1	4566.1	-0.2	4566.2	-0.3	4566.2	-0.3	5,000
4565.1	0.0	4565.2	0.0	4565.2	-0.1	4565.3	-0.2	4565.4	-0.3	4565.4	-0.3	4565.5	-0.4	4565.5	-0.4	4565.6	-0.5	4565.7	-0.5	4565.7	-0.6	4565.8	-0.7	4565.8	-0.7	4,400
4564.7	0.5	4564.7	0.4	4564.8	0.3	4564.8	0.3	4564.9	0.2	4564.9	0.2	4565.0	0.1	4565.1	0.1	4565.1	0.0	4565.1	0.0	4565.2	-0.1	4565.3	-0.1	4565.3	-0.2	5,000
4564.2	-0.5	4564.2	-0.6	4564.3	-0.7	4564.4	-0.8	4564.4	-0.8	4564.5	-0.9	4564.6	-1.0	4564.6	-1.0	4564.7	-1.1	4564.7	-1.1	4564.8	-1.2	4564.8	-1.2	4564.9	-1.3	2,600
4563.5	0.4	4563.6	0.3	4563.7	0.2	4563.8	0.1	4563.9	0.0	4563.9	0.0	4564.0	-0.1	4564.1	-0.2	4564.2	-0.3	4564.2	-0.3	4564.3	-0.4	4564.4	-0.5	4564.4	-0.5	5,000
4563.3	-0.8	4563.4	-0.9	4563.5	-0.9	4563.5	-1.0	4563.6	-1.1	4563.7	-1.2	4563.8	-1.3	4563.9	-1.4	4564.0	-1.4	4564.0	-1.5	4564.1	-1.6	4564.2	-1.7	4564.2	-1.7	2,200
4563.0	0.8	4563.1	0.7	4563.2	0.6	4563.3	0.6	4563.3	0.5	4563.4	0.4	4563.5	0.3	4563.6	0.2	4563.6	0.2	4563.7	0.1	4563.8	0.0	4563.8	0.0	4563.9	-0.1	5,000
4562.0	2.1	4562.1	2.0	4562.1	2.0	4562.2	1.9	4562.3	1.8	4562.3	1.8	4562.4	1.7	4562.4	1.7	4562.5	1.6	4562.5	1.6	4562.6	1.5	4562.7	1.4	4562.7	1.4	5,000
4561.6	-0.7	4561.6	-0.7	4561.7	-0.8	4561.7	-0.8	4561.8	-0.9	4561.9	-1.0	4561.9	-1.0	4562.0	-1.1	4562.0	-1.1	4562.1	-1.2	4562.1	-1.2	4562.2	-1.3	4562.2	-1.3	2,200
4561.0	-0.4	4561.1	-0.5	4561.1	-0.5	4561.2	-0.6	4561.3	-0.7	4561.3	-0.7	4561.4	-0.8	4561.4	-0.8	4561.5	-0.9	4561.5	-0.9	4561.5	-0.9	4561.6	-1.0	4561.6	-1.0	3,000
4560.6	0.5	4560.6	0.5	4560.7	0.4	4560.8	0.4	4560.8	0.3	4560.9	0.2	4560.9	0.2	4561.0	0.1	4561.0	0.1	4561.1	0.0	4561.1	0.0	4561.2	-0.1	4561.2	-0.1	5,000
4560.0	1.4	4560.1	1.3	4560.1	1.3	4560.2	1.2	4560.2	1.2	4560.3	1.1	4560.4	1.0	4560.4	1.0	4560.4	1.0	4560.5	0.9	4560.5	0.9	4560.6	0.8	4560.6	0.8	5,000
4558.8	2.3	4558.9	2.2	4559.0	2.1	4559.1	2.0	4559.2	1.9	4559.3	1.9	4559.3	1.8	4559.4	1.7	4559.5	1.6	4559.5	1.6	4559.6	1.5	4559.6	1.5	4559.7	1.5	5,000
4558.8	1.1	4558.9	1.0	4559.0	0.9	4559.1	0.8	4559.1	0.8	4559.2	0.7	4559.3	0.6	4559.3	0.6	4559.4	0.5	4559.5	0.4	4559.5	0.4	4559.5	0.4	4559.6	0.3	5,000
4558.6	0.8	4558.7	0.7	4558.7	0.7	4558.8	0.6	4558.9	0.5	4558.9	0.5	4559.0	0.4	4559.0	0.4	4559.1	0.3	4559.1	0.3	4559.2	0.2	4559.1	0.3	4559.2	0.2	5,000
4558.3	0.6	4558.4	0.5	4558.5	0.4	4558.5	0.4	4558.6	0.3	4558.6	0.3	4558.7	0.2	4558.7	0.2	4558.8	0.1	4558.8	0.1	4558.9	0.0	4558.9	0.0	4559.0	-0.1	5,000
4558.1	1.3	4558.1	1.3	4558.2	1.2	4558.2	1.2	4558.3	1.1	4558.3	1.1	4558.4	1.0	4558.4	1.0	4558.5	0.9	4558.5	0.9	4558.6	0.8	4558.6	0.8	4558.7	0.8	5,000
4557.7	1.2	4557.8	1.1	4557.8	1.1	4557.9	1.0	4557.9	1.0	4558.0	0.9	4558.0	0.9	4558.1	0.8	4558.1	0.8	4558.2	0.7	4558.2	0.7	4558.3	0.6	4558.3	0.6	5,000
4557.3	0.7	4557.4	0.6	4557.4	0.6	4557.5	0.5	4557.5	0.5	4557.6	0.4	4557.6	0.4	4557.7	0.3	4557.7	0.3	4557.8	0.2	4557.8	0.2	4557.9	0.1	4557.9	0.1	5,000
4556.9	0.9	4557.0	0.8	4557.1	0.7	4557.1	0.7	4557.2	0.6	4557.2	0.6	4557.3	0.5	4557.3	0.5	4557.4	0.4	4557.4	0.4	4557.5	0.3	4557.5	0.3	4557.6	0.2	5,000
4556.6	1.6	4556.7	1.6	4556.7	1.5	4556.8	1.4	4556.8	1.4	4556.9	1.3	4556.9	1.3	4557.0	1.2	4557.0	1.2	4557.1	1.1	4557.1	1.1	4557.1	1.1	4557.2	1.0	5,000
4556.0	0.8	4556.0	0.8	4556.1	0.7	4556.2	0.7	4556.2	0.6	4556.2	0.6	4556.3	0.5	4556.3	0.5	4556.4	0.4	4556.4	0.4	4556.4	0.4	4556.5	0.3	4556.5	0.3	5,000
4555.4	4.3	4555.4	4.2	4555.5	4.1	4555.5	4.1	4555.6	4.0	4555.6	4.0	4555.7	4.0	4555.7	3.9	4555.7	3.9	4555.8	3.8	4555.8	3.8	4555.9	3.7	4555.9	3.7	5,000
4554.9	2.0	4555.0	1.9	4555.1	1.8	4555.1	1.8	4555.2	1.7	4555.2	1.7	4555.3	1.6	4555.3	1.6	4555.4	1.5	4555.5	1.4	4555.5	1.4	4555.6	1.3	4555.6	1.3	5,000
4554.6	0.1	4554.6	0.1	4554.7	0.0	4554.8	-0.1	4554.8	-0.1	4554.9	-0.2	4555.0	-0.3	4555.1	-0.4	4555.1	-0.4	4555.2	-0.5	4555.3	-0.6	4555.3	-0.6	4555.4	-0.7	4,600
4554.2	0.2	4554.3	0.1	4554.4	0.0	4554.5	-0.1	4554.5	-0.1	4554.6	-0.2	4554.7	-0.3	4554.8	-0.4	4554.9	-0.5	4554.9	-0.5	4555.0	-0.6	4555.1	-0.7	4555.1	-0.7	4,400
4554.2	-0.4	4554.3	-0.5	4554.3	-0.5	4554.4	-0.6	4554.5	-0.7	4554.6	-0.8	4554.7	-0.9	4554.7	-0.9	4554.8	-1.0	4554.9	-1.1	4555.0	-1.2	4555.0	-1.2	4555.1	-1.3	3,000
