US Army Corps of Engineers
Portland District

Data Collection Report

Water Velocity Measurements on Vertical Barrier Screens with and without Proof-of-Concept Turbulence Reduction Devices at the Bonneville Dam Second Powerhouse

Prepared for:

U.S. Army Corps of Engineers
Portland District

June 18, 2013

ALDEN

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Water Velocity Measurements on Vertical Barrier Screens with and without Proof-of-Concept Turbulence Reduction Devices at the Bonneville Dam Second Powerhouse

Contract No.
W9127N-12-D-0001, Task Order No. 0001

Prepared for:

U.S. Army Corps of Engineers
Portland District

Prepared by:

Harbor Consulting Engineers, Inc.

Alden Research Laboratory, Inc.

June 18, 2013

ALDEN

Executive Summary

The purpose of the study was to collect water velocity data sufficient to map flow patterns within gatewell slots at Bonneville Dam's Second Powerhouse with and without proof-of-concept turbulence reduction devices (TRDs) installed. The results of this study will be used in conjunction with biological testing to investigate of the effectiveness of the TRD slot fillers at improving gatewell flow conditions with respect to fish passage.

Turbulence reduction devices were conceptualized for installation in the gatewell bulkhead slots to address turbulent flow patterns identified in previous velocity studies. CFD modeling of gatewell flow patterns performed by U.S. Army Corps of Engineers (USACE) has suggested that a more uniform flow distribution can be achieved along the Vertical Barrier Screens (VBS) with TRDs installed.

Data was collected by Harbor Consulting Engineers and Alden Research Laboratory between March 29, 2013 and April 5, 2013. Measurements were taken 0.65 feet off the upstream face of the vertical barrier screens at low (12 kcfs), medium (15 kcfs) and high (17 kcfs) flow conditions in gatewell slot 14A with TRDs installed and in slot 15A without TRDs installed. Additionally, data was collected at a high flow condition (16.5 kcfs) in gatewell slot 14C. Three dimensional water velocity data was collected using four Nortek Vectrino ADVs deployed from a traversing beam assembly lowered into the gatewell slot. Velocities were measured at 16 locations at each traversing beam deployment elevation. The traversing beam was deployed at one foot intervals between elevations 37 and 56 and at two foot intervals between elevations 56 and 70. Data was collected as low as elevation 33 and as high as elevation 72 as conditions allowed. All elevations refer to a mean sea level (MSL) datum.

The results of all test conditions exhibited higher screen approach velocity between elevations 52 and 56 ft. than elsewhere within each gatewell. Root mean square (RMS) of velocity fluctuations were notably higher at the lateral extents of the VBS, near the TRDs, and consistently higher at lower elevations than elsewhere within each gatewell. These observations correlate with real-time observations during data collection.

Comparatively, the general flow patterns among all gatewell slots were similar. Sweeping flows at the bottom of the gatewell were larger than those at higher elevations and corresponded with higher levels of turbulence than at higher elevations. The vertically sweeping flow is more concentrated near the center of the gatewell, where the turbulence levels are lower. Through screen approach velocities are generally higher along the northern and southern extents of the VBS, as opposed to the center. This may be due to lower vertical sweeping flow along the edges of the VBS, as opposed to the center.

Field data collection was successful at meeting the objectives of the study. All post-processed data presented in this report is an accurate and valid representation of the actual flow conditions in the gatewell at the time of data collection. Data was post-processed to remove outliers that are an artifact of multiple variables. Tabulated data in Appendix C highlights areas where data collection may have been overly influenced by noise as identified by the fail test. It should be noted that data at locations identified by the fail test were not removed from the contour plots presented in the Results section. Analysis of the presented data should be carefully undertaken with the utilization of all presentation methods provided.

Contents

List of Appendices

List of Tables

List of Figures

List of Photos

Acronyms

ADV	Acoustic Doppler Velocimeter
CENWD	Corps of Engineers, Northwest Division
CENWP	Corps of Engineers, Northwest, Portland District
CFD	Computational Fluid Dynamics
JBS	Juvenile Bypass System
KCFS	Thousand Cubic Feet per Second
POC	Point of Contact
STS	Submerged Traveling Screen
TRD	Turbulence Reduction Device (Slot Fillers)
USACE	U.S. Army Corps of Engineers
VBS	Vertical Barrier Screen

1.0 Introduction

The following Data Collection Report is presented for CENWP Contract Number W9127N-12-D-0001, Task Order Number 0001, Water Velocity Measurements on a Vertical Barrier Screen with and without Proof of Concept Turbulence Reduction Devices, Bonneville Dam, Second Powerhouse.

The following Data Collection Report is organized to provide a thorough account of the means and methods associated with the data collection equipment, field program, and data processing procedures. Data collection findings are summarized for each condition in the Results section. A brief discussion of general observations derived from a review of the data and possible explanations for observed patterns are included in the Discussion section. This is intended to be a cursory discussion to facilitate deeper evaluation.

1.1 Site Description

Bonneville Dam is located on the Columbia River, at River Mile 146, between Oregon & Washington State. The dam was originally constructed in 1938 and is currently operated by the U.S. Army Corps of Engineers (USACE), Portland District.

The dam is a run-of-river project spanning across the Columbia River between Robins Island, Bradford Island, and Cascades Island. Bonneville Dam consists of two powerhouses (B1 & B2), a spillway, and a navigation lock. Refer to Figure 1-1 Vicinity Map, and Figure 1-2 Location Map, Bonneville Dam for project location and configuration of the dam.

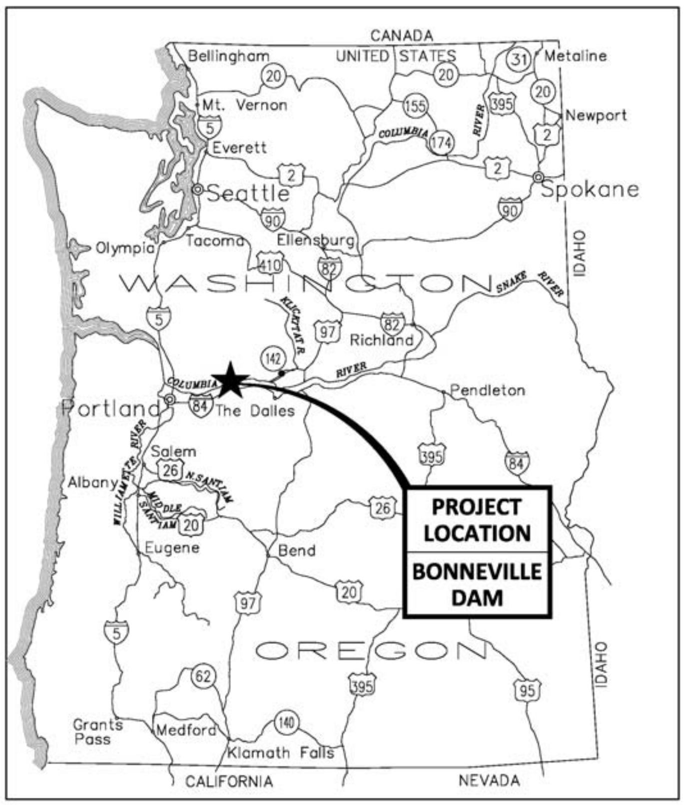


Figure 1-1 Vicinity Map

The project focused on the vertical barrier screens (VBS) at the Second Powerhouse located between Cascades Island and the Washington shore. The Second Powerhouse consists of turbine unit numbers 11 through 18. Each turbine unit includes three gatewell slots, A, B, and C. Vertical barrier screen locations are described in this report by unit number and slot designation. For example, gatewell 14A describes the A-slot of Unit 14.

Measurements were taken in gatewells 14A, 14C, and 15A.

Figure 1-2   Location Map, Bonneville Dam

1.2 Background

Significant effort has been put into providing safe passage for downstream outmigrant salmonids at hydroelectric dams throughout the northwest. At Bonneville Dam, a juvenile bypass system (JBS) has been installed that collects a portion of juvenile outmigrants in the upper portions of the water column that would otherwise be passed through the powerhouse turbine intakes. The juvenile bypass system operates by diverting flow upwards into a vertical gatewell at each intake unit. A majority of the diverted flow is routed through vertical barrier screens (VBS) designed to exclude juvenile fish while the remainder is routed into the juvenile bypass channel. The screened flow returns to the powerhouse intake while excluded juvenile fish are transported through a submerged orifice into the juvenile bypass transportation channel contained within the dam structure and released downstream. Refer to Figure 1-3 and Figure 1-4 below. Efforts to improve the juvenile collection and passage efficiency of the Bonneville juvenile bypass system have resulted in the addition of a submerged traveling screen (STS) extending below each gatewell and a turning vane designed to maximize flow up the gatewell.

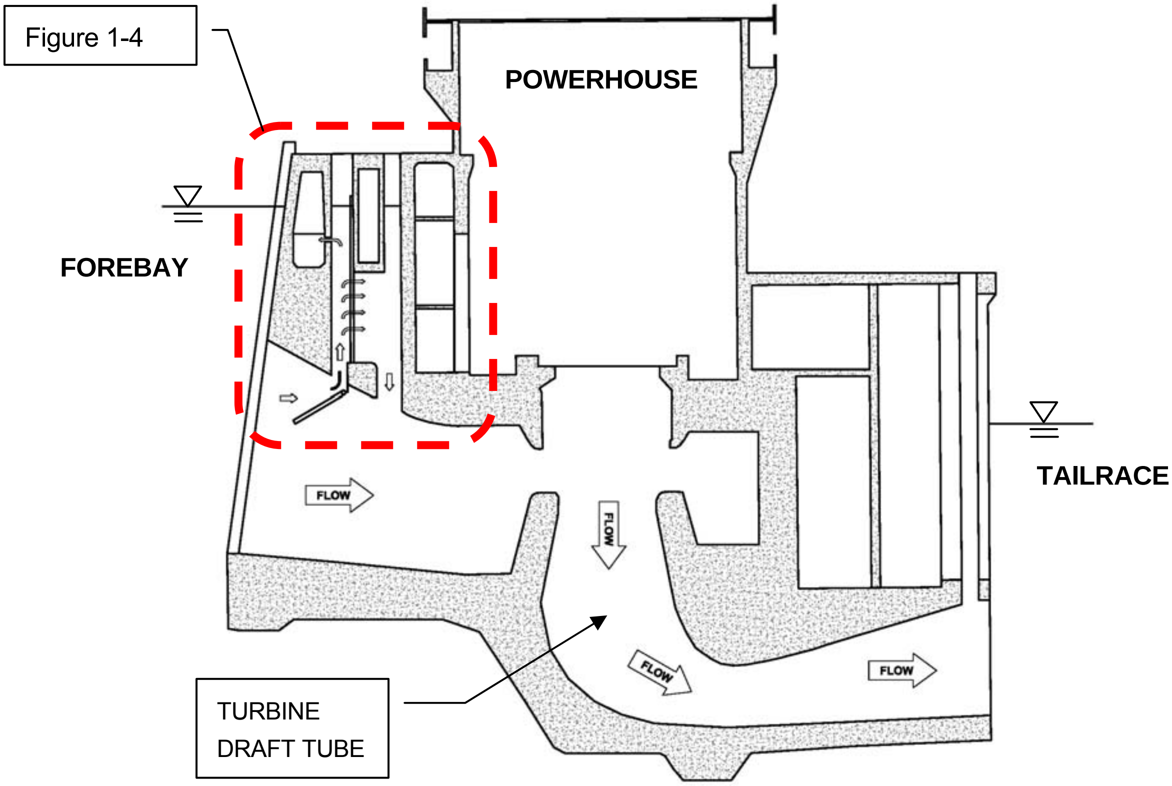


Figure 1-3 Cross section of Bonneville Dam Second Powerhouse

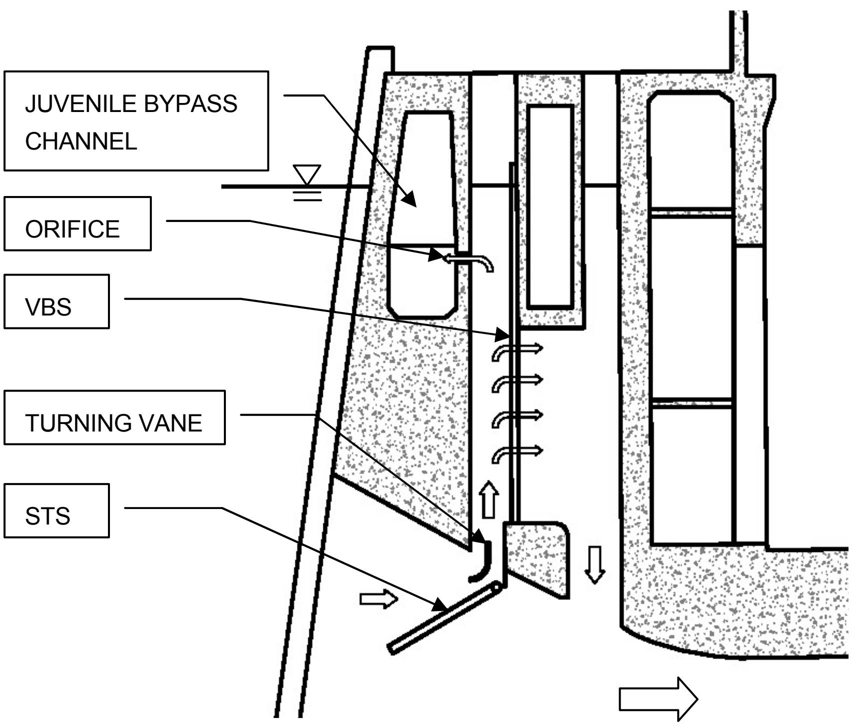


Figure 1-4 Detail section of gatewell and flow path

The purpose of the juvenile bypass system is to provide safe, unimpaired transport to juvenile fish past the barrier screens. An even distribution of flow through the screen at a low approach velocity is required to prevent impingement of juvenile fish on the screens. Additionally, the sweeping velocity parallel the screen face must be high enough to transport fish past the screen quickly without delay. A uniform, non turbulent, flow pattern is critical to preventing injury to fish at the screens. Juvenile fish screen criteria have been developed by NOAA's National Marine Fisheries Service (NMFS) (NMFS, 2011).

In 2008, a high mortality and descaling rate of hatchery Chinook salmon within the Bonneville JBS was observed at the Bonneville Dam juvenile monitoring facility. This high rate of injury has spurred questions relating to flow conditions that salmonids encounter at the VBS.

A 3-D velocity profile study was performed by Pacific Northwest National Laboratory (PNNL) in 2011 at vertical barrier screens in Units 12 and 14 (PNNL, 2011). This study indicated that localized screen approach velocity "hot spots" and turbulent sweeping velocities were characteristic in the study gatewells for the entire study flow regime.

Following the PNNL study in 2011, turbulence reduction devices (TRDs) were conceptualized for installation in the gatewell bulkhead slots to address the turbulent flow patterns identified in the PNNL study. Computational Fluid Dynamics (CFD) modeling performed by USACE has suggested that a more uniform flow distribution can be achieved along the VBS with TRDs installed. Proof of concept TRDs which extended from approximately Elevation 31 to Elevation 56 ft. were designed, constructed, and installed in gatewell 14A for further performance evaluation. Refer to Photo 1-1 and Photo 1-2 for TRD structure and installation.

1.3 Objectives

The purpose of the study was to collect water velocity data sufficient to map flow patterns within gatewell slots with and without proof-of-concept TRDs installed. Velocity data was collected at locations similar to those in the PNNL study for baseline comparison. CENWP will use the results of this study in conjunction with biological testing to determine the effectiveness of the TRD slot fillers at improving gatewell flow conditions.

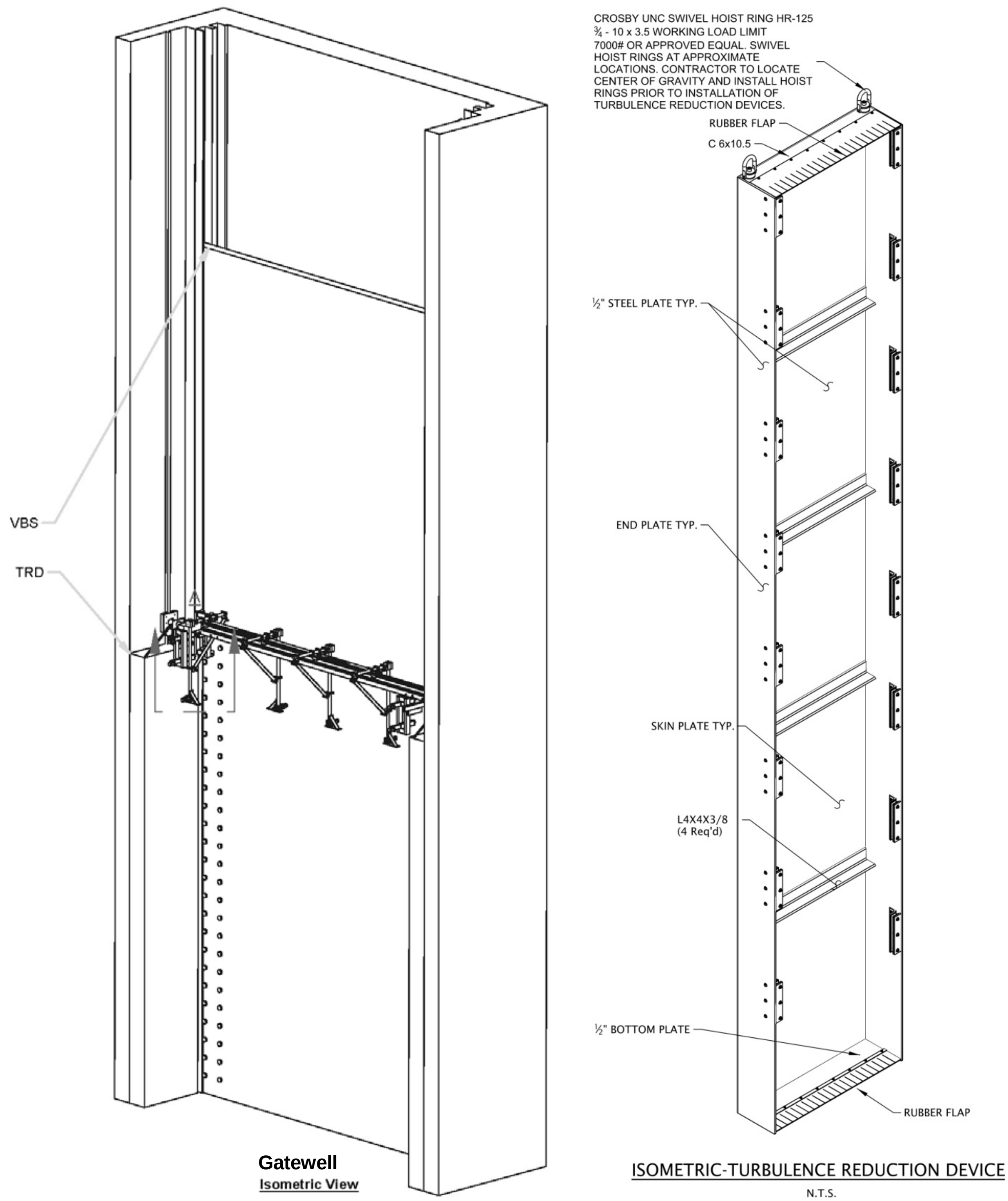


Figure 1-5 Left: Isometric View of gatewell with TRD installed. Right: Detailed isometric view of TRD.

Photo 1-1 TRD slot fillers stored on Bonneville B2 90 Deck

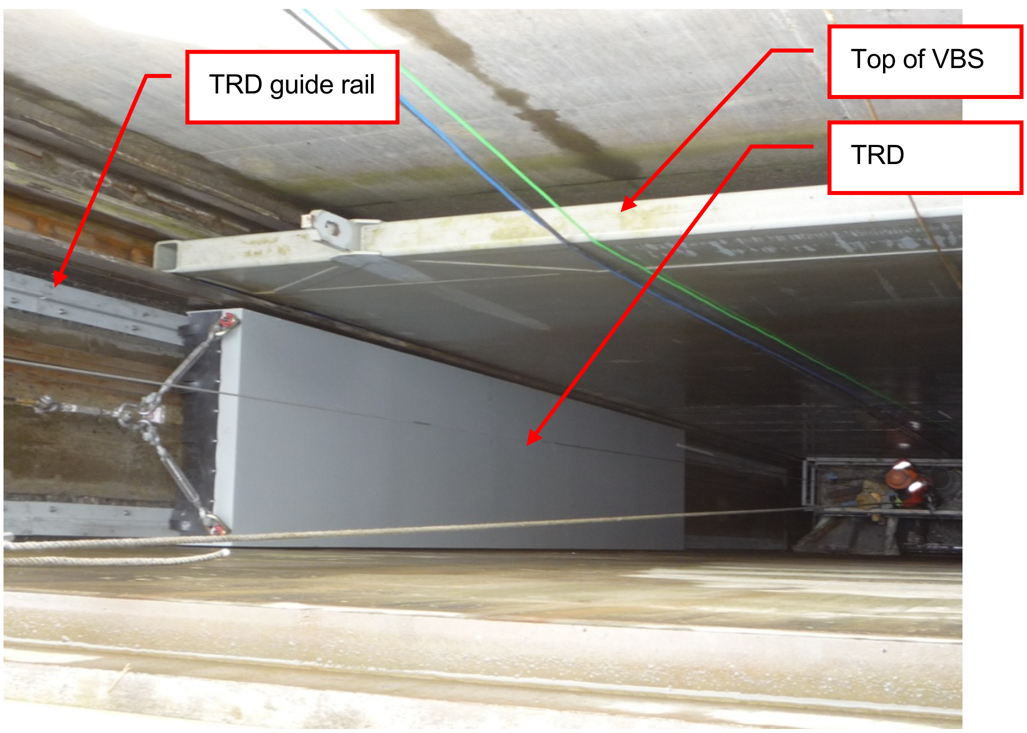


Photo 1-2 TRD installation in Gatewell 14A

2.0 Methods

2.1 Collection Equipment

Water velocity measurements were collected in the gatewell using four Nortek Vectrino Acoustic Doppler Velocimeters (ADVs).The ADVs consist of a single acoustic transmitter and four acoustic receivers, along with a signal conditioning module. Photo 2-1 shows the Nortek ADV.

ADVs operate by emitting a sound wave at a known frequency (10 MHz) from the transmitter and receiving a reflected sound wave off particles suspended in the fluid. As the particles pass the stationary probe, the reflected sound waves are shifted in frequency, and the direction and magnitude of the fluid's velocity is provided using the following relationship in Equation (2.1). When ADVs are in close proximity to each other, the transmitted wave from one ADV may interfere with the others. This problem is avoided by operating the ADVs using a common hub and computer software (proprietary to each manufacturer) for timing the sequence of transmitted and received acoustical waves so the interference is avoided.

$$\Delta f = \frac{\Delta v}{c} f_o \qquad (2.1)$$

where:

Δf = change in frequency (Hz)
Δv= change in velocity (m/s or ft/s)
c= speed of sound *(1497 m/s at 25 degrees-Celsius)*
f_o = transmitted frequency.

An example of this interference is presented in Figure 2-1, where the correlation percentage (which should be greater than 60-percent for reliable data) is presented with and without interference. In a controlled laboratory flume, one ADV was placed into water (at time = 18 sec) and brought within proximity of another submerged sampling ADV (t=20) and was then slowly withdrawn laterally from the second probe until the two probes where no longer interfering with each other (t=40), where the correlation percentage is in the 90s. It was observed that only when the two probes transmitting/receiving signals interfered with each other, that the correlation percentage indicated a poor data sampling signal.

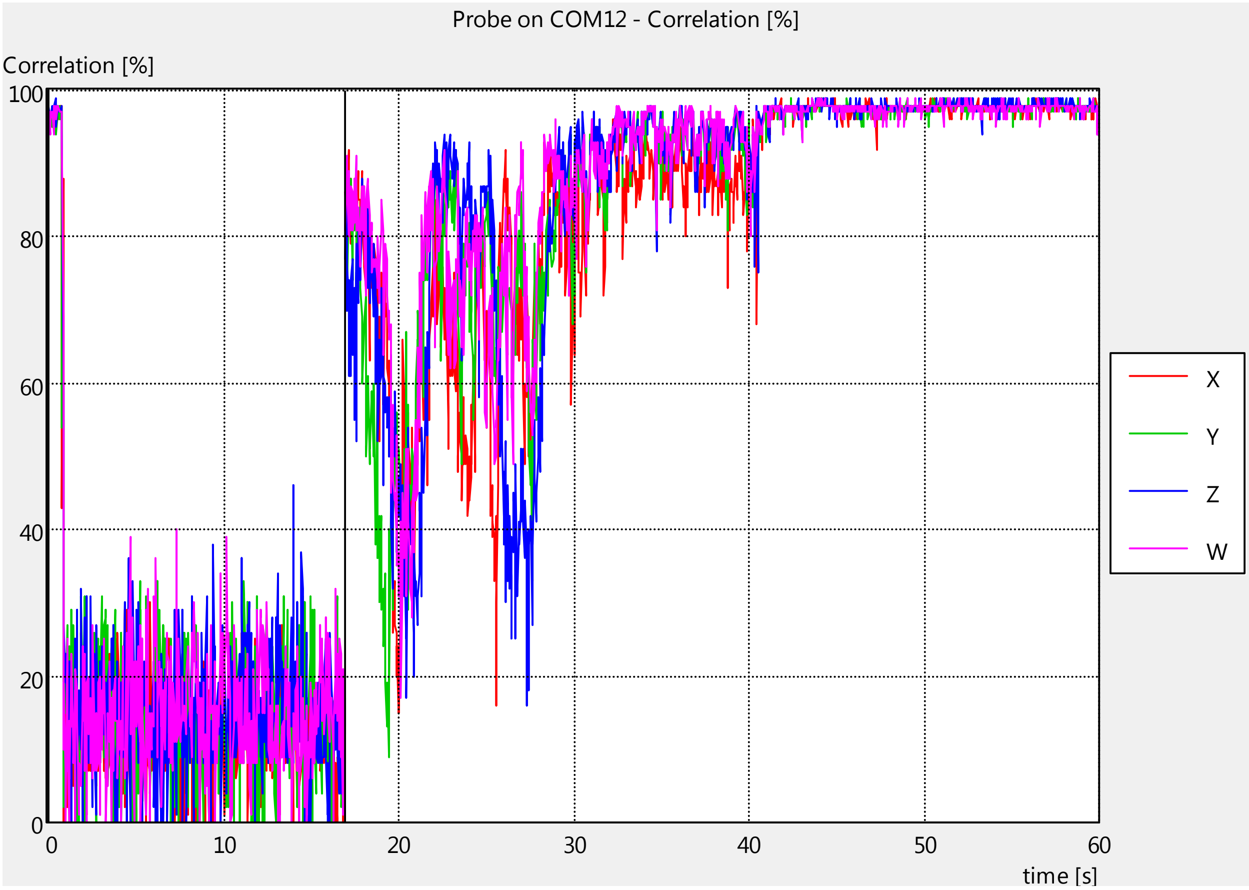


Figure 2-1 ADV Correlation with and without acoustical interference.

The ADV must also measure the water temperature to accurately adjust for the change in speed of sound with temperature (salinity is assumed to be nil upstream of the powerhouse). Measurements are collected over a sampling volume with a pre-determined focal length (center of the sampling volume) based on the geometry of the probes. The Nortek Field Probe ADVs have a 3.94 inch focal length. The accuracy of the ADV can be within 1 percent of the actual velocity, depending on water quality, velocity range, probe orientation, and electronic noise.

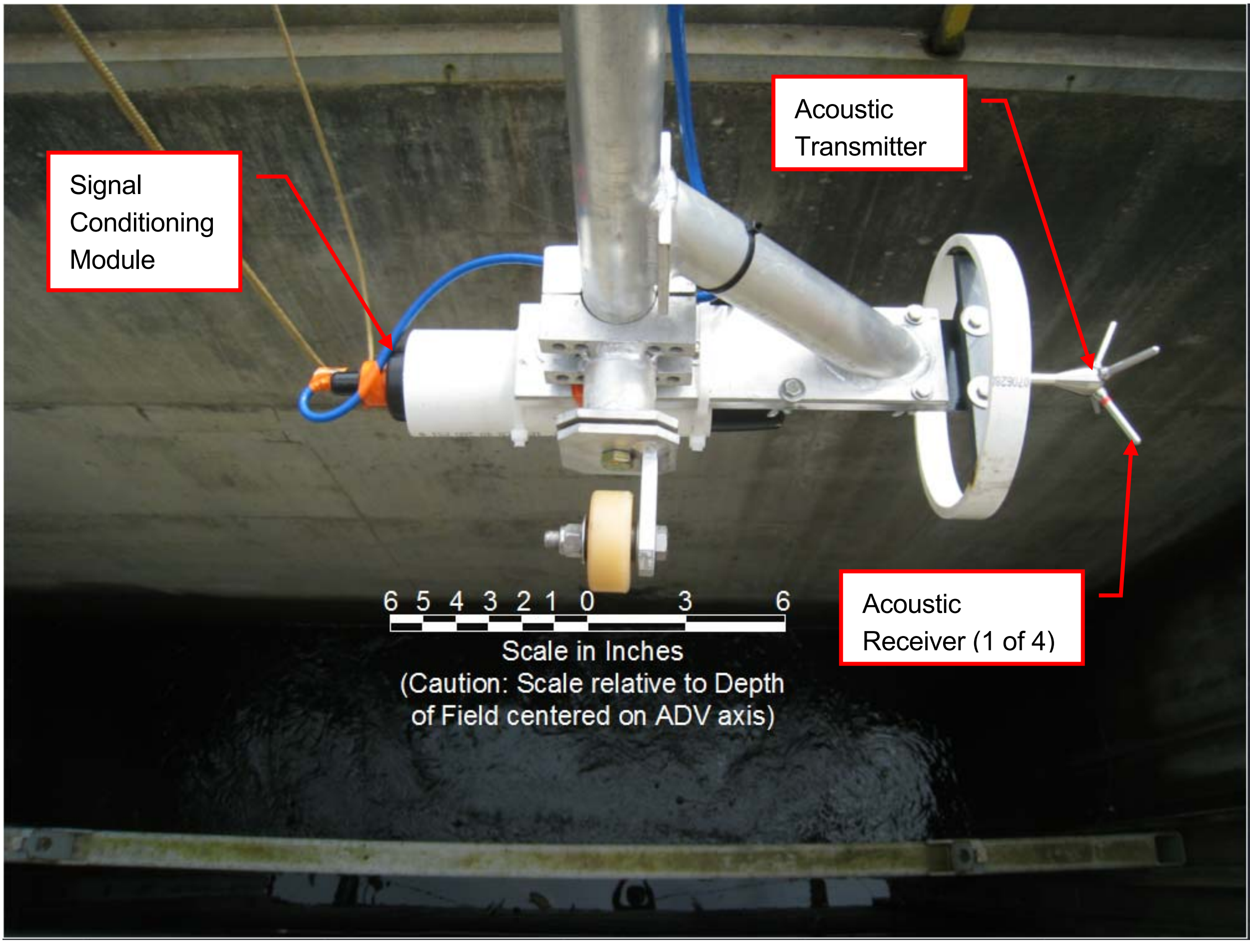


Photo 2-1 Nortek Vectrino ADV

The ADVs have a default X-direction which is oriented along the axis of one of the probe's receivers marked with a red ring. The ADVs were oriented such that the positive X-direction is into the VBS sensing the approach velocity (V_x) to within one degree of rotation from the horizontal plane. The positive Y-directions were pointed towards the vertical orientation (up or down) sensing the vertical component of the sweeping velocity (V_y), see Figure 2-2 and Photo 2-2. The positive Z-directions is defined as the vector towards the probe's transmitter, sensing the lateral sweeping velocity (V_z). The data were post-processed to describe the velocity components as follows:

V_{x_USACE}: Screen Approach Velocity, with positive X-direction into the screen

V_{y_USACE}: Positive Y-direction towards Oregon (South)

V_{z_USACE}: Positive Z-direction towards El. 90 ft. deck

V_{tot_USACE}: The resultant velocity

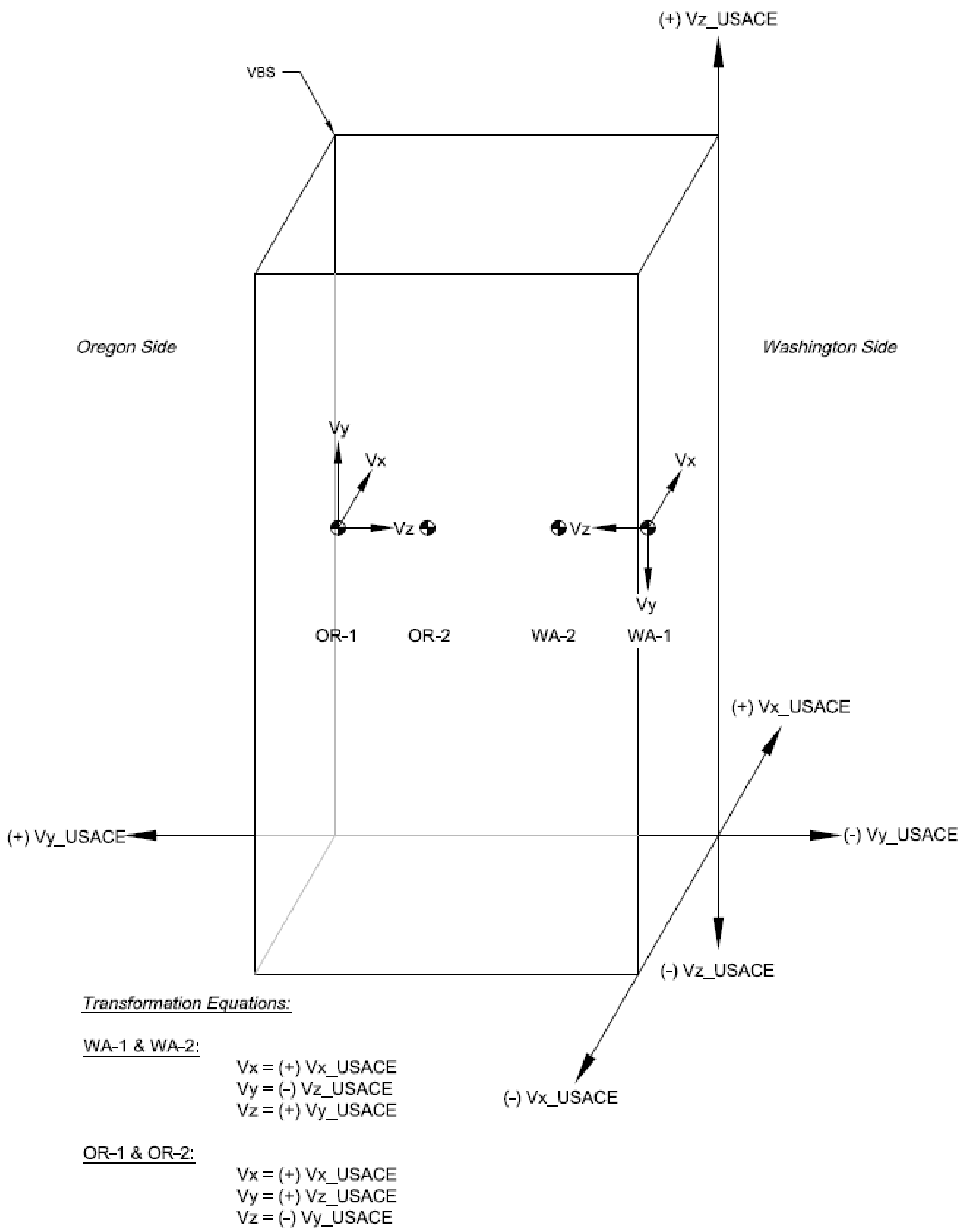


Figure 2-2 ADV Coordinate Transformation Illustration

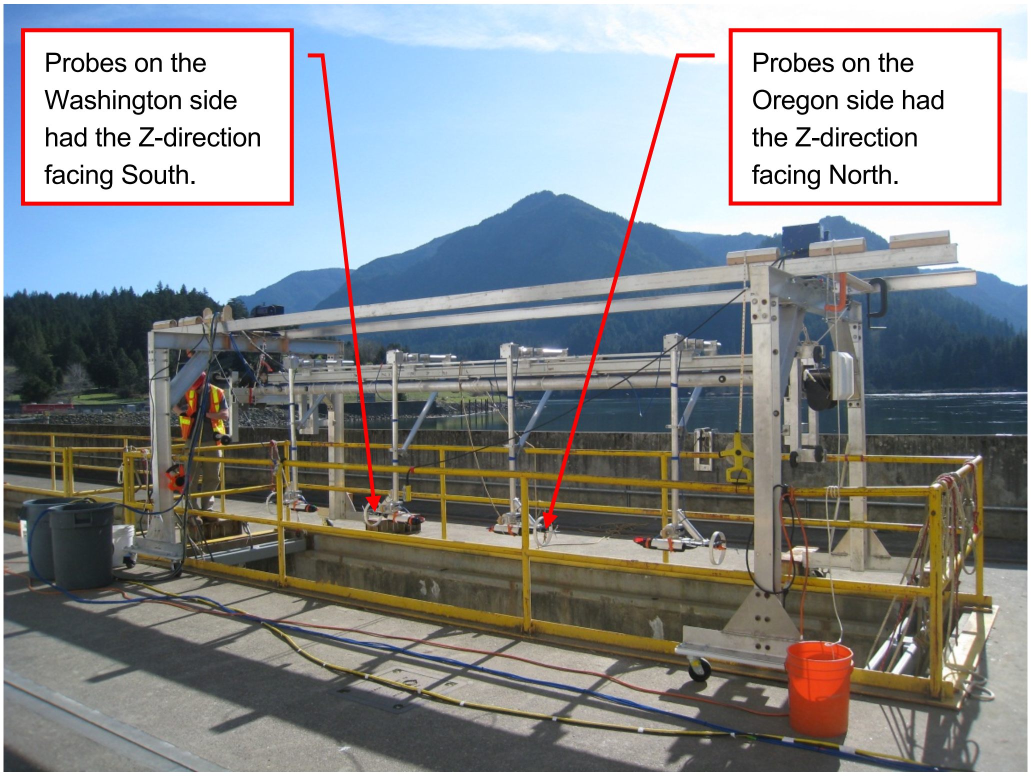


Photo 2-2 Probe Orientation within Gatewell (Looking East)

In addition to the velocity in the gatewell, the water surfaces on both sides of the VBS were monitored using electronic depth probes (see Photo 2-3). The tape is graduated in increments of 0.01 ft. and produces a sound when the deployed probe end contacts the water surface.

Photo 2-3 Electronic Depth Probe

2.2 Traversing Beam Equipment

The equipment used to deploy the ADVs was originally designed and built by Pacific Northwest National Laboratory for velocity field deployments in 2011. The equipment was modified by the Harbor-Alden team for deploying four (as opposed to two) ADVs as low as Elevation 31 ft. The provided equipment included:

- Two aluminum wheeled gantry deployment frames (by PNNL)
- My-Te winch hoists, Model 100AB, and winch cables
- A traversing beam including:
    - Empire Magnetics stepper motor (Model WP-U42-42P:10-OFP)
    - Parker Hannifin Corporation 6K8 Motion Controller (see Photo 2-4)
    - Parker Hannifin ZETA microstepping driver (see Photo 2-4)

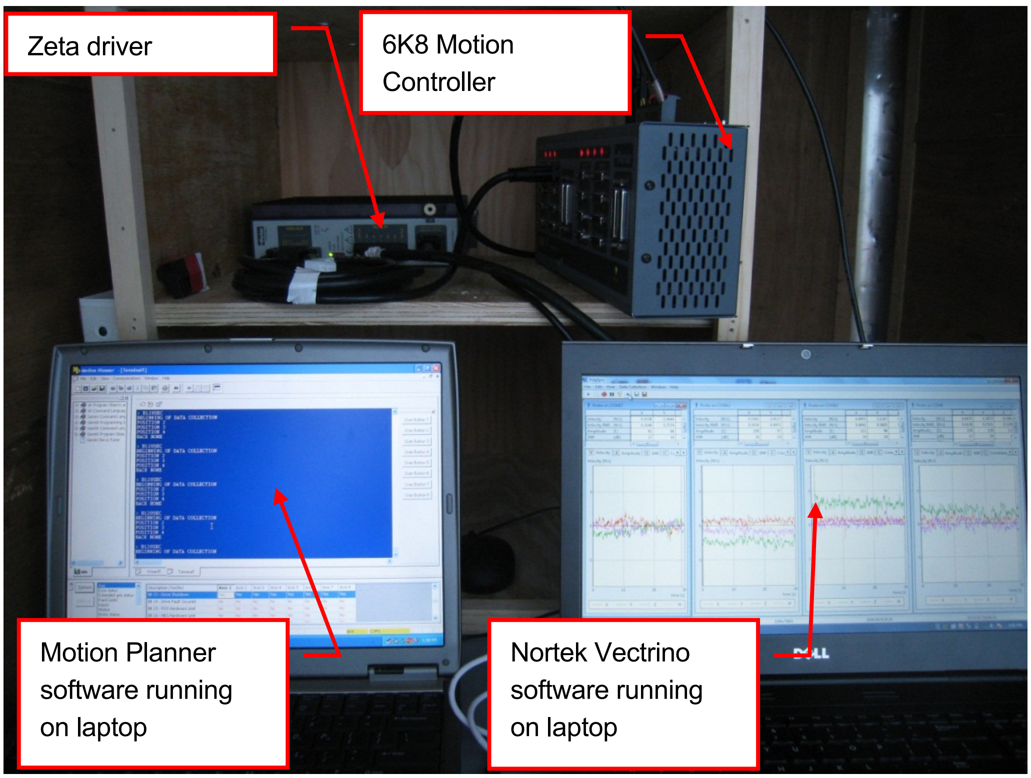


Photo 2-4 Traversing Beam Control Center

The modifications to the existing equipment included the following features:

- Aluminum C-channel tying the two aluminum wheeled gantry deployment frames together;
- Wheeled frame attachments to the existing traversing beam for positioning within the gatewell;
- A common aluminum baseplate traversed by the two carts connected to the traverse;
- Four wheeled deployment arms with stiffening diagonal supports; and
- Cam-actuated pusher plates for providing positive lateral beam placement.

The modifications to the existing equipment are documented in Appendix A, and are graphically shown in Figure 2-3, where the traversing beam is being tilted into position past the TRD dogging beams.

The beam was lowered by a set of winches and cables which suspend the traversing beam. The elevation of the beam was determined by a graduated tape that was fixed to the winch cable as it was lowered into position. The beam was then held in place in the gatewell by engaging a cam with another rope that extends plates on either side of the beam and creates a compressive force into the sides of the gatewell or TRD. Upon releasing the cam, the plates were retracted by tension springs and the beam was allowed to move vertically with the winched cables. The cam-actuated pusher plates were assembled to a steel pipe that was either extended to the full width of the gatewell or retracted to the width between TRDs, less the actuating distance of the cam and pusher plates.

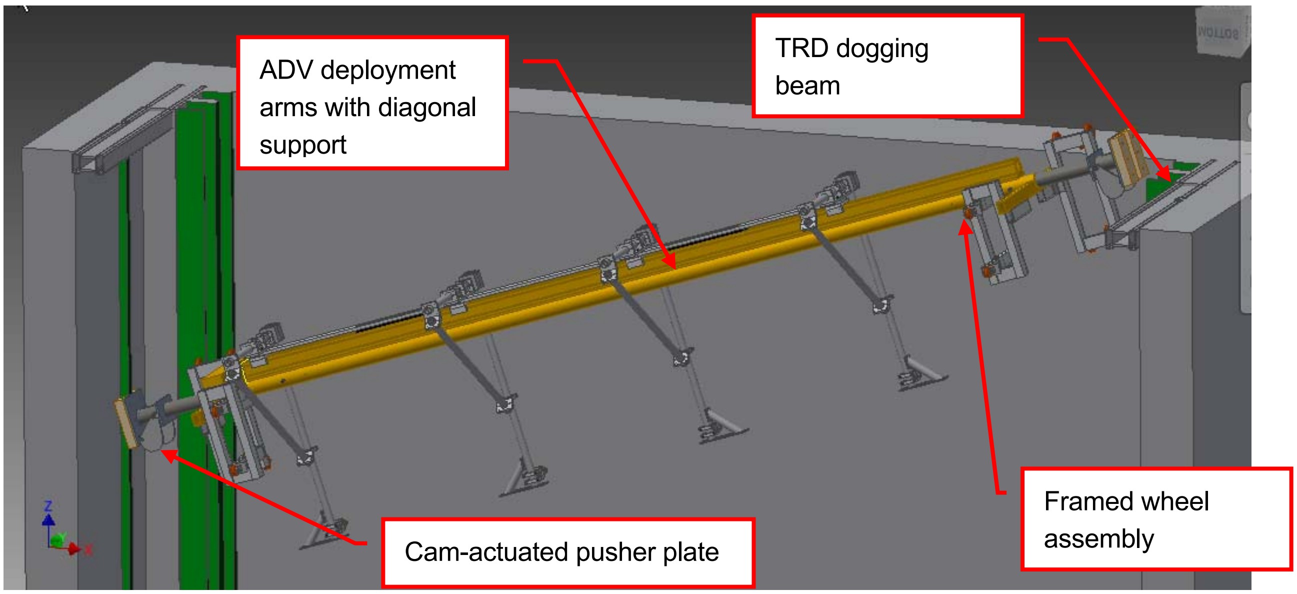


Figure 2-3 Traversing Beam being Tilted Into Position Past TRD Dogging Beams

2.3 Field Operations

A covered cargo trailer, approximately 7 feet wide by 10 feet long, was utilized as a field office and temporary storage facility for data collection. All data collection activities were performed from this location. The trailer was located between gatewells where data collection occurred and was positioned such that gantry crane and normal vehicle travel on the dam were not obstructed (see Photo 2-5).

The traversing beam was deployed in each gatewell during data collection via two electric cable winches mounted on individual hoist frames. The hoist frames spanned the gatewell near each end of the traversing beam with gatewell handrails in place. Beam elevation was controlled by simultaneously operating the two positioning winches.

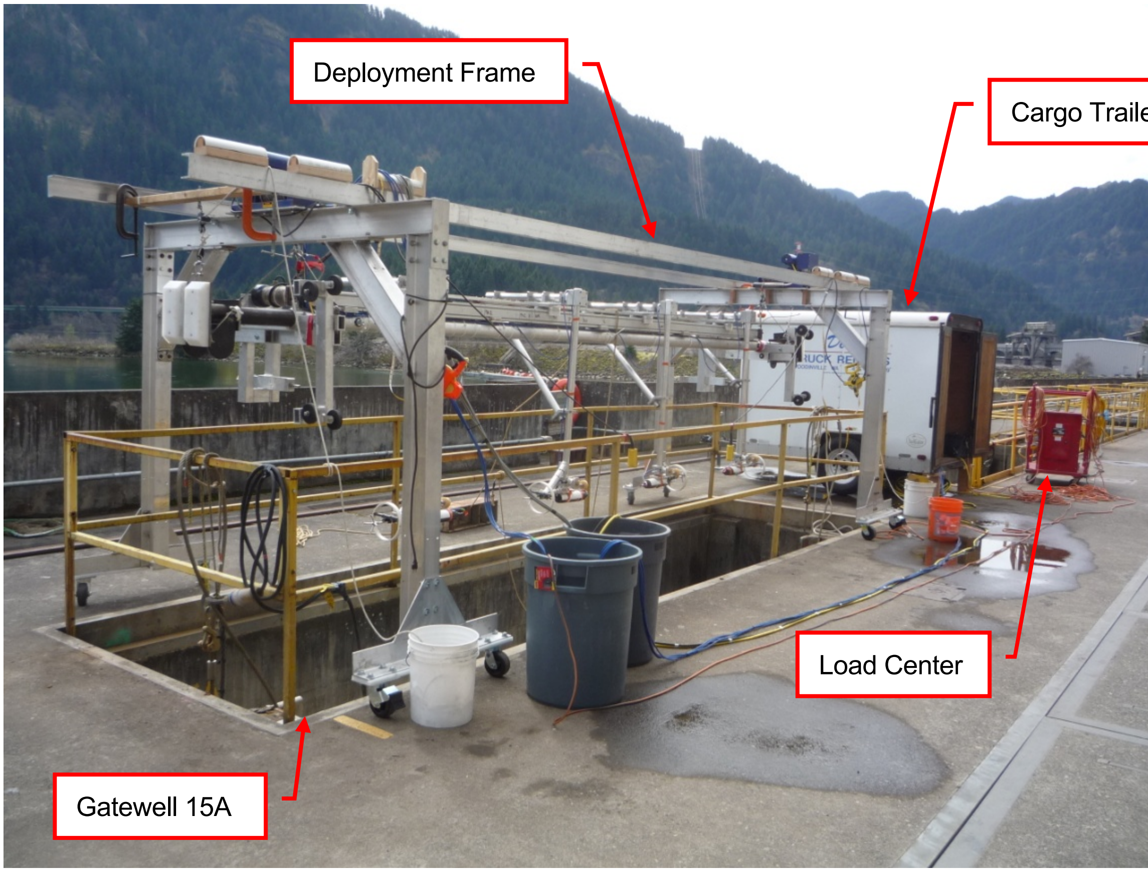


Photo 2-5 Field operations setup

Approximate power requirements for equipment utilized during data collection are included below in Table 2-1. Allowances have been included for computer and monitor equipment. Power for field operations was supplied by USACE via a 480 VAC circuit hookup at gatewell 14C and load center dedicated to field data collection operations.

Table 2-1 Field Operation Power Requirements

Equipment Description	Max Current @ 120VAC
Empire Magnetics Stepper Motor (Model WP-U42-42P:10-OFP)	25 amp
(2) Positioning winches (My-Te Winch-Hoists, Model 100AB)	20 amp each
Data collection equipment allowance (ADVs, computer, monitor)	5 amp
Lights	2 amp

2.4 Deployment

2.4.1 Initial Deployments

An initial deployment phase was performed in gatewell 11A (with water in the gatewell) and 14A (without water in the gatewell). These initial deployments were performed to practice deployment methods, review personnel tasks, and provide an opportunity for fine-tuning of the equipment design to function as intended if unanticipated field conditions were encountered.

The initial deployment performed in gatewell 14A was done with the bulkhead in place, providing a dewatered, or "dry", gatewell for visualization of potential interferences. The "dry-run" was performed with the TRDs in place. During this initial dry-run a critical failure to the original hoisting equipment occurred which necessitated repairs prior to velocity testing operations.

Modifications to the original equipment design included:

- replaced hoist cables;
- improved cable swage fittings; and
- removal of the outside fixed wheels which run along the VBS.

Repairs were made to the equipment and a subsequent dry run was performed to verify satisfactory performance with USACE prior to proceeding with data collection. Following the successful dry run, authorization was granted by USACE to proceed with data collection.

2.4.2 Data Collection Deployments

With the utilization of four ADVs, data collection activities for each flow condition took approximately 12 to 14 hours on average. Occasional equipment malfunctions and troubleshooting activities resulted in additional time expenditure in addition to that required for data collection.

The following sequence of data collection was followed:

1. Unit 15A – Low Flow (without TRD slot fillers);
2. Unit 14A – Low Flow (with TRD slot fillers);
3. Unit 14A – Medium Flow (with TRD slot fillers);
4. Unit 14A – High Flow (with TRD slot fillers);
5. Unit 15A – High Flow (without TRD slot fillers);
6. Unit 14C – High Flow (without TRD slot fillers);
7. Unit 15A – Medium Flow (without TRD slot fillers).

CENWP Hydraulic Design personnel provided instruction to dam operations personnel and the field data collection team for unit flow rates for the Low, Medium, and High flow conditions. Refer to Appendix B for daily conditions summary tables that detail flow conditions for the Columbia River and Bonneville Dam during data collection.

Refer to Table 2-2 below for the observed data collection schedule.

Table 2-2 Data Collection Schedule

MARCH 2013						
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
17	**18** Mobilization to site	**19**	**20**	**21** Equipment initial deployment in Unit 11A	**22** Equipment dry run in Unit 14A & hoisting equipment failure.	**23** Equipment repairs.
24 Equipment repairs.	**25** Equipment repairs.	**26** Equipment reassembly onsite	**27** Repaired equipment dry run in Unit 14A	**28** Data collection preparation	**29** Begin data collection. Unit 15A - Low Flow.	**30** Data collection Unit 14A - Low Flow
31 Data collection Unit 14A - Medium Flow	**APRIL 1** Data collection Unit 14A - High Flow	**2** Data collection Unit 15A - High Flow	**3** Data collection Unit 14C - High Flow	**4** OWA#8 Unit 15A Medium Flow	**5** Equipment De-mobilization.	**6**

Vertical barrier screens were cleaned by CENWP project personnel on the afternoon of March 28, prior to commencement of data collection activities. Screens for Units 14 and 15 were cleaned again the morning of April 1, prior to data collection. Only minimal debris accumulation was observed during cleaning. Screens for Units 14 and 15 were cleaned every subsequent morning prior to data collection until project completion. Differential head measurements were taken across the VBS in the active gatewell during data collection. These measurements are recorded on the daily conditions summaries in Appendix B.

Flow conditions were confirmed with the Bonneville Dam control room prior to equipment deployment each day and were rechecked occasionally throughout data collection. A graph of unit flow rates is included in the daily conditions summaries in Appendix B.

2.5 Data Collection

The local Cartesian coordinate origin (0,0,0) is located at Elevation 0 feet above sea level on the face of the VBS screen at the northern edge (*i.e.* Washington side) of each gatewell. Data were collected in two grids. The Fine Resolution Grid consists of 16 horizontal measurements taken at one foot vertical spacing between Elevations 31 (or as low as possible) and 56. The Coarse Resolution Grid consists of 16 horizontal measurements taken at two foot vertical spacing between Elevations 58 and 76 (or the water surface elevation). The data were collected approximately 2” from the VBS’s lateral extents and 14” on center for seven (7) equal spaces towards the center of the VBS. All data points were located 0.65 ft. from the face of the VBS. This measurement layout permits a closer spacing near the edges of the VBS while avoiding measuring the velocity in front of structural members. See Figure 2-3 and Figure 2-4 for a graphical illustration of the data measurement points.

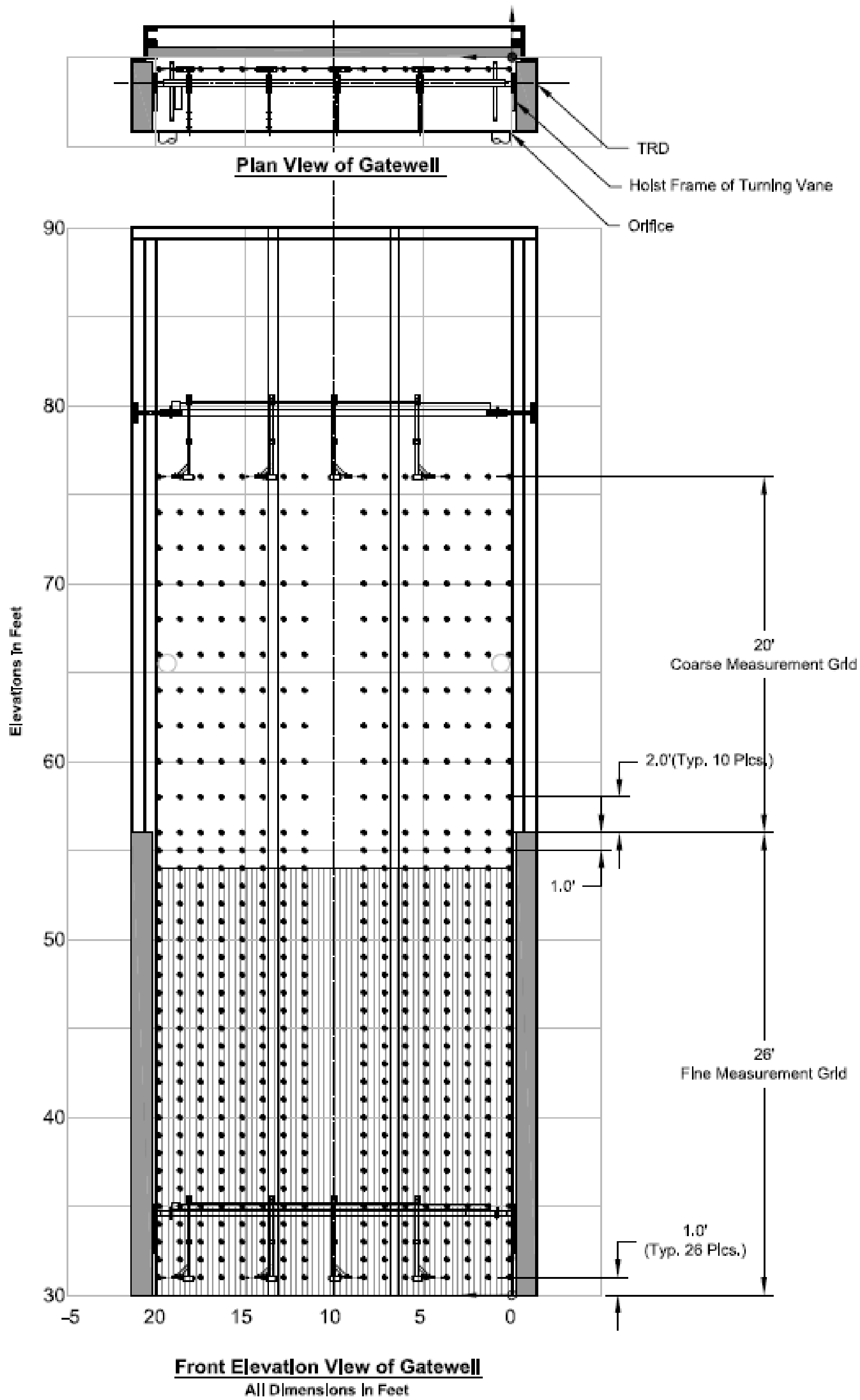


Figure 2-4 Measurement Locations

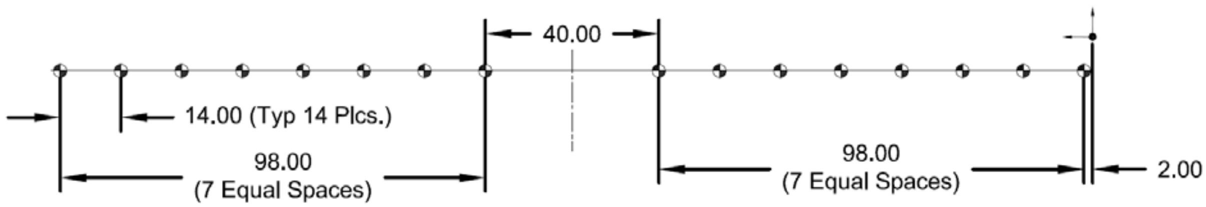


Figure 2-5 Horizontal Measurement Spacing

(Units provided in inches)

Once the traversing beam was clamped at the desired elevation, the motion program initiated movement of the beam from a "home" position, which correlated with the probes being centered within the gatewell. The motion program traversed the probes to the northern most position, position 1. Once the beam reached position 1 the data collection program began. Upon completion of all four traversing positions, the beam returned to the home position and the data collection program was stopped. A continuous time series of velocity data were collected for each meter for each elevation.

Data were collected at a sampling frequency of 25 Hz for a minimum of 120 seconds (3,000 data points) at each measurement location. The time for the traversing beam to move between positions was recorded and used for parsing the time series.

In addition to velocity data, the following information was collected each day of field operations:

- Date and time
- The locations where measurements were taken
- Total river flow (cfs)
- Spillway flow (cfs)
- Powerhouse 2 flow (kcfs)
- Forebay pool elevation (ft)
- Tailrace pool elevation (ft)
- Water surface differential head in the gatewell across the VBS (ft)
- B2 corner collector (B2CC) status (on or off)
- Turbine intake extension (TIE) status (in or out)
- Number of orifices in test gatewell that are open (1 or 2) (and which orifice, if only one was open)

2.6 Data Processing

A data file was collected for each elevation per test condition. The data files were converted from binary files to text files using the Nortek Vectrino file conversion toolbox. All post-processing and figure creation was then conducted in Matlab software[1]. A Matlab script was utilized to parse out the time at which the ADVs were sampling while the traversing beam was at rest at each measurement location. A brief description of the overall scripted process is below.

---

[1] The scripts used for post-processing the data are being submitted separately for USACE use along with post-processed results.

2.6.1 Data Set Reduction

These files were read into Matlab and sorted into structured[2] data sets per the associated probe numbers. The naming convention utilized for the probes is as follows:

WA-1: The northernmost probe.

WA-2: The second most northern probe.

OR-2: The second most southern probe.

OR-1: The southernmost probe.

The data was then split further into the x, y, and z component velocities and simultaneously transformed into the USACE Cartesian coordinate system depicted in Figure 2-2. The data was then further parsed into each of the four (4) positions.

Positional parsing was accomplished by defining the beginning and ending of each of the following time segments and multiplying the relative time by the sampling frequency (25 Hz).For example:

Position 1: Zero to 120 seconds

Traverse 1: Translation between Position 1 and Position 2

Position 2: End of Traverse 1 plus 120 seconds

Traverse 2: Translation between Position 2 and Position 3

Position 3: End of Traverse 2 plus 120 seconds

Traverse 3: Translation between Position 3 and Position 4

Position 4: End of Traverse 3 plus 120 seconds

An example of the resulting variables for WA-1's x-component of velocity at Elevation 34 is as follows:

EL_34.WA1x1 – Elevation 34, WA-1 probe, x-component, 1st position

EL_34.WA1x2 – Elevation 34, WA-1 probe, x-component, 2nd position

EL_34.WA1x3 – Elevation 34, WA-1 probe, x-component, 3rd position

EL_34.WA1x4 – Elevation 34, WA-1 probe, x-component, 4th position

---

[2] A "structure" in Matlab is an array with specified fields and values. It is organizationally similar to using nested folders for organization, except the variables within the structure are called using the structure name, a dot, and then the variable. Ex. EL_34.WA1 is the variable WA1 under the structure EL_34.

Once the data were parsed into their respective velocity components per elevation per position, the data was post-processed for removal of spurious data points.

2.6.2 Outlier Testing and Post-Processing

ADV data may be adversely affected by the combined effects of:

- Signal aliasing
- Velocity fluctuations
- Poor water quality
- Deployment hardware vibrations
- Close proximity to a physical boundary
- Close proximity to other acoustic sources (such as other ADVs)
- Electrical noise
- Large debris passing through the measurement volume.

These influences may result in a velocity signal that exhibits *noise* in the form of velocity spikes (see Photo 2-6). The Signal-to-Noise (SNR) ratio should be above 10 decibels and the correlation percentage should be above 60% at a minimum.

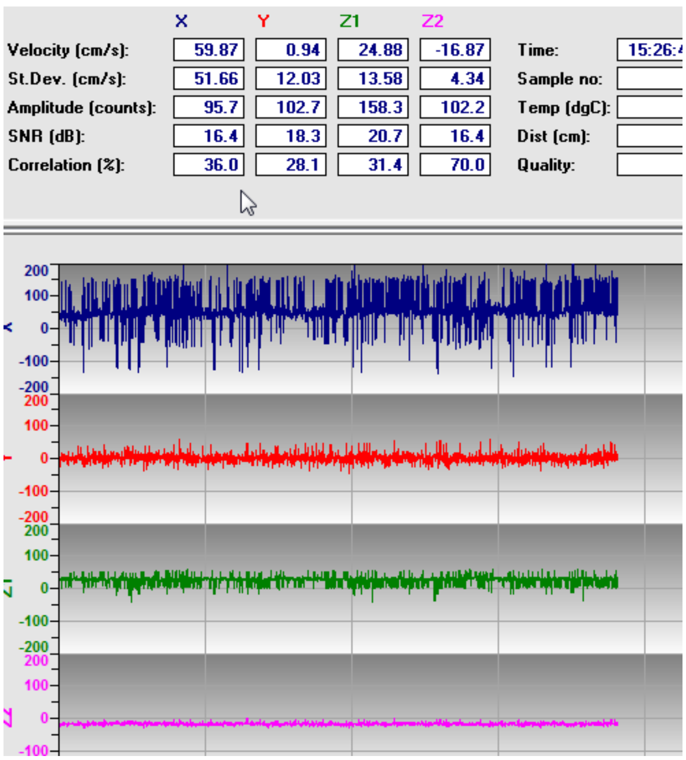


Photo 2-6 Example of Noisy Data

The velocity data were collected using settings which permit the highest SNR and correlation percentage as possible. However, even when collecting very *clean* data, post-processing helps to reduce unwanted influences of noise. To remove spikes from the time series, a phase-space thresholding method was employed. This method proved to be more effective at reducing spurious data points in the data time series than the acceleration threshold filter used by PNNL for post-processing field data from 2011.

2.6.2.1 Acceleration Filter

The acceleration threshold filter employed in 2011 by PNNL is presented below. For consecutive velocity measurements, the acceleration of the *n*th sample is given by

$$A_{i,n} = \frac{v_{i,n} - v_{i,(n-1)}}{\Delta t} \tag{2.2}$$

where *i* is the x, y, or z direction and n is the sample number.

The acceleration threshold, filter is given by

$$\lambda = \sqrt{2 * \ln (N)} \tag{2.3}$$

where (*N*) is the number of samples and lambda (λ) is an acceleration parameter which is dependent on *N*.

For a data set consisting of N independent, normally distributed, random variables, with zero mean and standard deviation, the expected maximum, or Universal threshold, value is given by the equation (Donoho and Johnstone, 1994).

$$Max = \lambda * \sigma \tag{2.4}$$

where σ is the standard deviation.

The standard deviation of the acceleration is given by

$$\sigma_{A_i} = \sqrt{\frac{\Sigma\left(A_{i,n} - \overline{A_i}\right)}{N-1}} \tag{2.5}$$

$$\overline{A_\iota} = \frac{\Sigma A_{i.n}}{N} \tag{2.6}$$

Spikes in the data are identified when a data point corresponds with an acceleration in the data beyond the expected value (see Eqn. 2.4). When a spike occurs, the data is replaced with the interpolated value as determined between the nearest valid data points. The data were processed using the acceleration filter until no spikes are embedded in the time series.

2.6.2.2 Phase-Space Thresholding Method

The method used for despiking the 2013 data is presented below. The method uses phase-space plots in which the variable and surrogate of its derivatives (the numerator of the 1st and 2nd derivatives divided by 2) are plotted against each other (Goring and Nikora, 2002). The method assumes that good data lie within a cluster defined within the Universal threshold and that spikes outside of these clusters are bad data that need to be replaced. The cluster is defined by an ellipsoid whose major and minor axes are defined by the respective Universal thresholds. Utilizing the 1st and 2nd derivatives of the original signal allow of isolation of higher frequency components that may be attributed to aliasing of the Doppler signal.

Before the following steps are employed, the overall mean of the signal is removed such that despiking operations are conducted on a time series with a zero mean.

The surrogates for the first and second derivatives are:

$$\Delta u_i = (u_{i+1} - u_{i-1})/2 \tag{2.7}$$

$$\Delta^2 u_i = (\Delta u_{i+1} - \Delta u_{i-1})/2 \tag{2.8}$$

Where (u_{i+1}) is the ith+1 element in the velocity time series of *u,* and Δ is the first derivative.

Then, the expected maximum for the data and its surrogate derivatives are calculated from Equation 2.4.

The rotational angle of the ellipsoid's principal axis is defined as follows:

For $\Delta^2 u_i$ versus u_i,

$$\theta = tan^{-1}\left(\sum u_i \Delta^2 u_i \Big/ \sum u_i^2 \right) \tag{2.9}$$

For $\Delta^2 u_i$ versus Δu_i and Δu_i *versus* u_i, θ=0 because of symmetry.

For $\Delta^2 u_i$ versus u_i, the major axis, a, and the minor axis, b, are defined as:

$$a = \left(\frac{\left(\lambda_u \sigma_{\Delta u}^2\right)^2 - (\lambda_u \sigma_u)^2 * cot\theta}{(sin^2\theta - cot^2\theta * cos^2\theta)} \right)^{1/2} \tag{2.10}$$

$$b = \left(\frac{(\lambda_u \sigma_u)^2 - a^2 cos^2\theta}{sin^2\theta} \right)^{1/2} \tag{2.11}$$

For Δu_i *versus* u_i, the major axis is $\lambda_u \sigma_u$ and the minor axis is $\lambda_u \sigma_{\Delta u}$. For $\Delta^2 u_i$ *versus* Δu_i, the major axis is $\lambda_u \sigma_{\Delta u}$ and the minor axis is $\lambda_u \sigma_{\Delta^2 u}$.

Subsequently, for each phase-space plot, the points that lie outside the ellipsoids are identified as spikes and replaced with the overall mean of the signal, which is zero. The original mean of the signal is then added back to the time series and compared to the new mean of the filtered time series.

The above despiking procedure is then repeated until one of the following criteria are met:

1) The number of identified outliers is two orders of magnitude smaller than the number of data points.
2) The change in the previous iteration's mean is less than 0.1-percent different from the current iteration's mean (convergence test).
3) The number of despiking loops has exceeded 100 iterations.

2.6.3 Despiking Results

The results of despiking with the acceleration threshold method and the phase-space threshold method are presented in Figure 2-6 and Table 2-3. It is clear that the phase-space method removes more spurious spikes in the data. Refer to Appendix D for a detailed discussion of data outliers removed.

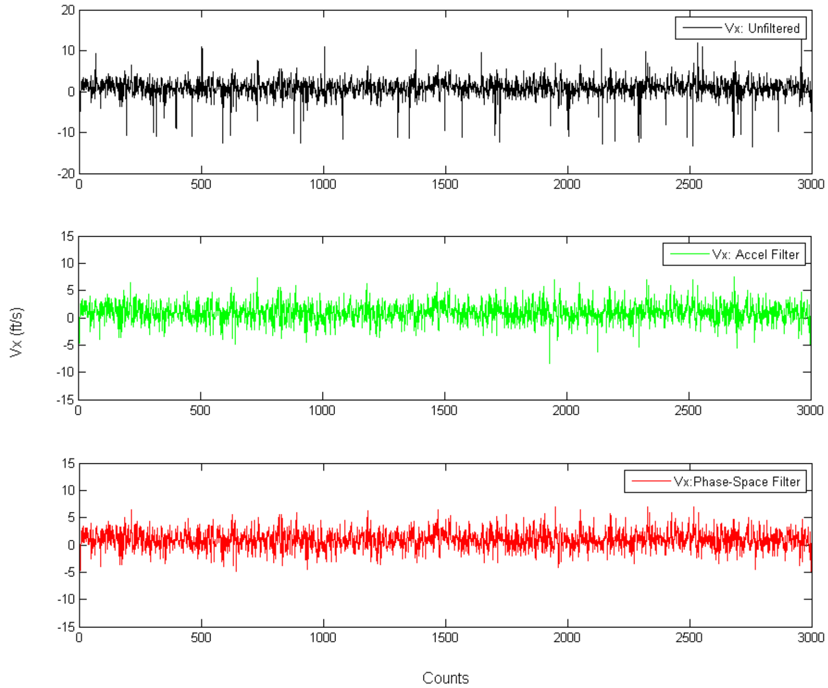


Figure 2-6 Pre and post-processed time series

Table 2-3 Pre and post-processed time series statistics (14A High Flow, El 34, WA-1, pos 1)

	Vx (ft/s) Unfiltered	Vx (ft/s) Acceleration Filter	Vx (ft/s) Phase-Space Threshold Filter
Min	-13.61	-8.35	-4.83
Max	12.98	7.44	7.05
Mean	0.85	0.93	0.97
Std. Dev.	2.21	1.59	1.55
Range	26.59	15.79	11.86

An example of the phase-space despiking operation is presented for the WA-1 probe's, Elevation 34 ft., x-component velocity, 1st position, during high flow testing in Gatewell 14A (which had the TRD installed). Figure 2-7 presents the unfiltered data in its respective phase-space plots. Figure 2-8 presents an example of the filter identifying the spurious data points. Figure 2-9 presents the results of the post-processed time-series in its respective phase-space plots.

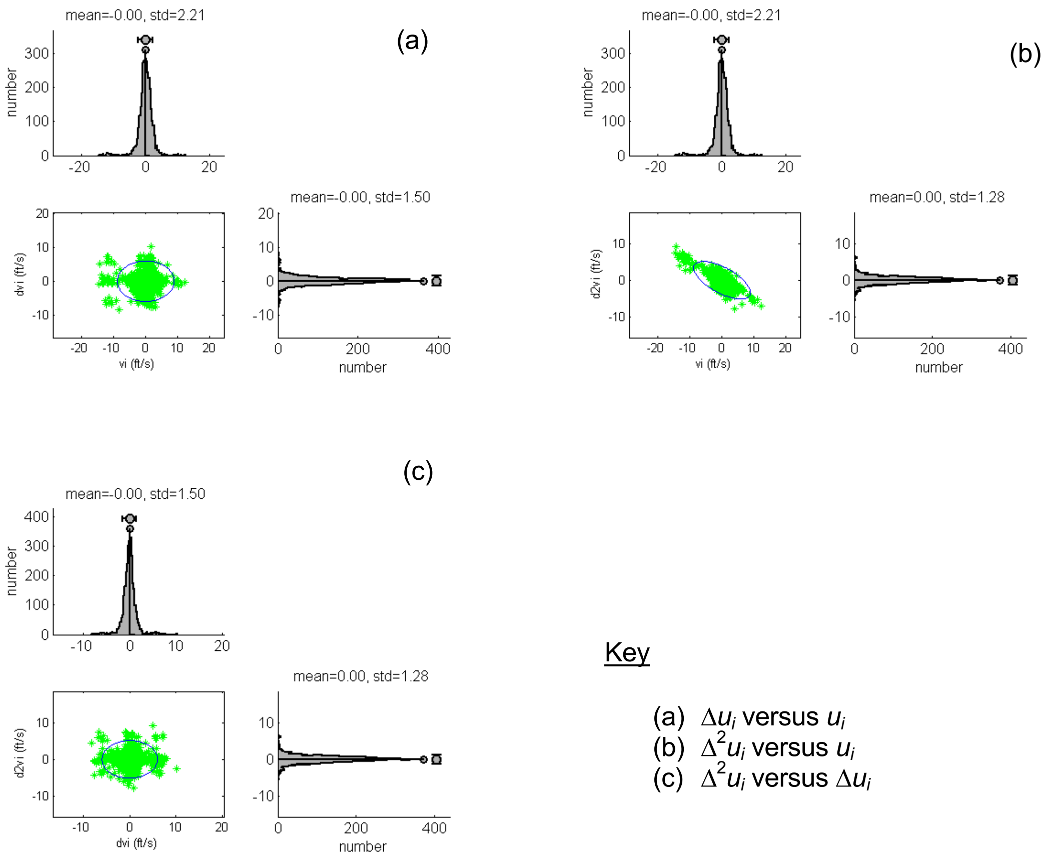


Figure 2-7 Noisy Data (14A High Flow, El 34, WA-1, pos 1)

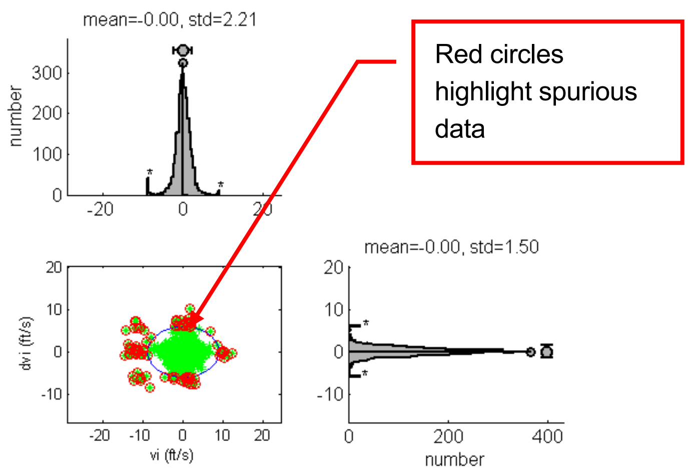


Figure 2-8 Identified Spikes (14A High Flow, El 34, WA-1, pos 1)

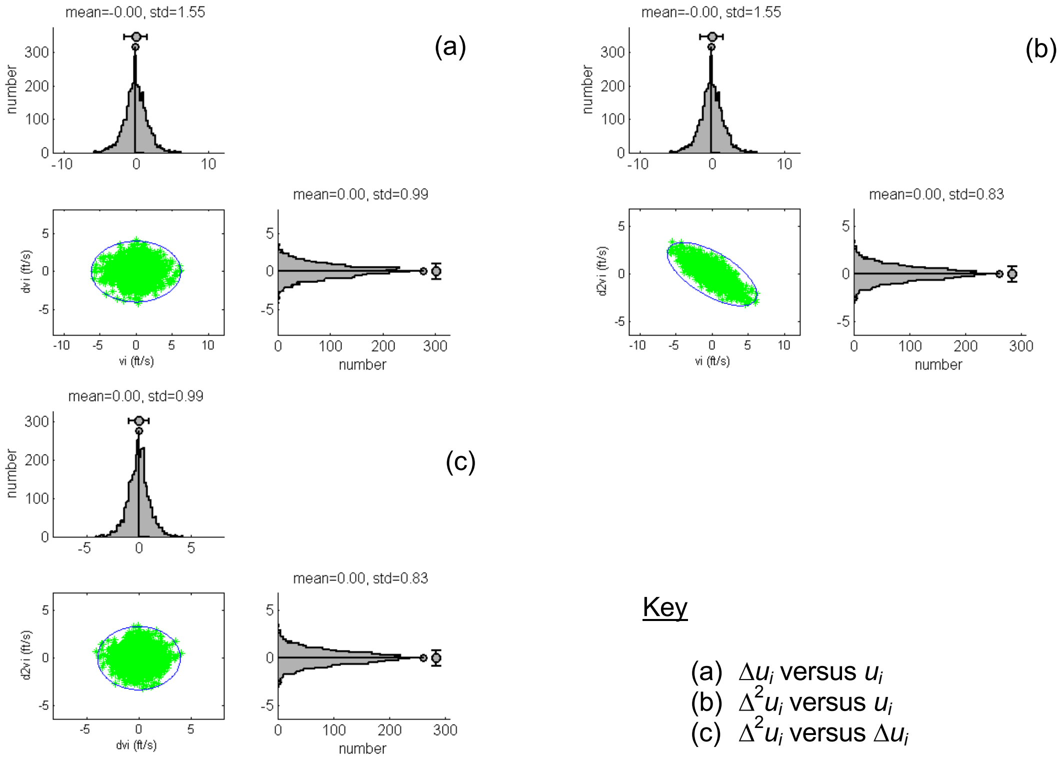


Figure 2-9 Despiked data (14A High Flow, El 34, WA-1, pos 1)

2.6.4 Statistical Analysis

Once the data were sufficiently processed, the mean velocity components and turbulence were computed. The root mean square (RMS) of the velocity fluctuations about the mean (mathematically equal to the standard deviation about the mean of the samples) was calculated as an indicator for turbulence.

$$RMS_i = \sqrt{\frac{\Sigma(v_{i,n} - \bar{v}_i)^2}{N}} \tag{2.12}$$

$$RMS = \sqrt{{RMS_x}^2 + {RMS_y}^2 + {RMS_z}^2} \tag{2.13}$$

Color contour plots of the mean x-component velocity, and the total RMS are presented in Section 4.0. The x-component velocity is plotted along with the directional sweeping velocity in the plane parallel to the VBS.

2.6.5 Fail Testing Post-Processed data

Post-processing with a despiking filter may still provide questionable results if the initial time series collected was bad. The causes for bad readings from an ADV were listed in Section 2.6.2 and are repeated here:

- Signal aliasing
- Velocity fluctuations
- Poor water quality
- Deployment hardware vibrations

- Close proximity to a physical boundary
- Close proximity to other acoustic sources (such as other ADVs)
- Electrical noise
- Large debris passing through the measurement volume.

Extreme velocity fluctuations, poor water quality (such as aerated water), and deployment hardware vibrations are the most difficult causes of poor data to avoid once deployed. Even after despiking the original data, it is possible to simply have started with bad data. A good indication of this is if the RMS of velocity fluctuation is greater than 2 times the mean of the resultant, or if the mean of the velocity is zero but contains a large velocity fluctuation. The following equation describes the use of the fail test.

$$If\ \frac{RMS}{V_{tot}} > 2, than\ Fail \qquad (2.14)$$

The tabulated results presented in Appendix C contain grey colored cells where the data did not pass the described fail test. The results discussed below do not include the data that did not pass the fail test, with exception of the displayed contour plots.

3.0 Results

Water velocity measurements were collected in gatewell slots 14A, 15A, and 14C. All measurements were collected 0.65 ft. from the eastern (upstream) face of the VBS. Measurements conducted in slots 14A and 15A were performed for low, medium, and high turbine flow rates (approximately 12, 15, and 17 kcfs). Measurements conducted in slot 14C were only performed for the high flow condition. Measurements were collected starting from the lower elevations and progressing upwards during tests with low flows in gatewell slots 14A and 15A and for the high flow test in slot 14A. Otherwise the tests were conducted starting at the water surface and progressing downwards for time efficiency purposes. Differential head measurements taken across the VBS during data collection and visual inspection of the VBS during cleaning indicated that debris accumulation during data collection was minimal.

It should be noted that data at locations identified by the fail test were not removed from the contour plots presented in the sections below.

3.1 Gatewell Slot 14A

Gatewell slot 14A had TRDs installed for all measurements. Deployment of the instrument beam was conducted by engaging the pusher mechanism in the retracted position for elevations up to Elevation 56 ft (see Photo 3-1), until the mechanism could be extended to the embedded steel guide rails without interfering with the TRD pendant (see Photo 3-2). Measurements conducted between Elevations 52 and 55 ft. were conducted without engaging the pusher mechanism to stabilize lateral movement, in order to avoid complications with beam retraction. However the instrument beam was still traversed to measure at the predefined measurement locations. On-site observations of velocity data collection indicated leaving the beam unclamped at these elevations had negligible effect on results.

All test conditions exhibited higher screen approach velocity (X-component) between elevations 52 and 56 ft. than elsewhere in the gatewell. Root mean square (RMS) of velocity fluctuations were notably higher at the lateral extents of the VBS, near the TRDs, and consistently higher at lower elevations than elsewhere in the gatewell. These observations correlate with real-time observations of the measurements.

A vertical band of reduced approach velocities (Vx) relative to adjacent values was noted on the Oregon side below elevation 50 and approximately between horizontal positions 12 and 16 feet. This band is present for all three test conditions in gatewell 14A. Several possible causes were considered, including errors in equipment setup or deployment, data reporting, flow obstructions, turbulence, and momentum associated with higher sweeping velocity. It was determined that setup and deployment errors were not likely to result in the observed pattern. Deductive analysis results in the conclusion that the observed low velocity band is an accurate representation of flow conditions within the gatewell at the time of data collection. A definitive determination of the cause of the low approach velocity band would require further study.

Tabulated data of all components, their respective RMS, and the three-dimensional resultant velocity and RMS are included in Appendix C.