4554.0	1.5	4554.1	1.4	4554.1	1.4	4554.2	1.3	4554.3	1.2	4554.4	1.1	4554.4	1.1	4554.5	1.0	4554.6	0.9	4554.7	0.9	4554.7	0.8	4554.8	0.7	4554.9	0.6	5,000
4553.1	1.3	4553.2	1.2	4553.3	1.1	4553.5	0.9	4553.6	0.8	4553.7	0.7	4553.8	0.6	4553.9	0.5	4554.0	0.4	4554.0	0.4	4554.1	0.3	4554.2	0.3	4554.3	0.1	5,000
4552.9	1.7	4553.1	1.5	4553.2	1.4	4553.3	1.3	4553.5	1.1	4553.6	1.0	4553.7	0.9	4553.8	0.8	4553.9	0.8	4553.9	0.7	4554.0	0.6	4554.0	0.6	4554.2	0.5	5,000
4552.7	1.2	4552.9	1.0	4553.0	0.9	4553.1	0.8	4553.3	0.6	4553.5	0.4	4553.6	0.3	4553.6	0.3	4553.7	0.2	4553.8	0.1	4553.8	0.1	4553.9	0.0	4554.0	-0.1	5,000
4552.5	0.9	4552.7	0.7	4552.8	0.6	4553.0	0.4	4553.1	0.3	4553.3	0.1	4553.4	0.0	4553.5	-0.1	4553.6	-0.2	4553.6	-0.2	4553.7	-0.3	4553.7	-0.3	4553.8	-0.4	5,000
4552.4	-0.2	4552.6	-0.4	4552.8	-0.6	4553.0	-0.8	4553.2	-1.0	4553.3	-1.1	4553.4	-1.2	4553.5	-1.3	4553.6	-1.4	4553.7	-1.5	4553.7	-1.5	4553.7	-1.5	4553.9	-1.7	3,000
4552.3	0.2	4552.5	0.0	4552.7	-0.2	4552.9	-0.4	4553.1	-0.6	4553.2	-0.7	4553.3	-0.8	4553.4	-0.9	4553.6	-1.1	4553.7	-1.1	4553.7	-1.2	4553.7	-1.2	4553.9	-1.4	3,400
4552.2	0.5	4552.4	0.3	4552.6	0.1	4552.8	-0.1	4553.0	-0.3	4553.1	-0.4	4553.2	-0.5	4553.3	-0.6	4553.4	-0.7	4553.5	-0.8	4553.7	-1.0	4553.7	-1.0	4553.8	-1.1	3,800
4552.0	0.5	4552.2	0.3	4552.4	0.1	4552.5	0.0	4552.7	-0.2	4552.9	-0.4	4552.9	-0.4	4553.0	-0.5	4553.1	-0.6	4553.2	-0.6	4553.3	-0.8	4553.3	-0.8	4553.4	-0.9	4,200
4551.4	0.9	4551.6	0.7	4551.8	0.5	4551.9	0.4	4552.1	0.2	4552.3	0.1	4552.4	-0.1	4552.2	0.1	4552.4	-0.1	4552.4	-0.1	4552.6	-0.3	4552.4	-0.1	4552.6	-0.3	5,000
4551.2	1.0	4551.3	0.8	4551.5	0.6	4551.7	0.4	4551.8	0.3	4552.0	0.1	4552.1	0.0	4551.8	0.3	4552.1	0.0	4551.9	0.2	4552.3	-0.2	4551.8	0.3	4551.9	0.2	5,000
4550.9	-0.2	4551.1	-0.4	4551.3	-0.6	4551.5	-0.8	4551.6	-0.9	4551.8	-1.1	4551.9	-1.2	4551.5	-0.8	4551.8	-1.1	4551.6	-0.9	4552.0	-1.3	4552.3	-1.6	4552.4	-1.7	3,000
4550.5	0.2	4550.7	0.0	4550.8	-0.1	4551.0	-0.3	4551.1	-0.4	4551.3	-0.6	4551.4	-0.7	4551.8	-1.1	4550.9	-0.2	4551.9	-1.2	4550.6	0.1	4550.7	0.0	4550.8	-0.1	3,600
4550.0	1.1	4550.2	0.9	4550.4	0.7	4550.5	0.6	4550.7	0.4	4550.8	0.3	4550.9	0.2	4551.0	0.1	4551.4	-0.3	4550.9	0.2	4551.3	-0.2	4551.5	-0.3	4551.6	-0.5	5,000
4549.7	1.4	4549.8	1.2	4550.0	1.0	4550.1	0.9	4550.3	0.7	4550.4	0.6	4550.5	0.6	4550.5	0.5	4550.6	0.4	4550.2	0.8	4550.2	0.8	4550.3	0.7	4550.3	0.7	5,000
4549.2	1.1	4549.3	1.0	4549.5	0.8	4549.6	0.7	4549.8	0.5	4549.9	0.4	4549.8	0.5	4549.8	0.5	4549.9	0.4	4550.4	-0.1	4550.5	-0.2	4550.6	-0.3	4550.7	-0.4	5,000
4548.9	0.8	4549.0	0.7	4549.1	0.6	4549.3	0.4	4549.4	0.3	4549.5	0.2	4549.9	-0.2	4549.9	-0.2	4550.0	-0.3	4550.1	-0.4	4550.2	-0.5	4550.3	-0.6	4550.4	-0.7	4,800
4548.8	0.9	4549.0	0.7	4549.1	0.6	4549.3	0.4	4549.4	0.3	4549.5	0.2	4549.7	0.0	4549.7	0.0	4549.9	-0.2	4549.9	-0.2	4550.1	-0.4	4550.2	-0.5	4550.2	-0.5	5,000
4548.6	1.2	4548.7	1.1	4548.9	0.9	4549.0	0.8	4549.2	0.6	4549.3	0.5	4549.4	0.4	4549.4	0.4	4549.5	0.3	4549.6	0.2	4549.7	0.1	4549.8	0.0	4549.9	-0.1	5,000
4548.2	1.2	4548.4	1.0	4548.5	0.9	4548.6	0.8	4548.8	0.6	4548.9	0.5	4549.0	0.4	4548.9	0.5	4549.0	0.4	4549.0	0.4	4549.1	0.3	4549.2	0.2	4549.3	0.1	5,000
4547.7	0.8	4547.8	0.7	4547.9	0.6	4548.1	0.4	4548.2	0.3	4548.3	0.3	4548.4	0.1	4548.7	-0.2	4548.9	-0.4	4548.9	-0.4	4549.0	-0.5	4549.1	-0.6	4549.2	-0.7	4,800
4547.2	1.3	4547.3	1.2	4547.4	1.1	4547.5	1.0	4547.7	0.9	4547.6	0.9	4547.9	0.6	4548.0	0.5	4548.1	0.4	4548.0	0.5	4548.1	0.4	4548.2	0.3	4548.2	0.3	5,000
4546.8	1.2	4546.9	1.1	4547.0	1.0	4547.2	0.8	4547.3	0.7	4547.2	0.8	4547.6	0.4	4547.7	0.3	4547.8	0.2	4548.1	-0.1	4548.2	-0.2	4548.3	-0.3	4547.8	0.3	5,000
4546.7	0.3	4546.8	0.3	4546.9	0.1	4547.0	0.0	4547.2	-0.2	4547.0	0.0	4547.4	-0.4	4547.6	-0.6	4547.7	-0.6	4547.8	-0.8	4547.9	-0.9	4548.0	-1.0	4547.5	-0.5	4,000
4546.6	0.4	4546.6	0.4	4546.8	0.2	4546.9	0.1	4547.0	0.0	4546.8	0.2	4547.3	-0.3	4547.5	-0.5	4547.5	-0.5	4547.7	-0.7	4547.8	-0.8	4547.9	-0.9	4547.3	-0.3	4,200
4546.4	1.1	4546.4	1.1	4546.5	1.0	4546.7	0.8	4546.8	0.7	4546.5	1.0	4547.1	0.4	4547.2	0.3	4547.3	0.2	4547.4	0.1	4547.6	-0.1	4547.7	-0.2	4546.9	0.6	5,000