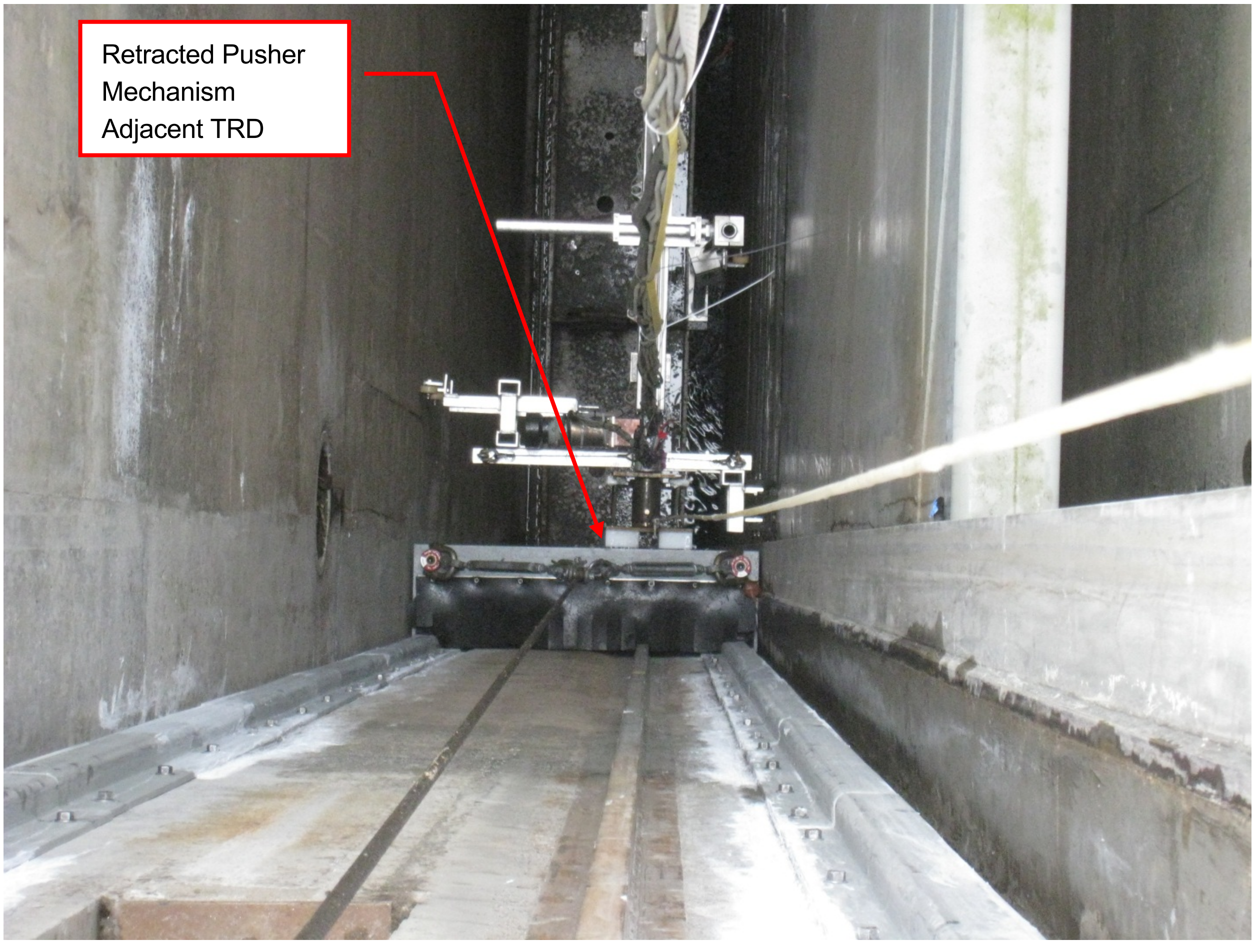


Photo 3-1 Pusher Mechanism Retracted Adjacent to TRD (Elevation 54 ft.)during Dry Run

Photo 3-2 Pusher Mechanism Extended above TRD (Elevation 56 ft.) during Dry Run

3.1.1 Slot 14A – Low Flow

The through screen velocity (Vx – see Figure 3-1) ranged from 0.09 to 1.23 ft/s between elevations 33 ft. and 56 ft., with an average of 0.49 ft/s. Sweeping velocity (resultant Y-Z vector magnitude) ranged from 0.18 to 5.33 ft/s between elevations 33 ft. and 56 ft., with an average velocity of 2.55 ft/s. Total RMS values (Figure 3-2) ranged between 0.34 and 1.67 ft/s, with an average of 0.81 ft/s between elevations 33 ft. and 56 ft.

Eight data points did not pass the fail test. These points are all located above El. 56 ft., where the velocity is lower and more directionally sporadic than elsewhere in the gatewell.

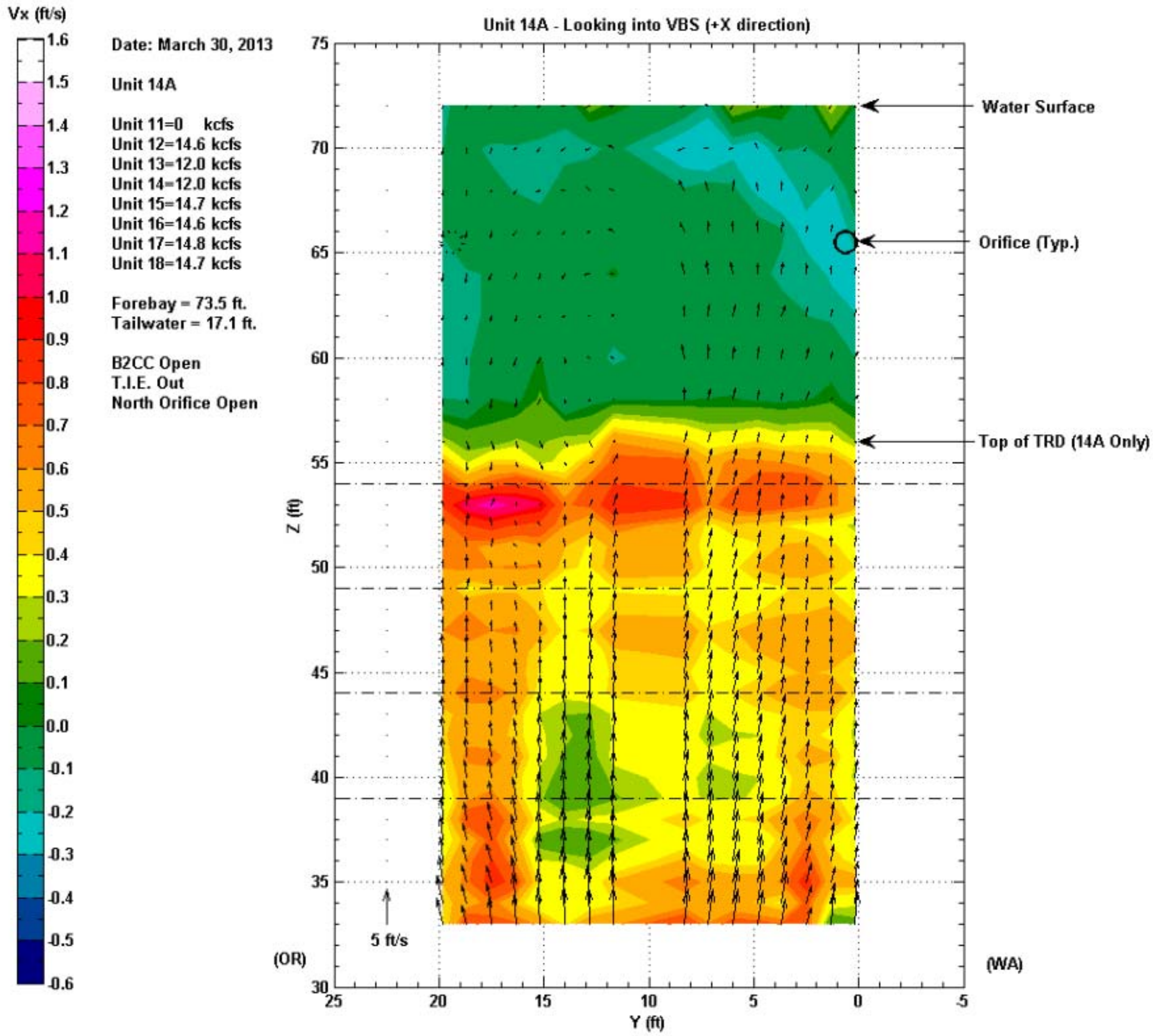


Figure 3-1 X-direction velocity contour at Unit 14A with Y-Z directional velocity, Low Flow

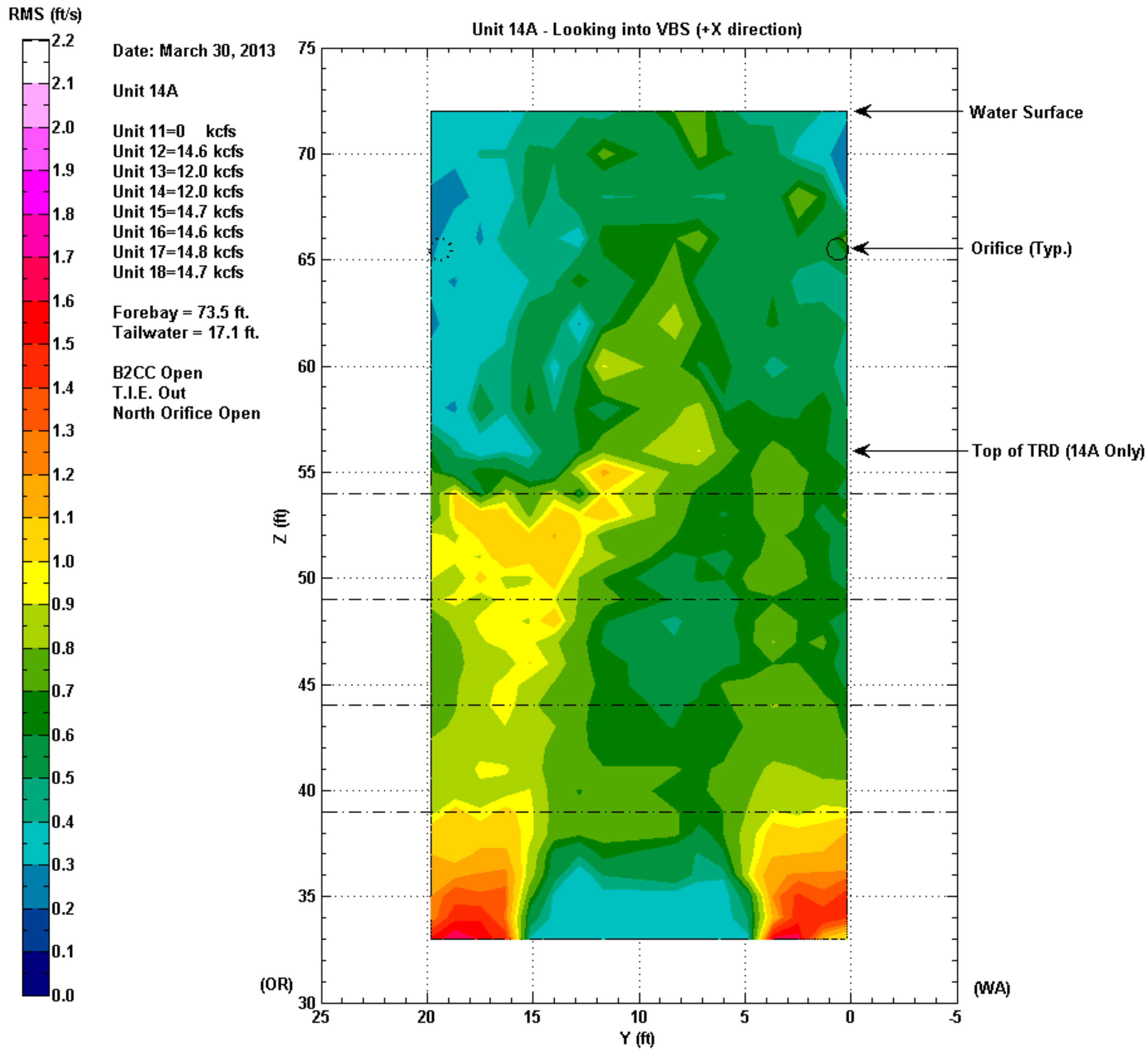


Figure 3-2 Root mean square velocity fluctuation contour at Unit 14A, Low Flow

3.1.2 Slot 14A – Medium Flow

The through screen velocity (Vx – see Figure 3-3) ranged from 0.16 to 1.44 ft/s between elevations 33 ft. and 56 ft., with an average of 0.60 ft/s. Sweeping velocity (resultant Y-Z vector magnitude) ranged from 0.03 to 6.30 ft/s between elevations 33 ft. and 56 ft., with an average velocity of 2.93 ft/s. Total RMS values (Figure 3-4) ranged between 0.40 and 4.42 ft/s, with an average of 1.02 ft/s between elevations 33 ft. and 56 ft.

Twenty-two (22) data points did not pass the fail test. Nine of these points are located above El. 56 ft., where the velocity is lower and more directionally sporadic than elsewhere in the gatewell. A cluster of 12 data points in the lower right-hand region of the figure and tables may be evidence of flow-induced vibration of probe WA-1.

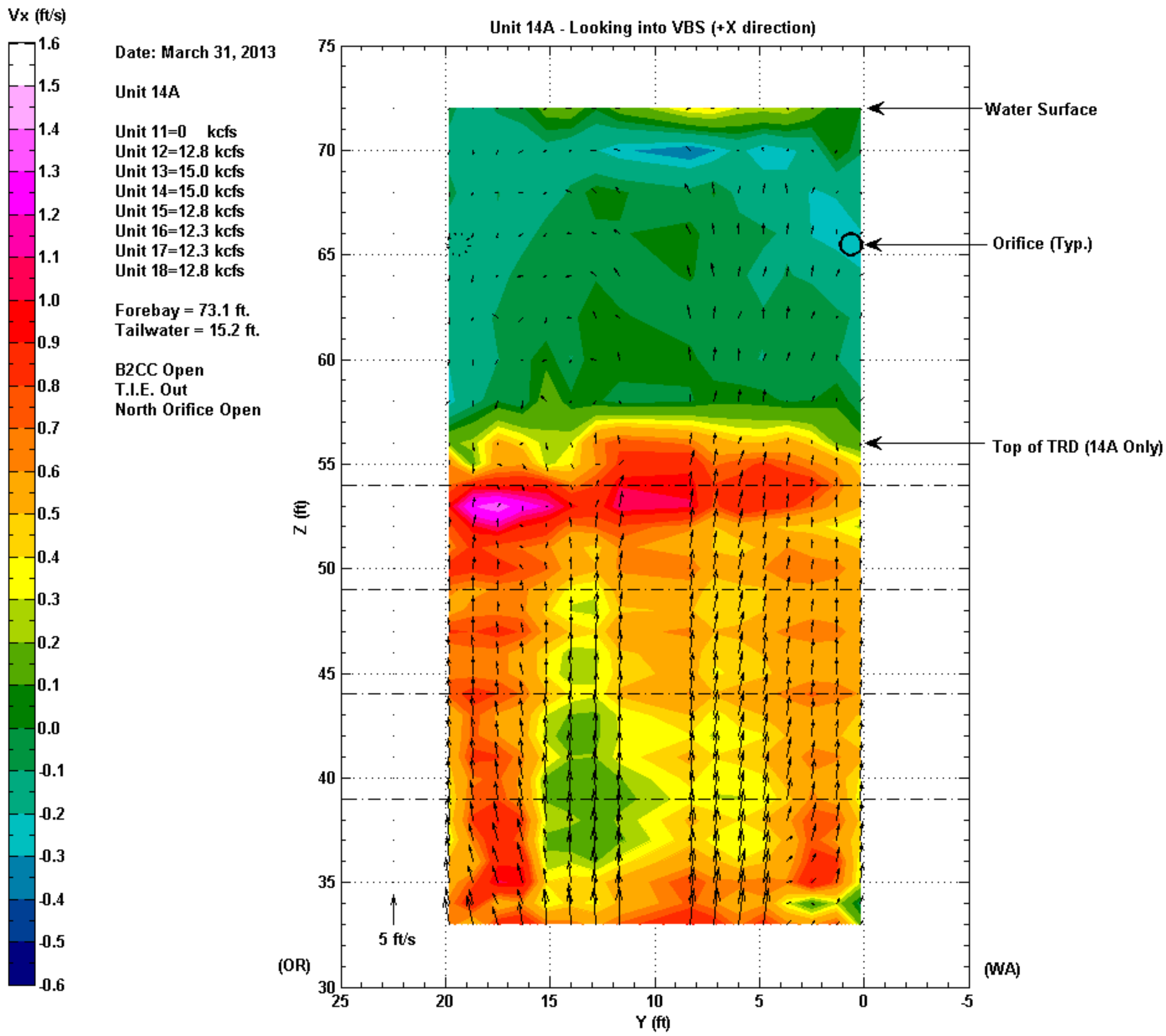


Figure 3-3 X-direction velocity contour at Unit 14A with Y-Z directional velocity, Medium Flow

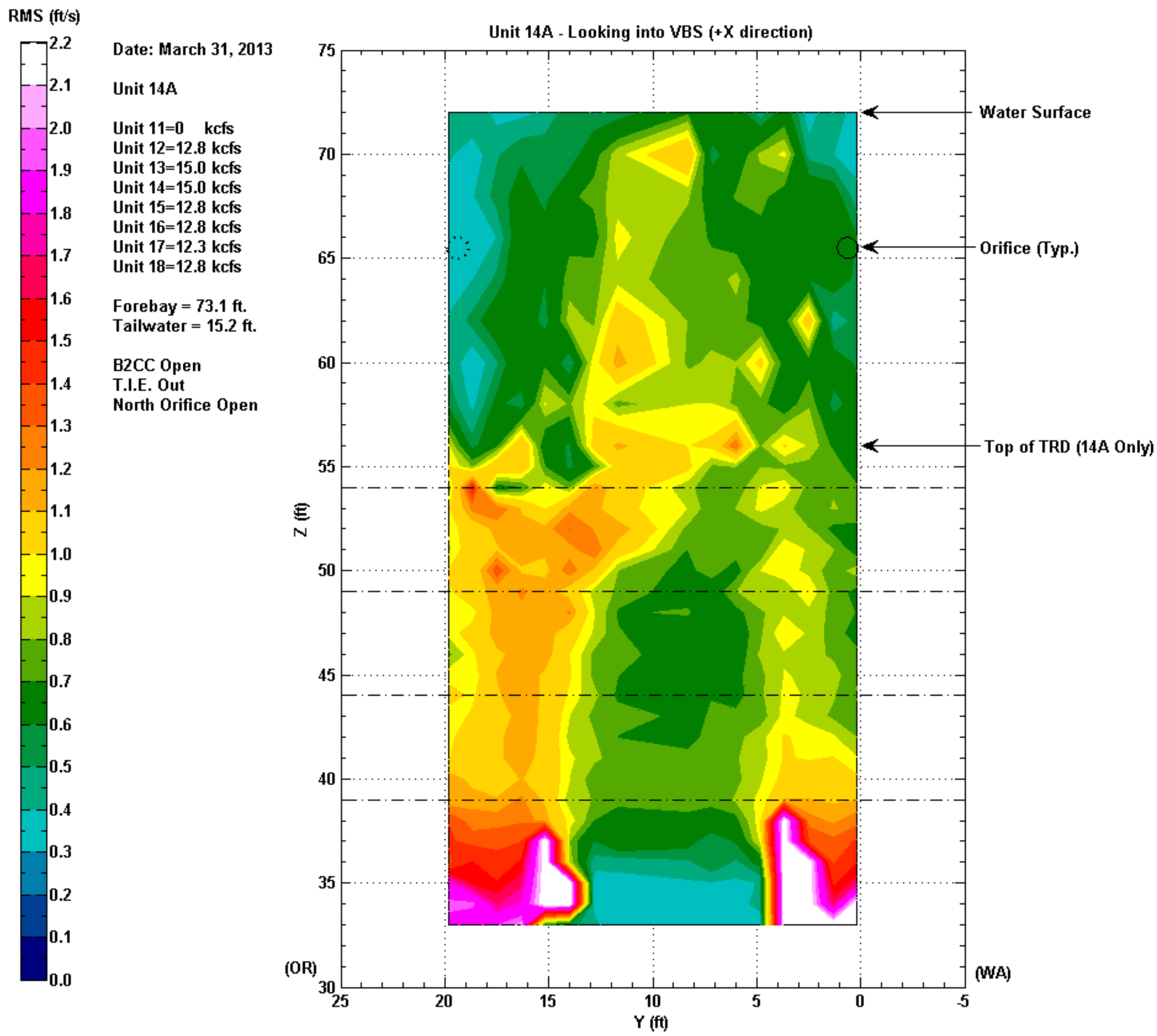


Figure 3-4   Root mean square velocity fluctuation contour at Unit 14A, Medium Flow

3.1.3 Slot 14A – High Flow

Due to drag force induced by high sweeping flows destabilizing the instrument beam, the beam was not traversed between elevations 34 ft. and 36 ft. These results are tabulated separately in Appendix C and are not included in the figures below.

The through screen velocity (Vx – see Figure 3-5) ranged from 0.07 to 1.62 ft/s between elevations 37 ft. and 56 ft., with an average of 0.73 ft/s. Sweeping velocity (resultant Y-Z vector magnitude) ranged from 0.12 to 6.68 ft/s between elevations 37 ft. and 56 ft., with an average velocity of 3.26 ft/s. Total RMS values (Figure 3-6) ranged between 0.61 and 5.25 ft/s, with an average of 1.23 ft/s between elevations 37 ft. and 56 ft.

Seven data points did not pass the fail test. These points are all located above El. 56 ft., where the velocity is lower and more directionally sporadic than elsewhere in the gatewell.

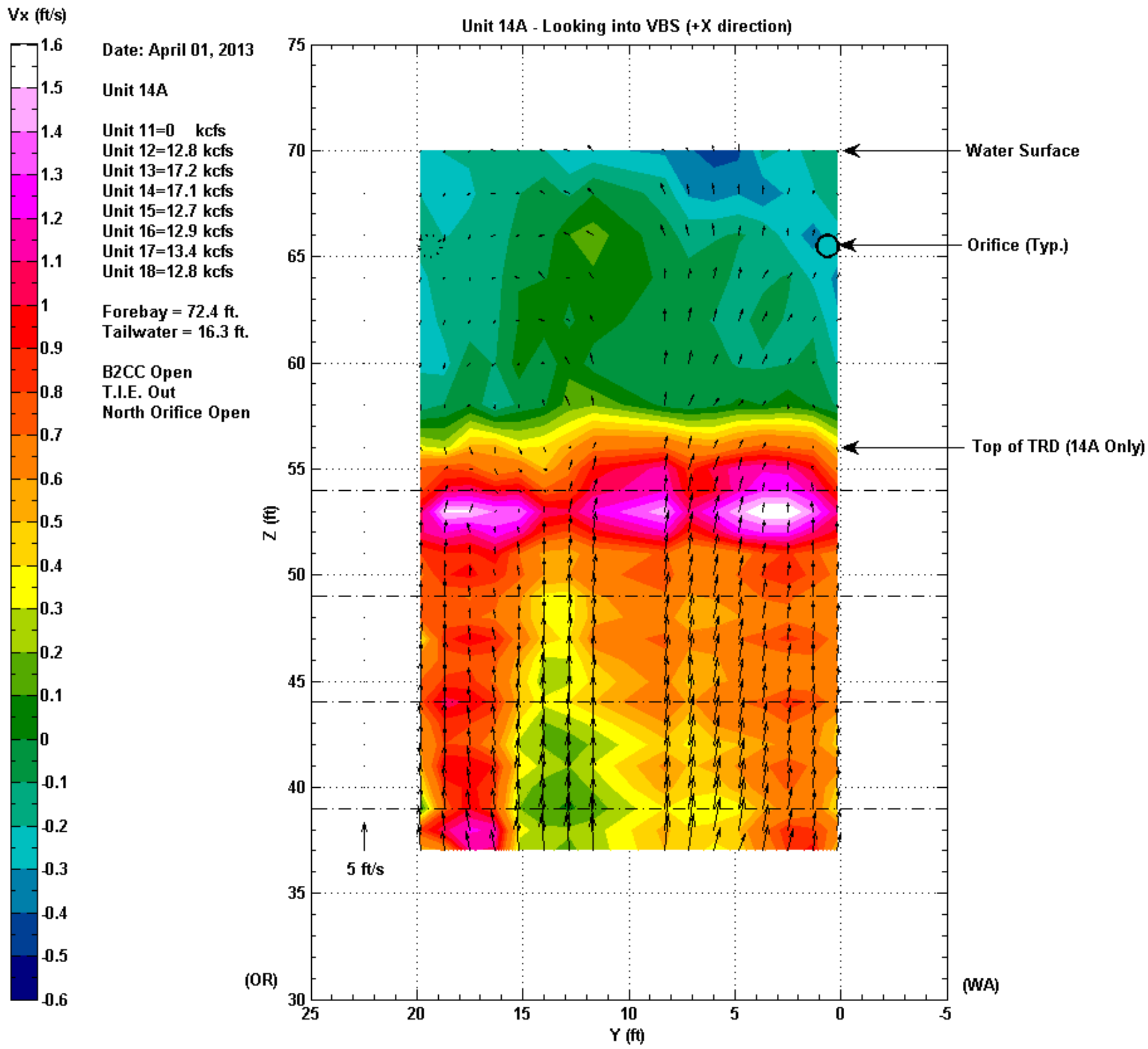


Figure 3-5 X-direction velocity contour at Unit 14A with Y-Z directional velocity, High Flow

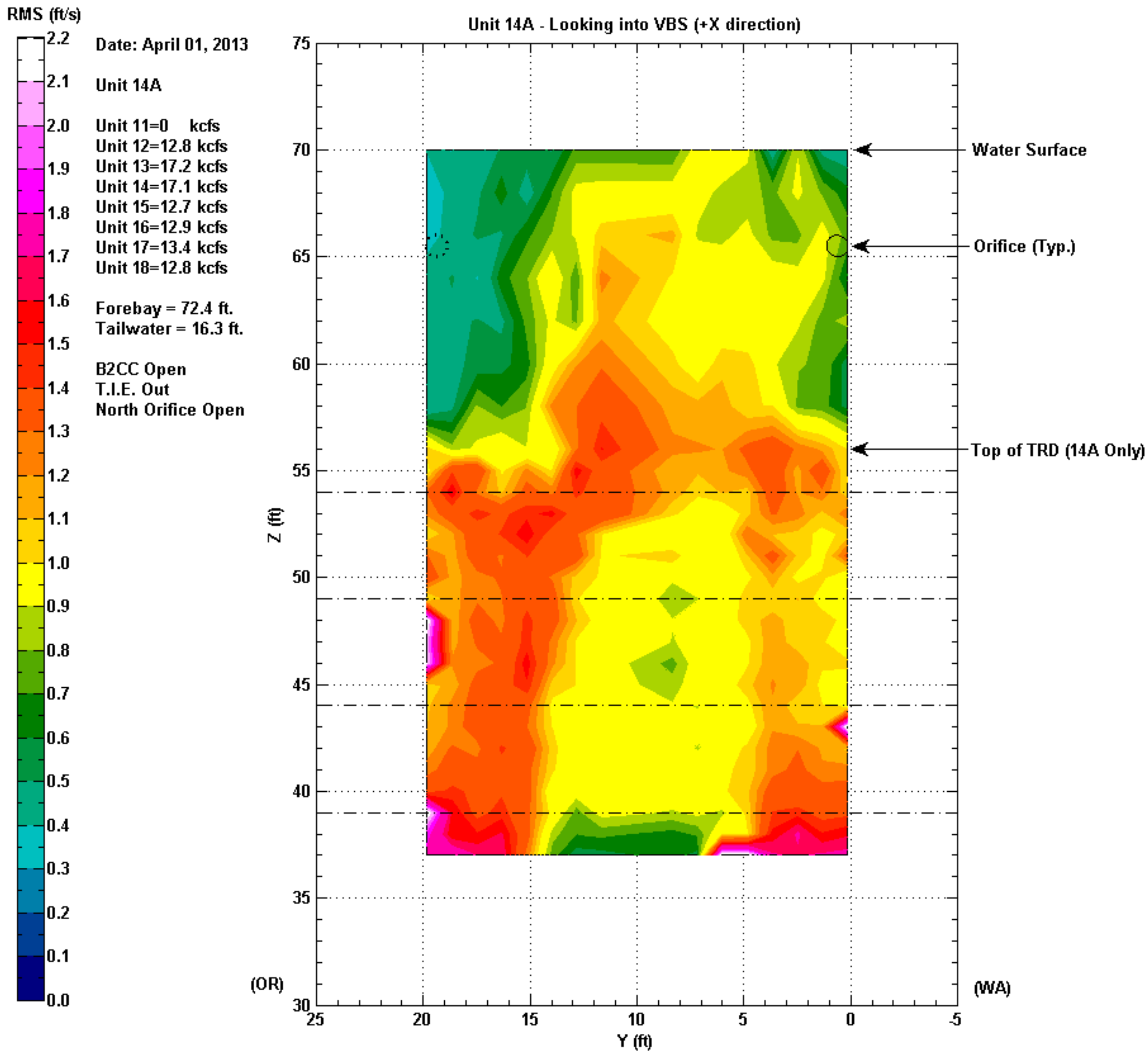


Figure 3-6   Root mean square velocity fluctuation contour at Unit 14A, High Flow

3.2 Gatewell Slot 15A

Gatewell slot 15A did not have a TRD installed. Deployment of the instrument beam was conducted using the pusher mechanism extended (see Photo 3-3) and was activated for all elevations.

All test conditions exhibited higher through screen (X-component) velocity between elevations 54 and 56 ft than elsewhere in the gatewell. Root mean square (RMS) of velocity fluctuations were notably higher at the lateral extents of the VBS, and were consistently higher at lower elevations than elsewhere in the gatewell. These observations correlate with real-time observations of the measurements.

Tabulated data of all components, their respective RMS, and the three-dimensional resultant velocity and RMS are included in Appendix C.

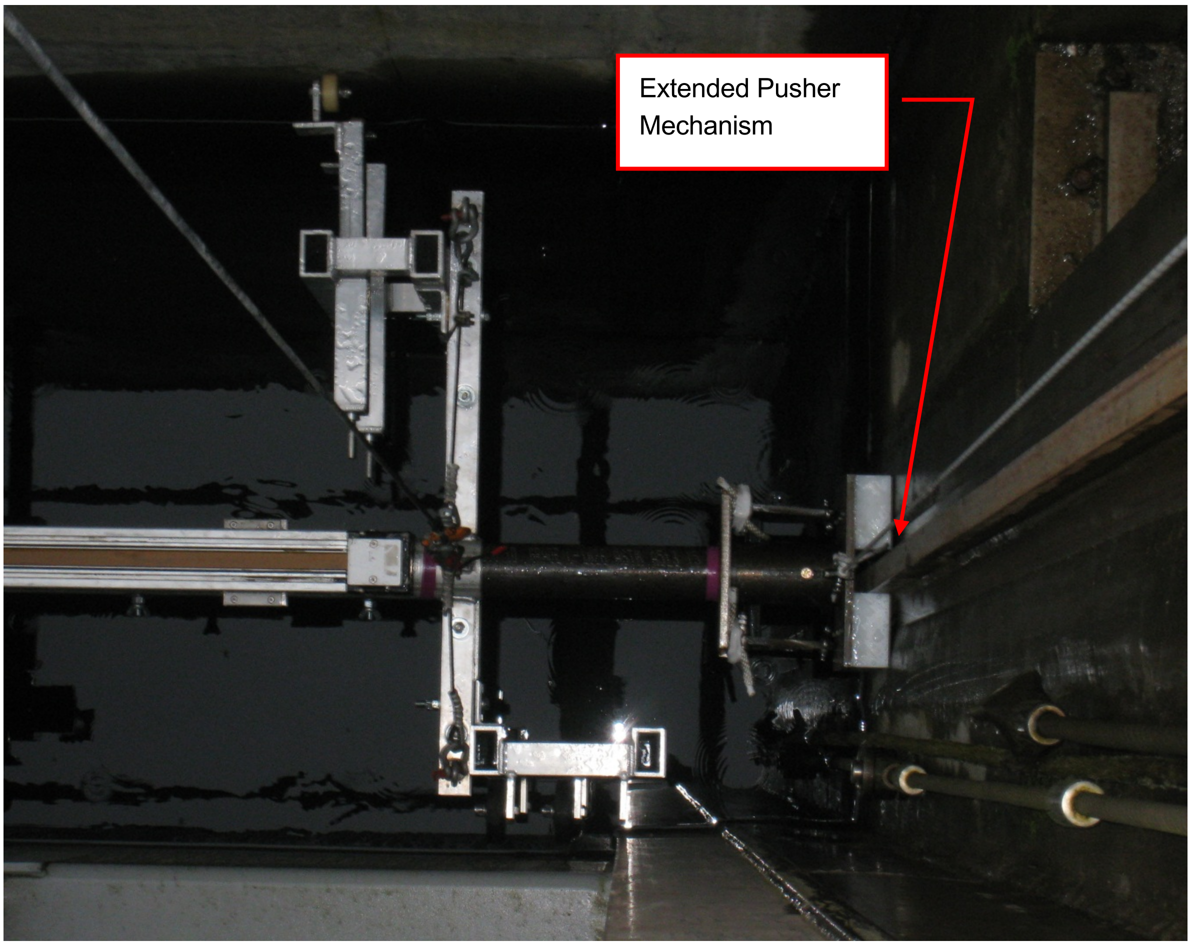


Photo 3-3 Pusher Mechanism Extended (above El. 72 ft.)

3.2.1 Slot 15A – Low Flow

The through screen velocity (Vx – see Figure 3-7) ranged from -0.14 to 1.05 ft/s between elevations 33 ft. and 56 ft., with an average of 0.48 ft/s. Sweeping velocity (resultant Y-Z vector magnitude) ranged from 0.10 to 4.83 ft/s between elevations 33 ft. and 56 ft., with an average velocity of 2.17 ft/s. Total RMS values (Figure 3-8) ranged between 0.35 and 2.13 ft/s, with an average of 0.81 ft/s between elevations 33 ft. and 56 ft.

Twenty-two data points did not pass the fail test. Eight of the points where located above El. 56 ft., where the velocity is lower and more directionally sporadic than elsewhere in the gatewell. The other fourteen points were mostly along the edges of the VBS, where turbulence was highest.

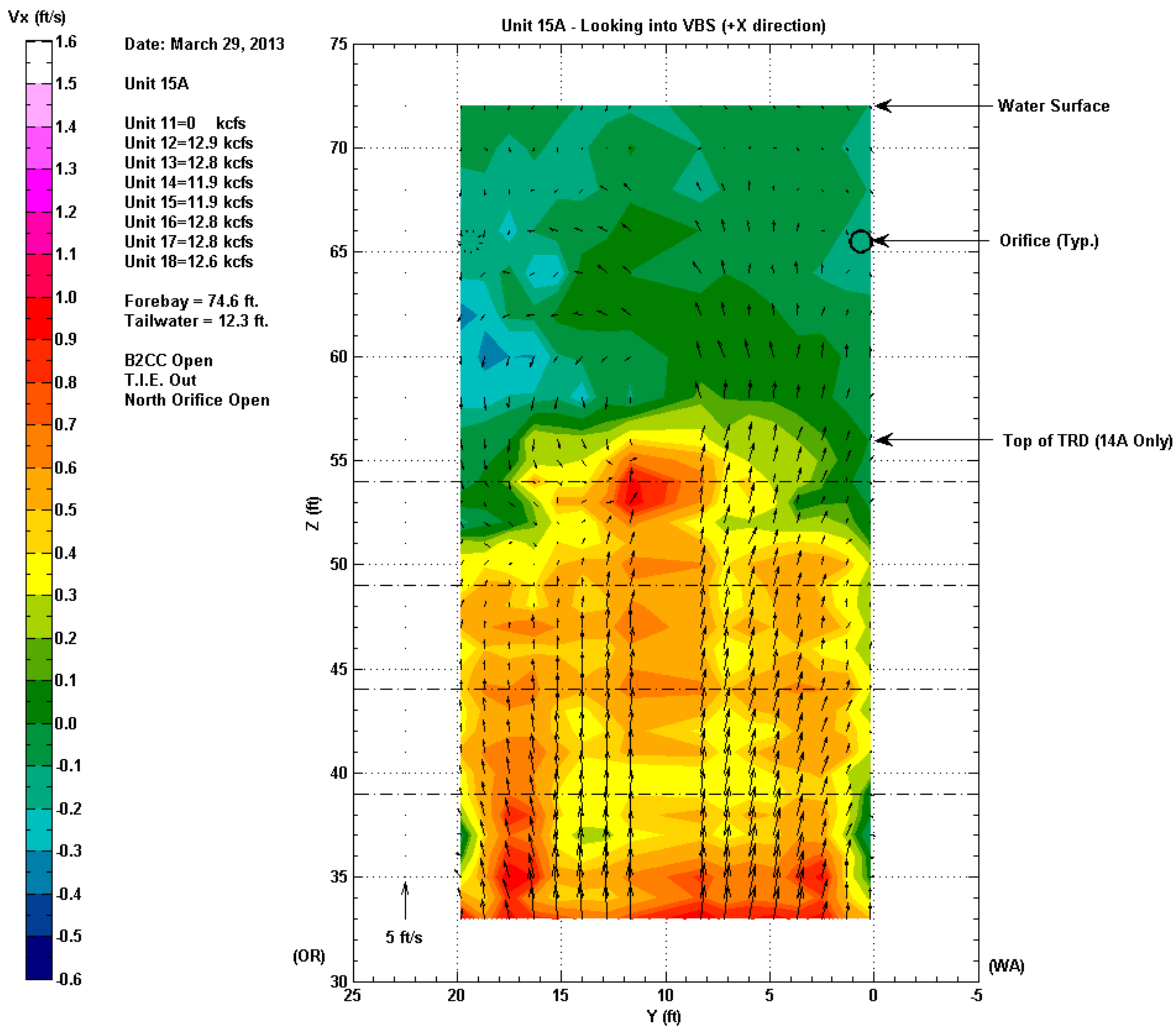


Figure 3-7 X-direction velocity contour at Unit 15A with Y-Z directional velocity, Low Flow

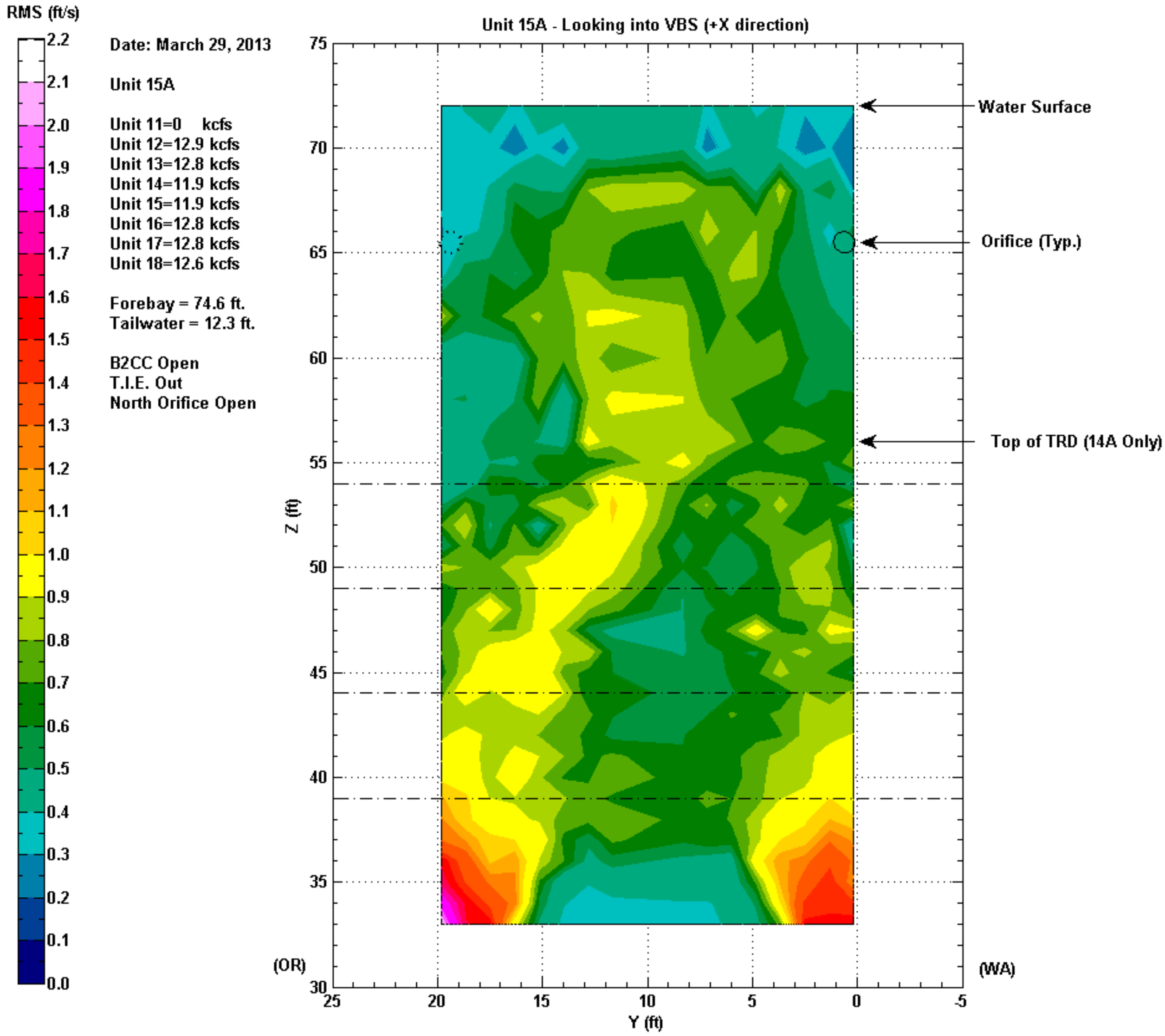


Figure 3-8 Root mean square velocity fluctuation contour at Unit 15A, Low Flow

3.2.2 Slot 15A – Medium Flow

The through screen velocity (Vx – see Figure 3-9) ranged from 0.02 to 1.41 ft/s between elevations 34 ft. and 56 ft., with an average of 0.67 ft/s. Sweeping velocity (resultant Y-Z vector magnitude) ranged from 0.29 to 6.15 ft/s between elevations 34 ft. and 56 ft., with an average velocity of 3.03 ft/s. Total RMS values (Figure 3-10) ranged between 0.41 and 5.08 ft/s, with an average of 1.03 ft/s between elevations 34 ft. and 56 ft.

Four data points did not pass the fail test. These points were all located above El. 56 ft., and three of them are near the surface flow along the Washington side of the gatewell.

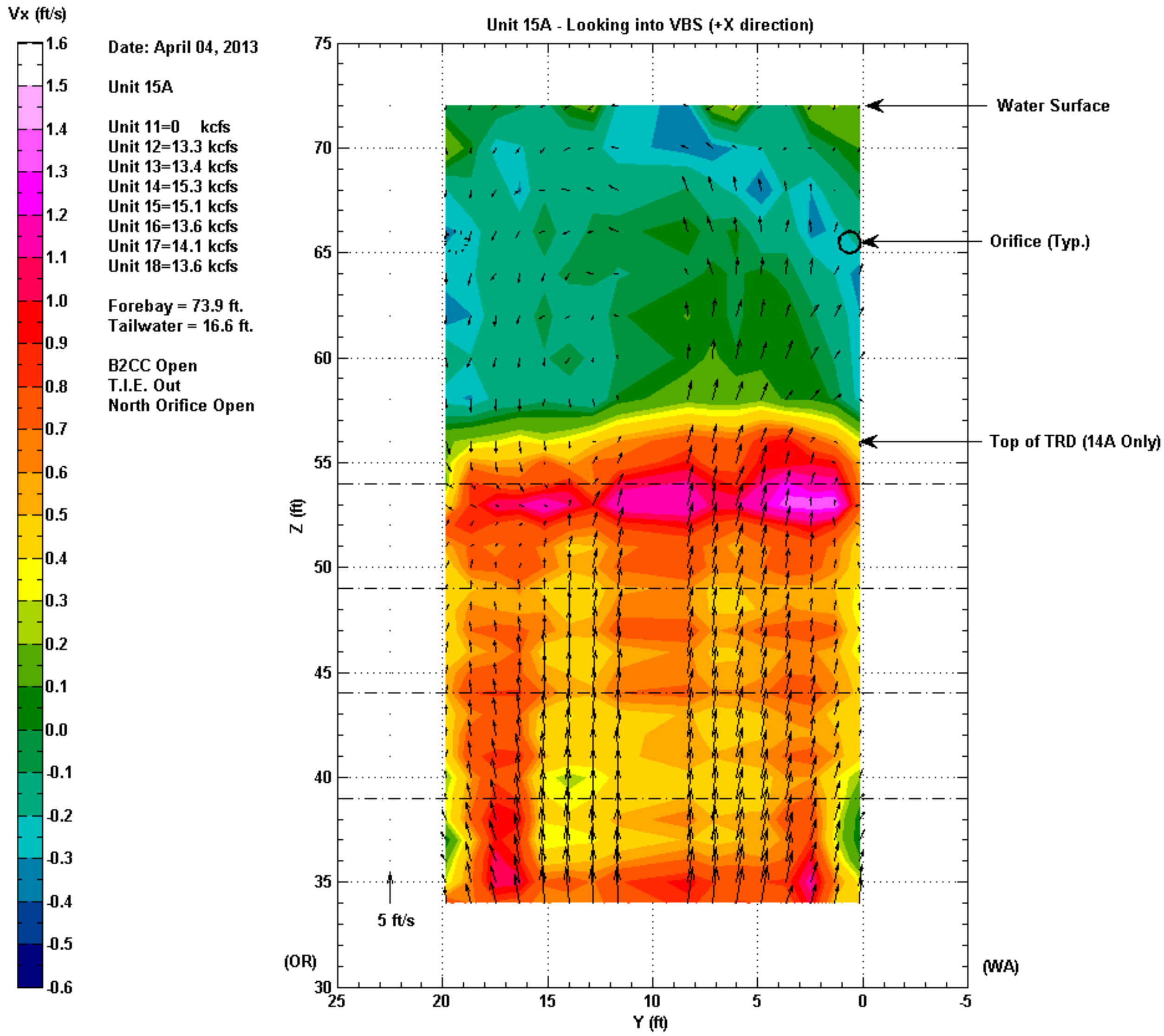


Figure 3-9 X-direction velocity contour at Unit 15A with Y-Z directional velocity, Medium Flow

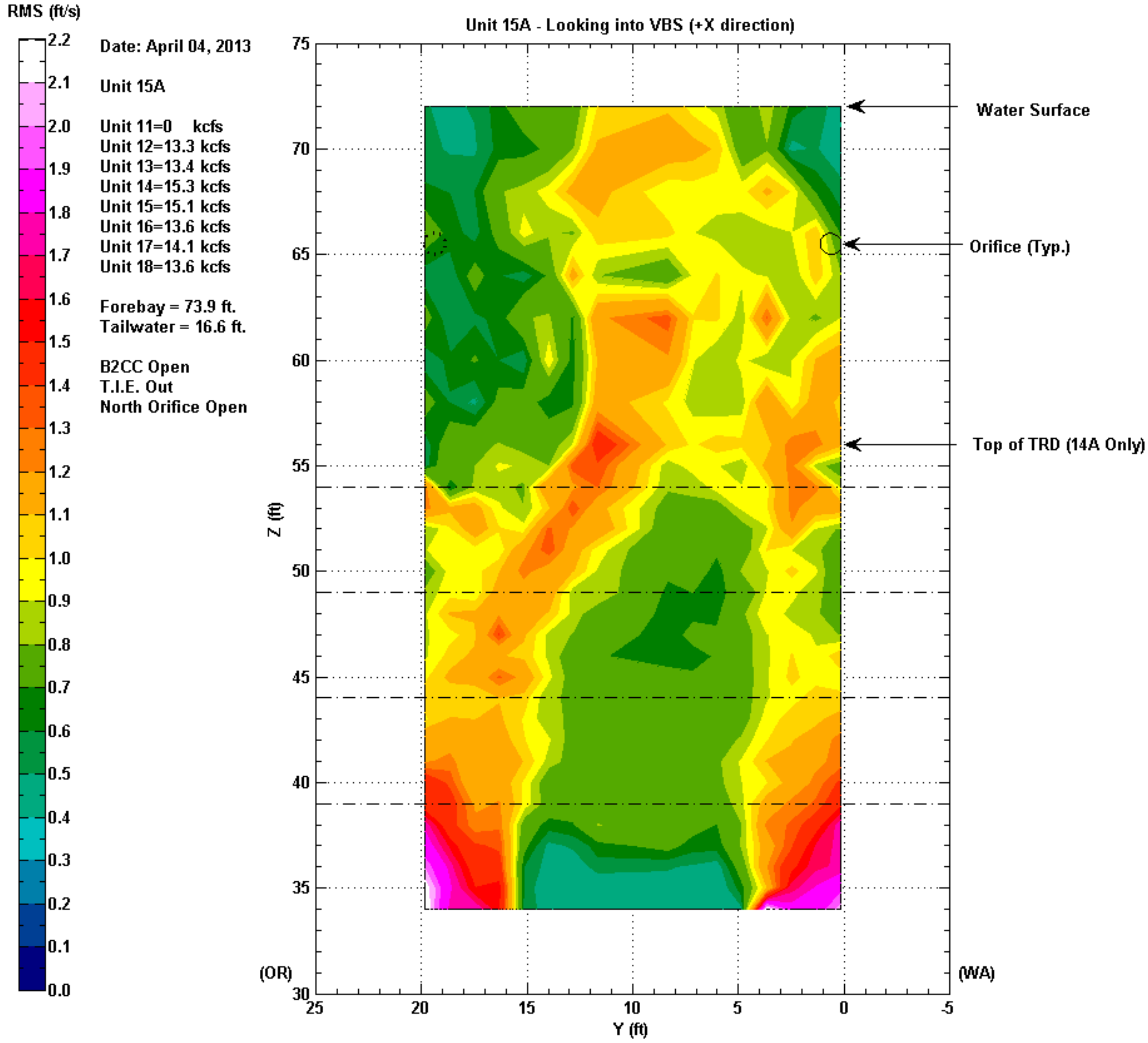


Figure 3-10 Root mean square velocity fluctuation contour at Unit 15A, Medium Flow

3.2.3 Slot 15A – High Flow

Similar to Slot 14A High Flow, due to drag force induced by high sweeping flows destabilizing the instrument beam, the beam was not traversed at Elevation 36 ft. Below this elevation the hoist cables went completely slack indicating a physical interference or a complete unweighting of the beam due to drag forces. The results from elevation 36 ft. are tabulated separately in Appendix C and are not included in the figures below.

The through screen velocity (Vx – see Figure 3-11) ranged from 0.09 to 1.53 ft/s between elevations 37 ft. and 56 ft., with an average of 0.76 ft/s. Sweeping velocity (resultant Y-Z vector magnitude) ranged from 0.35

to 6.38 ft/s between elevations 37 ft. and 56 ft., with an average velocity of 3.05 ft/s. Total RMS values (Figure 3-12) ranged between 0.55 and 4.59 ft/s, with an average of 1.17 ft/s between elevations 37 ft. and 56 ft.

Ten data points did not pass the fail test. Three points are all located above El. 56 ft., where the velocity is lower and more directionally sporadic than elsewhere in the gatewell. The other points are clustered together at Elevations 37 to 38 North of the VBS centerline towards the edge of the VBS.

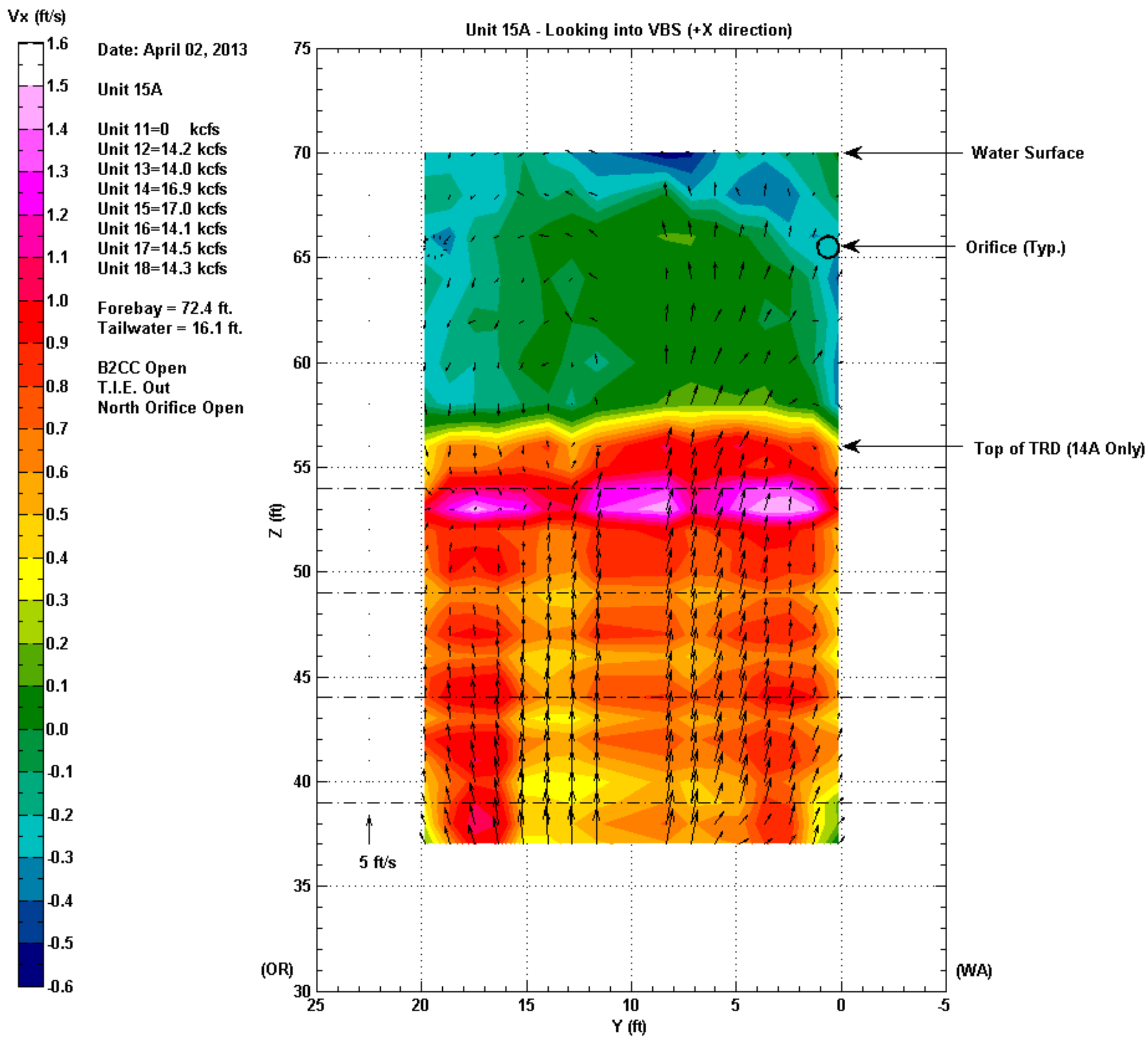


Figure 3-11 X-direction velocity contour at Unit 15A with Y-Z directional velocity, High Flow

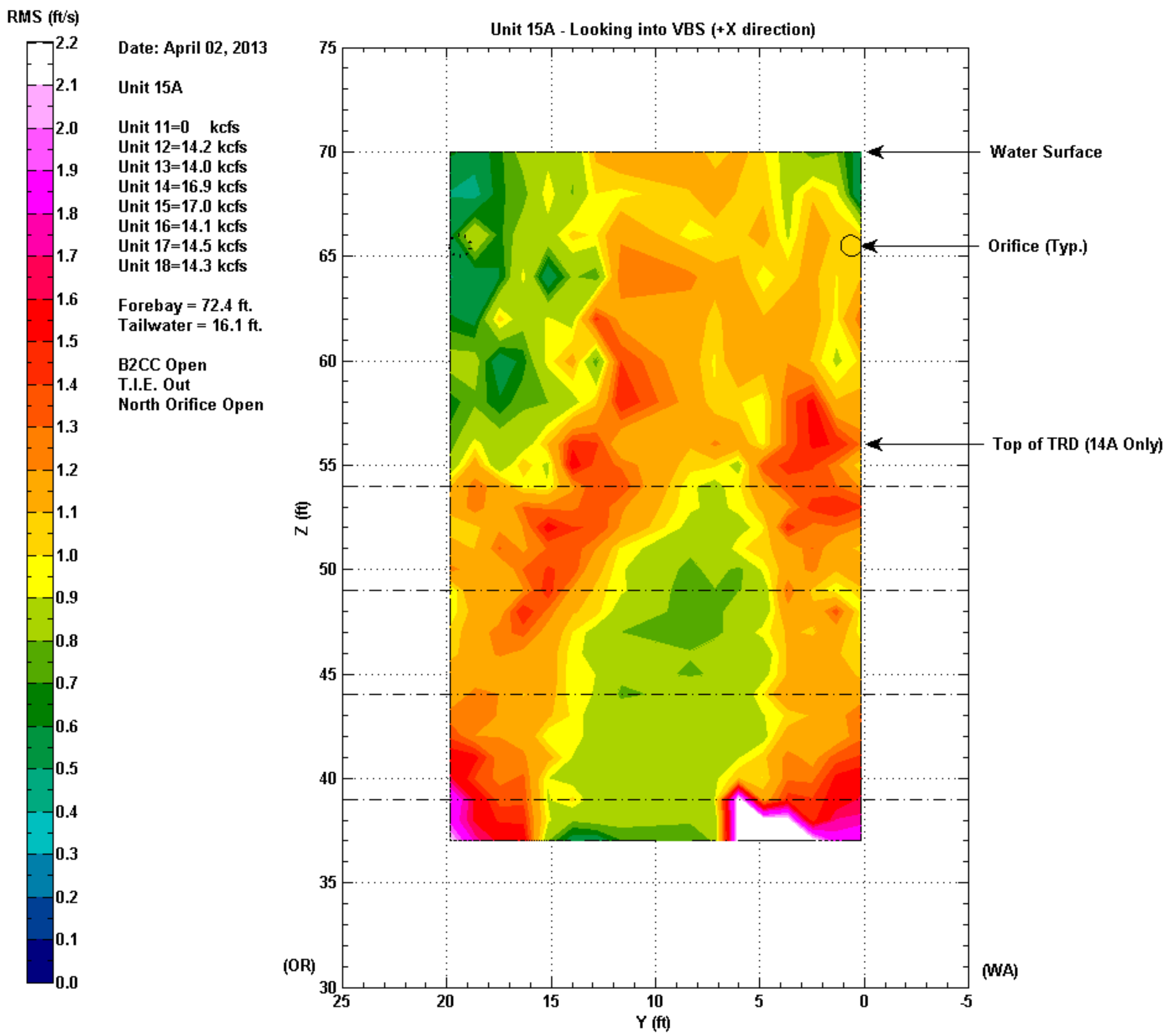


Figure 3-12 Root mean square velocity fluctuation contour at Unit 15A, High Flow

3.3 Gatewell Slot 14C

Gatewell slot 14C did not have a TRD installed. Deployment of the instrument beam was conducted using the pusher mechanism extended and was activated for all elevations.

All test conditions exhibited higher through screen (X-component) velocity between elevations 54 and 56 ft. Root mean square (RMS) of velocity fluctuations were notably higher at the lateral extents of the VBS, and were consistently higher at lower elevations than elsewhere in the gatewell. These observations correlate with real-time observations of the measurements.

Tabulated data of all components, their respective RMS, and the three-dimensional resultant velocity and RMS are included in Appendix C.

The through screen velocity (Vx – see Figure 3-13) ranged from -0.26 to 1.26 ft/s between elevations 34 ft. and 56 ft., with an average of 0.59 ft/s. Sweeping velocity (resultant Y-Z vector magnitude) ranged from 0.21 to 5.16 ft/s between elevations 34 ft. and 56 ft., with an average velocity of 2.47 ft/s. Total RMS values (Figure 3-14) ranged between 0.33 and 1.92 ft/s, with an average of 0.83 ft/s between elevations 34 ft. and 56 ft.

Five data points did not pass the fail test. Three points are all located in the upper elevations (70 ft. and 72 ft.) where "boils" are reaching the surface and flow is separating in multiple directions.

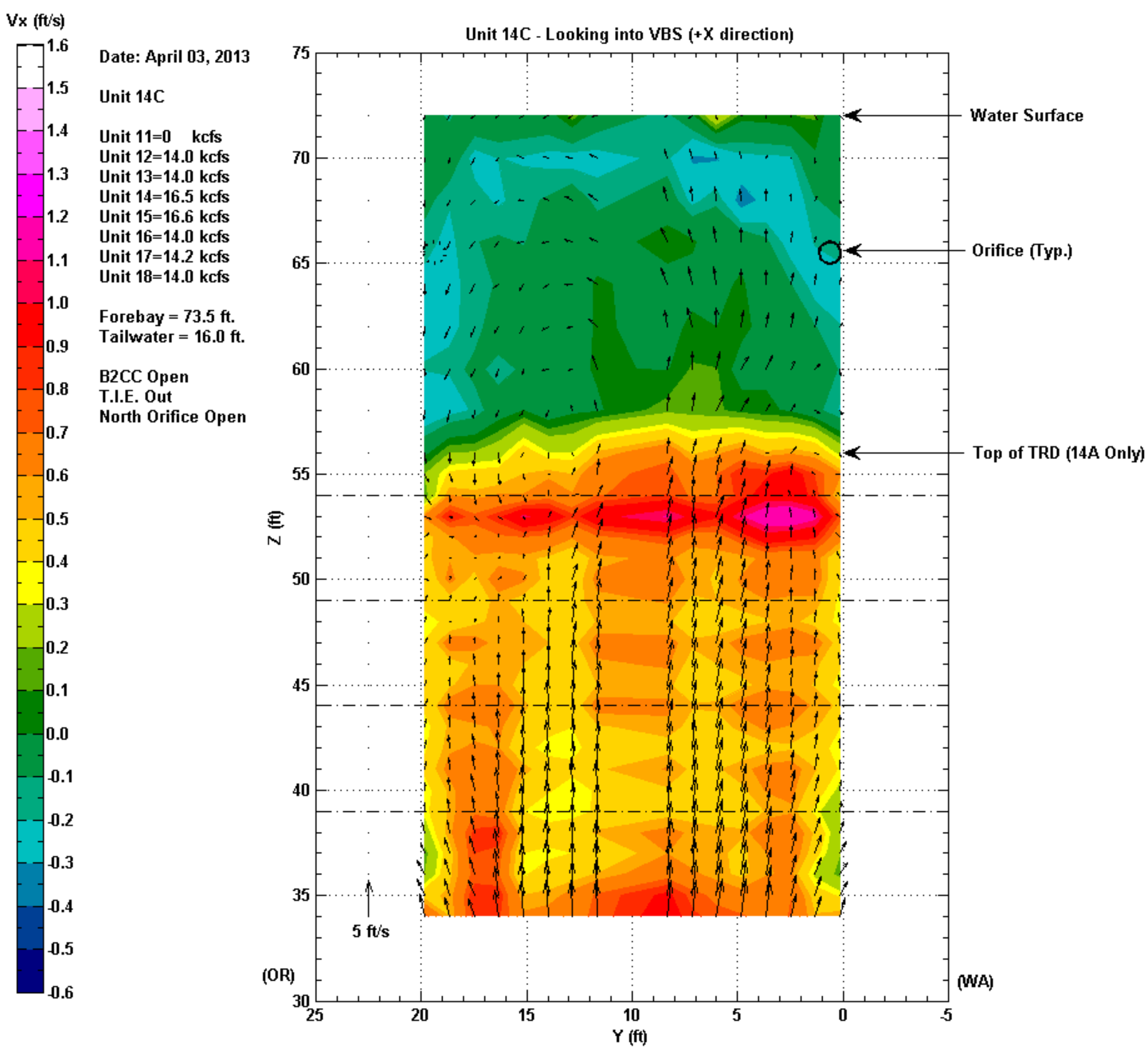


Figure 3-13 X-direction velocity contour at Unit 14C with Y-Z directional velocity, High Flow

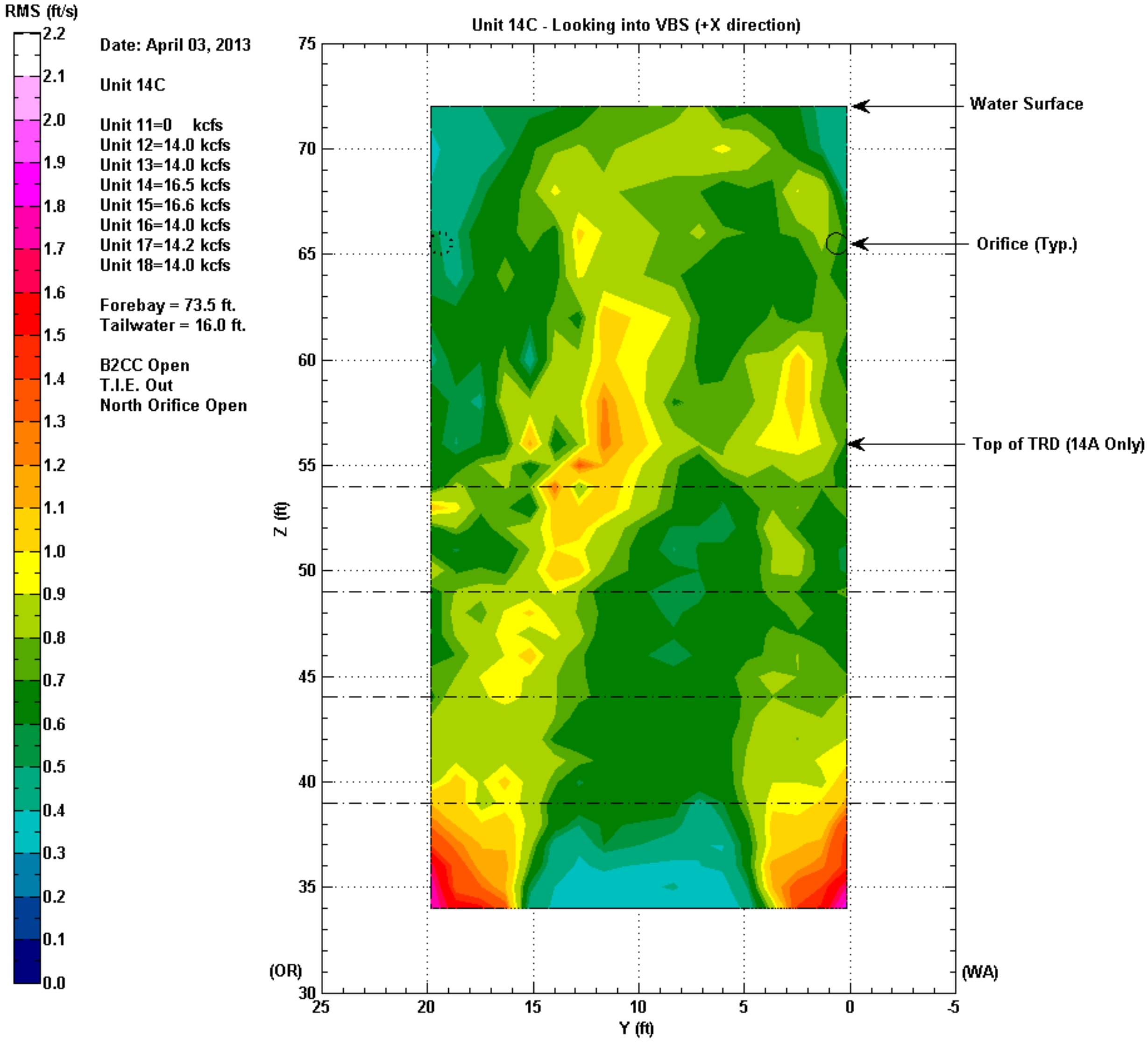


Figure 3-14 Root mean square velocity fluctuation contour at Unit 14C, High Flow

3.4 Summary of All Tests

A summary of all tests is provided in Table 3-1 for elevations 37 ft. to 56 ft. – the common elevations in front of the screened VBS for all tests.

Table 3-1 Summary of All Testing Conditions

Velocity Component (ft/s)	Flow Condition	14A (TRDs Installed)				15A (No TRDs)				14C (No TRDs)			
		Min.	Max.	Average	Std. Dev.	Min.	Max.	Average	Std. Dev.	Min.	Max.	Average	Std. Dev.
Vx (VBS Approach Velocity) (ft/s)	12 KCFS	0.13	1.23	0.48	0.18	-0.14	0.99	0.44	0.18	-	-	-	-
	15 KCFS	0.02	1.44	0.59	0.21	0.02	1.41	0.66	0.22	-	-	-	-
	17 KCFS	0.07	1.62	0.73	0.30	0.09	1.53	0.76	0.24	-	-	-	-
	16.5 KCFS	-	-	-	-	-	-	-	-	0.03	1.26	0.58	0.17
Vyz (VBS Sweeping Velocity) (ft/s)	12 KCFS	0.18	4.50	2.25	1.00	0.10	4.01	1.90	0.98	-	-	-	-
	15 KCFS	0.03	5.56	2.68	1.24	0.29	5.92	2.81	1.44	-	-	-	-
	17 KCFS	0.12	6.68	3.26	1.53	0.35	6.38	3.05	1.56	-	-	-	-
	16.5 KCFS	-	-	-	-	-	-	-	-	0.21	4.95	2.27	1.21
Vtot (Total Velocity) (ft/s)	12 KCFS	0.30	4.51	2.34	0.93	0.28	4.03	1.97	0.95	-	-	-	-
	15 KCFS	0.45	5.58	2.79	1.15	0.66	5.94	2.93	1.36	-	-	-	-
	17 KCFS	0.56	6.69	3.41	1.40	0.72	6.40	3.20	1.46	-	-	-	-
	16.5 KCFS	-	-	-	-	-	-	-	-	0.51	4.98	2.39	1.14
Total RMS (ft/s)	12 KCFS	0.36	1.16	0.79	0.16	0.43	1.30	0.78	0.15	-	-	-	-
	15 KCFS	0.53	3.47	0.97	0.24	0.54	1.89	1.01	0.23	-	-	-	-
	17 KCFS	0.61	5.25	1.23	0.41	0.55	4.59	1.17	0.32	-	-	-	-
	16.5 KCFS	-	-	-	-	-	-	-	-	0.40	1.49	0.81	0.18

Data Compiled from common elevations 37-56 ft excluding spurious data points identified with the "Fail Test".

4.0 Discussion

4.1 General Flow Patterns

Velocities were measured 0.65 ft. off the eastern face of the VBS in gatewell slots 14A, 15A, and 14C. Slot 14A had the prototype TRD installed and was tested for low, medium, and high turbine flow conditions (approximately 12 kcfs, 15 kcfs, and 17 kcfs). Slot 15A did not have a TRD installed and was tested for similar turbine flow rates for comparison. Slot 14C was only tested at a high flow condition to support conclusions about advancing prototype testing into alternate gatewells.

Comparatively, the general flow patterns among all gatewell slots were similar. Higher sweeping flows at the bottom of the gatewell corresponded with higher levels of turbulence than elsewhere in the gatewell. The vertically sweeping flow is concentrated near the center of the gatewell, where the turbulence levels are lower than elsewhere in the gatewell. Obstructions near the edges, such as the STS hoist arms (Photo 4-1), sudden contractions and expansions within northern and southern deployment slots of the gatewell, and increased boundary layer effects contribute in part to the large differences in turbulence near the edges of the gatewell.

A large counterclockwise sweeping velocity circulation cell was consistently present above the screened portion of the VBS on the Oregon side for all test conditions. This circulation resulted in downward flow (negative Vz) at the upper Oregon corner of the screened portion of the VBS. The observed circulation cell corresponds to the side of the gatewell that does not contain an open juvenile bypass orifice. Conversely, flow on the Washington side predominately swept upward (positive Vz) and towards the open juvenile bypass orifice. Instances of downward flow were significantly reduced on the Washington side for all test conditions.

Through screen approach velocities are generally higher at the edges (*i.e.,* along the northern and southern screen panels), as opposed to the center of the VBS. This may be due to lower vertical sweeping flow along the edges of the VBS, as opposed to the center. In other words, the resistance to flow entering the screen panels along the edges of the VBS is lower than along the center, where sweeping flow is highest. Evidence of this flow pattern was observed at the water's surface, where large boils of water would surface near the center of the gatewell (see Photo 4-2).

In addition, a consistent trend of high screen approach velocities was apparent for all tests and all flows at higher elevations (El 52-56 ft). It was observed that the upper screen panel row on the VBS (see Photo 4-3) do not have a baffle backing plate (see Photo 4-4), providing less resistance than other screen panels. Additionally, the baffle backing plates for the second screen panel row from the top have increased porosity as compared to the lower panels. This may be a contributing factor for noticeably higher screen approach velocities at these elevations.

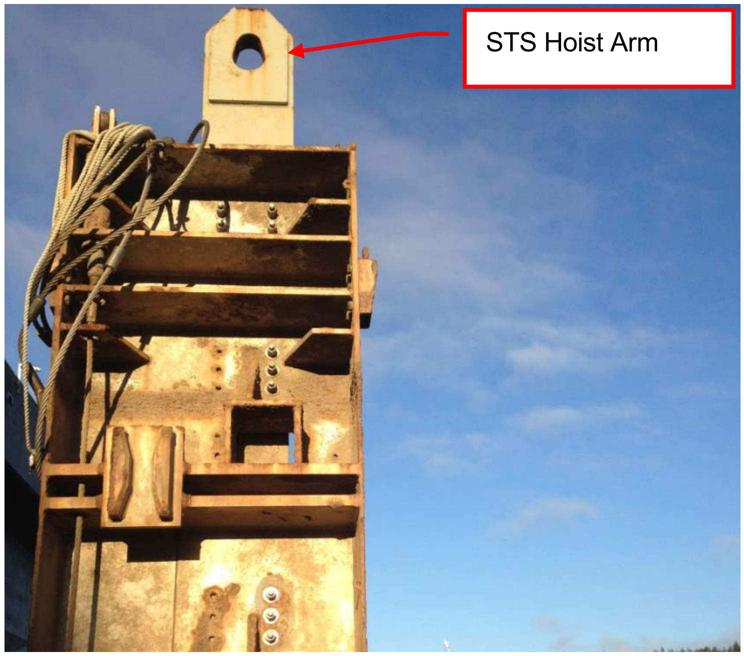


Photo 4-1 STS Hoist Arms

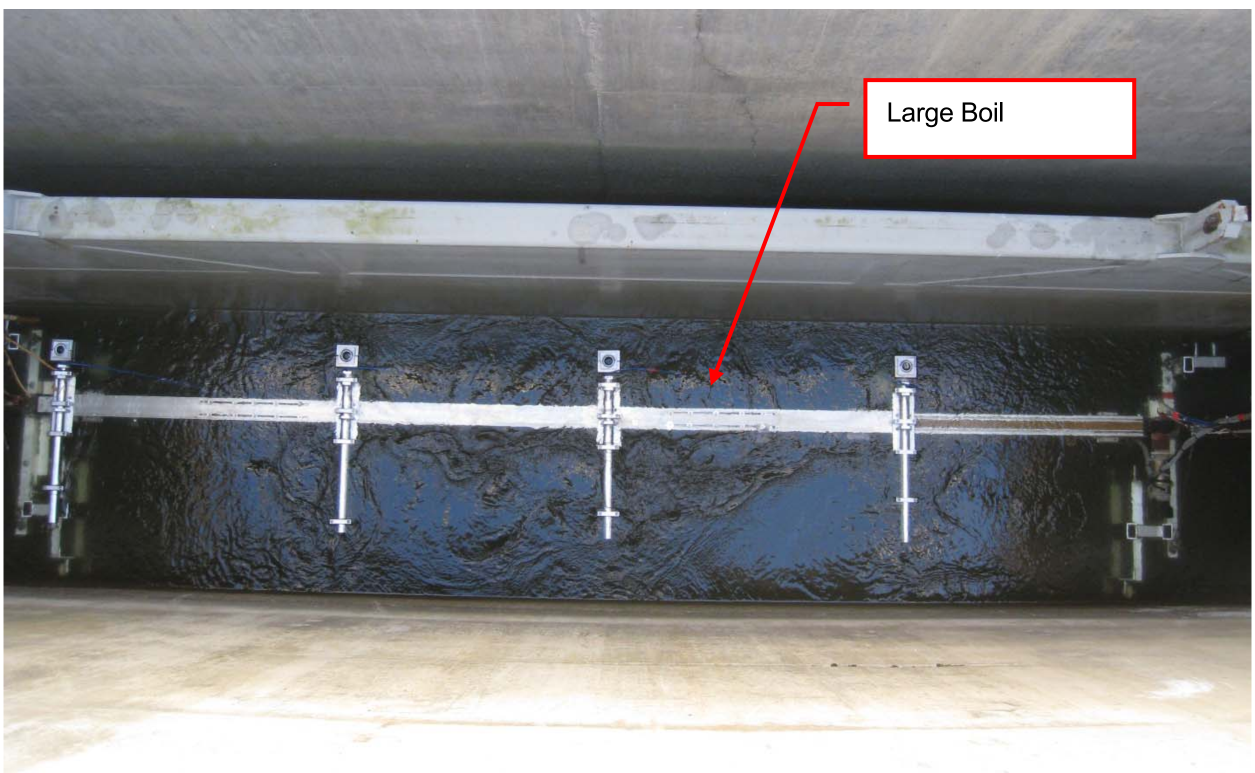


Photo 4-2 Centralized Boils of Water Reaching the Water's Surface

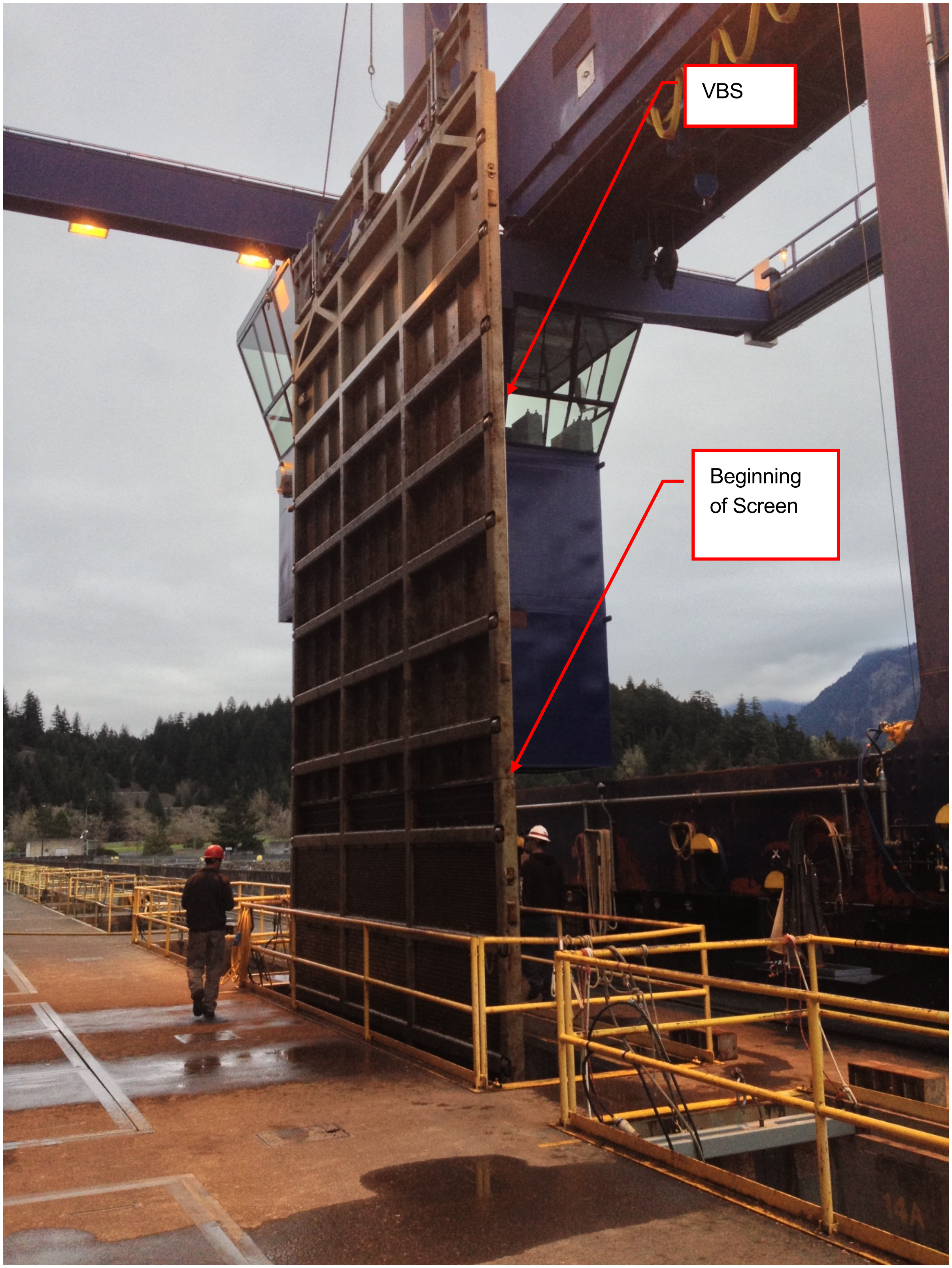


Photo 4-3 Vertical Barrier Screen during Cleaning Operations

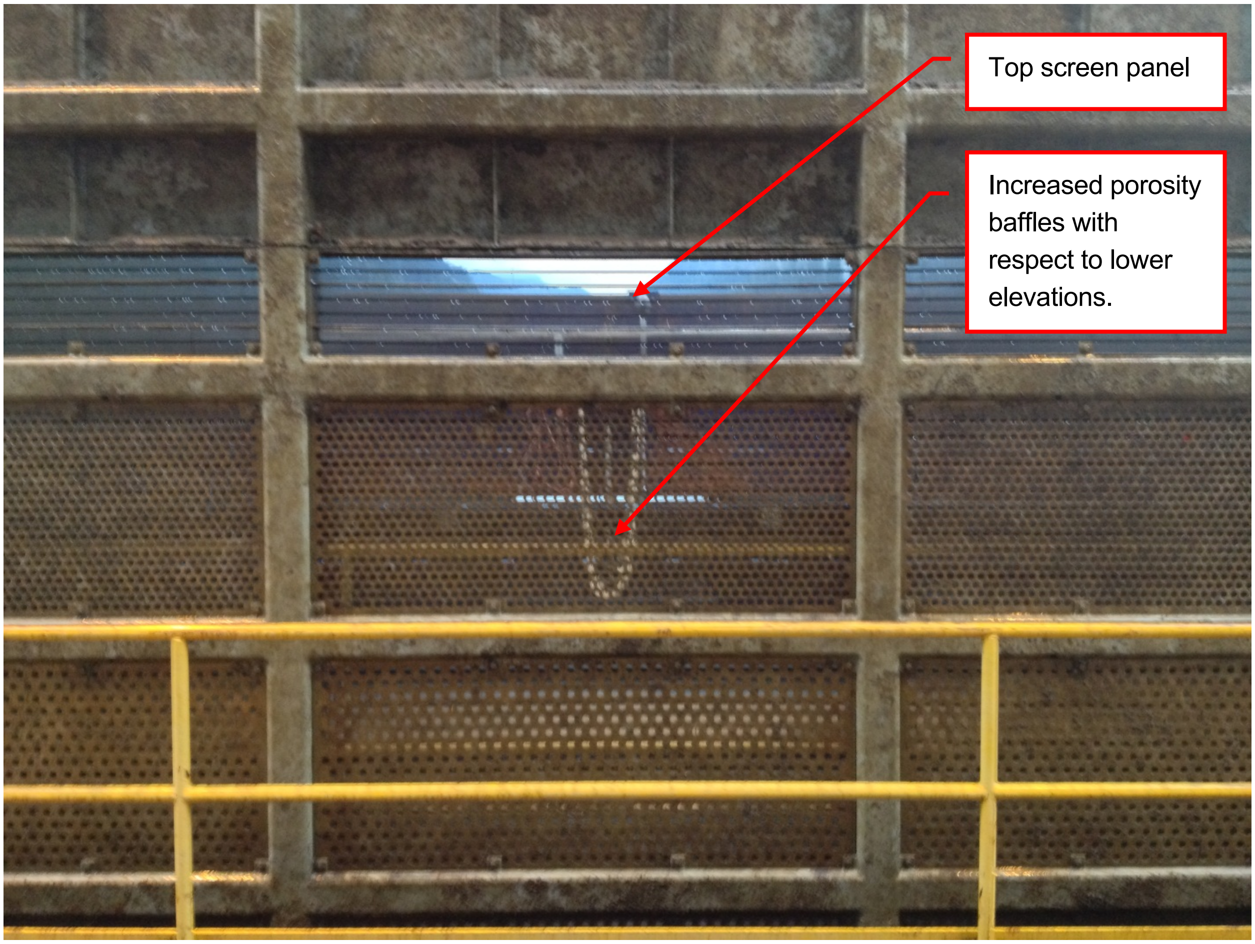


Photo 4-4 Top Unbaffled Screen Panel on VBS

4.2 Gatewell 14A and 15A comparison

The differences between gatewell slots 14A and 15A at respectively similar flows (low, medium, and high) are subtle and inconsistent between flow conditions. The total root mean square of velocity fluctuations for recorded and traversed elevations up to elevation 56 ft. are compared in Table 4-1. The average RMS did not change during the low flow (12 kcfs) condition and was reduced by 2% during the medium flow condition. However, during the high flow condition (17 kcfs), the RMS increased by 5%.