4546.1	0.1	4546.2	0.0	4546.4	-0.2	4546.5	-0.3	4546.7	-0.5	4546.2	0.0	4546.9	-0.7	4547.1	-0.9	4547.2	-1.0	4547.3	-1.1	4547.4	-1.2	4547.6	-1.4	4546.4	-0.2	3,800
4546.0	-0.3	4546.1	-0.4	4546.3	-0.6	4546.4	-0.7	4546.6	-0.9	4546.1	-0.4	4546.9	-1.2	4547.0	-1.3	4547.1	-1.4	4547.2	-1.5	4547.4	-1.7	4547.5	-1.8	4546.1	-0.4	3,000
4545.1	0.1	4545.1	0.1	4545.2	0.0	4545.4	-0.2	4545.5	-0.3	4545.9	-0.7	4545.0	0.2	4545.1	0.1	4545.4	-0.2	4545.5	-0.3	4545.6	-0.4	4545.7	-0.5	4545.8	-0.6	3,600
4544.6	0.5	4544.4	0.7	4544.5	0.6	4544.6	0.5	4544.7	0.4	4544.7	0.4	4545.2	-0.1	4545.3	-0.2	4545.2	-0.1	4545.4	-0.3	4545.4	-0.3	4545.5	-0.4	4545.5	-0.4	5,000
4544.1	0.3	4544.5	-0.1	4544.6	-0.2	4544.8	-0.4	4544.9	-0.5	4545.0	-0.6	4545.1	-0.7	4545.2	-0.8	4545.1	-0.7	4545.2	-0.8	4545.2	-0.8	4545.3	-0.9	4545.3	-0.9	3,400
4543.9	1.0	4544.0	0.9	4544.1	0.8	4544.3	0.6	4544.4	0.5	4544.4	0.5	4544.5	0.4	4544.5	0.4	4544.2	0.7	4544.3	0.6	4544.1	0.8	4544.3	0.6	4544.0	0.9	5,000
4543.7	0.3	4543.8	0.2	4544.0	0.1	4544.1	-0.1	4544.2	-0.2	4544.2	-0.2	4544.2	-0.2	4544.2	-0.2	4544.5	-0.5	4544.6	-0.6	4544.5	-0.5	4544.7	-0.6	4544.5	-0.5	4,400
4543.5	0.7	4543.7	0.5	4543.8	0.4	4543.9	0.3	4544.1	0.1	4544.0	0.2	4544.0	0.2	4544.0	0.2	4544.1	0.1	4544.2	0.0	4544.4	-0.2	4544.2	0.0	4544.4	-0.2	5,000
4543.4	1.1	4543.5	1.0	4543.7	0.9	4543.8	0.7	4543.9	0.6	4543.8	0.7	4543.8	0.7	4543.7	0.8	4543.8	0.7	4543.9	0.6	4544.0	0.5	4543.8	0.7	4543.9	0.6	5,000
4543.1	0.5	4543.3	0.4	4543.4	0.2	4543.5	0.1	4543.6	0.0	4543.8	-0.2	4543.8	-0.2	4543.7	-0.1	4543.8	-0.2	4543.9	-0.3	4544.0	-0.4	4543.8	-0.2	4543.9	-0.3	5,000
4542.9	-0.3	4543.0	-0.4	4543.1	-0.5	4543.2	-0.6	4543.3	-0.7	4543.4	-0.8	4543.5	-0.9	4543.6	-1.0	4543.7	-1.1	4543.8	-1.2	4543.9	-1.3	4543.6	-1.0	4543.7	-1.1	3,000
4542.0	0.9	4542.1	0.8	4542.2	0.7	4542.3	0.6	4542.3	0.6	4542.3	0.6	4542.4	0.5	4542.4	0.5	4542.4	0.5	4542.5	0.4	4542.5	0.4	4542.9	0.0	4543.0	-0.1	5,000

4541.9	-0.3	4542.0	-0.4	4542.1	-0.5	4542.2	-0.6	4542.3	-0.7	4542.3	-0.7	4542.4	-0.8	4542.5	-0.9	4542.5	-0.9	4542.6	-1.0	4542.7	-1.1	4542.8	-1.2	4542.9	-1.3	3,000
4541.4	0.9	4541.5	0.8	4541.6	0.7	4541.7	0.6	4541.7	0.6	4541.5	0.8	4541.6	0.7	4541.6	0.7	4541.6	0.7	4541.7	0.6	4541.7	0.6	4541.8	0.5	4541.8	0.5	5,000
4541.0	0.2	4541.1	0.1	4541.1	0.1	4541.2	0.0	4541.1	0.1	4541.3	-0.1	4541.4	-0.2	4541.4	-0.2	4541.4	-0.2	4541.5	-0.3	4541.6	-0.4	4541.6	-0.4	4541.7	-0.5	5,000
4540.7	0.2	4540.7	0.1	4540.7	0.1	4540.8	0.1	4541.0	-0.1	4541.0	-0.2	4541.1	-0.3	4541.1	-0.3	4541.2	-0.4	4541.2	-0.4	4541.3	-0.5	4541.4	-0.6	4541.4	-0.6	4,800
4540.4	-0.1	4540.5	-0.2	4540.6	-0.3	4540.6	-0.3	4540.8	-0.5	4540.9	-0.6	4541.0	-0.7	4540.9	-0.6	4541.0	-0.7	4541.0	-0.7	4541.1	-0.8	4541.2	-0.9	4541.2	-0.9	3,600
4540.2	-0.8	4540.3	-0.9	4540.3	-0.9	4540.3	-0.9	4540.5	-1.1	4540.6	-1.2	4540.7	-1.3	4540.6	-1.2	4540.7	-1.3	4540.7	-1.3	4540.7	-1.3	4540.8	-1.4	4540.9	-1.5	2,000
4539.9	-0.2	4540.0	-0.3	4540.1	-0.4	4540.0	-0.3	4540.3	-0.6	4540.4	-0.7	4540.5	-0.8	4540.3	-0.6	4540.4	-0.7	4540.4	-0.7	4540.4	-0.7	4540.5	-0.8	4540.6	-0.9	3,400
4539.7	-0.5	4539.8	-0.6	4539.9	-0.7	4539.5	-0.3	4540.1	-0.9	4540.2	-1.0	4540.3	-1.1	4539.9	-0.7	4539.9	-0.7	4539.9	-0.7	4539.9	-0.7	4540.0	-0.8	4540.1	-0.9	2,800
4539.6	-0.3	4539.6	-0.3	4539.8	-0.4	4539.1	0.2	4540.0	-0.7	4540.1	-0.8	4540.2	-0.9	4539.2	0.1	4539.3	0.0	4539.4	-0.1	4539.4	-0.1	4539.5	-0.2	4539.5	-0.2	3,400
4538.9	0.0	4538.8	0.1	4538.8	0.1	4538.9	0.0	4538.7	0.3	4538.7	0.2	4538.8	0.1	4538.9	0.0	4539.0	-0.1	4539.0	-0.1	4539.1	-0.2	4539.1	-0.2	4539.2	-0.3	5,000
4537.9	0.2	4538.2	-0.1	4538.3	-0.2	4538.3	-0.2	4538.4	-0.3	4538.5	-0.4	4538.5	-0.4	4538.6	-0.5	4538.7	-0.5	4538.7	-0.6	4538.7	-0.6	4538.8	-0.7	4538.8	-0.7	4,200
4537.8	-0.5	4537.9	-0.6	4538.0	-0.7	4538.1	-0.8	4538.2	-0.9	4538.3	-1.0	4538.3	-1.0	4538.4	-1.1	4538.5	-1.1	4538.5	-1.2	4538.5	-1.2	4538.6	-1.3	4538.6	-1.3	2,600
4537.3	0.6	4537.4	0.5	4537.4	0.5	4537.5	0.4	4537.6	0.3	4537.6	0.3	4537.7	0.2	4537.7	0.2	4537.8	0.1	4537.8	0.1	4537.9	0.0	4538.0	-0.1	4538.0	-0.1	5,000