Table 4-1 Total RMS Comparison

	RMS (ft/s)		
	Low [33-56]	Med [34-56]	High [37-56]
14A	0.81	1.02	1.23
15A	0.81	1.03	1.17
Percentage Difference			
14A/15A	0%	-2%	5%

[x-y] = Elevations of average RMS

As stated, these differences are very subtle and this preliminary investigation of the data is inconclusive with respect to the TRD effectiveness at altering the general flow patterns or reducing the turbulence within the gatewell.

A point-by-point comparison of both the through screen velocity and the total RMS values between the respective flow conditions in gatewell 14A and 15A are provided in Appendix C.

5.0 Conclusions

The objective of the field study was to collect water velocity data sufficient to map flow patterns within gatewell slots 14A, 15A, and 14C. This objective was met through the successful data collection in the aforementioned gatewells at low, medium, and high flows.

All post-processed data presented in this report is an accurate and valid representation of the actual flow conditions in the gatewell at the time of data collection. Data was post-processed to remove outliers that are an artifact of multiple variables. Refer to Appendix D for a detailed discussion of data outliers removed. Tabulated data in Appendix C highlights areas where data may have been overly influenced by noise as identified by the fail test. Analysis of the presented data should be carefully undertaken with the utilization of all presentation methods provided.

Ultimately, the results of this study will be evaluated by CENWP for indications of the effectiveness of proof-of-concept turbulence reduction devices at improving the flow conditions within the gatewell with respect to fish passage.

6.0 References

Donoho DL and IM Johnstone. 1994. Ideal spatial adaptation by wavelet shrinkage. *Biometrika* 81: 425-455

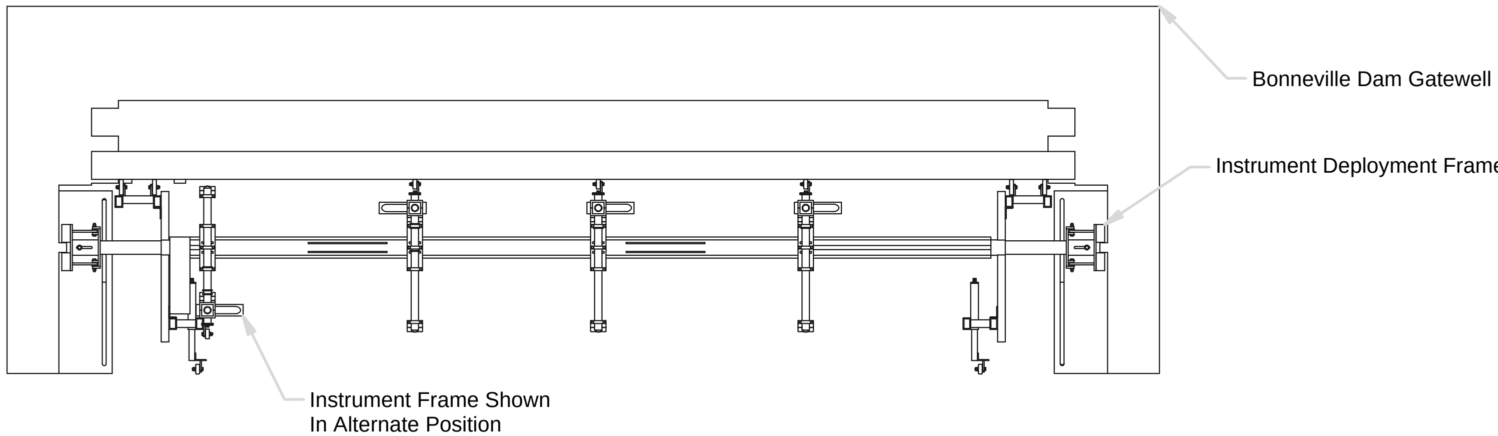
Goring, D.G., and Nikora, V.I. 2002. Despiking Acoustic Doppler Velocimeter Data. *J. Hydraul.Eng. 2002.128:117-126*

NOAA NMFS, Anadromous Salmonid Passage Facility Design, February 2011.

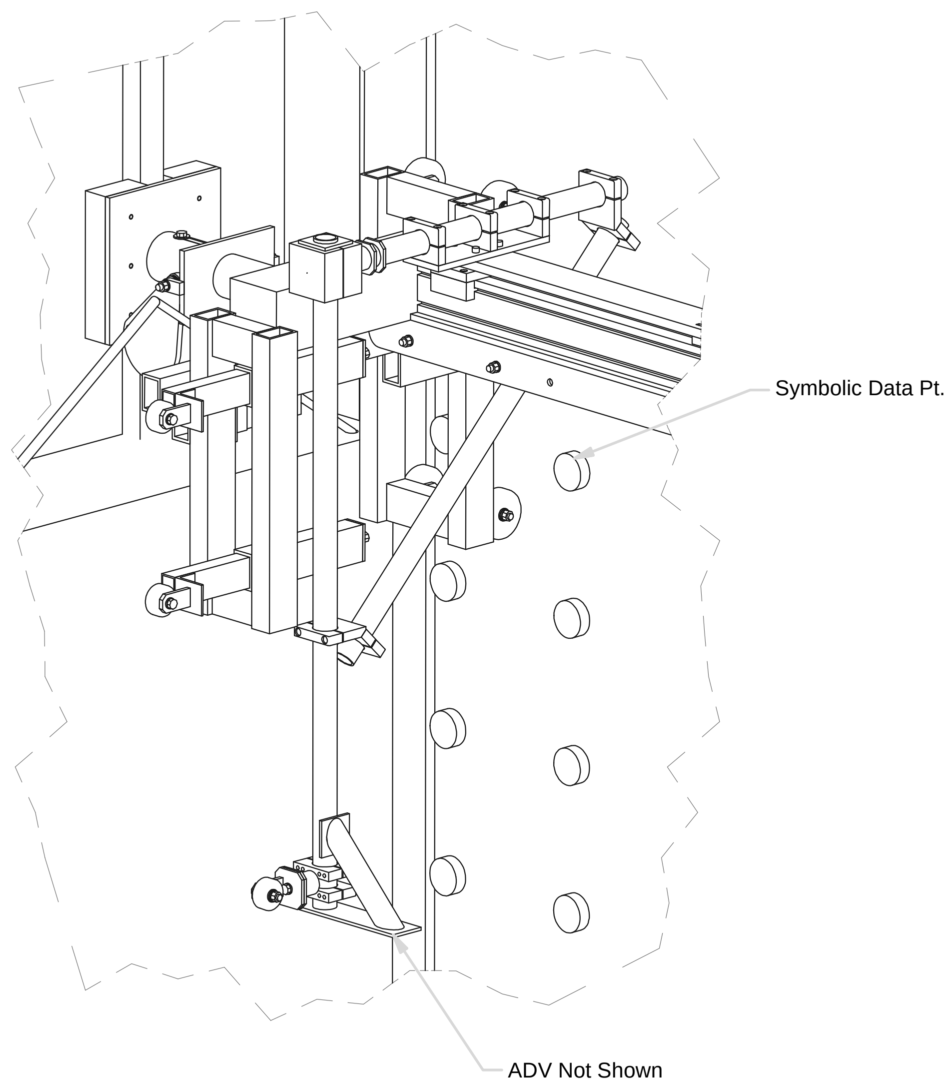
Pacific Northwest National Laboratory (PNNL), Water Velocity Measurements on a Vertical Barrier Screen at the Bonneville Dam Second Powerhouse., September 2011.

Appendix A

Fabrication Drawings



Plan View



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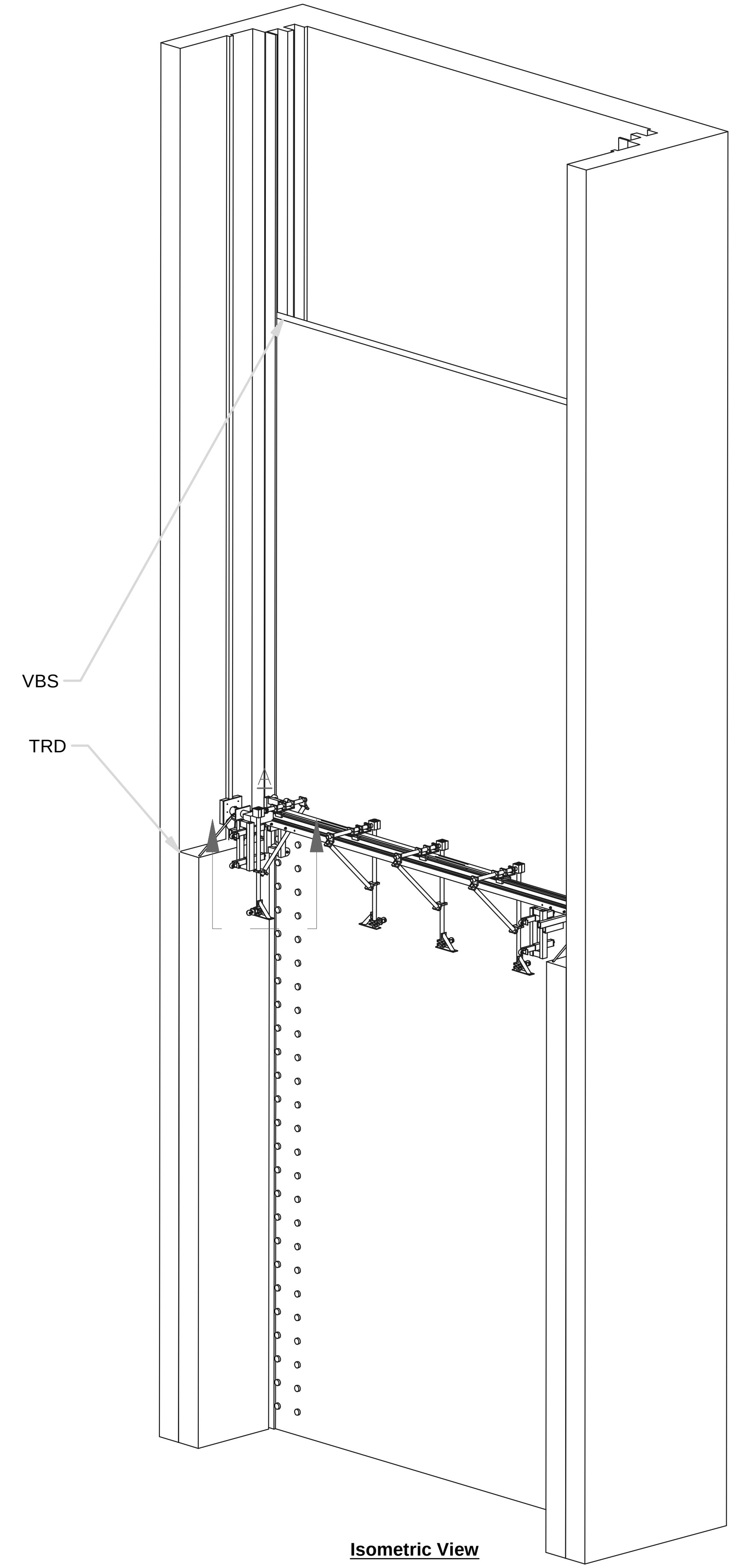

Isometric View

REVISIONS			
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GENERAL ARRANGEMENT

Water Velocity Measurements at Bonneville Dam
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CENWP

PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
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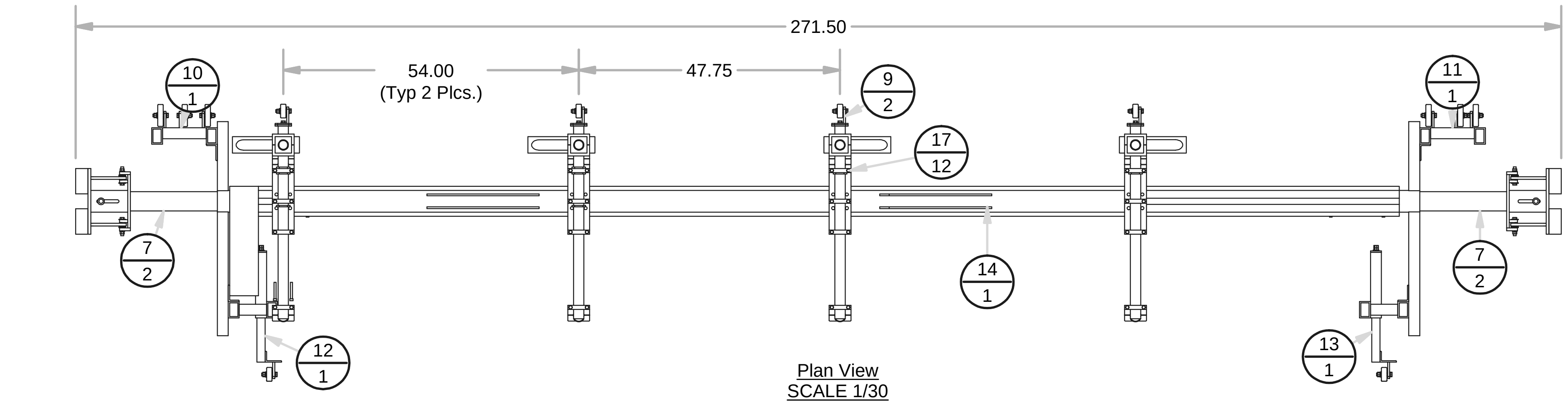
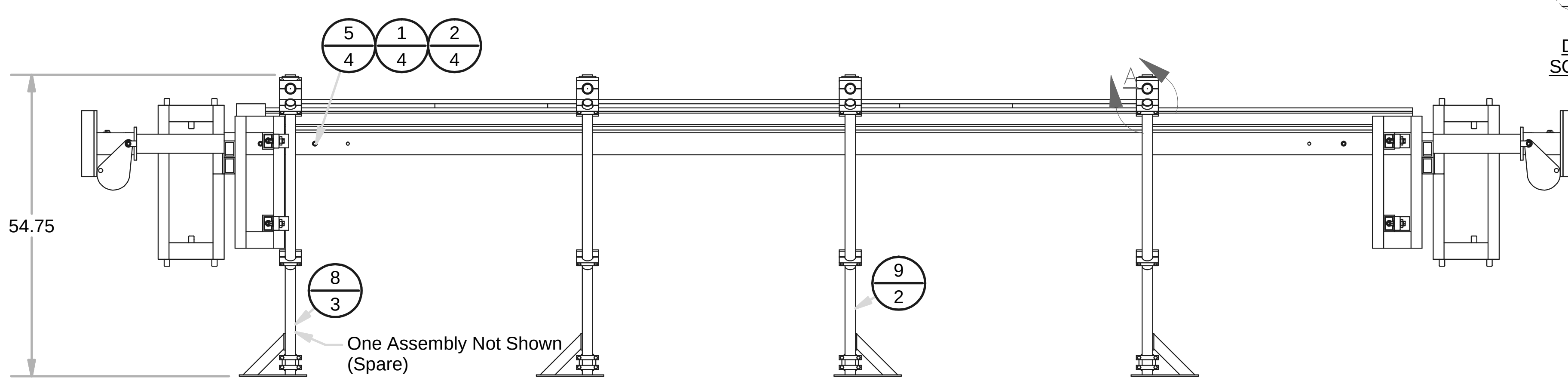


Plan View
SCALE 1/30



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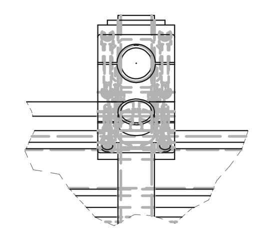

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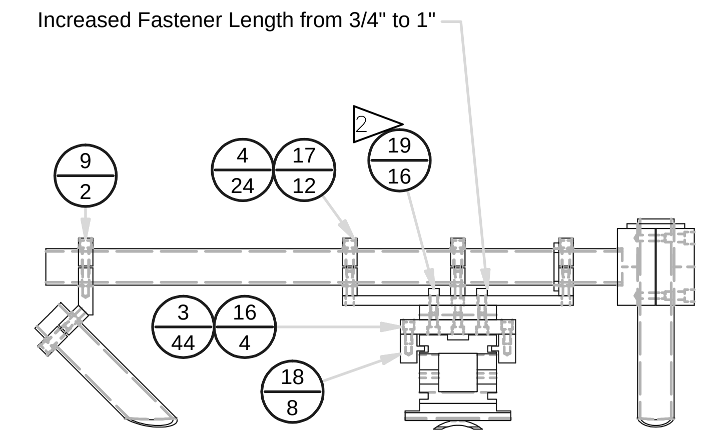

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18	8	1-1/4" x 1-1/2" x 4" UHMW (White)	P005	
17	12	3/4" x 3" x 4" 6061 AL	P004	
16	4	3/4" x 4" x 6" UHMW (White)	P003	
15	4	1/2" x 4" x 12" 6061 AL	P002	
14	1	3/4" x 4" x 159-3/4" 6061 AL	P001	
13	1	A008 - East Wheel Frame Assembly (Handed)	A008-Handed	
12	1	A008 - East Wheel Frame Assembly	A008	
11	1	A007-West Wheel Frame Assembly (Handed)	A007-Handed	
10	1	A007 - West Wheel Frame Assy	A007	
9	2	A002-handed	A002-handed	
8	3	A002 - Meter Frame	A002	
7	2	A001 - Pusher Assembly	A001	
6	4	1/2" DIA Flat Washer	98019A509	McMaster
5	4	1/2-13 UNC x 2 1/2" LG. HEX HEAD CAP SCREW	92240A722	McMaster
4	24	3/8-16 UNC x 2" LG. Socket Head Cap Screw (SS)	92196A632	McMaster
3	44	3/8-16 UNC x 3/4" LG. Socket Head Cap Screw (SS)	92196A622	McMaster
2	4	1/2" DIA. HELICAL SPRING LOCK WASHER	92146A033	McMaster
1	4	1/2-13 UNC Hex Nut	91847A520	McMaster

PARTS LIST

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1	Added Hole Callout	03/04/13	PG
2	Hole Clarifications	03/05/13	PG

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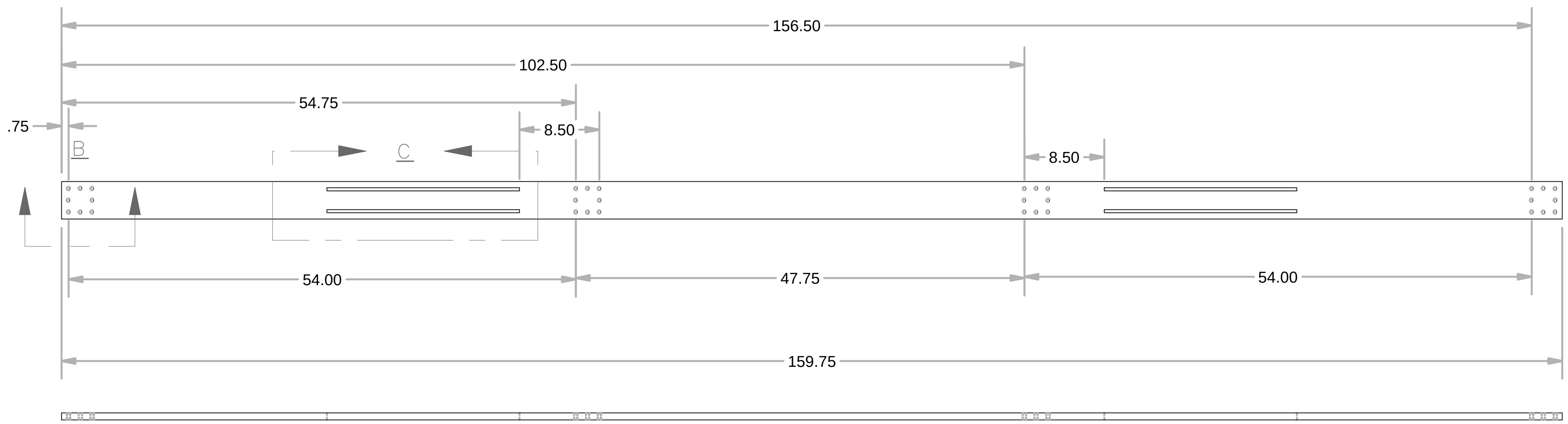

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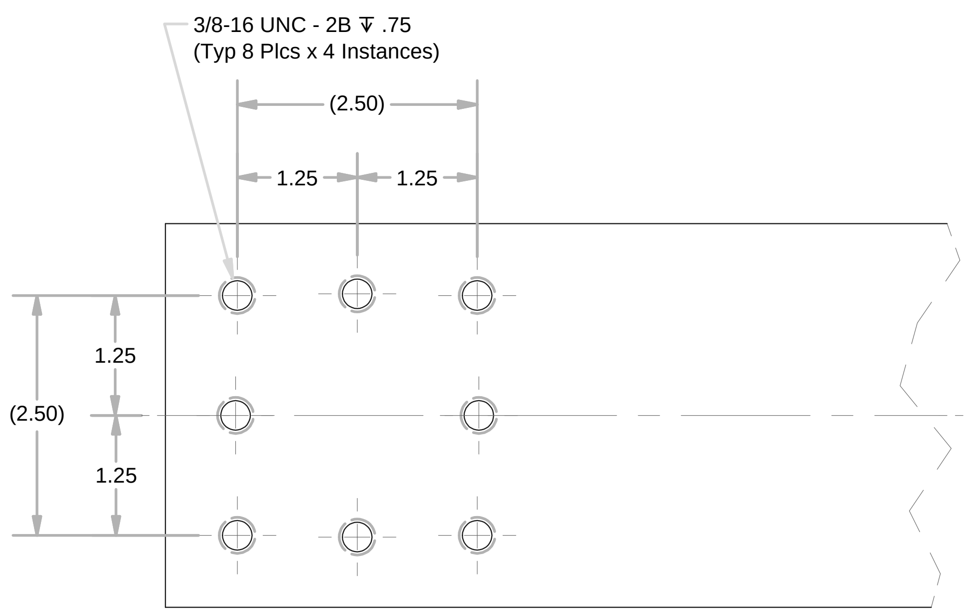

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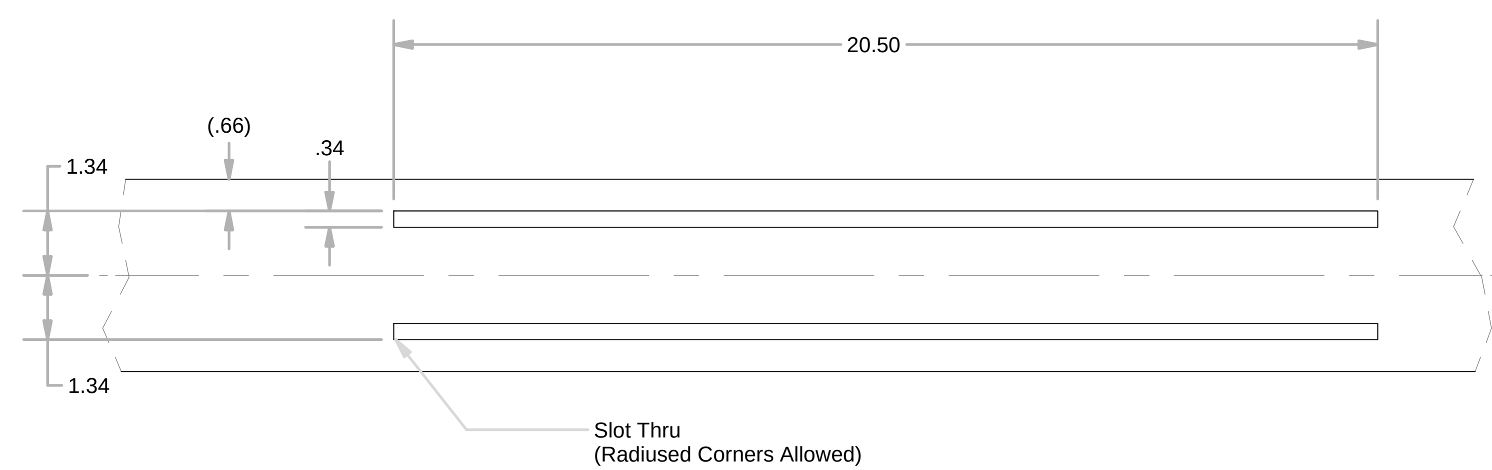

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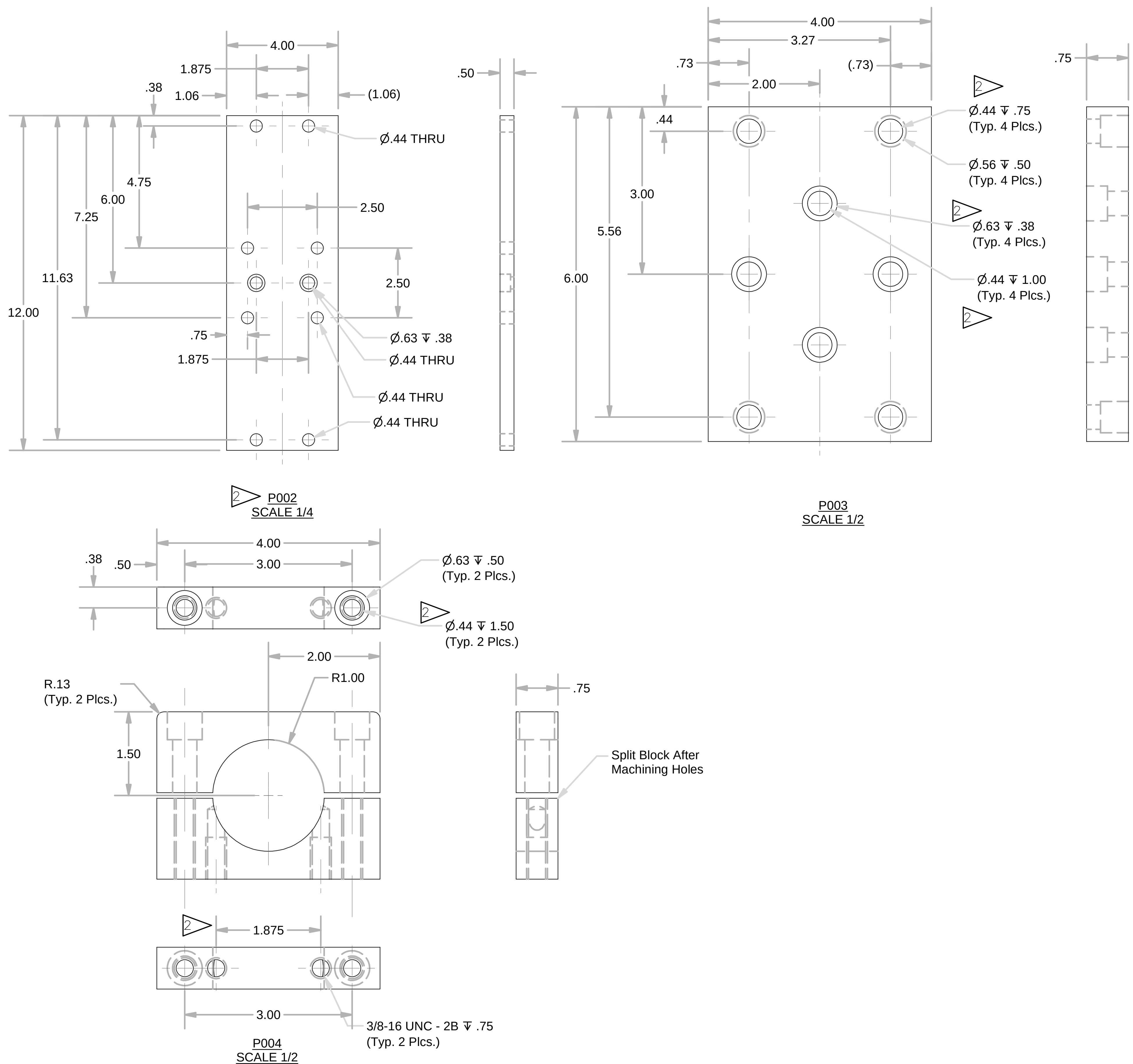

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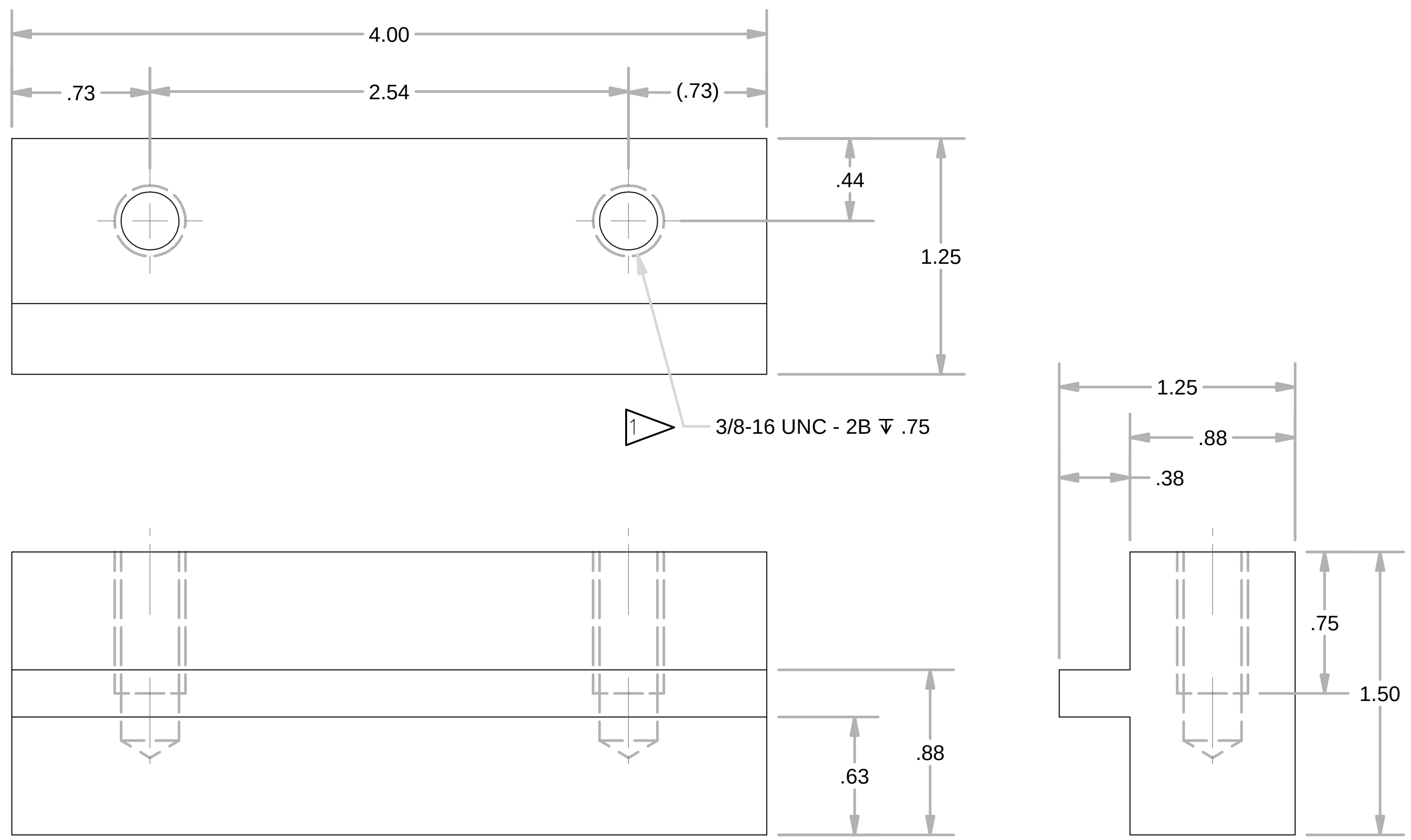

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Water Velocity Measurements at Bonneville Dam
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PROJECT NUMBER: 7134NWP015
DATE: **25FEB13**
SCALE:

FIGURE NUMBER:
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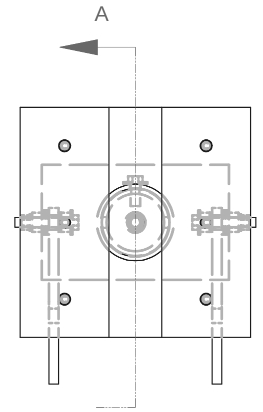

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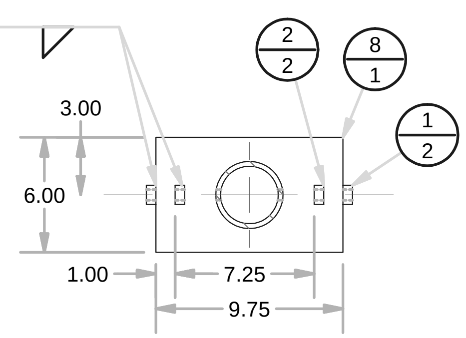

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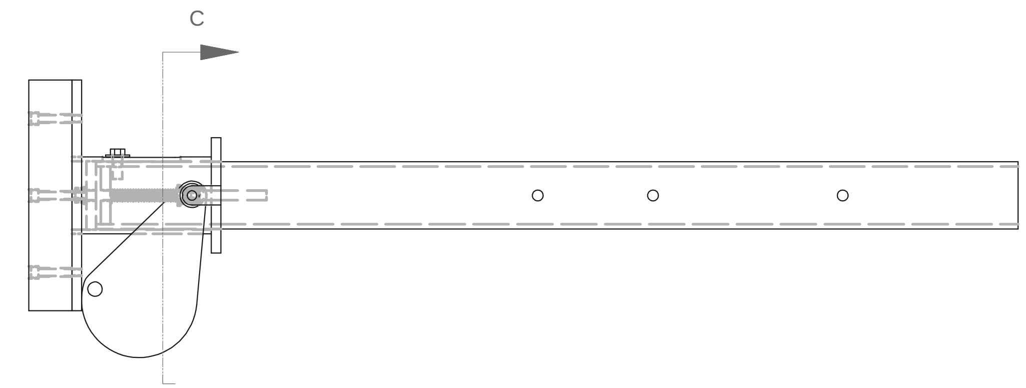

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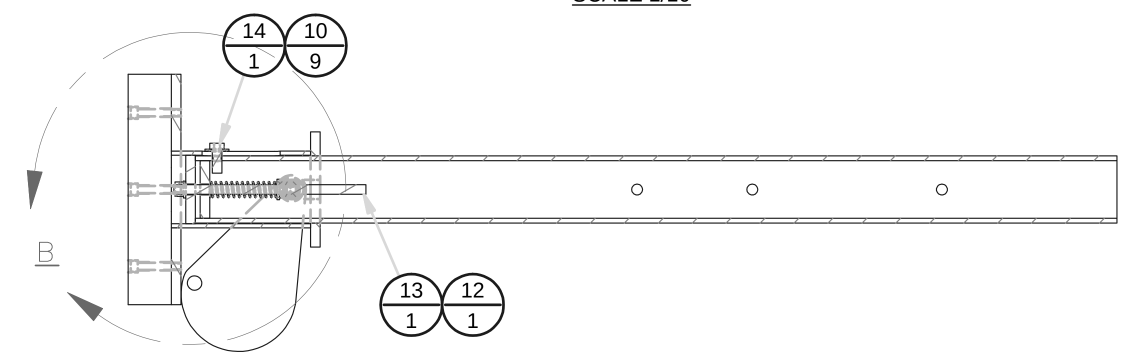

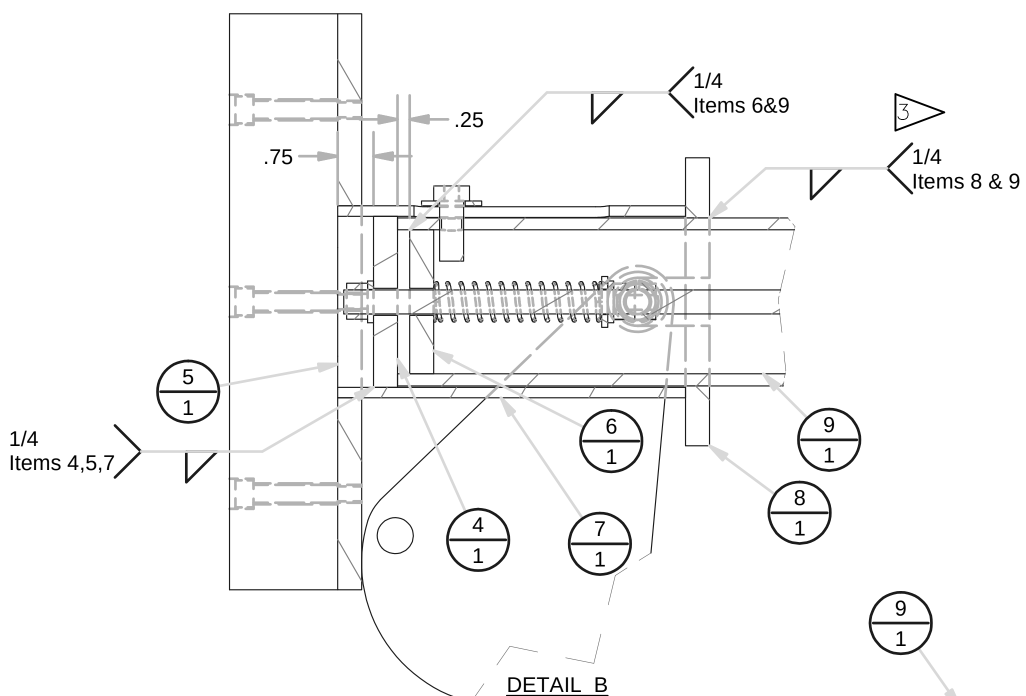

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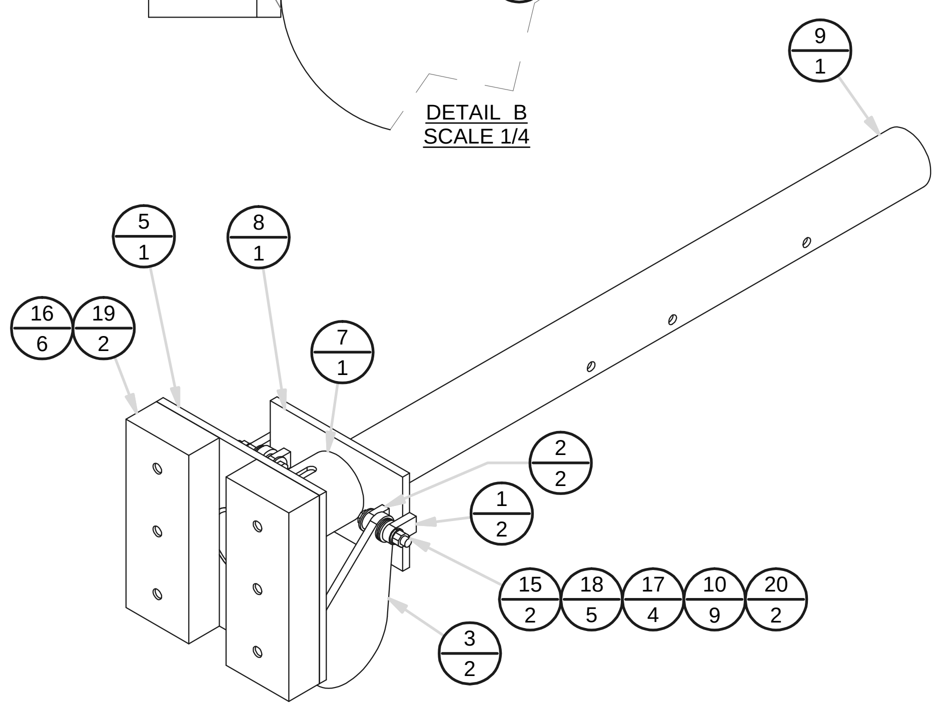

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20	2	1/2" ID BRONZED FLANGE BEARING; SAE	3083K19	McMaster
19	2	2-1/4" x 4-5/8" x 12" UHMW (White)	8702K52 (2-1/2")	McMaster
18	5	1/2-13 UNC Hex Nut	91847A520	McMaster
17	4	1/2" DIA. HELICAL SPRING LOCK WASHER	92146A033	McMaster
16	6	3/8-16 UNC x 2-1/4" Lg. Socket Head Cap Screw (SS)	92185A633	McMaster
15	2	1/2-13 UNC x 3" LG. HEX HEAD CAP SCREW (SS)	92198A724	McMaster
14	1	1/2-13 UNC x 1 1/4" LG. Hex Head Cap Screw (Grade 8)	92620A714	McMaster
13	1	1/2-13 UNC All Thread x 10" Lg. (SS)	95412A742	McMaster
12	1	Compression Spring; 3.5" L. x 0.845" O.D. x 0.080" Wire	9657K454	McMaster
11	1	1/2" DIA Flat Washer	98019A509	McMaster
10	9	1/2" DIA Flat Washer	98019A509	McMaster
9	1	3-1/2" O.D. x 1/4" Wall x 48" Lg. DOM Steel Tubing	P024	
8	1	1/2" x 6" x 9-3/4" A36	P025	
7	1	4" O.D. x 7/16" Wall (3.562" I.D.) x 7-1/4" Lg. DOM Steel Tubing	P026	
6	1	1/2" x 3" O.D. A36	P027	
5	1	1/2" x 12" x 12" A36	P028	
4	1	1/2" x 3.563" O.D. A36	P029	
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2	2	1/2" x 1" x 1-1/2" Lg. A36	P032	
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3	Added Weld Detail	03/05/13	PG

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PUSHER ASSEMBLY
Water Velocity Measurements at Bonneville Dam
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PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

FIGURE NUMBER:
A001-1

FILENAME:
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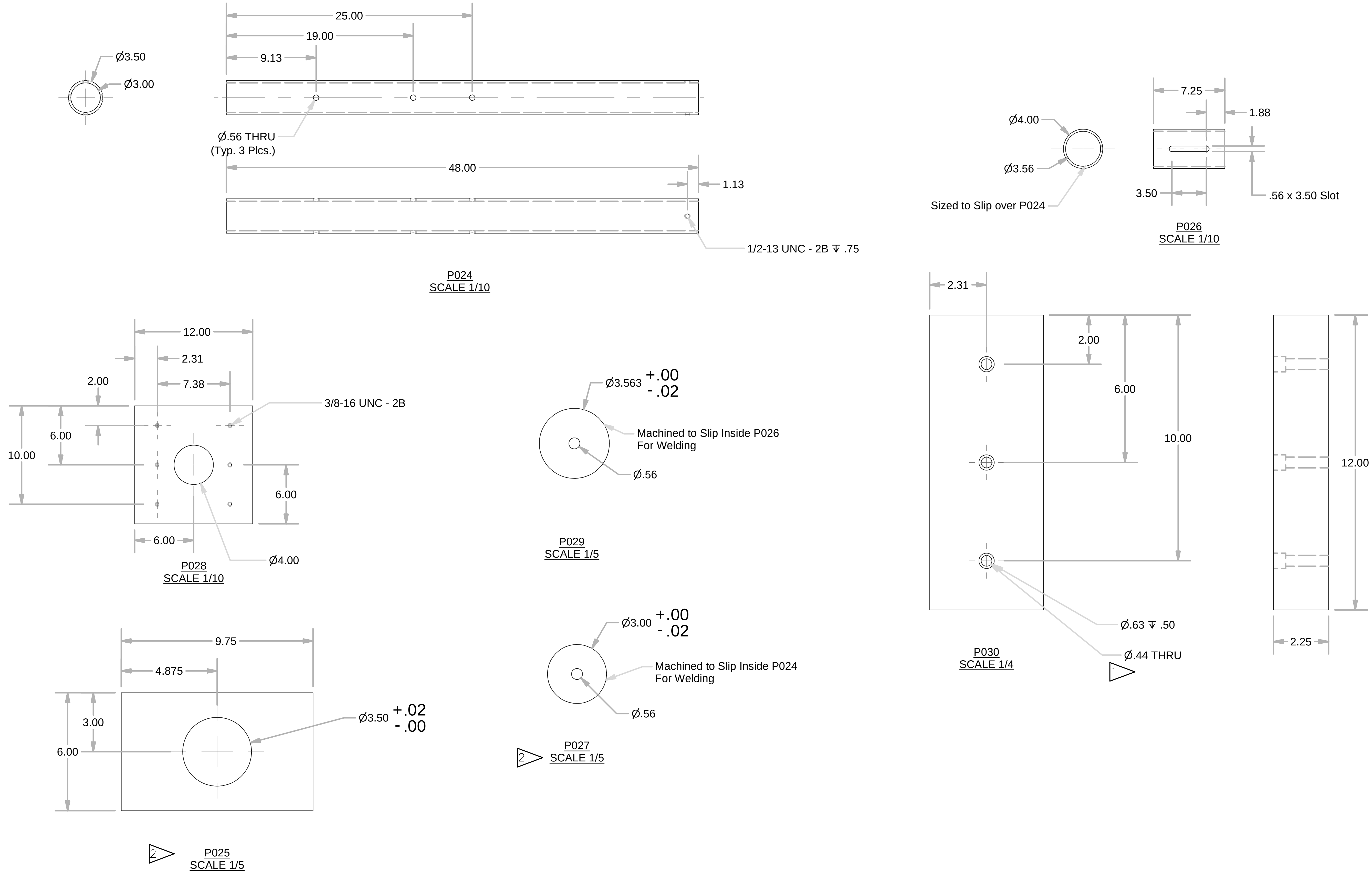

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2	Added P025,027 Detail	03/05/13	PG
3	Added Weld Detail	03/05/13	PG

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Water Velocity Measurements at Bonneville Dam
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PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

FIGURE NUMBER:
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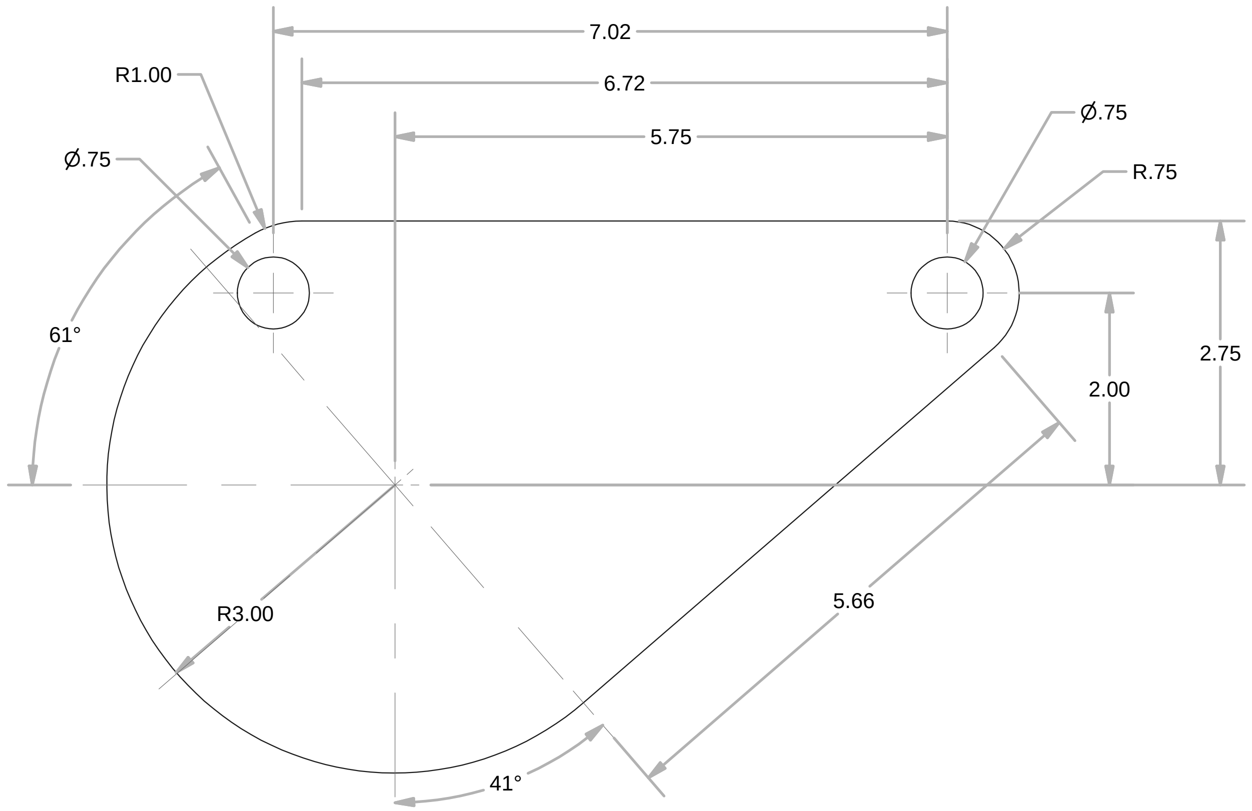

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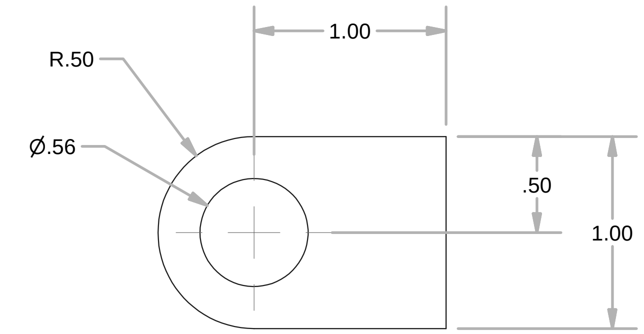

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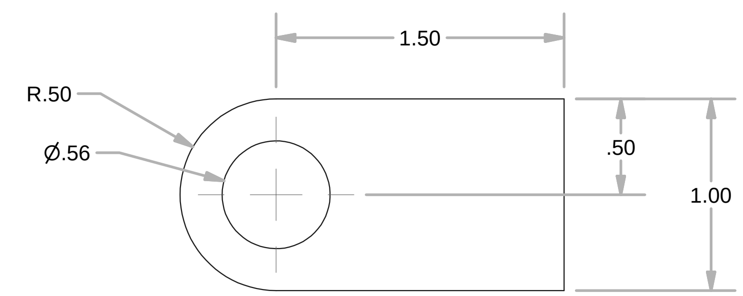

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Water Velocity Measurements at Bonneville Dam
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PROJECT NUMBER: 7134NWP015
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SCALE:

FIGURE NUMBER:
A001-3

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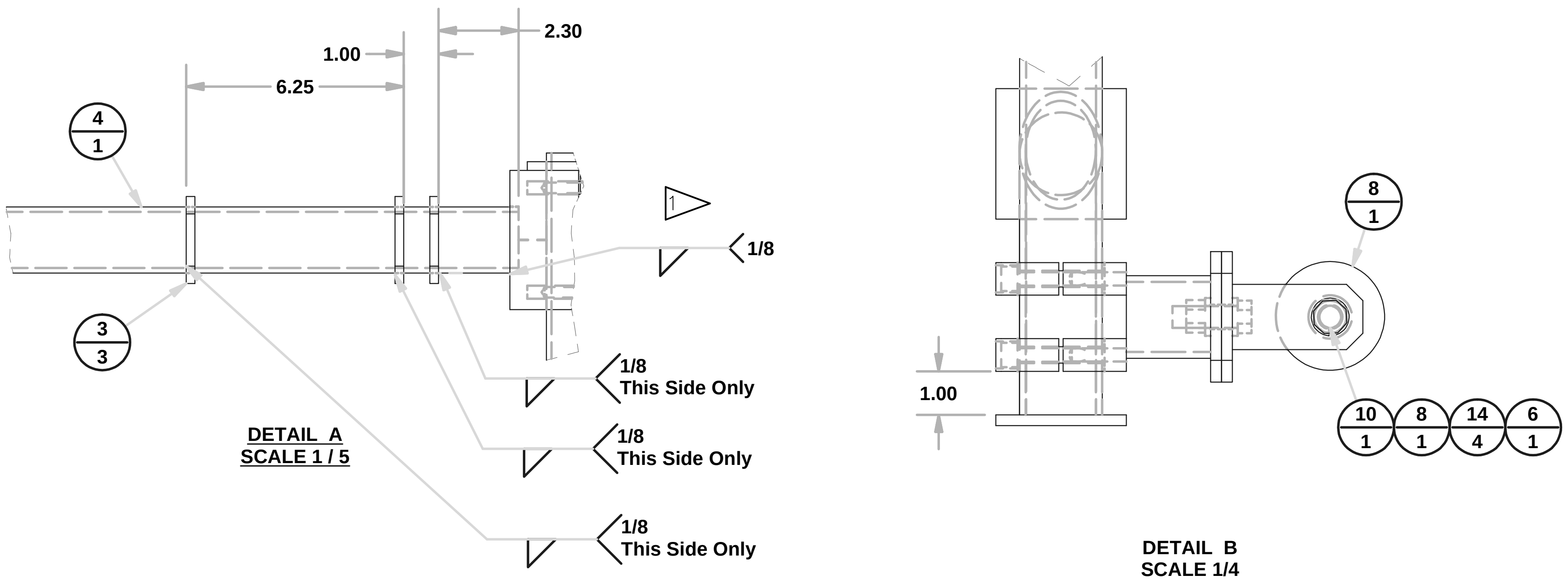

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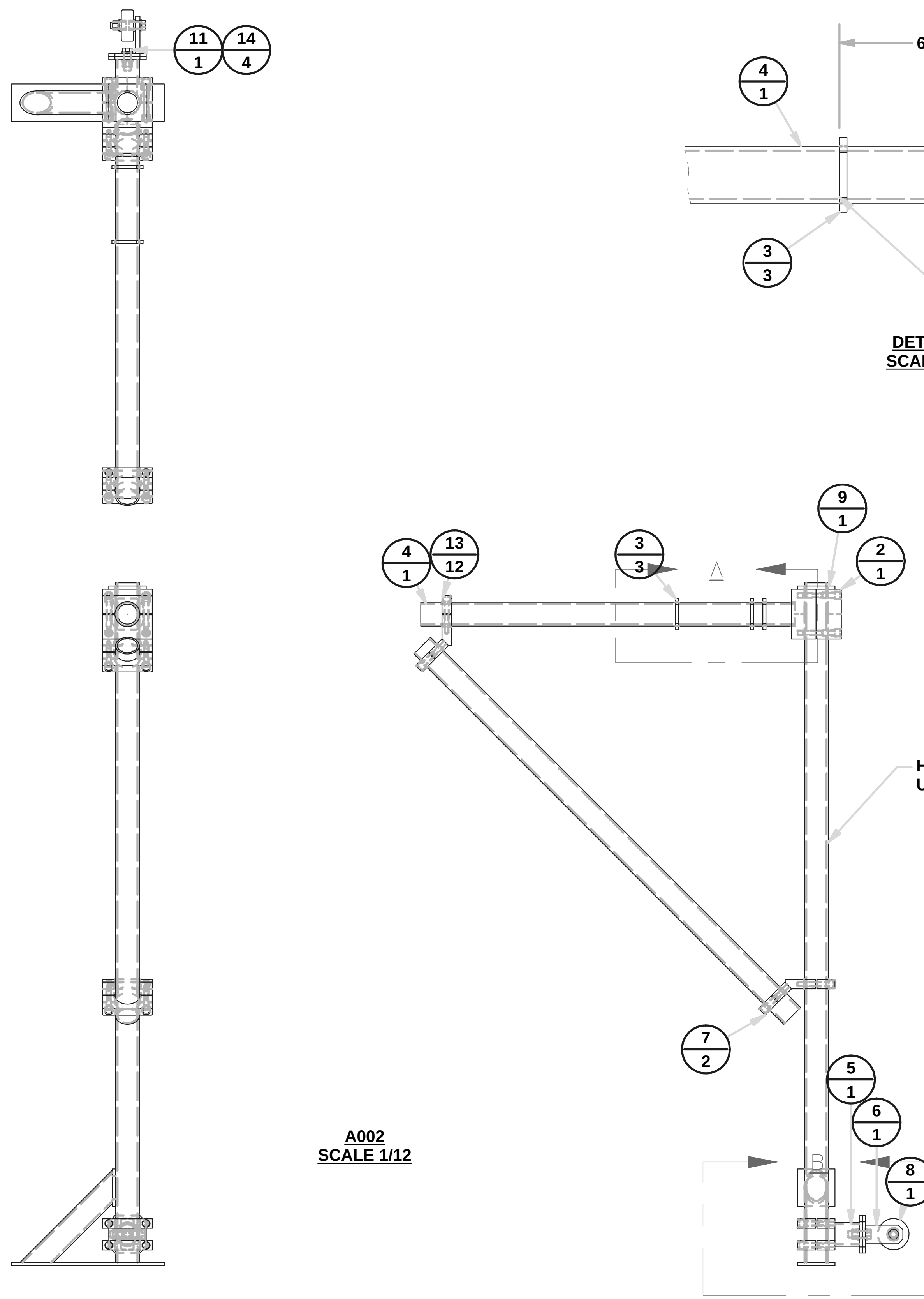

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13	12	3/8-16 UNC x 2" LG. Socket Head Cap Screw (SS)	92196A632	McMaster
12	4	3/8-16 UNC x 3" LG. Socket Head Cap Screw (SS)	92196A636	McMaster
11	1	1/2-13 UNC x 1 1/2" LG. HEX HEAD CAP SCREW	92240A715	McMaster
10	1	1/2-13 UNC x 2 1/2" LG. HEX HEAD CAP SCREW	92240A722	McMaster
9	1	A003 - Meter Stanchion	A003	
8	1	A004 - Wheel Assembly	A004	
7	2	A005-Angled Split Collar	A005	
6	1	A012 - Wheel Standoff	A012	
5	1	A013 - Wheel Collar	A013	
4	1	1-1/2" SCH 40 Pipe (1.90" O.D.) x 30" Lg. 6061 AL	P006	
3	3	1/2" x 2-1/2" x 2-1/2" 6061 AL	P007	
2	1	4" x 4" x 4" 6061 AL	P008	
1	1	1-1/2" SCH 40 Pipe (1.90" O.D.) x 42" Lg. 6061 AL	P023	

PARTS LIST

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ADV METER FRAME

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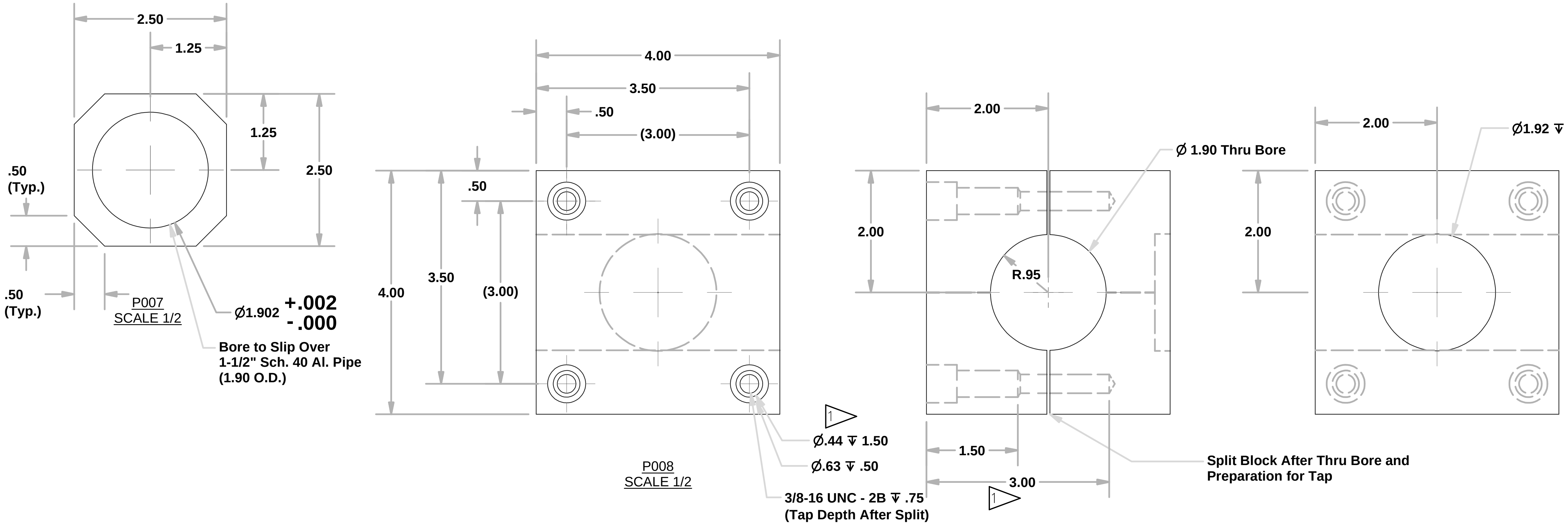
CENWP

PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

FIGURE NUMBER:
A002-1

FILENAME:
A002



REVISIONS

NO:	DESCRIPTION:	DATE:	BY:
1	Added Weld/Tap Notes	03/05/13	PG

DESIGNED BY: PG
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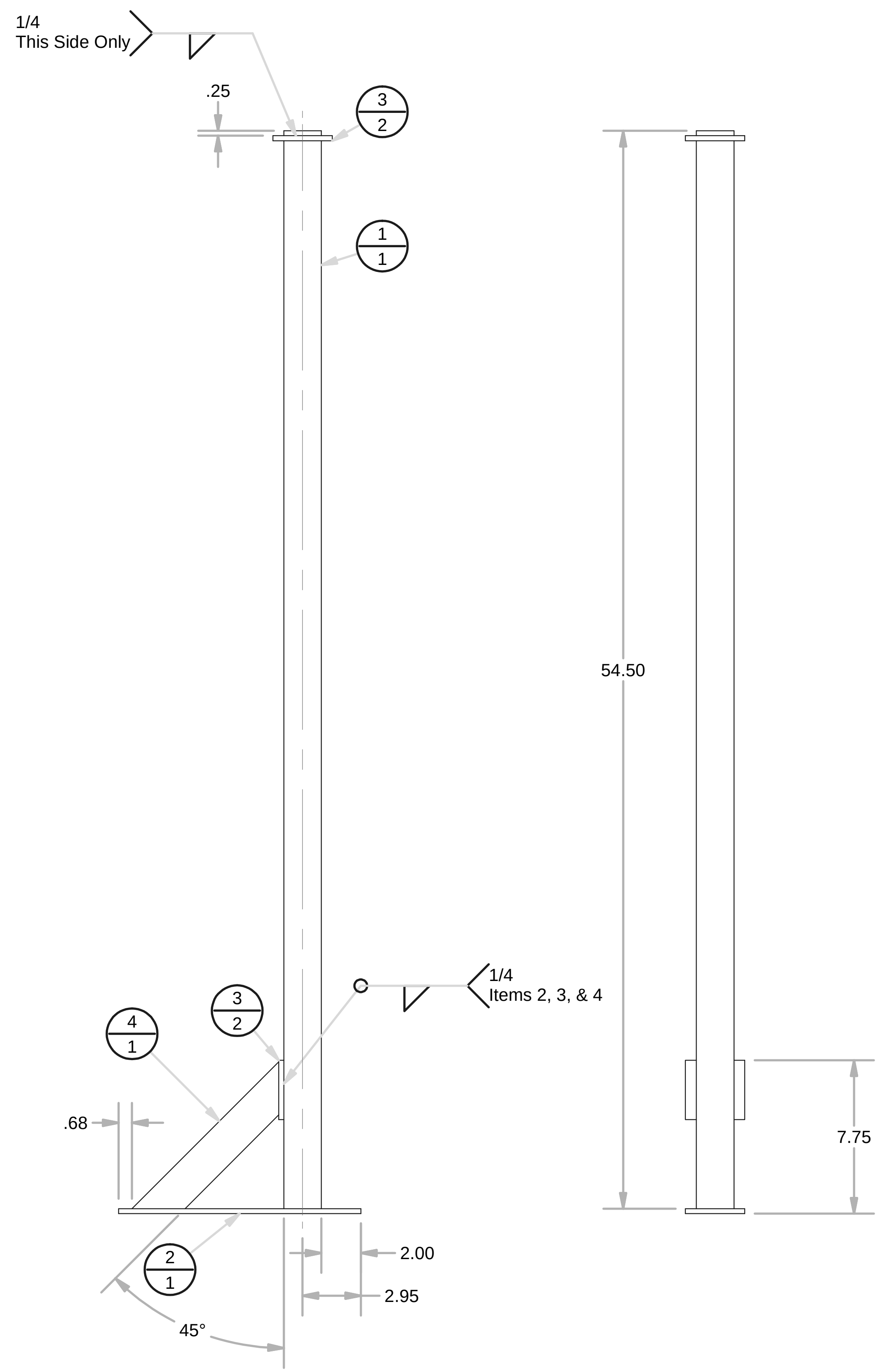
Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

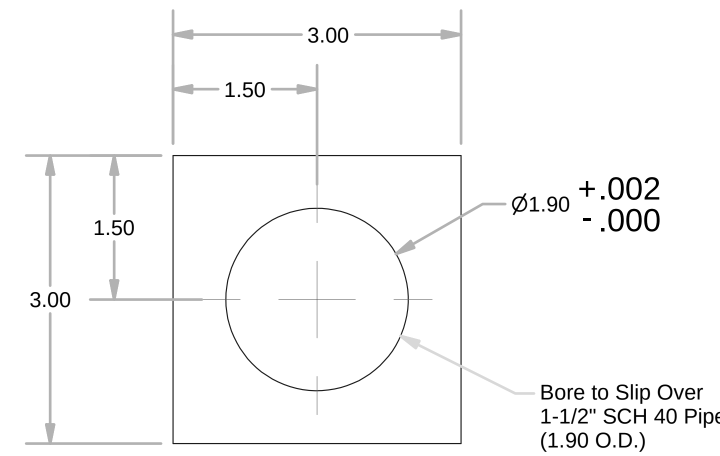
PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

FIGURE NUMBER:
A002-2

FILENAME:
A002



A003
SCALE 1/8



P011
SCALE 1 / 2

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
4	1	1-1/2" SCH 40 Pipe (1.90 O.D.) x 10-1/2" Lg. 6061 Al	P012	
3	2	1/4" x 3" x 3" 6061 AL	P011	
2	1	1/4" x 3" x 12-1/4" 6061 AL	P010	
1	1	1-1/2" SCH 40 Pipe (1.90 O.D.) x 54-1/2" Lg. 6061 AL	P009	

PARTS LIST

REVISIONS

NO:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: PG
DRAWN BY: PG
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APPROVED BY:

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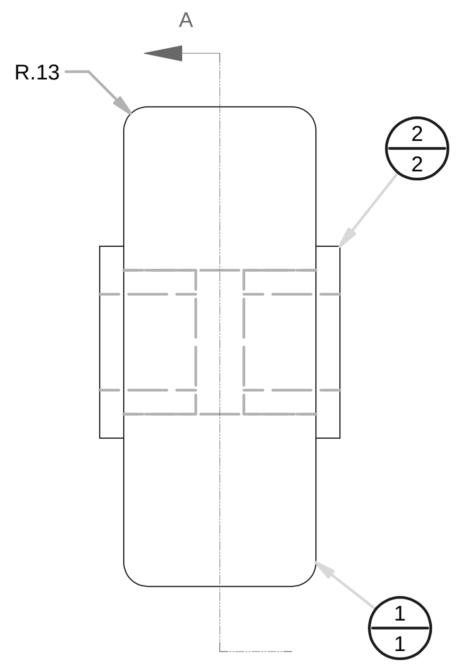
VERTICAL DEPLOYMENT ARM

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

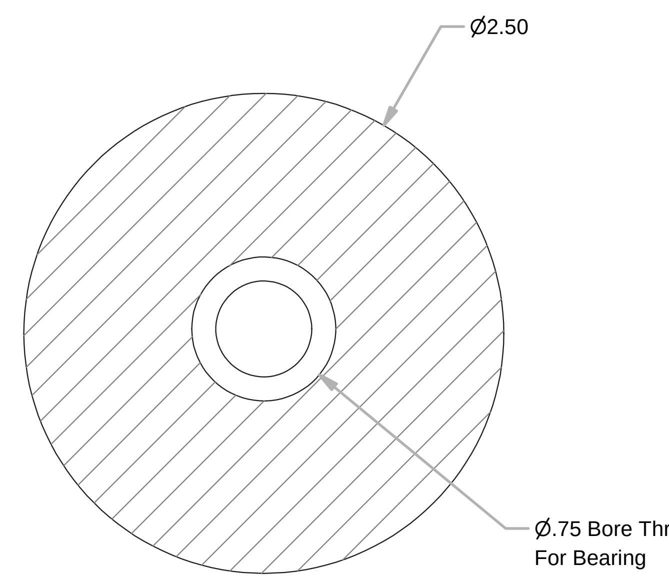
PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

FIGURE NUMBER: A003

FILENAME: A003



A004
SCALE 1 : 1



SECTION A-A
SCALE 1 : 1

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
2	2	1/2" ID NYLON FLANGE BEARING	6294K223	McMaster
1	1	2 1/2 " DIA x 1" TH.60A POLYURETHANE	8784K68	McMaster

PARTS LIST

REVISIONS

NO:	DESCRIPTION:	DATE:	BY:

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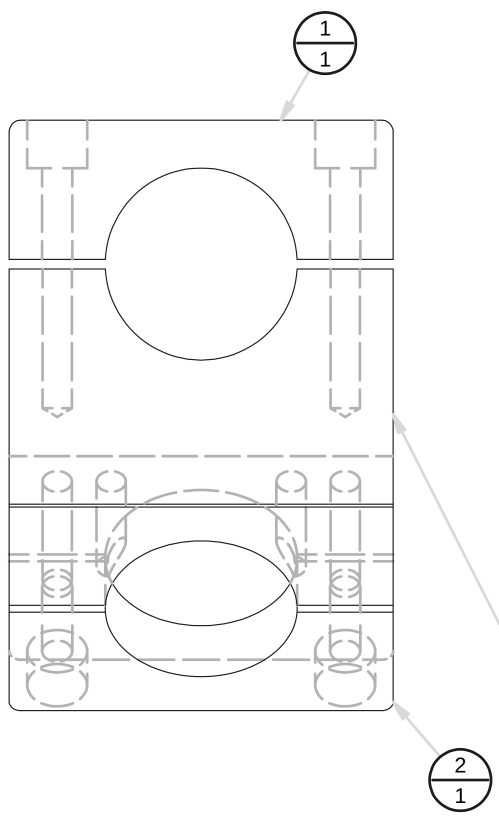
SMALL WHEEL

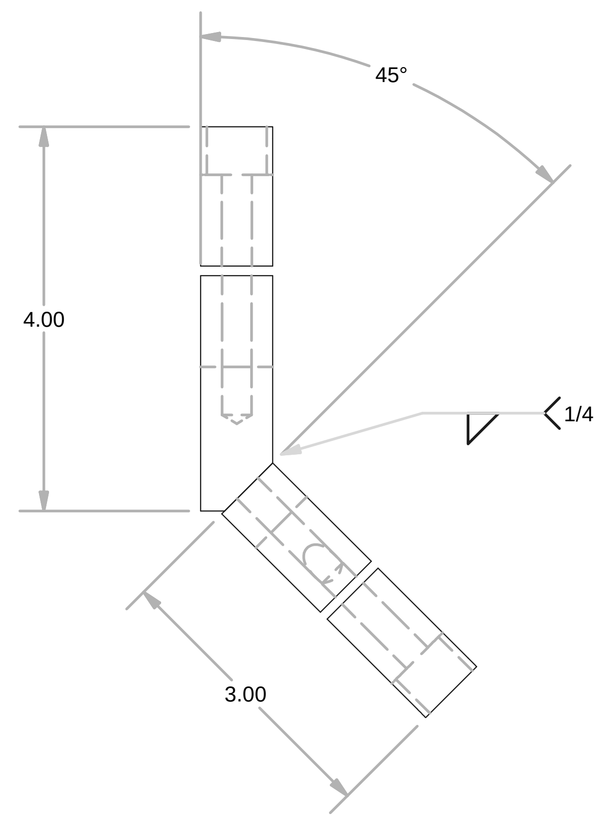
Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

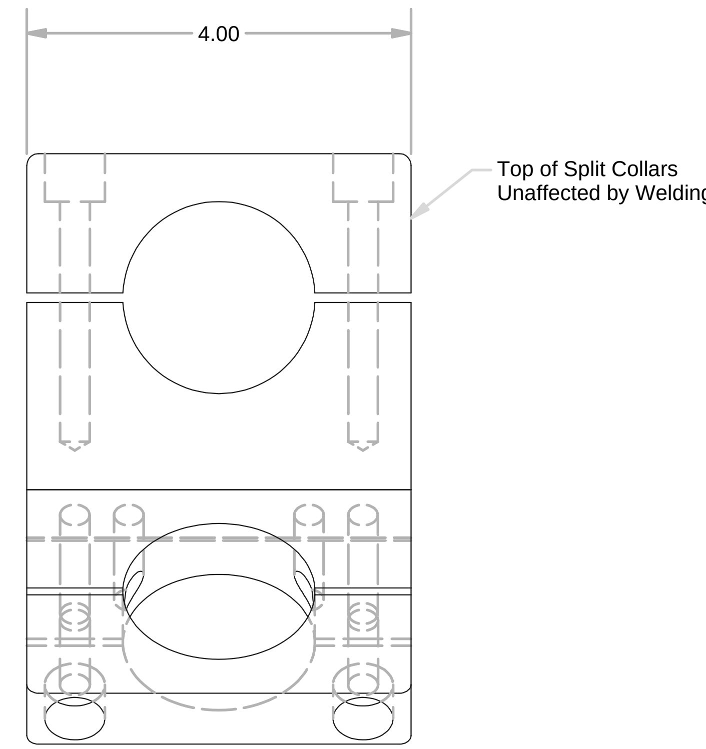
PROJECT NUMBER: 7134NWP015
DATE: **25FEB13**
SCALE:

FIGURE NUMBER:
A004

FILENAME:
A004







A005
SCALE 1/2

For Machining Detail of Item 1 and 2
See Sheet "FRAME-3" of Frame Assembly, P004
Item 1 (P022) is 1" Longer - Machining Identical

2	1	3/4" x 3" x 4" 6061 AL	P004	
1	1	3/4" x 4" x 4" 6061 AL	P022	
ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
PARTS LIST				

REVISIONS

NO:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: PG
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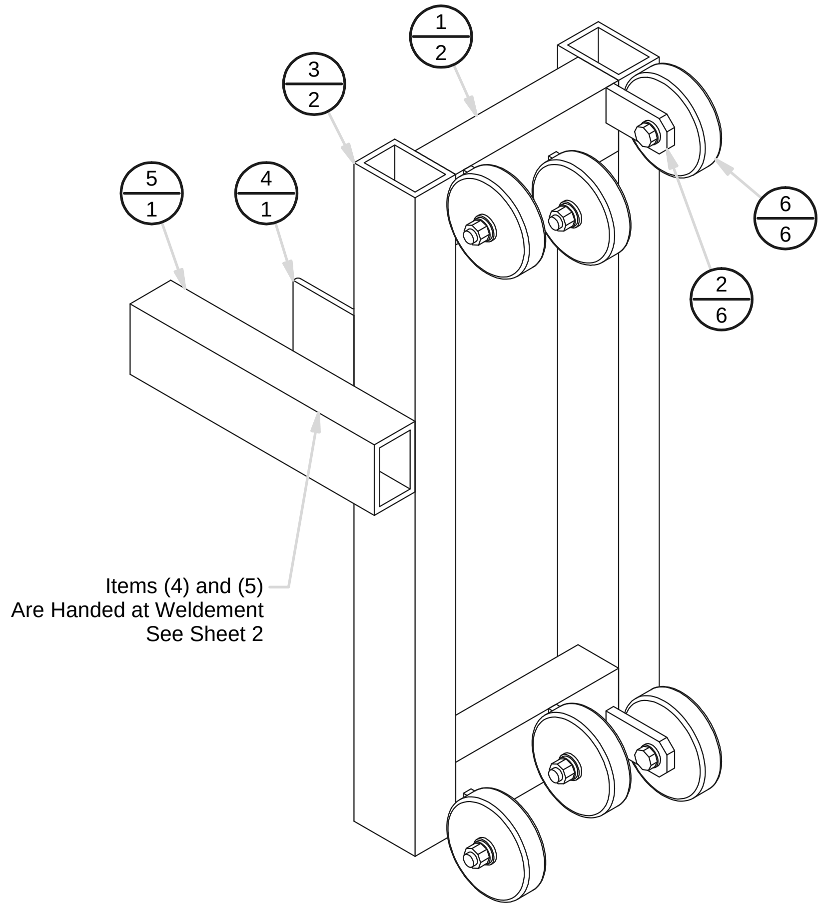
ANGLED SPLIT COLLAR

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

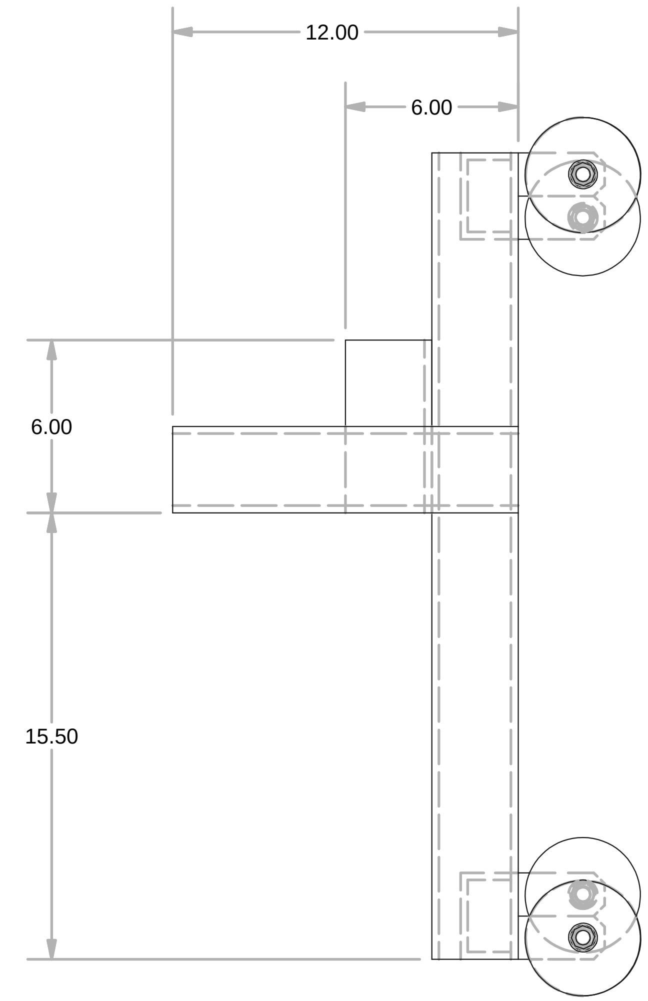
PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

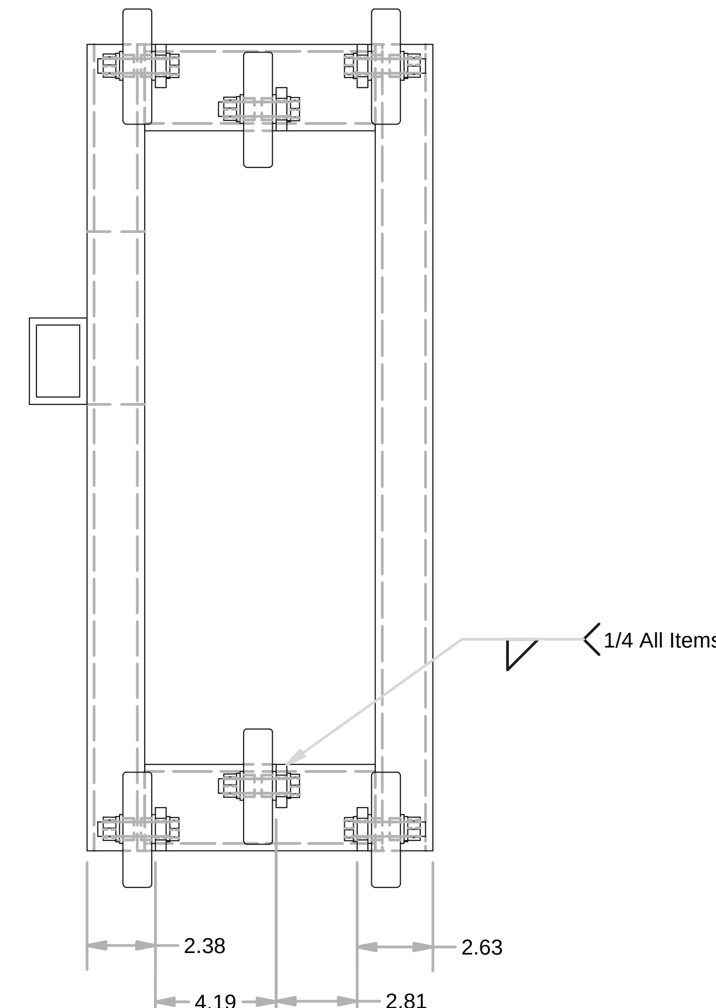
FIGURE NUMBER:
A005

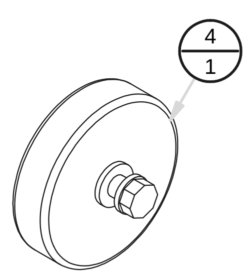
FILENAME:
A005

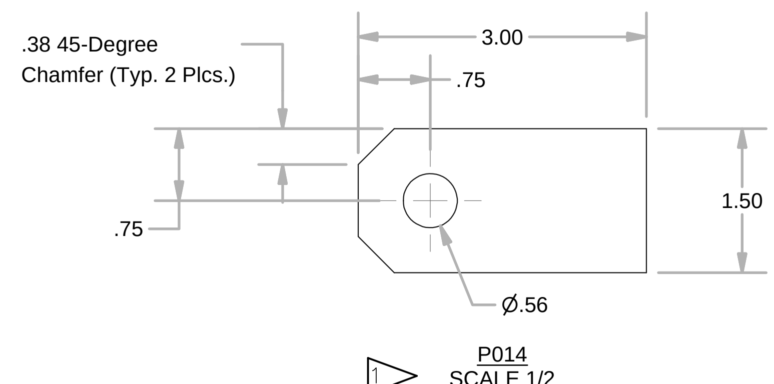


A007
SCALE 0.15 : 1









P014
SCALE 1/2

Hardware List Quantities for (1) Wheel Assembly
(6) Required for A007
(6) Required for A007 - Handed

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
4	1	WHEEL ASSY	A011	
3	1	1/2-13 UNC x 2 1/2" LG. HEX HEAD CAP SCREW	92240A722	McMaster
2	2	1/2" DIA. HELICAL SPRING LOCK WASHER	92146A033	McMaster
1	1	1/2-13 UNC HEX NUT	91847A520	McMaster

PARTS LIST

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
6	6	Large Wheel Assembly w/ Hardware		
5	1	2" x 3" x 1/4" Wall x 12" Lg. 6063 AL	P040	
4	1	L 2" x 3" x 1/4" Th. x 6" Lg. 6061 AL	P038	
3	2	2" x 3" x 1/4" Wall x 28" Lg. 6063 AL	P036	
2	6	3/8" x 1 1/2" X 3" , AL 2024	P014	
1	2	2" x 3" x 1/4" Wall x 8" Lg. 6063 AL	P034	

PARTS LIST

REVISIONS

NO:	DESCRIPTION:	DATE:	BY:
1	Added P014 Detail	03/05/13	PG

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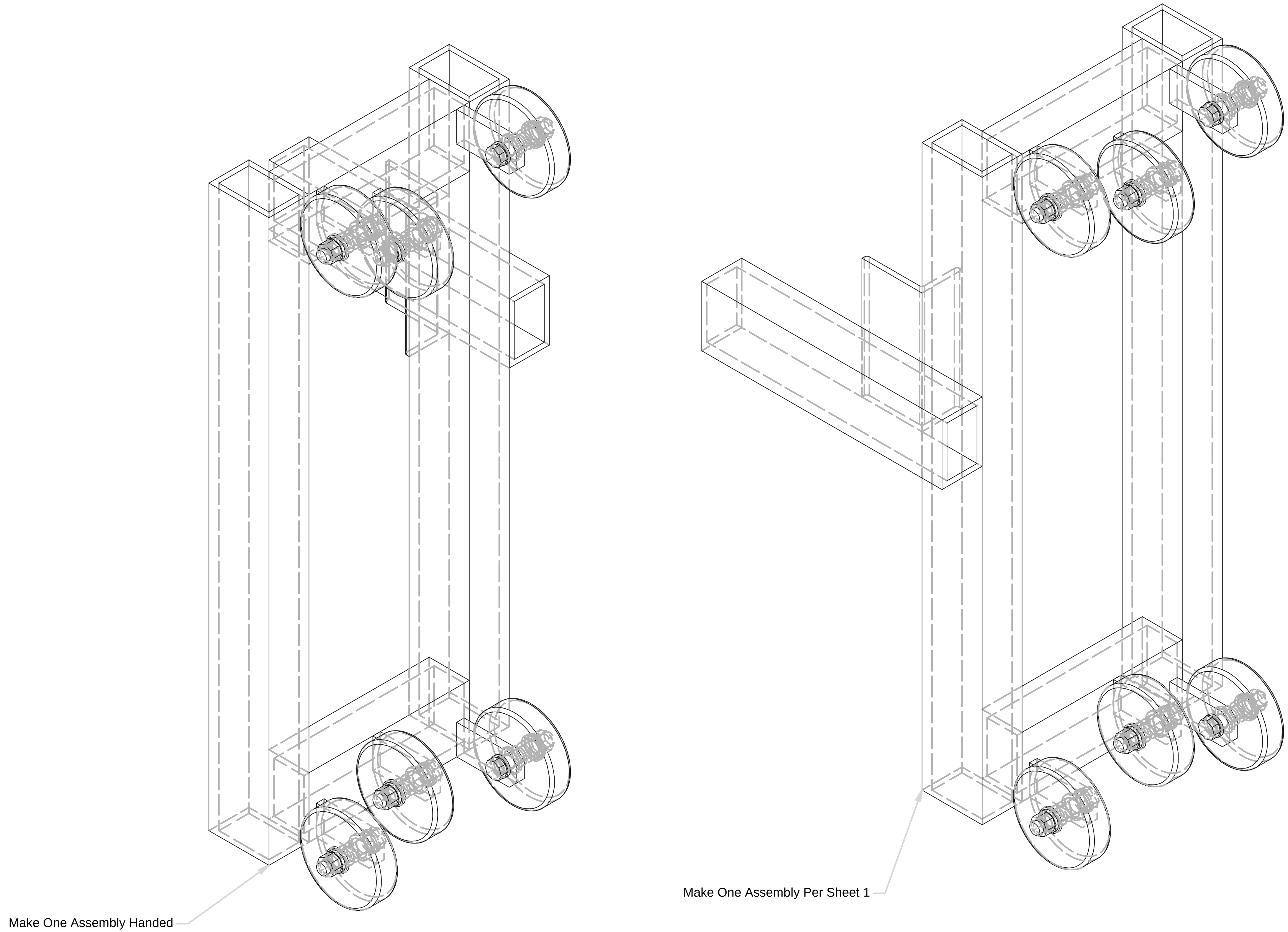
VBS WHEEL ASSEMBLY

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

FIGURE NUMBER:
A007-1

FILENAME:
A007



REVISIONS			
NO:	DESCRIPTION:	DATE:	BY:
1	Added P014 Detail	03/05/13	PG

DESIGNED BY: PG
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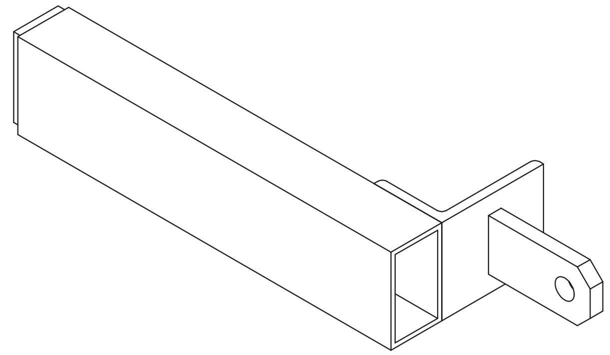
VBS WHEEL ASSEMBLY

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

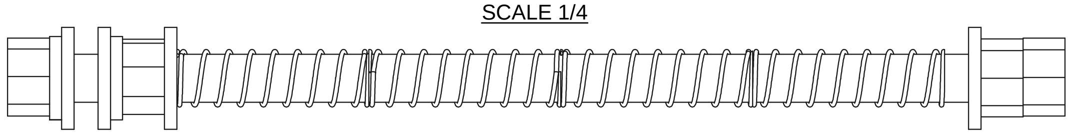
PROJECT NUMBER: 7134NWP015
DATE: **25FEB13**
SCALE:

FIGURE NUMBER: A007-2

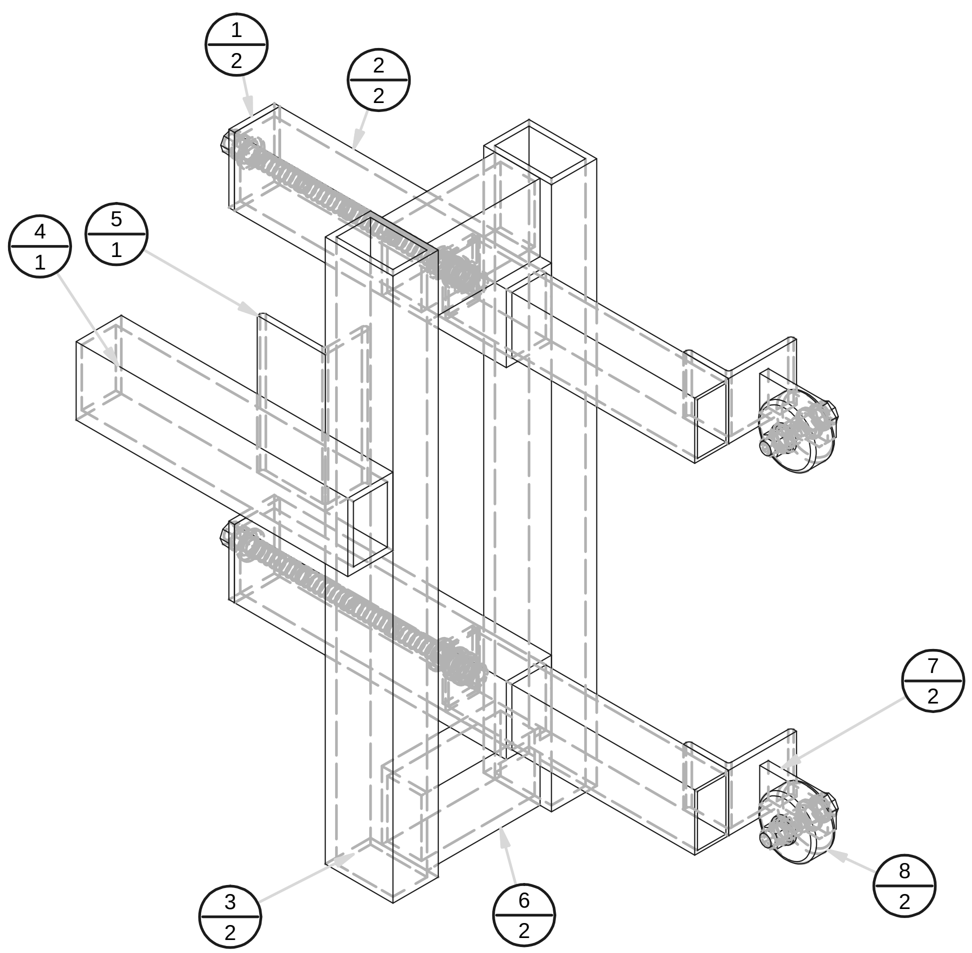
FILENAME: **A007**



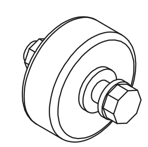
A009
SCALE 1/4



Piston Hardware Assembly
SCALE 1 / 2



A008
SCALE 1/6



Small Wheel Assembly
SCALE 1/4

1 BOM For Piston Arm
(2) Required for A008
(2) Required for A008-Handed

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
4	1	3/8" x 1 1/2" X 3" , AL 2024	P014	
3	1	L 2" x 3" x 1/4" Th. x 2.5" Lg. 6061 AL	P047	
2	1	1/2" x 1-5/16" x 2-5/16" 6061 AL	P045	
1	1	1-1/2" x 2-1/2" x 1/8" Wall x 11" Lg. 6063 AL	P043	

PARTS LIST

BOM For Piston Hardware Assembly
(2) Required for A008
(2) Required for A008-Handed

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
5	1	1/2-13 x 11" Lg. All Thread (SS)		
4	2	1/2" DIA. HELICAL SPRING LOCK WASHER	92146A033	McMaster
3	4	Compression Spring 2.00" L,.600" OD,.045" Wire	9657K396	McMaster
2	4	1/2-13 UNC HEX NUT	91847A520	McMaster
1	4	1/2" DIA Flat Washer	98019A509	McMaster

PARTS LIST

BOM For Small Wheel Assembly
(2) Required for A008
(2) Required for A008-Handed

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
4	1	SMALL WHEEL ASSY	A004	
3	1	1/2-13 UNC x 2 1/2" LG. HEX HEAD CAP SCREW	92240A722	McMaster
2	2	1/2" DIA. HELICAL SPRING LOCK WASHER	92146A033	McMaster
1	1	1/2-13 UNC HEX NUT	91847A520	McMaster

PARTS LIST

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
9	2	PISTON HARDWARE ASSEMBLY		
8	2	SMALL WHEEL ASSEMBLY		
7	2	Piston Arm	A009	
6	2	2" x 3" x 1/4" Wall x 5" Lg. 6063 AL	P037	
5	1	L 2" x 3" x 1/4" Th. x 6" Lg. 6061 AL	P038	
4	1	2" x 3" x 1/4" Wall x 12" Lg. 6063 AL	P040	
3	2	2" x 3" x 1/4" Wall x 24" Lg. 6063 AL	P041	
2	2	2" x 3" x 1/4" Wall x 12" Lg. 6063 AL	P042	
1	2	1/4" x 2" x 3" 6061 AL	P044	

PARTS LIST

REVISIONS

NO:	DESCRIPTION:	DATE:	BY:
1	Added A009 BOM	03/05/13	PG
2	Added Sheets	03/05/13	PG

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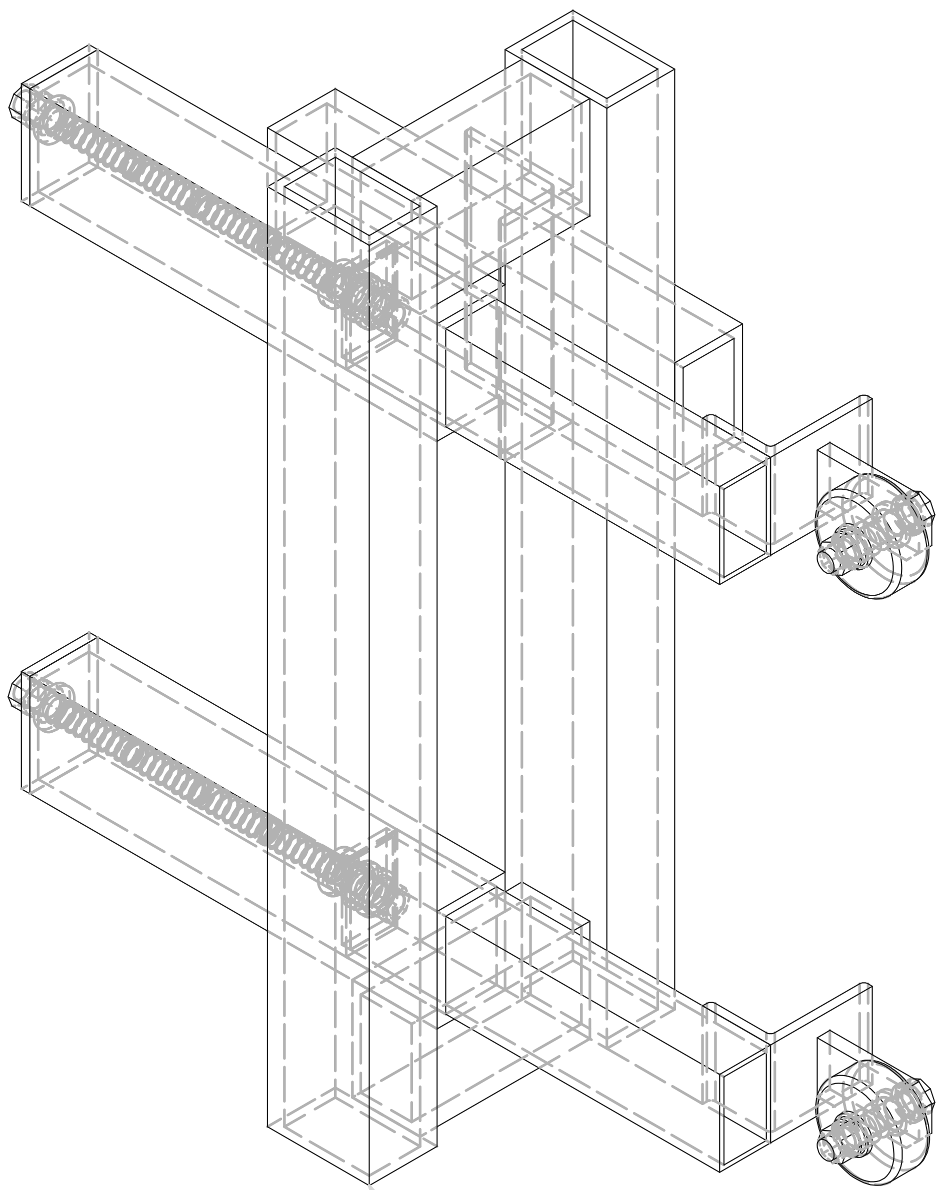
PISTON WHEEL ASSEMBLY

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

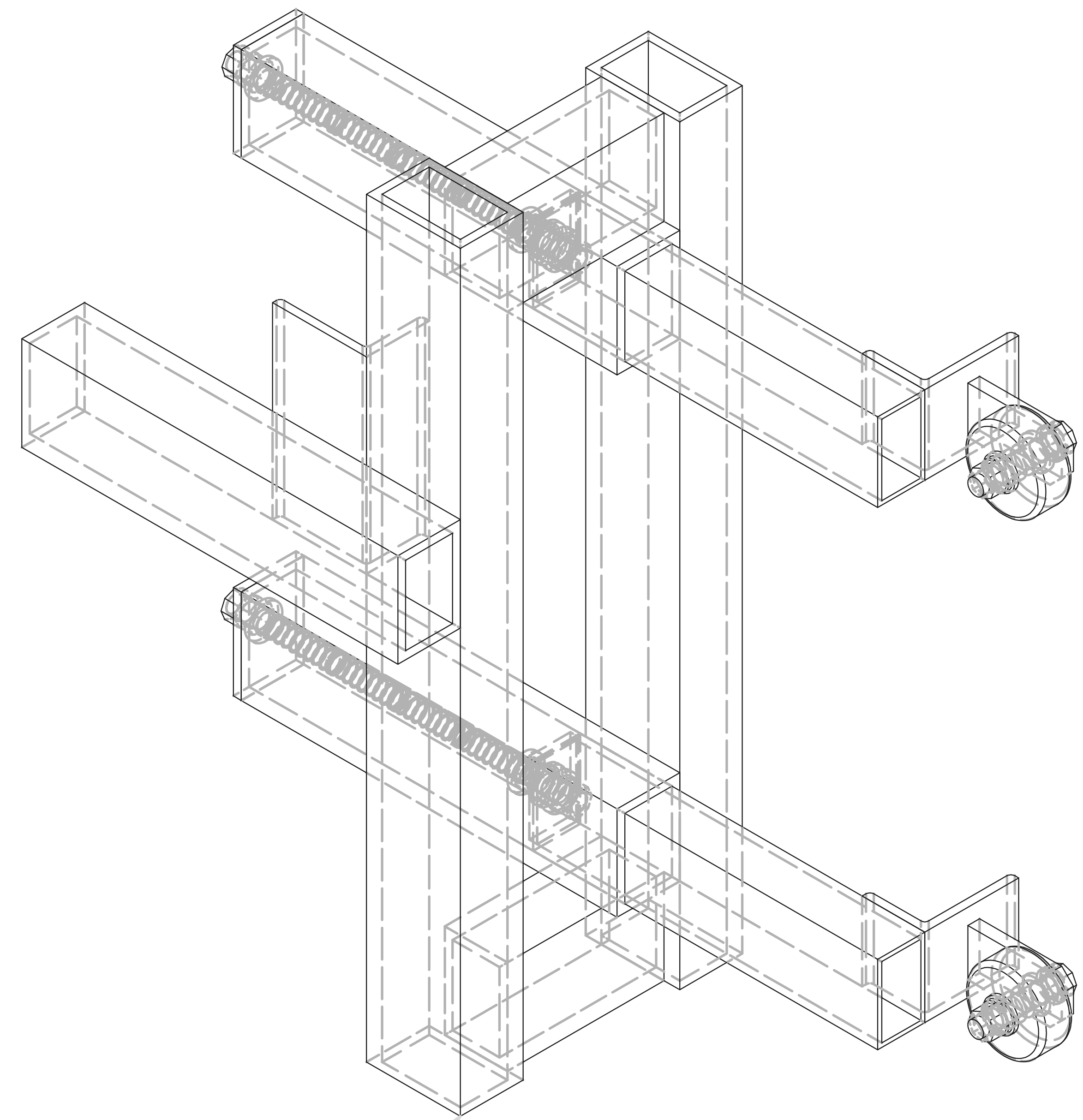
PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

FIGURE NUMBER: A008-1

FILENAME: A008



Make One Assembly Handed



Make One Assembly Per Sheet 3

REVISIONS

NO:	DESCRIPTION:	DATE:	BY:
1	Added A009 BOM	03/05/13	PG
2	Added Sheets	03/05/13	PG

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PISTON WHEEL ASSEMBLY

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

PROJECT NUMBER: 7134NWP015

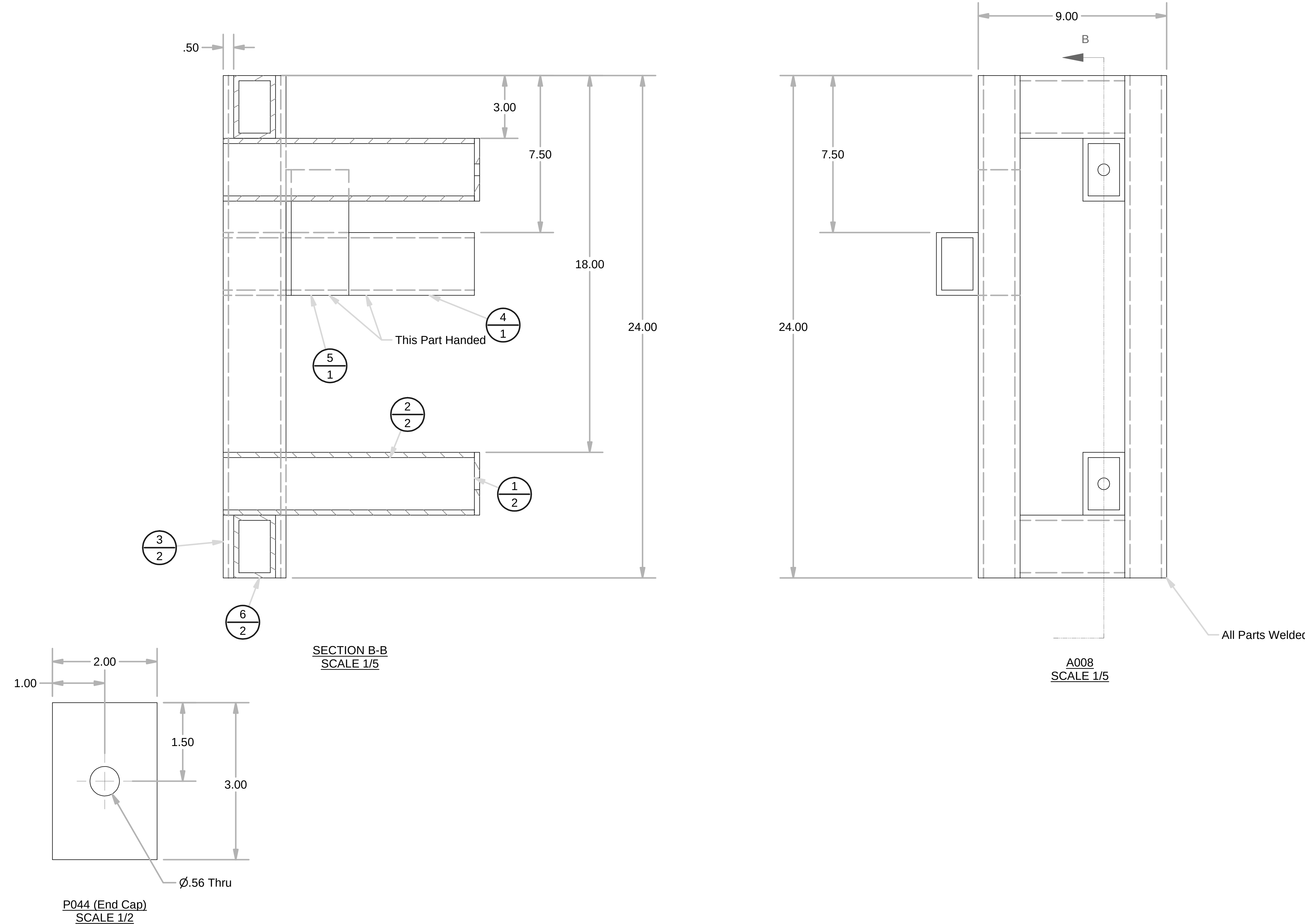
DATE: **05MAR13**

SCALE:

FIGURE NUMBER:

A008-2

FILENAME:
A008



REVISIONS

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1	Added A009 BOM	03/05/13	PG
2	Added Sheets	03/05/13	PG

DESIGNED BY: PG
DRAWN BY: PG
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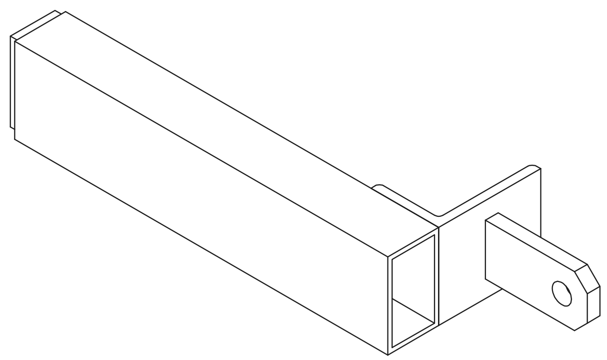
PISTON WHEEL ASSEMBLY

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

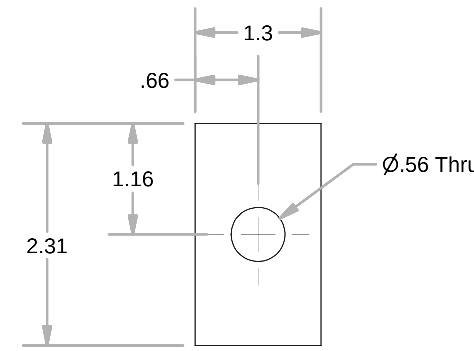
PROJECT NUMBER: 7134NWP015
DATE: **03/05/13**
SCALE:

FIGURE NUMBER:
A008-3

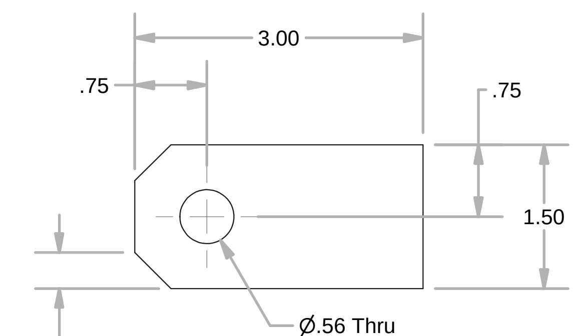
FILENAME:
A008



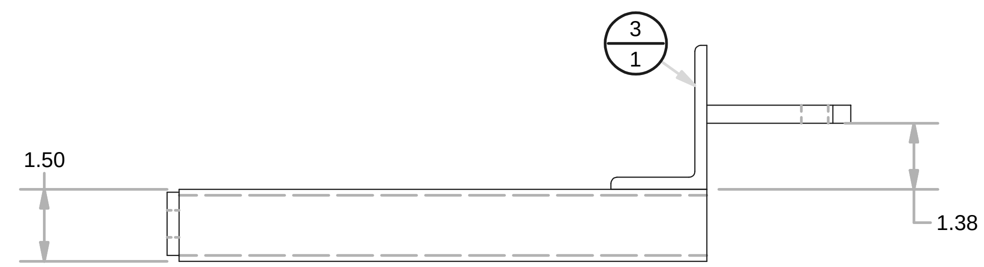
A009 (Piston Arm)
SCALE 1/4

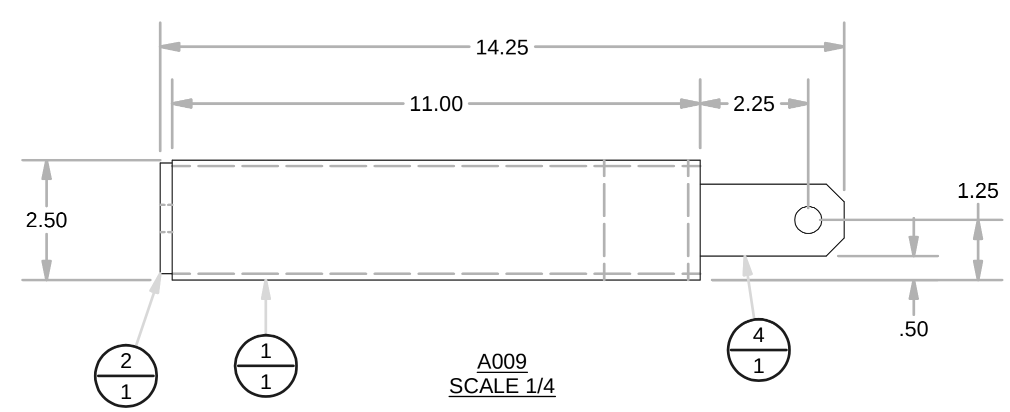


P045 (End Cap For Piston Arm)
SCALE 1/2



P014
SCALE 1/2





A009
SCALE 1/4

REVISIONS			
NO:	DESCRIPTION:	DATE:	BY:
1	Added A009 BOM	03/05/13	PG
2	Added Sheets	03/05/13	PG

DESIGNED BY: PG
DRAWN BY: PG
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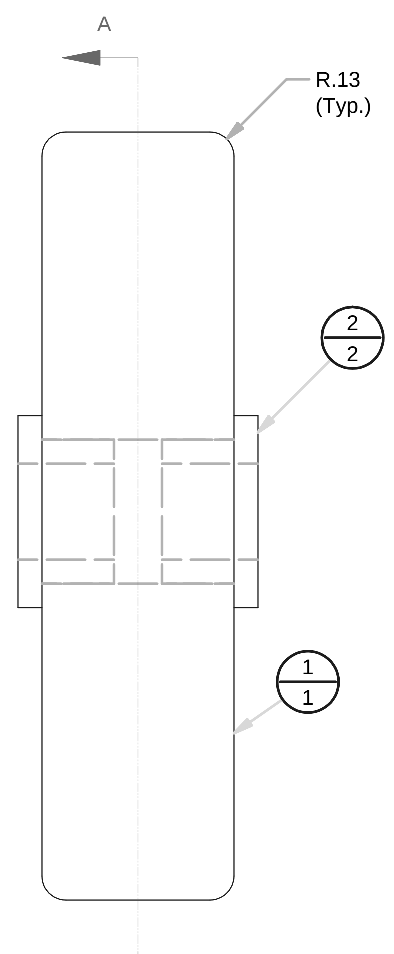
PISTON WHEEL ASSEMBLY
PISTON ARM
Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

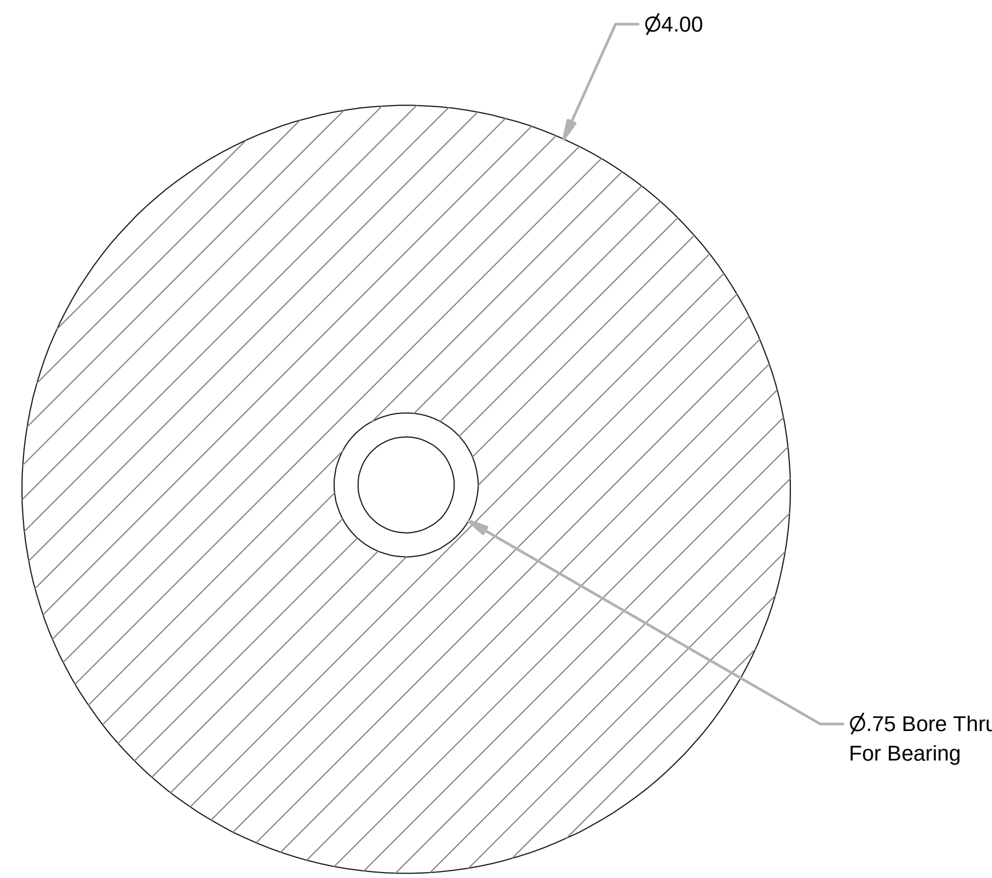
PROJECT NUMBER: 7134NWP015
DATE: **03/05/13**
SCALE:

FIGURE NUMBER:
A008-4

FILENAME:
A008



A011
SCALE 1 : 1



SECTION A-A
SCALE 1 : 1

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
2	2	1/2" ID NYLON FLANGE BEARING	6294K223	McMaster
1	1	4 " DIA x 1" TH. 60A POLYURETHANE	8784K167	McMaster

PARTS LIST

REVISIONS			
NO:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: PG
DRAWN BY: PG
CHECKED BY:
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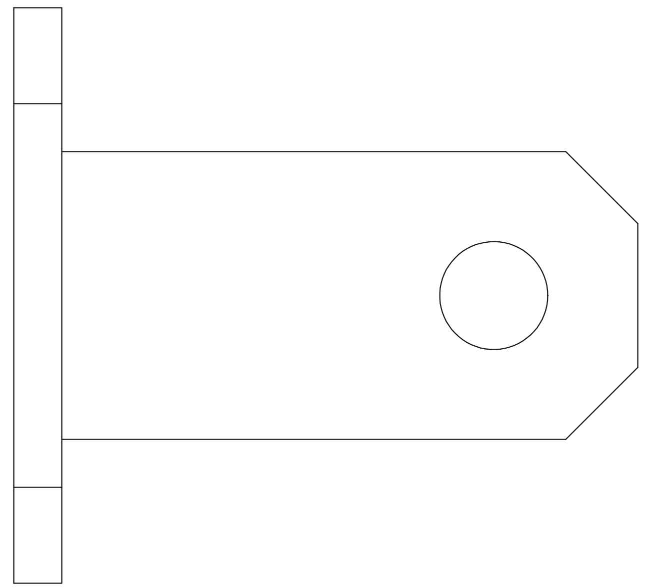
LARGE WHEEL

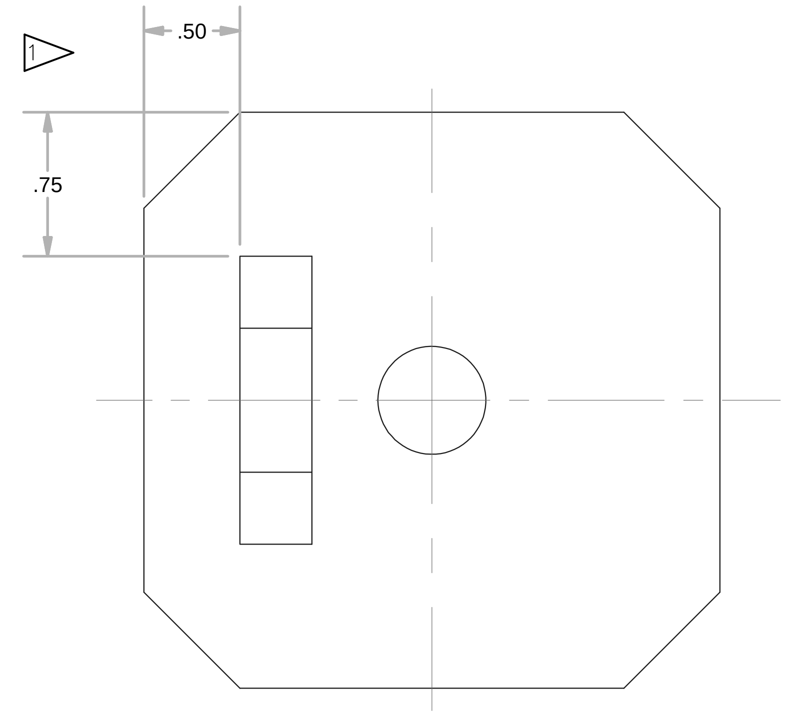
Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

PROJECT NUMBER: 7134NWP015
DATE: **25FEB13**
SCALE:

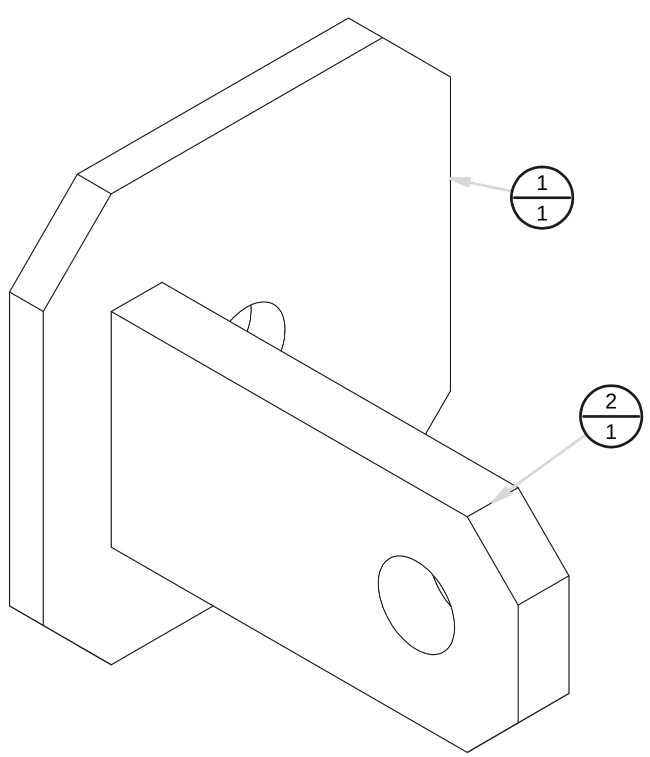
FIGURE NUMBER:
A011

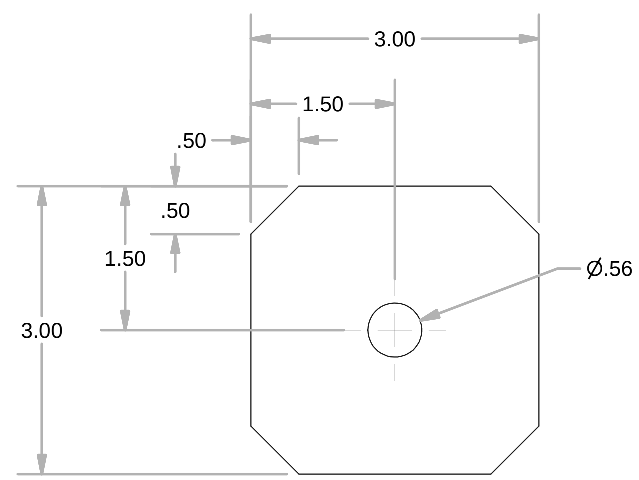
FILENAME:
A011



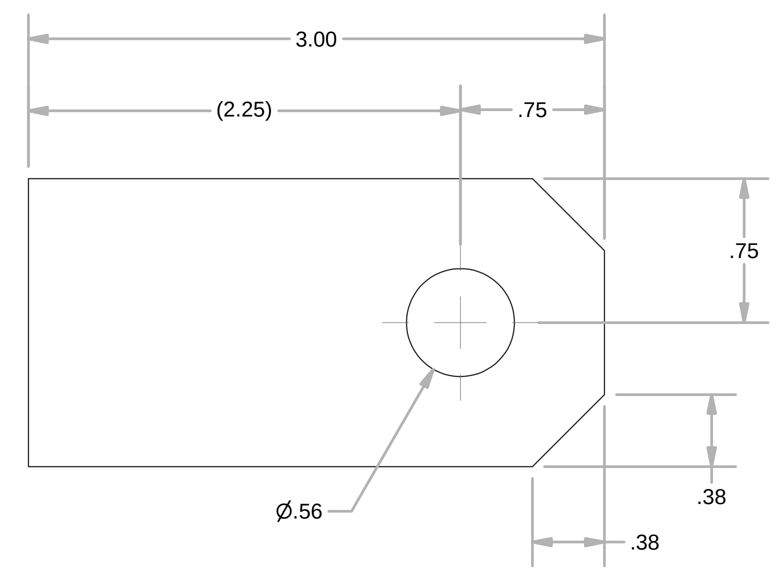


A012
SCALE 1 : 1





P015
SCALE 1/2



P014
SCALE 1 : 1

ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
2	1	3/8" x 1 1/2" X 3" , AL 2024	P014	
1	1	1/4" x 3" x 3" 6061 AL	P015	

PARTS LIST

REVISIONS

NO:	DESCRIPTION:	DATE:	BY:
1	Added Dimensions	03/05/13	PG

DESIGNED BY: PG
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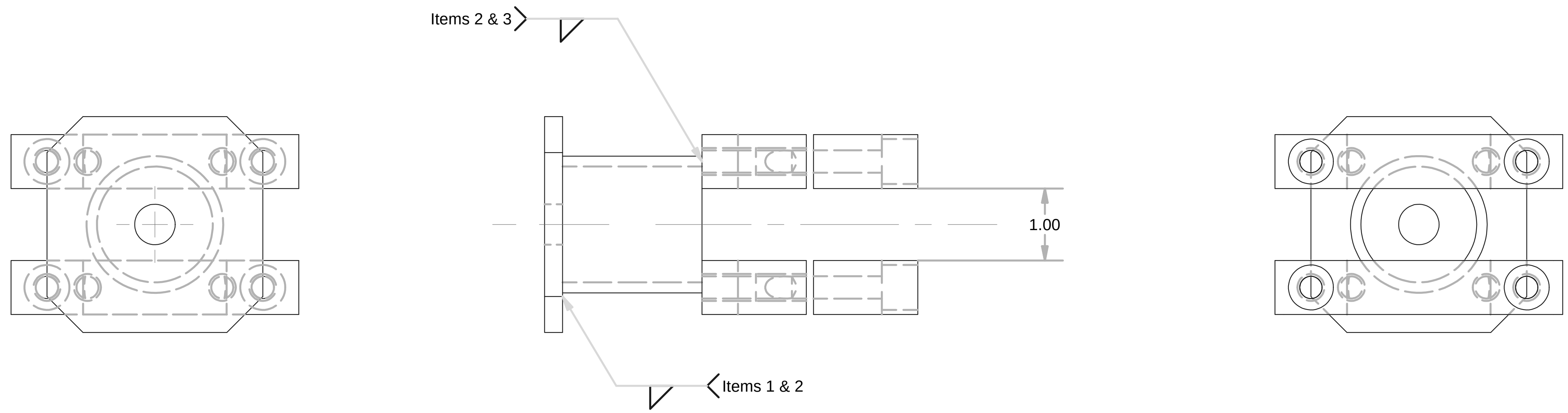
SWIVEL BASE

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

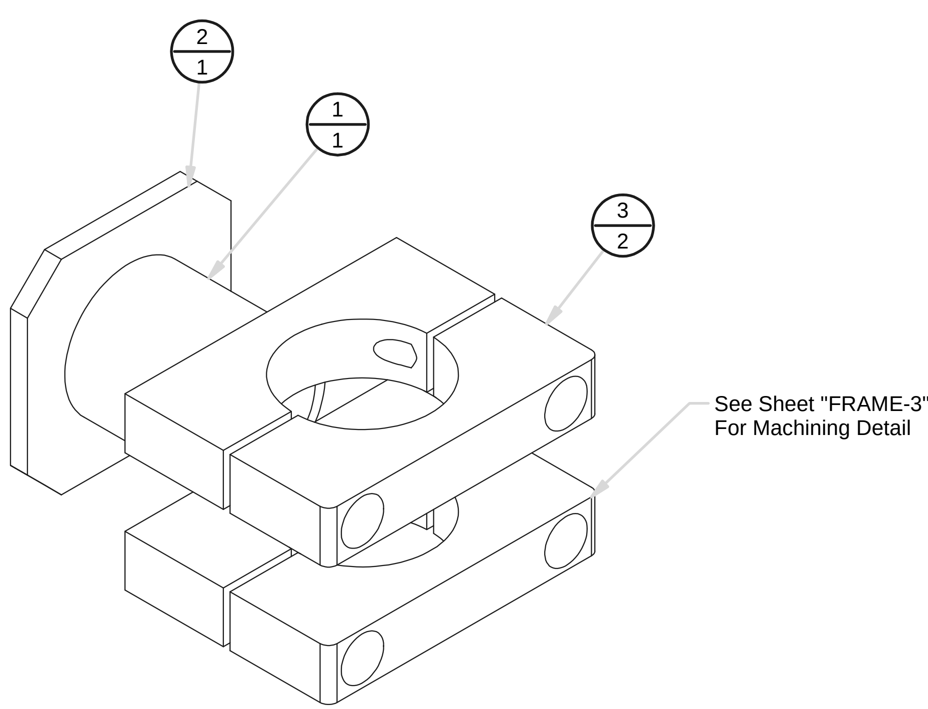
PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

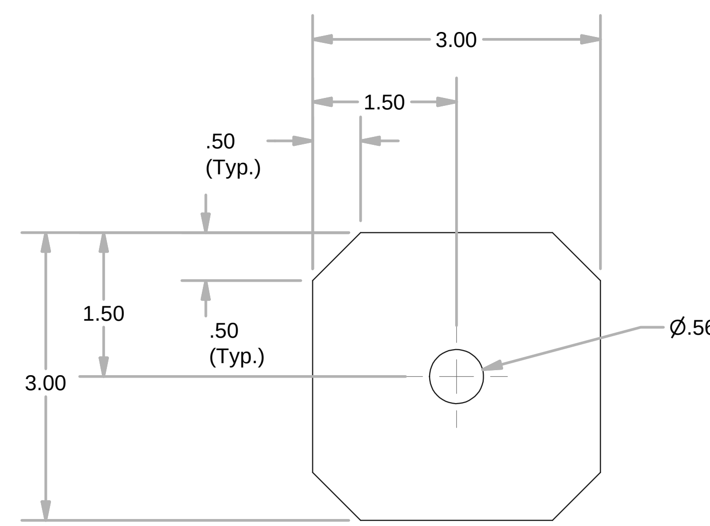
FIGURE NUMBER:
A012

FILENAME:
A012



A013
SCALE 1/2





P015
SCALE 1/2

3	2	3/4" x 3" x 4" 6061 AL	P004	
2	1	1/4" x 3" x 3" 6061 AL	P015	
1	1	1-1/2" SCH 40 Pipe (1.90" O.D.) x 1.9375" Lg. 6061 AL	P020	
ITEM	QTY	DESCRIPTION	STOCK NUMBER	VENDOR
PARTS LIST				

REVISIONS

NO:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: PG
DRAWN BY: PG
CHECKED BY:
APPROVED BY:

ALDEN
9521 WILLOWS ROAD NE
REDMOND, WASHINGTON 98052
PHONE: (425) 881-7700
FAX: (425) 883-4473
WEB: HTTP://WWW.ALDENLAB.COM

SWIVEL WHEEL BASE

Water Velocity Measurements at Bonneville Dam
Portland, OR
CENWP

PROJECT NUMBER: 7134NWP015
DATE: 25FEB13
SCALE:

FIGURE NUMBER: A013

FILENAME: A013

Appendix B

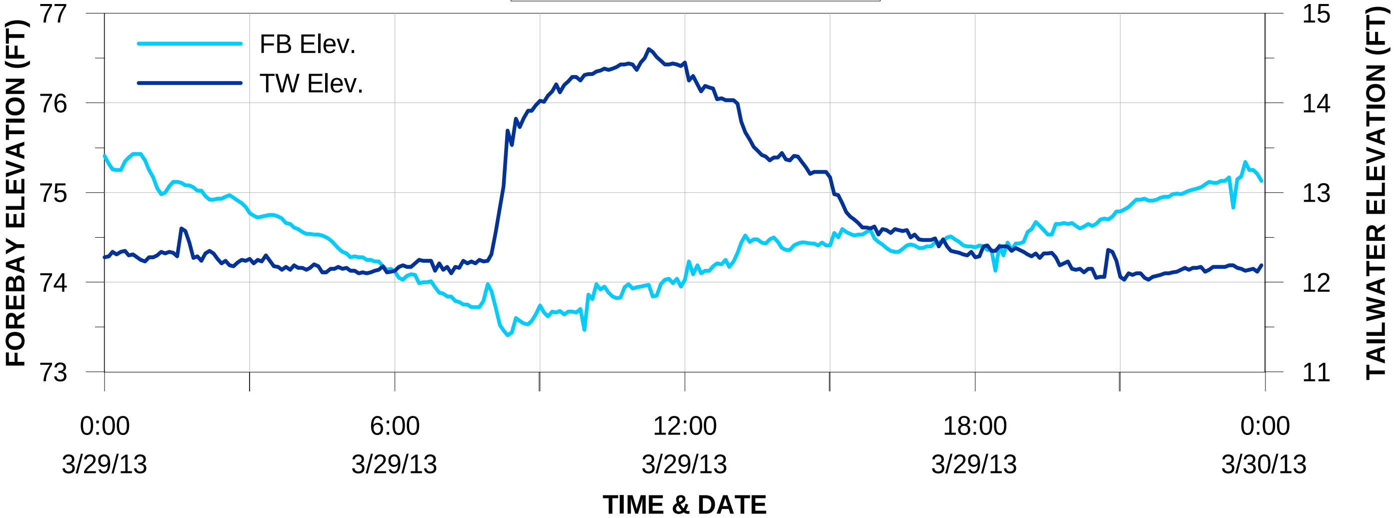
Daily Conditions

Daily Conditions Summary

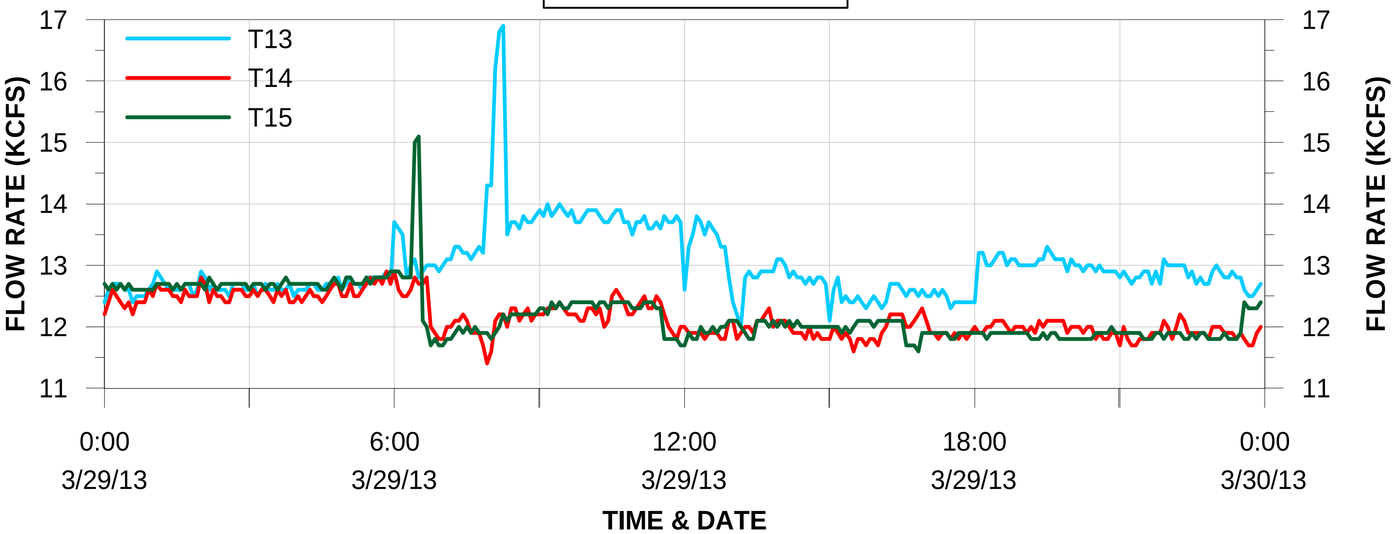
Contract No. W9127N-12-D-0001
Task No. 0001

Data Collection Unit	15A	Flow Condition	12 KCFS
DATE	March 29, 2013	DIFFERENTIAL HEAD ACROSS VBS	
BEGIN DATA COLLECTION	15:00 HRS	@ 14:00 HRS	0.30 FT
END DATA COLLECTION	23:00 HRS	@ 23:00 HRS	0.30 FT

Water Surface Elevation



Powerhouse 2 Flow



HYDRAULICS & HYDROLOGY SUMMARY FOR PERIOD OF DATA COLLECTION

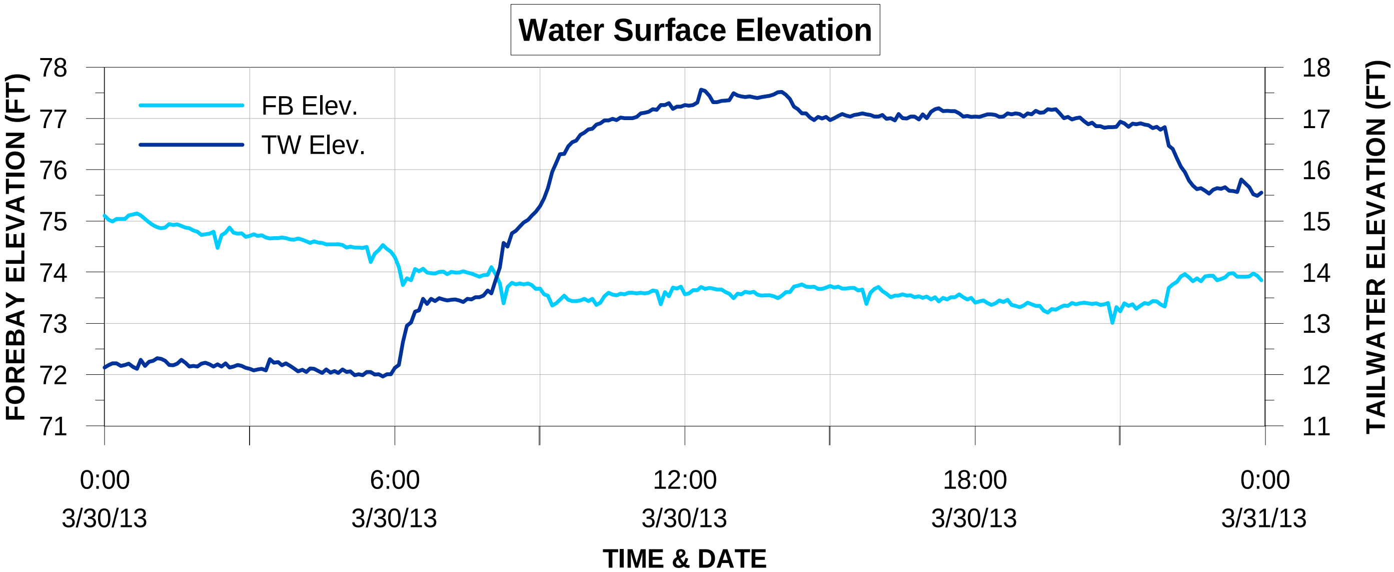
AVERAGE TOTAL FLOW			118.0		**AVERAGE SPILLWAY FLOW**			1.2
B2 AVERAGE FLOW			87.5		**FISH 1**	2.8	**FISH 2**	2.5
FLOW	**UNIT 11**	**UNIT 12**	**UNIT 13**	**UNIT 14**	**UNIT 15**	**UNIT 16**	**UNIT 17**	**UNIT 18**
AVERAGE	0	12.9	12.8	11.9	11.9	12.8	12.6	12.6
MAX	0	13.5	13.3	12.3	12.1	13.4	12.9	12.9
MIN	0	12.4	12.1	11.6	11.6	12.3	12.3	12.4
AVERAGE FOREBAY W/S EL			74.6 FT		**AVERAGE TAILWATER W/S EL**			12.3 FT
B2CC	OPEN		**T.I.E.**	OUT		**ORIFICE OPEN**		1 NORTH

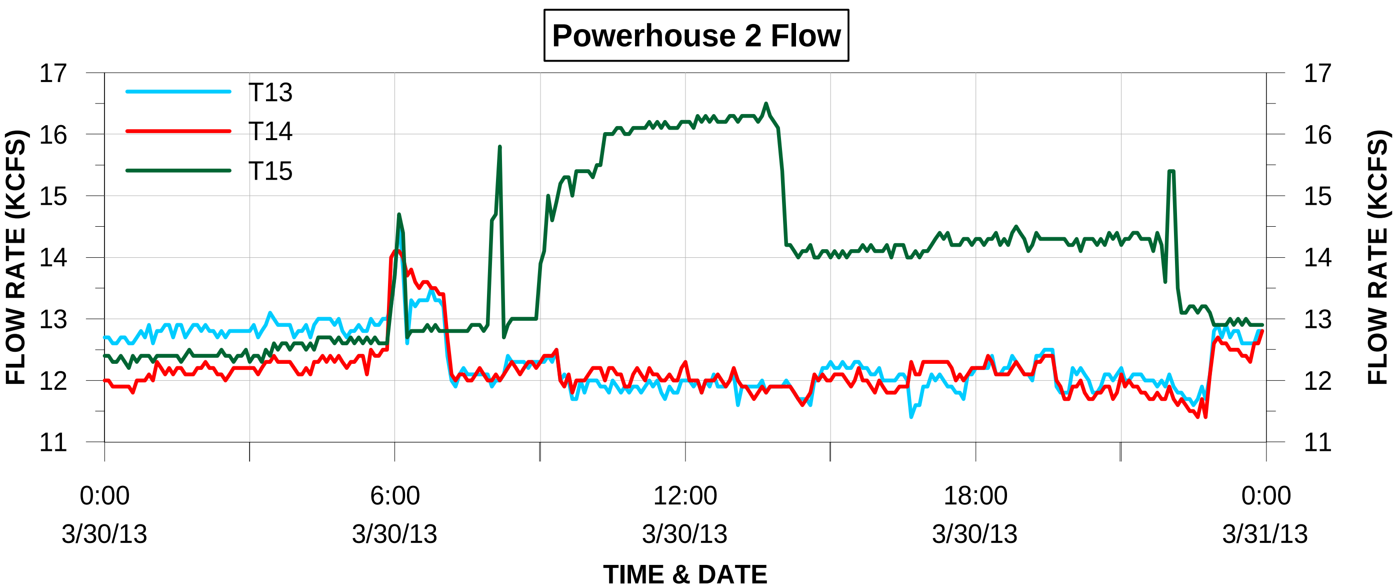
Note: Flow in KCFS

Daily Conditions Summary

Contract No. W9127N-12-D-0001
Task No. 0001

Data Collection Unit	14A	Flow Condition	12 KCFS
DATE	March 30, 2013	DIFFERENTIAL HEAD ACROSS VBS	
BEGIN DATA COLLECTION	11:30 HRS	@ 12:45 HRS	0.25 FT
END DATA COLLECTION	22:15 HRS	@ 22:00 HRS	0.30 FT





HYDRAULICS & HYDROLOGY SUMMARY FOR PERIOD OF DATA COLLECTION

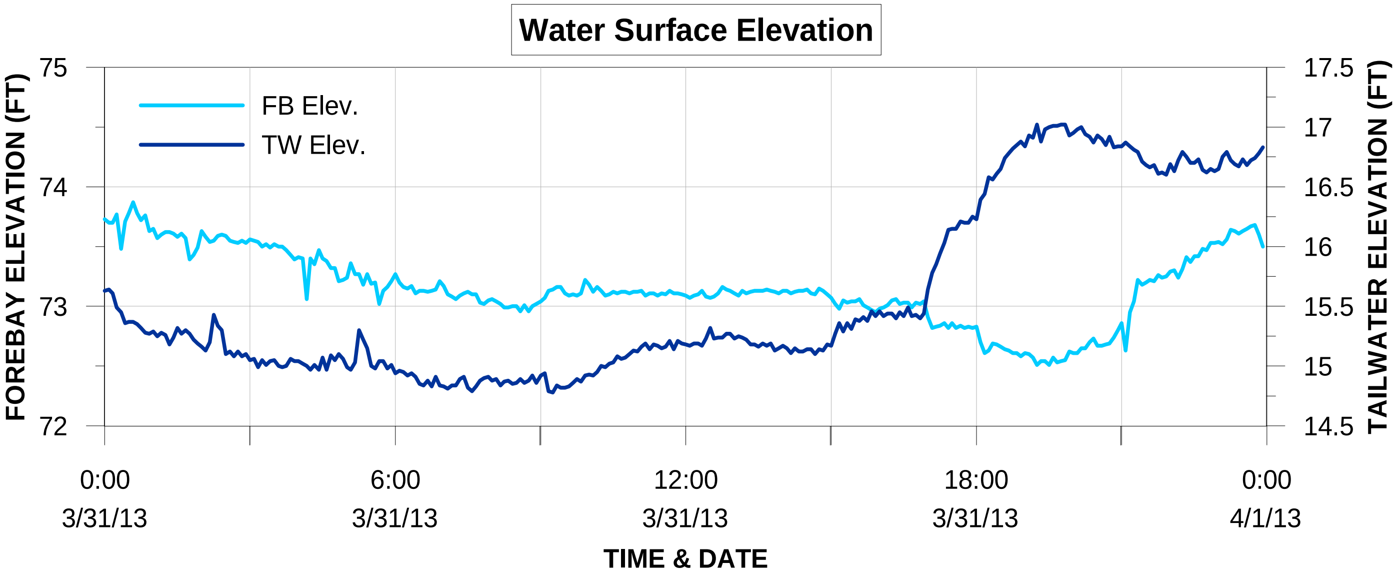
AVERAGE TOTAL FLOW			191.5		**AVERAGE SPILLWAY FLOW**			1.6
B2 AVERAGE FLOW			97.1		**FISH 1**	2.9	**FISH 2**	2.6
FLOW	**UNIT 11**	**UNIT 12**	**UNIT 13**	**UNIT 14**	**UNIT 15**	**UNIT 16**	**UNIT 17**	**UNIT 18**
AVERAGE	0	14.6	12.0	12.0	14.7	14.6	14.6	14.7
MAX	0	16.4	12.5	12.4	16.5	16.4	16.4	16.2
MIN	0	12.0	11.4	11.6	13.1	12.7	13.5	12.8
AVERAGE FOREBAY W/S EL			73.5 FT		**AVERAGE TAILWATER W/S EL**			17.1 FT
B2CC	OPEN		**T.I.E.**	OUT		**ORIFICE OPEN**		1 NORTH

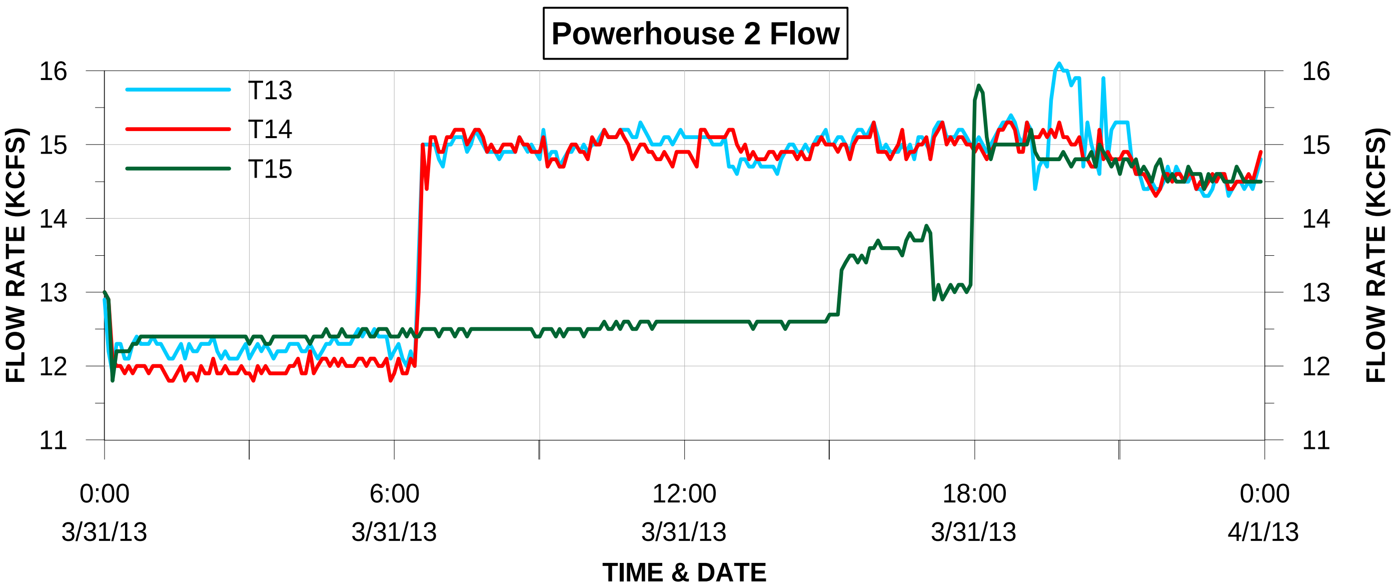
Note: Flow in KCFS

Daily Conditions Summary

Contract No. W9127N-12-D-0001
Task No. 0001

Data Collection Unit	14A	Flow Condition	15 KCFS
DATE	March 31, 2013	DIFFERENTIAL HEAD ACROSS VBS	
BEGIN DATA COLLECTION	08:15 HRS	@ 10:00 HRS	0.40 FT
END DATA COLLECTION	17:15 HRS	@ 18:00 HRS	0.30 FT





HYDRAULICS & HYDROLOGY SUMMARY FOR PERIOD OF DATA COLLECTION

AVERAGE TOTAL FLOW			157.5		**AVERAGE SPILLWAY FLOW**			2.1
B2 AVERAGE FLOW			93.4		**FISH 1**	2.9	**FISH 2**	2.6
FLOW	**UNIT 11**	**UNIT 12**	**UNIT 13**	**UNIT 14**	**UNIT 15**	**UNIT 16**	**UNIT 17**	**UNIT 18**
AVERAGE	0	12.8	15.0	15.0	12.8	12.8	12.3	12.8
MAX	0	13.8	15.3	15.3	13.9	13.8	13.3	13.7
MIN	0	12.4	14.6	14.7	12.4	12.3	12.2	12.4
AVERAGE FOREBAY W/S EL			73.1 FT		**AVERAGE TAILWATER W/S EL**			15.2 FT
B2CC	OPEN		**T.I.E.**	OUT		**ORIFICE OPEN**		1 NORTH

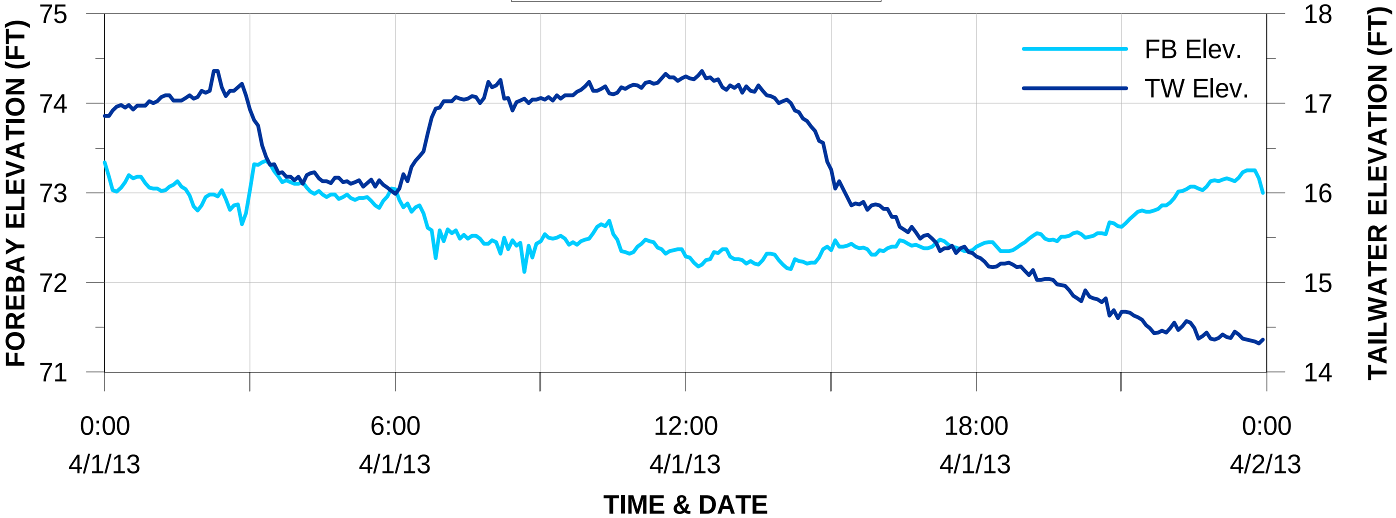
Note: Flow in KCFS

Daily Conditions Summary

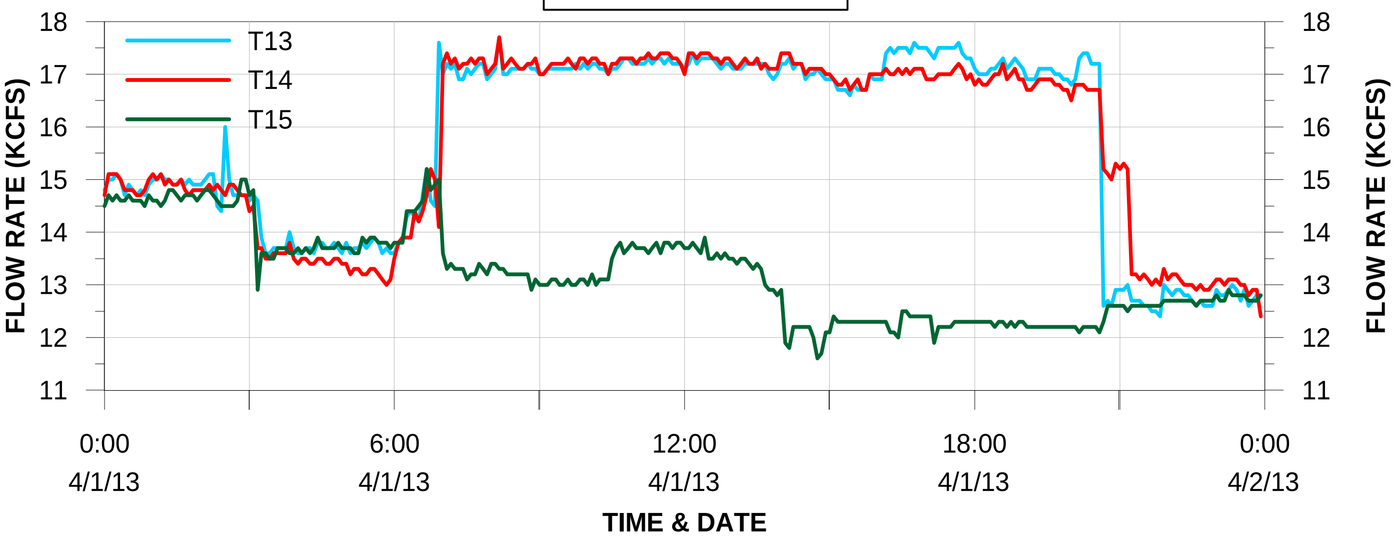
Contract No. W9127N-12-D-0001
Task No. 0001

Data Collection Unit	14A	Flow Condition	17 KCFS
DATE	April 01, 2013	DIFFERENTIAL HEAD ACROSS VBS	
BEGIN DATA COLLECTION	10:45 HRS	@ 10:45 HRS	0.50 FT
END DATA COLLECTION	19:30 HRS	@ 17:45 HRS	0.45 FT

Water Surface Elevation



Powerhouse 2 Flow



HYDRAULICS & HYDROLOGY SUMMARY FOR PERIOD OF DATA COLLECTION

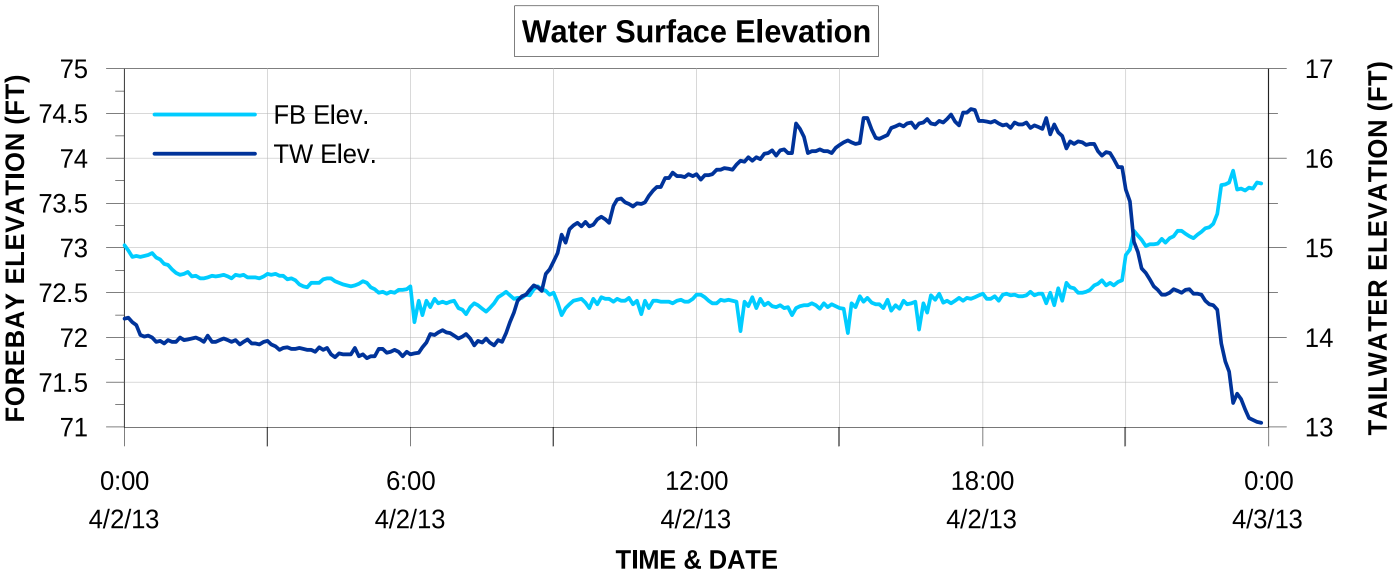
AVERAGE TOTAL FLOW			168.4		**AVERAGE SPILLWAY FLOW**			2.1
B2 AVERAGE FLOW			99.0		**FISH 1**	2.8	**FISH 2**	2.6
FLOW	**UNIT 11**	**UNIT 12**	**UNIT 13**	**UNIT 14**	**UNIT 15**	**UNIT 16**	**UNIT 17**	**UNIT 18**
AVERAGE	0	12.8	17.2	17.1	12.7	12.9	13.4	12.8
MAX	0	14.1	17.6	17.4	13.9	14.3	13.7	13.8
MIN	0	11.6	16.6	16.7	11.6	11.7	13.0	11.7
AVERAGE FOREBAY W/S EL			72.4 FT		**AVERAGE TAILWATER W/S EL**			16.3 FT
B2CC	OPEN		**T.I.E.**	OUT		**ORIFICE OPEN**		1 NORTH

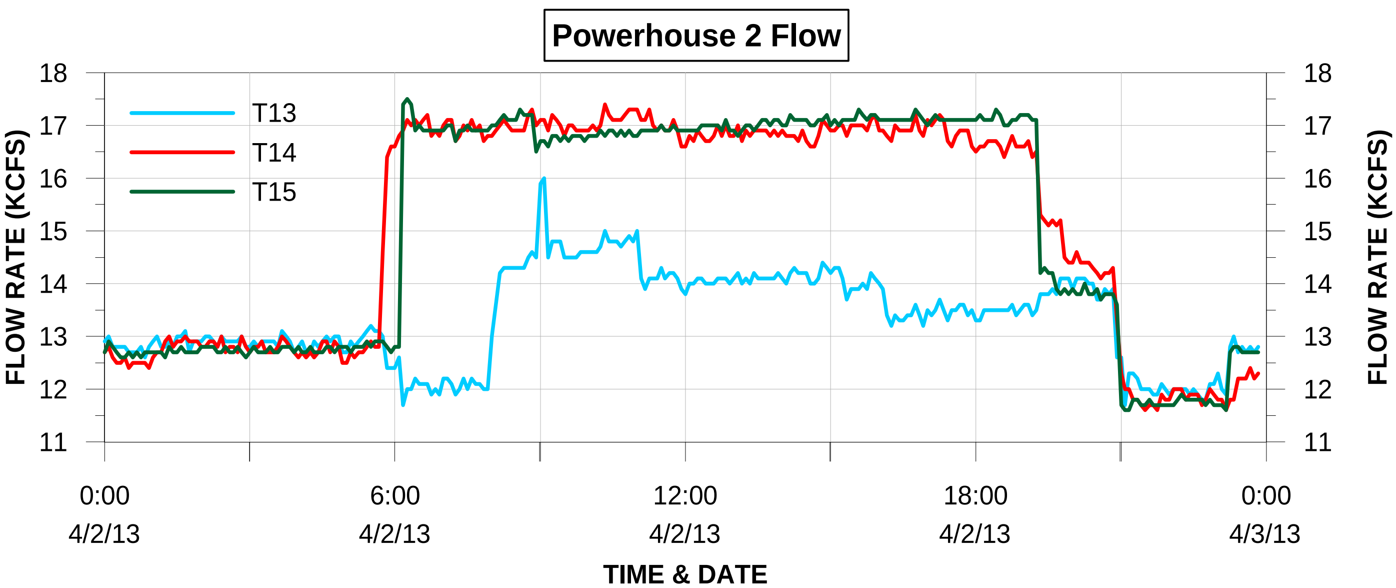
Note: Flow in KCFS

Daily Conditions Summary

Contract No. W9127N-12-D-0001
Task No. 0001

Data Collection Unit	15A	Flow Condition		17 KCFS
DATE	April 02, 2013	DIFFERENTIAL HEAD ACROSS VBS		
BEGIN DATA COLLECTION	10:00 HRS	@	10:30 HRS	0.40 FT
END DATA COLLECTION	18:30 HRS	@	19:00 HRS	0.40 FT





HYDRAULICS & HYDROLOGY SUMMARY FOR PERIOD OF DATA COLLECTION

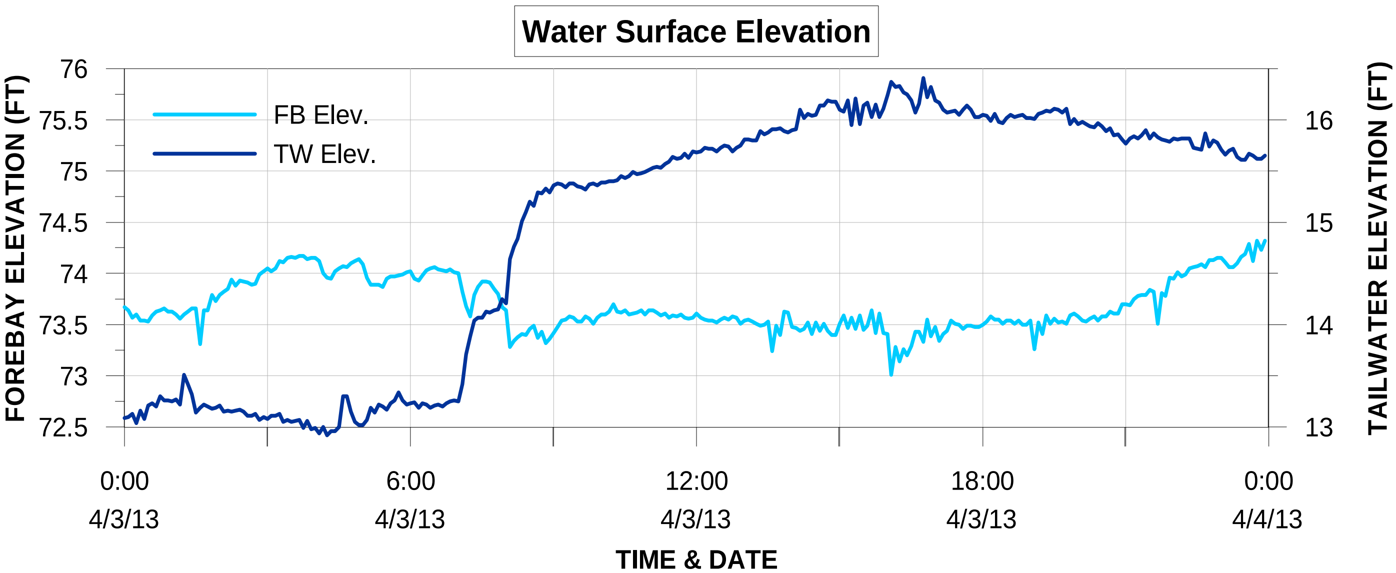
AVERAGE TOTAL FLOW			175.9		**AVERAGE SPILLWAY FLOW**			2.1
B2 AVERAGE FLOW			105.0		**FISH 1**	2.9	**FISH 2**	2.6
FLOW	**UNIT 11**	**UNIT 12**	**UNIT 13**	**UNIT 14**	**UNIT 15**	**UNIT 16**	**UNIT 17**	**UNIT 18**
AVERAGE	0	14.2	14.0	16.9	17.0	14.1	14.5	14.3
MAX	0	15.4	15.0	17.4	17.3	15.1	15.0	15.2
MIN	0	13.6	13.2	16.5	16.7	13.5	14.1	13.7
AVERAGE FOREBAY W/S EL			72.4 FT		**AVERAGE TAILWATER W/S EL**			16.1 FT
B2CC	OPEN		**T.I.E.**	OUT		**ORIFICE OPEN**		1 NORTH

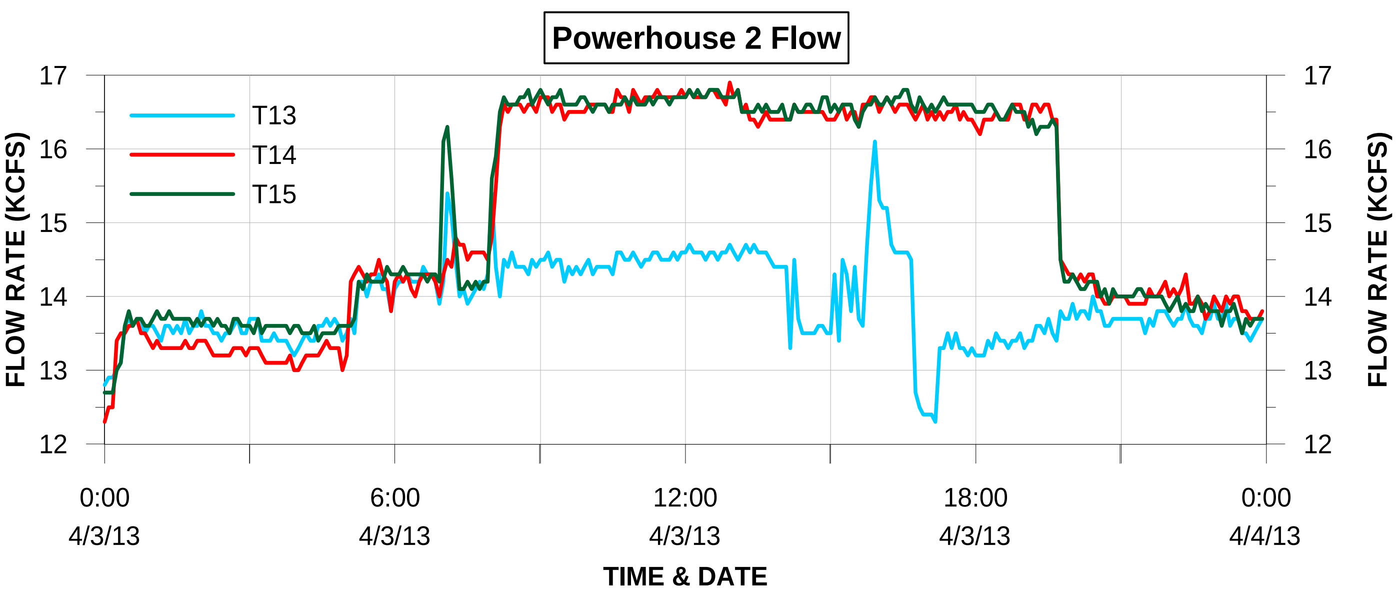
Note: Flow in KCFS

Daily Conditions Summary

Contract No. W9127N-12-D-0001
Task No. 0001

Data Collection Unit	14C	Flow Condition		16.5 KCFS
DATE	April 03, 2013	DIFFERENTIAL HEAD ACROSS VBS		
BEGIN DATA COLLECTION	11:30 HRS	@	10:30 HRS	0.20 FT
END DATA COLLECTION	18:45 HRS	@	19:30 HRS	0.20 FT