4536.9	-0.4	4537.0	-0.5	4537.0	-0.5	4537.1	-0.6	4537.2	-0.6	4537.2	-0.7	4537.3	-0.8	4537.4	-0.9	4537.5	-0.9	4537.5	-1.0	4537.5	-1.0	4537.6	-1.1	4537.5	-1.0	3,000
4536.6	-0.2	4536.7	-0.3	4536.8	-0.4	4536.9	-0.5	4536.9	-0.5	4536.9	-0.5	4537.0	-0.6	4537.1	-0.7	4537.2	-0.8	4537.1	-0.7	4537.2	-0.8	4537.3	-0.9	4537.1	-0.7	3,600
4536.3	0.1	4536.4	0.0	4536.4	0.0	4536.5	-0.1	4536.5	-0.1	4536.6	-0.2	4536.6	-0.2	4536.7	-0.3	4536.8	-0.4	4536.6	-0.2	4536.7	-0.3	4536.8	-0.4	4536.8	-0.4	5,000
4536.1	0.0	4536.2	-0.1	4536.3	-0.2	4536.3	-0.2	4536.4	-0.3	4536.4	-0.3	4536.5	-0.4	4536.6	-0.5	4536.6	-0.5	4536.5	-0.4	4536.6	-0.4	4536.6	-0.5	4536.6	-0.5	4,000
4536.0	-0.6	4536.1	-0.7	4536.2	-0.8	4536.1	-0.7	4536.2	-0.8	4536.3	-0.9	4536.4	-1.0	4536.5	-1.1	4536.5	-1.1	4536.3	-0.9	4536.3	-0.9	4536.4	-1.0	4536.4	-1.0	2,600
4535.6	0.1	4535.7	0.0	4535.8	-0.1	4535.4	0.3	4535.5	0.2	4535.5	0.2	4535.6	0.1	4535.7	0.1	4535.7	0.0	4535.9	-0.2	4535.9	-0.2	4536.0	-0.3	4535.9	-0.2	5,000
4535.1	0.1	4535.1	0.1	4535.2	0.0	4535.2	0.0	4535.2	0.0	4535.3	-0.1	4535.4	-0.2	4535.5	-0.3	4535.5	-0.3	4535.5	-0.3	4535.6	-0.4	4535.6	-0.4	4535.5	-0.3	5,000
4534.3	0.2	4534.4	0.1	4534.4	0.1	4534.5	0.0	4534.6	-0.1	4534.7	-0.2	4534.8	-0.3	4534.8	-0.3	4534.7	-0.2	4534.6	-0.1	4534.7	-0.2	4534.8	-0.3	4534.9	-0.4	5,000
4533.9	0.0	4534.0	-0.1	4534.1	-0.2	4534.2	-0.3	4534.3	-0.4	4534.3	-0.4	4534.4	-0.5	4534.5	-0.6	4534.6	-0.7	4534.5	-0.6	4534.6	-0.7	4534.6	-0.7	4534.7	-0.8	3,800
4533.0	1.0	4533.0	1.0	4533.0	1.0	4533.1	0.9	4533.1	0.9	4533.2	0.8	4533.2	0.8	4533.3	0.7	4533.4	0.6	4533.4	0.6	4533.5	0.5	4533.5	0.5	4533.6	0.4	5,000
4533.0	0.0	4533.1	-0.1	4533.1	-0.1	4533.2	-0.2	4533.3	-0.3	4533.3	-0.3	4533.4	-0.4	4533.4	-0.4	4533.5	-0.5	4533.6	-0.6	4533.6	-0.6	4533.7	-0.7	4533.7	-0.7	4,400
4532.9	-0.1	4532.9	-0.1	4533.0	-0.2	4533.1	-0.3	4533.2	-0.4	4533.2	-0.4	4533.2	-0.4	4533.3	-0.5	4533.3	-0.5	4533.4	-0.6	4533.5	-0.7	4533.5	-0.7	4533.6	-0.8	4,200
4532.6	-0.5	4532.6	-0.5	4532.7	-0.6	4532.8	-0.7	4532.9	-0.8	4532.8	-0.7	4532.9	-0.8	4532.9	-0.8	4533.0	-0.9	4533.0	-0.9	4533.1	-1.0	4533.1	-1.0	4533.2	-1.1	2,800
4532.3	-0.6	4532.3	-0.7	4532.4	-0.8	4532.5	-0.9	4532.6	-1.0	4532.4	-0.8	4532.4	-0.8	4532.5	-0.9	4532.5	-0.9	4532.6	-1.0	4532.6	-1.0	4532.7	-1.1	4532.7	-1.1	2,400
4531.6	0.3	4531.7	0.2	4531.7	0.2	4531.8	0.1	4531.9	0.0	4532.0	-0.1	4531.9	0.0	4532.0	-0.1	4532.0	-0.1	4532.1	-0.2	4532.2	-0.3	4532.2	-0.3	4532.3	-0.4	5,000
4531.1	-0.4	4531.2	-0.5	4531.3	-0.6	4531.4	-0.7	4531.5	-0.8	4531.6	-0.9	4531.4	-0.7	4531.5	-0.8	4531.6	-0.9	4531.6	-0.9	4531.7	-1.0	4531.7	-1.0	4531.8	-1.1	2,800
4530.9	-0.4	4531.0	-0.5	4531.1	-0.6	4531.2	-0.7	4531.3	-0.8	4531.4	-0.9	4531.1	-0.6	4531.1	-0.6	4531.2	-0.7	4531.3	-0.8	4531.3	-0.8	4531.4	-0.9	4531.5	-0.9	3,000
4530.7	-1.0	4530.8	-1.1	4530.9	-1.2	4531.0	-1.3	4531.2	-1.5	4531.3	-1.6	4530.8	-1.1	4530.8	-1.1	4530.9	-1.2	4531.0	-1.3	4531.0	-1.3	4531.1	-1.4	4531.2	-1.5	2,000
4530.0	0.3	4530.1	0.3	4530.1	0.2	4530.2	0.1	4530.2	0.1	4530.3	0.0	4530.5	-0.2	4530.6	-0.3	4530.6	-0.3	4530.7	-0.4	4530.8	-0.5	4530.8	-0.5	4530.9	-0.6	4,800
4529.0	1.0	4529.0	1.0	4529.1	0.9	4529.2	0.8	4529.2	0.8	4529.3	0.7	4529.5	0.6	4529.5	0.5	4529.5	0.5	4529.6	0.4	4529.6	0.4	4529.7	0.3	4529.7	0.3	5,000
4528.4	-0.4	4528.5	-0.5	4528.5	-0.5	4528.6	-0.6	4528.7	-0.6	4528.7	-0.7	4528.8	-0.8	4528.8	-0.8	4528.8	-0.8	4528.9	-0.9	4528.9	-0.9	4529.0	-1.0	4529.0	-1.0	3,000
4528.1	-0.1	4528.1	-0.1	4528.2	-0.2	4528.3	-0.3	4528.3	-0.3	4528.4	-0.4	4528.4	-0.4	4528.5	-0.5	4528.5	-0.5	4528.6	-0.6	4528.6	-0.6	4528.7	-0.7	4528.7	-0.7	4,200
4527.7	-0.4	4527.7	-0.4	4527.8	-0.5	4527.9	-0.6	4527.9	-0.6	4528.0	-0.7	4528.1	-0.8	4528.1	-0.8	4528.2	-0.9	4528.2	-0.9	4528.3	-1.0	4528.4	-1.1	4528.4	-1.1	3,200
4527.5	0.1	4527.6	0.0	4527.6	0.0	4527.7	-0.1	4527.8	-0.2	4527.8	-0.2	4527.9	-0.3	4527.9	-0.3	4528.0	-0.4	4528.1	-0.5	4528.1	-0.5	4528.2	-0.6	4528.2	-0.6	4,600
4527.2	-0.2	4527.3	-0.3	4527.4	-0.4	4527.4	-0.4	4527.5	-0.4	4527.5	-0.5	4527.6	-0.6	4527.6	-0.6	4527.7	-0.7	4527.8	-0.8	4527.8	-0.8	4527.9	-0.9	4527.9	-0.9	3,600