HYDRAULICS & HYDROLOGY SUMMARY FOR PERIOD OF DATA COLLECTION

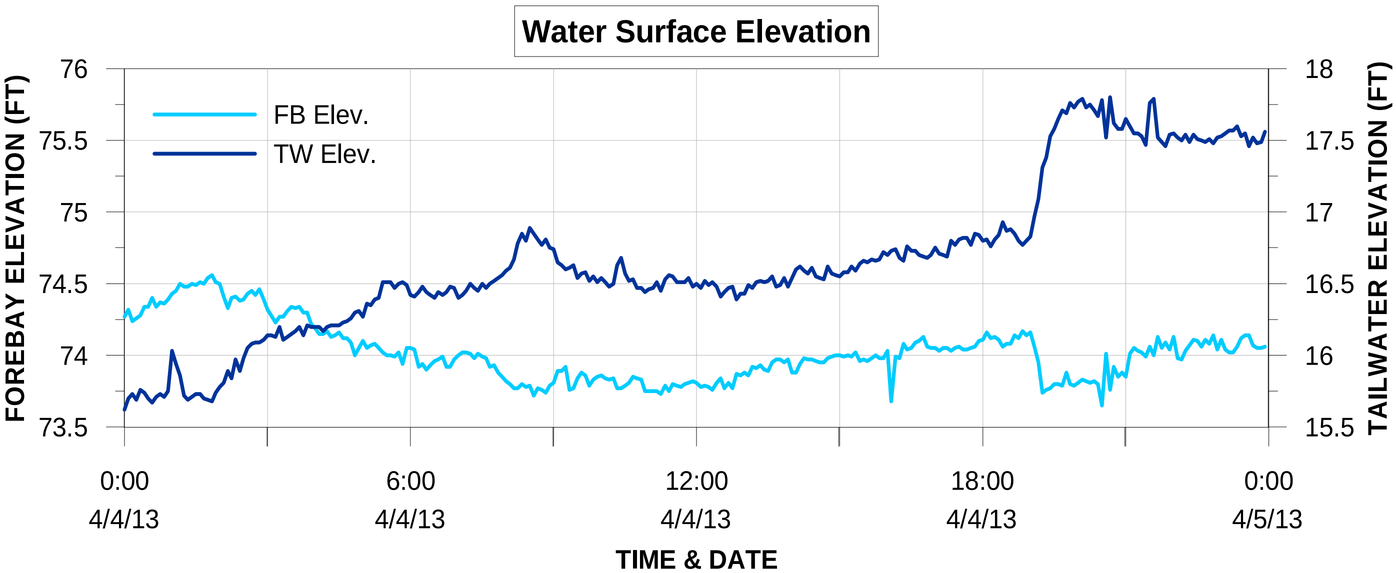
AVERAGE TOTAL FLOW			175.4		**AVERAGE SPILLWAY FLOW**			2.2
B2 AVERAGE FLOW			103.4		**FISH 1**	2.8	**FISH 2**	2.5
FLOW	**UNIT 11**	**UNIT 12**	**UNIT 13**	**UNIT 14**	**UNIT 15**	**UNIT 16**	**UNIT 17**	**UNIT 18**
AVERAGE	0	14.0	14.0	16.5	16.6	14.0	14.2	14.0
MAX	0	15.9	16.1	16.9	16.8	15.9	14.4	16.0
MIN	0	12.7	12.3	16.2	16.3	12.4	14.0	12.6
AVERAGE FOREBAY W/S EL			73.5 FT		**AVERAGE TAILWATER W/S EL**			16.0 FT
B2CC	OPEN		**T.I.E.**	OUT		**ORIFICE OPEN**		1 NORTH

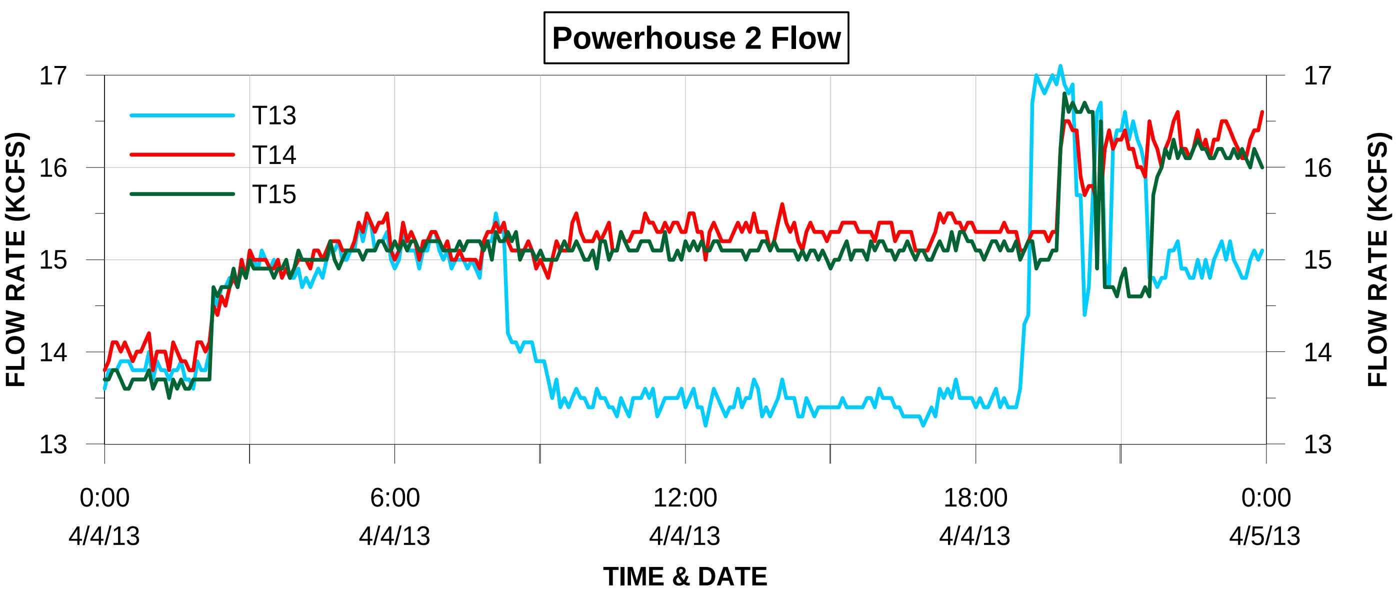
Note: Flow in KCFS

Daily Conditions Summary

Contract No. W9127N-12-D-0001
Task No. 0001

Data Collection Unit	15A	Flow Condition	15 KCFS
DATE	April 04, 2013	DIFFERENTIAL HEAD ACROSS VBS	
BEGIN DATA COLLECTION	10:00 HRS	@ 10:00 HRS	0.30 FT
END DATA COLLECTION	17:30 HRS	@ 17:30 HRS	0.30 FT





HYDRAULICS & HYDROLOGY SUMMARY FOR PERIOD OF DATA COLLECTION

AVERAGE TOTAL FLOW			181.1		**AVERAGE SPILLWAY FLOW**			2.2
B2 AVERAGE FLOW			98.5		**FISH 1**	2.8	**FISH 2**	2.5
FLOW	**UNIT 11**	**UNIT 12**	**UNIT 13**	**UNIT 14**	**UNIT 15**	**UNIT 16**	**UNIT 17**	**UNIT 18**
AVERAGE	0	13.3	13.4	15.3	15.1	13.6	14.1	13.6
MAX	0	13.5	13.7	15.6	15.3	13.9	14.4	13.8
MIN	0	13.1	13.2	15.0	14.9	13.3	13.9	13.3
AVERAGE FOREBAY W/S EL			73.9 FT		**AVERAGE TAILWATER W/S EL**			16.6 FT
B2CC	OPEN		**T.I.E.**	OUT		**ORIFICE OPEN**		1 NORTH

Note: Flow in KCFS

Appendix C

Tabulated Data

List of Tables

Table C-1 Unit 14A, 12.0 kcfs Flow Rate, Vx (ft/s)

	OR							**Y-Positions (ft)**								**WA**
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(0.11)	(0.08)	0.03	0.02	0.01	(0.04)	0.14	0.06	(0.04)	(0.12)	0.19	0.12	0.09	(0.05)	0.29	0.03
70	(0.10)	(0.08)	(0.11)	(0.11)	(0.13)	(0.15)	(0.13)	(0.08)	(0.24)	(0.30)	(0.20)	(0.24)	(0.08)	(0.10)	(0.04)	(0.04)
68	(0.06)	(0.03)	(0.08)	(0.10)	(0.15)	(0.02)	(0.01)	(0.04)	(0.09)	(0.06)	(0.08)	(0.19)	(0.27)	(0.11)	(0.19)	(0.06)
66	(0.10)	(0.05)	(0.02)	(0.03)	(0.01)	(0.03)	0.02	(0.00)	0.02	(0.07)	(0.03)	(0.04)	(0.08)	(0.22)	(0.27)	(0.12)
64	(0.12)	(0.11)	(0.09)	(0.05)	(0.04)	(0.02)	0.02	0.04	(0.05)	(0.05)	(0.06)	(0.07)	(0.12)	(0.10)	(0.18)	(0.23)
62	(0.11)	(0.11)	(0.09)	(0.00)	(0.03)	0.03	0.01	(0.03)	0.02	(0.02)	(0.08)	(0.08)	(0.06)	(0.10)	(0.11)	(0.16)
60	(0.12)	(0.11)	(0.03)	0.02	0.04	0.00	(0.04)	(0.12)	0.01	(0.07)	(0.00)	(0.01)	(0.02)	(0.03)	(0.03)	(0.10)
58	(0.10)	(0.11)	0.04	0.00	0.12	(0.11)	(0.02)	0.01	0.02	0.04	0.04	0.02	0.00	0.02	0.08	(0.02)
56	0.27	0.18	0.15	0.25	0.21	0.29	0.28	0.63	0.47	0.37	0.38	0.44	0.38	0.40	0.37	0.23
55	0.56	0.30	0.47	0.46	0.27	0.33	0.55	0.74	0.74	0.54	0.68	0.65	0.64	0.59	0.60	0.45
54	0.84	0.62	0.73	0.81	0.74	0.53	0.71	0.83	0.78	0.61	0.67	0.75	0.76	0.79	0.65	0.59
53	0.87	1.11	1.23	1.13	1.04	0.68	0.73	0.95	0.88	0.63	0.78	0.80	0.76	0.71	0.67	0.56
52	0.65	0.82	0.89	0.82	0.78	0.63	0.54	0.69	0.56	0.41	0.47	0.46	0.43	0.40	0.37	0.26
51	0.64	0.65	0.61	0.55	0.62	0.50	0.42	0.53	0.51	0.38	0.38	0.43	0.50	0.52	0.46	0.38
50	0.64	0.67	0.63	0.64	0.64	0.45	0.42	0.56	0.56	0.40	0.41	0.51	0.56	0.55	0.52	0.44
49	0.58	0.39	0.47	0.48	0.44	0.34	0.31	0.43	0.42	0.30	0.32	0.39	0.42	0.45	0.43	0.34
48	0.55	0.63	0.58	0.56	0.47	0.32	0.33	0.46	0.46	0.35	0.38	0.43	0.46	0.48	0.51	0.42
47	0.63	0.71	0.63	0.65	0.54	0.42	0.45	0.58	0.57	0.45	0.49	0.55	0.60	0.60	0.61	0.52
46	0.53	0.58	0.54	0.56	0.44	0.37	0.36	0.48	0.52	0.41	0.45	0.50	0.53	0.56	0.57	0.50
45	0.58	0.62	0.55	0.55	0.42	0.37	0.33	0.46	0.46	0.35	0.36	0.41	0.48	0.51	0.49	0.42
44	0.58	0.69	0.70	0.60	0.39	0.33	0.35	0.47	0.50	0.39	0.44	0.49	0.54	0.59	0.58	0.46
43	0.46	0.56	0.55	0.49	0.30	0.23	0.23	0.31	0.39	0.29	0.36	0.41	0.43	0.48	0.48	0.29
42	0.48	0.59	0.55	0.47	0.31	0.25	0.21	0.31	0.34	0.28	0.28	0.29	0.44	0.47	0.40	0.28
41	0.40	0.67	0.69	0.56	0.32	0.23	0.20	0.32	0.38	0.32	0.35	0.41	0.44	0.54	0.52	0.30
40	0.40	0.56	0.57	0.48	0.27	0.18	0.13	0.27	0.34	0.26	0.28	0.30	0.41	0.47	0.43	0.28
39	0.27	0.61	0.67	0.50	0.24	0.13	0.16	0.22	0.33	0.28	0.29	0.31	0.39	0.55	0.48	0.34
38	0.37	0.77	0.77	0.63	0.36	0.28	0.32	0.32	0.48	0.42	0.43	0.45	0.57	0.69	0.58	0.42
37	0.34	0.55	0.74	0.53	0.17	0.14	0.14	0.21	0.37	0.30	0.30	0.30	0.47	0.66	0.42	0.32
36	0.41	0.65	0.84	0.61	0.30	0.28	0.25	0.33	0.51	0.41	0.40	0.40	0.57	0.76	0.49	0.40
35	0.51	0.67	0.90	0.77	0.38	0.42	0.36	0.51	0.69	0.61	0.56	0.56	0.65	0.91	0.54	0.55
34	0.44	0.57	0.68	0.49	0.31	0.31	0.34	0.42	0.57	0.50	0.54	0.48	0.40	0.73	0.37	0.32
33	0.38	0.81	0.71	0.71	0.60	0.42	0.59	0.61	0.81	0.64	0.75	0.74	0.70	0.77	0.09	0.19

Grey cells indicate $RMS/V_{tot}>2$

Table C-2 Unit 14A, 12.0 kcfs Flow Rate, Vx RMS (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.25	0.21	0.19	0.22	0.28	0.26	0.30	0.26	0.41	0.37	0.35	0.23	0.30	0.27	0.26	0.22
70	0.25	0.23	0.25	0.22	0.27	0.24	0.29	0.26	0.28	0.26	0.26	0.24	0.31	0.24	0.20	0.12
68	0.19	0.16	0.21	0.18	0.27	0.27	0.27	0.25	0.25	0.22	0.26	0.20	0.27	0.28	0.25	0.19
66	0.14	0.18	0.16	0.23	0.26	0.23	0.23	0.30	0.31	0.26	0.25	0.23	0.26	0.23	0.19	0.23
64	0.15	0.15	0.20	0.18	0.23	0.26	0.33	0.30	0.26	0.24	0.24	0.25	0.25	0.21	0.23	0.21
62	0.13	0.17	0.18	0.21	0.32	0.34	0.27	0.28	0.31	0.29	0.27	0.25	0.26	0.26	0.26	0.23
60	0.21	0.18	0.25	0.23	0.32	0.22	0.36	0.42	0.27	0.26	0.25	0.25	0.24	0.25	0.26	0.26
58	0.16	0.16	0.26	0.26	0.33	0.34	0.38	0.33	0.31	0.31	0.28	0.24	0.28	0.27	0.29	0.25
56	0.44	0.24	0.26	0.23	0.21	0.29	0.29	0.37	0.26	0.27	0.24	0.24	0.28	0.27	0.24	0.27
55	0.36	0.21	0.28	0.25	0.26	0.25	0.36	0.31	0.31	0.25	0.27	0.28	0.27	0.28	0.28	0.25
54	0.31	0.35	0.31	0.35	0.35	0.35	0.33	0.34	0.27	0.27	0.25	0.24	0.29	0.26	0.27	0.25
53	0.24	0.33	0.41	0.32	0.27	0.36	0.42	0.34	0.28	0.24	0.25	0.27	0.29	0.27	0.27	0.29
52	0.36	0.34	0.36	0.42	0.38	0.38	0.40	0.35	0.26	0.27	0.28	0.26	0.31	0.31	0.29	0.25
51	0.30	0.42	0.38	0.43	0.38	0.42	0.39	0.34	0.25	0.26	0.24	0.26	0.32	0.30	0.28	0.25
50	0.37	0.34	0.42	0.34	0.40	0.38	0.36	0.26	0.24	0.27	0.25	0.27	0.33	0.30	0.30	0.30
49	0.38	0.40	0.40	0.39	0.39	0.40	0.36	0.29	0.25	0.23	0.25	0.29	0.31	0.31	0.31	0.28
48	0.30	0.36	0.37	0.39	0.37	0.42	0.34	0.29	0.23	0.26	0.25	0.27	0.35	0.31	0.29	0.27
47	0.32	0.32	0.37	0.35	0.38	0.36	0.32	0.28	0.23	0.24	0.26	0.28	0.36	0.31	0.32	0.31
46	0.36	0.35	0.39	0.36	0.44	0.39	0.32	0.31	0.27	0.27	0.28	0.30	0.33	0.33	0.35	0.34
45	0.37	0.36	0.37	0.36	0.37	0.38	0.34	0.31	0.25	0.26	0.29	0.30	0.36	0.33	0.34	0.35
44	0.39	0.42	0.43	0.41	0.40	0.36	0.33	0.32	0.29	0.29	0.30	0.33	0.41	0.38	0.37	0.40
43	0.43	0.43	0.42	0.41	0.43	0.38	0.37	0.32	0.28	0.29	0.33	0.34	0.40	0.43	0.39	0.40
42	0.48	0.42	0.43	0.41	0.44	0.38	0.36	0.34	0.29	0.30	0.31	0.35	0.42	0.39	0.41	0.42
41	0.43	0.45	0.48	0.45	0.40	0.36	0.36	0.36	0.31	0.30	0.34	0.39	0.44	0.43	0.42	0.44
40	0.52	0.49	0.52	0.47	0.47	0.40	0.36	0.37	0.31	0.31	0.34	0.38	0.51	0.47	0.48	0.52
39	0.43	0.54	0.50	0.54	0.49	0.34	0.35	0.34	0.31	0.31	0.33	0.41	0.50	0.53	0.51	0.54
38	0.52	0.58	0.58	0.51	0.48	0.34	0.34	0.34	0.30	0.28	0.28	0.39	0.55	0.57	0.56	0.65
37	0.61	0.60	0.66	0.61	0.49	0.27	0.27	0.30	0.27	0.23	0.26	0.38	0.60	0.70	0.64	0.69
36	0.60	0.68	0.71	0.67	0.40	0.26	0.22	0.26	0.26	0.22	0.20	0.41	0.63	0.73	0.69	0.72
35	0.62	0.77	0.74	0.66	0.36	0.23	0.22	0.21	0.20	0.22	0.20	0.26	0.62	0.86	0.73	0.87
34	0.54	0.84	0.87	0.57	0.27	0.23	0.23	0.23	0.19	0.23	0.22	0.26	0.47	0.86	0.82	0.78
33	0.62	0.85	0.72	0.59	0.26	0.21	0.21	0.21	0.22	0.22	0.21	0.22	0.78	0.88	0.49	0.41

Grey cells indicate RMS/V_{tot}>2

Table C-3 Unit 14A, 12.0 kcfs Flow Rate, Vy (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.10	0.16	0.28	0.34	0.38	0.48	0.64	0.56	0.45	0.44	0.39	0.02	0.09	(0.03)	0.24	(0.04)
70	0.10	0.12	0.24	0.33	0.43	0.50	0.55	0.78	0.83	0.54	0.50	0.21	0.33	0.27	0.26	0.00
68	(0.04)	0.11	0.15	0.35	0.52	0.46	0.53	0.61	0.68	0.37	(0.10)	0.13	0.01	(0.24)	(0.38)	(0.13)
66	0.07	0.17	0.15	0.43	0.40	0.37	0.32	0.81	0.45	0.03	0.08	(0.04)	(0.15)	(0.16)	(0.25)	0.00
64	0.03	0.16	0.36	0.21	0.28	0.40	0.66	0.48	0.27	0.31	0.27	(0.11)	(0.13)	(0.07)	0.00	(0.11)
62	0.05	0.21	0.12	0.12	0.23	0.35	0.19	0.23	0.02	(0.10)	(0.34)	(0.27)	(0.43)	(0.23)	(0.31)	(0.13)
60	0.01	0.09	0.24	0.33	0.45	(0.04)	0.30	0.42	0.31	(0.03)	(0.23)	(0.20)	(0.11)	(0.27)	(0.27)	(0.29)
58	(0.07)	(0.08)	0.24	0.10	0.34	(0.06)	0.07	0.03	(0.07)	(0.22)	(0.40)	(0.22)	(0.14)	(0.40)	(0.27)	(0.35)
56	(0.21)	(0.31)	(0.38)	(0.17)	(0.25)	(0.31)	(0.37)	(0.15)	(0.46)	(0.26)	(0.46)	(0.29)	(0.24)	(0.20)	(0.16)	(0.15)
55	(0.07)	(0.02)	0.15	(0.23)	(0.37)	(0.14)	(0.60)	(0.44)	(0.65)	(0.47)	(0.53)	(0.39)	(0.32)	(0.26)	(0.06)	(0.03)
54	0.01	0.30	(0.07)	(0.40)	(0.23)	(0.14)	(0.46)	(0.38)	(0.51)	(0.43)	(0.58)	(0.48)	(0.20)	(0.06)	0.01	0.03
53	0.03	(0.15)	(0.41)	(0.11)	(0.14)	0.08	(0.39)	(0.45)	(0.41)	(0.49)	(0.70)	(0.41)	(0.17)	(0.07)	(0.03)	(0.02)
52	(0.08)	(0.12)	0.14	0.16	0.38	(0.04)	(0.39)	(0.32)	(0.50)	(0.36)	(0.48)	(0.43)	(0.18)	(0.05)	(0.03)	(0.02)
51	0.02	0.28	(0.10)	0.28	0.16	0.12	(0.31)	(0.35)	(0.50)	(0.43)	(0.55)	(0.43)	(0.22)	(0.11)	(0.07)	(0.05)
50	(0.02)	0.04	0.13	0.09	0.33	0.05	(0.21)	(0.28)	(0.49)	(0.41)	(0.59)	(0.39)	(0.26)	(0.17)	(0.06)	(0.08)
49	0.00	(0.21)	0.13	0.29	0.16	(0.01)	(0.30)	(0.29)	(0.49)	(0.46)	(0.56)	(0.44)	(0.28)	(0.14)	(0.09)	(0.07)
48	0.03	0.05	0.07	0.16	0.08	(0.03)	(0.23)	(0.16)	(0.49)	(0.44)	(0.52)	(0.44)	(0.20)	(0.14)	(0.07)	(0.05)
47	0.02	0.08	0.06	0.20	0.02	0.02	(0.20)	(0.22)	(0.55)	(0.40)	(0.63)	(0.49)	(0.35)	(0.17)	(0.13)	(0.05)
46	0.03	0.14	0.10	0.25	0.09	0.03	(0.14)	(0.07)	(0.53)	(0.46)	(0.61)	(0.51)	(0.35)	(0.20)	(0.14)	(0.03)
45	(0.01)	0.03	0.09	0.20	0.03	0.04	(0.18)	(0.16)	(0.42)	(0.43)	(0.57)	(0.49)	(0.29)	(0.18)	(0.14)	(0.04)
44	(0.00)	0.13	0.17	0.17	0.12	0.11	(0.09)	(0.07)	(0.48)	(0.44)	(0.63)	(0.53)	(0.35)	(0.25)	(0.20)	(0.10)
43	0.08	0.14	0.24	0.31	0.21	0.14	0.02	0.06	(0.51)	(0.53)	(0.64)	(0.55)	(0.40)	(0.28)	(0.21)	(0.13)
42	0.06	0.16	0.24	0.21	0.15	0.19	0.03	(0.03)	(0.43)	(0.43)	(0.59)	(0.55)	(0.40)	(0.25)	(0.18)	(0.09)
41	0.08	0.26	0.36	0.31	0.23	0.26	0.14	0.11	(0.47)	(0.43)	(0.56)	(0.55)	(0.42)	(0.27)	(0.16)	(0.10)
40	0.12	0.32	0.39	0.36	0.26	0.30	0.16	0.09	(0.53)	(0.49)	(0.63)	(0.73)	(0.50)	(0.37)	(0.25)	(0.21)
39	0.13	0.39	0.39	0.42	0.30	0.30	0.18	0.17	(0.41)	(0.43)	(0.62)	(0.61)	(0.44)	(0.32)	(0.26)	(0.18)
38	0.18	0.48	0.48	0.54	0.38	0.34	0.17	0.18	(0.50)	(0.50)	(0.75)	(0.73)	(0.58)	(0.46)	(0.36)	(0.25)
37	0.23	0.63	0.59	0.61	0.43	0.39	0.24	0.21	(0.44)	(0.50)	(0.71)	(0.71)	(0.59)	(0.50)	(0.35)	(0.21)
36	0.28	0.63	0.64	0.57	0.38	0.34	0.23	0.28	(0.48)	(0.48)	(0.72)	(0.58)	(0.61)	(0.52)	(0.38)	(0.21)
35	0.42	0.79	0.78	0.60	0.38	0.44	0.22	0.19	(0.51)	(0.57)	(0.81)	(0.85)	(0.62)	(0.74)	(0.56)	(0.29)
34	0.73	0.85	0.75	0.52	0.35	0.41	0.23	0.22	(0.67)	(0.62)	(0.76)	(0.78)	(0.64)	(0.77)	(0.53)	(0.36)
33	0.79	0.70	0.42	0.29	0.34	0.21	0.14	0.13	(0.53)	(0.68)	(0.76)	(0.74)	(0.48)	(0.66)	(0.38)	(0.34)

Grey cells indicate $RMS/V_{tot}>2$

Table C-4 Unit 14A, 12.0 kcfs Flow Rate, Vy RMS (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.19	0.16	0.17	0.17	0.20	0.21	0.20	0.23	0.38	0.49	0.24	0.29	0.26	0.29	0.26	0.19
70	0.23	0.19	0.27	0.21	0.27	0.27	0.28	0.26	0.36	0.35	0.34	0.36	0.28	0.23	0.19	0.01
68	0.16	0.19	0.19	0.20	0.21	0.23	0.26	0.27	0.30	0.29	0.31	0.27	0.26	0.37	0.29	0.17
66	0.13	0.16	0.21	0.25	0.22	0.20	0.18	0.31	0.40	0.45	0.35	0.32	0.34	0.31	0.31	0.22
64	0.15	0.20	0.24	0.18	0.27	0.22	0.31	0.24	0.46	0.38	0.37	0.38	0.38	0.26	0.26	0.24
62	0.16	0.20	0.23	0.23	0.27	0.29	0.01	0.22	0.44	0.38	0.35	0.40	0.33	0.26	0.33	0.25
60	0.19	0.24	0.28	0.30	0.33	0.22	0.05	0.58	0.45	0.36	0.36	0.38	0.27	0.30	0.26	0.18
58	0.21	0.01	0.30	0.29	0.28	0.02	0.29	0.41	0.45	0.42	0.38	0.40	0.36	0.36	0.30	0.21
56	0.27	0.31	0.01	0.24	0.26	0.36	0.36	0.33	0.48	0.38	0.39	0.42	0.38	0.39	0.35	0.24
55	0.31	0.22	0.37	0.34	0.22	0.28	0.46	0.57	0.47	0.43	0.37	0.41	0.44	0.44	0.37	0.19
54	0.29	0.46	0.29	0.57	0.49	0.47	0.41	0.43	0.48	0.44	0.38	0.39	0.41	0.38	0.37	0.18
53	0.26	0.52	0.65	0.46	0.36	0.66	0.44	0.49	0.41	0.44	0.36	0.45	0.47	0.34	0.32	0.23
52	0.31	0.42	0.65	0.61	0.57	0.52	0.42	0.50	0.41	0.36	0.38	0.38	0.38	0.40	0.33	0.19
51	0.29	0.52	0.49	0.67	0.54	0.48	0.50	0.48	0.37	0.37	0.34	0.39	0.47	0.37	0.33	0.19
50	0.30	0.51	0.55	0.55	0.50	0.59	0.44	0.44	0.34	0.36	0.37	0.43	0.45	0.42	0.36	0.21
49	0.27	0.46	0.52	0.59	0.53	0.47	0.42	0.42	0.34	0.30	0.33	0.41	0.38	0.40	0.33	0.21
48	0.26	0.46	0.53	0.53	0.43	0.55	0.43	0.36	0.26	0.34	0.34	0.37	0.41	0.36	0.34	0.19
47	0.30	0.41	0.48	0.57	0.47	0.46	0.39	0.36	0.29	0.31	0.36	0.39	0.44	0.38	0.35	0.21
46	0.32	0.42	0.49	0.53	0.54	0.47	0.42	0.36	0.30	0.32	0.34	0.38	0.40	0.37	0.35	0.23
45	0.30	0.44	0.54	0.53	0.50	0.42	0.41	0.36	0.33	0.33	0.37	0.40	0.40	0.42	0.35	0.23
44	0.33	0.45	0.52	0.52	0.48	0.44	0.38	0.35	0.34	0.33	0.36	0.45	0.44	0.41	0.38	0.25
43	0.35	0.46	0.45	0.47	0.48	0.45	0.37	0.36	0.35	0.34	0.34	0.38	0.45	0.43	0.40	0.28
42	0.37	0.47	0.52	0.48	0.47	0.40	0.37	0.34	0.34	0.33	0.35	0.41	0.43	0.42	0.41	0.30
41	0.38	0.47	0.54	0.51	0.47	0.41	0.38	0.37	0.37	0.33	0.36	0.42	0.45	0.44	0.40	0.32
40	0.43	0.51	0.50	0.48	0.51	0.37	0.34	0.37	0.35	0.34	0.37	0.45	0.48	0.45	0.49	0.40
39	0.44	0.56	0.53	0.54	0.52	0.41	0.37	0.36	0.36	0.34	0.36	0.43	0.48	0.49	0.55	0.41
38	0.53	0.57	0.58	0.55	0.50	0.38	0.33	0.37	0.37	0.32	0.33	0.44	0.52	0.57	0.54	0.47
37	0.52	0.60	0.64	0.62	0.46	0.32	0.27	0.36	0.29	0.27	0.31	0.45	0.54	0.61	0.61	0.54
36	0.62	0.65	0.66	0.67	0.45	0.28	0.22	0.27	0.29	0.26	0.25	0.46	0.60	0.68	0.68	0.54
35	0.64	0.71	0.72	0.69	0.42	0.24	0.21	0.25	0.21	0.22	0.25	0.31	0.67	0.77	0.72	0.74
34	0.59	0.76	0.83	0.68	0.34	0.24	0.20	0.25	0.19	0.25	0.25	0.33	0.66	0.79	0.84	0.72
33	0.76	0.87	0.80	0.77	0.25	0.18	0.17	0.17	0.20	0.22	0.21	0.24	0.82	0.82	0.63	0.54

Grey cells indicate RMS/V_{tot}>2

Table C-5 Unit 14A, 12.0 kcfs Flow Rate, Vz (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(0.39)	(0.29)	(0.25)	(0.17)	(0.14)	(0.00)	(0.27)	(0.05)	(0.21)	0.17	(0.58)	(0.18)	(0.10)	(0.02)	(0.37)	(0.21)
70	(0.87)	(0.79)	(0.80)	(0.29)	(0.56)	(0.44)	(0.34)	0.35	(0.33)	(0.01)	(0.20)	0.75	(0.44)	(0.42)	(0.52)	(0.22)
68	(0.83)	(0.76)	(0.34)	(0.57)	(0.33)	(0.09)	0.39	0.13	1.28	1.23	1.36	1.01	1.16	0.65	0.48	(0.41)
66	(0.73)	(0.78)	(0.80)	(0.55)	(0.37)	(0.27)	(0.14)	0.46	1.24	1.38	1.50	1.40	1.37	0.83	1.01	(0.26)
64	(1.06)	(1.18)	(0.92)	(0.76)	(0.73)	(0.69)	(0.14)	(0.06)	1.56	1.73	1.52	1.50	1.52	1.34	1.05	0.94
62	(0.65)	(0.58)	(0.66)	(0.78)	(0.25)	(0.15)	(0.03)	0.06	1.43	1.48	1.63	1.66	1.37	1.12	0.88	0.77
60	(1.11)	(0.93)	(0.95)	(1.11)	(0.88)	(0.71)	0.12	0.03	1.84	1.79	1.51	1.46	1.22	1.28	0.74	0.77
58	(0.80)	(0.57)	(1.12)	(0.99)	(0.69)	(0.55)	(0.16)	0.04	1.69	1.47	1.70	1.36	0.99	1.09	0.26	0.50
56	(0.06)	(1.01)	(1.11)	(0.95)	(0.85)	(0.64)	(0.67)	0.13	1.49	1.21	1.55	1.18	1.03	0.94	0.82	(0.12)
55	0.37	(1.09)	(1.09)	(0.60)	(0.85)	(0.37)	0.09	1.12	2.00	1.90	1.97	1.50	1.59	1.12	1.19	0.27
54	0.19	(0.43)	(0.74)	(0.64)	(0.79)	(0.12)	0.25	0.77	2.00	2.16	1.90	1.89	1.35	0.96	1.16	0.90
53	0.39	1.46	0.77	0.20	0.18	0.27	0.68	1.50	2.20	2.36	2.27	2.17	1.54	1.34	1.50	0.97
52	1.21	1.64	1.21	0.68	0.50	1.55	1.62	2.42	2.63	2.38	2.40	2.38	1.79	1.39	1.66	1.11
51	1.15	1.31	1.16	0.40	0.32	1.09	1.97	2.11	2.47	2.46	2.30	2.11	1.70	1.22	1.40	1.54
50	1.14	1.74	0.87	0.81	0.89	1.12	2.02	2.30	2.59	2.58	2.54	2.06	1.81	1.73	1.66	1.68
49	1.41	1.43	1.30	0.84	1.21	1.64	2.35	2.62	2.63	2.62	2.61	2.32	2.09	1.53	1.76	1.57
48	1.71	2.01	1.26	1.15	1.12	2.11	2.82	2.66	2.67	2.63	2.43	2.06	1.80	1.57	1.64	1.41
47	1.86	2.12	1.37	1.26	1.28	2.57	2.78	2.67	2.78	2.66	2.74	2.49	2.19	1.67	1.99	1.84
46	2.44	2.41	1.73	1.84	2.12	2.74	3.05	3.00	2.93	2.93	2.91	2.65	2.43	2.07	2.19	1.84
45	2.16	2.21	1.59	1.80	2.20	2.80	3.03	2.88	2.85	3.09	2.92	2.71	2.26	1.98	2.25	1.97
44	2.33	2.51	2.02	2.00	2.51	3.16	3.23	3.05	3.12	3.24	3.10	2.98	2.52	2.13	2.29	2.13
43	2.56	2.60	2.30	2.36	2.95	3.37	3.54	3.44	3.39	3.42	3.39	3.02	2.85	2.37	2.51	2.13
42	2.63	2.39	2.02	2.28	2.95	3.37	3.33	3.17	3.47	3.40	3.23	3.07	2.80	2.23	2.23	2.03
41	2.63	2.63	2.30	2.72	3.07	3.61	3.86	3.47	3.48	3.48	3.28	3.16	2.71	2.29	2.28	2.08
40	2.87	2.51	2.58	2.80	3.35	3.76	3.93	3.61	3.84	3.83	3.72	3.63	3.15	2.47	2.51	2.49
39	3.03	2.40	2.40	3.01	3.66	4.03	3.99	3.89	3.79	3.92	3.82	3.45	3.03	2.44	2.37	2.07
38	3.14	2.39	2.36	3.25	3.83	4.20	4.12	4.12	3.99	4.26	4.12	3.72	3.40	2.51	2.39	2.30
37	3.39	2.34	2.57	3.60	3.98	4.41	4.50	4.30	4.27	4.41	4.33	3.88	3.37	2.54	2.35	2.46
36	3.41	2.18	2.40	3.65	4.19	4.52	4.61	4.54	4.43	4.47	4.41	3.68	3.43	2.38	2.27	2.22
35	3.78	2.41	2.36	3.66	4.49	4.93	4.79	4.80	4.78	4.85	4.64	4.58	3.74	2.67	2.21	2.93
34	3.94	2.64	2.75	4.20	4.68	5.23	5.25	5.06	4.98	5.01	4.94	4.84	4.39	2.49	2.78	3.44
33	3.77	2.59	3.65	4.13	5.02	5.32	5.14	5.17	4.98	4.86	4.87	4.66	3.48	2.30	4.52	4.56

Grey cells indicate $RMS/V_{tot}>2$

Table C-6 Unit 14A, 12.0 kcfs Flow Rate, Vz RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.19	0.23	0.25	0.26	0.32	0.35	0.35	0.30	0.43	0.44	0.37	0.28	0.31	0.31	0.27	0.21
70	0.18	0.20	0.29	0.36	0.37	0.38	0.44	0.63	0.31	0.57	0.49	0.45	0.35	0.27	0.23	0.25
68	0.20	0.15	0.24	0.28	0.45	0.34	0.48	0.35	0.35	0.35	0.31	0.49	0.43	0.62	0.56	0.19
66	0.21	0.37	0.16	0.38	0.37	0.35	0.27	0.55	0.48	0.55	0.44	0.40	0.40	0.51	0.42	0.65
64	0.29	0.21	0.32	0.23	0.29	0.36	0.53	0.39	0.54	0.40	0.39	0.37	0.44	0.34	0.34	0.36
62	0.21	0.30	0.28	0.30	0.41	0.38	0.17	0.51	0.69	0.53	0.41	0.36	0.51	0.42	0.37	0.39
60	0.28	0.28	0.27	0.30	0.41	0.28	0.46	0.63	0.50	0.44	0.51	0.36	0.30	0.38	0.42	0.34
58	0.24	0.28	0.45	0.25	0.52	0.37	0.48	0.22	0.59	0.67	0.41	0.46	0.42	0.44	0.56	0.40
56	0.38	0.33	0.25	0.30	0.26	0.38	0.43	0.60	0.66	0.82	0.59	0.46	0.55	0.49	0.49	0.39
55	0.53	0.46	0.52	0.51	0.41	0.37	0.72	0.96	0.55	0.56	0.52	0.48	0.59	0.49	0.50	0.57
54	0.55	0.84	0.41	0.53	0.45	0.66	0.31	0.82	0.51	0.44	0.50	0.51	0.57	0.53	0.51	0.49
53	0.59	0.80	0.77	0.89	0.65	0.75	0.78	0.91	0.53	0.45	0.46	0.43	0.56	0.59	0.40	0.63
52	0.84	0.75	0.71	0.80	0.76	0.93	0.84	0.43	0.50	0.49	0.52	0.44	0.53	0.45	0.50	0.49
51	0.86	0.71	0.69	0.74	0.79	0.89	0.71	0.63	0.44	0.45	0.44	0.50	0.44	0.53	0.48	0.52
50	0.82	0.63	0.76	0.65	0.67	0.81	0.58	0.47	0.39	0.48	0.46	0.51	0.51	0.50	0.49	0.42
49	0.78	0.76	0.62	0.65	0.71	0.71	0.59	0.51	0.47	0.40	0.37	0.47	0.48	0.44	0.51	0.60
48	0.57	0.64	0.71	0.69	0.74	0.84	0.53	0.46	0.34	0.40	0.44	0.51	0.53	0.51	0.48	0.48
47	0.68	0.58	0.71	0.71	0.75	0.60	0.53	0.43	0.38	0.44	0.40	0.46	0.60	0.49	0.54	0.47
46	0.52	0.55	0.64	0.61	0.73	0.69	0.48	0.49	0.39	0.45	0.43	0.44	0.46	0.50	0.46	0.44
45	0.55	0.58	0.60	0.74	0.66	0.57	0.52	0.48	0.41	0.46	0.53	0.52	0.53	0.53	0.48	0.46
44	0.63	0.53	0.60	0.75	0.57	0.50	0.53	0.45	0.45	0.48	0.48	0.53	0.56	0.58	0.48	0.50
43	0.57	0.55	0.59	0.70	0.62	0.57	0.49	0.45	0.46	0.52	0.47	0.50	0.52	0.55	0.47	0.49
42	0.59	0.57	0.60	0.62	0.66	0.51	0.51	0.45	0.48	0.47	0.48	0.55	0.53	0.50	0.50	0.49
41	0.63	0.54	0.65	0.67	0.64	0.51	0.55	0.49	0.52	0.52	0.52	0.56	0.55	0.55	0.48	0.50
40	0.63	0.52	0.56	0.61	0.65	0.53	0.49	0.53	0.49	0.53	0.50	0.54	0.59	0.58	0.57	0.61
39	0.66	0.68	0.61	0.69	0.65	0.55	0.52	0.51	0.52	0.52	0.50	0.59	0.64	0.58	0.60	0.67
38	0.76	0.65	0.66	0.74	0.69	0.55	0.54	0.53	0.55	0.42	0.55	0.66	0.73	0.63	0.68	0.80
37	0.79	0.60	0.70	0.76	0.61	0.42	0.35	0.48	0.39	0.37	0.47	0.68	0.74	0.63	0.71	0.73
36	0.86	0.78	0.80	0.85	0.65	0.40	0.25	0.36	0.43	0.35	0.34	0.71	0.87	0.77	0.82	0.90
35	0.87	0.88	0.82	0.93	0.46	0.27	0.31	0.28	0.27	0.23	0.27	0.40	0.85	0.89	0.83	0.96
34	0.94	1.01	0.96	0.92	0.37	0.28	0.28	0.28	0.21	0.27	0.27	0.32	0.79	0.97	0.98	0.94
33	1.21	1.15	1.18	1.15	0.27	0.22	0.22	0.20	0.25	0.23	0.27	0.30	1.19	1.11	0.78	0.64

Grey cells indicate RMS/V_{tot}>2

Table C-7 Unit 14A, 12.0 kcfs Flow Rate, Vyz (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.40	0.33	0.38	0.38	0.41	0.48	0.69	0.56	0.50	0.47	0.70	0.18	0.13	0.04	0.44	0.21
70	0.88	0.80	0.84	0.44	0.70	0.66	0.64	0.86	0.89	0.54	0.54	0.78	0.55	0.49	0.58	0.22
68	0.83	0.77	0.37	0.66	0.62	0.47	0.66	0.63	1.45	1.28	1.37	1.01	1.16	0.70	0.61	0.43
66	0.74	0.79	0.82	0.70	0.54	0.46	0.35	0.93	1.32	1.39	1.50	1.40	1.37	0.84	1.04	0.26
64	1.06	1.19	0.99	0.79	0.79	0.80	0.68	0.49	1.58	1.76	1.54	1.50	1.52	1.35	1.05	0.95
62	0.65	0.61	0.67	0.79	0.33	0.38	0.20	0.24	1.43	1.48	1.66	1.69	1.43	1.14	0.94	0.78
60	1.11	0.93	0.98	1.16	0.99	0.71	0.32	0.42	1.87	1.79	1.53	1.48	1.23	1.31	0.79	0.83
58	0.80	0.57	1.14	0.99	0.76	0.55	0.17	0.05	1.69	1.49	1.75	1.37	1.00	1.16	0.38	0.61
56	0.22	1.05	1.17	0.97	0.89	0.71	0.77	0.20	1.56	1.24	1.62	1.22	1.06	0.96	0.83	0.19
55	0.37	1.09	1.10	0.65	0.92	0.40	0.60	1.20	2.10	1.95	2.04	1.55	1.62	1.15	1.19	0.27
54	0.19	0.53	0.74	0.75	0.82	0.18	0.52	0.86	2.06	2.21	1.99	1.95	1.37	0.96	1.16	0.90
53	0.39	1.47	0.88	0.23	0.23	0.28	0.78	1.56	2.24	2.41	2.37	2.21	1.55	1.34	1.50	0.97
52	1.21	1.64	1.21	0.70	0.63	1.55	1.67	2.44	2.68	2.41	2.45	2.42	1.80	1.39	1.66	1.11
51	1.15	1.34	1.16	0.49	0.36	1.10	1.99	2.14	2.52	2.50	2.37	2.16	1.72	1.23	1.40	1.54
50	1.14	1.74	0.88	0.82	0.95	1.12	2.03	2.32	2.64	2.61	2.61	2.10	1.83	1.74	1.66	1.68
49	1.41	1.44	1.31	0.88	1.22	1.64	2.37	2.64	2.68	2.66	2.67	2.37	2.11	1.54	1.76	1.57
48	1.71	2.01	1.26	1.16	1.12	2.11	2.83	2.67	2.71	2.67	2.48	2.11	1.81	1.58	1.64	1.41
47	1.86	2.13	1.37	1.27	1.28	2.57	2.78	2.68	2.83	2.69	2.81	2.54	2.21	1.68	2.00	1.84
46	2.44	2.42	1.73	1.86	2.13	2.74	3.05	3.00	2.97	2.97	2.97	2.70	2.46	2.08	2.19	1.84
45	2.16	2.21	1.59	1.81	2.20	2.80	3.04	2.88	2.88	3.12	2.98	2.76	2.27	1.99	2.25	1.97
44	2.33	2.51	2.02	2.01	2.51	3.17	3.23	3.05	3.16	3.27	3.16	3.03	2.54	2.14	2.30	2.14
43	2.56	2.61	2.31	2.38	2.96	3.38	3.54	3.44	3.43	3.46	3.45	3.07	2.88	2.39	2.52	2.13
42	2.63	2.40	2.03	2.29	2.96	3.38	3.33	3.17	3.50	3.43	3.29	3.12	2.83	2.25	2.24	2.04
41	2.63	2.64	2.33	2.74	3.07	3.62	3.86	3.48	3.51	3.51	3.33	3.21	2.74	2.31	2.29	2.08
40	2.87	2.53	2.61	2.83	3.36	3.77	3.93	3.61	3.88	3.86	3.77	3.70	3.19	2.49	2.53	2.50
39	3.03	2.43	2.43	3.04	3.67	4.04	3.99	3.89	3.81	3.95	3.87	3.51	3.07	2.46	2.38	2.08
38	3.15	2.44	2.41	3.29	3.85	4.22	4.12	4.12	4.03	4.29	4.18	3.79	3.45	2.55	2.42	2.31
37	3.40	2.42	2.64	3.65	4.01	4.43	4.50	4.30	4.29	4.44	4.39	3.94	3.42	2.59	2.38	2.47
36	3.42	2.27	2.49	3.69	4.21	4.53	4.61	4.55	4.45	4.50	4.47	3.72	3.48	2.44	2.30	2.23
35	3.81	2.54	2.48	3.70	4.51	4.95	4.80	4.80	4.81	4.88	4.71	4.66	3.79	2.77	2.28	2.94
34	4.01	2.77	2.85	4.23	4.69	5.24	5.26	5.06	5.02	5.05	5.00	4.90	4.44	2.61	2.83	3.46
33	3.85	2.69	3.68	4.14	5.03	5.33	5.14	5.17	5.01	4.91	4.93	4.72	3.51	2.39	4.54	4.57

Grey cells indicate RMS/V_{tot}>2

Table C-8 Unit 14A, 12.0 kcfs Flow Rate, Vtot (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.42	0.34	0.38	0.38	0.41	0.48	0.71	0.56	0.50	0.48	0.72	0.22	0.16	0.06	0.53	0.21
70	0.88	0.81	0.85	0.45	0.72	0.68	0.66	0.86	0.92	0.62	0.58	0.81	0.55	0.51	0.58	0.23
68	0.83	0.77	0.38	0.67	0.64	0.47	0.66	0.63	1.45	1.28	1.37	1.03	1.19	0.70	0.64	0.44
66	0.74	0.80	0.82	0.70	0.54	0.46	0.35	0.93	1.32	1.39	1.51	1.40	1.38	0.87	1.07	0.29
64	1.07	1.20	0.99	0.79	0.79	0.80	0.68	0.49	1.58	1.76	1.54	1.50	1.53	1.35	1.07	0.97
62	0.66	0.62	0.68	0.79	0.33	0.38	0.20	0.24	1.43	1.48	1.66	1.69	1.43	1.15	0.94	0.80
60	1.12	0.94	0.98	1.16	0.99	0.71	0.32	0.43	1.87	1.79	1.53	1.48	1.23	1.31	0.79	0.83
58	0.81	0.58	1.14	0.99	0.77	0.56	0.17	0.05	1.69	1.49	1.75	1.37	1.00	1.16	0.39	0.61
56	0.35	1.07	1.18	1.00	0.91	0.77	0.82	0.66	1.63	1.29	1.66	1.30	1.12	1.04	0.91	0.30
55	0.67	1.13	1.19	0.79	0.96	0.52	0.82	1.41	2.23	2.03	2.15	1.68	1.74	1.29	1.33	0.53
54	0.86	0.81	1.04	1.11	1.11	0.56	0.88	1.19	2.21	2.29	2.10	2.09	1.57	1.24	1.33	1.08
53	0.95	1.84	1.51	1.16	1.07	0.74	1.07	1.83	2.41	2.49	2.50	2.35	1.73	1.52	1.65	1.12
52	1.37	1.84	1.50	1.07	1.00	1.67	1.75	2.54	2.74	2.44	2.49	2.46	1.85	1.45	1.70	1.14
51	1.31	1.49	1.31	0.74	0.72	1.21	2.04	2.21	2.57	2.53	2.40	2.20	1.79	1.34	1.47	1.58
50	1.31	1.87	1.09	1.04	1.14	1.21	2.08	2.38	2.70	2.64	2.64	2.16	1.91	1.82	1.73	1.74
49	1.52	1.49	1.39	1.01	1.29	1.67	2.39	2.67	2.71	2.68	2.68	2.40	2.15	1.60	1.81	1.61
48	1.80	2.11	1.38	1.29	1.21	2.14	2.85	2.71	2.75	2.69	2.51	2.15	1.87	1.65	1.72	1.47
47	1.97	2.24	1.51	1.43	1.39	2.60	2.82	2.75	2.89	2.73	2.85	2.60	2.29	1.78	2.09	1.91
46	2.50	2.48	1.81	1.94	2.17	2.77	3.08	3.04	3.02	3.00	3.00	2.74	2.51	2.16	2.27	1.91
45	2.24	2.29	1.68	1.90	2.24	2.82	3.05	2.92	2.91	3.14	3.00	2.79	2.32	2.06	2.30	2.02
44	2.40	2.61	2.14	2.10	2.54	3.18	3.25	3.09	3.20	3.29	3.19	3.07	2.60	2.22	2.37	2.19
43	2.60	2.66	2.38	2.43	2.97	3.38	3.55	3.45	3.45	3.48	3.47	3.10	2.91	2.44	2.56	2.15
42	2.68	2.47	2.11	2.34	2.97	3.39	3.34	3.18	3.52	3.44	3.30	3.13	2.87	2.29	2.27	2.05
41	2.66	2.73	2.43	2.79	3.09	3.63	3.87	3.49	3.53	3.52	3.35	3.23	2.78	2.37	2.34	2.10
40	2.90	2.59	2.67	2.87	3.37	3.77	3.93	3.62	3.89	3.87	3.78	3.72	3.21	2.54	2.56	2.52
39	3.05	2.51	2.52	3.09	3.68	4.04	4.00	3.90	3.83	3.96	3.88	3.52	3.09	2.52	2.43	2.11
38	3.17	2.56	2.53	3.35	3.87	4.23	4.13	4.13	4.05	4.31	4.21	3.82	3.50	2.65	2.49	2.35
37	3.42	2.48	2.74	3.69	4.01	4.43	4.51	4.31	4.31	4.45	4.40	3.95	3.45	2.67	2.42	2.49
36	3.45	2.36	2.63	3.74	4.22	4.54	4.62	4.56	4.48	4.51	4.49	3.75	3.53	2.56	2.36	2.27
35	3.84	2.62	2.64	3.78	4.52	4.96	4.81	4.83	4.85	4.92	4.74	4.70	3.85	2.91	2.35	2.99
34	4.03	2.83	2.93	4.26	4.70	5.25	5.27	5.08	5.05	5.08	5.03	4.92	4.46	2.71	2.86	3.47
33	3.87	2.80	3.74	4.20	5.07	5.35	5.18	5.20	5.08	4.95	4.99	4.78	3.58	2.51	4.54	4.58

Grey cells indicate $RMS/V_{tot}>2$

Table C-9 Unit 14A, 12.0 kcfs Flow Rate, Total RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.37	0.35	0.36	0.38	0.47	0.49	0.51	0.46	0.71	0.75	0.56	0.47	0.51	0.51	0.46	0.35
70	0.38	0.36	0.47	0.47	0.53	0.52	0.59	0.73	0.55	0.72	0.65	0.62	0.55	0.43	0.36	0.28
68	0.32	0.29	0.37	0.39	0.57	0.49	0.61	0.51	0.53	0.51	0.51	0.60	0.57	0.77	0.68	0.32
66	0.28	0.44	0.31	0.52	0.50	0.47	0.39	0.70	0.69	0.75	0.61	0.57	0.58	0.64	0.56	0.73
64	0.36	0.33	0.45	0.35	0.46	0.50	0.70	0.55	0.76	0.60	0.59	0.59	0.63	0.47	0.48	0.49
62	0.30	0.40	0.40	0.44	0.58	0.59	0.32	0.62	0.88	0.71	0.60	0.59	0.66	0.56	0.56	0.52
60	0.40	0.41	0.46	0.48	0.62	0.42	0.59	0.95	0.72	0.63	0.67	0.58	0.47	0.54	0.55	0.47
58	0.36	0.32	0.60	0.46	0.67	0.51	0.67	0.58	0.80	0.85	0.63	0.66	0.62	0.62	0.69	0.52
56	0.64	0.51	0.36	0.45	0.42	0.60	0.63	0.78	0.86	0.95	0.75	0.67	0.73	0.69	0.65	0.53
55	0.71	0.55	0.69	0.66	0.53	0.53	0.93	1.16	0.79	0.75	0.69	0.69	0.79	0.71	0.69	0.65
54	0.69	1.02	0.59	0.85	0.75	0.88	0.61	0.99	0.75	0.68	0.67	0.68	0.76	0.70	0.69	0.58
53	0.69	1.01	1.09	1.05	0.79	1.06	0.99	1.09	0.72	0.67	0.63	0.68	0.79	0.74	0.57	0.73
52	0.96	0.93	1.03	1.09	1.02	1.13	1.02	0.74	0.70	0.67	0.70	0.64	0.72	0.68	0.66	0.58
51	0.95	0.97	0.93	1.09	1.03	1.10	0.95	0.86	0.62	0.64	0.61	0.69	0.72	0.71	0.65	0.61
50	0.95	0.88	1.03	0.92	0.93	1.08	0.81	0.69	0.57	0.66	0.64	0.72	0.76	0.71	0.68	0.56
49	0.91	0.97	0.90	0.96	0.97	0.94	0.81	0.72	0.63	0.55	0.56	0.68	0.69	0.67	0.69	0.69
48	0.69	0.87	0.96	0.95	0.94	1.08	0.76	0.65	0.49	0.59	0.61	0.68	0.76	0.70	0.66	0.58
47	0.81	0.78	0.93	0.97	0.97	0.84	0.73	0.63	0.53	0.59	0.60	0.66	0.82	0.69	0.72	0.61
46	0.71	0.77	0.89	0.89	1.01	0.92	0.71	0.68	0.56	0.62	0.62	0.65	0.70	0.70	0.68	0.60
45	0.73	0.81	0.89	0.98	0.91	0.80	0.75	0.67	0.58	0.63	0.71	0.72	0.75	0.75	0.69	0.63
44	0.81	0.81	0.90	1.00	0.85	0.75	0.73	0.66	0.63	0.65	0.67	0.77	0.83	0.81	0.72	0.68
43	0.79	0.84	0.85	0.94	0.89	0.83	0.72	0.66	0.64	0.69	0.67	0.71	0.80	0.82	0.73	0.69
42	0.85	0.85	0.90	0.88	0.92	0.75	0.72	0.66	0.66	0.65	0.67	0.77	0.80	0.76	0.76	0.71
41	0.85	0.84	0.97	0.96	0.89	0.75	0.76	0.71	0.71	0.68	0.72	0.80	0.83	0.83	0.75	0.74
40	0.93	0.88	0.91	0.91	0.95	0.76	0.69	0.75	0.68	0.70	0.71	0.80	0.92	0.87	0.89	0.89
39	0.91	1.04	0.95	1.03	0.97	0.77	0.73	0.71	0.70	0.69	0.70	0.84	0.95	0.93	0.96	0.95
38	1.07	1.04	1.05	1.05	0.98	0.75	0.72	0.72	0.72	0.60	0.70	0.89	1.05	1.02	1.04	1.13
37	1.12	1.04	1.15	1.15	0.91	0.60	0.52	0.67	0.56	0.51	0.62	0.90	1.10	1.12	1.14	1.14
36	1.21	1.23	1.25	1.28	0.88	0.56	0.40	0.52	0.58	0.49	0.47	0.94	1.23	1.26	1.27	1.27
35	1.24	1.37	1.32	1.33	0.72	0.43	0.44	0.43	0.40	0.38	0.42	0.57	1.24	1.45	1.32	1.49
34	1.24	1.52	1.54	1.28	0.57	0.43	0.41	0.44	0.34	0.43	0.43	0.52	1.13	1.51	1.53	1.42
33	1.56	1.67	1.60	1.51	0.45	0.35	0.35	0.34	0.39	0.38	0.40	0.44	1.65	1.63	1.11	0.93

Grey cells indicate RMS/V_{tot}>2

Table C-10 Unit 14A, 15.0 kcfs Flow Rate, Vx (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.02	(0.17)	(0.01)	0.02	0.17	0.20	0.05	0.17	0.42	0.44	0.33	0.31	0.35	0.20	0.06	0.05
70	(0.12)	(0.04)	(0.20)	(0.14)	(0.09)	(0.14)	(0.19)	(0.26)	(0.34)	(0.28)	(0.16)	(0.27)	(0.23)	(0.14)	0.12	(0.03)
68	0.03	(0.20)	(0.03)	(0.09)	(0.13)	(0.01)	0.08	0.05	(0.00)	0.05	(0.07)	(0.10)	(0.15)	(0.20)	(0.18)	(0.10)
66	(0.17)	(0.08)	(0.05)	(0.11)	0.02	0.03	0.02	0.04	0.06	0.01	0.00	(0.02)	(0.05)	(0.20)	(0.22)	(0.20)
64	(0.16)	(0.12)	(0.12)	0.05	(0.03)	0.01	0.03	0.01	0.05	0.02	(0.02)	(0.06)	(0.03)	(0.05)	(0.15)	(0.19)
62	(0.15)	(0.11)	(0.01)	(0.01)	(0.02)	0.02	0.10	0.05	0.00	(0.01)	0.04	(0.03)	0.03	0.04	(0.00)	(0.06)
60	(0.18)	(0.12)	(0.04)	0.02	0.09	(0.04)	0.11	0.08	0.06	0.01	(0.02)	(0.04)	0.02	(0.00)	(0.03)	(0.09)
58	(0.24)	(0.08)	0.03	(0.03)	0.20	0.06	0.05	0.01	0.03	0.08	0.09	0.07	0.03	0.04	0.10	(0.01)
56	0.25	0.31	0.56	0.45	0.31	0.35	0.70	0.80	0.72	0.58	0.51	0.50	0.57	0.47	0.26	0.16
55	0.68	0.22	0.60	0.64	0.32	0.42	0.66	0.84	0.94	0.72	0.79	0.84	0.77	0.69	0.62	0.43
54	0.72	0.94	0.93	0.94	0.94	0.69	0.81	1.04	1.01	0.82	0.85	0.90	0.92	0.88	0.72	0.54
53	0.99	1.35	1.44	1.27	1.18	1.00	0.89	1.12	1.07	0.78	0.96	0.90	0.85	0.73	0.63	0.50
52	0.78	1.03	1.12	0.96	0.90	0.69	0.75	0.80	0.67	0.50	0.59	0.53	0.47	0.47	0.39	0.33
51	0.70	0.84	0.74	0.74	0.68	0.56	0.45	0.68	0.60	0.50	0.45	0.53	0.66	0.60	0.56	0.50
50	0.88	0.86	0.90	0.80	0.75	0.60	0.52	0.68	0.74	0.55	0.58	0.66	0.74	0.74	0.72	0.57
49	0.69	0.62	0.68	0.69	0.58	0.39	0.37	0.56	0.59	0.44	0.48	0.49	0.61	0.63	0.59	0.51
48	0.61	0.71	0.71	0.69	0.45	0.34	0.33	0.49	0.52	0.44	0.43	0.50	0.55	0.62	0.57	0.54
47	0.83	0.82	0.86	0.81	0.62	0.49	0.44	0.61	0.70	0.51	0.54	0.64	0.69	0.73	0.71	0.59
46	0.67	0.72	0.70	0.61	0.44	0.31	0.33	0.49	0.56	0.45	0.46	0.52	0.61	0.60	0.60	0.56
45	0.73	0.71	0.69	0.63	0.42	0.29	0.34	0.46	0.55	0.42	0.45	0.47	0.55	0.61	0.62	0.59
44	0.77	0.87	0.82	0.73	0.53	0.40	0.37	0.53	0.67	0.51	0.56	0.63	0.69	0.76	0.71	0.65
43	0.53	0.77	0.65	0.59	0.35	0.27	0.25	0.37	0.51	0.40	0.47	0.51	0.55	0.61	0.56	0.50
42	0.56	0.76	0.66	0.57	0.31	0.20	0.26	0.36	0.42	0.34	0.40	0.42	0.52	0.60	0.52	0.45
41	0.52	0.85	0.83	0.69	0.43	0.28	0.28	0.39	0.53	0.43	0.45	0.51	0.61	0.71	0.69	0.54
40	0.44	0.73	0.76	0.63	0.26	0.18	0.17	0.27	0.46	0.36	0.39	0.42	0.55	0.64	0.57	0.41
39	0.39	0.76	0.80	0.64	0.27	0.19	0.20	0.24	0.39	0.35	0.35	0.37	0.47	0.68	0.61	0.38
38	0.43	0.84	0.99	0.83	0.31	0.31	0.21	0.29	0.53	0.48	0.43	0.51	0.62	0.81	0.78	0.46
37	0.36	0.70	0.93	0.75	0.26	0.19	0.20	0.25	0.48	0.40	0.38	0.38	0.55	0.79	0.63	0.42
36	0.52	0.51	0.95	0.95	0.29	0.34	0.26	0.39	0.59	0.52	0.43	0.49	0.58	0.86	0.86	0.36
35	0.60	0.78	1.06	1.04	0.43	0.47	0.48	0.55	0.82	0.69	0.68	0.71	0.67	1.00	0.77	0.35
34	0.69	0.94	0.54	0.65	0.35	0.46	0.40	0.53	0.76	0.67	0.62	0.64	0.35	0.11	0.33	(0.01)
33	0.73	0.45	0.90	0.98	0.73	0.71	0.62	0.76	0.99	0.91	0.70	0.87	0.69	0.64	0.78	0.25

Grey cells indicate $RMS/V_{tot}>2$

Table C-11 Unit 14A, 15.0 kcfs Flow Rate, Vx RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.35	0.38	0.25	0.25	0.30	0.35	0.30	0.31	0.35	0.40	0.34	0.24	0.37	0.32	0.31	0.28
70	0.26	0.22	0.28	0.28	0.29	0.26	0.34	0.34	0.38	0.29	0.31	0.31	0.37	0.24	0.23	0.24
68	0.25	0.19	0.24	0.29	0.28	0.36	0.40	0.35	0.33	0.34	0.29	0.33	0.29	0.34	0.28	0.25
66	0.21	0.20	0.22	0.27	0.31	0.34	0.33	0.39	0.32	0.31	0.33	0.30	0.31	0.30	0.25	0.27
64	0.20	0.23	0.27	0.35	0.29	0.39	0.36	0.36	0.33	0.30	0.32	0.32	0.31	0.29	0.29	0.24
62	0.22	0.24	0.35	0.33	0.31	0.37	0.40	0.42	0.33	0.34	0.29	0.32	0.32	0.39	0.23	0.27
60	0.22	0.19	0.27	0.27	0.36	0.27	0.41	0.43	0.39	0.35	0.37	0.34	0.31	0.32	0.33	0.29
58	0.33	0.24	0.32	0.29	0.43	0.38	0.44	0.44	0.39	0.38	0.33	0.31	0.37	0.40	0.32	0.30
56	0.42	0.32	0.43	0.43	0.30	0.32	0.38	0.35	0.32	0.34	0.35	0.40	0.35	0.35	0.41	0.30
55	0.43	0.37	0.42	0.41	0.32	0.31	0.42	0.39	0.32	0.32	0.32	0.29	0.33	0.35	0.32	0.28
54	0.35	0.52	0.32	0.30	0.42	0.39	0.42	0.36	0.31	0.32	0.31	0.34	0.36	0.33	0.33	0.33
53	0.37	0.40	0.45	0.39	0.39	0.42	0.54	0.37	0.32	0.32	0.34	0.32	0.38	0.34	0.35	0.34
52	0.39	0.45	0.46	0.44	0.37	0.51	0.46	0.45	0.32	0.34	0.33	0.33	0.36	0.37	0.37	0.33
51	0.36	0.43	0.45	0.52	0.47	0.51	0.49	0.48	0.31	0.33	0.31	0.32	0.39	0.38	0.39	0.35
50	0.50	0.41	0.52	0.46	0.48	0.51	0.47	0.35	0.31	0.32	0.30	0.35	0.39	0.41	0.36	0.38
49	0.40	0.45	0.52	0.48	0.49	0.50	0.41	0.40	0.30	0.31	0.34	0.40	0.43	0.42	0.38	0.37
48	0.40	0.42	0.51	0.45	0.49	0.53	0.45	0.36	0.31	0.30	0.33	0.35	0.39	0.38	0.39	0.38
47	0.49	0.42	0.51	0.45	0.51	0.47	0.47	0.36	0.29	0.30	0.31	0.36	0.41	0.40	0.39	0.38
46	0.43	0.45	0.51	0.48	0.51	0.47	0.42	0.38	0.31	0.31	0.32	0.38	0.42	0.42	0.43	0.46
45	0.52	0.41	0.50	0.51	0.53	0.46	0.40	0.39	0.29	0.32	0.33	0.34	0.44	0.45	0.43	0.43
44	0.62	0.47	0.50	0.48	0.52	0.48	0.43	0.37	0.31	0.32	0.34	0.37	0.47	0.45	0.46	0.45
43	0.49	0.53	0.55	0.54	0.52	0.45	0.41	0.40	0.33	0.35	0.37	0.38	0.51	0.46	0.43	0.49
42	0.51	0.58	0.57	0.55	0.59	0.43	0.42	0.38	0.36	0.35	0.40	0.44	0.53	0.53	0.49	0.56
41	0.51	0.55	0.60	0.59	0.57	0.44	0.42	0.41	0.34	0.35	0.38	0.44	0.54	0.54	0.55	0.55
40	0.71	0.60	0.59	0.59	0.54	0.46	0.38	0.41	0.37	0.36	0.39	0.44	0.57	0.63	0.60	0.60
39	0.64	0.66	0.65	0.67	0.56	0.41	0.37	0.36	0.38	0.34	0.37	0.46	0.61	0.68	0.68	0.66
38	0.80	0.70	0.75	0.72	0.54	0.43	0.31	0.30	0.32	0.32	0.31	0.46	0.64	0.77	0.75	0.76
37	0.70	0.79	0.87	0.76	0.56	0.29	0.27	0.27	0.32	0.27	0.27	0.38	0.69	0.87	0.79	0.81
36	0.69	0.82	0.87	0.86	0.41	0.30	0.24	0.23	0.26	0.30	0.26	0.29	0.74	0.91	0.86	0.77
35	1.07	0.86	0.88	0.91	0.28	0.24	0.22	0.21	0.24	0.26	0.23	0.23	0.60	0.94	0.90	0.81
34	1.03	1.32	0.95	0.91	0.28	0.26	0.23	0.22	0.23	0.25	0.24	0.23	0.52	0.90	1.02	0.56
33	0.75	0.52	1.01	0.95	0.27	0.27	0.25	0.22	0.25	0.25	0.23	0.24	0.40	0.73	1.02	0.79

Grey cells indicate RMS/V_{tot}>2

Table C-12 Unit 14A, 15.0 kcfs Flow Rate, Vy (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.09	0.14	0.27	0.43	0.51	0.76	0.62	0.73	0.53	0.45	0.20	(0.09)	(0.13)	(0.14)	(0.27)	(0.15)
70	0.15	(0.00)	0.31	0.46	0.59	0.24	0.68	0.85	0.48	0.13	0.21	0.08	(0.10)	(0.16)	0.07	0.08
68	(0.05)	0.27	0.35	0.48	0.56	0.85	0.61	0.68	0.81	0.23	(0.29)	(0.28)	0.23	(0.33)	(0.37)	(0.10)
66	0.14	0.22	0.21	0.50	0.55	0.71	0.63	0.86	0.63	0.23	0.07	(0.15)	(0.16)	(0.27)	(0.09)	(0.26)
64	0.14	0.36	0.29	0.67	0.52	0.77	0.75	0.99	0.38	0.41	(0.25)	(0.47)	(0.10)	(0.17)	(0.50)	(0.33)
62	0.02	0.23	0.85	0.52	0.22	0.68	0.44	0.72	0.32	(0.07)	(0.34)	(0.09)	(0.22)	(0.41)	(0.22)	(0.16)
60	0.22	0.09	0.37	0.20	0.70	0.16	0.72	0.20	0.05	(0.22)	(0.10)	(0.45)	(0.35)	(0.37)	(0.16)	(0.29)
58	0.40	0.15	0.52	0.13	0.96	0.16	0.32	(0.06)	(0.11)	(0.31)	(0.30)	(0.35)	(0.03)	(0.43)	(0.06)	(0.48)
56	(0.06)	(0.10)	0.06	0.32	(0.05)	(0.28)	0.03	0.27	(0.23)	(0.20)	(0.42)	(0.13)	(0.19)	0.06	(0.25)	(0.02)
55	(0.06)	0.01	(0.64)	(0.60)	(0.23)	(0.35)	(0.61)	(0.51)	(0.63)	(0.45)	(0.76)	(0.43)	(0.34)	(0.17)	(0.00)	0.01
54	0.00	(0.11)	(0.18)	(0.19)	(0.02)	(0.29)	(0.56)	(0.50)	(0.21)	(0.38)	(0.56)	(0.24)	0.02	(0.00)	0.02	0.02
53	(0.13)	(0.21)	(0.48)	(0.04)	(0.16)	0.15	(0.54)	(0.37)	(0.49)	(0.48)	(0.64)	(0.24)	(0.13)	(0.11)	(0.02)	(0.02)
52	(0.14)	(0.37)	0.01	0.30	0.17	0.12	(0.26)	(0.37)	(0.54)	(0.39)	(0.57)	(0.47)	(0.14)	(0.08)	0.06	0.01
51	(0.01)	(0.14)	0.28	0.28	(0.05)	0.18	(0.20)	(0.45)	(0.48)	(0.28)	(0.60)	(0.45)	(0.20)	(0.08)	(0.05)	(0.05)
50	0.01	(0.17)	(0.02)	0.31	0.33	0.09	(0.27)	(0.27)	(0.58)	(0.43)	(0.73)	(0.45)	(0.34)	(0.18)	(0.07)	(0.02)
49	0.02	0.03	0.07	0.23	0.22	0.00	(0.26)	(0.09)	(0.53)	(0.38)	(0.58)	(0.41)	(0.29)	(0.09)	(0.01)	(0.04)
48	0.02	0.03	(0.01)	0.14	0.14	(0.00)	(0.21)	(0.24)	(0.49)	(0.46)	(0.64)	(0.48)	(0.29)	(0.22)	(0.11)	(0.06)
47	0.07	0.07	0.25	0.18	0.07	0.06	(0.26)	(0.21)	(0.55)	(0.48)	(0.74)	(0.51)	(0.34)	(0.19)	(0.13)	(0.06)
46	0.07	0.18	0.20	0.21	0.14	0.08	(0.09)	(0.17)	(0.53)	(0.54)	(0.62)	(0.57)	(0.33)	(0.21)	(0.14)	(0.06)
45	0.06	0.17	0.22	0.29	0.07	0.13	(0.13)	(0.14)	(0.52)	(0.42)	(0.66)	(0.55)	(0.24)	(0.18)	(0.11)	(0.05)
44	0.04	0.16	0.31	0.30	0.11	0.18	(0.10)	(0.06)	(0.52)	(0.52)	(0.76)	(0.63)	(0.34)	(0.26)	(0.20)	(0.04)
43	0.07	0.24	0.32	0.36	0.23	0.25	0.05	0.06	(0.55)	(0.52)	(0.75)	(0.63)	(0.42)	(0.31)	(0.24)	(0.06)
42	0.07	0.18	0.30	0.30	0.21	0.20	0.04	0.02	(0.54)	(0.57)	(0.74)	(0.65)	(0.46)	(0.26)	(0.18)	(0.05)
41	0.07	0.32	0.40	0.43	0.28	0.35	0.09	0.12	(0.60)	(0.51)	(0.80)	(0.73)	(0.53)	(0.35)	(0.26)	(0.10)
40	0.18	0.31	0.40	0.49	0.40	0.36	0.17	0.12	(0.54)	(0.65)	(0.80)	(0.83)	(0.50)	(0.47)	(0.31)	(0.14)
39	0.12	0.44	0.47	0.53	0.36	0.35	0.11	0.23	(0.57)	(0.59)	(0.80)	(0.75)	(0.60)	(0.41)	(0.23)	(0.15)
38	0.20	0.47	0.64	0.64	0.42	0.37	0.25	0.23	(0.57)	(0.63)	(0.85)	(0.86)	(0.62)	(0.61)	(0.38)	(0.16)
37	0.28	0.72	0.76	0.73	0.50	0.47	0.32	0.24	(0.61)	(0.66)	(0.90)	(0.98)	(0.74)	(0.58)	(0.41)	(0.27)
36	0.37	0.63	0.81	0.77	0.48	0.48	0.37	0.22	(0.59)	(0.57)	(0.72)	(0.87)	(0.70)	(0.62)	(0.41)	(0.23)
35	0.50	0.89	0.94	0.84	0.52	0.50	0.29	0.20	(0.65)	(0.66)	(0.97)	(0.97)	(0.73)	(0.61)	(0.50)	(0.36)
34	0.59	0.78	0.84	0.71	0.42	0.47	0.28	0.28	(0.67)	(0.69)	(0.92)	(0.95)	(0.61)	(0.45)	(0.49)	(0.38)
33	0.80	1.01	0.85	0.58	0.35	0.36	0.33	0.18	(0.69)	(0.63)	(0.81)	(0.94)	(0.56)	(0.41)	(0.41)	(0.39)

Grey cells indicate RMS/V_{tot}>2

Table C-13 Unit 14A, 15.0 kcfs Flow Rate, Vy RMS (ft/s)

	OR	Y-Positions (ft)														WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.24	0.27	0.20	0.23	0.23	0.34	0.27	0.26	0.58	0.45	0.47	0.26	0.40	0.00	0.32	0.17
70	0.26	0.24	0.29	0.27	0.30	0.21	0.32	0.42	0.55	0.21	0.42	0.38	0.42	0.24	0.17	0.20
68	0.25	0.24	0.34	0.29	0.24	0.33	0.41	0.36	0.43	0.43	0.37	0.48	0.43	0.29	0.24	0.21
66	0.20	0.19	0.23	0.34	0.33	0.33	0.38	0.38	0.37	0.43	0.37	0.45	0.38	0.39	0.28	0.28
64	0.21	0.24	0.20	0.41	0.31	0.37	0.43	0.44	0.42	0.42	0.37	0.35	0.32	0.33	0.36	0.25
62	0.27	0.24	0.34	0.34	0.34	0.42	0.47	0.62	0.52	0.48	0.35	0.46	0.36	0.43	0.18	0.27
60	0.30	0.19	0.27	0.28	0.43	0.02	0.50	0.56	0.48	0.54	0.43	0.42	0.42	0.39	0.34	0.26
58	0.22	0.21	0.34	0.30	0.50	0.53	0.65	0.20	0.59	0.49	0.41	0.47	0.32	0.49	0.30	0.24
56	0.30	0.27	0.43	0.69	0.37	0.32	0.57	0.54	0.58	0.51	0.84	0.49	0.56	0.47	0.35	0.24
55	0.44	0.45	0.62	0.56	0.48	0.35	0.45	0.58	0.62	0.48	0.47	0.51	0.45	0.51	0.43	0.18
54	0.41	0.64	0.45	0.49	0.53	0.52	0.54	0.57	0.47	0.43	0.46	0.53	0.55	0.48	0.45	0.25
53	0.35	0.64	0.62	0.82	0.65	0.62	0.67	0.57	0.54	0.46	0.52	0.56	0.55	0.46	0.43	0.26
52	0.37	0.59	0.79	0.59	0.69	0.59	0.59	0.61	0.53	0.44	0.45	0.44	0.50	0.51	0.39	0.24
51	0.33	0.62	0.69	0.84	0.77	0.63	0.65	0.54	0.45	0.47	0.42	0.44	0.58	0.50	0.46	0.27
50	0.33	0.62	0.80	0.70	0.68	0.62	0.57	0.48	0.47	0.43	0.41	0.52	0.56	0.55	0.40	0.26
49	0.34	0.63	0.72	0.76	0.65	0.59	0.52	0.44	0.41	0.42	0.45	0.52	0.51	0.51	0.41	0.27
48	0.31	0.56	0.61	0.70	0.68	0.65	0.49	0.44	0.41	0.36	0.41	0.48	0.48	0.50	0.43	0.29
47	0.35	0.59	0.61	0.65	0.66	0.61	0.48	0.42	0.40	0.38	0.38	0.50	0.55	0.51	0.43	0.26
46	0.33	0.56	0.64	0.61	0.64	0.58	0.44	0.42	0.41	0.37	0.39	0.48	0.48	0.47	0.40	0.31
45	0.36	0.52	0.66	0.65	0.63	0.55	0.48	0.43	0.38	0.40	0.38	0.50	0.51	0.50	0.42	0.30
44	0.37	0.54	0.63	0.66	0.64	0.53	0.49	0.43	0.40	0.40	0.38	0.48	0.49	0.51	0.48	0.33
43	0.42	0.56	0.58	0.61	0.59	0.53	0.46	0.43	0.38	0.38	0.41	0.46	0.52	0.50	0.45	0.34
42	0.47	0.61	0.60	0.62	0.62	0.49	0.45	0.40	0.38	0.41	0.44	0.49	0.55	0.54	0.51	0.31
41	0.43	0.66	0.60	0.66	0.61	0.51	0.44	0.43	0.40	0.42	0.45	0.48	0.55	0.54	0.54	0.41
40	0.48	0.66	0.58	0.63	0.62	0.48	0.41	0.43	0.43	0.41	0.44	0.52	0.58	0.60	0.56	0.50
39	0.55	0.67	0.67	0.67	0.63	0.45	0.44	0.39	0.43	0.40	0.44	0.52	0.63	0.64	0.63	0.56
38	0.61	0.73	0.70	0.66	0.64	0.49	0.40	0.36	0.37	0.38	0.41	0.50	0.64	0.65	0.66	0.63
37	0.69	0.76	0.74	0.76	0.64	0.37	0.30	0.37	0.35	0.29	0.35	0.48	0.67	0.71	0.75	0.71
36	0.67	0.84	0.79	0.80	0.56	0.39	0.25	0.26	0.27	0.31	0.30	0.36	0.66	0.73	0.70	0.82
35	0.82	0.84	0.85	0.85	0.43	0.26	0.22	0.24	0.25	0.25	0.26	0.27	0.67	0.77	0.78	0.80
34	0.98	0.71	0.90	0.88	0.39	0.27	0.22	0.25	0.25	0.22	0.24	0.27	0.63	0.85	0.80	0.78
33	0.82	0.71	0.97	1.01	0.34	0.26	0.27	0.22	0.25	0.25	0.24	0.25	0.68	0.87	0.92	0.93

Grey cells indicate $RMS/V_{tot}>2$

Table C-14   Unit 14A, 15.0 kcfs Flow Rate, Vz (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(0.17)	(0.07)	(0.07)	(0.04)	(0.09)	0.03	0.07	0.04	(0.18)	0.05	0.10	0.06	(0.09)	(0.01)	(0.01)	(0.15)
70	(0.71)	(0.63)	(0.64)	(0.39)	(0.19)	(0.19)	(0.02)	0.24	0.59	(0.04)	(0.01)	0.43	0.10	(0.18)	(0.43)	(0.48)
68	(0.78)	(0.52)	(0.14)	(0.04)	(0.29)	0.38	0.56	0.83	1.36	1.59	0.92	1.34	1.32	0.84	0.21	(0.30)
66	(0.94)	(0.63)	(0.66)	(0.35)	(0.34)	0.16	0.20	0.64	1.63	1.73	1.74	1.66	1.65	1.26	0.63	0.22
64	(0.83)	(1.05)	(0.14)	(0.13)	(0.28)	(0.22)	0.68	1.16	1.71	2.04	1.39	1.45	1.41	1.58	1.12	0.28
62	(1.19)	(0.47)	0.50	(0.71)	(0.93)	0.04	1.08	0.33	2.04	1.86	0.91	1.70	1.76	1.02	0.14	0.84
60	(0.91)	(0.85)	(0.76)	(0.09)	(0.26)	(0.48)	0.08	1.08	1.90	2.04	1.73	0.97	1.22	1.19	0.83	(0.08)
58	(0.31)	(0.71)	(1.25)	(1.12)	0.81	(0.26)	(0.40)	(0.34)	1.09	1.67	1.86	1.88	0.06	0.91	0.42	0.64
56	(0.52)	(1.17)	(0.29)	(0.17)	(0.99)	(0.67)	1.67	1.29	1.74	1.65	1.06	(0.41)	0.83	0.43	(1.32)	(0.42)
55	0.52	(1.40)	(0.25)	(0.89)	(1.00)	(0.63)	(0.07)	0.66	2.35	2.54	2.26	1.98	1.77	1.40	1.07	0.18
54	(0.03)	0.15	(0.75)	(0.84)	(0.41)	(0.63)	0.88	1.65	2.32	2.59	2.40	1.61	1.12	1.28	1.21	0.41
53	0.49	1.31	0.43	(0.62)	(0.18)	0.58	1.05	2.34	2.84	2.86	2.69	2.12	1.90	1.64	1.82	1.11
52	1.45	1.98	1.32	0.22	0.44	1.46	2.32	2.61	3.19	3.02	3.02	2.88	2.12	1.50	1.61	1.20
51	0.47	2.11	1.12	0.25	0.80	1.79	2.07	2.35	3.04	2.79	2.83	2.65	1.65	1.37	1.76	1.84
50	2.05	1.88	1.39	0.66	1.11	1.82	2.58	2.99	3.07	3.06	3.14	2.44	2.09	1.57	1.90	1.70
49	2.10	2.40	1.56	1.41	1.18	2.47	3.20	3.11	3.32	3.31	3.04	2.52	2.15	1.60	2.06	1.95
48	1.84	2.40	1.35	0.96	1.52	2.28	3.10	3.21	3.11	3.18	3.28	2.76	2.32	1.79	2.15	2.03
47	2.32	2.47	1.59	1.32	1.80	2.96	3.38	3.30	3.36	3.33	3.30	2.96	2.44	1.85	2.38	2.18
46	2.66	2.94	1.86	1.82	2.43	3.61	3.69	3.66	3.66	3.51	3.52	3.22	2.72	2.19	2.53	2.42
45	2.66	2.85	1.91	1.87	2.35	3.57	3.69	3.60	3.54	3.57	3.56	3.35	2.60	2.10	2.51	2.37
44	2.80	3.00	2.36	2.12	2.88	3.62	3.88	3.79	3.74	3.76	3.69	3.40	2.80	2.36	2.63	2.45
43	3.11	3.26	2.44	2.84	3.35	4.06	4.22	4.05	4.02	4.12	3.97	3.63	3.22	2.71	2.85	2.54
42	3.14	3.05	2.53	2.88	3.45	4.37	4.20	4.07	4.13	4.20	3.97	3.86	3.23	2.76	2.80	2.56
41	3.18	3.21	2.59	3.11	3.58	4.41	4.46	4.30	4.39	4.31	4.36	4.06	3.42	2.75	2.86	2.56
40	3.50	3.27	3.05	3.51	4.22	4.52	4.88	4.64	4.66	4.74	4.64	4.43	3.48	3.04	2.95	2.82
39	3.58	2.98	2.94	3.52	3.90	4.74	4.76	4.77	4.69	4.77	4.77	4.27	3.51	2.88	2.99	2.77
38	3.84	3.02	2.97	3.57	4.26	4.68	5.03	5.14	5.06	5.19	5.06	4.37	2.10	2.91	2.85	3.04
37	4.18	2.76	3.04	3.70	1.96	5.08	5.49	5.25	5.52	5.50	5.35	4.94	0.65	2.75	2.84	3.25
36	4.24	2.85	2.49	3.28	2.62	5.01	5.72	5.61	5.40	5.42	5.41	5.23	0.93	1.37	2.28	3.20
35	4.30	2.84	2.84	3.22	2.41	3.62	5.83	5.76	5.75	5.62	5.63	5.70	0.15	0.72	2.37	3.26
34	2.65	2.20	1.77	2.36	2.33	3.33	5.56	5.47	6.00	5.98	5.76	5.45	0.32	(0.26)	0.74	1.18
33	4.55	4.73	2.94	3.82	5.77	5.97	6.10	6.30	5.97	5.95	6.06	5.96	0.61	0.61	0.29	0.57

Grey cells indicate $RMS/V_{tot}>2$

Table C-15 Unit 14A, 15.0 kcfs Flow Rate, Vz RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.26	0.26	0.28	0.26	0.27	0.34	0.33	0.36	0.30	0.42	0.38	0.31	0.40	0.24	0.30	0.19
70	0.29	0.23	0.33	0.45	0.42	0.41	0.56	0.72	0.95	0.45	0.42	0.71	0.77	0.36	0.36	0.27
68	0.20	0.32	0.38	0.52	0.45	0.57	0.56	0.74	0.67	0.43	0.62	0.55	0.49	0.57	0.57	0.36
66	0.27	0.28	0.33	0.57	0.47	0.57	0.51	0.79	0.64	0.55	0.50	0.50	0.43	0.56	0.59	0.47
64	0.27	0.30	0.44	0.51	0.44	0.60	0.61	0.70	0.57	0.60	0.72	0.49	0.43	0.43	0.50	0.48
62	0.31	0.45	0.51	0.51	0.34	0.69	0.56	0.81	0.59	0.55	0.67	0.47	0.52	0.94	0.38	0.42
60	0.37	0.26	0.35	0.65	0.49	0.44	0.71	0.99	0.56	0.59	0.63	0.89	0.48	0.50	0.48	0.45
58	0.42	0.29	0.45	0.34	0.66	0.52	0.60	0.66	0.61	0.70	0.64	0.57	0.49	0.56	0.37	0.54
56	0.78	0.39	0.45	0.83	0.46	0.40	0.81	1.00	0.76	0.83	0.96	0.56	0.78	0.70	0.52	0.50
55	0.80	0.61	0.85	0.88	0.51	0.35	0.43	0.79	0.77	0.60	0.63	0.60	0.62	0.53	0.66	0.59
54	0.66	1.25	0.44	0.49	0.70	0.51	1.04	0.87	0.67	0.58	0.56	0.69	0.73	0.57	0.63	0.67
53	0.85	1.02	1.08	0.73	0.65	0.97	0.86	0.79	0.69	0.54	0.58	0.70	0.59	0.53	0.66	0.70
52	0.78	0.80	0.77	0.92	0.91	1.07	0.99	0.98	0.55	0.62	0.54	0.60	0.60	0.58	0.52	0.63
51	0.76	0.80	0.81	0.73	0.76	0.90	1.03	0.84	0.55	0.61	0.63	0.55	0.73	0.66	0.60	0.56
50	0.82	0.75	1.00	0.78	0.79	1.01	0.88	0.59	0.48	0.62	0.50	0.68	0.68	0.59	0.59	0.76
49	0.83	0.86	0.77	0.89	0.89	0.81	0.59	0.60	0.48	0.45	0.63	0.65	0.56	0.73	0.61	0.57
48	0.82	0.65	0.93	0.90	0.86	0.93	0.66	0.50	0.59	0.48	0.52	0.59	0.67	0.66	0.58	0.60
47	0.74	0.78	0.90	0.88	0.89	0.74	0.63	0.55	0.47	0.51	0.50	0.56	0.73	0.63	0.57	0.56
46	0.62	0.67	0.81	0.91	0.90	0.68	0.56	0.55	0.53	0.45	0.48	0.61	0.66	0.62	0.60	0.57
45	0.73	0.67	0.83	0.89	0.80	0.72	0.54	0.51	0.45	0.52	0.55	0.56	0.65	0.62	0.65	0.57
44	0.77	0.68	0.82	0.93	0.79	0.68	0.58	0.49	0.50	0.57	0.53	0.57	0.65	0.62	0.55	0.53
43	0.70	0.68	0.75	0.90	0.84	0.61	0.55	0.55	0.55	0.58	0.57	0.54	0.62	0.58	0.56	0.52
42	0.69	0.70	0.79	0.90	0.75	0.62	0.60	0.53	0.55	0.57	0.57	0.61	0.67	0.63	0.62	0.56
41	0.75	0.68	0.76	0.86	0.72	0.66	0.61	0.57	0.58	0.59	0.61	0.60	0.68	0.64	0.66	0.63
40	0.88	0.69	0.68	0.79	0.78	0.65	0.58	0.58	0.60	0.58	0.58	0.61	0.66	0.68	0.64	0.68
39	0.83	0.76	0.72	0.84	0.79	0.63	0.63	0.60	0.60	0.60	0.64	0.65	0.79	0.71	0.68	0.78
38	0.98	0.80	0.78	0.88	0.87	0.72	0.58	0.54	0.54	0.50	0.52	0.71	3.35	0.81	0.72	0.84
37	1.03	0.81	0.78	0.89	4.16	0.71	0.45	0.56	0.46	0.36	0.44	0.72	4.42	0.84	0.79	0.92
36	0.98	1.04	0.83	1.06	3.96	0.73	0.35	0.33	0.35	0.42	0.32	0.47	4.21	3.45	0.82	1.08
35	1.23	1.08	0.99	1.16	4.28	3.85	0.26	0.28	0.27	0.26	0.27	0.29	4.46	3.54	0.98	1.24
34	1.40	1.30	1.10	1.30	4.40	4.13	0.26	0.26	0.27	0.23	0.28	0.30	4.48	4.25	1.08	4.69
33	1.55	1.62	1.35	1.54	0.52	0.43	0.30	0.24	0.24	0.24	0.25	0.25	4.42	4.33	3.90	4.38

Grey cells indicate RMS/V_{tot}>2

Table C-16 Unit 14A, 15.0 kcfs Flow Rate, Vyz (ft/s)

	OR						Y-Positions (ft)									WA
Elevation (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.19	0.16	0.28	0.43	0.52	0.76	0.62	0.73	0.55	0.45	0.22	0.11	0.16	0.14	0.27	0.21
70	0.73	0.63	0.71	0.60	0.62	0.30	0.68	0.88	0.76	0.14	0.21	0.44	0.13	0.24	0.44	0.49
68	0.78	0.59	0.38	0.48	0.63	0.93	0.82	1.07	1.59	1.61	0.96	1.37	1.33	0.91	0.43	0.32
66	0.95	0.67	0.69	0.61	0.65	0.73	0.66	1.07	1.74	1.75	1.75	1.67	1.66	1.29	0.64	0.34
64	0.84	1.11	0.32	0.68	0.59	0.80	1.01	1.53	1.75	2.08	1.41	1.52	1.42	1.59	1.23	0.43
62	1.19	0.52	0.99	0.88	0.95	0.68	1.17	0.79	2.07	1.86	0.97	1.71	1.78	1.10	0.26	0.85
60	0.94	0.86	0.85	0.22	0.75	0.50	0.72	1.10	1.90	2.05	1.73	1.07	1.26	1.24	0.85	0.31
58	0.51	0.73	1.35	1.13	1.26	0.31	0.51	0.35	1.10	1.69	1.89	1.92	0.07	1.00	0.42	0.80
56	0.52	1.18	0.30	0.36	0.99	0.73	1.67	1.32	1.76	1.66	1.14	0.43	0.86	0.43	1.35	0.42
55	0.53	1.40	0.69	1.07	1.02	0.72	0.61	0.83	2.43	2.58	2.38	2.03	1.80	1.41	1.07	0.18
54	0.03	0.18	0.77	0.86	0.41	0.70	1.04	1.72	2.33	2.62	2.47	1.63	1.12	1.28	1.21	0.41
53	0.51	1.33	0.65	0.62	0.24	0.60	1.19	2.37	2.88	2.90	2.76	2.13	1.90	1.65	1.82	1.11
52	1.45	2.02	1.32	0.37	0.48	1.46	2.33	2.64	3.24	3.04	3.07	2.92	2.12	1.50	1.62	1.20
51	0.47	2.11	1.15	0.37	0.80	1.80	2.08	2.39	3.08	2.80	2.89	2.69	1.66	1.37	1.76	1.84
50	2.05	1.89	1.39	0.73	1.16	1.82	2.59	3.00	3.13	3.09	3.23	2.48	2.11	1.58	1.91	1.70
49	2.10	2.40	1.56	1.43	1.20	2.47	3.21	3.11	3.36	3.33	3.10	2.56	2.17	1.60	2.06	1.95
48	1.84	2.40	1.35	0.97	1.53	2.28	3.10	3.22	3.15	3.22	3.34	2.80	2.34	1.80	2.15	2.03
47	2.32	2.47	1.61	1.33	1.80	2.96	3.39	3.31	3.40	3.36	3.38	3.00	2.46	1.86	2.38	2.19
46	2.66	2.94	1.87	1.83	2.44	3.61	3.69	3.66	3.70	3.55	3.58	3.27	2.74	2.20	2.53	2.42
45	2.66	2.86	1.92	1.89	2.35	3.58	3.69	3.60	3.58	3.59	3.62	3.39	2.61	2.11	2.51	2.37
44	2.80	3.00	2.38	2.14	2.88	3.63	3.88	3.79	3.78	3.80	3.77	3.45	2.82	2.37	2.64	2.45
43	3.11	3.27	2.46	2.87	3.35	4.07	4.22	4.05	4.06	4.15	4.04	3.69	3.25	2.73	2.86	2.54
42	3.14	3.06	2.54	2.90	3.46	4.38	4.20	4.07	4.16	4.24	4.04	3.92	3.26	2.77	2.81	2.56
41	3.18	3.22	2.62	3.14	3.60	4.42	4.46	4.30	4.43	4.34	4.43	4.13	3.46	2.78	2.87	2.56
40	3.50	3.28	3.08	3.54	4.23	4.53	4.88	4.64	4.69	4.79	4.71	4.51	3.52	3.07	2.96	2.82
39	3.58	3.01	2.98	3.56	3.91	4.76	4.76	4.77	4.72	4.81	4.83	4.34	3.56	2.91	3.00	2.77
38	3.84	3.06	3.04	3.62	4.28	4.69	5.04	5.15	5.09	5.22	5.13	4.45	2.19	2.97	2.88	3.04
37	4.19	2.85	3.13	3.77	2.02	5.10	5.50	5.26	5.56	5.54	5.43	5.04	0.98	2.81	2.87	3.26
36	4.25	2.92	2.62	3.37	2.67	5.04	5.73	5.61	5.43	5.45	5.46	5.30	1.16	1.51	2.32	3.21
35	4.33	2.97	3.00	3.33	2.47	3.65	5.84	5.76	5.79	5.66	5.71	5.78	0.74	0.94	2.43	3.28
34	2.71	2.34	1.96	2.46	2.36	3.36	5.57	5.48	6.04	6.02	5.83	5.53	0.69	0.52	0.89	1.24
33	4.62	4.83	3.06	3.86	5.78	5.98	6.11	6.30	6.01	5.99	6.11	6.03	0.83	0.74	0.50	0.69

Grey cells indicate RMS/V_{tot}>2

Table C-17 Unit 14A, 15.0 kcfs Flow Rate, Vtot (ft/s)

	OR					Y-Positions (ft)										WA
Elevation (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.19	0.23	0.28	0.43	0.55	0.78	0.62	0.75	0.70	0.63	0.40	0.33	0.38	0.24	0.28	0.22
70	0.73	0.63	0.74	0.62	0.63	0.33	0.71	0.92	0.84	0.31	0.27	0.51	0.26	0.28	0.45	0.49
68	0.78	0.62	0.38	0.49	0.64	0.93	0.83	1.07	1.59	1.61	0.97	1.38	1.34	0.93	0.46	0.33
66	0.96	0.68	0.70	0.62	0.65	0.73	0.66	1.07	1.74	1.75	1.75	1.67	1.66	1.31	0.67	0.40
64	0.86	1.11	0.34	0.68	0.59	0.80	1.01	1.53	1.75	2.08	1.41	1.53	1.42	1.59	1.24	0.47
62	1.20	0.53	0.99	0.88	0.95	0.68	1.17	0.79	2.07	1.86	0.97	1.71	1.78	1.10	0.26	0.86
60	0.95	0.86	0.85	0.22	0.76	0.50	0.73	1.11	1.90	2.05	1.73	1.07	1.27	1.24	0.85	0.32
58	0.56	0.73	1.35	1.13	1.27	0.31	0.51	0.35	1.10	1.70	1.89	1.92	0.07	1.01	0.43	0.80
56	0.58	1.22	0.63	0.58	1.04	0.81	1.81	1.55	1.90	1.76	1.25	0.66	1.03	0.64	1.37	0.45
55	0.86	1.41	0.91	1.25	1.07	0.83	0.90	1.18	2.60	2.68	2.51	2.19	1.96	1.57	1.23	0.47
54	0.72	0.96	1.21	1.27	1.03	0.98	1.32	2.01	2.54	2.75	2.61	1.86	1.45	1.56	1.41	0.68
53	1.12	1.89	1.58	1.42	1.21	1.17	1.48	2.62	3.07	3.00	2.92	2.32	2.08	1.80	1.93	1.22
52	1.65	2.26	1.73	1.03	1.02	1.62	2.45	2.76	3.31	3.09	3.13	2.97	2.17	1.57	1.66	1.24
51	0.84	2.27	1.37	0.82	1.05	1.89	2.13	2.49	3.14	2.85	2.92	2.74	1.79	1.50	1.85	1.91
50	2.23	2.07	1.66	1.08	1.38	1.91	2.65	3.08	3.22	3.14	3.28	2.56	2.24	1.75	2.04	1.80
49	2.21	2.48	1.70	1.59	1.33	2.50	3.23	3.16	3.41	3.36	3.14	2.60	2.26	1.72	2.14	2.02
48	1.94	2.50	1.52	1.19	1.59	2.30	3.12	3.26	3.19	3.25	3.37	2.85	2.40	1.90	2.22	2.10
47	2.46	2.60	1.83	1.56	1.91	3.00	3.42	3.36	3.47	3.40	3.42	3.07	2.56	2.00	2.48	2.26
46	2.74	3.03	2.00	1.93	2.48	3.63	3.71	3.69	3.74	3.58	3.61	3.31	2.81	2.28	2.60	2.48
45	2.76	2.95	2.04	1.99	2.39	3.59	3.71	3.63	3.62	3.62	3.64	3.43	2.67	2.20	2.59	2.44
44	2.90	3.13	2.51	2.26	2.93	3.65	3.90	3.83	3.84	3.83	3.81	3.51	2.91	2.49	2.73	2.54
43	3.15	3.36	2.55	2.93	3.37	4.08	4.22	4.06	4.09	4.17	4.07	3.72	3.29	2.80	2.91	2.59
42	3.19	3.15	2.63	2.95	3.47	4.38	4.20	4.09	4.18	4.26	4.06	3.94	3.30	2.83	2.86	2.60
41	3.22	3.34	2.75	3.22	3.62	4.43	4.47	4.32	4.47	4.36	4.45	4.16	3.51	2.86	2.96	2.62
40	3.53	3.36	3.17	3.60	4.24	4.53	4.88	4.65	4.71	4.80	4.72	4.53	3.56	3.14	3.02	2.85
39	3.61	3.11	3.09	3.61	3.92	4.76	4.76	4.78	4.74	4.82	4.85	4.36	3.59	2.99	3.06	2.80
38	3.87	3.17	3.19	3.72	4.30	4.70	5.04	5.16	5.12	5.25	5.15	4.48	2.28	3.08	2.98	3.08
37	4.21	2.94	3.27	3.85	2.03	5.11	5.51	5.26	5.58	5.55	5.44	5.05	1.13	2.92	2.94	3.29
36	4.28	2.96	2.79	3.50	2.68	5.05	5.74	5.63	5.47	5.48	5.48	5.33	1.30	1.74	2.47	3.23
35	4.37	3.07	3.18	3.48	2.51	3.68	5.86	5.79	5.85	5.70	5.75	5.82	1.00	1.37	2.55	3.30
34	2.80	2.52	2.03	2.55	2.39	3.39	5.58	5.50	6.09	6.06	5.86	5.57	0.77	0.53	0.95	1.24
33	4.68	4.85	3.19	3.99	5.83	6.02	6.14	6.35	6.09	6.06	6.15	6.10	1.08	0.98	0.93	0.73

Grey cells indicate $RMS/V_{tot}>2$

Table C-18 Unit 14A, 15.0 kcfs Flow Rate, Total RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	19.83	18.67	17.50	16.33	15.17	14.00	12.83	11.67	8.33	7.17	6.00	4.83	3.67	2.50	1.33	0.17
72	0.49	0.53	0.42	0.43	0.46	0.59	0.52	0.55	0.75	0.73	0.69	0.47	0.68	0.40	0.54	0.38
70	0.47	0.40	0.52	0.60	0.60	0.53	0.73	0.90	1.16	0.57	0.67	0.87	0.95	0.49	0.46	0.41
68	0.40	0.44	0.57	0.66	0.59	0.75	0.80	0.89	0.86	0.70	0.78	0.80	0.71	0.73	0.68	0.48
66	0.39	0.40	0.46	0.72	0.65	0.74	0.71	0.96	0.80	0.76	0.70	0.74	0.65	0.75	0.70	0.61
64	0.39	0.45	0.55	0.74	0.61	0.81	0.83	0.90	0.78	0.80	0.88	0.68	0.62	0.61	0.68	0.59
62	0.47	0.56	0.71	0.69	0.57	0.89	0.83	1.10	0.85	0.81	0.80	0.72	0.71	1.11	0.48	0.57
60	0.52	0.37	0.52	0.76	0.74	0.52	0.96	1.22	0.83	0.87	0.85	1.05	0.71	0.72	0.67	0.60
58	0.58	0.43	0.64	0.54	0.93	0.84	0.99	0.82	0.93	0.93	0.83	0.80	0.69	0.84	0.57	0.66
56	0.94	0.57	0.76	1.16	0.66	0.60	1.06	1.19	1.01	1.03	1.32	0.84	1.02	0.91	0.75	0.63
55	1.01	0.84	1.13	1.12	0.76	0.59	0.76	1.06	1.04	0.84	0.85	0.84	0.83	0.81	0.85	0.68
54	0.85	1.49	0.70	0.75	0.97	0.83	1.25	1.10	0.88	0.79	0.79	0.93	0.98	0.81	0.84	0.79
53	0.99	1.27	1.32	1.16	1.00	1.23	1.22	1.04	0.93	0.78	0.85	0.95	0.89	0.78	0.86	0.82
52	0.95	1.09	1.20	1.18	1.20	1.33	1.24	1.24	0.82	0.83	0.78	0.82	0.86	0.85	0.74	0.75
51	0.91	1.10	1.15	1.23	1.18	1.21	1.32	1.10	0.77	0.83	0.82	0.78	1.01	0.91	0.85	0.71
50	1.02	1.06	1.38	1.15	1.14	1.29	1.15	0.84	0.74	0.82	0.72	0.93	0.97	0.91	0.80	0.89
49	0.98	1.16	1.18	1.26	1.21	1.12	0.89	0.84	0.70	0.69	0.85	0.92	0.87	0.99	0.82	0.73
48	0.97	0.95	1.22	1.23	1.19	1.26	0.93	0.76	0.78	0.67	0.74	0.83	0.91	0.91	0.82	0.77
47	0.96	1.06	1.20	1.18	1.22	1.07	0.92	0.78	0.68	0.70	0.70	0.83	1.01	0.91	0.81	0.73
46	0.82	0.99	1.15	1.19	1.21	1.01	0.83	0.79	0.74	0.66	0.70	0.86	0.92	0.89	0.83	0.79
45	0.96	0.94	1.17	1.22	1.15	1.02	0.83	0.77	0.65	0.73	0.74	0.83	0.93	0.92	0.88	0.78
44	1.06	0.98	1.15	1.24	1.14	0.99	0.87	0.75	0.71	0.77	0.74	0.83	0.94	0.92	0.86	0.77
43	0.95	1.03	1.09	1.22	1.15	0.93	0.83	0.81	0.75	0.78	0.79	0.81	0.96	0.89	0.84	0.79
42	0.98	1.09	1.14	1.22	1.14	0.90	0.86	0.77	0.76	0.79	0.82	0.90	1.02	0.98	0.94	0.85
41	1.00	1.10	1.14	1.23	1.11	0.95	0.86	0.83	0.78	0.80	0.84	0.89	1.02	0.99	1.02	0.93
40	1.23	1.13	1.08	1.17	1.13	0.93	0.81	0.83	0.82	0.80	0.83	0.92	1.05	1.10	1.04	1.03
39	1.18	1.21	1.18	1.26	1.15	0.87	0.85	0.80	0.83	0.80	0.86	0.95	1.18	1.17	1.15	1.16
38	1.40	1.29	1.29	1.31	1.20	0.97	0.77	0.72	0.73	0.70	0.73	0.98	3.47	1.29	1.23	1.30
37	1.42	1.36	1.39	1.39	4.24	0.85	0.61	0.73	0.66	0.53	0.62	0.95	4.53	1.40	1.35	1.42
36	1.37	1.57	1.43	1.58	4.02	0.88	0.49	0.48	0.51	0.60	0.51	0.66	4.32	3.65	1.38	1.56
35	1.83	1.61	1.58	1.69	4.31	3.87	0.40	0.43	0.44	0.44	0.44	0.46	4.55	3.74	1.54	1.68
34	1.99	1.98	1.71	1.82	4.42	4.15	0.41	0.42	0.43	0.41	0.43	0.47	4.55	4.43	1.69	4.79
33	1.91	1.84	1.95	2.07	0.68	0.57	0.48	0.40	0.43	0.43	0.41	0.43	4.49	4.48	4.14	4.54

Grey cells indicate RMS/V_{tot}>2

Table C-19 Unit 14A, 17.0 kcfs Flow Rate, Vx (ft/s)

	OR	Y-Positions (ft)														WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	(0.18)	(0.12)	(0.11)	(0.10)	(0.09)	(0.12)	(0.21)	(0.19)	(0.24)	(0.38)	(0.49)	(0.45)	(0.08)	(0.16)	(0.10)	(0.11)
68	(0.13)	(0.14)	(0.15)	(0.05)	(0.04)	0.02	(0.06)	0.05	(0.07)	(0.23)	(0.26)	(0.22)	(0.30)	(0.20)	(0.13)	(0.06)
66	(0.07)	(0.13)	(0.08)	(0.06)	(0.02)	(0.01)	0.15	0.19	(0.01)	(0.06)	(0.04)	(0.03)	(0.05)	(0.18)	(0.25)	(0.16)
64	(0.16)	(0.04)	(0.05)	(0.08)	0.06	0.05	0.08	0.13	0.04	(0.01)	0.02	(0.07)	(0.06)	(0.02)	(0.14)	(0.24)
62	(0.20)	(0.08)	(0.11)	(0.06)	0.06	0.12	0.04	0.11	(0.02)	(0.01)	(0.04)	(0.07)	0.01	(0.05)	(0.05)	(0.20)
60	(0.13)	(0.17)	0.04	(0.05)	0.10	(0.03)	0.12	0.01	(0.03)	(0.03)	0.01	(0.05)	(0.05)	(0.04)	(0.01)	(0.13)
58	(0.09)	(0.03)	0.05	(0.13)	(0.01)	0.04	0.19	0.22	0.03	(0.01)	0.02	0.08	0.05	0.12	0.05	(0.05)
56	0.35	0.28	0.54	0.55	0.39	0.44	0.55	0.74	0.78	0.65	0.63	0.75	0.84	0.77	0.76	0.45
55	0.80	0.87	0.84	0.67	0.74	0.51	0.76	1.00	1.18	0.92	1.09	1.18	1.22	1.20	1.02	0.72
54	0.85	1.08	1.11	1.02	1.06	0.80	0.85	1.10	1.23	0.97	1.01	1.21	1.31	1.32	1.20	0.94
53	1.09	1.51	1.51	1.41	1.41	1.11	1.08	1.24	1.46	1.15	1.32	1.47	1.62	1.62	1.41	1.16
52	1.13	1.22	1.15	1.29	1.19	0.92	0.85	1.00	1.22	0.93	1.06	1.27	1.31	1.31	1.14	1.02
51	0.88	0.95	0.94	1.01	0.78	0.56	0.52	0.69	0.80	0.65	0.67	0.71	0.83	0.89	0.80	0.73
50	0.75	0.96	0.99	0.91	0.83	0.59	0.59	0.74	0.85	0.66	0.69	0.79	0.88	0.93	0.85	0.75
49	0.84	0.79	0.78	0.82	0.62	0.38	0.37	0.57	0.76	0.59	0.61	0.70	0.79	0.81	0.72	0.63
48	0.84	0.81	0.80	0.76	0.60	0.41	0.37	0.56	0.66	0.51	0.53	0.59	0.69	0.74	0.70	0.61
47	0.37	0.93	1.03	0.96	0.71	0.46	0.40	0.67	0.82	0.65	0.69	0.78	0.82	0.90	0.84	0.75
46	0.68	0.82	0.83	0.81	0.55	0.31	0.32	0.51	0.73	0.56	0.58	0.68	0.73	0.72	0.76	0.71
45	0.79	0.90	0.92	0.76	0.48	0.26	0.31	0.45	0.64	0.49	0.56	0.63	0.64	0.71	0.71	0.61
44	0.84	1.10	1.04	0.93	0.51	0.35	0.42	0.50	0.73	0.57	0.76	0.78	0.81	0.91	0.86	0.72
43	0.67	0.93	0.88	0.79	0.41	0.23	0.28	0.35	0.60	0.46	0.60	0.67	0.72	0.78	0.68	0.50
42	0.59	0.87	0.86	0.67	0.31	0.23	0.19	0.25	0.47	0.40	0.47	0.50	0.56	0.63	0.64	0.48
41	0.53	1.06	1.04	0.96	0.42	0.29	0.24	0.34	0.62	0.50	0.54	0.61	0.76	0.87	0.76	0.65
40	0.37	0.90	1.00	0.87	0.28	0.20	0.17	0.25	0.55	0.44	0.45	0.55	0.65	0.80	0.71	0.48
39	0.07	0.81	1.04	0.84	0.24	0.17	0.13	0.19	0.42	0.40	0.32	0.38	0.55	0.64	0.71	0.40
38	0.89	1.12	1.25	1.22	0.38	0.25	0.25	0.29	0.54	0.42	0.46	0.51	0.74	0.94	0.89	0.71
37	0.51	0.61	1.15	1.12	0.26	0.25	0.22	0.27	0.51	0.46	0.39	0.44	0.68	0.88	1.01	0.46

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	1.06	0.32	0.42	0.92
35	0.9	0.46	0.62	0.84
34	1.08	0.53	0.66	0.98

Table C-20 Unit 14A, 17.0 kcfs Flow Rate, Vx RMS (ft/s)

	OR						Y-Positions (ft)									WA
Elevation (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.30	0.33	0.37	0.31	0.37	0.38	0.37	0.32	0.35	0.37	0.31	0.28	0.27	0.25	0.23	0.28
68	0.28	0.36	0.39	0.37	0.35	0.34	0.40	0.40	0.41	0.34	0.34	0.26	0.30	0.23	0.21	0.20
66	0.35	0.31	0.36	0.36	0.44	0.37	0.38	0.38	0.44	0.39	0.38	0.36	0.31	0.27	0.25	0.17
64	0.31	0.40	0.38	0.45	0.44	0.43	0.39	0.48	0.47	0.38	0.42	0.38	0.29	0.22	0.26	0.22
62	0.36	0.38	0.43	0.44	0.42	0.40	0.41	0.42	0.49	0.47	0.42	0.36	0.26	0.26	0.27	0.25
60	0.34	0.46	0.40	0.46	0.45	0.49	0.41	0.46	0.55	0.47	0.47	0.36	0.29	0.32	0.27	0.23
58	0.35	0.37	0.38	0.44	0.41	0.48	0.47	0.47	0.50	0.54	0.55	0.43	0.36	0.37	0.31	0.20
56	0.46	0.47	0.55	0.53	0.46	0.43	0.42	0.46	0.55	0.55	0.51	0.47	0.49	0.49	0.42	0.53
55	0.40	0.46	0.48	0.47	0.49	0.46	0.45	0.43	0.51	0.55	0.50	0.55	0.49	0.48	0.53	0.47
54	0.39	0.49	0.50	0.51	0.43	0.43	0.44	0.44	0.51	0.52	0.55	0.53	0.44	0.50	0.53	0.64
53	0.45	0.48	0.48	0.52	0.44	0.41	0.41	0.42	0.53	0.56	0.59	0.51	0.50	0.48	0.49	0.45
52	0.49	0.48	0.53	0.53	0.50	0.42	0.39	0.39	0.51	0.63	0.58	0.58	0.51	0.56	0.49	0.39
51	0.63	0.46	0.48	0.53	0.46	0.39	0.40	0.40	0.52	0.63	0.59	0.63	0.51	0.54	0.50	0.71
50	0.47	0.47	0.48	0.50	0.44	0.43	0.42	0.38	0.51	0.54	0.57	0.58	0.56	0.49	0.53	0.59
49	0.53	0.51	0.53	0.54	0.48	0.43	0.41	0.40	0.51	0.52	0.64	0.66	0.53	0.56	0.57	0.50
48	0.56	0.51	0.50	0.53	0.49	0.44	0.41	0.39	0.49	0.56	0.62	0.63	0.51	0.57	0.53	2.11
47	0.52	0.51	0.51	0.54	0.46	0.42	0.41	0.39	0.52	0.54	0.63	0.63	0.53	0.58	0.57	1.80
46	0.53	0.57	0.60	0.58	0.48	0.44	0.43	0.35	0.50	0.54	0.61	0.67	0.56	0.54	0.61	1.87
45	0.59	0.53	0.60	0.58	0.49	0.45	0.43	0.39	0.51	0.52	0.53	0.74	0.60	0.61	0.63	0.63
44	0.54	0.56	0.56	0.62	0.50	0.44	0.43	0.42	0.48	0.50	0.51	0.69	0.63	0.64	0.62	0.69
43	1.90	0.63	0.61	0.61	0.48	0.48	0.44	0.44	0.49	0.50	0.52	0.63	0.71	0.67	0.72	0.66
42	0.63	0.68	0.68	0.64	0.55	0.48	0.42	0.43	0.50	0.46	0.56	0.72	0.72	0.68	0.75	0.75
41	0.68	0.68	0.76	0.65	0.56	0.48	0.45	0.42	0.49	0.42	0.51	0.74	0.76	0.78	0.83	0.75
40	0.74	0.80	0.76	0.75	0.53	0.44	0.44	0.47	0.47	0.40	0.42	0.69	0.81	0.84	0.93	0.84
39	0.84	0.85	0.85	0.86	0.46	0.39	0.40	0.41	0.42	0.35	0.44	0.65	0.92	0.90	0.95	2.15
38	0.94	0.96	1.04	0.87	0.39	0.38	0.30	0.30	0.35	0.31	0.38	0.73	1.03	0.97	0.98	1.33
37	1.03	1.09	1.08	0.91	0.31	0.29	0.27	0.30	0.29	0.28	0.34	0.50	1.05	1.12	1.10	1.05

Grey cells indicate $RMS/V_{tot}>2$

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	1.22	0.28	0.27	1.08
35	1.34	0.27	0.25	1.3
34	1.27	0.28	0.25	1.19

Table C-21 Unit 14A, 17.0 kcfs Flow Rate, Vy (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.09	0.20	0.33	0.64	0.40	0.66	0.89	0.94	0.31	0.43	0.23	(0.10)	0.17	(0.18)	(0.22)	(0.18)
68	0.10	0.21	0.38	0.58	0.49	0.68	0.93	1.03	0.55	0.22	0.24	0.01	(0.02)	(0.31)	(0.18)	(0.10)
66	0.06	0.28	0.20	0.57	0.55	0.79	0.87	1.10	0.50	0.57	0.11	(0.36)	(0.22)	0.11	(0.22)	(0.36)
64	0.18	0.34	0.08	0.45	0.67	0.89	0.38	0.82	(0.19)	(0.26)	(0.35)	(0.39)	(0.75)	(0.62)	(0.49)	(0.27)
62	0.18	0.36	0.30	0.21	0.60	0.80	0.28	0.61	(0.15)	(0.31)	(0.52)	(0.74)	(0.63)	(0.76)	(0.47)	(0.52)
60	0.06	0.21	0.39	0.33	0.25	0.40	0.64	0.54	(0.42)	(0.49)	(0.60)	(0.61)	(0.70)	(0.55)	(0.26)	(0.34)
58	(0.08)	0.07	0.41	(0.00)	0.10	0.23	0.49	0.22	(0.33)	(0.74)	(0.82)	(0.85)	(0.45)	(0.09)	(0.29)	(0.18)
56	(0.19)	(0.21)	(0.35)	(0.14)	(0.37)	(0.30)	(0.28)	(0.31)	(0.47)	(0.41)	(0.66)	(0.72)	(0.47)	(0.33)	(0.16)	(0.14)
55	(0.01)	(0.37)	(0.47)	(0.46)	(0.39)	(0.49)	(0.47)	(0.35)	(0.59)	(0.77)	(0.86)	(0.54)	(0.39)	(0.09)	0.05	(0.02)
54	(0.06)	(0.47)	(0.51)	(0.51)	(0.28)	(0.26)	(0.55)	(0.60)	(0.39)	(0.45)	(0.74)	(0.65)	(0.12)	0.02	0.12	0.04
53	(0.27)	(0.45)	(0.54)	(0.38)	0.02	(0.05)	(0.55)	(0.64)	(0.46)	(0.57)	(0.85)	(0.66)	(0.07)	0.00	0.24	0.07
52	(0.10)	(0.21)	0.33	0.00	0.31	0.03	(0.38)	(0.27)	(0.70)	(0.60)	(0.76)	(0.44)	(0.21)	(0.22)	(0.01)	0.06
51	(0.04)	(0.11)	0.08	0.03	0.35	0.08	(0.35)	(0.20)	(0.43)	(0.37)	(0.78)	(0.48)	(0.28)	(0.07)	0.03	(0.04)
50	(0.21)	(0.03)	(0.05)	0.21	0.20	(0.09)	(0.31)	(0.34)	(0.60)	(0.60)	(0.72)	(0.71)	(0.27)	(0.23)	(0.07)	(0.05)
49	0.02	(0.00)	0.15	0.20	0.13	0.04	(0.09)	(0.10)	(0.77)	(0.54)	(0.65)	(0.53)	(0.43)	(0.22)	(0.05)	(0.06)
48	(0.26)	(0.03)	0.05	0.18	0.04	(0.00)	(0.32)	(0.18)	(0.75)	(0.67)	(0.85)	(0.58)	(0.39)	(0.24)	(0.17)	(0.10)
47	(0.21)	0.02	0.11	0.34	0.15	0.04	(0.24)	(0.10)	(0.60)	(0.68)	(0.80)	(0.63)	(0.36)	(0.29)	(0.19)	(0.04)
46	(0.18)	0.03	0.21	0.28	0.17	0.13	(0.10)	0.00	(0.79)	(0.54)	(0.86)	(0.66)	(0.46)	(0.35)	(0.18)	(0.05)
45	0.00	0.09	0.23	0.22	0.24	0.34	0.01	(0.06)	(0.53)	(0.41)	(0.76)	(0.69)	(0.29)	(0.19)	(0.14)	(0.08)
44	(0.00)	0.16	0.32	0.29	0.22	0.28	0.02	0.09	(0.68)	(0.64)	(0.84)	(0.68)	(0.46)	(0.38)	(0.20)	(0.07)
43	0.05	0.18	0.36	0.43	0.25	0.29	0.07	0.09	(0.78)	(0.72)	(0.98)	(0.86)	(0.57)	(0.42)	(0.23)	0.05
42	0.02	0.11	0.29	0.34	0.23	0.27	0.12	0.07	(0.74)	(0.75)	(0.86)	(0.83)	(0.57)	(0.40)	(0.22)	(0.13)
41	0.09	0.18	0.39	0.39	0.38	0.31	0.21	0.14	(0.68)	(0.81)	(0.88)	(0.93)	(0.65)	(0.54)	(0.23)	(0.17)
40	0.14	0.36	0.39	0.47	0.47	0.43	0.20	0.19	(0.66)	(0.71)	(1.02)	(1.00)	(0.69)	(0.54)	(0.35)	(0.21)
39	(0.09)	0.24	0.46	0.42	0.36	0.41	0.23	0.05	(0.69)	(0.73)	(0.90)	(1.02)	(0.72)	(0.63)	(0.37)	(0.21)
38	0.32	0.52	0.58	0.58	0.45	0.47	0.27	0.26	(0.79)	(0.83)	(1.05)	(1.05)	(0.86)	(0.69)	(0.43)	(0.42)
37	0.29	0.53	0.63	0.64	0.58	0.48	0.28	0.20	(0.79)	(0.80)	(1.08)	(1.12)	(0.91)	(0.78)	(0.62)	(0.50)

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	0.70	0.35	(0.90)	(0.70)
35	0.87	0.35	(1.09)	(0.79)
34	0.88	0.48	(0.94)	(0.87)

Table C-22 Unit 14A, 17.0 kcfs Flow Rate, Vy RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.16	0.20	0.21	0.33	0.27	0.29	0.40	0.35	0.38	0.43	0.55	0.49	0.13	0.45	0.25	0.28
68	0.19	0.25	0.28	0.31	0.25	0.30	0.48	0.45	0.43	0.48	0.41	0.51	0.43	0.44	0.39	0.30
66	0.16	0.26	0.29	0.26	0.37	0.41	0.58	0.62	0.58	0.54	0.45	0.44	0.36	0.43	0.38	0.33
64	0.27	0.35	0.18	0.34	0.45	0.66	0.28	0.61	0.51	0.49	0.45	0.61	0.45	0.45	0.51	0.38
62	0.29	0.31	0.32	0.31	0.51	0.55	0.29	0.63	0.60	0.59	0.48	0.60	0.54	0.48	0.40	0.44
60	0.26	0.29	0.30	0.29	0.37	0.63	0.60	0.74	0.61	0.54	0.60	0.63	0.53	0.44	0.42	0.32
58	0.23	0.25	0.38	0.51	0.45	0.63	0.72	0.79	0.59	0.68	0.69	0.52	0.65	0.48	0.31	0.33
56	0.49	0.54	0.55	0.70	0.51	0.55	0.72	0.81	0.69	0.59	0.65	0.77	0.82	0.82	0.59	0.38
55	0.44	0.62	0.80	0.61	0.74	0.61	0.71	0.82	0.67	0.63	0.64	0.81	0.74	0.75	0.56	0.36
54	0.53	0.70	0.64	0.67	0.82	0.70	0.68	0.75	0.66	0.59	0.61	0.64	0.86	0.75	0.68	0.33
53	0.40	0.76	0.80	0.82	0.79	0.77	0.68	0.75	0.60	0.52	0.53	0.67	0.75	0.71	0.56	0.33
52	0.45	0.70	0.89	0.79	0.80	0.71	0.64	0.63	0.52	0.55	0.55	0.74	0.65	0.62	0.55	0.34
51	0.46	0.65	0.78	0.78	0.76	0.66	0.66	0.53	0.65	0.47	0.47	0.64	0.69	0.61	0.52	0.39
50	0.55	0.68	0.66	0.83	0.76	0.68	0.55	0.57	0.46	0.52	0.55	0.57	0.66	0.58	0.52	0.32
49	0.36	0.62	0.74	0.67	0.75	0.65	0.52	0.50	0.47	0.45	0.49	0.58	0.56	0.59	0.49	0.35
48	0.69	0.60	0.74	0.67	0.79	0.66	0.60	0.52	0.48	0.48	0.54	0.61	0.63	0.60	0.53	0.36
47	0.65	0.61	0.74	0.73	0.77	0.65	0.53	0.51	0.46	0.47	0.50	0.59	0.65	0.58	0.51	0.31
46	0.67	0.62	0.74	0.70	0.82	0.63	0.55	0.49	0.43	0.48	0.51	0.59	0.61	0.61	0.54	0.34
45	0.44	0.62	0.72	0.74	0.78	0.59	0.55	0.45	0.43	0.48	0.55	0.60	0.62	0.60	0.51	0.27
44	0.52	0.63	0.78	0.74	0.71	0.53	0.47	0.46	0.47	0.45	0.52	0.55	0.59	0.54	0.52	0.32
43	0.51	0.66	0.75	0.74	0.63	0.53	0.49	0.46	0.47	0.47	0.50	0.55	0.61	0.58	0.58	0.77
42	0.47	0.68	0.64	0.73	0.71	0.53	0.49	0.47	0.47	0.42	0.48	0.56	0.68	0.65	0.59	0.51
41	0.49	0.72	0.67	0.76	0.70	0.57	0.47	0.50	0.46	0.46	0.52	0.55	0.62	0.71	0.64	0.61
40	0.57	0.81	0.72	0.75	0.72	0.49	0.49	0.47	0.49	0.47	0.47	0.54	0.67	0.67	0.67	0.63
39	0.84	0.82	0.77	0.75	0.71	0.54	0.40	0.46	0.42	0.44	0.42	0.52	0.71	0.78	0.75	0.68
38	0.78	0.83	0.81	0.80	0.69	0.47	0.41	0.42	0.33	0.36	0.47	0.43	0.74	0.85	0.81	0.79
37	0.71	0.90	0.86	0.85	0.63	0.42	0.34	0.35	0.35	0.32	0.34	0.42	0.77	0.78	0.82	0.80

Grey cells indicate $RMS/V_{tot}>2$

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	0.90	0.26	0.33	0.84
35	1.00	0.24	0.23	1.01
34	0.95	0.26	0.28	0.96

Table C-23 Unit 14A, 17.0 kcfs Flow Rate, Vz (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	(0.31)	(0.32)	(0.29)	0.21	0.24	0.12	0.24	0.88	0.26	0.48	0.79	0.99	(0.09)	0.11	(0.10)	(0.30)
68	(0.64)	(0.56)	(0.37)	(0.11)	(0.03)	0.28	0.43	0.80	1.68	1.45	1.56	1.48	1.26	0.79	0.34	(0.36)
66	(0.77)	(0.97)	(0.62)	(0.15)	(0.06)	(0.11)	0.43	0.75	1.75	1.94	1.95	1.69	1.70	1.22	1.03	0.36
64	(0.55)	(0.17)	(0.46)	(0.15)	0.12	1.05	(0.00)	1.00	1.66	1.45	1.88	1.78	1.39	0.90	0.86	0.80
62	(0.61)	(0.69)	(0.44)	(0.53)	(0.15)	0.06	0.21	0.79	1.90	2.23	1.93	1.90	1.40	1.06	0.54	0.34
60	(0.72)	(0.90)	(0.54)	(0.51)	(0.44)	(0.04)	1.10	1.56	2.09	2.01	1.49	1.38	1.35	0.74	0.07	0.06
58	(0.77)	(0.46)	(0.13)	(0.71)	(0.44)	1.03	1.49	1.53	2.20	1.72	1.17	0.99	0.64	(0.69)	(0.31)	(0.36)
56	(0.40)	(1.19)	(1.10)	(0.95)	(1.12)	(0.64)	0.14	0.91	1.88	2.03	1.36	1.26	0.80	0.15	0.13	(0.66)
55	0.21	0.39	(0.12)	(0.82)	(0.55)	(0.27)	1.43	2.08	2.65	2.61	2.27	1.86	1.12	1.31	0.45	0.11
54	0.47	0.72	0.11	(0.45)	(0.33)	(0.25)	1.41	1.99	2.60	2.74	2.47	2.25	1.19	1.28	1.23	0.65
53	0.65	1.84	1.20	0.13	0.31	0.81	2.12	2.36	2.98	3.19	2.86	2.62	1.40	1.47	1.63	1.02
52	2.16	2.15	1.61	0.93	0.98	1.94	2.92	3.62	3.78	3.68	3.56	2.88	2.08	2.14	2.62	1.86
51	2.33	2.44	1.43	1.08	2.11	2.81	3.14	3.59	3.53	3.56	3.48	2.87	1.87	1.78	2.27	1.75
50	1.97	2.46	1.53	0.93	1.58	2.94	3.39	3.58	3.71	3.66	3.55	3.33	2.07	2.16	2.41	2.34
49	2.61	2.99	1.76	1.40	1.89	3.42	4.28	4.03	4.18	4.01	3.70	3.09	2.83	2.25	2.55	2.24
48	2.43	2.79	1.57	1.31	1.88	3.31	4.00	3.83	3.97	4.07	4.01	3.42	2.62	2.31	2.82	2.46
47	2.92	2.94	2.05	2.04	2.58	3.84	4.27	4.17	4.11	4.10	4.03	3.50	2.67	2.30	2.88	2.46
46	3.19	3.40	2.03	2.38	3.00	4.21	4.56	4.51	4.41	4.61	4.57	3.95	3.24	2.79	3.25	2.57
45	3.42	3.54	2.43	2.53	3.84	5.00	4.88	4.56	4.37	4.56	4.18	3.89	2.90	2.64	3.22	2.64
44	3.41	3.19	2.63	2.99	4.11	4.88	5.00	4.86	4.76	4.97	4.42	4.01	3.31	3.02	3.19	2.68
43	3.56	3.67	3.10	3.40	4.32	5.26	5.24	5.12	5.22	5.18	4.93	4.44	3.85	3.23	3.64	3.13
42	3.59	3.45	3.00	3.21	4.43	5.01	5.25	5.08	5.10	5.25	5.04	4.69	3.93	3.24	3.28	3.23
41	3.88	3.61	3.43	3.43	4.90	5.30	5.78	5.49	5.39	5.48	5.09	4.85	4.04	3.48	3.30	3.34
40	4.17	3.79	3.44	3.78	5.39	6.15	5.89	5.75	5.52	5.78	5.47	5.13	4.28	3.80	3.58	3.51
39	3.80	3.62	3.35	3.46	5.27	5.84	6.12	5.67	5.79	5.76	5.80	5.38	4.36	3.63	3.27	3.47
38	4.17	3.25	3.41	3.41	5.30	6.06	6.32	6.28	6.29	6.29	5.61	5.66	4.38	3.64	3.25	3.41
37	4.49	3.42	3.30	3.62	5.89	6.46	6.68	6.58	6.52	6.58	4.06	2.97	4.61	3.79	3.32	3.20

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	2.90	6.84	6.74	2.88
35	2.94	7.21	2.89	2.85
34	2.84	7.19	5.17	2.77

Table C-24 Unit 14A, 17.0 kcfs Flow Rate, Vz RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.26	0.28	0.31	0.41	0.49	0.38	0.53	0.57	0.55	0.76	0.76	0.69	0.37	0.68	0.34	0.28
68	0.20	0.30	0.41	0.54	0.37	0.57	0.73	0.74	0.76	0.70	0.69	0.59	0.55	0.71	0.61	0.55
66	0.24	0.32	0.44	0.38	0.50	0.60	0.59	0.81	0.94	0.58	0.66	0.69	0.61	0.56	0.80	0.62
64	0.37	0.38	0.28	0.53	0.55	0.66	0.57	0.99	0.79	0.82	0.74	0.71	0.73	0.73	0.65	0.42
62	0.38	0.36	0.41	0.38	0.43	0.61	0.57	0.86	0.68	0.67	0.70	0.58	0.76	0.66	0.55	0.63
60	0.42	0.38	0.41	0.48	0.47	0.58	0.95	0.90	0.78	0.70	0.81	0.79	0.58	0.57	0.52	0.39
58	0.31	0.36	0.63	0.39	0.53	0.92	0.94	1.07	0.92	0.83	0.83	0.84	0.71	0.52	0.61	0.39
56	0.83	0.50	0.56	0.52	0.59	0.56	0.92	1.21	0.93	1.00	0.94	1.00	1.01	0.82	0.94	0.87
55	0.77	1.20	1.10	0.68	0.84	0.71	1.30	1.01	0.85	0.85	0.91	0.86	1.10	0.79	1.23	0.89
54	1.00	1.34	0.98	0.78	0.93	0.90	1.22	1.07	0.90	0.79	0.87	0.79	0.98	0.81	0.97	0.96
53	1.08	1.05	1.17	1.07	1.20	1.24	1.08	1.14	0.80	0.74	0.67	0.76	0.95	0.93	0.83	1.14
52	0.90	0.85	0.93	1.14	1.26	1.07	0.96	0.69	0.62	0.64	0.66	0.94	0.77	0.75	0.73	0.91
51	1.00	0.86	1.01	0.89	1.10	1.06	1.04	0.73	0.82	0.70	0.67	0.81	1.06	0.81	0.73	1.12
50	1.15	0.82	0.98	0.86	1.01	0.94	0.80	0.73	0.69	0.68	0.73	0.73	0.85	0.70	0.83	0.70
49	0.84	0.83	0.89	0.97	1.02	1.02	0.77	0.71	0.62	0.66	0.66	0.84	0.76	0.83	0.72	0.85
48	1.64	0.84	1.00	0.95	1.11	1.02	0.79	0.71	0.66	0.68	0.70	0.78	0.84	0.77	0.84	0.78
47	0.77	0.85	0.92	0.96	1.14	0.90	0.72	0.65	0.66	0.67	0.70	0.72	0.86	0.77	0.80	0.70
46	0.73	0.87	0.89	0.96	1.18	0.89	0.72	0.67	0.56	0.71	0.63	0.72	0.87	0.84	0.74	0.89
45	0.79	0.77	0.96	1.02	1.10	0.77	0.74	0.69	0.61	0.76	0.70	0.80	0.89	0.84	0.72	0.72
44	0.73	0.87	0.91	1.02	0.93	0.74	0.78	0.67	0.66	0.64	0.67	0.71	0.87	0.75	0.74	0.66
43	0.78	0.77	0.95	0.98	0.96	0.76	0.69	0.70	0.67	0.66	0.73	0.64	0.86	0.79	0.76	1.65
42	0.78	0.84	0.86	1.06	0.99	0.79	0.66	0.74	0.69	0.66	0.71	0.75	0.84	0.90	0.81	0.77
41	0.89	0.82	0.88	0.96	0.89	0.76	0.67	0.70	0.70	0.73	0.76	0.76	0.88	0.85	0.81	0.87
40	0.97	0.86	0.90	0.95	0.95	0.70	0.71	0.73	0.76	0.68	0.83	0.81	0.96	0.85	0.87	0.93
39	0.87	1.01	0.80	0.93	0.93	0.74	0.57	0.71	0.66	0.70	0.65	0.83	0.96	0.97	0.86	0.94
38	1.12	0.92	0.90	0.99	0.93	0.60	0.53	0.52	0.53	0.58	0.84	0.86	1.08	1.09	0.92	1.04
37	1.35	1.13	0.96	1.02	0.98	0.55	0.41	0.43	0.51	0.46	4.60	5.23	1.24	1.04	1.07	1.17

Grey cells indicate $RMS/V_{tot}>2$

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	1.03	0.33	0.46	1.11
35	1.45	0.26	5.61	1.35
34	1.22	0.28	4.10	1.35

Table C-25 Unit 14A, 17.0 kcfs Flow Rate, Vyz (ft/s)

	OR	Y-Positions (ft)														WA
Elevation (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.33	0.37	0.44	0.68	0.47	0.67	0.92	1.29	0.41	0.64	0.83	0.99	0.19	0.21	0.24	0.35
68	0.65	0.60	0.53	0.59	0.49	0.73	1.02	1.30	1.77	1.46	1.58	1.48	1.26	0.84	0.39	0.38
66	0.77	1.01	0.65	0.59	0.56	0.79	0.97	1.33	1.82	2.02	1.95	1.73	1.71	1.22	1.06	0.51
64	0.58	0.38	0.46	0.47	0.68	1.38	0.38	1.29	1.67	1.47	1.92	1.83	1.58	1.09	0.99	0.84
62	0.64	0.77	0.53	0.57	0.62	0.80	0.35	1.00	1.90	2.25	2.00	2.04	1.54	1.30	0.72	0.62
60	0.72	0.92	0.66	0.61	0.51	0.40	1.27	1.65	2.13	2.07	1.61	1.51	1.52	0.92	0.27	0.35
58	0.77	0.46	0.43	0.71	0.46	1.06	1.57	1.54	2.22	1.88	1.43	1.30	0.78	0.70	0.43	0.40
56	0.44	1.21	1.16	0.96	1.18	0.71	0.32	0.96	1.94	2.07	1.51	1.45	0.93	0.36	0.21	0.68
55	0.21	0.54	0.48	0.94	0.67	0.56	1.51	2.11	2.71	2.72	2.42	1.94	1.19	1.31	0.45	0.12
54	0.47	0.86	0.52	0.68	0.43	0.35	1.51	2.07	2.63	2.78	2.57	2.35	1.20	1.28	1.24	0.65
53	0.70	1.90	1.32	0.40	0.31	0.81	2.19	2.45	3.02	3.24	2.98	2.70	1.40	1.47	1.65	1.03
52	2.17	2.16	1.64	0.93	1.02	1.95	2.95	3.63	3.84	3.73	3.64	2.91	2.09	2.15	2.62	1.86
51	2.34	2.45	1.43	1.08	2.14	2.81	3.16	3.60	3.55	3.58	3.57	2.91	1.89	1.78	2.27	1.75
50	1.98	2.46	1.53	0.96	1.59	2.94	3.40	3.60	3.76	3.71	3.62	3.40	2.09	2.17	2.42	2.34
49	2.61	2.99	1.77	1.42	1.90	3.42	4.28	4.03	4.25	4.04	3.76	3.14	2.86	2.26	2.55	2.24
48	2.44	2.79	1.57	1.32	1.88	3.31	4.02	3.83	4.04	4.12	4.10	3.46	2.65	2.33	2.83	2.47
47	2.93	2.94	2.05	2.07	2.59	3.84	4.28	4.17	4.16	4.16	4.11	3.55	2.70	2.32	2.89	2.46
46	3.20	3.40	2.04	2.39	3.00	4.21	4.56	4.51	4.48	4.64	4.65	4.00	3.27	2.81	3.26	2.57
45	3.42	3.54	2.44	2.54	3.85	5.01	4.88	4.56	4.40	4.58	4.25	3.95	2.92	2.65	3.22	2.64
44	3.41	3.19	2.65	3.01	4.12	4.89	5.00	4.86	4.81	5.01	4.50	4.07	3.34	3.04	3.20	2.68
43	3.56	3.68	3.12	3.43	4.33	5.26	5.24	5.12	5.28	5.23	5.03	4.52	3.89	3.26	3.64	3.13
42	3.59	3.45	3.01	3.22	4.44	5.01	5.25	5.09	5.15	5.31	5.11	4.76	3.97	3.27	3.29	3.23
41	3.88	3.62	3.45	3.45	4.91	5.31	5.78	5.49	5.44	5.54	5.16	4.94	4.09	3.52	3.31	3.35
40	4.17	3.81	3.46	3.80	5.41	6.17	5.89	5.76	5.56	5.82	5.56	5.23	4.33	3.84	3.59	3.51
39	3.80	3.63	3.38	3.49	5.29	5.85	6.12	5.67	5.83	5.81	5.87	5.47	4.42	3.69	3.29	3.47
38	4.18	3.29	3.45	3.46	5.31	6.07	6.32	6.29	6.34	6.35	5.71	5.76	4.46	3.71	3.28	3.44
37	4.50	3.46	3.36	3.68	5.92	6.48	6.68	6.58	6.56	6.63	4.20	3.17	4.70	3.87	3.38	3.24

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	2.98	6.85	6.80	2.96
35	3.07	7.22	3.09	2.96
34	2.97	7.21	5.25	2.90

Table C-26 Unit 14A, 17.0 kcfs Flow Rate, Vtot (ft/s)

	OR	Y-Positions (ft)														WA
Elevation (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.37	0.39	0.45	0.68	0.48	0.68	0.95	1.30	0.47	0.74	0.96	1.09	0.21	0.26	0.26	0.37
68	0.66	0.62	0.55	0.59	0.49	0.73	1.02	1.30	1.77	1.48	1.60	1.50	1.30	0.87	0.41	0.38
66	0.77	1.02	0.66	0.59	0.56	0.79	0.98	1.34	1.82	2.02	1.95	1.73	1.71	1.24	1.09	0.54
64	0.60	0.38	0.47	0.48	0.69	1.38	0.39	1.30	1.67	1.47	1.92	1.83	1.58	1.09	1.00	0.87
62	0.67	0.78	0.54	0.57	0.62	0.81	0.35	1.01	1.90	2.25	2.00	2.04	1.54	1.30	0.72	0.65
60	0.73	0.94	0.67	0.61	0.52	0.40	1.27	1.65	2.13	2.07	1.61	1.51	1.52	0.92	0.27	0.37
58	0.78	0.46	0.43	0.73	0.46	1.06	1.58	1.56	2.22	1.88	1.43	1.31	0.78	0.71	0.43	0.40
56	0.56	1.24	1.28	1.11	1.24	0.83	0.64	1.21	2.09	2.17	1.63	1.63	1.25	0.85	0.79	0.81
55	0.83	1.02	0.97	1.15	1.00	0.76	1.69	2.33	2.96	2.87	2.66	2.27	1.70	1.78	1.12	0.73
54	0.97	1.38	1.23	1.22	1.15	0.87	1.74	2.35	2.90	2.95	2.77	2.64	1.77	1.84	1.72	1.14
53	1.29	2.43	2.01	1.46	1.44	1.37	2.44	2.74	3.36	3.44	3.26	3.08	2.14	2.19	2.17	1.55
52	2.44	2.48	2.00	1.59	1.57	2.15	3.07	3.77	4.03	3.84	3.79	3.18	2.47	2.52	2.86	2.12
51	2.49	2.62	1.71	1.48	2.28	2.87	3.20	3.66	3.64	3.64	3.63	2.99	2.07	1.99	2.41	1.90
50	2.12	2.64	1.82	1.32	1.79	3.00	3.46	3.67	3.86	3.77	3.68	3.49	2.27	2.36	2.56	2.46
49	2.74	3.10	1.93	1.63	2.00	3.44	4.29	4.07	4.32	4.09	3.81	3.21	2.97	2.40	2.65	2.33
48	2.58	2.90	1.76	1.53	1.97	3.33	4.03	3.87	4.10	4.15	4.13	3.51	2.74	2.44	2.91	2.54
47	2.96	3.08	2.30	2.28	2.69	3.87	4.30	4.22	4.24	4.21	4.16	3.64	2.82	2.49	3.01	2.57
46	3.27	3.50	2.20	2.53	3.05	4.22	4.57	4.54	4.54	4.67	4.69	4.06	3.35	2.90	3.35	2.66
45	3.51	3.65	2.60	2.65	3.88	5.01	4.89	4.58	4.45	4.61	4.29	4.00	2.99	2.74	3.30	2.71
44	3.51	3.38	2.84	3.15	4.15	4.90	5.02	4.89	4.87	5.04	4.57	4.14	3.44	3.17	3.31	2.78
43	3.62	3.79	3.24	3.52	4.35	5.27	5.25	5.14	5.31	5.25	5.07	4.57	3.96	3.35	3.71	3.17
42	3.64	3.56	3.13	3.29	4.45	5.02	5.25	5.09	5.18	5.32	5.13	4.79	4.01	3.33	3.35	3.27
41	3.91	3.77	3.61	3.58	4.93	5.32	5.79	5.50	5.47	5.57	5.19	4.98	4.16	3.63	3.40	3.41
40	4.19	3.91	3.60	3.90	5.42	6.17	5.89	5.76	5.59	5.84	5.58	5.26	4.38	3.93	3.66	3.54
39	3.80	3.72	3.54	3.59	5.29	5.85	6.12	5.67	5.84	5.82	5.88	5.49	4.45	3.74	3.37	3.50
38	4.27	3.47	3.67	3.67	5.33	6.08	6.33	6.29	6.36	6.36	5.72	5.78	4.52	3.82	3.40	3.51
37	4.53	3.51	3.55	3.85	5.93	6.48	6.69	6.59	6.58	6.64	4.22	3.20	4.75	3.97	3.53	3.27

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	3.16	6.86	6.55	3.10
35	3.19	7.24	3.15	3.08
34	3.17	7.22	5.29	3.06

Table C-27 Unit 14A, 17.0 kcfs Flow Rate, Total RMS (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	19.83	18.67	17.50	16.33	15.17	14.00	12.83	11.67	8.33	7.17	6.00	4.83	3.67	2.50	1.33	0.17
70	0.42	0.41	0.45	0.59	0.62	0.56	0.76	0.75	0.74	0.95	1.01	0.92	0.50	0.90	0.54	0.50
68	0.34	0.44	0.55	0.69	0.51	0.73	0.94	0.95	0.96	0.94	0.87	0.85	0.79	0.92	0.81	0.68
66	0.33	0.48	0.59	0.56	0.72	0.82	0.92	1.11	1.17	0.88	0.88	0.93	0.79	0.79	0.94	0.78
64	0.51	0.58	0.39	0.70	0.81	1.03	0.74	1.25	1.05	1.03	0.97	1.03	0.97	0.94	0.92	0.64
62	0.54	0.55	0.58	0.55	0.76	0.92	0.80	1.17	1.00	0.98	0.94	0.94	1.03	0.92	0.78	0.85
60	0.55	0.55	0.60	0.63	0.70	0.98	1.22	1.29	1.09	0.97	1.12	1.11	0.91	0.82	0.81	0.61
58	0.44	0.54	0.82	0.73	0.81	1.24	1.30	1.42	1.19	1.17	1.18	1.07	1.06	0.80	0.77	0.62
56	1.10	0.85	0.92	1.00	0.90	0.94	1.29	1.55	1.25	1.24	1.22	1.34	1.41	1.29	1.20	1.06
55	1.00	1.45	1.44	1.03	1.25	1.06	1.58	1.40	1.16	1.15	1.20	1.28	1.41	1.19	1.43	1.04
54	1.30	1.60	1.28	1.12	1.35	1.27	1.49	1.40	1.19	1.08	1.15	1.10	1.40	1.21	1.29	1.08
53	1.24	1.38	1.50	1.44	1.52	1.58	1.39	1.47	1.08	0.99	0.94	1.11	1.32	1.27	1.11	1.27
52	1.08	1.20	1.40	1.48	1.60	1.41	1.31	1.06	0.90	0.94	0.96	1.30	1.14	1.11	1.03	1.09
51	1.31	1.19	1.38	1.29	1.47	1.38	1.38	1.04	1.12	0.94	0.91	1.13	1.37	1.12	1.01	1.35
50	1.41	1.19	1.28	1.32	1.39	1.29	1.10	1.05	0.91	0.96	1.00	1.03	1.19	1.03	1.09	0.90
49	1.03	1.19	1.28	1.30	1.43	1.37	1.07	1.00	0.87	0.90	0.93	1.13	1.09	1.15	1.01	1.06
48	2.76	1.16	1.37	1.27	1.50	1.37	1.14	1.01	0.90	0.92	0.99	1.11	1.18	1.10	1.11	1.02
47	2.06	1.19	1.32	1.32	1.51	1.27	1.05	0.98	0.90	0.92	0.96	1.04	1.20	1.09	1.07	0.93
46	2.12	1.23	1.28	1.32	1.58	1.25	1.05	0.97	0.79	0.96	0.92	1.04	1.21	1.20	1.08	1.09
45	1.10	1.17	1.34	1.40	1.54	1.10	1.06	0.97	0.84	0.99	1.00	1.12	1.23	1.20	1.03	0.97
44	1.13	1.24	1.35	1.41	1.36	1.04	1.04	0.95	0.91	0.90	0.95	1.03	1.22	1.08	1.07	0.91
43	1.14	1.24	1.38	1.42	1.31	1.06	0.98	0.97	0.93	0.92	1.01	0.97	1.22	1.16	1.15	2.63
42	1.18	1.32	1.27	1.48	1.42	1.10	0.94	1.01	0.94	0.89	0.98	1.08	1.26	1.30	1.21	1.12
41	1.26	1.37	1.36	1.44	1.35	1.08	0.92	0.99	0.93	0.97	1.04	1.09	1.25	1.34	1.24	1.26
40	1.40	1.50	1.43	1.45	1.38	0.95	0.95	0.99	1.01	0.94	1.05	1.11	1.39	1.33	1.35	1.34
39	2.47	1.62	1.43	1.51	1.34	1.02	0.78	0.94	0.88	0.92	0.87	1.08	1.47	1.51	1.42	1.43
38	1.91	1.57	1.55	1.64	1.36	0.85	0.74	0.75	0.69	0.75	1.03	1.04	1.57	1.73	1.56	1.61
37	1.85	1.82	1.71	1.69	1.27	0.77	0.61	0.63	0.69	0.62	4.62	5.25	1.72	1.70	1.73	1.75

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	18.07	13.41	6.59	1.92
36	1.74	0.50	0.63	1.85
35	2.19	0.43	5.62	2.16
34	1.95	0.46	4.12	2.08

Table C-28 Unit 15A, 12.0 kcfs Flow Rate, Vx (ft/s)

	OR							Y-Positions (ft)								WA
El (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.01	(0.05)	0.02	(0.08)	(0.06)	(0.10)	(0.10)	(0.12)	(0.07)	(0.03)	(0.07)	(0.07)	(0.03)	(0.02)	(0.03)	(0.10)
70	(0.04)	(0.04)	(0.15)	(0.07)	(0.12)	(0.10)	(0.07)	0.04	(0.09)	0.02	(0.07)	0.00	(0.06)	(0.03)	(0.11)	(0.10)
68	(0.15)	(0.12)	(0.12)	(0.14)	(0.11)	(0.12)	(0.08)	(0.01)	(0.15)	(0.08)	(0.09)	(0.05)	(0.05)	(0.05)	0.01	(0.11)
66	(0.15)	(0.11)	(0.18)	(0.09)	(0.05)	(0.02)	0.00	0.11	0.03	0.03	(0.02)	0.01	(0.05)	(0.02)	(0.11)	(0.09)
64	(0.13)	(0.13)	(0.07)	(0.20)	(0.23)	0.07	0.13	0.02	(0.01)	0.03	0.01	(0.01)	(0.06)	(0.11)	(0.10)	(0.15)
62	(0.33)	(0.25)	(0.07)	(0.06)	0.06	0.09	0.10	0.08	0.07	0.11	0.07	0.04	0.01	0.00	(0.08)	(0.05)
60	(0.18)	(0.31)	(0.27)	(0.28)	(0.10)	(0.07)	(0.09)	(0.06)	0.11	0.11	0.13	0.04	0.05	0.06	0.02	0.00
58	(0.18)	(0.19)	(0.14)	(0.14)	(0.11)	(0.20)	(0.01)	(0.11)	0.17	0.14	0.13	0.13	0.11	0.06	(0.01)	(0.08)
56	(0.06)	(0.02)	0.02	0.30	0.25	0.25	0.26	0.45	0.38	0.23	0.31	0.27	0.21	0.16	0.11	0.02
55	(0.07)	0.01	0.08	0.26	0.29	0.33	0.48	0.72	0.58	0.45	0.31	0.31	0.26	0.19	0.12	(0.03)
54	(0.02)	0.05	0.20	0.55	0.41	0.41	0.57	0.97	0.67	0.41	0.48	0.29	0.26	0.16	0.05	(0.05)
53	0.07	0.05	0.05	0.23	0.54	0.54	0.67	0.99	0.61	0.38	0.44	0.36	0.09	0.13	0.15	(0.00)
52	(0.14)	(0.01)	0.03	0.17	0.38	0.33	0.54	0.66	0.37	0.30	0.30	0.24	0.22	0.25	0.19	0.07
51	0.28	0.23	0.40	0.29	0.46	0.41	0.46	0.52	0.53	0.37	0.40	0.45	0.47	0.44	0.37	0.15
50	0.38	0.44	0.39	0.39	0.50	0.54	0.53	0.69	0.64	0.44	0.51	0.54	0.55	0.58	0.52	0.32
49	0.39	0.53	0.53	0.44	0.62	0.46	0.54	0.60	0.57	0.39	0.48	0.53	0.56	0.49	0.37	0.28
48	0.55	0.53	0.50	0.42	0.55	0.48	0.49	0.64	0.57	0.41	0.46	0.51	0.53	0.53	0.38	0.25
47	0.53	0.61	0.67	0.75	0.61	0.57	0.59	0.71	0.56	0.48	0.57	0.50	0.59	0.57	0.49	0.28
46	0.34	0.50	0.47	0.45	0.49	0.46	0.44	0.61	0.51	0.40	0.42	0.51	0.50	0.41	0.35	0.29
45	0.46	0.56	0.54	0.63	0.54	0.50	0.52	0.63	0.59	0.40	0.47	0.51	0.59	0.49	0.48	0.32
44	0.46	0.65	0.64	0.65	0.57	0.52	0.59	0.67	0.65	0.49	0.57	0.62	0.65	0.63	0.61	0.34
43	0.42	0.53	0.63	0.62	0.46	0.43	0.51	0.57	0.53	0.42	0.50	0.53	0.53	0.58	0.45	0.21
42	0.41	0.56	0.59	0.59	0.47	0.43	0.45	0.53	0.43	0.36	0.40	0.40	0.52	0.53	0.49	0.40
41	0.54	0.64	0.75	0.72	0.55	0.46	0.49	0.52	0.53	0.42	0.49	0.56	0.62	0.53	0.57	0.31
40	0.40	0.60	0.67	0.63	0.50	0.39	0.39	0.39	0.41	0.35	0.40	0.45	0.49	0.52	0.33	0.26
39	0.39	0.58	0.74	0.65	0.44	0.41	0.34	0.44	0.43	0.40	0.41	0.40	0.48	0.47	0.43	0.00
38	0.24	0.54	0.87	0.79	0.46	0.39	0.40	0.49	0.53	0.46	0.53	0.51	0.62	0.58	0.36	0.02
37	(0.05)	0.48	0.74	0.71	0.39	0.27	0.29	0.42	0.47	0.41	0.45	0.45	0.61	0.55	0.27	(0.13)
36	0.10	0.55	0.88	0.81	0.49	0.41	0.46	0.51	0.61	0.55	0.60	0.59	0.69	0.77	0.44	0.07
35	0.34	0.60	1.05	0.93	0.53	0.54	0.55	0.66	0.83	0.68	0.72	0.67	0.83	0.96	0.42	0.09
34	0.59	0.45	0.88	0.58	0.45	0.48	0.46	0.54	0.76	0.67	0.72	0.67	0.63	0.79	0.50	0.29
33	0.99	0.66	0.96	0.84	0.81	0.73	0.70	0.81	1.04	0.90	0.92	0.97	0.91	0.96	0.63	0.51

Grey cells indicate RMS/V_{tot}>2

Table C-29 Unit 15A, 12.0 kcfs Flow Rate, Vx RMS(ft/s)

	OR						Y-Positions (ft)									WA
El (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.20	0.21	0.26	0.22	0.25	0.30	0.32	0.27	0.31	0.25	0.26	0.20	0.24	0.18	0.22	0.21
70	0.19	0.17	0.18	0.18	0.20	0.19	0.27	0.33	0.19	0.18	0.25	0.26	0.21	0.15	0.18	0.14
68	0.18	0.15	0.24	0.21	0.28	0.24	0.31	0.32	0.28	0.27	0.29	0.25	0.27	0.25	0.30	0.19
66	0.18	0.22	0.19	0.28	0.36	0.34	0.34	0.35	0.32	0.30	0.29	0.31	0.28	0.28	0.24	0.24
64	0.17	0.29	0.30	0.20	0.28	0.38	0.37	0.32	0.26	0.28	0.38	0.29	0.28	0.28	0.27	0.21
62	0.31	0.31	0.37	0.35	0.39	0.39	0.38	0.36	0.31	0.31	0.28	0.25	0.30	0.26	0.21	0.23
60	0.19	0.23	0.22	0.22	0.30	0.40	0.36	0.35	0.30	0.27	0.29	0.29	0.26	0.30	0.30	0.27
58	0.22	0.24	0.26	0.32	0.32	0.20	0.40	0.40	0.30	0.28	0.27	0.28	0.30	0.29	0.30	0.31
56	0.19	0.21	0.31	0.26	0.26	0.24	0.39	0.35	0.28	0.28	0.26	0.28	0.28	0.30	0.32	0.30
55	0.21	0.22	0.24	0.25	0.28	0.32	0.28	0.30	0.33	0.27	0.25	0.24	0.32	0.32	0.30	0.29
54	0.21	0.20	0.26	0.31	0.24	0.27	0.36	0.31	0.29	0.27	0.28	0.31	0.30	0.28	0.26	0.22
53	0.22	0.26	0.29	0.25	0.33	0.36	0.31	0.34	0.29	0.29	0.25	0.28	0.30	0.29	0.32	0.31
52	0.25	0.29	0.25	0.30	0.34	0.37	0.37	0.34	0.28	0.28	0.27	0.28	0.30	0.29	0.29	0.21
51	0.28	0.25	0.25	0.31	0.32	0.30	0.35	0.35	0.25	0.26	0.26	0.25	0.30	0.26	0.33	0.28
50	0.36	0.32	0.27	0.33	0.36	0.34	0.37	0.31	0.26	0.27	0.25	0.27	0.33	0.31	0.29	0.26
49	0.28	0.34	0.28	0.34	0.38	0.36	0.36	0.33	0.26	0.25	0.27	0.30	0.30	0.34	0.36	0.32
48	0.35	0.28	0.32	0.32	0.32	0.34	0.35	0.32	0.23	0.25	0.27	0.28	0.32	0.30	0.31	0.30
47	0.30	0.31	0.29	0.30	0.36	0.34	0.28	0.24	0.25	0.28	0.32	0.37	0.30	0.32	0.39	0.31
46	0.26	0.30	0.35	0.35	0.38	0.34	0.35	0.30	0.27	0.29	0.28	0.28	0.34	0.35	0.37	0.34
45	0.32	0.33	0.30	0.34	0.41	0.34	0.33	0.29	0.27	0.27	0.29	0.31	0.34	0.33	0.31	0.28
44	0.34	0.37	0.34	0.35	0.37	0.38	0.31	0.30	0.27	0.28	0.29	0.31	0.32	0.38	0.35	0.37
43	0.41	0.39	0.37	0.37	0.41	0.39	0.35	0.33	0.29	0.30	0.33	0.33	0.39	0.43	0.45	0.39
42	0.41	0.39	0.37	0.39	0.39	0.38	0.36	0.32	0.29	0.29	0.32	0.36	0.39	0.40	0.46	0.47
41	0.46	0.47	0.39	0.42	0.41	0.39	0.38	0.35	0.30	0.30	0.31	0.36	0.43	0.45	0.48	0.52
40	0.50	0.51	0.44	0.49	0.42	0.39	0.37	0.37	0.30	0.29	0.33	0.37	0.48	0.48	0.49	0.56
39	0.56	0.57	0.47	0.47	0.46	0.43	0.37	0.34	0.29	0.30	0.32	0.37	0.46	0.51	0.56	0.52
38	0.61	0.55	0.55	0.50	0.44	0.39	0.37	0.38	0.30	0.31	0.33	0.41	0.52	0.57	0.57	0.61
37	0.61	0.55	0.62	0.52	0.49	0.34	0.28	0.36	0.24	0.26	0.26	0.37	0.58	0.60	0.63	0.66
36	0.68	0.65	0.60	0.59	0.39	0.33	0.28	0.28	0.21	0.19	0.20	0.39	0.60	0.69	0.69	0.57
35	0.80	0.66	0.72	0.61	0.29	0.23	0.23	0.24	0.17	0.20	0.19	0.27	0.52	0.71	0.72	0.54
34	0.96	0.77	0.78	0.55	0.27	0.23	0.21	0.22	0.19	0.20	0.21	0.23	0.39	0.78	0.75	0.73
33	0.85	0.77	0.71	0.42	0.29	0.22	0.24	0.22	0.19	0.18	0.21	0.23	0.30	0.78	0.75	0.76

Grey cells indicate RMS/V_{tot}>2

Table C-30 Unit 15A, 12.0 kcfs Flow Rate, Vy (ft/s)

	OR							Y-Positions (ft)							WA
El (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(0.07)	0.04	0.12	0.25	0.14	0.18	0.06	0.22	(0.13)	(0.23)	(0.38)	(0.18)	(0.25)	(0.21)	(0.31)	(0.04)
70	0.00	(0.30)	(0.14)	0.03	0.12	0.06	0.03	0.15	0.19	0.01	(0.24)	(0.36)	(0.11)	(0.11)	(0.28)	(0.21)
68	0.04	(0.01)	0.04	0.34	0.44	0.31	0.72	0.93	0.46	0.34	(0.04)	(0.02)	(0.08)	(0.22)	(0.30)	(0.28)
66	(0.01)	0.16	0.13	0.74	1.04	0.99	1.06	1.15	0.55	0.30	0.18	(0.11)	(0.08)	(0.27)	(0.15)	(0.16)
64	0.02	0.51	0.89	0.41	0.59	0.93	1.18	1.07	1.00	0.31	(0.15)	0.18	0.30	(0.06)	(0.33)	(0.09)
62	0.30	0.58	0.78	0.91	0.90	1.09	1.24	1.20	0.61	0.32	0.01	0.04	(0.02)	(0.34)	(0.26)	(0.12)
60	0.01	0.33	0.35	0.38	0.52	0.91	0.68	0.74	0.41	0.84	0.57	0.40	(0.30)	(0.09)	(0.11)	0.03
58	(0.13)	(0.08)	0.22	0.26	0.46	(0.31)	0.06	0.10	0.55	(0.19)	(0.19)	(0.19)	(0.17)	(0.39)	(0.46)	(0.22)
56	(0.22)	(0.00)	0.10	0.04	(0.33)	(0.45)	(0.21)	(0.16)	(0.49)	(0.61)	(0.26)	(0.36)	(0.57)	(0.57)	(0.38)	(0.17)
55	(0.37)	(0.18)	(0.15)	(0.42)	(0.58)	(0.51)	(0.70)	(0.74)	(0.50)	(0.47)	(0.60)	(0.47)	(0.45)	(0.53)	(0.50)	(0.23)
54	(0.38)	(0.45)	(0.20)	(0.14)	(0.50)	(0.45)	(0.66)	(0.14)	(0.38)	(0.65)	(0.27)	(0.17)	(0.48)	(0.61)	(0.11)	(0.11)
53	(0.22)	(0.10)	(0.59)	(0.55)	0.06	(0.54)	(0.81)	(0.83)	(0.20)	(0.21)	(0.70)	(0.59)	(0.12)	(0.37)	(0.30)	(0.26)
52	(0.33)	(0.57)	(0.43)	(0.45)	(0.07)	(0.38)	(0.60)	(0.30)	(0.41)	(0.69)	(0.61)	(0.41)	(0.36)	(0.68)	(0.20)	(0.01)
51	(0.27)	(0.61)	(0.29)	(0.33)	0.05	(0.36)	(0.42)	(0.47)	(0.41)	(0.49)	(1.03)	(0.54)	(0.29)	(0.38)	(0.71)	0.02
50	(0.39)	(0.36)	(0.29)	(0.08)	(0.11)	(0.10)	(0.37)	(0.46)	(0.63)	(0.41)	(0.76)	(0.51)	(0.48)	(0.22)	(0.22)	0.12
49	(0.16)	(0.20)	(0.06)	(0.10)	0.07	(0.04)	(0.38)	(0.43)	(0.56)	(0.68)	(0.73)	(0.73)	(0.41)	(0.46)	(0.16)	0.23
48	(0.33)	(0.16)	(0.04)	(0.02)	(0.15)	(0.11)	(0.29)	(0.37)	(0.42)	(0.50)	(0.69)	(0.64)	(0.19)	(0.25)	0.00	0.02
47	(0.18)	(0.03)	(0.04)	0.14	0.03	(0.06)	(0.21)	0.12	(0.63)	(0.40)	(0.51)	(0.27)	(0.33)	(0.23)	(0.56)	0.12
46	(0.07)	0.11	0.04	(0.06)	(0.02)	0.02	(0.39)	(0.28)	(0.77)	(0.34)	(0.74)	(0.59)	(0.62)	(0.24)	(0.07)	(0.04)
45	(0.03)	0.11	0.04	0.15	0.05	(0.03)	(0.24)	(0.25)	(0.57)	(0.38)	(0.52)	(0.47)	(0.38)	(0.13)	(0.21)	0.06
44	(0.07)	0.12	0.21	0.19	0.07	(0.03)	(0.24)	(0.14)	(0.68)	(0.50)	(0.61)	(0.67)	(0.57)	(0.29)	(0.30)	(0.02)
43	0.10	0.16	0.22	0.08	0.10	0.04	(0.20)	(0.23)	(0.61)	(0.57)	(0.86)	(0.72)	(0.57)	(0.62)	(0.65)	0.09
42	(0.03)	0.23	0.21	0.23	0.14	0.04	(0.29)	(0.12)	(0.54)	(0.59)	(0.81)	(0.65)	(0.65)	(0.60)	(0.41)	(0.05)
41	0.00	0.22	0.26	0.27	0.16	0.13	(0.12)	0.01	(0.56)	(0.56)	(0.79)	(0.74)	(0.56)	(0.64)	(0.46)	(0.06)
40	0.08	0.34	0.34	0.42	0.20	0.13	(0.09)	0.05	(0.62)	(0.68)	(0.78)	(0.76)	(0.70)	(0.78)	(0.54)	(0.07)
39	0.13	0.38	0.36	0.36	0.28	0.19	(0.02)	(0.03)	(0.47)	(0.55)	(0.74)	(0.76)	(0.65)	(0.69)	(0.63)	(0.29)
38	0.21	0.47	0.50	0.39	0.38	0.24	0.09	(0.02)	(0.51)	(0.61)	(0.76)	(0.87)	(0.64)	(0.73)	(0.65)	(0.33)
37	0.28	0.55	0.51	0.44	0.40	0.35	0.10	0.01	(0.57)	(0.52)	(0.75)	(0.86)	(0.79)	(0.54)	(0.73)	(0.54)
36	0.54	0.57	0.55	0.59	0.43	0.31	0.05	0.09	(0.50)	(0.56)	(0.86)	(0.69)	(0.66)	(0.53)	(0.47)	(0.32)
35	0.74	0.54	0.69	0.63	0.46	0.49	0.18	0.09	(0.48)	(0.51)	(0.81)	(0.78)	(0.72)	(0.49)	(0.03)	(0.50)
34	0.32	0.39	0.77	0.61	0.48	0.43	0.27	0.25	(0.63)	(0.66)	(0.76)	(0.75)	(0.72)	(0.70)	(0.08)	0.08
33	(0.26)	0.40	0.51	0.36	0.32	0.42	0.14	0.11	(0.58)	(0.53)	(0.78)	(0.65)	(0.60)	(0.59)	(0.30)	0.06