4526.8	-0.4	4526.8	-0.4	4526.9	-0.5	4527.0	-0.6	4527.0	-0.6	4527.1	-0.7	4527.1	-0.7	4527.2	-0.8	4527.2	-0.8	4527.3	-0.9	4527.4	-1.0	4527.4	-1.0	4527.5	-1.1	3,200
4526.4	-0.4	4526.5	-0.5	4526.6	-0.6	4526.6	-0.6	4526.7	-0.7	4526.7	-0.7	4526.7	-0.7	4526.8	-0.8	4526.8	-0.8	4526.9	-0.9	4527.0	-0.9	4527.0	-1.0	4527.1	-1.1	3,000
4526.0	0.0	4526.1	-0.1	4526.2	-0.2	4526.2	-0.2	4526.3	-0.3	4526.3	-0.3	4526.4	-0.4	4526.4	-0.4	4526.5	-0.4	4526.5	-0.5	4526.6	-0.6	4526.6	-0.6	4526.7	-0.7	4,400
4525.6	-0.3	4525.7	-0.4	4525.7	-0.4	4525.8	-0.5	4525.9	-0.6	4525.9	-0.6	4526.0	-0.7	4526.0	-0.7	4526.1	-0.8	4526.2	-0.9	4526.2	-0.9	4526.3	-1.0	4526.3	-1.0	3,200
4525.3	-0.7	4525.4	-0.8	4525.4	-0.8	4525.5	-0.9	4525.6	-1.0	4525.6	-1.0	4525.7	-1.1	4525.7	-1.1	4525.8	-1.2	4525.9	-1.3	4525.9	-1.3	4526.0	-1.4	4526.1	-1.4	2,400
4525.0	-0.8	4525.1	-0.9	4525.2	-1.0	4525.3	-1.1	4525.4	-1.2	4525.3	-1.1	4525.4	-1.2	4525.5	-1.3	4525.5	-1.3	4525.6	-1.4	4525.7	-1.5	4525.7	-1.5	4525.8	-1.6	1,800
4524.7	-0.2	4524.8	-0.3	4524.9	-0.4	4525.0	-0.5	4525.1	-0.6	4525.0	-0.5	4525.1	-0.6	4525.1	-0.6	4525.2	-0.7	4525.3	-0.8	4525.3	-0.8	4525.4	-0.9	4525.4	-0.9	3,400
4524.5	-0.8	4524.6	-0.9	4524.7	-1.0	4524.8	-1.1	4524.8	-1.1	4524.7	-1.0	4524.7	-1.0	4524.8	-1.1	4524.9	-1.2	4524.9	-1.2	4525.0	-1.3	4525.0	-1.3	4525.1	-1.4	2,000
4523.7	0.0	4523.8	-0.1	4523.9	-0.2	4523.9	-0.2	4523.9	-0.2	4524.1	-0.4	4524.2	-0.5	4524.3	-0.6	4524.3	-0.6	4524.4	-0.7	4524.4	-0.7	4524.5	-0.8	4524.5	-0.8	4,000
4523.6	-0.4	4523.7	-0.5	4523.8	-0.6	4523.8	-0.6	4523.8	-0.6	4523.9	-0.7	4523.9	-0.7	4524.0	-0.8	4524.1	-0.9	4524.1	-0.9	4524.2	-1.0	4524.2	-1.0	4524.3	-1.1	3,000
4523.3	-0.7	4523.3	-0.7	4523.4	-0.8	4523.4	-0.8	4523.5	-0.9	4523.6	-0.9	4523.6	-1.0	4523.7	-1.1	4523.7	-1.1	4523.8	-1.2	4523.8	-1.2	4523.9	-1.3	4524.0	-1.3	2,400
4521.8	0.8	4521.9	0.7	4522.0	0.6	4522.0	0.6	4522.1	0.5	4522.1	0.5	4522.2	0.4	4522.2	0.4	4522.3	0.3	4522.3	0.3	4522.4	0.2	4522.4	0.2	4522.5	0.2	5,000
4521.9	-0.6	4521.9	-0.6	4521.9	-0.6	4522.0	-0.7	4522.0	-0.7	4522.1	-0.8	4522.2	-0.9	4522.1	-0.8	4522.2	-0.9	4522.2	-0.9	4522.3	-1.0	4522.3	-1.0	4522.4	-1.1	2,600
4521.8	0.2	4521.7	0.3	4521.8	0.2	4521.9	0.1	4521.8	0.2	4521.9	0.1	4522.0	0.0	4522.0	0.0	4522.1	-0.1	4522.2	-0.2	4522.2	-0.2	4522.3	-0.3	4522.3	-0.3	5,000
4521.7	-0.8	4521.6	-0.8	4521.7	-0.9	4521.7	-0.9	4521.7	-0.9	4521.7	-0.9	4521.8	-1.0	4521.8	-1.0	4521.9	-1.1	4522.0	-1.2	4522.0	-1.2	4522.0	-1.2	4522.1	-1.3	2,000
4521.5	-0.7	4521.4	-0.6	4521.4	-0.6	4521.5	-0.7	4521.3	-0.5	4521.4	-0.6	4521.5	-0.7	4521.5	-0.7	4521.6	-0.8	4521.6	-0.8	4521.7	-0.9	4521.6	-0.8	4521.8	-1.0	2,400
4521.4	-0.5	4520.8	0.1	4520.8	0.1	4520.9	0.0	4520.9	0.0	4521.0	-0.1	4521.0	-0.1	4521.1	-0.2	4521.1	-0.2	4521.2	-0.3	4521.2	-0.3	4520.9	0.0	4521.3	-0.4	5,000
4520.3	0.0	4520.3	0.0	4520.4	-0.1	4520.4	-0.1	4520.5	-0.2	4520.6	-0.3	4520.6	-0.3	4520.6	-0.3	4520.7	-0.4	4520.7	-0.4	4520.8	-0.5	4520.8	-0.5	4520.8	-0.5	4,800
4519.9	-0.4	4520.0	-0.5	4520.0	-0.5	4520.1	-0.6	4520.2	-0.6	4520.2	-0.7	4520.3	-0.8	4520.2	-0.7	4520.4	-0.9	4520.2	-0.7	4520.3	-0.8	4520.4	-0.9	4519.9	-0.4	2,200
4519.5	0.2	4519.8	-0.1	4519.5	0.2	4519.5	0.2	4519.6	0.1	4519.6	0.1	4519.7	0.0	4519.7	0.0	4519.7	0.0	4519.8	-0.1	4519.8	-0.1	4519.9	-0.2	4519.9	-0.2	5,000
4519.3	0.0	4519.2	0.1	4519.3	0.0	4519.3	0.0	4519.3	0.0	4519.3	0.0	4519.4	-0.1	4519.5	-0.2	4519.3	0.0	4519.6	-0.3	4519.6	-0.3	4519.7	-0.4	4519.7	-0.4	5,000
4518.6	0.3	4518.9	0.0	4519.0	-0.1	4519.1	-0.2	4519.1	-0.2	4519.2	-0.3	4519.2	-0.3	4519.3	-0.4	4519.3	-0.4	4519.4	-0.5	4519.5	-0.6	4519.5	-0.6	4519.6	-0.7	4,600
4518.4	-0.5	4518.4	-0.5	4518.5	-0.6	4518.5	-0.6	4518.6	-0.7	4518.6	-0.7	4518.7	-0.8	4518.8	-0.9	4518.8	-0.9	4518.9	-1.0	4518.9	-1.0	4519.0	-1.1	4519.0	-1.1	1,400
4518.2	-0.2	4518.1	-0.1	4518.2	-0.2	4518.3	-0.3	4518.4	-0.4	4518.4	-0.4	4518.5	-0.5	4518.5	-0.5	4518.6	-0.6	4518.6	-0.6	4518.7	-0.7	4518.8	-0.8	4518.8	-0.8	4,000
4517.7	0.1	4517.7	0.0	4517.8	-0.1	4517.9	-0.2	4518.0	-0.3	4518.0	-0.3	4518.1	-0.4	4518.2	-0.5	4518.3	-0.6	4518.3	-0.6	4518.3	-0.6	4518.4	-0.7	4518.4	-0.7	4,200