Grey cells indicate RMS/V_{tot}>2

Table C-31 Unit 15A, 12.0 kcfs Flow Rate, Vy RMS (ft/s)

	OR	Y-Positions (ft)														WA
El (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.12	0.19	0.25	0.20	0.26	0.30	0.31	0.19	0.28	0.18	0.29	0.22	0.20	0.18	0.21	0.15
70	0.18	0.15	0.24	0.01	0.21	0.08	0.09	0.01	0.27	0.01	0.20	0.24	0.24	0.00	0.15	0.17
68	0.18	0.17	0.22	0.37	0.26	0.28	0.41	0.45	0.49	0.50	0.32	0.28	0.44	0.27	0.27	0.16
66	0.14	0.16	0.24	0.38	0.35	0.40	0.37	0.33	0.30	0.40	0.30	0.46	0.25	0.40	0.24	0.27
64	0.21	0.30	0.37	0.31	0.37	0.41	0.37	0.31	0.39	0.34	0.33	0.39	0.39	0.33	0.26	0.19
62	0.47	0.32	0.31	0.36	0.38	0.40	0.44	0.43	0.41	0.30	0.34	0.38	0.41	0.31	0.33	0.24
60	0.15	0.40	0.34	0.29	0.41	0.34	0.48	0.39	0.57	0.45	0.40	0.37	0.45	0.35	0.34	0.29
58	0.22	0.19	0.26	0.35	0.58	0.24	0.54	0.66	0.48	0.46	0.40	0.37	0.40	0.32	0.34	0.33
56	0.19	0.24	0.30	0.33	0.30	0.30	0.54	0.01	0.46	0.53	0.45	0.46	0.41	0.37	0.40	0.32
55	0.19	0.30	0.28	0.30	0.40	0.38	0.37	0.44	0.50	0.46	0.41	0.34	0.45	0.38	0.38	0.39
54	0.17	0.28	0.38	0.42	0.41	0.46	0.54	0.63	0.44	0.41	0.47	0.54	0.42	0.44	0.34	0.25
53	0.25	0.41	0.42	0.39	0.52	0.62	0.47	0.60	0.40	0.42	0.35	0.42	0.43	0.44	0.41	0.37
52	0.27	0.38	0.32	0.43	0.02	0.51	0.57	0.57	0.38	0.41	0.38	0.45	0.48	0.43	0.34	0.19
51	0.26	0.37	0.31	0.44	0.47	0.50	0.44	0.48	0.34	0.40	0.34	0.41	0.45	0.40	0.37	0.26
50	0.32	0.48	0.54	0.45	0.52	0.41	0.51	0.45	0.38	0.36	0.40	0.38	0.48	0.54	0.48	0.29
49	0.36	0.42	0.45	0.43	0.55	0.44	0.44	0.44	0.33	0.39	0.37	0.40	0.44	0.58	0.53	0.28
48	0.33	0.43	0.47	0.43	0.51	0.49	0.38	0.38	0.32	0.34	0.35	0.37	0.44	0.42	0.46	0.40
47	0.34	0.43	0.40	0.49	0.47	0.42	0.35	0.33	0.33	0.38	0.41	0.51	0.42	0.42	0.51	0.37
46	0.36	0.44	0.48	0.55	0.53	0.43	0.46	0.36	0.32	0.39	0.35	0.37	0.49	0.47	0.47	0.44
45	0.40	0.48	0.44	0.53	0.56	0.43	0.39	0.37	0.38	0.33	0.36	0.41	0.46	0.39	0.45	0.30
44	0.46	0.55	0.50	0.56	0.55	0.47	0.34	0.37	0.35	0.30	0.38	0.40	0.37	0.42	0.41	0.43
43	0.51	0.47	0.44	0.47	0.47	0.40	0.38	0.35	0.32	0.33	0.39	0.43	0.44	0.50	0.49	0.40
42	0.49	0.52	0.47	0.48	0.44	0.39	0.34	0.34	0.35	0.33	0.36	0.43	0.42	0.47	0.51	0.46
41	0.53	0.55	0.47	0.48	0.45	0.38	0.36	0.37	0.36	0.35	0.35	0.39	0.49	0.50	0.52	0.49
40	0.58	0.56	0.48	0.53	0.43	0.37	0.38	0.34	0.36	0.34	0.37	0.42	0.50	0.48	0.55	0.45
39	0.67	0.61	0.49	0.47	0.45	0.38	0.35	0.33	0.35	0.35	0.38	0.40	0.49	0.55	0.61	0.53
38	0.69	0.66	0.57	0.52	0.44	0.40	0.35	0.35	0.36	0.32	0.36	0.46	0.59	0.59	0.66	0.56
37	0.74	0.70	0.63	0.57	0.44	0.32	0.30	0.36	0.33	0.33	0.35	0.45	0.59	0.65	0.69	0.62
36	0.90	0.81	0.65	0.61	0.43	0.35	0.27	0.33	0.27	0.27	0.26	0.54	0.66	0.76	0.84	0.68
35	0.96	0.87	0.74	0.62	0.36	0.25	0.23	0.25	0.27	0.29	0.24	0.46	0.64	0.85	0.95	0.66
34	1.01	0.92	0.79	0.68	0.35	0.24	0.19	0.21	0.24	0.22	0.28	0.34	0.62	0.86	0.87	0.82
33	1.06	0.87	0.90	0.60	0.29	0.20	0.21	0.21	0.23	0.20	0.24	0.30	0.51	0.86	0.90	0.74

Grey cells indicate RMS/V_{tot}>2

Table C-32 Unit 15A, 12.0 kcfs Flow Rate, Vz (ft/s)

	OR							Y-Positions (ft)								WA
El (ft)	19.83	18.67	17.50	16.33	15.17	14.00	12.83	11.67	8.33	7.17	6.00	4.83	3.67	2.50	1.33	0.17
72	(0.37)	(0.47)	(0.49)	(0.34)	(0.35)	(0.51)	(0.73)	(0.29)	(0.03)	(0.35)	(0.45)	(0.32)	(0.14)	(0.32)	(0.44)	(0.34)
70	(0.43)	(0.37)	(0.48)	(0.41)	(0.59)	(0.23)	0.03	(0.03)	(0.16)	0.03	0.06	0.01	(0.38)	(0.22)	(0.43)	(0.46)
68	(0.86)	(0.79)	(0.49)	(0.23)	(0.38)	(0.37)	0.36	0.70	0.96	0.81	1.03	0.49	0.12	(0.27)	(0.45)	(0.58)
66	(0.55)	(0.78)	(0.50)	0.04	0.31	0.33	0.62	0.96	1.41	1.52	1.42	1.43	1.01	0.01	(0.39)	(0.14)
64	(1.01)	(0.45)	0.11	(0.31)	(0.49)	0.16	1.04	0.83	1.43	1.63	1.24	1.01	1.46	1.15	0.31	(0.52)
62	(0.88)	(0.63)	(0.29)	(0.25)	(0.28)	0.20	0.53	0.73	1.68	1.57	1.28	1.48	1.44	1.00	0.62	0.47
60	(1.06)	(1.42)	(1.28)	(1.41)	(0.67)	(1.00)	(0.78)	(0.59)	1.92	2.13	2.27	1.97	1.62	1.72	1.62	1.21
58	(1.46)	(1.63)	(1.32)	(1.66)	(1.53)	(1.28)	(1.43)	(0.56)	2.11	2.31	2.30	2.27	1.69	1.77	1.25	0.61
56	(1.31)	(1.17)	(1.60)	(1.43)	(1.15)	(1.08)	(1.40)	(0.74)	1.75	1.95	2.29	2.06	1.71	1.68	1.18	0.59
55	(1.26)	(1.18)	(1.18)	(1.02)	(0.79)	(0.74)	(0.54)	0.26	2.08	2.60	2.30	1.99	1.74	1.71	1.24	0.42
54	(1.05)	(0.67)	(0.98)	(0.20)	(0.50)	(0.20)	0.51	1.74	2.18	2.36	1.96	0.99	1.82	1.41	0.45	(0.31)
53	0.16	(0.58)	(0.64)	(0.58)	0.57	0.19	0.06	1.27	2.00	2.23	2.56	2.27	0.97	0.79	0.76	0.38
52	(0.53)	(0.41)	(0.36)	(0.26)	(0.08)	0.32	0.94	1.73	2.42	2.46	2.20	1.88	1.40	1.55	0.55	(0.01)
51	0.48	(0.40)	0.20	(0.33)	0.20	0.75	1.51	1.61	2.24	2.18	2.18	1.95	1.24	1.08	0.54	0.11
50	0.49	0.48	0.19	0.07	0.44	0.91	1.63	1.86	2.57	2.36	2.44	2.23	1.88	0.96	0.62	0.16
49	0.88	0.75	0.62	0.29	1.11	0.94	1.83	2.11	2.64	2.52	2.52	2.56	1.73	1.55	0.73	0.34
48	0.85	0.67	0.52	0.32	0.95	1.27	2.06	2.18	2.56	2.54	2.43	2.50	1.59	1.23	0.94	0.45
47	0.95	0.83	0.70	1.55	1.11	1.87	2.59	2.60	2.63	2.69	2.56	1.89	1.81	1.39	0.70	0.65
46	0.59	1.11	0.75	1.09	1.60	2.43	2.35	2.75	2.86	2.67	2.81	2.57	2.44	1.19	1.06	0.75
45	1.16	1.11	0.79	1.17	1.70	2.31	2.57	2.56	2.73	2.73	2.68	2.55	2.03	1.28	1.06	0.55
44	1.26	1.38	1.18	1.80	2.15	2.66	2.65	2.80	2.73	2.83	2.81	2.57	2.31	1.49	1.21	0.64
43	1.30	1.68	1.83	2.09	2.76	2.97	2.89	2.97	2.99	2.98	3.10	2.92	2.32	1.93	1.36	0.24
42	1.02	1.53	1.50	2.40	2.61	2.75	2.84	2.90	3.00	2.99	3.05	2.92	2.44	1.88	1.19	(0.20)
41	1.04	1.67	1.89	2.49	2.69	3.11	3.04	3.25	3.12	3.23	3.08	2.88	2.58	2.02	1.12	0.10
40	0.96	1.74	2.19	2.95	2.61	3.01	3.12	3.51	3.50	3.71	3.45	3.02	2.79	2.33	1.17	(0.10)
39	0.83	1.55	2.07	2.50	3.22	3.12	3.38	3.06	3.21	3.61	3.41	3.17	2.57	2.22	1.26	(0.27)
38	0.68	1.69	2.23	2.47	3.22	3.44	3.70	3.47	3.47	3.80	3.74	3.51	2.78	2.28	1.51	(0.35)
37	0.31	2.07	2.18	2.50	3.32	3.91	3.92	3.59	3.92	3.80	3.94	3.78	3.25	2.20	1.63	(0.05)
36	0.44	2.10	1.97	2.99	3.52	3.92	4.05	4.12	3.97	4.24	4.27	3.57	3.16	2.31	2.25	(0.31)
35	1.02	2.51	2.21	3.14	4.29	4.48	4.43	4.20	4.34	4.25	4.48	4.31	3.49	2.30	2.59	0.18
34	1.39	2.53	2.46	3.97	4.40	4.59	4.82	4.68	4.66	4.59	4.49	4.21	4.12	2.55	2.21	1.41
33	1.26	2.61	2.38	4.47	4.38	4.54	4.61	4.68	4.39	4.50	4.50	4.21	4.29	2.24	2.08	2.15

Grey cells indicate RMS/V_{tot}>2

Table C-33 Unit 15A, 12.0 kcfs Flow Rate, Vz RMS (ft/s)

	OR							Y-Positions (ft)								WA
El (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.27	0.31	0.32	0.25	0.30	0.25	0.33	0.25	0.33	0.22	0.31	0.24	0.30	0.23	0.28	0.21
70	0.23	0.27	0.22	0.17	0.26	0.18	0.39	0.28	0.44	0.19	0.25	0.34	0.24	0.24	0.24	0.19
68	0.22	0.30	0.26	0.48	0.43	0.42	0.64	0.69	0.66	0.52	0.63	0.41	0.72	0.39	0.50	0.19
66	0.22	0.27	0.31	0.50	0.48	0.58	0.55	0.58	0.53	0.71	0.65	0.61	0.59	0.36	0.02	0.51
64	0.23	0.48	0.45	0.43	0.50	0.61	0.63	0.54	0.56	0.56	0.67	0.67	0.40	0.48	0.35	0.31
62	0.66	0.40	0.48	0.61	0.63	0.49	0.70	0.76	0.67	0.52	0.61	0.47	0.52	0.42	0.44	0.43
60	0.34	0.26	0.24	0.28	0.54	0.55	0.63	0.54	0.55	0.52	0.60	0.62	0.57	0.47	0.44	0.47
58	0.48	0.49	0.30	0.32	0.45	0.29	0.45	0.52	0.71	0.56	0.56	0.55	0.47	0.45	0.49	0.49
56	0.36	0.28	0.47	0.50	0.38	0.33	0.68	0.76	0.65	0.67	0.66	0.48	0.58	0.61	0.52	0.55
55	0.44	0.35	0.43	0.37	0.51	0.53	0.45	0.49	0.75	0.57	0.45	0.54	0.46	0.47	0.42	0.66
54	0.41	0.30	0.52	0.47	0.37	0.44	0.58	0.75	0.55	0.43	0.54	0.53	0.55	0.54	0.50	0.40
53	0.45	0.59	0.35	0.39	0.55	0.52	0.45	0.84	0.51	0.65	0.41	0.49	0.69	0.46	0.46	0.70
52	0.63	0.76	0.37	0.53	0.33	0.47	0.76	0.83	0.48	0.48	0.51	0.58	0.48	0.45	0.61	0.34
51	0.38	0.63	0.48	0.57	0.43	0.72	0.77	0.78	0.43	0.54	0.39	0.48	0.56	0.63	0.68	0.33
50	0.72	0.56	0.50	0.66	0.71	0.75	0.77	0.73	0.48	0.47	0.43	0.44	0.51	0.63	0.57	0.49
49	0.50	0.53	0.56	0.57	0.63	0.71	0.72	0.67	0.38	0.49	0.44	0.50	0.50	0.56	0.55	0.48
48	0.49	0.60	0.87	0.57	0.70	0.73	0.64	0.58	0.41	0.48	0.53	0.46	0.51	0.60	0.60	0.55
47	0.59	0.72	0.64	0.57	0.72	0.65	0.42	0.36	0.37	0.50	0.54	0.77	0.52	0.46	0.69	0.77
46	0.60	0.65	0.75	0.75	0.78	0.70	0.66	0.42	0.38	0.41	0.49	0.43	0.53	0.61	0.45	0.50
45	0.47	0.66	0.83	0.82	0.78	0.56	0.49	0.45	0.40	0.44	0.49	0.49	0.64	0.54	0.49	0.47
44	0.54	0.76	0.64	0.68	0.72	0.67	0.47	0.55	0.41	0.43	0.44	0.48	0.41	0.60	0.52	0.63
43	0.56	0.55	0.68	0.62	0.65	0.56	0.55	0.45	0.38	0.47	0.55	0.44	0.49	0.51	0.57	0.59
42	0.60	0.70	0.63	0.59	0.56	0.58	0.51	0.42	0.46	0.57	0.49	0.46	0.45	0.58	0.56	0.63
41	0.66	0.69	0.55	0.70	0.66	0.61	0.50	0.55	0.48	0.57	0.54	0.57	0.55	0.57	0.61	0.61
40	0.70	0.63	0.56	0.72	0.58	0.48	0.50	0.59	0.54	0.50	0.51	0.53	0.55	0.52	0.69	0.62
39	0.76	0.71	0.59	0.59	0.61	0.60	0.56	0.55	0.49	0.62	0.54	0.56	0.59	0.59	0.66	0.63
38	0.83	0.65	0.66	0.59	0.62	0.55	0.56	0.57	0.54	0.52	0.57	0.60	0.65	0.66	0.74	0.70
37	0.87	0.84	0.62	0.73	0.77	0.54	0.42	0.56	0.53	0.58	0.55	0.63	0.67	0.65	0.91	0.79
36	1.16	0.93	0.69	0.86	0.68	0.56	0.37	0.42	0.42	0.38	0.35	0.74	0.81	0.75	0.95	0.93
35	1.14	0.97	0.78	0.90	0.55	0.27	0.26	0.34	0.33	0.35	0.36	0.52	0.80	0.79	1.00	0.85
34	1.28	1.09	0.91	0.91	0.46	0.26	0.22	0.23	0.26	0.27	0.28	0.42	0.75	0.93	0.97	1.02
33	1.64	1.17	1.10	0.60	0.38	0.23	0.23	0.25	0.23	0.22	0.32	0.38	0.47	1.07	1.10	1.19

Grey cells indicate RMS/V_{tot}>2

Table C-34 Unit 15A, 12.0 kcfs Flow Rate, Vyz (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.37	0.47	0.51	0.43	0.38	0.54	0.73	0.36	0.13	0.42	0.59	0.37	0.29	0.39	0.54	0.34
70	0.43	0.48	0.50	0.41	0.61	0.24	0.04	0.16	0.24	0.03	0.25	0.36	0.40	0.25	0.51	0.50
68	0.86	0.79	0.49	0.41	0.59	0.48	0.81	1.17	1.07	0.88	1.03	0.49	0.14	0.35	0.54	0.65
66	0.55	0.80	0.52	0.74	1.09	1.04	1.23	1.50	1.51	1.55	1.44	1.44	1.01	0.27	0.42	0.21
64	1.01	0.68	0.90	0.52	0.77	0.94	1.57	1.35	1.74	1.66	1.25	1.02	1.49	1.15	0.45	0.53
62	0.93	0.85	0.83	0.95	0.94	1.11	1.35	1.40	1.78	1.60	1.28	1.48	1.44	1.06	0.67	0.49
60	1.06	1.46	1.33	1.46	0.84	1.35	1.04	0.95	1.96	2.29	2.34	2.01	1.65	1.72	1.63	1.21
58	1.46	1.64	1.33	1.68	1.60	1.32	1.43	0.57	2.19	2.32	2.31	2.28	1.70	1.81	1.33	0.65
56	1.32	1.17	1.60	1.43	1.20	1.17	1.41	0.76	1.82	2.04	2.31	2.09	1.80	1.78	1.24	0.61
55	1.32	1.20	1.19	1.11	0.98	0.90	0.89	0.79	2.14	2.64	2.38	2.05	1.80	1.79	1.34	0.48
54	1.12	0.80	1.00	0.25	0.71	0.49	0.84	1.75	2.21	2.45	1.98	1.00	1.88	1.54	0.47	0.33
53	0.27	0.59	0.87	0.80	0.58	0.58	0.81	1.51	2.01	2.24	2.65	2.34	0.98	0.87	0.82	0.45
52	0.63	0.71	0.56	0.52	0.10	0.50	1.12	1.76	2.45	2.56	2.29	1.92	1.45	1.70	0.59	0.01
51	0.55	0.73	0.35	0.47	0.21	0.83	1.57	1.67	2.28	2.23	2.41	2.02	1.27	1.14	0.89	0.11
50	0.63	0.60	0.35	0.11	0.46	0.91	1.67	1.92	2.65	2.40	2.55	2.29	1.94	0.99	0.65	0.20
49	0.90	0.77	0.62	0.31	1.11	0.94	1.87	2.15	2.70	2.61	2.62	2.66	1.78	1.62	0.75	0.41
48	0.91	0.69	0.52	0.32	0.96	1.28	2.08	2.21	2.60	2.59	2.52	2.58	1.60	1.26	0.94	0.45
47	0.97	0.83	0.70	1.55	1.11	1.87	2.59	2.61	2.70	2.72	2.61	1.90	1.84	1.41	0.90	0.66
46	0.60	1.12	0.75	1.10	1.60	2.43	2.38	2.76	2.97	2.69	2.90	2.64	2.52	1.21	1.06	0.75
45	1.16	1.11	0.79	1.18	1.70	2.31	2.58	2.57	2.79	2.76	2.73	2.60	2.06	1.28	1.08	0.55
44	1.26	1.39	1.19	1.81	2.15	2.66	2.66	2.80	2.81	2.88	2.88	2.66	2.38	1.51	1.25	0.64
43	1.30	1.68	1.84	2.09	2.76	2.97	2.90	2.98	3.06	3.03	3.21	3.01	2.39	2.02	1.51	0.26
42	1.02	1.55	1.51	2.42	2.61	2.75	2.85	2.90	3.05	3.04	3.15	2.99	2.53	1.98	1.25	0.21
41	1.04	1.68	1.91	2.50	2.70	3.12	3.04	3.25	3.17	3.28	3.18	2.97	2.64	2.12	1.21	0.12
40	0.96	1.77	2.22	2.98	2.62	3.01	3.12	3.51	3.55	3.77	3.54	3.11	2.87	2.45	1.29	0.12
39	0.84	1.60	2.10	2.52	3.23	3.13	3.38	3.06	3.24	3.65	3.49	3.26	2.65	2.32	1.41	0.40
38	0.71	1.75	2.28	2.50	3.25	3.45	3.71	3.47	3.51	3.85	3.81	3.61	2.85	2.40	1.65	0.48
37	0.42	2.15	2.24	2.54	3.35	3.93	3.92	3.59	3.96	3.83	4.01	3.87	3.34	2.26	1.78	0.55
36	0.70	2.17	2.04	3.05	3.54	3.94	4.05	4.13	4.00	4.28	4.36	3.64	3.23	2.37	2.30	0.44
35	1.26	2.57	2.31	3.20	4.32	4.51	4.44	4.20	4.37	4.28	4.55	4.38	3.56	2.35	2.59	0.53
34	1.43	2.56	2.57	4.02	4.42	4.61	4.83	4.68	4.70	4.64	4.56	4.27	4.18	2.64	2.21	1.41
33	1.29	2.64	2.44	4.49	4.40	4.56	4.61	4.68	4.43	4.53	4.57	4.26	4.33	2.32	2.10	2.15

Grey cells indicate RMS/V_{tot}>2

Table C-35 Unit 15A, 12.0 kcfs Flow Rate, Vtot (ft/s)

	OR							**Y-Positions (ft)**								**WA**
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.37	0.48	0.51	0.43	0.38	0.55	0.74	0.38	0.15	0.42	0.59	0.37	0.29	0.39	0.54	0.35
70	0.43	0.48	0.52	0.42	0.62	0.26	0.09	0.16	0.26	0.04	0.26	0.36	0.40	0.25	0.52	0.51
68	0.87	0.80	0.50	0.44	0.60	0.50	0.81	1.17	1.08	0.89	1.03	0.49	0.15	0.35	0.54	0.66
66	0.57	0.80	0.55	0.75	1.09	1.04	1.23	1.51	1.51	1.55	1.44	1.44	1.01	0.27	0.43	0.23
64	1.02	0.69	0.90	0.55	0.80	0.94	1.58	1.35	1.74	1.66	1.25	1.02	1.49	1.15	0.47	0.55
62	0.98	0.89	0.83	0.95	0.94	1.11	1.35	1.41	1.78	1.60	1.28	1.48	1.44	1.06	0.68	0.49
60	1.07	1.49	1.36	1.49	0.85	1.35	1.04	0.95	1.97	2.30	2.34	2.01	1.65	1.72	1.63	1.21
58	1.47	1.65	1.34	1.68	1.60	1.34	1.43	0.58	2.19	2.33	2.31	2.28	1.71	1.81	1.33	0.65
56	1.33	1.17	1.60	1.47	1.22	1.20	1.44	0.88	1.86	2.05	2.33	2.10	1.81	1.78	1.24	0.61
55	1.32	1.20	1.19	1.14	1.02	0.96	1.01	1.07	2.22	2.68	2.40	2.07	1.81	1.80	1.35	0.48
54	1.12	0.81	1.02	0.60	0.81	0.64	1.01	2.00	2.31	2.48	2.04	1.04	1.90	1.54	0.47	0.33
53	0.28	0.59	0.87	0.83	0.79	0.79	1.05	1.81	2.10	2.27	2.69	2.37	0.99	0.88	0.83	0.45
52	0.64	0.71	0.56	0.55	0.39	0.59	1.24	1.88	2.48	2.57	2.31	1.94	1.47	1.72	0.62	0.07
51	0.61	0.77	0.53	0.55	0.50	0.93	1.64	1.75	2.34	2.26	2.44	2.07	1.35	1.22	0.97	0.19
50	0.74	0.74	0.52	0.41	0.68	1.06	1.75	2.04	2.73	2.44	2.60	2.35	2.02	1.15	0.83	0.37
49	0.98	0.93	0.81	0.54	1.27	1.05	1.94	2.23	2.76	2.64	2.67	2.71	1.86	1.69	0.84	0.50
48	1.06	0.87	0.72	0.53	1.11	1.36	2.14	2.30	2.66	2.62	2.56	2.63	1.69	1.36	1.02	0.52
47	1.10	1.03	0.97	1.73	1.27	1.95	2.66	2.70	2.76	2.76	2.67	1.97	1.93	1.52	1.02	0.72
46	0.69	1.22	0.89	1.18	1.67	2.48	2.42	2.83	3.01	2.72	2.93	2.69	2.57	1.28	1.11	0.80
45	1.25	1.24	0.96	1.34	1.78	2.36	2.63	2.65	2.85	2.79	2.77	2.65	2.14	1.37	1.18	0.63
44	1.34	1.53	1.35	1.93	2.22	2.71	2.73	2.88	2.88	2.92	2.93	2.73	2.47	1.64	1.39	0.72
43	1.37	1.76	1.95	2.18	2.80	3.00	2.94	3.04	3.10	3.06	3.25	3.06	2.44	2.11	1.57	0.34
42	1.10	1.65	1.62	2.49	2.65	2.78	2.89	2.95	3.08	3.07	3.18	3.02	2.58	2.05	1.35	0.45
41	1.17	1.80	2.05	2.61	2.75	3.15	3.08	3.29	3.22	3.30	3.22	3.03	2.72	2.18	1.34	0.34
40	1.04	1.87	2.32	3.05	2.67	3.04	3.14	3.53	3.57	3.79	3.56	3.14	2.92	2.51	1.33	0.29
39	0.92	1.70	2.23	2.60	3.26	3.16	3.40	3.09	3.27	3.67	3.52	3.29	2.69	2.37	1.48	0.40
38	0.75	1.83	2.45	2.62	3.28	3.48	3.73	3.50	3.55	3.88	3.85	3.65	2.92	2.46	1.69	0.48
37	0.42	2.20	2.36	2.63	3.37	3.94	3.93	3.61	3.99	3.86	4.03	3.90	3.40	2.33	1.81	0.56
36	0.71	2.24	2.22	3.16	3.58	3.96	4.08	4.16	4.05	4.32	4.40	3.68	3.30	2.49	2.34	0.45
35	1.30	2.63	2.54	3.34	4.35	4.54	4.47	4.25	4.45	4.33	4.60	4.43	3.66	2.54	2.63	0.54
34	1.55	2.60	2.72	4.06	4.45	4.63	4.85	4.71	4.76	4.69	4.61	4.33	4.23	2.76	2.27	1.44
33	1.62	2.72	2.62	4.56	4.47	4.62	4.67	4.75	4.55	4.62	4.66	4.37	4.43	2.51	2.19	2.21

Grey cells indicate $RMS/V_{tot}>2$

Table C-36 Unit 15A, 12.0 kcfs Flow Rate, Total RMS (ft/s)

	OR	Y-Positions (ft)														WA
El (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.36	0.42	0.48	0.39	0.47	0.49	0.56	0.41	0.53	0.38	0.50	0.38	0.43	0.34	0.41	0.33
70	0.34	0.35	0.37	0.25	0.38	0.27	0.49	0.43	0.55	0.26	0.40	0.49	0.39	0.28	0.33	0.29
68	0.34	0.38	0.41	0.64	0.57	0.56	0.82	0.88	0.87	0.77	0.77	0.56	0.88	0.54	0.64	0.32
66	0.32	0.38	0.43	0.69	0.69	0.78	0.74	0.76	0.69	0.87	0.77	0.82	0.70	0.61	0.34	0.62
64	0.35	0.63	0.66	0.57	0.68	0.82	0.82	0.70	0.73	0.71	0.83	0.83	0.63	0.64	0.52	0.42
62	0.87	0.60	0.68	0.79	0.83	0.74	0.91	0.94	0.85	0.68	0.75	0.65	0.72	0.58	0.59	0.54
60	0.42	0.53	0.47	0.46	0.74	0.76	0.87	0.75	0.85	0.74	0.77	0.78	0.77	0.66	0.63	0.62
58	0.57	0.58	0.47	0.57	0.80	0.43	0.81	0.93	0.91	0.78	0.74	0.72	0.69	0.62	0.66	0.67
56	0.45	0.43	0.63	0.65	0.55	0.51	0.95	0.84	0.84	0.89	0.83	0.72	0.77	0.78	0.73	0.70
55	0.52	0.52	0.57	0.54	0.70	0.73	0.65	0.72	0.95	0.78	0.66	0.68	0.72	0.69	0.64	0.82
54	0.49	0.45	0.70	0.71	0.60	0.69	0.88	1.02	0.76	0.65	0.77	0.82	0.76	0.75	0.66	0.52
53	0.56	0.77	0.62	0.61	0.83	0.88	0.72	1.09	0.71	0.83	0.60	0.70	0.86	0.70	0.69	0.85
52	0.73	0.89	0.55	0.74	0.47	0.78	1.02	1.06	0.67	0.69	0.69	0.78	0.74	0.69	0.76	0.44
51	0.54	0.77	0.62	0.78	0.71	0.93	0.95	0.99	0.60	0.72	0.58	0.68	0.78	0.79	0.85	0.51
50	0.87	0.81	0.79	0.86	0.95	0.92	1.00	0.92	0.66	0.65	0.64	0.64	0.77	0.89	0.80	0.63
49	0.68	0.76	0.77	0.80	0.92	0.91	0.92	0.86	0.57	0.67	0.64	0.71	0.73	0.88	0.84	0.64
48	0.69	0.79	1.04	0.78	0.92	0.94	0.82	0.76	0.57	0.64	0.69	0.65	0.74	0.79	0.81	0.74
47	0.74	0.89	0.80	0.81	0.93	0.84	0.61	0.54	0.56	0.68	0.75	1.00	0.73	0.71	0.94	0.91
46	0.74	0.84	0.95	0.99	1.02	0.89	0.88	0.63	0.56	0.63	0.67	0.63	0.79	0.85	0.75	0.75
45	0.69	0.88	0.98	1.03	1.04	0.78	0.70	0.65	0.62	0.61	0.67	0.71	0.86	0.75	0.74	0.63
44	0.79	1.01	0.88	0.95	0.98	0.90	0.66	0.72	0.60	0.59	0.65	0.69	0.64	0.82	0.75	0.85
43	0.86	0.82	0.89	0.86	0.90	0.79	0.75	0.66	0.57	0.65	0.75	0.70	0.76	0.84	0.87	0.81
42	0.88	0.96	0.87	0.85	0.81	0.79	0.71	0.63	0.65	0.72	0.69	0.72	0.73	0.85	0.88	0.91
41	0.97	1.00	0.82	0.95	0.90	0.82	0.72	0.75	0.67	0.74	0.71	0.77	0.85	0.88	0.93	0.94
40	1.04	0.99	0.86	1.02	0.83	0.73	0.73	0.77	0.71	0.67	0.71	0.77	0.88	0.85	1.01	0.95
39	1.15	1.09	0.90	0.89	0.89	0.83	0.75	0.73	0.67	0.78	0.73	0.78	0.89	0.95	1.06	0.98
38	1.24	1.08	1.03	0.94	0.88	0.78	0.76	0.77	0.72	0.69	0.75	0.86	1.02	1.05	1.14	1.08
37	1.29	1.22	1.08	1.06	1.01	0.71	0.59	0.75	0.67	0.72	0.70	0.85	1.06	1.10	1.30	1.21
36	1.62	1.40	1.13	1.21	0.89	0.73	0.54	0.61	0.54	0.51	0.48	1.00	1.20	1.27	1.44	1.29
35	1.69	1.46	1.29	1.25	0.72	0.44	0.42	0.48	0.46	0.50	0.48	0.75	1.15	1.36	1.55	1.21
34	1.89	1.62	1.44	1.26	0.63	0.42	0.36	0.38	0.40	0.40	0.45	0.58	1.05	1.49	1.50	1.50
33	2.13	1.65	1.59	0.95	0.56	0.37	0.39	0.39	0.38	0.35	0.45	0.54	0.76	1.58	1.61	1.59

Grey cells indicate RMS/V_{tot}>2

Table C-37 Unit 15A, 15.0 kcfs Flow Rate, Vx (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(0.04)	(0.04)	0.04	(0.03)	(0.10)	0.10	0.16	(0.23)	(0.31)	0.19	0.30	(0.08)	(0.10)	0.18	0.28	0.15
70	0.24	0.04	(0.28)	(0.21)	(0.14)	(0.18)	(0.18)	(0.23)	(0.32)	(0.33)	(0.27)	(0.20)	(0.09)	(0.05)	0.02	0.11
68	(0.20)	(0.09)	(0.08)	(0.30)	(0.07)	(0.11)	(0.09)	(0.14)	(0.04)	(0.16)	(0.24)	(0.35)	(0.19)	(0.28)	(0.11)	(0.02)
66	(0.29)	(0.26)	(0.11)	(0.13)	0.03	(0.12)	(0.01)	0.01	0.06	(0.00)	0.05	(0.15)	(0.09)	(0.30)	(0.26)	(0.12)
64	(0.24)	(0.22)	(0.10)	(0.07)	(0.09)	(0.01)	(0.01)	(0.06)	0.01	0.05	0.02	0.05	(0.00)	(0.11)	(0.20)	(0.32)
62	(0.33)	(0.28)	(0.13)	(0.13)	0.01	(0.15)	(0.15)	0.02	0.11	0.07	0.01	0.10	0.08	(0.02)	(0.13)	(0.27)
60	(0.10)	(0.19)	(0.13)	(0.09)	(0.06)	0.01	(0.08)	(0.04)	0.05	0.13	0.04	0.06	0.09	0.04	(0.06)	(0.27)
58	(0.26)	(0.29)	(0.17)	(0.13)	(0.07)	(0.12)	(0.19)	0.04	0.21	0.17	0.19	0.22	0.08	0.10	0.01	(0.24)
56	0.25	0.29	0.34	0.41	0.34	0.39	0.53	0.64	0.81	0.78	0.76	0.93	0.99	0.77	0.65	0.38
55	0.25	0.63	0.58	0.60	0.77	0.59	0.73	0.74	0.97	0.78	0.84	0.97	0.95	1.01	0.96	0.58
54	0.24	0.89	0.80	0.76	0.83	0.96	0.69	1.04	1.12	1.01	0.91	1.10	1.28	1.15	1.16	0.68
53	0.47	0.88	1.09	1.10	1.21	1.10	0.96	1.21	1.23	1.07	1.10	1.22	1.37	1.40	1.41	0.77
52	0.83	0.96	0.83	0.77	0.92	0.76	0.72	0.89	0.98	0.84	0.75	0.86	0.94	1.03	0.91	0.60
51	0.60	0.74	0.69	0.75	0.70	0.54	0.56	0.69	0.78	0.68	0.61	0.69	0.76	0.80	0.69	0.50
50	0.47	0.74	0.75	0.86	0.71	0.59	0.62	0.73	0.81	0.68	0.67	0.71	0.81	0.76	0.67	0.49
49	0.47	0.54	0.60	0.65	0.51	0.47	0.50	0.62	0.65	0.54	0.56	0.62	0.60	0.61	0.56	0.37
48	0.50	0.67	0.63	0.61	0.63	0.48	0.54	0.68	0.65	0.54	0.53	0.57	0.66	0.62	0.60	0.34
47	0.44	0.72	0.76	0.74	0.68	0.60	0.61	0.77	0.79	0.63	0.66	0.75	0.75	0.80	0.75	0.39
46	0.43	0.59	0.66	0.73	0.50	0.45	0.48	0.58	0.66	0.54	0.55	0.60	0.64	0.65	0.60	0.31
45	0.57	0.74	0.76	0.73	0.61	0.56	0.54	0.65	0.68	0.58	0.58	0.61	0.72	0.70	0.63	0.50
44	0.57	0.87	0.88	0.89	0.70	0.60	0.58	0.72	0.75	0.65	0.65	0.71	0.75	0.79	0.66	0.54
43	0.51	0.65	0.78	0.73	0.50	0.41	0.43	0.51	0.57	0.51	0.53	0.56	0.65	0.67	0.51	0.46
42	0.48	0.78	0.79	0.76	0.44	0.42	0.45	0.53	0.62	0.52	0.54	0.55	0.63	0.63	0.59	0.44
41	0.45	0.84	0.91	0.91	0.59	0.50	0.47	0.53	0.65	0.57	0.59	0.64	0.73	0.77	0.63	0.45
40	0.25	0.63	0.85	0.73	0.37	0.29	0.35	0.44	0.52	0.45	0.50	0.50	0.64	0.64	0.42	0.27
39	0.34	0.66	0.92	0.86	0.43	0.37	0.41	0.45	0.57	0.49	0.53	0.53	0.65	0.74	0.46	0.14
38	0.32	0.74	1.03	0.98	0.43	0.44	0.48	0.60	0.68	0.57	0.58	0.59	0.81	0.87	0.38	0.05
37	0.02	0.50	0.97	0.87	0.33	0.37	0.39	0.49	0.57	0.53	0.56	0.58	0.66	0.88	0.36	0.03
36	0.22	0.65	1.07	0.94	0.52	0.54	0.56	0.62	0.74	0.66	0.69	0.66	0.74	1.03	0.49	0.12
35	0.33	0.68	1.09	1.06	0.74	0.77	0.71	0.86	0.98	0.88	0.82	0.87	0.89	1.15	0.69	0.39
34	0.84	0.69	0.85	0.79	0.64	0.66	0.67	0.77	0.92	0.80	0.88	0.87	0.78	1.03	0.52	0.41

Grey cells indicate RMS/V_{tot}>2

Table C-38 Unit 15A, 15.0 kcfs Flow Rate, Vx RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	19.83	18.67	17.50	16.33	15.17	14.00	12.83	11.67	8.33	7.17	6.00	4.83	3.67	2.50	1.33	0.17
72	0.31	0.34	0.35	0.33	0.47	0.45	0.47	0.51	0.60	0.48	0.54	0.42	0.50	0.35	0.34	0.33
70	0.36	0.31	0.34	0.36	0.35	0.37	0.40	0.44	0.36	0.37	0.36	0.40	0.42	0.29	0.32	0.24
68	0.35	0.30	0.35	0.36	0.44	0.46	0.43	0.46	0.39	0.41	0.38	0.40	0.42	0.45	0.34	0.27
66	0.40	0.28	0.35	0.38	0.41	0.44	0.38	0.47	0.43	0.41	0.38	0.40	0.42	0.41	0.36	0.32
64	0.30	0.27	0.35	0.32	0.30	0.38	0.45	0.37	0.38	0.39	0.42	0.41	0.41	0.38	0.45	0.33
62	0.38	0.30	0.29	0.34	0.41	0.44	0.31	0.45	0.39	0.41	0.38	0.39	0.45	0.44	0.40	0.37
60	0.27	0.31	0.37	0.32	0.28	0.49	0.36	0.44	0.43	0.38	0.38	0.38	0.39	0.48	0.43	0.45
58	0.32	0.30	0.24	0.40	0.45	0.34	0.38	0.50	0.37	0.37	0.37	0.35	0.54	0.46	0.49	0.45
56	0.25	0.35	0.35	0.50	0.42	0.37	0.48	0.54	0.37	0.35	0.37	0.35	0.36	0.53	0.47	0.52
55	0.30	0.38	0.43	0.42	0.41	0.42	0.52	0.46	0.31	0.34	0.34	0.34	0.48	0.42	0.40	0.40
54	0.47	0.32	0.39	0.41	0.44	0.41	0.45	0.42	0.31	0.33	0.34	0.34	0.37	0.48	0.45	0.41
53	0.56	0.47	0.40	0.39	0.41	0.44	0.46	0.38	0.30	0.32	0.31	0.38	0.41	0.52	0.50	0.50
52	0.40	0.35	0.35	0.40	0.37	0.44	0.45	0.46	0.33	0.32	0.33	0.35	0.39	0.48	0.39	0.47
51	0.42	0.39	0.39	0.41	0.40	0.50	0.44	0.43	0.28	0.31	0.30	0.30	0.46	0.41	0.42	0.39
50	0.39	0.37	0.35	0.44	0.45	0.45	0.44	0.41	0.30	0.33	0.30	0.34	0.41	0.46	0.42	0.34
49	0.35	0.40	0.43	0.40	0.48	0.47	0.43	0.40	0.29	0.29	0.29	0.32	0.42	0.44	0.41	0.42
48	0.42	0.38	0.38	0.45	0.50	0.44	0.42	0.38	0.31	0.31	0.33	0.34	0.41	0.43	0.38	0.36
47	0.40	0.39	0.43	0.49	0.46	0.44	0.39	0.35	0.30	0.32	0.32	0.34	0.42	0.43	0.41	0.45
46	0.45	0.47	0.47	0.51	0.48	0.46	0.39	0.33	0.32	0.30	0.32	0.35	0.44	0.47	0.46	0.52
45	0.49	0.46	0.47	0.51	0.50	0.44	0.39	0.36	0.31	0.32	0.35	0.34	0.43	0.49	0.48	0.51
44	0.48	0.47	0.47	0.48	0.48	0.41	0.37	0.38	0.31	0.33	0.35	0.37	0.45	0.50	0.50	0.53
43	0.56	0.54	0.54	0.50	0.49	0.42	0.40	0.37	0.33	0.35	0.36	0.39	0.49	0.55	0.56	0.56
42	0.61	0.61	0.58	0.53	0.50	0.43	0.39	0.39	0.34	0.34	0.37	0.40	0.48	0.55	0.60	0.64
41	0.63	0.69	0.60	0.54	0.55	0.42	0.39	0.37	0.35	0.35	0.37	0.46	0.54	0.60	0.63	0.65
40	0.73	0.74	0.61	0.58	0.48	0.36	0.38	0.40	0.35	0.37	0.37	0.40	0.55	0.63	0.72	0.73
39	0.74	0.70	0.66	0.64	0.47	0.35	0.34	0.36	0.33	0.31	0.36	0.44	0.57	0.68	0.70	0.72
38	0.80	0.75	0.71	0.69	0.36	0.31	0.30	0.38	0.34	0.34	0.26	0.34	0.62	0.74	0.71	0.81
37	0.86	0.79	0.79	0.70	0.27	0.24	0.25	0.29	0.30	0.27	0.24	0.30	0.49	0.74	0.81	0.87
36	0.93	0.83	0.83	0.67	0.26	0.22	0.21	0.24	0.19	0.22	0.22	0.27	0.51	0.83	0.82	0.88
35	1.08	0.88	0.80	0.65	0.27	0.22	0.26	0.23	0.22	0.22	0.20	0.27	0.32	0.79	0.88	0.95
34	1.09	0.93	0.85	0.47	0.28	0.23	0.23	0.26	0.24	0.21	0.22	0.22	0.29	0.97	0.87	0.96

Grey cells indicate RMS/V_{tot}>2

Table C-39 Unit 15A, 15.0 kcfs Flow Rate, Vy (ft/s)

	OR								Y-Positions (ft)							WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.18	0.41	0.53	0.58	0.68	0.80	0.87	0.94	0.61	0.99	0.71	0.54	0.05	0.26	0.22	0.16
70	(0.14)	0.05	0.39	0.56	0.64	0.76	0.94	1.05	1.10	1.01	0.75	0.36	0.42	0.27	0.20	0.09
68	0.17	0.24	0.48	0.80	0.87	1.04	1.15	1.47	0.80	0.64	0.47	0.37	0.10	(0.00)	(0.06)	(0.04)
66	0.15	0.45	0.57	0.66	0.79	0.87	0.82	1.31	0.59	0.80	0.39	0.22	(0.38)	0.03	(0.40)	0.00
64	0.03	0.43	0.64	0.33	0.32	0.54	1.01	0.64	0.47	0.74	(0.20)	(0.18)	(0.14)	(0.22)	(0.65)	(0.43)
62	0.22	0.39	0.17	0.40	0.78	0.44	0.16	0.66	0.23	(0.53)	(0.66)	(0.47)	(0.56)	(1.28)	(0.90)	(0.67)
60	(0.15)	0.51	0.27	0.26	0.02	0.53	0.14	0.15	(0.28)	(0.27)	(0.61)	(0.77)	(0.97)	(1.24)	(0.68)	(0.76)
58	(0.03)	0.06	(0.07)	0.04	0.26	(0.30)	(0.23)	0.08	(0.61)	(0.80)	(0.86)	(0.94)	(1.12)	(1.44)	(1.00)	(0.48)
56	(0.59)	(0.04)	(0.17)	(0.13)	(0.13)	(0.18)	(0.43)	(0.45)	(0.89)	(0.57)	(0.92)	(0.72)	(1.07)	(0.63)	(0.46)	(0.16)
55	(0.68)	(0.33)	(0.22)	(0.31)	(0.07)	(0.11)	(0.59)	(0.63)	(0.66)	(0.71)	(0.63)	(0.73)	(0.47)	(0.59)	0.40	0.35
54	(1.06)	(0.71)	(0.64)	(0.55)	(0.43)	(0.09)	(0.75)	(0.90)	(0.83)	(0.69)	(1.08)	(0.64)	(0.58)	(0.70)	(0.37)	0.60
53	(1.01)	(0.91)	(0.49)	(0.53)	(0.43)	(0.34)	(0.88)	(0.66)	(0.77)	(0.37)	(1.02)	(0.69)	(0.36)	(0.12)	(0.06)	0.61
52	(0.43)	(0.41)	(0.37)	(0.36)	(0.25)	(0.15)	(0.63)	(0.83)	(0.87)	(0.66)	(0.75)	(0.76)	(0.60)	(0.23)	0.20	0.50
51	(0.31)	(0.52)	(0.31)	(0.14)	(0.26)	(0.40)	(0.61)	(0.70)	(0.65)	(0.82)	(0.87)	(0.79)	(0.29)	(0.34)	0.08	0.39
50	(0.46)	(0.22)	(0.03)	(0.26)	(0.03)	(0.16)	(0.54)	(0.69)	(0.75)	(0.61)	(0.85)	(0.64)	(0.54)	(0.33)	(0.10)	0.19
49	(0.19)	(0.12)	(0.05)	0.15	(0.07)	(0.24)	(0.45)	(0.40)	(0.66)	(0.67)	(0.95)	(0.81)	(0.36)	(0.32)	(0.18)	0.26
48	(0.28)	(0.02)	0.02	0.01	(0.04)	(0.16)	(0.48)	(0.64)	(0.73)	(0.56)	(0.80)	(0.79)	(0.43)	(0.21)	(0.21)	0.02
47	(0.30)	0.14	0.05	0.16	(0.08)	(0.04)	(0.34)	(0.28)	(0.78)	(0.48)	(0.88)	(0.72)	(0.56)	(0.33)	(0.16)	0.12
46	(0.09)	0.11	0.16	0.23	0.15	(0.08)	(0.33)	(0.22)	(0.68)	(0.62)	(0.89)	(0.75)	(0.50)	(0.46)	(0.33)	0.03
45	(0.20)	0.17	0.13	0.12	0.01	(0.11)	(0.38)	(0.41)	(0.60)	(0.65)	(0.86)	(0.77)	(0.57)	(0.49)	(0.39)	(0.02)
44	(0.17)	0.15	0.24	0.24	0.03	0.07	(0.16)	(0.17)	(0.80)	(0.60)	(0.73)	(0.76)	(0.77)	(0.63)	(0.43)	0.10
43	0.01	0.19	0.33	0.37	0.12	0.10	(0.12)	(0.10)	(0.68)	(0.65)	(0.88)	(0.82)	(0.75)	(0.71)	(0.52)	(0.23)
42	(0.03)	0.34	0.28	0.27	0.24	0.19	(0.09)	(0.14)	(0.54)	(0.57)	(0.81)	(0.83)	(0.67)	(0.60)	(0.57)	(0.16)
41	(0.12)	0.38	0.46	0.56	0.31	0.24	0.03	0.15	(0.60)	(0.62)	(0.82)	(0.76)	(0.80)	(0.74)	(0.62)	(0.29)
40	0.20	0.46	0.56	0.46	0.48	0.30	0.06	(0.05)	(0.49)	(0.64)	(0.85)	(0.95)	(0.80)	(0.82)	(0.76)	(0.42)
39	0.25	0.53	0.64	0.66	0.38	0.30	0.05	0.07	(0.61)	(0.63)	(0.85)	(0.86)	(0.90)	(0.89)	(0.76)	(0.76)
38	0.71	0.71	0.68	0.65	0.57	0.41	0.08	(0.04)	(0.50)	(0.62)	(0.96)	(1.03)	(0.89)	(0.93)	(0.85)	(0.74)
37	0.87	0.83	0.84	0.78	0.62	0.45	0.21	0.07	(0.61)	(0.52)	(0.90)	(1.03)	(1.00)	(0.86)	(0.69)	(0.89)
36	0.92	0.81	0.85	0.79	0.52	0.45	0.16	0.09	(0.54)	(0.57)	(0.87)	(0.96)	(0.93)	(0.88)	(0.58)	(0.68)
35	0.74	0.66	0.73	0.77	0.48	0.53	0.05	0.15	(0.71)	(0.63)	(0.98)	(0.93)	(1.04)	(1.02)	(0.60)	(0.38)
34	0.27	0.73	0.80	0.76	0.46	0.47	0.29	0.18	(0.74)	(0.73)	(0.89)	(1.02)	(1.08)	(0.96)	(0.52)	(0.31)

Grey cells indicate RMS/V_{tot}>2

Table C-40 Unit 15A, 15.0 kcfs Flow Rate, Vy RMS (ft/s)

	OR							**Y-Positions (ft)**								**WA**
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.31	0.25	0.28	0.32	0.38	0.35	0.40	0.36	0.62	0.55	0.55	0.39	0.40	0.39	0.36	0.21
70	0.35	0.34	0.31	0.31	0.32	0.32	0.36	0.41	0.55	0.48	0.47	0.49	0.45	0.27	0.28	0.24
68	0.34	0.34	0.37	0.43	0.43	0.45	0.51	0.51	0.53	0.52	0.52	0.46	0.54	0.50	0.41	0.24
66	0.33	0.34	0.30	0.33	0.52	0.39	0.42	0.54	0.58	0.47	0.50	0.47	0.56	0.48	0.49	0.31
64	0.23	0.34	0.42	0.43	0.38	0.35	0.63	0.42	0.49	0.62	0.61	0.52	0.57	0.55	0.60	0.48
62	0.41	0.30	0.37	0.36	0.43	0.42	0.38	0.61	0.69	0.65	0.57	0.49	0.69	0.47	0.41	0.55
60	0.20	0.38	0.40	0.37	0.34	0.47	0.34	0.48	0.58	0.58	0.53	0.60	0.53	0.52	0.42	0.55
58	0.29	0.32	0.30	0.41	0.42	0.38	0.39	0.62	0.69	0.60	0.51	0.62	0.84	0.53	0.63	0.53
56	0.25	0.36	0.40	0.57	0.43	0.51	0.50	0.72	0.66	0.58	0.68	0.71	0.68	0.92	0.79	0.61
55	0.28	0.51	0.45	0.53	0.46	0.56	0.74	0.70	0.55	0.62	0.56	0.55	0.80	0.88	0.38	0.47
54	0.39	0.35	0.53	0.52	0.47	0.57	0.57	0.64	0.58	0.47	0.45	0.55	0.59	0.93	0.76	0.39
53	0.54	0.63	0.73	0.53	0.42	0.62	0.70	0.65	0.51	0.48	0.45	0.66	0.62	0.71	0.71	0.59
52	0.45	0.45	0.67	0.52	0.58	0.65	0.62	0.65	0.47	0.47	0.49	0.52	0.60	0.86	0.62	0.43
51	0.47	0.52	0.53	0.61	0.55	0.75	0.60	0.63	0.42	0.41	0.40	0.46	0.62	0.56	0.53	0.34
50	0.37	0.65	0.61	0.68	0.69	0.60	0.56	0.55	0.43	0.42	0.40	0.55	0.53	0.66	0.59	0.38
49	0.40	0.56	0.61	0.69	0.61	0.61	0.49	0.51	0.40	0.46	0.39	0.47	0.58	0.57	0.56	0.38
48	0.46	0.60	0.67	0.69	0.60	0.49	0.48	0.47	0.40	0.39	0.41	0.51	0.56	0.54	0.51	0.43
47	0.47	0.62	0.55	0.73	0.60	0.49	0.48	0.43	0.38	0.40	0.40	0.49	0.59	0.58	0.58	0.52
46	0.53	0.61	0.65	0.60	0.58	0.52	0.42	0.39	0.38	0.36	0.40	0.50	0.53	0.56	0.56	0.57
45	0.56	0.61	0.60	0.66	0.63	0.48	0.41	0.42	0.43	0.40	0.45	0.50	0.54	0.59	0.57	0.55
44	0.57	0.61	0.58	0.65	0.58	0.49	0.44	0.42	0.40	0.41	0.44	0.48	0.57	0.58	0.59	0.52
43	0.59	0.62	0.61	0.61	0.52	0.47	0.44	0.43	0.41	0.45	0.41	0.48	0.57	0.60	0.61	0.70
42	0.70	0.66	0.66	0.63	0.57	0.48	0.43	0.42	0.42	0.40	0.43	0.51	0.60	0.63	0.63	0.74
41	0.71	0.71	0.64	0.65	0.55	0.46	0.43	0.41	0.44	0.41	0.44	0.50	0.60	0.63	0.69	0.73
40	0.89	0.75	0.65	0.65	0.52	0.40	0.41	0.45	0.42	0.40	0.45	0.52	0.57	0.66	0.80	0.84
39	0.81	0.88	0.72	0.68	0.54	0.43	0.41	0.42	0.42	0.38	0.41	0.50	0.64	0.73	0.82	0.85
38	1.03	0.88	0.74	0.71	0.45	0.34	0.38	0.41	0.44	0.38	0.35	0.46	0.72	0.78	0.87	0.94
37	1.02	0.96	0.81	0.72	0.46	0.29	0.33	0.36	0.38	0.40	0.35	0.46	0.63	0.85	0.99	0.97
36	1.08	1.01	0.84	0.79	0.38	0.29	0.28	0.32	0.33	0.33	0.31	0.40	0.67	0.88	1.01	0.96
35	1.12	1.04	0.90	0.88	0.42	0.26	0.33	0.26	0.30	0.28	0.26	0.40	0.58	0.92	1.05	1.04
34	1.25	0.95	0.97	0.82	0.37	0.29	0.22	0.27	0.29	0.29	0.28	0.30	0.60	0.97	1.09	1.05

Grey cells indicate RMS/V_{tot}>2

Table C-41 Unit 15A, 15.0 kcfs Flow Rate, Vz (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	19.83	18.67	17.50	16.33	15.17	14.00	12.83	11.67	8.33	7.17	6.00	4.83	3.67	2.50	1.33	0.17
72	(0.54)	(0.69)	(0.63)	(0.26)	(0.09)	(0.52)	(0.63)	0.09	0.13	(0.65)	(0.65)	(0.32)	(0.05)	(0.52)	(0.64)	(0.34)
70	(1.01)	(0.88)	(0.86)	(0.80)	(0.75)	(0.39)	(0.14)	0.18	0.46	0.85	0.45	(0.16)	(0.24)	(0.04)	(0.39)	(0.60)
68	(1.17)	(1.28)	(1.03)	(0.67)	(0.10)	0.17	0.39	0.69	2.17	2.19	2.11	1.71	1.41	0.97	(0.19)	(0.41)
66	(1.17)	(1.65)	(1.43)	(0.94)	(0.21)	(0.44)	(0.07)	0.60	2.26	2.40	2.39	2.43	1.96	1.91	1.50	(0.19)
64	(1.52)	(1.77)	(1.04)	(1.37)	(1.12)	(1.00)	0.25	0.02	0.88	2.49	2.55	2.57	2.48	2.37	1.23	1.59
62	(1.33)	(1.45)	(1.61)	(1.29)	(0.50)	(0.42)	(0.59)	0.13	2.09	2.87	2.58	2.59	1.78	1.75	1.86	1.41
60	(1.59)	(1.62)	(1.58)	(1.61)	(1.26)	(1.01)	(0.80)	0.33	2.04	2.99	2.91	2.61	2.70	1.72	1.04	0.81
58	(1.33)	(1.93)	(1.79)	(1.85)	(0.97)	(1.27)	(0.88)	0.66	3.00	3.21	2.94	2.70	1.51	1.76	0.89	(0.25)
56	(2.01)	(1.73)	(1.88)	(1.93)	(1.52)	(1.11)	0.08	0.89	2.59	2.78	2.57	2.28	2.16	0.67	(0.30)	(0.74)
55	(1.37)	(1.22)	(1.36)	(1.54)	(0.31)	(0.27)	1.06	1.62	2.85	3.04	3.06	2.86	1.80	1.54	0.11	(0.08)
54	(0.65)	(0.92)	(0.78)	(1.21)	(0.73)	0.76	0.83	1.57	3.00	2.84	2.84	2.91	2.21	1.67	0.97	(0.12)
53	(0.85)	(0.43)	(0.23)	(0.38)	(0.31)	0.64	2.05	2.62	3.56	3.52	3.38	3.07	2.60	1.16	0.68	(0.20)
52	0.85	0.74	0.49	0.23	0.77	1.99	2.21	2.92	3.68	3.69	3.83	3.69	3.17	2.24	1.40	0.42
51	0.67	0.32	0.38	0.47	1.25	1.77	2.46	3.17	3.68	3.81	3.68	3.54	2.54	2.38	1.22	0.38
50	1.04	1.17	0.90	0.59	1.45	2.70	2.99	3.16	3.58	3.49	3.58	3.50	3.02	2.13	1.35	0.86
49	0.69	1.20	1.01	1.48	1.69	2.83	3.47	3.45	3.69	3.77	3.67	3.67	2.85	2.16	1.44	0.64
48	0.87	1.18	1.11	1.01	2.23	3.14	3.26	3.30	3.61	3.68	3.78	3.69	2.82	1.83	1.34	1.04
47	1.08	1.38	1.52	2.17	2.48	3.24	3.75	3.65	3.74	3.80	3.72	3.56	3.25	2.04	1.50	0.64
46	1.61	1.67	1.81	2.73	3.39	3.64	3.91	3.90	3.83	4.02	4.04	3.78	3.40	2.59	1.97	0.91
45	1.09	1.67	1.55	2.10	3.08	3.50	3.65	3.79	3.96	4.13	4.15	4.05	3.46	2.73	2.06	1.01
44	1.35	2.03	2.28	2.91	3.24	3.93	4.15	4.06	4.00	4.27	4.21	4.03	4.02	2.94	1.97	0.86
43	1.50	2.20	2.75	3.52	3.63	4.12	4.34	4.29	4.37	4.61	4.52	4.15	4.00	3.22	2.19	0.97
42	1.23	2.43	2.46	3.22	4.15	4.58	4.38	4.13	4.26	4.22	4.40	4.30	3.89	3.02	2.15	0.82
41	0.96	2.35	2.83	3.72	4.08	4.60	4.73	4.66	4.67	4.62	4.63	4.26	4.11	3.31	2.26	0.43
40	1.08	2.58	3.09	3.77	4.88	5.02	4.91	4.79	4.85	4.81	4.86	4.67	3.79	3.32	2.51	1.08
39	0.75	2.28	3.06	3.99	4.70	4.91	4.96	4.92	4.76	5.17	5.08	4.78	4.33	3.33	2.68	0.65
38	1.54	2.73	2.98	3.95	5.31	5.26	5.10	4.82	5.01	5.20	5.29	5.21	4.07	3.30	2.72	1.22
37	1.29	2.92	3.20	4.26	5.46	5.91	5.49	5.38	5.34	5.59	5.41	5.19	4.62	3.29	3.10	1.67
36	1.12	3.04	2.80	4.29	5.50	5.67	5.57	5.46	5.49	5.60	5.60	5.34	4.73	3.20	3.04	1.77
35	1.33	3.20	2.75	4.47	5.68	5.81	5.66	5.92	5.66	5.68	6.08	5.46	5.10	3.20	3.09	2.90
34	2.68	3.02	3.43	4.75	5.91	5.98	6.06	5.83	5.86	5.96	5.83	6.00	2.92	3.02	3.02	4.08

Grey cells indicate RMS/V_{tot}>2

Table C-42 Unit 15A, 15.0 kcfs Flow Rate, Vz RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.36	0.34	0.37	0.50	0.55	0.48	0.50	0.83	0.68	0.68	0.50	0.44	0.69	0.45	0.37	0.31
70	0.33	0.31	0.31	0.47	0.47	0.57	0.69	0.96	0.99	0.98	0.92	0.44	0.61	0.35	0.39	0.33
68	0.44	0.45	0.40	0.66	0.67	0.76	0.94	0.92	0.71	0.74	0.74	0.80	0.90	0.77	0.45	0.49
66	0.62	0.52	0.39	0.57	0.74	0.67	0.65	0.81	0.78	0.72	0.69	0.66	0.57	0.71	0.91	0.53
64	0.45	0.39	0.54	0.36	0.35	0.52	0.88	0.67	0.40	0.63	0.73	0.71	0.64	0.57	0.78	0.66
62	0.53	0.38	0.41	0.44	0.64	0.65	0.50	0.98	1.13	0.69	0.78	0.65	1.07	0.66	0.64	0.69
60	0.48	0.44	0.49	0.41	0.36	0.74	0.46	0.91	1.02	0.66	0.59	0.67	0.57	0.63	0.94	0.98
58	0.65	0.46	0.38	0.50	0.49	0.42	0.43	0.87	0.65	0.59	0.64	0.57	0.78	0.66	0.86	0.83
56	0.47	0.64	0.67	0.45	0.57	0.51	0.66	1.25	0.79	0.76	0.74	0.69	0.71	0.79	0.94	0.79
55	0.44	0.56	0.61	0.69	0.72	0.53	1.04	1.13	0.65	0.69	0.70	0.63	0.67	0.85	0.73	0.52
54	1.15	0.42	0.60	0.65	0.55	1.04	0.99	1.11	0.60	0.69	0.82	0.70	0.73	0.74	0.94	0.75
53	1.04	0.82	0.82	0.70	0.66	0.78	1.12	0.88	0.56	0.62	0.59	0.60	0.70	0.95	0.83	0.88
52	0.61	0.85	0.92	0.80	0.70	1.10	0.99	0.91	0.52	0.56	0.56	0.52	0.62	0.77	0.59	0.58
51	0.70	0.80	0.74	0.64	1.02	1.07	0.91	0.64	0.52	0.54	0.55	0.53	0.69	0.65	0.61	0.53
50	0.57	0.64	0.71	0.74	1.01	0.92	0.86	0.65	0.52	0.61	0.44	0.61	0.66	0.69	0.64	0.51
49	0.72	0.73	0.60	0.85	0.90	0.91	0.63	0.69	0.50	0.48	0.50	0.50	0.64	0.66	0.57	0.59
48	0.70	0.86	0.83	0.92	0.90	0.88	0.67	0.53	0.49	0.50	0.47	0.59	0.72	0.63	0.62	0.56
47	0.72	0.68	0.83	1.12	0.83	0.66	0.61	0.57	0.46	0.56	0.53	0.55	0.62	0.67	0.63	0.54
46	0.63	0.74	0.80	0.79	0.79	0.63	0.55	0.52	0.44	0.51	0.52	0.56	0.64	0.73	0.63	0.77
45	0.69	0.84	0.83	1.07	0.91	0.72	0.59	0.50	0.56	0.53	0.61	0.55	0.64	0.72	0.67	0.65
44	0.76	0.72	0.78	0.76	0.76	0.61	0.65	0.52	0.55	0.56	0.62	0.56	0.61	0.65	0.73	0.75
43	0.61	0.75	0.75	0.81	0.73	0.64	0.62	0.54	0.54	0.59	0.61	0.55	0.64	0.69	0.71	0.72
42	0.80	0.81	0.84	0.83	0.70	0.72	0.59	0.57	0.64	0.62	0.59	0.61	0.69	0.72	0.75	0.90
41	0.82	0.84	0.76	0.80	0.79	0.68	0.60	0.67	0.63	0.67	0.64	0.69	0.77	0.72	0.80	0.87
40	1.01	0.91	0.68	0.81	0.73	0.58	0.62	0.62	0.64	0.66	0.62	0.69	0.65	0.70	0.73	0.92
39	0.98	0.98	0.77	0.86	0.70	0.59	0.62	0.65	0.64	0.63	0.59	0.66	0.80	0.83	0.83	1.07
38	1.20	0.92	0.78	0.88	0.56	0.50	0.52	0.68	0.65	0.57	0.57	0.66	0.86	0.83	1.00	1.28
37	1.33	1.05	0.88	0.98	0.54	0.39	0.41	0.50	0.59	0.48	0.53	0.70	0.88	0.83	1.06	1.19
36	1.44	1.19	0.95	1.06	0.45	0.38	0.35	0.46	0.43	0.37	0.36	0.63	0.93	0.96	1.11	1.17
35	1.52	1.22	1.02	1.20	0.37	0.34	0.34	0.29	0.35	0.33	0.35	0.50	0.87	1.18	1.19	1.32
34	1.65	1.16	1.25	1.28	0.42	0.34	0.25	0.29	0.31	0.32	0.31	0.41	5.03	1.27	1.26	1.52

Grey cells indicate RMS/V_{tot}>2

Table C-43 Unit 15A, 15.0 kcfs Flow Rate, Vyz (ft/s)

	OR	Y-Positions (ft)														WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.57	0.80	0.82	0.64	0.68	0.96	1.07	0.95	0.62	1.18	0.97	0.63	0.07	0.58	0.68	0.37
70	1.02	0.88	0.95	0.98	0.98	0.86	0.95	1.06	1.20	1.32	0.88	0.39	0.48	0.28	0.44	0.61
68	1.18	1.30	1.13	1.04	0.88	1.05	1.21	1.62	2.31	2.29	2.16	1.75	1.41	0.97	0.20	0.41
66	1.18	1.71	1.53	1.15	0.82	0.97	0.83	1.45	2.34	2.53	2.42	2.44	2.00	1.91	1.56	0.19
64	1.52	1.82	1.22	1.41	1.16	1.14	1.04	0.64	1.00	2.60	2.55	2.58	2.48	2.38	1.39	1.65
62	1.35	1.50	1.61	1.35	0.93	0.60	0.61	0.67	2.10	2.91	2.67	2.63	1.87	2.16	2.06	1.56
60	1.60	1.70	1.60	1.63	1.26	1.14	0.82	0.36	2.06	3.00	2.97	2.72	2.87	2.12	1.25	1.12
58	1.33	1.93	1.79	1.85	1.00	1.31	0.91	0.67	3.06	3.31	3.06	2.86	1.88	2.27	1.34	0.55
56	2.10	1.73	1.89	1.94	1.53	1.12	0.44	1.00	2.74	2.83	2.73	2.39	2.41	0.92	0.55	0.76
55	1.53	1.27	1.37	1.58	0.32	0.29	1.21	1.74	2.93	3.12	3.13	2.95	1.86	1.65	0.41	0.36
54	1.24	1.16	1.01	1.33	0.85	0.77	1.12	1.81	3.11	2.92	3.04	2.98	2.29	1.81	1.04	0.61
53	1.32	1.01	0.54	0.65	0.53	0.72	2.24	2.70	3.65	3.54	3.53	3.14	2.63	1.17	0.68	0.65
52	0.95	0.85	0.62	0.43	0.81	1.99	2.30	3.04	3.78	3.74	3.91	3.77	3.23	2.25	1.42	0.65
51	0.74	0.62	0.49	0.49	1.28	1.81	2.54	3.25	3.73	3.90	3.78	3.63	2.56	2.40	1.22	0.55
50	1.14	1.19	0.90	0.64	1.45	2.71	3.03	3.24	3.66	3.54	3.68	3.56	3.07	2.16	1.36	0.89
49	0.71	1.20	1.01	1.49	1.69	2.84	3.50	3.47	3.75	3.83	3.79	3.76	2.87	2.19	1.45	0.69
48	0.92	1.18	1.11	1.01	2.23	3.15	3.29	3.36	3.69	3.72	3.86	3.77	2.86	1.84	1.36	1.04
47	1.12	1.38	1.52	2.17	2.48	3.24	3.76	3.66	3.82	3.83	3.82	3.63	3.30	2.07	1.51	0.65
46	1.61	1.67	1.82	2.74	3.39	3.64	3.92	3.90	3.89	4.07	4.14	3.85	3.43	2.63	1.99	0.91
45	1.11	1.68	1.55	2.11	3.08	3.50	3.67	3.81	4.01	4.18	4.24	4.12	3.51	2.77	2.10	1.01
44	1.36	2.03	2.30	2.92	3.24	3.93	4.15	4.06	4.08	4.31	4.27	4.11	4.09	3.00	2.02	0.87
43	1.50	2.21	2.77	3.54	3.63	4.12	4.34	4.29	4.43	4.66	4.61	4.23	4.07	3.30	2.25	1.00
42	1.23	2.46	2.48	3.23	4.16	4.58	4.38	4.13	4.29	4.26	4.47	4.38	3.95	3.08	2.23	0.84
41	0.97	2.38	2.86	3.76	4.09	4.61	4.73	4.67	4.71	4.67	4.71	4.33	4.19	3.39	2.34	0.51
40	1.10	2.62	3.14	3.80	4.90	5.03	4.91	4.79	4.88	4.85	4.93	4.77	3.87	3.42	2.62	1.16
39	0.79	2.34	3.13	4.05	4.72	4.92	4.96	4.92	4.80	5.21	5.15	4.86	4.43	3.44	2.79	1.00
38	1.70	2.82	3.05	4.01	5.34	5.27	5.10	4.82	5.04	5.23	5.38	5.31	4.17	3.43	2.85	1.43
37	1.55	3.03	3.31	4.33	5.49	5.92	5.50	5.38	5.37	5.62	5.49	5.29	4.73	3.40	3.17	1.89
36	1.44	3.15	2.93	4.37	5.53	5.69	5.58	5.46	5.52	5.62	5.67	5.43	4.82	3.31	3.09	1.90
35	1.52	3.26	2.85	4.54	5.70	5.83	5.66	5.92	5.71	5.72	6.15	5.53	5.21	3.36	3.14	2.93
34	2.69	3.11	3.52	4.81	5.93	6.00	6.06	5.83	5.91	6.01	5.90	6.09	3.12	3.17	3.06	4.09

Grey cells indicate RMS/V_{tot}>2

Table C-44 Unit 15A, 15.0 kcfs Flow Rate, Vtot (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.57	0.80	0.82	0.64	0.69	0.96	1.08	0.97	0.69	1.20	1.01	0.63	0.12	0.61	0.73	0.40
70	1.05	0.88	0.98	1.00	0.99	0.87	0.97	1.09	1.24	1.36	0.92	0.44	0.49	0.28	0.44	0.62
68	1.20	1.31	1.14	1.08	0.88	1.06	1.22	1.63	2.31	2.29	2.17	1.79	1.43	1.01	0.23	0.41
66	1.21	1.73	1.54	1.16	0.82	0.98	0.83	1.45	2.34	2.53	2.42	2.45	2.00	1.93	1.58	0.22
64	1.54	1.83	1.23	1.41	1.17	1.14	1.04	0.65	1.00	2.60	2.55	2.58	2.48	2.38	1.41	1.68
62	1.38	1.53	1.62	1.35	0.93	0.62	0.63	0.67	2.10	2.92	2.67	2.64	1.87	2.16	2.07	1.58
60	1.60	1.71	1.61	1.64	1.26	1.14	0.82	0.37	2.06	3.00	2.97	2.72	2.87	2.12	1.25	1.15
58	1.36	1.95	1.80	1.86	1.00	1.31	0.93	0.67	3.07	3.32	3.07	2.87	1.88	2.27	1.34	0.60
56	2.11	1.75	1.92	1.98	1.56	1.19	0.69	1.19	2.86	2.94	2.83	2.57	2.61	1.20	0.85	0.85
55	1.55	1.42	1.49	1.69	0.84	0.66	1.41	1.89	3.08	3.22	3.24	3.10	2.09	1.93	1.05	0.68
54	1.27	1.46	1.29	1.53	1.19	1.23	1.31	2.08	3.31	3.09	3.17	3.18	2.62	2.14	1.56	0.92
53	1.40	1.34	1.22	1.28	1.32	1.31	2.43	2.96	3.85	3.70	3.70	3.37	2.96	1.82	1.56	1.00
52	1.26	1.28	1.03	0.88	1.22	2.13	2.41	3.16	3.91	3.84	3.98	3.86	3.36	2.47	1.68	0.89
51	0.95	0.96	0.85	0.90	1.46	1.89	2.60	3.32	3.81	3.96	3.83	3.70	2.67	2.53	1.40	0.74
50	1.23	1.40	1.17	1.07	1.61	2.77	3.10	3.32	3.75	3.60	3.74	3.63	3.17	2.29	1.51	1.01
49	0.85	1.32	1.17	1.63	1.77	2.88	3.53	3.53	3.80	3.87	3.83	3.81	2.94	2.27	1.55	0.78
48	1.04	1.36	1.28	1.18	2.32	3.18	3.33	3.43	3.74	3.76	3.90	3.82	2.93	1.94	1.49	1.09
47	1.21	1.56	1.70	2.30	2.57	3.29	3.81	3.74	3.91	3.89	3.88	3.71	3.39	2.21	1.68	0.76
46	1.67	1.77	1.93	2.83	3.43	3.67	3.95	3.95	3.94	4.10	4.18	3.90	3.49	2.71	2.08	0.96
45	1.25	1.83	1.73	2.23	3.14	3.55	3.71	3.87	4.06	4.22	4.28	4.16	3.58	2.86	2.19	1.13
44	1.48	2.21	2.46	3.05	3.31	3.98	4.19	4.13	4.15	4.36	4.32	4.17	4.16	3.11	2.12	1.02
43	1.59	2.30	2.88	3.61	3.66	4.14	4.36	4.32	4.46	4.69	4.64	4.27	4.12	3.37	2.31	1.10
42	1.32	2.58	2.60	3.32	4.18	4.60	4.40	4.17	4.33	4.29	4.50	4.41	4.00	3.14	2.31	0.95
41	1.07	2.53	3.00	3.87	4.13	4.64	4.76	4.70	4.75	4.70	4.74	4.38	4.25	3.48	2.43	0.68
40	1.12	2.69	3.25	3.87	4.91	5.04	4.92	4.81	4.91	4.87	4.96	4.79	3.92	3.48	2.66	1.19
39	0.86	2.43	3.26	4.14	4.74	4.93	4.97	4.94	4.83	5.23	5.18	4.89	4.47	3.52	2.83	1.01
38	1.73	2.92	3.22	4.12	5.36	5.29	5.12	4.86	5.09	5.26	5.41	5.34	4.25	3.54	2.87	1.43
37	1.55	3.07	3.45	4.41	5.50	5.94	5.51	5.40	5.40	5.64	5.51	5.32	4.78	3.51	3.19	1.89
36	1.46	3.21	3.12	4.47	5.55	5.72	5.60	5.49	5.56	5.66	5.71	5.47	4.88	3.47	3.13	1.90
35	1.56	3.33	3.05	4.66	5.75	5.88	5.71	5.98	5.79	5.79	6.21	5.60	5.29	3.55	3.22	2.95
34	2.82	3.18	3.63	4.88	5.96	6.03	6.10	5.89	5.98	6.06	5.96	6.15	3.21	3.33	3.11	4.11

Grey cells indicate RMS/V_{tot}>2

Table C-45 Unit 15A, 15.0 kcfs Flow Rate, Total RMS (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.57	0.55	0.58	0.68	0.81	0.74	0.80	1.04	1.10	1.00	0.92	0.73	0.94	0.69	0.62	0.50
70	0.60	0.55	0.55	0.67	0.67	0.75	0.87	1.13	1.18	1.15	1.09	0.77	0.86	0.53	0.58	0.47
68	0.65	0.64	0.64	0.87	0.91	0.99	1.15	1.15	0.97	0.99	0.98	1.00	1.13	1.02	0.70	0.61
66	0.80	0.69	0.61	0.76	0.99	0.89	0.86	1.09	1.06	0.96	0.93	0.90	0.90	0.95	1.09	0.70
64	0.59	0.58	0.77	0.65	0.60	0.73	1.17	0.88	0.74	0.97	1.04	0.97	0.95	0.88	1.08	0.88
62	0.77	0.57	0.63	0.66	0.87	0.89	0.70	1.24	1.39	1.04	1.04	0.90	1.35	0.92	0.86	0.96
60	0.59	0.66	0.73	0.64	0.57	1.01	0.67	1.11	1.25	0.96	0.88	0.98	0.87	0.95	1.11	1.20
58	0.78	0.64	0.54	0.76	0.79	0.66	0.69	1.18	1.02	0.92	0.90	0.91	1.26	0.97	1.17	1.09
56	0.59	0.82	0.85	0.88	0.83	0.81	0.96	1.54	1.09	1.02	1.07	1.05	1.05	1.33	1.31	1.13
55	0.60	0.85	0.87	0.96	0.95	0.88	1.38	1.40	0.90	0.99	0.96	0.90	1.15	1.29	0.91	0.81
54	1.30	0.63	0.89	0.92	0.85	1.26	1.23	1.35	0.89	0.90	0.99	0.96	1.01	1.28	1.29	0.94
53	1.30	1.13	1.17	0.97	0.88	1.08	1.40	1.16	0.81	0.85	0.81	0.97	1.02	1.29	1.20	1.17
52	0.86	1.02	1.19	1.04	0.98	1.36	1.25	1.21	0.77	0.80	0.82	0.82	0.94	1.25	0.94	0.86
51	0.95	1.03	0.99	0.98	1.23	1.40	1.17	0.99	0.73	0.74	0.74	0.77	1.04	0.95	0.91	0.74
50	0.78	0.99	1.00	1.10	1.30	1.19	1.11	0.94	0.74	0.81	0.67	0.89	0.94	1.06	0.97	0.72
49	0.90	1.00	0.96	1.17	1.19	1.19	0.90	0.95	0.70	0.72	0.70	0.76	0.96	0.98	0.90	0.82
48	0.94	1.12	1.13	1.24	1.19	1.10	0.92	0.81	0.70	0.70	0.70	0.85	1.01	0.93	0.89	0.80
47	0.95	1.00	1.08	1.43	1.12	0.93	0.87	0.79	0.67	0.75	0.73	0.81	0.95	0.98	0.95	0.87
46	0.94	1.07	1.13	1.12	1.09	0.94	0.79	0.73	0.66	0.69	0.73	0.83	0.94	1.04	0.96	1.09
45	1.02	1.13	1.13	1.36	1.21	0.97	0.82	0.75	0.77	0.73	0.84	0.81	0.94	1.05	1.00	0.99
44	1.07	1.05	1.08	1.10	1.07	0.88	0.87	0.76	0.74	0.77	0.84	0.83	0.95	1.00	1.07	1.05
43	1.02	1.11	1.11	1.13	1.02	0.90	0.86	0.78	0.75	0.82	0.82	0.82	0.99	1.07	1.09	1.15
42	1.22	1.21	1.22	1.17	1.04	0.96	0.83	0.81	0.83	0.81	0.82	0.89	1.03	1.11	1.15	1.33
41	1.25	1.30	1.16	1.17	1.11	0.92	0.83	0.87	0.84	0.86	0.86	0.97	1.11	1.13	1.23	1.31
40	1.53	1.39	1.13	1.19	1.02	0.79	0.84	0.87	0.84	0.85	0.85	0.95	1.02	1.15	1.30	1.44
39	1.47	1.49	1.24	1.27	1.01	0.81	0.82	0.85	0.83	0.80	0.81	0.93	1.17	1.29	1.36	1.54
38	1.78	1.47	1.29	1.32	0.81	0.68	0.70	0.88	0.85	0.76	0.72	0.87	1.28	1.36	1.51	1.79
37	1.89	1.63	1.43	1.40	0.76	0.54	0.58	0.68	0.76	0.68	0.68	0.89	1.19	1.40	1.66	1.76
36	2.03	1.77	1.51	1.48	0.65	0.53	0.49	0.61	0.58	0.55	0.52	0.79	1.25	1.54	1.71	1.75
35	2.18	1.83	1.58	1.62	0.63	0.48	0.54	0.45	0.51	0.48	0.48	0.69	1.10	1.69	1.82	1.93
34	2.34	1.76	1.80	1.59	0.63	0.50	0.41	0.47	0.48	0.48	0.47	0.55	5.08	1.87	1.88	2.08

Grey cells indicate RMS/V_{tot}>2

Table C-46 Unit 15A, 17.0 kcfs Flow Rate, Vx (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	(0.25)	(0.26)	(0.21)	(0.19)	(0.09)	(0.19)	(0.28)	(0.31)	(0.53)	(0.47)	(0.29)	(0.14)	(0.24)	(0.13)	(0.10)	0.02
68	(0.11)	(0.09)	(0.24)	(0.25)	(0.04)	(0.11)	(0.05)	(0.22)	0.02	(0.24)	(0.20)	(0.36)	(0.35)	(0.34)	(0.18)	(0.05)
66	(0.25)	(0.32)	(0.11)	(0.08)	(0.01)	0.06	0.08	0.10	0.20	0.20	0.11	0.02	(0.03)	(0.23)	(0.27)	(0.24)
64	(0.13)	(0.19)	(0.17)	(0.09)	(0.00)	0.01	(0.06)	0.06	0.03	0.13	0.06	0.14	0.03	0.02	(0.12)	(0.38)
62	(0.18)	(0.18)	(0.05)	(0.08)	(0.06)	0.02	0.01	0.03	0.18	0.09	0.03	0.09	(0.02)	0.01	(0.07)	(0.25)
60	(0.26)	(0.12)	(0.17)	(0.09)	0.03	0.07	(0.04)	(0.13)	0.11	0.14	0.08	0.03	0.11	0.08	(0.08)	(0.31)
58	(0.11)	(0.23)	(0.17)	(0.16)	(0.08)	(0.02)	(0.11)	0.05	0.21	0.23	0.24	0.22	0.24	0.12	0.08	(0.31)
56	0.43	0.65	0.65	0.60	0.74	0.84	0.57	0.76	1.10	0.92	1.03	1.10	0.95	0.86	0.89	0.48
55	0.45	0.72	0.71	0.76	0.82	0.74	0.63	0.87	1.03	0.89	0.95	0.91	0.83	0.97	0.89	0.62
54	0.57	1.08	1.12	1.12	1.10	1.04	0.93	1.26	1.34	1.11	1.22	1.33	1.37	1.36	1.18	0.81
53	1.09	1.31	1.50	1.38	1.34	1.11	1.10	1.35	1.50	1.20	1.27	1.40	1.50	1.53	1.45	0.93
52	0.77	0.87	0.82	0.80	0.79	0.69	0.72	0.84	0.96	0.75	0.85	0.91	0.98	0.97	0.82	0.56
51	0.70	0.90	0.92	0.91	0.79	0.66	0.69	0.89	0.85	0.81	0.72	0.85	0.90	0.88	0.82	0.61
50	0.65	0.91	0.85	0.96	0.79	0.66	0.63	0.86	0.85	0.75	0.75	0.84	0.91	0.82	0.84	0.53
49	0.55	0.65	0.64	0.65	0.56	0.53	0.51	0.63	0.66	0.56	0.58	0.64	0.70	0.70	0.56	0.43
48	0.63	0.80	0.81	0.75	0.63	0.55	0.56	0.76	0.75	0.65	0.71	0.73	0.78	0.82	0.72	0.47
47	0.72	0.90	0.95	0.92	0.72	0.66	0.68	0.86	0.82	0.69	0.74	0.88	0.89	0.89	0.81	0.51
46	0.61	0.67	0.70	0.70	0.51	0.47	0.50	0.55	0.61	0.52	0.60	0.67	0.68	0.69	0.63	0.36
45	0.78	0.89	0.91	0.94	0.61	0.53	0.65	0.73	0.72	0.60	0.74	0.76	0.87	0.80	0.81	0.59
44	0.78	0.98	1.03	1.07	0.75	0.61	0.63	0.79	0.83	0.76	0.81	0.80	0.93	1.00	0.91	0.62
43	0.55	0.71	0.74	0.74	0.47	0.40	0.40	0.52	0.67	0.57	0.60	0.65	0.72	0.70	0.58	0.41
42	0.87	0.96	0.98	1.00	0.65	0.63	0.61	0.74	0.79	0.70	0.75	0.79	0.90	0.84	0.72	0.68
41	0.61	0.86	1.09	1.04	0.63	0.53	0.51	0.59	0.70	0.68	0.66	0.74	0.90	0.87	0.74	0.58
40	0.53	0.71	0.85	0.83	0.41	0.37	0.41	0.42	0.57	0.51	0.60	0.60	0.77	0.70	0.55	0.46
39	0.45	0.80	1.08	0.99	0.47	0.48	0.44	0.50	0.63	0.53	0.52	0.57	0.83	0.80	0.45	0.26
38	0.37	0.85	1.16	1.07	0.55	0.50	0.54	0.62	0.73	0.62	0.69	0.66	0.89	0.90	0.44	0.27
37	0.24	0.60	1.00	0.88	0.38	0.42	0.48	0.52	0.62	0.58	0.61	0.63	0.80	0.85	0.42	0.09