4517.2	-0.2	4517.3	-0.3	4517.4	-0.4	4517.5	-0.5	4517.6	-0.6	4517.7	-0.7	4517.7	-0.7	4517.8	-0.8	4517.9	-0.9	4517.8	-0.8	4517.9	-0.9	4518.0	-1.0	4518.0	-1.0	3,400
4516.8	-0.5	4516.9	-0.6	4517.0	-0.7	4517.1	-0.8	4517.2	-0.9	4517.3	-1.0	4517.4	-1.1	4517.5	-1.2	4517.6	-1.3	4517.4	-1.1	4517.4	-1.1	4517.5	-1.2	4517.5	-1.2	2,600
4516.7	-0.5	4516.8	-0.6	4516.9	-0.7	4517.0	-0.8	4517.1	-0.9	4517.2	-1.0	4517.3	-1.1	4517.4	-1.2	4517.5	-1.3	4517.2	-1.0	4517.3	-1.1	4517.4	-1.2	4517.4	-1.2	2,600
4515.8	0.6	4515.9	0.5	4516.0	0.4	4516.0	0.4	4516.1	0.3	4516.2	0.2	4516.2	0.2	4516.3	0.1	4516.3	0.1	4516.4	0.0	4516.4	0.0	4516.5	-0.1	4516.5	-0.1	5,000
4515.8	0.3	4515.9	0.2	4516.0	0.1	4516.0	0.1	4516.1	0.0	4516.1	0.0	4516.1	0.1	4516.1	0.0	4516.2	-0.1	4516.3	-0.2	4516.3	-0.2	4516.4	-0.3	4516.3	-0.2	5,000
4515.7	-0.6	4515.8	-0.7	4515.8	-0.7	4515.9	-0.8	4515.9	-0.8	4516.0	-0.9	4515.9	-0.8	4515.9	-0.8	4516.0	-0.9	4516.1	-1.0	4516.2	-1.1	4516.2	-1.1	4516.1	-1.0	2,600
4515.2	0.2	4515.3	0.1	4515.3	0.1	4515.4	0.0	4515.5	-0.1	4515.5	-0.1	4515.6	-0.2	4515.7	-0.3	4515.8	-0.4	4515.8	-0.4	4515.9	-0.5	4516.0	-0.6	4515.8	-0.4	4,600
4515.0	-0.3	4515.0	-0.4	4515.1	-0.5	4515.2	-0.5	4515.3	-0.6	4515.3	-0.7	4515.4	-0.8	4515.5	-0.9	4515.6	-1.0	4515.7	-1.1	4515.8	-1.1	4515.8	-1.2	4515.6	-1.0	3,200
4514.8	-0.8	4514.8	-0.8	4514.8	-0.8	4514.9	-0.9	4515.0	-1.0	4515.1	-1.1	4515.2	-1.2	4515.3	-1.3	4515.4	-1.4	4515.5	-1.5	4515.6	-1.6	4515.6	-1.6	4515.2	-1.2	1,800
4514.6	0.0	4514.7	-0.1	4514.7	-0.1	4514.8	-0.2	4514.9	-0.3	4515.0	-0.4	4515.1	-0.5	4515.2	-0.6	4515.3	-0.7	4515.4	-0.8	4515.5	-0.9	4515.6	-0.9	4515.0	-0.4	3,800
4513.6	0.8	4513.6	0.7	4513.7	0.6	4513.8	0.6	4513.8	0.5	4513.9	0.4	4513.9	0.4	4514.0	0.3	4514.1	0.2	4514.1	0.2	4514.2	0.1	4514.2	0.1	4514.3	0.0	5,000
4513.2	-0.6	4513.3	-0.7	4513.4	-0.8	4513.5	-0.9	4513.6	-1.0	4513.6	-1.0	4513.7	-1.1	4513.8	-1.2	4513.6	-1.0	4513.7	-1.1	4513.7	-1.1	4513.8	-1.2	4513.8	-1.2	2,000
4513.1	-0.3	4513.2	-0.3	4513.3	-0.4	4513.3	-0.5	4513.4	-0.6	4513.5	-0.7	4513.6	-0.8	4513.7	-0.8	4513.4	-0.6	4513.5	-0.6	4513.5	-0.7	4513.6	-0.8	4513.6	-0.8	3,200
4512.5	0.5	4512.6	0.4	4512.6	0.4	4512.7	0.3	4512.8	0.2	4512.8	0.3	4512.8	0.2	4512.9	0.1	4513.1	-0.1	4513.2	-0.2	4513.2	-0.2	4513.3	-0.3	4513.3	-0.3	5,000
4512.4	-0.1	4512.5	-0.2	4512.6	-0.3	4512.7	-0.4	4512.8	-0.4	4512.7	-0.4	4512.8	-0.5	4512.8	-0.5	4512.9	-0.6	4513.0	-0.7	4513.0	-0.7	4513.1	-0.8	4513.1	-0.8	4,000
4512.1	0.0	4512.2	-0.1	4512.3	-0.2	4512.4	-0.3	4512.4	-0.3	4512.5	-0.4	4512.6	-0.5	4512.6	-0.5	4512.7	-0.6	4512.8	-0.7	4512.8	-0.7	4512.8	-0.7	4512.8	-0.7	4,000
4512.0	-0.6	4512.1	-0.7	4512.2	-0.8	4512.2	-0.8	4512.3	-0.9	4512.3	-0.9	4512.4	-1.0	4512.4	-1.0	4512.5	-1.1	4512.6	-1.2	4512.5	-1.1	4512.6	-1.2	4512.6	-1.2	2,400
4511.8	-0.5	4511.9	-0.6	4512.0	-0.6	4512.0	-0.7	4512.0	-0.7	4512.1	-0.8	4512.2	-0.9	4512.2	-0.9	4512.3	-0.9	4512.3	-1.0	4512.3	-1.0	4512.3	-1.0	4512.3	-1.0	2,800
4511.5	0.3	4511.6	0.2	4511.6	0.2	4511.7	0.1	4511.7	0.1	4511.8	0.1	4511.8	0.0	4511.9	-0.1	4511.9	-0.1	4512.0	-0.2	4512.1	-0.3	4512.2	-0.3	4512.0	-0.2	5,000
4511.1	0.7	4511.2	0.6	4511.3	0.5	4511.3	0.5	4511.1	0.7	4511.2	0.6	4511.3	0.5	4511.3	0.5	4511.4	0.4	4511.5	0.3	4511.6	0.2	4511.8	0.1	4511.9	-0.1	5,000
4510.7	0.0	4510.8	-0.1	4510.9	-0.2	4510.9	-0.2	4511.0	-0.3	4511.1	-0.4	4511.1	-0.4	4511.2	-0.5	4511.3	-0.6	4511.4	-0.7	4511.6	-0.9	4511.7	-1.0	4511.8	-1.1	4,200
4510.5	-0.6	4510.5	-0.7	4510.6	-0.8	4510.6	-0.8	4510.8	-0.9	4510.9	-1.1	4510.9	-1.1	4511.0	-1.2	4511.2	-1.3	4511.3	-1.5	4511.4	-1.6	4511.5	-1.7	4511.7	-1.8	2,000
4510.3	0.0	4510.4	-0.1	4510.5	-0.2	4510.5	-0.2	4510.6	-0.3	4510.8	-0.5	4510.8	-0.5	4511.0	-0.7	4511.1	-0.8	4511.2	-0.9	4511.4	-1.1	4511.5	-1.2	4511.6	-1.3	3,800
4509.6	0.7	4509.7	0.6	4509.7	0.6	4509.0	1.3	4509.1	1.2	4509.2	1.1	4509.3	1.0	4509.4	0.9	4509.5	0.8	4509.6	0.8	4509.6	0.7	4509.7	0.6	4509.8	0.5	5,000
4508.9	0.0	4508.9	0.0	4509.0	-0.1	4509.3	-0.4	4509.3	-0.4	4509.4	-0.5	4509.4	-0.5	4509.5	-0.6	4509.6	-0.7	4509.7	-0.8	4509.8	-0.9	4509.9	-1.0	4509.8	-0.9	3,800
4508.8	-0.7	4508.9	-0.8	4509.1	-1.0	4509.2	-1.1	4509.2	-1.1	4509.3	-1.2	4509.4	-1.3	4509.5	-1.4	4509.6	-1.5	4509.6	-1.5	4509.7	-1.6	4509.8	-1.7	4509.8	-1.6	2,200
4508.5	0.6	4508.6	0.5	4508.9	0.2	4509.0	0.1	4509.0	0.2	4509.0	0.1	4509.1	0.0	4509.2	-0.1	4509.3	-0.2	4509.4	-0.3	4509.5	-0.4	4509.5	-0.4	4509.6	-0.5	5,000
4507.6	0.9	4507.7	0.8	4508.4	0.1	4508.5	0.0	4507.7	0.8	4507.8	0.7	4507.9	0.6	4507.9	0.6	4508.0	0.5	4508.1	0.4	4508.1	0.4	4508.2	0.3	4508.2	0.3	5,000
4507.8	0.0	4508.0	-0.2	4507.7	0.1	4507.8	0.0	4507.8	0.0	4507.8	0.0	4507.9	-0.1	4508.0	-0.2	4507.8	0.0	4507.9	-0.1	4508.1	-0.3	4508.2	-0.4	4508.3	-0.5	5,000
4507.1	0.4	4507.2	0.4	4507.2	0.3	4507.3	0.2	4507.3	0.2	4507.2	0.3	4507.3	0.2	4507.4	0.1	4507.6	-0.1	4507.8	-0.3	4507.9	-0.4	4508.0	-0.5	4508.2	-0.7	4,800
4507.0	-0.4	4507.0	-0.4	4507.1	-0.5	4507.1	-0.5	4507.1	-0.5	4507.3	-0.7	4507.4	-0.8	4507.4	-0.8	4507.5	-0.9	4507.7	-1.1	4507.8	-1.2	4508.0	-1.4	4508.1	-1.5	3,200
4506.9	-0.2	4507.0	-0.3	4507.1	-0.4	4507.1	-0.4	4507.1	-0.4	4507.2	-0.5	4507.3	-0.6	4507.4	-0.7	4507.5	-0.8	4507.7	-1.0	4507.8	-1.1	4507.9	-1.2	4508.1	-1.4	3,800
4506.8	-0.9	4506.8	-0.9	4507.0	-1.1	4507.0	-1.1	4506.9	-1.0	4507.1	-1.2	4507.2	-1.3	4507.3	-1.4	4507.4	-1.5	4507.6	-1.7	4507.7	-1.8	4507.8	-1.9	4508.0	-2.1	2,200
4506.7	-0.8	4506.7	-0.8	4506.9	-1.0	4506.9	-1.0	4506.8	-0.9	4507.0	-1.1	4507.1	-1.2	4507.2	-1.3	4507.3	-1.4	4507.5	-1.6	4507.6	-1.7	4507.8	-1.9	4507.9	-2.0	2,400
4506.6	-0.7	4506.5	-0.6	4506.8	-0.9	4506.8	-0.9	4506.7	-0.8	4506.9	-1.0	4507.0	-1.1	4507.1	-1.2	4507.2	-1.3	4507.4	-1.5	4507.5	-1.6	4507.7	-1.8	4507.8	-1.9	2,400
4506.1	0.1	4506.3	-0.1	4506.0	0.2	4505.9	0.3	4506.3	-0.1	4506.4	-0.2	4506.6	-0.4	4506.9	-0.7	4507.1	-0.9	4507.2	-1.0	4507.4	-1.2	4507.5	-1.3	4507.7	-1.5	4,000

4505.8	0.1	4506.1	-0.2	4505.5	0.4	4505.9	0.0	4506.1	-0.2	4506.3	-0.4	4506.4	-0.5	4506.6	-0.7	4506.7	-0.8	4506.9	-1.0	4507.1	-1.2	4507.2	-1.3	4507.4	-1.5	3,800
4505.1	0.3	4505.2	0.1	4505.6	-0.3	4505.8	-0.5	4506.0	-0.7	4506.1	-0.8	4506.3	-1.0	4506.5	-1.2	4506.7	-1.4	4506.8	-1.5	4507.0	-1.7	4507.2	-1.8	4507.3	-2.0	3,400
4504.0	1.1	4504.1	1.0	4504.1	1.0	4503.8	1.3	4504.0	1.1	4504.1	1.0	4504.2	0.9	4504.3	0.8	4504.5	0.6	4504.6	0.5	4504.7	0.4	4504.8	0.3	4504.9	0.2	5,000
4504.2	0.0	4504.4	-0.2	4504.4	-0.2	4504.6	-0.4	4504.5	-0.3	4504.5	-0.3	4504.6	-0.4	4504.7	-0.5	4504.8	-0.6	4504.8	-0.6	4504.9	-0.7	4505.0	-0.8	4505.1	-0.9	4,000
4504.0	-0.1	4504.1	-0.2	4504.3	-0.4	4504.5	-0.6	4504.1	-0.2	4504.3	-0.4	4504.4	-0.5	4504.5	-0.6	4504.6	-0.7	4504.6	-0.7	4504.7	-0.8	4504.8	-0.9	4504.9	-1.0	3,200
4503.8	-1.3	4504.0	-1.5	4504.2	-1.7	4504.3	-1.8	4503.9	-1.4	4504.0	-1.5	4504.2	-1.6	4504.3	-1.8	4504.3	-1.8	4504.2	-1.7	4504.4	-1.9	4504.4	-1.9	4504.5	-2.0	2,000
4503.1	0.4	4503.2	0.3	4503.4	0.1	4503.5	0.0	4503.5	0.0	4503.7	-0.1	4503.8	-0.3	4503.9	-0.4	4503.8	-0.3	4504.0	-0.5	4504.2	-0.7	4504.2	-0.7	4504.3	-0.8	4,400
4502.7	0.6	4502.8	0.5	4502.9	0.4	4502.9	0.4	4503.3	0.0	4503.4	-0.1	4503.6	-0.3	4503.7	-0.4	4503.9	-0.6	4504.0	-0.7	4504.1	-0.8	4504.2	-0.9	4504.3	-1.0	4,200
4502.8	-1.6	4502.9	-1.7	4503.0	-1.8	4503.1	-1.9	4503.2	-2.0	4503.3	-2.1	4503.4	-2.2	4503.6	-2.4	4503.7	-2.5	4503.8	-2.6	4503.9	-2.7	4503.9	-2.7	4504.0	-2.8	1,600
4502.5	-1.2	4502.6	-1.3	4502.8	-1.5	4502.8	-1.5	4502.9	-1.6	4503.1	-1.8	4503.2	-1.9	4503.3	-2.0	4503.4	-2.1	4503.5	-2.2	4503.7	-2.3	4503.7	-2.3	4503.8	-2.5	2,000
4502.2	-0.6	4502.4	-0.8	4502.6	-1.0	4502.6	-1.0	4502.7	-1.1	4502.8	-1.2	4502.9	-1.3	4503.1	-1.5	4503.2	-1.6	4503.3	-1.7	4503.4	-1.8	4503.4	-1.8	4503.5	-1.9	2,600
4502.1	-1.3	4502.2	-1.4	4502.4	-1.6	4502.3	-1.5	4502.4	-1.6	4502.5	-1.7	4502.6	-1.8	4502.8	-2.0	4502.9	-2.1	4503.0	-2.2	4503.1	-2.3	4503.0	-2.2	4503.2	-2.3	2,000
4501.4	0.3	4501.4	0.3	4501.5	0.2	4501.9	-0.2	4502.0	-0.3	4502.1	-0.4	4502.1	-0.4	4502.3	-0.6	4502.4	-0.7	4502.5	-0.8	4502.6	-0.9	4502.3	-0.6	4502.5	-0.8	4,000
4501.2	0.3	4501.2	0.3	4501.3	0.3	4501.4	0.1	4501.5	0.1	4501.6	-0.1	4501.6	-0.1	4501.8	-0.3	4501.8	-0.3	4501.8	-0.3	4502.0	-0.5	4502.4	-0.9	4502.5	-1.0	4,800
4501.2	-0.7	4501.2	-0.7	4501.3	-0.8	4501.5	-1.0	4501.6	-1.1	4501.7	-1.2	4501.7	-1.2	4501.9	-1.4	4501.9	-1.4	4502.0	-1.5	4502.1	-1.6	4502.3	-1.8	4502.4	-1.9	2,600
4501.2	-0.5	4501.2	-0.5	4501.3	-0.6	4501.5	-0.8	4501.5	-0.8	4501.7	-1.0	4501.7	-1.0	4501.8	-1.1	4501.9	-1.2	4501.9	-1.2	4502.1	-1.4	4502.2	-1.5	4502.4	-1.7	3,000
4500.9	0.4	4500.9	0.4	4501.0	0.3	4501.1	0.2	4501.1	0.2	4501.3	0.0	4501.2	0.1	4501.4	-0.1	4501.4	-0.1	4501.6	-0.3	4501.7	-0.4	4501.8	-0.5	4502.0	-0.7	4,800
4500.9	-0.4	4500.9	-0.4	4500.9	-0.4	4501.1	-0.6	4501.1	-0.6	4501.3	-0.8	4501.2	-0.7	4501.4	-0.9	4501.4	-0.9	4501.5	-1.0	4501.7	-1.1	4501.8	-1.3	4501.9	-1.4	3,200
4500.6	0.0	4500.8	-0.2	4500.9	-0.3	4501.0	-0.4	4501.1	-0.5	4501.2	-0.6	4501.1	-0.5	4501.3	-0.7	4501.3	-0.7	4501.4	-0.8	4501.6	-1.0	4501.7	-1.1	4501.9	-1.3	3,600
4500.3	0.7	4500.3	0.7	4500.4	0.6	4500.5	0.5	4500.4	0.6	4500.5	0.5	4501.0	0.0	4501.2	-0.2	4501.2	-0.2	4501.4	-0.4	4501.5	-0.5	4501.7	-0.7	4501.8	-0.8	4,600
4500.3	-0.5	4500.3	-0.5	4500.5	-0.7	4500.5	-0.7	4500.7	-0.8	4500.8	-0.9	4501.0	-1.2	4501.2	-1.4	4501.2	-1.4	4501.3	-1.5	4501.5	-1.7	4501.6	-1.8	4501.8	-2.0	2,800
4499.9	1.1	4499.9	1.1	4500.1	0.9	4499.9	1.1	4500.0	1.0	4500.1	0.9	4500.3	0.7	4500.5	0.5	4500.4	0.6	4500.5	0.5	4500.6	0.4	4500.7	0.3	4500.8	0.2	5,000
4499.6	1.0	4499.5	1.1	4499.7	0.9	4499.4	1.3	4499.4	1.2	4499.3	1.3	4499.7	0.9	4499.9	0.8	4499.4	1.3	4499.5	1.1	4499.6	1.0	4499.7	0.9	4499.8	0.8	5,000
4499.4	0.1	4499.7	-0.1	4499.4	0.1	4499.6	-0.1	4499.7	-0.2	4499.8	-0.3	4500.1	-0.6	4500.3	-0.8	4499.9	-0.4	4500.1	-0.6	4500.2	-0.7	4500.4	-0.9	4500.5	-1.0	3,800
4499.0	0.5	4499.2	0.4	4498.7	0.8	4498.8	0.7	4498.8	0.7	4498.9	0.6	4499.4	0.1	4499.5	0.0	4498.2	1.3	4498.3	1.2	4498.4	1.1	4498.5	1.0	4498.6	0.9	5,000
4498.6	0.4	4498.8	0.2	4499.0	0.0	4499.2	-0.1	4499.2	-0.2	4499.4	-0.4	4498.5	0.5	4498.4	0.6	4499.0	0.0	4499.1	-0.1	4499.1	-0.1	4499.2	-0.2	4499.2	-0.2	5,000
4498.8	-1.1	4498.9	-1.2	4499.0	-1.3	4499.1	-1.4	4499.2	-1.5	4499.4	-1.7	4498.8	-1.1	4498.8	-1.1	4499.0	-1.3	4499.1	-1.4	4499.1	-1.4	4499.2	-1.5	4499.2	-1.5	2,200
4498.8	-0.9	4498.9	-1.0	4499.0	-1.1	4499.1	-1.2	4499.2	-1.3	4499.3	-1.4	4498.8	-0.9	4498.8	-0.9	4499.0	-1.1	4499.1	-1.2	4499.0	-1.1	4499.1	-1.2	4499.2	-1.3	2,400
4498.1	0.6	4498.3	0.4	4498.1	0.6	4498.3	0.4	4498.2	0.6	4498.2	0.5	4498.7	0.0	4498.7	0.0	4498.9	-0.2	4499.0	-0.3	4499.0	-0.3	4499.1	-0.4	4499.1	-0.4	5,000
4498.2	-0.6	4498.3	-0.7	4498.2	-0.6	4498.3	-0.7	4498.2	-0.6	4498.3	-0.7	4498.4	-0.8	4498.3	-0.7	4498.6	-1.0	4498.6	-1.0	4498.5	-0.9	4498.6	-1.0	4498.7	-1.0	2,600
4497.7	0.2	4497.8	0.1	4498.1	-0.2	4498.3	-0.4	4498.2	-0.3	4498.2	-0.3	4498.3	-0.4	4498.3	-0.4	4498.5	-0.6	4498.6	-0.7	4498.5	-0.6	4498.6	-0.7	4498.6	-0.7	4,200
4497.4	0.5	4497.4	0.5	4497.5	0.4	4497.7	0.2	4498.1	-0.2	4498.2	-0.3	4498.3	-0.4	4498.3	-0.4	4498.5	-0.6	4498.5	-0.6	4498.4	-0.5	4498.5	-0.6	4498.5	-0.6	4,200
4497.3	0.0	4497.6	-0.3	4497.7	-0.4	4497.9	-0.6	4498.0	-0.7	4498.1	-0.8	4498.2	-0.9	4498.1	-0.8	4498.4	-1.1	4498.5	-1.1	4498.3	-1.0	4498.4	-1.1	4498.4	-1.1	3,200
4497.0	0.8	4497.1	0.7	4497.2	0.6	4497.3	0.5	4497.5	0.3	4497.5	0.3	4497.5	0.3	4497.8	0.0	4497.6	0.2	4497.6	0.3	4497.9	-0.1	4498.0	-0.2	4498.2	-0.4	5,000
4496.9	-0.8	4497.1	-1.0	4497.2	-1.1	4497.4	-1.3	4497.5	-1.4	4497.6	-1.5	4497.6	-1.5	4497.7	-1.6	4497.7	-1.6	4497.8	-1.7	4497.9	-1.8	4498.0	-1.9	4498.1	-2.0	2,200
4496.6	0.6	4496.7	0.4	4496.7	0.4	4496.9	0.2	4497.0	0.1	4497.2	-0.1	4496.9	0.2	4497.0	0.1	4497.2	-0.1	4497.3	-0.1	4497.4	-0.3	4497.5	-0.3	4497.6	-0.4	5,000
4496.1	0.3	4496.2	0.2	4496.1	0.3	4496.2	0.2	4496.3	0.1	4496.4	0.0	4496.7	-0.3	4496.8	-0.4	4496.9	-0.5	4497.0	-0.6	4497.1	-0.7	4497.2	-0.8	4497.3	-0.9	4,400
4495.7	0.8	4495.9	0.6	4495.7	0.8	4495.7	0.8	4495.7	0.8	4495.8	0.7	4495.8	0.7	4495.9	0.6	4495.9	0.6	4495.9	0.6	4495.9	0.6	4495.9	0.6	4495.9	0.6	5,000
4495.4	0.4	4495.5	0.3	4495.8	0.0	4495.9	-0.1	4495.9	-0.1	4496.0	-0.2	4496.1	-0.3	4496.2	-0.4	4496.2	-0.4	4496.2	-0.4	4496.3	-0.5	4496.3	-0.5	4496.4	-0.6	4,600
4495.3	-0.1	4495.5	-0.3	4495.7	-0.5	4495.7	-0.5	4495.8	-0.6	4495.9	-0.7	4495.9	-0.7	4496.1	-0.9	4496.1	-0.9	4496.1	-0.9	4496.2	-1.0	4496.2	-1.0	4496.2	-1.0	3,200