Grey cells indicate $RMS/V_{tot}>2$

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	1.05	0.55	0.61	0.67

Table C-47 Unit 15A, 17.0 kcfs Flow Rate, Vx RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.50	0.34	0.36	0.42	0.49	0.42	0.46	0.51	0.52	0.47	0.46	0.45	0.48	0.40	0.37	0.31
68	0.23	0.23	0.31	0.32	0.46	0.36	0.47	0.44	0.44	0.46	0.43	0.42	0.42	0.44	0.38	0.25
66	0.33	0.39	0.30	0.44	0.47	0.47	0.43	0.53	0.40	0.44	0.46	0.46	0.48	0.49	0.40	0.35
64	0.22	0.29	0.31	0.40	0.37	0.40	0.37	0.49	0.48	0.43	0.44	0.42	0.51	0.48	0.43	0.38
62	0.32	0.29	0.49	0.40	0.46	0.42	0.56	0.46	0.48	0.44	0.49	0.44	0.56	0.57	0.50	0.42
60	0.39	0.37	0.30	0.36	0.47	0.52	0.39	0.52	0.47	0.43	0.46	0.47	0.46	0.52	0.45	0.49
58	0.35	0.39	0.34	0.42	0.49	0.52	0.53	0.58	0.48	0.40	0.39	0.43	0.49	0.53	0.60	0.56
56	0.33	0.39	0.41	0.40	0.49	0.56	0.55	0.44	0.37	0.40	0.39	0.37	0.53	0.57	0.45	0.62
55	0.34	0.41	0.39	0.43	0.45	0.54	0.51	0.48	0.36	0.39	0.39	0.51	0.62	0.55	0.52	0.38
54	0.50	0.54	0.52	0.42	0.43	0.51	0.53	0.46	0.33	0.33	0.35	0.41	0.48	0.50	0.47	0.44
53	0.50	0.54	0.37	0.46	0.45	0.46	0.53	0.49	0.38	0.35	0.37	0.39	0.48	0.50	0.58	0.49
52	0.46	0.42	0.49	0.45	0.53	0.51	0.53	0.51	0.35	0.35	0.36	0.41	0.52	0.56	0.57	0.56
51	0.40	0.41	0.49	0.49	0.50	0.57	0.54	0.43	0.36	0.35	0.41	0.42	0.48	0.51	0.47	0.45
50	0.53	0.46	0.43	0.48	0.49	0.54	0.53	0.43	0.33	0.36	0.34	0.39	0.50	0.57	0.46	0.46
49	0.42	0.42	0.45	0.56	0.51	0.54	0.49	0.44	0.32	0.32	0.34	0.37	0.48	0.46	0.48	0.46
48	0.44	0.41	0.43	0.50	0.54	0.48	0.44	0.40	0.32	0.32	0.37	0.36	0.52	0.49	0.54	0.40
47	0.45	0.46	0.48	0.51	0.53	0.51	0.43	0.40	0.35	0.34	0.36	0.43	0.46	0.54	0.52	0.52
46	0.48	0.45	0.53	0.51	0.54	0.46	0.39	0.42	0.34	0.37	0.39	0.39	0.52	0.56	0.53	0.54
45	0.57	0.53	0.49	0.50	0.53	0.47	0.41	0.40	0.36	0.37	0.38	0.40	0.50	0.51	0.59	0.53
44	0.55	0.56	0.55	0.51	0.52	0.46	0.43	0.39	0.37	0.40	0.40	0.44	0.56	0.57	0.61	0.59
43	0.62	0.65	0.63	0.56	0.54	0.43	0.42	0.41	0.37	0.37	0.39	0.46	0.52	0.60	0.62	0.64
42	0.67	0.60	0.61	0.60	0.43	0.43	0.40	0.40	0.36	0.36	0.40	0.40	0.58	0.62	0.63	0.63
41	0.72	0.72	0.67	0.62	0.51	0.40	0.42	0.39	0.36	0.38	0.40	0.48	0.59	0.63	0.70	0.71
40	0.77	0.72	0.68	0.70	0.43	0.40	0.37	0.39	0.39	0.36	0.45	0.45	0.64	0.70	0.78	0.81
39	0.86	0.83	0.77	0.73	0.41	0.43	0.34	0.40	0.35	0.32	0.30	0.47	0.68	0.74	0.79	0.85
38	0.92	0.85	0.79	0.76	0.42	0.34	0.29	0.33	0.32	0.29	0.34	0.39	0.71	0.79	0.84	0.93
37	0.96	0.91	0.92	0.76	0.36	0.23	0.24	0.30	0.25	0.27	0.27	0.36	0.72	0.87	0.88	0.99

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	0.93	0.25	0.25	0.87

Table C-48 Unit 15A, 17.0 kcfs Flow Rate, Vy (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.04	0.18	0.57	0.74	0.77	0.77	1.04	1.24	1.10	0.90	0.32	0.41	0.31	0.38	0.03	0.01
68	0.11	0.21	0.62	0.63	1.07	0.52	1.14	1.24	0.32	0.34	0.03	0.61	(0.31)	0.15	(0.08)	0.10
66	0.10	0.72	0.43	0.73	0.79	1.29	1.01	1.20	0.70	0.33	(0.15)	(0.49)	(0.41)	(0.38)	(0.38)	(0.32)
64	0.01	0.40	0.24	0.59	0.18	0.61	0.48	1.23	(0.02)	0.37	0.00	(0.54)	(0.85)	(0.69)	(0.60)	(0.75)
62	0.17	0.35	0.95	0.57	0.65	0.46	1.14	0.95	(0.10)	(0.54)	(0.97)	(0.87)	(1.04)	(1.26)	(0.89)	(0.73)
60	0.24	0.59	0.05	0.09	0.55	0.94	(0.01)	0.08	(0.04)	(0.76)	(0.96)	(1.37)	(0.96)	(1.43)	(1.46)	(0.94)
58	(0.19)	0.08	(0.02)	0.04	(0.05)	(0.16)	0.02	0.13	(0.59)	(1.01)	(1.16)	(1.48)	(1.30)	(1.31)	(0.80)	(0.64)
56	(0.49)	0.11	(0.10)	(0.40)	0.06	0.07	(0.42)	(0.66)	(0.76)	(0.47)	(1.13)	(1.49)	(0.49)	(0.46)	(0.42)	(0.45)
55	(0.69)	(0.23)	(0.40)	(0.33)	(0.26)	0.06	(0.51)	(0.28)	(0.81)	(0.78)	(1.14)	(0.59)	(0.36)	(0.22)	0.33	0.45
54	(0.98)	(0.76)	(0.57)	(0.41)	(0.30)	(0.09)	(0.82)	(0.80)	(0.85)	(0.83)	(1.02)	(0.72)	(0.49)	(0.49)	0.27	0.68
53	(0.79)	(0.75)	(0.34)	(0.42)	(0.44)	(0.50)	(0.88)	(0.66)	(0.99)	(0.77)	(1.18)	(0.77)	(0.83)	(0.30)	0.05	0.53
52	(0.38)	(0.47)	(0.17)	(0.23)	(0.29)	(0.41)	(0.64)	(0.75)	(0.71)	(0.89)	(1.07)	(0.89)	(0.43)	(0.15)	0.02	0.38
51	(0.40)	(0.30)	(0.33)	0.05	(0.06)	(0.23)	(0.55)	(0.53)	(0.94)	(0.91)	(0.67)	(0.50)	(0.55)	(0.39)	0.07	0.26
50	(0.43)	(0.18)	0.02	0.00	(0.03)	(0.25)	(0.50)	(0.44)	(0.84)	(0.65)	(1.02)	(0.73)	(0.37)	(0.12)	(0.21)	0.51
49	(0.18)	(0.07)	(0.06)	0.13	0.02	(0.25)	(0.51)	(0.60)	(0.85)	(0.83)	(1.15)	(0.90)	(0.49)	(0.26)	(0.09)	0.16
48	(0.19)	(0.05)	0.11	0.15	(0.08)	(0.28)	(0.34)	(0.46)	(0.67)	(0.73)	(1.03)	(0.82)	(0.33)	(0.33)	(0.52)	0.16
47	(0.14)	(0.02)	0.09	0.15	(0.06)	(0.16)	(0.42)	(0.25)	(0.83)	(0.92)	(1.04)	(0.75)	(0.49)	(0.42)	(0.31)	(0.08)
46	(0.05)	0.12	0.26	0.31	(0.07)	(0.21)	(0.38)	(0.19)	(0.89)	(0.91)	(1.01)	(0.98)	(0.67)	(0.60)	(0.29)	(0.02)
45	0.07	0.20	0.21	0.18	0.13	(0.09)	(0.28)	(0.39)	(0.72)	(0.77)	(1.04)	(0.96)	(0.59)	(0.46)	(0.33)	(0.05)
44	(0.04)	0.32	0.33	0.26	0.10	0.15	(0.07)	(0.12)	(0.79)	(0.77)	(0.90)	(0.91)	(0.75)	(0.69)	(0.32)	(0.08)
43	0.04	0.28	0.42	0.44	0.21	0.10	(0.10)	(0.00)	(0.80)	(0.88)	(1.10)	(1.02)	(0.76)	(0.79)	(0.55)	(0.24)
42	0.18	0.41	0.33	0.41	0.22	0.04	0.06	(0.09)	(0.71)	(0.94)	(0.91)	(1.00)	(0.84)	(0.79)	(0.71)	(0.61)
41	(0.02)	0.32	0.53	0.59	0.30	0.25	0.02	0.05	(0.87)	(0.81)	(1.07)	(1.04)	(1.00)	(0.88)	(0.97)	(0.59)
40	0.27	0.56	0.58	0.63	0.34	0.19	0.03	0.03	(0.85)	(1.02)	(1.22)	(1.20)	(0.98)	(1.00)	(0.80)	(0.71)
39	0.47	0.64	0.70	0.65	0.49	0.29	0.04	(0.02)	(0.77)	(0.94)	(1.19)	(1.17)	(1.03)	(1.05)	(0.95)	(0.79)
38	0.67	0.76	0.72	0.75	0.40	0.29	(0.04)	(0.05)	(1.00)	(1.03)	(1.28)	(1.34)	(1.17)	(1.05)	(0.94)	(1.03)
37	0.81	0.81	0.99	0.89	0.52	0.37	0.17	0.04	(1.01)	(1.04)	(1.26)	(1.40)	(1.22)	(1.07)	(0.71)	(1.04)

Grey cells indicate $RMS/V_{tot}>2$

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	0.85	0.16	-1.23	-0.86

Table C-49 Unit 15A, 17.0 kcfs Flow Rate, Vy RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	19.83	18.67	17.50	16.33	15.17	14.00	12.83	11.67	8.33	7.17	6.00	4.83	3.67	2.50	1.33	0.17
70	0.33	0.32	0.36	0.39	0.43	0.39	0.47	0.48	0.64	0.49	0.74	0.54	0.44	0.41	0.41	0.32
68	0.24	0.25	0.33	0.44	0.47	0.39	0.52	0.51	0.57	0.61	0.63	0.46	0.42	0.62	0.44	0.25
66	0.30	0.41	0.44	0.46	0.42	0.58	0.46	0.60	0.50	0.56	0.57	0.56	0.56	0.53	0.66	0.41
64	0.20	0.36	0.38	0.47	0.22	0.41	0.36	0.63	0.67	0.65	0.63	0.52	0.56	0.59	0.53	0.47
62	0.35	0.31	0.61	0.42	0.57	0.49	0.78	0.62	0.68	0.64	0.74	0.78	0.66	0.60	0.52	0.56
60	0.47	0.51	0.35	0.35	0.61	0.72	0.42	0.81	0.63	0.60	0.56	0.59	0.79	0.49	0.44	0.51
58	0.26	0.35	0.41	0.46	0.42	0.51	0.61	0.87	0.70	0.60	0.61	0.55	0.68	0.77	0.64	0.60
56	0.38	0.42	0.43	0.42	0.59	0.81	0.74	0.76	0.68	0.66	0.74	0.60	0.95	0.94	0.90	0.77
55	0.37	0.53	0.44	0.65	0.60	0.76	0.65	0.75	0.66	0.64	0.52	1.03	1.00	0.94	0.77	0.44
54	0.49	0.66	0.66	0.60	0.54	0.65	0.75	0.75	0.56	0.55	0.65	0.83	0.90	0.95	0.78	0.39
53	0.52	0.71	0.60	0.77	0.68	0.73	0.69	0.70	0.56	0.55	0.57	0.72	0.85	0.93	0.87	0.68
52	0.60	0.47	0.75	0.73	0.85	0.70	0.77	0.73	0.55	0.63	0.50	0.65	0.83	0.88	0.85	0.59
51	0.49	0.66	0.81	0.70	0.71	0.73	0.66	0.55	0.52	0.50	0.59	0.67	0.69	0.83	0.73	0.60
50	0.59	0.64	0.73	0.83	0.74	0.65	0.67	0.54	0.49	0.50	0.45	0.59	0.69	0.76	0.73	0.59
49	0.57	0.60	0.61	0.73	0.71	0.60	0.58	0.57	0.44	0.49	0.46	0.54	0.64	0.59	0.63	0.51
48	0.58	0.68	0.66	0.83	0.72	0.68	0.54	0.51	0.49	0.43	0.55	0.54	0.64	0.64	0.87	0.49
47	0.63	0.67	0.71	0.79	0.62	0.59	0.54	0.45	0.44	0.43	0.53	0.63	0.62	0.62	0.67	0.56
46	0.65	0.66	0.68	0.71	0.64	0.57	0.48	0.49	0.46	0.51	0.50	0.54	0.68	0.70	0.61	0.60
45	0.73	0.71	0.66	0.65	0.63	0.51	0.49	0.48	0.46	0.45	0.49	0.56	0.61	0.61	0.71	0.63
44	0.70	0.70	0.72	0.62	0.58	0.51	0.52	0.44	0.47	0.50	0.49	0.63	0.66	0.69	0.71	0.70
43	0.77	0.77	0.69	0.69	0.65	0.54	0.47	0.47	0.48	0.48	0.48	0.55	0.63	0.65	0.70	0.76
42	0.77	0.65	0.73	0.69	0.52	0.48	0.44	0.45	0.46	0.49	0.46	0.49	0.66	0.68	0.75	0.79
41	0.84	0.91	0.71	0.70	0.56	0.49	0.46	0.48	0.46	0.47	0.48	0.62	0.71	0.70	0.77	0.83
40	0.93	0.84	0.78	0.76	0.51	0.46	0.45	0.46	0.44	0.46	0.53	0.53	0.76	0.74	0.89	0.91
39	1.15	0.93	0.78	0.78	0.51	0.52	0.42	0.46	0.46	0.46	0.45	0.59	0.79	0.80	0.92	0.87
38	1.03	0.95	0.88	0.78	0.54	0.43	0.46	0.43	0.40	0.41	0.47	0.55	0.79	0.81	0.98	0.91
37	1.12	1.05	0.89	0.79	0.48	0.35	0.32	0.36	0.34	0.45	0.41	0.47	0.79	0.95	1.10	1.02

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	18.07	13.41	6.59	1.92
36	0.93	0.31	0.36	1.01

Table C-50 Unit 15A, 17.0 kcfs Flow Rate, Vz (ft/s)

	OR	Y-Positions (ft)														WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	(1.08)	(0.79)	(0.47)	(0.34)	(0.63)	(0.15)	0.48	0.43	0.01	0.12	0.46	0.32	(0.27)	(0.42)	(0.21)	(0.50)
68	(0.67)	(0.76)	(0.66)	(0.73)	0.51	0.02	0.56	0.39	2.04	1.29	2.00	1.17	1.72	0.99	0.26	(0.33)
66	(1.20)	(0.79)	(0.73)	(0.22)	(0.21)	0.38	0.47	1.14	2.54	2.69	2.42	2.07	2.51	1.79	1.35	0.53
64	(0.90)	(1.53)	(1.43)	(0.69)	(0.59)	(0.57)	(0.35)	0.76	1.72	2.64	2.70	2.71	2.03	2.18	2.17	1.39
62	(1.24)	(1.19)	(0.42)	(1.22)	(0.43)	(0.49)	1.51	0.31	2.64	2.88	1.92	2.39	1.79	1.67	(0.06)	0.56
60	(1.28)	(1.34)	(1.28)	(1.02)	(1.08)	(0.56)	(0.77)	1.29	2.87	2.70	2.45	1.51	2.09	1.07	1.95	0.13
58	(1.62)	(1.87)	(1.94)	(1.82)	(1.39)	(0.98)	(0.01)	1.07	2.30	3.12	3.12	2.64	2.27	0.91	(0.20)	(0.86)
56	(1.76)	(1.71)	(1.93)	(1.66)	(1.33)	0.85	0.64	0.01	3.08	2.65	2.44	2.48	1.44	(0.70)	(0.53)	(0.71)
55	(1.35)	(1.18)	(1.08)	(1.30)	(0.57)	1.00	1.06	3.16	3.37	3.29	3.44	2.32	1.62	1.16	(0.45)	(1.46)
54	(1.21)	(0.79)	(1.11)	(1.17)	(0.51)	0.37	1.17	2.65	3.34	3.48	3.48	2.84	1.84	1.15	(0.21)	(0.68)
53	0.02	(0.16)	0.29	0.05	0.74	1.28	2.63	3.38	3.54	3.79	3.49	3.21	2.74	1.93	0.39	0.25
52	1.24	0.67	0.95	0.92	1.55	2.60	3.15	3.42	4.20	4.25	3.89	3.65	2.36	1.74	1.30	0.23
51	0.88	1.35	0.78	0.84	1.51	3.00	3.30	3.62	3.92	3.98	3.84	3.20	2.73	1.84	1.15	0.99
50	0.52	1.11	0.96	1.31	1.83	3.02	3.53	3.92	4.08	4.09	3.99	3.62	2.72	1.75	1.49	0.21
49	1.27	0.80	0.92	1.03	2.63	3.14	3.65	3.96	4.21	4.19	4.23	3.96	2.77	2.08	1.68	0.78
48	1.07	1.05	1.46	1.55	3.23	3.57	4.09	3.79	4.13	4.23	3.90	4.02	2.54	2.06	1.35	1.01
47	1.62	1.53	1.71	2.47	3.11	4.05	4.08	4.30	4.19	4.34	4.34	3.86	3.14	2.47	1.85	1.27
46	1.80	1.96	1.99	3.16	3.47	4.13	4.31	4.55	4.50	4.67	4.41	4.00	3.54	2.63	1.78	0.79
45	1.90	2.17	2.22	2.82	4.05	4.26	4.44	4.25	4.34	4.50	4.41	4.30	3.14	2.35	1.92	1.09
44	1.91	2.75	2.98	3.15	4.11	4.93	4.88	4.41	4.68	4.71	4.51	4.53	3.77	2.89	1.87	1.05
43	1.83	2.52	3.07	3.86	4.76	5.12	5.15	4.95	4.72	4.92	4.79	4.56	3.82	3.40	2.36	0.86
42	2.19	2.64	2.98	3.19	5.05	4.96	5.28	4.86	4.89	5.11	4.73	4.80	3.39	2.86	2.24	1.98
41	1.50	2.57	3.28	3.98	4.84	5.32	5.10	5.28	5.18	4.92	5.03	4.50	4.03	3.30	2.43	0.95
40	2.03	2.93	3.65	4.09	5.32	5.44	5.51	5.52	5.41	5.51	4.94	4.64	4.00	3.39	2.36	1.30
39	1.49	2.67	3.23	4.10	5.54	5.34	5.59	5.50	5.42	5.69	3.27	4.81	4.19	3.36	2.64	0.73
38	1.54	2.72	3.29	4.39	5.56	5.77	5.86	5.59	5.68	5.71	1.97	1.38	1.51	3.31	2.66	1.02
37	1.91	3.04	3.23	4.67	5.82	6.36	6.38	6.17	5.96	5.81	2.16	0.90	1.02	1.53	3.16	1.34

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	2.73	6.40	2.62	2.97

Table C-51 Unit 15A, 17.0 kcfs Flow Rate, Vz RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	19.83	18.67	17.50	16.33	15.17	14.00	12.83	11.67	8.33	7.17	6.00	4.83	3.67	2.50	1.33	0.17
70	0.33	0.36	0.50	0.65	0.64	0.61	0.94	1.01	0.91	0.79	0.77	0.78	0.65	0.49	0.59	0.38
68	0.37	0.26	0.57	0.53	0.78	0.60	0.78	0.76	0.85	0.96	0.79	0.91	0.69	0.80	0.82	0.33
66	0.45	0.78	0.45	0.63	0.64	0.76	0.82	0.97	0.77	0.76	0.81	0.92	0.60	0.92	0.80	0.91
64	0.40	0.34	0.42	0.76	0.32	0.59	0.54	1.06	1.03	0.86	0.87	0.74	0.80	0.86	0.79	0.94
62	0.49	0.45	0.75	0.63	0.65	0.64	1.10	0.96	0.85	0.76	0.81	0.69	0.78	0.83	0.72	1.15
60	0.61	0.59	0.32	0.48	0.64	0.76	0.49	1.06	0.88	0.71	1.02	0.89	0.88	0.84	0.70	0.79
58	0.54	0.59	0.42	0.50	0.48	0.54	0.74	1.08	0.88	0.77	0.76	0.72	1.09	1.22	0.73	0.81
56	0.59	0.81	0.67	0.67	0.81	1.11	1.11	0.72	0.83	1.04	0.86	0.73	0.82	1.06	1.11	0.90
55	0.69	0.98	0.59	0.79	0.53	1.26	1.12	1.00	0.76	0.73	0.64	0.80	0.84	0.95	0.92	0.87
54	0.87	1.02	0.87	0.66	0.69	0.95	1.08	1.11	0.74	0.66	0.73	0.81	0.97	0.86	1.00	1.13
53	0.87	1.00	0.91	1.01	1.04	1.01	1.12	0.97	0.71	0.68	0.72	0.82	0.78	1.02	1.09	1.16
52	0.81	0.88	0.88	0.95	1.18	1.14	1.08	0.89	0.64	0.57	0.68	0.68	1.11	0.79	0.88	0.97
51	0.95	0.80	0.98	0.92	1.04	1.06	0.94	0.75	0.55	0.55	0.73	0.77	0.79	0.94	0.79	0.79
50	1.03	0.94	0.77	0.96	1.13	1.13	0.79	0.69	0.51	0.59	0.54	0.69	0.84	0.89	0.73	1.03
49	0.64	1.02	0.83	0.87	1.20	0.95	0.78	0.68	0.51	0.56	0.57	0.55	1.08	0.80	0.59	0.85
48	0.69	0.86	0.91	1.15	0.97	0.77	0.82	0.61	0.51	0.54	0.63	0.58	0.91	0.83	0.94	0.77
47	0.72	0.88	1.01	1.01	0.91	0.69	0.60	0.54	0.53	0.54	0.61	0.66	0.83	0.75	0.85	0.67
46	0.71	0.91	0.96	0.89	0.84	0.68	0.69	0.67	0.59	0.67	0.58	0.54	0.75	0.79	0.79	0.71
45	0.78	0.84	0.89	0.91	0.86	0.70	0.73	0.58	0.56	0.58	0.64	0.61	0.81	0.87	0.81	0.72
44	0.81	0.94	0.89	0.77	0.89	0.71	0.69	0.52	0.62	0.67	0.61	0.70	0.90	0.78	0.79	0.77
43	0.87	0.90	0.85	0.80	0.77	0.77	0.62	0.66	0.56	0.62	0.59	0.63	0.68	0.71	0.77	0.93
42	0.98	0.92	0.85	0.85	0.71	0.78	0.69	0.66	0.65	0.70	0.64	0.67	0.80	0.78	0.70	0.87
41	1.12	1.01	0.87	0.88	0.88	0.72	0.70	0.68	0.66	0.70	0.73	0.75	0.94	0.80	0.92	0.94
40	1.17	0.88	0.83	0.90	0.70	0.67	0.66	0.63	0.64	0.74	0.87	0.77	0.90	0.84	0.97	1.01
39	1.36	1.06	0.86	0.91	0.70	0.82	0.68	0.69	0.76	0.75	4.56	0.92	1.03	0.94	1.00	1.15
38	1.34	1.03	0.91	1.02	0.71	0.61	0.68	0.66	0.65	0.68	5.29	5.57	5.10	0.92	1.17	1.19
37	1.57	1.10	1.01	1.14	0.56	0.40	0.38	0.56	0.60	0.64	5.38	5.76	5.49	4.62	1.25	1.36

Grey cells indicate $RMS/V_{tot}>2$

	No Traverse Y-Positions (ft)			
EL (ft)	18.07	13.41	6.59	1.92
36	1.01	0.40	5.31	1.07

Table C-52 Unit 15A, 17.0 kcfs Flow Rate, Vyz (ft/s)

	OR	Y-Positions (ft)														WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	1.08	0.82	0.74	0.82	1.00	0.78	1.14	1.31	1.10	0.91	0.56	0.52	0.42	0.57	0.21	0.50
68	0.67	0.79	0.90	0.97	1.19	0.52	1.27	1.30	2.06	1.34	2.00	1.32	1.75	1.00	0.27	0.35
66	1.20	1.07	0.85	0.76	0.81	1.34	1.11	1.66	2.64	2.71	2.43	2.12	2.54	1.83	1.41	0.62
64	0.90	1.58	1.45	0.91	0.62	0.83	0.59	1.45	1.72	2.67	2.70	2.77	2.20	2.29	2.25	1.58
62	1.25	1.24	1.03	1.35	0.78	0.67	1.89	0.99	2.64	2.93	2.15	2.55	2.07	2.10	0.90	0.92
60	1.31	1.46	1.28	1.03	1.21	1.10	0.77	1.30	2.87	2.80	2.64	2.04	2.30	1.78	2.44	0.94
58	1.63	1.88	1.94	1.82	1.39	0.99	0.03	1.08	2.37	3.28	3.32	3.02	2.61	1.59	0.82	1.07
56	1.82	1.71	1.93	1.71	1.33	0.86	0.76	0.66	3.18	2.69	2.69	2.89	1.52	0.83	0.68	0.84
55	1.52	1.20	1.15	1.34	0.63	1.00	1.18	3.17	3.47	3.38	3.63	2.40	1.66	1.18	0.56	1.52
54	1.56	1.10	1.25	1.24	0.60	0.39	1.42	2.76	3.44	3.58	3.63	2.93	1.91	1.25	0.35	0.96
53	0.79	0.77	0.45	0.43	0.85	1.37	2.77	3.44	3.67	3.87	3.68	3.30	2.86	1.96	0.39	0.58
52	1.29	0.82	0.96	0.95	1.58	2.63	3.21	3.50	4.26	4.35	4.04	3.76	2.40	1.75	1.30	0.44
51	0.96	1.38	0.85	0.84	1.51	3.01	3.34	3.66	4.03	4.08	3.90	3.24	2.79	1.88	1.15	1.02
50	0.68	1.12	0.96	1.31	1.83	3.03	3.56	3.94	4.17	4.14	4.12	3.69	2.75	1.76	1.50	0.55
49	1.28	0.81	0.92	1.03	2.63	3.15	3.68	4.01	4.29	4.27	4.38	4.06	2.81	2.10	1.68	0.80
48	1.09	1.05	1.46	1.56	3.23	3.58	4.10	3.82	4.19	4.29	4.03	4.10	2.57	2.09	1.45	1.02
47	1.63	1.53	1.71	2.47	3.11	4.05	4.10	4.30	4.27	4.43	4.47	3.94	3.18	2.50	1.87	1.27
46	1.80	1.96	2.01	3.18	3.47	4.14	4.33	4.56	4.59	4.76	4.52	4.12	3.61	2.70	1.81	0.79
45	1.90	2.18	2.23	2.82	4.06	4.26	4.44	4.27	4.39	4.57	4.54	4.41	3.19	2.39	1.95	1.09
44	1.91	2.76	2.99	3.16	4.11	4.93	4.88	4.41	4.74	4.78	4.60	4.62	3.84	2.97	1.89	1.05
43	1.83	2.53	3.10	3.88	4.76	5.13	5.15	4.95	4.79	5.00	4.91	4.67	3.90	3.50	2.42	0.89
42	2.20	2.67	3.00	3.22	5.05	4.96	5.28	4.86	4.95	5.20	4.81	4.91	3.49	2.96	2.35	2.07
41	1.50	2.59	3.32	4.02	4.85	5.32	5.10	5.28	5.25	4.99	5.14	4.62	4.15	3.42	2.61	1.12
40	2.05	2.98	3.70	4.14	5.33	5.45	5.51	5.52	5.48	5.60	5.09	4.80	4.12	3.54	2.49	1.48
39	1.56	2.75	3.30	4.15	5.56	5.35	5.59	5.50	5.48	5.76	3.48	4.95	4.31	3.52	2.81	1.08
38	1.68	2.82	3.37	4.45	5.57	5.78	5.86	5.59	5.77	5.81	2.35	1.92	1.91	3.47	2.82	1.45
37	2.08	3.14	3.38	4.75	5.85	6.37	6.38	6.18	6.04	5.90	2.50	1.67	1.59	1.86	3.24	1.70

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	2.86	6.40	2.89	3.09

Table C-53 Unit 15A, 17.0 kcfs Flow Rate, Vtot (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	1.11	0.85	0.77	0.84	1.00	0.80	1.17	1.35	1.22	1.02	0.63	0.54	0.48	0.58	0.24	0.50
68	0.68	0.79	0.94	1.00	1.19	0.53	1.27	1.32	2.06	1.36	2.01	1.37	1.79	1.06	0.32	0.35
66	1.23	1.11	0.85	0.77	0.81	1.34	1.12	1.66	2.64	2.72	2.43	2.12	2.54	1.84	1.43	0.67
64	0.91	1.59	1.46	0.92	0.62	0.83	0.59	1.45	1.72	2.67	2.70	2.77	2.20	2.29	2.25	1.62
62	1.26	1.25	1.04	1.35	0.78	0.67	1.89	0.99	2.65	2.93	2.15	2.55	2.07	2.10	0.90	0.95
60	1.33	1.47	1.29	1.03	1.21	1.10	0.77	1.30	2.87	2.80	2.64	2.04	2.30	1.78	2.44	0.99
58	1.63	1.89	1.95	1.83	1.39	0.99	0.12	1.08	2.38	3.29	3.33	3.03	2.63	1.59	0.83	1.11
56	1.87	1.83	2.04	1.81	1.53	1.20	0.95	1.00	3.36	2.85	2.88	3.10	1.79	1.20	1.12	0.97
55	1.58	1.40	1.35	1.54	1.03	1.24	1.33	3.29	3.62	3.50	3.75	2.56	1.86	1.53	1.06	1.64
54	1.66	1.54	1.68	1.67	1.25	1.11	1.70	3.04	3.69	3.75	3.83	3.22	2.35	1.85	1.23	1.26
53	1.34	1.52	1.56	1.44	1.59	1.77	2.98	3.70	3.97	4.05	3.90	3.58	3.23	2.48	1.50	1.10
52	1.50	1.19	1.27	1.24	1.77	2.72	3.29	3.60	4.37	4.41	4.13	3.87	2.59	2.00	1.53	0.72
51	1.19	1.65	1.25	1.24	1.71	3.08	3.41	3.77	4.12	4.16	3.96	3.35	2.93	2.08	1.41	1.19
50	0.94	1.45	1.28	1.62	2.00	3.10	3.62	4.03	4.25	4.21	4.18	3.79	2.90	1.94	1.72	0.76
49	1.39	1.04	1.12	1.22	2.68	3.19	3.72	4.05	4.34	4.31	4.42	4.11	2.90	2.21	1.77	0.91
48	1.26	1.33	1.67	1.73	3.29	3.62	4.14	3.90	4.26	4.34	4.09	4.17	2.68	2.25	1.62	1.13
47	1.78	1.77	1.96	2.64	3.20	4.11	4.16	4.39	4.35	4.49	4.53	4.03	3.30	2.66	2.04	1.37
46	1.90	2.08	2.12	3.25	3.51	4.17	4.35	4.59	4.63	4.79	4.56	4.17	3.67	2.79	1.91	0.87
45	2.06	2.36	2.41	2.98	4.10	4.30	4.49	4.33	4.45	4.61	4.60	4.47	3.31	2.52	2.11	1.24
44	2.07	2.93	3.17	3.34	4.18	4.97	4.92	4.48	4.81	4.83	4.67	4.69	3.95	3.13	2.10	1.22
43	1.91	2.63	3.19	3.95	4.79	5.14	5.16	4.98	4.84	5.03	4.95	4.72	3.96	3.56	2.49	0.98
42	2.36	2.84	3.16	3.37	5.10	5.00	5.31	4.92	5.01	5.25	4.87	4.97	3.60	3.08	2.46	2.18
41	1.62	2.73	3.50	4.15	4.89	5.35	5.12	5.31	5.30	5.03	5.18	4.68	4.25	3.53	2.72	1.26
40	2.12	3.07	3.80	4.22	5.34	5.46	5.52	5.54	5.51	5.63	5.12	4.83	4.19	3.60	2.55	1.55
39	1.62	2.86	3.47	4.26	5.58	5.37	5.61	5.52	5.52	5.79	3.52	4.99	4.39	3.61	2.85	1.11
38	1.72	2.95	3.56	4.58	5.60	5.80	5.88	5.63	5.82	5.84	2.44	2.03	2.11	3.58	2.86	1.48
37	2.09	3.20	3.53	4.83	5.86	6.38	6.40	6.20	6.07	5.93	2.58	1.78	1.78	2.05	3.27	1.70

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	3.05	6.43	2.96	3.17

Table C-54 Unit 15A, 17.0 kcfs Flow Rate, Total RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.68	0.59	0.71	0.87	0.92	0.83	1.15	1.23	1.23	1.04	1.16	1.05	0.92	0.76	0.81	0.58
68	0.49	0.43	0.73	0.76	1.03	0.80	1.04	1.01	1.11	1.23	1.10	1.10	0.92	1.11	1.00	0.48
66	0.63	0.96	0.70	0.90	0.90	1.07	1.03	1.26	1.00	1.05	1.09	1.17	0.95	1.17	1.11	1.06
64	0.50	0.57	0.65	0.98	0.54	0.82	0.75	1.33	1.32	1.16	1.15	0.99	1.10	1.15	1.04	1.12
62	0.68	0.61	1.09	0.86	0.98	0.91	1.46	1.23	1.19	1.09	1.20	1.13	1.17	1.17	1.02	1.35
60	0.86	0.87	0.56	0.69	1.00	1.17	0.75	1.43	1.18	1.03	1.25	1.17	1.27	1.10	0.94	1.06
58	0.70	0.79	0.67	0.80	0.81	0.90	1.10	1.51	1.22	1.05	1.05	1.01	1.37	1.54	1.14	1.15
56	0.77	1.00	0.89	0.88	1.11	1.48	1.44	1.14	1.13	1.30	1.20	1.01	1.37	1.52	1.50	1.34
55	0.85	1.19	0.83	1.11	0.92	1.57	1.39	1.34	1.07	1.05	0.91	1.40	1.44	1.44	1.31	1.05
54	1.11	1.33	1.21	0.99	0.97	1.26	1.42	1.41	0.98	0.92	1.03	1.23	1.41	1.37	1.35	1.27
53	1.13	1.34	1.15	1.35	1.32	1.33	1.42	1.29	0.99	0.94	0.99	1.16	1.25	1.46	1.51	1.43
52	1.11	1.08	1.26	1.28	1.55	1.44	1.43	1.26	0.92	0.92	0.92	1.03	1.48	1.31	1.34	1.27
51	1.14	1.12	1.36	1.26	1.36	1.41	1.27	1.02	0.84	0.83	1.02	1.11	1.15	1.35	1.17	1.09
50	1.30	1.23	1.15	1.35	1.44	1.41	1.17	0.98	0.78	0.86	0.78	0.99	1.20	1.30	1.13	1.27
49	0.95	1.26	1.13	1.26	1.49	1.24	1.09	0.98	0.75	0.81	0.81	0.86	1.34	1.09	0.99	1.09
48	1.00	1.17	1.20	1.51	1.33	1.14	1.07	0.89	0.78	0.76	0.91	0.87	1.23	1.15	1.39	1.00
47	1.06	1.20	1.32	1.38	1.22	1.04	0.91	0.81	0.78	0.77	0.89	1.01	1.13	1.11	1.20	1.02
46	1.08	1.21	1.29	1.25	1.19	1.00	0.92	0.93	0.82	0.92	0.86	0.86	1.14	1.19	1.13	1.08
45	1.21	1.22	1.21	1.22	1.19	0.99	0.97	0.85	0.81	0.82	0.89	0.92	1.13	1.18	1.23	1.09
44	1.20	1.30	1.27	1.12	1.18	0.99	0.96	0.79	0.86	0.93	0.88	1.04	1.25	1.19	1.23	1.20
43	1.31	1.35	1.26	1.20	1.14	1.03	0.88	0.91	0.82	0.87	0.85	0.96	1.06	1.13	1.22	1.36
42	1.41	1.27	1.28	1.25	0.98	1.01	0.91	0.90	0.88	0.93	0.89	0.92	1.19	1.21	1.20	1.33
41	1.57	1.54	1.30	1.29	1.16	0.96	0.94	0.92	0.88	0.93	0.96	1.09	1.32	1.24	1.39	1.44
40	1.68	1.42	1.33	1.37	0.97	0.91	0.88	0.87	0.87	0.94	1.11	1.04	1.34	1.32	1.53	1.58
39	1.98	1.63	1.39	1.40	0.96	1.06	0.87	0.92	0.95	0.94	4.59	1.19	1.46	1.44	1.57	1.68
38	1.92	1.64	1.49	1.49	0.99	0.82	0.87	0.86	0.83	0.85	5.33	5.61	5.21	1.46	1.74	1.76
37	2.15	1.77	1.63	1.58	0.82	0.58	0.55	0.73	0.74	0.83	5.40	5.79	5.59	4.80	1.88	1.97

Grey cells indicate RMS/V_{tot}>2

	No Traverse Y-Positions (ft)			
EL (ft)	**18.07**	**13.41**	**6.59**	**1.92**
36	1.66	0.56	5.33	1.71

Table C-55 Unit 14C, 16.5 kcfs Flow Rate, Vx (ft/s)

	OR							Y-Positions (ft)							WA
El (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(0.02)	(0.10)	0.02	0.04	0.02	(0.00)	0.16	(0.02)	(0.11)	0.03	0.33	0.09	0.10	0.13	0.14	(0.10)
70	(0.02)	(0.00)	(0.20)	(0.15)	(0.16)	(0.18)	(0.20)	(0.19)	(0.13)	(0.31)	(0.31)	(0.19)	(0.17)	(0.16)	0.04	0.03
68	(0.04)	(0.15)	(0.11)	(0.17)	(0.10)	(0.07)	(0.01)	(0.11)	(0.02)	(0.19)	(0.09)	(0.36)	(0.25)	(0.24)	(0.09)	(0.04)
66	(0.13)	(0.17)	(0.09)	(0.06)	(0.09)	(0.02)	(0.01)	(0.00)	0.11	0.08	(0.02)	0.02	(0.06)	(0.20)	(0.15)	(0.14)
64	(0.17)	(0.18)	(0.12)	(0.07)	0.01	(0.02)	(0.03)	0.07	0.01	0.01	0.03	0.07	(0.01)	(0.08)	(0.20)	(0.17)
62	(0.18)	(0.16)	(0.14)	0.01	(0.03)	(0.03)	(0.07)	0.08	0.01	0.09	0.06	0.08	0.02	0.04	(0.08)	(0.15)
60	(0.15)	(0.14)	(0.04)	(0.13)	(0.06)	(0.01)	0.04	0.07	0.05	0.14	0.13	0.01	0.04	(0.08)	0.01	(0.09)
58	(0.26)	(0.19)	(0.14)	(0.01)	0.06	(0.03)	0.03	0.05	0.17	0.16	0.14	0.10	0.08	0.05	(0.04)	(0.16)
56	0.03	0.19	0.21	0.27	0.49	0.34	0.34	0.56	0.74	0.53	0.59	0.69	0.57	0.61	0.56	0.29
55	0.20	0.43	0.48	0.47	0.55	0.60	0.55	0.74	0.79	0.71	0.76	0.89	0.89	0.98	0.82	0.64
54	0.13	0.62	0.58	0.63	0.63	0.70	0.63	0.75	0.84	0.74	0.76	0.86	0.96	0.96	0.88	0.52
53	0.63	0.92	0.79	0.88	1.06	1.00	0.85	1.00	1.12	1.00	0.93	1.10	1.21	1.26	1.15	0.80
52	0.53	0.60	0.73	0.75	0.75	0.72	0.63	0.74	0.82	0.69	0.71	0.84	0.99	0.94	0.91	0.67
51	0.53	0.62	0.60	0.57	0.59	0.52	0.45	0.60	0.65	0.55	0.56	0.58	0.65	0.66	0.67	0.44
50	0.46	0.65	0.52	0.70	0.64	0.51	0.47	0.65	0.68	0.60	0.53	0.63	0.71	0.71	0.70	0.42
49	0.43	0.52	0.52	0.57	0.52	0.51	0.51	0.60	0.63	0.53	0.55	0.60	0.62	0.60	0.60	0.38
48	0.39	0.43	0.53	0.58	0.55	0.46	0.46	0.56	0.56	0.49	0.49	0.50	0.54	0.57	0.51	0.37
47	0.41	0.69	0.66	0.59	0.59	0.55	0.52	0.67	0.66	0.57	0.59	0.65	0.70	0.73	0.67	0.50
46	0.41	0.50	0.56	0.58	0.55	0.44	0.46	0.61	0.63	0.51	0.55	0.59	0.61	0.57	0.58	0.43
45	0.43	0.53	0.62	0.62	0.49	0.43	0.47	0.55	0.57	0.48	0.52	0.51	0.59	0.59	0.54	0.36
44	0.44	0.67	0.74	0.73	0.57	0.49	0.48	0.67	0.65	0.56	0.56	0.68	0.70	0.68	0.60	0.53
43	0.35	0.57	0.59	0.64	0.51	0.46	0.41	0.54	0.59	0.52	0.52	0.57	0.64	0.62	0.56	0.41
42	0.39	0.60	0.63	0.62	0.45	0.36	0.37	0.48	0.51	0.46	0.47	0.48	0.51	0.53	0.44	0.39
41	0.45	0.67	0.75	0.75	0.58	0.49	0.44	0.54	0.63	0.53	0.54	0.59	0.66	0.67	0.56	0.40
40	0.34	0.58	0.76	0.74	0.48	0.42	0.35	0.43	0.54	0.51	0.50	0.53	0.63	0.65	0.48	0.31
39	0.37	0.58	0.75	0.68	0.41	0.34	0.37	0.43	0.51	0.49	0.46	0.46	0.56	0.60	0.38	0.20
38	0.27	0.59	0.85	0.89	0.53	0.47	0.48	0.56	0.66	0.60	0.59	0.57	0.74	0.73	0.53	0.22
37	0.15	0.50	0.83	0.80	0.41	0.39	0.41	0.46	0.62	0.57	0.57	0.53	0.62	0.73	0.46	0.21
36	0.20	0.52	0.79	0.77	0.40	0.46	0.50	0.56	0.72	0.64	0.58	0.53	0.61	0.65	0.31	0.16
35	0.51	0.58	0.89	0.88	0.55	0.58	0.66	0.78	0.93	0.80	0.74	0.67	0.75	0.76	0.49	0.39
34	0.81	0.55	0.86	0.84	0.64	0.67	0.71	0.80	0.97	0.85	0.80	0.78	0.71	0.77	0.56	0.61

Grey cells indicate RMS/V_{tot}>2

Table C-56 Unit 14C, 16.5 kcfs Flow Rate, Vx RMS (ft/s)

	OR							Y-Positions (ft)								WA
El (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.25	0.31	0.31	0.31	0.32	0.36	0.39	0.42	0.32	0.46	0.37	0.40	0.36	0.37	0.29	0.30
70	0.25	0.24	0.29	0.24	0.34	0.34	0.36	0.31	0.35	0.33	0.33	0.31	0.28	0.28	0.27	0.23
68	0.21	0.27	0.27	0.27	0.31	0.38	0.33	0.39	0.31	0.31	0.33	0.29	0.31	0.35	0.32	0.25
66	0.30	0.25	0.30	0.33	0.40	0.36	0.39	0.43	0.32	0.31	0.30	0.32	0.33	0.28	0.32	0.28
64	0.26	0.25	0.34	0.36	0.36	0.36	0.41	0.45	0.31	0.30	0.30	0.30	0.31	0.31	0.29	0.27
62	0.31	0.34	0.31	0.35	0.33	0.41	0.33	0.41	0.35	0.29	0.30	0.31	0.36	0.34	0.33	0.35
60	0.19	0.33	0.30	0.35	0.25	0.39	0.41	0.35	0.33	0.27	0.27	0.36	0.31	0.41	0.35	0.38
58	0.30	0.27	0.28	0.35	0.45	0.43	0.40	0.38	0.30	0.28	0.33	0.28	0.40	0.40	0.42	0.39
56	0.31	0.25	0.32	0.34	0.48	0.34	0.41	0.34	0.27	0.27	0.27	0.32	0.40	0.39	0.36	0.34
55	0.24	0.28	0.34	0.37	0.25	0.34	0.45	0.37	0.27	0.26	0.28	0.32	0.29	0.33	0.32	0.29
54	0.30	0.33	0.37	0.34	0.39	0.40	0.42	0.36	0.25	0.23	0.23	0.29	0.30	0.33	0.27	0.29
53	0.50	0.36	0.36	0.28	0.25	0.39	0.37	0.39	0.25	0.26	0.23	0.26	0.32	0.35	0.27	0.31
52	0.34	0.31	0.25	0.29	0.34	0.39	0.37	0.37	0.25	0.25	0.24	0.29	0.38	0.33	0.34	0.30
51	0.35	0.28	0.29	0.29	0.33	0.37	0.36	0.31	0.23	0.26	0.26	0.26	0.35	0.32	0.31	0.26
50	0.40	0.29	0.32	0.31	0.36	0.41	0.37	0.34	0.26	0.24	0.27	0.28	0.34	0.31	0.30	0.27
49	0.30	0.32	0.32	0.36	0.34	0.39	0.34	0.30	0.23	0.23	0.29	0.30	0.34	0.32	0.31	0.35
48	0.29	0.32	0.31	0.35	0.42	0.34	0.33	0.29	0.26	0.26	0.28	0.29	0.30	0.35	0.32	0.30
47	0.29	0.33	0.30	0.34	0.36	0.38	0.34	0.27	0.26	0.25	0.27	0.28	0.34	0.34	0.32	0.34
46	0.32	0.31	0.34	0.35	0.41	0.38	0.33	0.28	0.25	0.26	0.28	0.27	0.33	0.35	0.34	0.34
45	0.37	0.32	0.36	0.40	0.42	0.36	0.35	0.29	0.26	0.27	0.28	0.33	0.36	0.37	0.37	0.37
44	0.35	0.39	0.39	0.41	0.42	0.36	0.33	0.32	0.27	0.30	0.30	0.33	0.36	0.37	0.39	0.41
43	0.41	0.39	0.41	0.38	0.39	0.37	0.31	0.29	0.26	0.27	0.29	0.33	0.41	0.40	0.41	0.44
42	0.41	0.41	0.43	0.41	0.42	0.32	0.30	0.33	0.27	0.28	0.29	0.35	0.41	0.43	0.44	0.48
41	0.41	0.47	0.45	0.44	0.44	0.38	0.32	0.30	0.28	0.26	0.27	0.35	0.43	0.45	0.51	0.51
40	0.46	0.50	0.49	0.45	0.45	0.36	0.26	0.27	0.26	0.26	0.27	0.39	0.46	0.51	0.51	0.56
39	0.57	0.56	0.50	0.48	0.45	0.28	0.30	0.30	0.25	0.20	0.22	0.35	0.52	0.54	0.58	0.52
38	0.59	0.61	0.55	0.54	0.44	0.30	0.25	0.27	0.22	0.19	0.21	0.29	0.52	0.55	0.57	0.62
37	0.68	0.64	0.61	0.58	0.42	0.22	0.20	0.26	0.19	0.19	0.19	0.27	0.49	0.64	0.68	0.75
36	0.78	0.69	0.63	0.59	0.33	0.21	0.19	0.20	0.17	0.19	0.18	0.26	0.61	0.66	0.63	0.76
35	0.88	0.69	0.70	0.54	0.26	0.20	0.17	0.20	0.18	0.18	0.18	0.24	0.52	0.73	0.72	0.91
34	0.85	0.76	0.83	0.59	0.22	0.21	0.19	0.20	0.18	0.18	0.18	0.21	0.35	0.74	0.75	0.95

Grey cells indicate RMS/V_{tot}>2

Table C-57 Unit 14C, 16.5 kcfs Flow Rate, Vy (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.17	0.27	0.35	0.44	0.41	0.60	0.59	0.67	0.30	0.44	(0.02)	(0.13)	(0.05)	(0.10)	(0.24)	(0.29)
70	0.00	0.09	0.34	0.42	0.77	0.57	0.91	0.94	0.31	0.25	0.33	0.27	(0.15)	(0.14)	(0.00)	(0.02)
68	0.10	0.26	0.42	0.62	0.66	0.66	0.98	1.19	0.54	0.17	0.24	0.14	(0.02)	(0.04)	(0.28)	(0.17)
66	0.12	0.42	0.51	0.52	0.88	0.78	1.01	1.04	0.81	0.40	0.39	0.07	(0.10)	(0.20)	(0.08)	(0.19)
64	0.00	0.44	0.61	0.68	0.50	0.56	1.00	1.33	0.87	0.40	0.41	(0.01)	0.02	(0.35)	(0.15)	(0.23)
62	0.15	0.65	0.48	0.62	0.47	0.80	0.65	1.19	0.40	0.58	0.01	(0.28)	(0.34)	(0.39)	(0.38)	(0.42)
60	0.02	0.66	0.49	0.33	0.10	0.84	0.51	0.62	(0.29)	(0.08)	(0.36)	(0.92)	(0.95)	(0.60)	(0.61)	(0.19)
58	0.20	0.34	0.14	0.43	0.42	0.30	0.18	0.31	(0.17)	(0.30)	(0.94)	(0.99)	(0.57)	(0.67)	(0.61)	(0.36)
56	(0.10)	(0.02)	0.05	(0.10)	0.26	(0.12)	(0.21)	(0.42)	(0.21)	(0.48)	(0.54)	(0.56)	(0.29)	(0.71)	(0.42)	(0.12)
55	(0.53)	(0.33)	(0.15)	(0.18)	(0.15)	(0.18)	(0.39)	(0.24)	(0.67)	(0.58)	(0.49)	(0.44)	(0.62)	(0.31)	0.41	0.42
54	(0.76)	(0.10)	(0.30)	(0.25)	(0.41)	(0.16)	(0.75)	(0.62)	(0.70)	(0.25)	(0.63)	(0.40)	(0.28)	0.22	0.16	0.37
53	(0.76)	(0.43)	(0.56)	(0.47)	(0.26)	(0.42)	(0.67)	(0.73)	(0.56)	(0.32)	(0.86)	(0.64)	(0.30)	0.10	0.13	0.42
52	(0.42)	(0.49)	(0.31)	0.04	(0.31)	(0.21)	(0.65)	(0.64)	(0.43)	(0.42)	(0.72)	(0.53)	(0.12)	(0.07)	0.18	0.46
51	(0.28)	(0.27)	(0.31)	(0.15)	(0.10)	(0.27)	(0.64)	(0.55)	(0.54)	(0.40)	(0.57)	(0.52)	(0.22)	(0.06)	0.15	0.25
50	(0.51)	(0.17)	(0.32)	(0.37)	(0.32)	(0.14)	(0.58)	(0.52)	(0.74)	(0.54)	(0.68)	(0.44)	(0.40)	(0.26)	(0.02)	0.29
49	(0.25)	(0.13)	(0.22)	0.00	(0.16)	(0.13)	(0.39)	(0.39)	(0.65)	(0.53)	(0.71)	(0.57)	(0.38)	(0.15)	(0.05)	0.19
48	(0.14)	(0.27)	(0.19)	0.01	0.07	(0.29)	(0.35)	(0.42)	(0.54)	(0.61)	(0.69)	(0.59)	(0.32)	(0.20)	(0.09)	0.11
47	(0.24)	(0.09)	(0.03)	0.01	(0.02)	(0.09)	(0.43)	(0.35)	(0.59)	(0.53)	(0.76)	(0.65)	(0.41)	(0.29)	(0.14)	0.11
46	(0.22)	(0.03)	0.10	0.05	0.05	(0.12)	(0.19)	(0.25)	(0.74)	(0.60)	(0.72)	(0.65)	(0.57)	(0.30)	(0.12)	0.10
45	(0.18)	0.04	0.04	0.03	(0.03)	(0.05)	(0.27)	(0.28)	(0.53)	(0.52)	(0.67)	(0.57)	(0.46)	(0.25)	(0.13)	0.12
44	(0.24)	0.08	0.11	0.07	0.04	0.15	(0.14)	(0.26)	(0.51)	(0.47)	(0.65)	(0.67)	(0.45)	(0.31)	(0.18)	0.05
43	(0.13)	0.05	0.15	0.14	0.11	0.08	(0.09)	(0.12)	(0.60)	(0.58)	(0.72)	(0.61)	(0.55)	(0.41)	(0.26)	(0.04)
42	(0.15)	0.15	0.19	0.14	0.12	0.18	(0.07)	(0.11)	(0.48)	(0.42)	(0.68)	(0.64)	(0.51)	(0.33)	(0.26)	0.05
41	(0.07)	0.11	0.21	0.21	0.16	0.10	(0.09)	(0.06)	(0.52)	(0.55)	(0.75)	(0.69)	(0.58)	(0.45)	(0.39)	(0.09)
40	(0.04)	0.20	0.37	0.41	0.22	0.21	0.13	0.10	(0.53)	(0.52)	(0.62)	(0.60)	(0.65)	(0.51)	(0.41)	(0.21)
39	0.10	0.29	0.23	0.32	0.34	0.21	(0.09)	(0.02)	(0.37)	(0.48)	(0.69)	(0.71)	(0.54)	(0.59)	(0.50)	(0.27)
38	0.34	0.35	0.47	0.44	0.34	0.23	0.06	0.01	(0.48)	(0.49)	(0.70)	(0.77)	(0.70)	(0.68)	(0.61)	(0.50)
37	0.60	0.63	0.62	0.58	0.36	0.26	0.08	0.07	(0.56)	(0.53)	(0.74)	(0.75)	(0.77)	(0.81)	(0.80)	(0.82)
36	0.98	0.70	0.63	0.56	0.31	0.30	0.05	0.07	(0.37)	(0.36)	(0.61)	(0.65)	(0.64)	(0.81)	(0.80)	(1.12)
35	0.97	0.65	0.68	0.59	0.34	0.20	0.05	0.15	(0.45)	(0.46)	(0.66)	(0.66)	(0.69)	(0.80)	(0.76)	(1.02)
34	0.72	0.63	0.72	0.56	0.35	0.27	0.13	0.12	(0.48)	(0.47)	(0.70)	(0.70)	(0.62)	(0.74)	(0.77)	(0.79)

Grey cells indicate RMS/V_{tot}>2

Table C-58 Unit 14C, 16.5 kcfs Flow Rate, Vy RMS (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	19.83	18.67	17.50	16.33	15.17	14.00	12.83	11.67	8.33	7.17	6.00	4.83	3.67	2.50	1.33	0.17
72	0.25	0.23	0.27	0.30	0.26	0.28	0.33	0.38	0.45	0.56	0.32	0.33	0.23	0.29	0.28	0.24
70	0.20	0.24	0.26	0.25	0.30	0.37	0.36	0.28	0.41	0.54	0.40	0.48	0.40	0.38	0.27	0.16
68	0.20	0.22	0.26	0.37	0.37	0.44	0.36	0.32	0.44	0.33	0.45	0.43	0.38	0.42	0.42	0.26
66	0.29	0.23	0.27	0.27	0.39	0.34	0.42	0.48	0.37	0.40	0.44	0.40	0.35	0.39	0.31	0.35
64	0.22	0.25	0.32	0.31	0.32	0.30	0.49	0.41	0.47	0.43	0.41	0.41	0.34	0.32	0.33	0.31
62	0.31	0.36	0.36	0.30	0.31	0.39	0.40	0.58	0.54	0.42	0.44	0.36	0.41	0.36	0.46	0.37
60	0.20	0.32	0.28	0.45	0.19	0.44	0.48	0.72	0.47	0.42	0.41	0.44	0.49	0.57	0.46	0.30
58	0.38	0.26	0.27	0.40	0.53	0.55	0.08	0.74	0.45	0.46	0.49	0.52	0.62	0.71	0.38	0.38
56	0.31	0.28	0.31	0.37	0.68	0.39	0.55	0.44	0.51	0.42	0.43	0.62	0.53	0.62	0.56	0.40
55	0.30	0.42	0.41	0.43	0.41	0.37	0.59	0.69	0.43	0.37	0.52	0.50	0.53	0.58	0.49	0.30
54	0.32	0.45	0.43	0.48	0.46	0.58	0.41	0.62	0.46	0.38	0.38	0.40	0.49	0.49	0.48	0.28
53	0.37	0.54	0.47	0.45	0.40	0.59	0.49	0.60	0.43	0.40	0.32	0.44	0.48	0.46	0.43	0.39
52	0.29	0.44	0.37	0.43	0.47	0.51	0.49	0.53	0.34	0.36	0.33	0.39	0.46	0.42	0.43	0.28
51	0.35	0.27	0.41	0.43	0.45	0.54	0.47	0.44	0.33	0.35	0.33	0.38	0.46	0.48	0.42	0.27
50	0.34	0.34	0.39	0.41	0.45	0.55	0.46	0.43	0.39	0.35	0.38	0.42	0.48	0.49	0.46	0.28
49	0.26	0.44	0.50	0.43	0.49	0.47	0.40	0.40	0.31	0.31	0.37	0.39	0.44	0.41	0.43	0.35
48	0.34	0.48	0.45	0.54	0.54	0.49	0.42	0.40	0.34	0.35	0.37	0.40	0.42	0.42	0.43	0.34
47	0.33	0.43	0.50	0.50	0.46	0.48	0.44	0.37	0.34	0.35	0.34	0.39	0.43	0.40	0.42	0.40
46	0.36	0.40	0.51	0.52	0.48	0.48	0.41	0.36	0.32	0.32	0.35	0.42	0.44	0.44	0.47	0.40
45	0.38	0.50	0.48	0.48	0.52	0.41	0.38	0.36	0.34	0.33	0.35	0.42	0.43	0.43	0.46	0.41
44	0.41	0.49	0.51	0.54	0.45	0.42	0.38	0.37	0.33	0.33	0.35	0.41	0.43	0.43	0.44	0.47
43	0.45	0.48	0.49	0.47	0.46	0.42	0.36	0.37	0.34	0.34	0.33	0.40	0.49	0.45	0.48	0.50
42	0.47	0.51	0.44	0.48	0.49	0.37	0.33	0.36	0.33	0.33	0.36	0.44	0.44	0.44	0.50	0.52
41	0.50	0.52	0.47	0.52	0.45	0.40	0.39	0.34	0.35	0.32	0.33	0.42	0.48	0.49	0.55	0.55
40	0.51	0.55	0.52	0.57	0.47	0.39	0.28	0.31	0.32	0.33	0.31	0.45	0.52	0.50	0.51	0.62
39	0.65	0.61	0.51	0.51	0.47	0.32	0.33	0.32	0.31	0.24	0.28	0.41	0.48	0.54	0.57	0.66
38	0.71	0.62	0.57	0.59	0.46	0.32	0.29	0.33	0.27	0.24	0.27	0.42	0.56	0.55	0.64	0.78
37	0.80	0.73	0.62	0.59	0.43	0.27	0.24	0.33	0.26	0.22	0.23	0.36	0.56	0.61	0.67	0.85
36	0.89	0.79	0.64	0.61	0.42	0.25	0.23	0.25	0.22	0.22	0.23	0.38	0.62	0.64	0.67	0.80
35	0.96	0.75	0.74	0.62	0.33	0.24	0.20	0.21	0.23	0.18	0.20	0.30	0.64	0.69	0.73	0.91
34	1.00	0.85	0.82	0.71	0.26	0.21	0.18	0.22	0.19	0.22	0.19	0.26	0.51	0.78	0.78	1.00

Grey cells indicate RMS/V_{tot}>2

Table C-59 Unit 14C, 16.5 kcfs Flow Rate, Vz (ft/s)

	OR							Y-Positions (ft)							WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(0.49)	(0.43)	(0.32)	(0.25)	(0.26)	(0.31)	(0.41)	(0.10)	(0.13)	(0.32)	(0.47)	0.05	(0.31)	(0.16)	(0.41)	(0.31)
70	(0.58)	(0.68)	(0.82)	(0.37)	0.23	0.16	0.16	0.43	1.14	1.25	0.75	0.78	0.24	0.02	(0.69)	(0.42)
68	(0.88)	(0.80)	(0.63)	(0.48)	(0.01)	0.32	0.52	0.81	1.82	1.78	1.83	1.52	1.49	0.83	0.52	(0.49)
66	(1.04)	(0.94)	(0.73)	(0.59)	(0.13)	(0.08)	0.31	0.54	1.92	1.78	2.01	2.00	1.75	1.48	0.76	(0.34)
64	(1.40)	(1.34)	(1.23)	(0.53)	(0.79)	(0.53)	(0.03)	0.81	2.18	2.42	2.40	2.03	1.93	1.57	1.34	0.81
62	(1.15)	(1.53)	(1.35)	(0.82)	(0.97)	(0.51)	(0.26)	0.98	2.15	2.57	2.46	2.17	1.79	1.83	1.32	0.51
60	(0.93)	(1.40)	(1.10)	(1.12)	(0.75)	(0.28)	(0.29)	1.85	1.56	2.35	2.27	1.69	1.75	0.97	0.57	(0.94)
58	(1.10)	(1.47)	(1.01)	(0.84)	(0.72)	(0.73)	0.71	1.47	2.27	2.36	2.16	1.77	0.83	0.94	(0.29)	(0.55)
56	(1.29)	(1.34)	(1.73)	(1.42)	(0.46)	(0.76)	(0.43)	1.20	2.00	1.82	2.05	1.63	(0.06)	0.77	(0.23)	(0.55)
55	(1.09)	(1.04)	(1.31)	(1.47)	(0.70)	(0.11)	0.84	2.07	2.32	2.58	2.46	1.92	1.83	1.27	0.27	0.01
54	(1.31)	(0.89)	(1.20)	(1.14)	(0.83)	0.58	0.20	1.25	2.73	2.46	2.63	2.12	1.87	0.65	0.65	0.36
53	(0.34)	(0.20)	(0.57)	(0.43)	(0.44)	0.63	1.07	1.77	2.68	2.89	2.79	2.54	1.87	1.06	0.95	0.25
52	0.54	0.03	0.25	0.46	0.74	1.51	2.10	2.52	3.11	3.06	3.09	2.79	1.74	1.54	1.20	0.64
51	0.55	0.03	0.02	0.20	0.64	1.60	2.09	2.27	2.99	2.92	3.01	2.83	2.16	1.48	1.06	0.91
50	(0.09)	0.42	0.24	0.33	0.61	2.13	2.13	2.78	3.17	2.95	3.04	2.70	2.64	1.82	1.47	0.75
49	0.65	0.63	0.48	0.93	0.92	1.88	2.64	2.95	3.07	3.16	3.41	2.88	2.46	1.71	1.50	0.88
48	0.60	(0.02)	0.35	0.68	1.72	1.93	2.70	2.68	2.95	3.17	3.28	3.09	2.35	1.83	1.46	1.17
47	0.60	0.92	0.69	0.95	1.98	2.46	2.84	2.97	3.04	3.19	3.30	3.16	2.56	1.94	1.68	1.37
46	0.59	1.04	1.21	1.53	1.82	2.85	3.44	3.17	3.23	3.50	3.42	3.39	3.08	2.24	1.82	1.40
45	0.67	0.89	1.19	1.57	2.61	3.10	3.29	3.15	3.28	3.50	3.47	3.38	2.83	2.09	1.74	1.25
44	0.94	1.60	1.69	1.76	2.70	3.53	3.61	3.37	3.41	3.41	3.37	3.46	2.86	2.21	1.68	1.56
43	1.05	1.53	1.92	2.36	2.88	3.34	3.70	3.56	3.77	3.75	3.91	3.52	3.25	2.51	2.11	1.54
42	1.02	1.67	1.82	2.37	3.11	3.74	3.87	3.55	3.64	3.73	3.97	3.59	3.07	2.26	1.95	1.29
41	1.00	1.59	1.88	2.57	3.16	3.47	3.81	3.73	3.85	4.00	4.23	3.77	3.30	2.48	2.08	1.23
40	1.03	1.75	2.25	3.09	3.30	3.97	4.36	4.13	4.06	4.35	4.07	3.59	3.42	2.63	2.03	1.38
39	1.19	1.67	1.92	2.67	3.75	4.16	3.91	3.96	4.00	4.51	4.36	4.02	2.96	2.57	2.11	1.30
38	1.35	1.69	2.06	2.97	3.68	3.94	4.24	4.13	4.22	4.47	4.48	4.27	3.51	2.56	2.00	1.51
37	1.46	2.07	2.33	3.35	4.05	4.57	4.65	4.43	4.61	4.78	4.89	4.62	4.12	2.75	2.45	1.59
36	1.89	2.15	2.33	3.42	4.19	4.70	4.65	4.58	4.65	4.77	4.64	4.63	3.63	2.61	2.30	1.64
35	2.31	2.17	2.15	3.98	4.52	4.55	4.72	4.76	4.78	4.84	4.71	4.73	4.07	2.69	2.51	1.85
34	3.08	2.56	2.43	3.63	4.80	4.97	4.98	4.87	5.00	4.90	5.11	5.04	4.72	3.07	2.68	2.55

Grey cells indicate RMS/V_{tot}>2

Table C-60 Unit 14C, 16.5 kcfs Flow Rate, Vz RMS (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.26	0.30	0.35	0.40	0.37	0.39	0.42	0.51	0.49	0.49	0.39	0.49	0.49	0.40	0.31	0.31
70	0.20	0.29	0.32	0.41	0.57	0.62	0.66	0.67	0.77	0.67	0.83	0.68	0.65	0.47	0.37	0.27
68	0.29	0.28	0.42	0.56	0.59	0.79	0.71	0.67	0.52	0.60	0.38	0.52	0.53	0.79	0.76	0.30
66	0.36	0.40	0.54	0.54	0.59	0.48	0.87	0.69	0.61	0.67	0.54	0.54	0.56	0.59	0.72	0.57
64	0.48	0.35	0.45	0.63	0.46	0.49	0.73	0.64	0.51	0.46	0.41	0.53	0.53	0.43	0.64	0.53
62	0.45	0.42	0.44	0.49	0.44	0.56	0.47	0.80	0.70	0.54	0.47	0.46	0.54	0.48	0.56	0.60
60	0.41	0.48	0.45	0.53	0.33	0.62	0.56	0.68	0.69	0.50	0.49	0.61	0.59	0.83	0.64	0.44
58	0.51	0.44	0.34	0.72	0.48	0.52	0.83	0.94	0.50	0.55	0.54	0.49	0.55	0.76	0.55	0.55
56	0.49	0.37	0.42	0.38	0.85	0.42	0.45	1.13	0.67	0.65	0.61	0.61	0.76	0.71	0.68	0.50
55	0.46	0.45	0.62	0.66	0.48	0.66	1.11	0.86	0.59	0.45	0.58	0.62	0.54	0.59	0.61	0.48
54	0.46	0.64	0.50	0.57	0.51	1.09	0.59	0.84	0.54	0.51	0.48	0.60	0.56	0.53	0.52	0.63
53	0.90	0.75	0.50	0.54	0.38	0.83	0.82	0.81	0.54	0.51	0.43	0.47	0.55	0.58	0.46	0.61
52	0.51	0.61	0.51	0.62	0.66	0.83	0.88	0.64	0.42	0.40	0.37	0.44	0.68	0.51	0.50	0.58
51	0.50	0.44	0.45	0.41	0.59	0.79	0.78	0.69	0.35	0.43	0.48	0.45	0.58	0.66	0.44	0.44
50	0.74	0.58	0.57	0.51	0.70	0.83	0.91	0.59	0.43	0.43	0.53	0.46	0.58	0.60	0.45	0.41
49	0.55	0.62	0.61	0.65	0.68	0.74	0.62	0.48	0.40	0.40	0.54	0.46	0.55	0.53	0.45	0.62
48	0.49	0.63	0.53	0.73	0.79	0.68	0.60	0.54	0.40	0.49	0.53	0.53	0.49	0.55	0.50	0.41
47	0.52	0.62	0.63	0.81	0.67	0.77	0.64	0.49	0.45	0.44	0.59	0.49	0.54	0.52	0.48	0.45
46	0.51	0.55	0.61	0.72	0.88	0.61	0.57	0.49	0.41	0.47	0.57	0.53	0.52	0.60	0.51	0.45
45	0.59	0.56	0.75	0.76	0.67	0.62	0.58	0.48	0.48	0.51	0.54	0.60	0.62	0.59	0.55	0.51
44	0.47	0.64	0.69	0.72	0.71	0.61	0.57	0.55	0.46	0.49	0.54	0.55	0.59	0.53	0.52	0.54
43	0.56	0.58	0.56	0.67	0.61	0.60	0.51	0.51	0.52	0.54	0.49	0.59	0.62	0.60	0.52	0.60
42	0.57	0.62	0.60	0.67	0.63	0.52	0.51	0.54	0.49	0.49	0.54	0.59	0.63	0.53	0.59	0.64
41	0.62	0.63	0.60	0.63	0.66	0.64	0.60	0.55	0.55	0.53	0.55	0.63	0.68	0.60	0.61	0.66
40	0.59	0.76	0.61	0.76	0.65	0.57	0.44	0.56	0.54	0.57	0.52	0.62	0.65	0.63	0.58	0.73
39	0.76	0.71	0.57	0.68	0.68	0.49	0.51	0.49	0.52	0.37	0.49	0.62	0.71	0.64	0.64	0.83
38	0.88	0.76	0.66	0.72	0.67	0.53	0.39	0.45	0.47	0.33	0.40	0.53	0.73	0.70	0.67	0.99
37	0.97	0.79	0.76	0.79	0.60	0.31	0.27	0.44	0.34	0.28	0.26	0.52	0.72	0.74	0.72	0.97
36	1.19	0.90	0.77	0.85	0.52	0.29	0.25	0.26	0.25	0.28	0.29	0.46	0.84	0.77	0.88	0.98
35	1.20	0.94	0.82	0.82	0.38	0.25	0.22	0.22	0.29	0.26	0.22	0.38	0.81	0.92	1.01	1.14
34	1.22	1.09	0.99	1.01	0.27	0.25	0.20	0.25	0.23	0.26	0.21	0.28	0.59	0.97	1.07	1.34

Grey cells indicate RMS/V_{tot}>2

Table C-61 Unit 14C, 16.5 kcfs Flow Rate, Vyz (ft/s)

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.51	0.50	0.48	0.50	0.49	0.67	0.72	0.68	0.32	0.54	0.47	0.14	0.31	0.19	0.48	0.42
70	0.58	0.69	0.89	0.56	0.81	0.59	0.92	1.03	1.18	1.27	0.82	0.83	0.28	0.14	0.69	0.42
68	0.88	0.84	0.76	0.79	0.66	0.73	1.11	1.44	1.90	1.79	1.85	1.52	1.49	0.83	0.59	0.52
66	1.04	1.03	0.90	0.79	0.89	0.78	1.05	1.17	2.09	1.82	2.05	2.00	1.75	1.49	0.76	0.39
64	1.40	1.41	1.37	0.87	0.94	0.78	1.00	1.56	2.35	2.45	2.43	2.03	1.93	1.61	1.35	0.85
62	1.16	1.66	1.43	1.03	1.08	0.95	0.70	1.55	2.19	2.64	2.46	2.19	1.82	1.87	1.37	0.67
60	0.93	1.55	1.21	1.17	0.76	0.88	0.58	1.95	1.59	2.36	2.30	1.92	1.99	1.14	0.83	0.95
58	1.12	1.51	1.02	0.94	0.83	0.79	0.73	1.50	2.27	2.37	2.36	2.03	1.01	1.15	0.68	0.66
56	1.30	1.34	1.73	1.42	0.53	0.77	0.48	1.27	2.01	1.88	2.12	1.72	0.30	1.05	0.48	0.56
55	1.21	1.09	1.32	1.48	0.72	0.21	0.93	2.08	2.42	2.64	2.51	1.97	1.93	1.31	0.50	0.42
54	1.52	0.90	1.23	1.17	0.93	0.60	0.77	1.40	2.82	2.48	2.71	2.16	1.89	0.69	0.67	0.52
53	0.83	0.47	0.80	0.64	0.51	0.76	1.26	1.91	2.74	2.91	2.92	2.62	1.90	1.06	0.96	0.48
52	0.68	0.49	0.40	0.47	0.80	1.52	2.19	2.60	3.14	3.09	3.17	2.84	1.74	1.54	1.22	0.79
51	0.62	0.27	0.31	0.25	0.65	1.62	2.18	2.34	3.03	2.95	3.07	2.88	2.18	1.48	1.07	0.94
50	0.51	0.45	0.40	0.49	0.69	2.13	2.21	2.83	3.26	3.00	3.11	2.74	2.67	1.84	1.47	0.81
49	0.70	0.65	0.53	0.93	0.93	1.89	2.67	2.97	3.14	3.20	3.48	2.94	2.49	1.72	1.51	0.90
48	0.62	0.27	0.40	0.68	1.72	1.96	2.72	2.72	3.00	3.23	3.36	3.15	2.38	1.84	1.47	1.18
47	0.64	0.93	0.69	0.95	1.98	2.46	2.88	2.99	3.10	3.23	3.39	3.23	2.59	1.96	1.69	1.38
46	0.63	1.04	1.22	1.53	1.82	2.85	3.44	3.18	3.31	3.55	3.49	3.45	3.13	2.26	1.83	1.40
45	0.69	0.89	1.19	1.57	2.61	3.10	3.30	3.16	3.32	3.54	3.54	3.43	2.87	2.10	1.74	1.26
44	0.97	1.60	1.70	1.76	2.70	3.54	3.61	3.38	3.45	3.44	3.44	3.53	2.89	2.23	1.69	1.56
43	1.06	1.53	1.93	2.37	2.88	3.34	3.70	3.56	3.81	3.80	3.98	3.57	3.29	2.54	2.12	1.54
42	1.03	1.67	1.83	2.37	3.11	3.74	3.87	3.55	3.67	3.75	4.03	3.64	3.11	2.28	1.97	1.29
41	1.00	1.60	1.89	2.58	3.16	3.47	3.81	3.73	3.88	4.03	4.30	3.84	3.35	2.52	2.11	1.23
40	1.03	1.76	2.28	3.12	3.31	3.97	4.36	4.13	4.10	4.38	4.11	3.63	3.49	2.68	2.08	1.39
39	1.20	1.69	1.94	2.69	3.77	4.17	3.91	3.96	4.02	4.54	4.42	4.08	3.01	2.63	2.17	1.33
38	1.39	1.72	2.12	3.00	3.70	3.94	4.24	4.13	4.25	4.50	4.54	4.34	3.58	2.65	2.09	1.59
37	1.58	2.16	2.41	3.40	4.07	4.57	4.65	4.43	4.64	4.81	4.95	4.68	4.19	2.87	2.58	1.79
36	2.13	2.26	2.41	3.46	4.21	4.71	4.65	4.58	4.66	4.79	4.68	4.67	3.69	2.73	2.43	1.98
35	2.51	2.26	2.25	4.02	4.53	4.55	4.72	4.76	4.80	4.86	4.75	4.78	4.12	2.81	2.62	2.11
34	3.17	2.64	2.54	3.67	4.81	4.98	4.98	4.87	5.02	4.92	5.16	5.09	4.76	3.16	2.79	2.67

Grey cells indicate RMS/V_{tot}>2

Table C-62 Unit 14C, 16.5 kcfs Flow Rate, Vtot (ft/s)

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.51	0.51	0.48	0.50	0.49	0.67	0.74	0.68	0.34	0.54	0.58	0.17	0.33	0.23	0.49	0.43
70	0.58	0.69	0.91	0.58	0.82	0.62	0.94	1.04	1.18	1.31	0.88	0.85	0.33	0.22	0.69	0.42
68	0.88	0.85	0.77	0.80	0.67	0.74	1.11	1.44	1.90	1.80	1.85	1.57	1.52	0.87	0.60	0.52
66	1.05	1.04	0.90	0.79	0.90	0.78	1.05	1.17	2.09	1.82	2.05	2.00	1.75	1.50	0.77	0.41
64	1.41	1.42	1.38	0.87	0.94	0.78	1.00	1.56	2.35	2.45	2.43	2.03	1.93	1.61	1.36	0.86
62	1.17	1.67	1.44	1.03	1.08	0.95	0.70	1.55	2.19	2.64	2.46	2.19	1.82	1.87	1.37	0.68
60	0.94	1.56	1.21	1.18	0.76	0.88	0.58	1.95	1.59	2.36	2.30	1.92	1.99	1.14	0.83	0.96
58	1.15	1.52	1.03	0.94	0.84	0.79	0.73	1.50	2.28	2.38	2.36	2.03	1.01	1.15	0.68	0.68
56	1.30	1.36	1.75	1.45	0.72	0.84	0.59	1.39	2.14	1.96	2.20	1.86	0.64	1.21	0.73	0.63
55	1.23	1.17	1.40	1.55	0.90	0.63	1.07	2.21	2.55	2.74	2.62	2.16	2.12	1.63	0.96	0.77
54	1.52	1.09	1.36	1.33	1.12	0.93	1.00	1.59	2.94	2.59	2.81	2.32	2.12	1.18	1.10	0.73
53	1.04	1.03	1.12	1.08	1.17	1.26	1.53	2.16	2.96	3.08	3.06	2.84	2.25	1.65	1.50	0.93
52	0.86	0.78	0.83	0.88	1.10	1.68	2.28	2.70	3.24	3.17	3.25	2.96	2.01	1.81	1.52	1.03
51	0.81	0.67	0.67	0.62	0.88	1.70	2.23	2.41	3.10	3.00	3.12	2.94	2.27	1.62	1.26	1.04
50	0.69	0.79	0.65	0.86	0.94	2.20	2.26	2.91	3.33	3.06	3.16	2.81	2.76	1.97	1.63	0.91
49	0.82	0.83	0.74	1.09	1.07	1.96	2.72	3.03	3.20	3.25	3.53	3.00	2.56	1.82	1.62	0.97
48	0.73	0.51	0.66	0.89	1.80	2.01	2.76	2.77	3.05	3.26	3.39	3.19	2.44	1.93	1.55	1.23
47	0.76	1.16	0.95	1.12	2.07	2.52	2.92	3.07	3.17	3.28	3.44	3.29	2.68	2.10	1.82	1.47
46	0.75	1.16	1.34	1.64	1.90	2.88	3.47	3.24	3.37	3.58	3.54	3.50	3.19	2.33	1.92	1.47
45	0.82	1.03	1.35	1.69	2.66	3.13	3.34	3.21	3.37	3.57	3.58	3.47	2.93	2.19	1.82	1.31
44	1.07	1.74	1.85	1.91	2.76	3.57	3.64	3.44	3.51	3.49	3.48	3.59	2.97	2.33	1.80	1.64
43	1.12	1.64	2.02	2.45	2.92	3.37	3.73	3.60	3.86	3.83	4.01	3.62	3.36	2.62	2.20	1.60
42	1.10	1.78	1.94	2.45	3.14	3.76	3.89	3.58	3.71	3.78	4.06	3.68	3.15	2.35	2.02	1.35
41	1.10	1.73	2.03	2.69	3.22	3.51	3.83	3.76	3.93	4.07	4.33	3.88	3.41	2.61	2.19	1.30
40	1.09	1.85	2.40	3.20	3.35	3.99	4.37	4.15	4.13	4.41	4.14	3.67	3.54	2.76	2.13	1.43
39	1.25	1.79	2.08	2.78	3.79	4.18	3.93	3.98	4.05	4.56	4.44	4.11	3.06	2.70	2.21	1.35
38	1.42	1.82	2.28	3.13	3.73	3.97	4.27	4.17	4.30	4.54	4.58	4.38	3.66	2.75	2.16	1.60
37	1.59	2.22	2.55	3.49	4.09	4.59	4.67	4.46	4.68	4.85	4.98	4.71	4.24	2.96	2.62	1.80
36	2.14	2.32	2.54	3.55	4.23	4.73	4.67	4.62	4.72	4.83	4.72	4.70	3.74	2.81	2.45	1.99
35	2.56	2.33	2.42	4.12	4.57	4.59	4.76	4.82	4.89	4.93	4.81	4.83	4.19	2.91	2.66	2.15
34	3.27	2.70	2.68	3.77	4.86	5.02	5.03	4.94	5.12	5.00	5.22	5.15	4.81	3.25	2.84	2.74

Grey cells indicate RMS/V_{tot}>2

Table C-63 Unit 14C, 16.5 kcfs Flow Rate, Total RMS (ft/s)

	OR							Y-Positions (ft)							WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.43	0.49	0.54	0.58	0.56	0.60	0.66	0.76	0.74	0.87	0.62	0.72	0.65	0.62	0.51	0.49
70	0.37	0.45	0.50	0.54	0.73	0.80	0.83	0.79	0.94	0.93	0.98	0.89	0.81	0.67	0.53	0.39
68	0.41	0.44	0.56	0.72	0.76	0.98	0.86	0.83	0.75	0.75	0.67	0.74	0.72	0.96	0.92	0.47
66	0.55	0.52	0.68	0.68	0.82	0.69	1.04	0.95	0.78	0.84	0.76	0.75	0.74	0.76	0.84	0.73
64	0.59	0.50	0.65	0.80	0.66	0.67	0.97	0.88	0.76	0.70	0.66	0.74	0.71	0.62	0.78	0.67
62	0.63	0.65	0.65	0.67	0.63	0.80	0.71	1.07	0.95	0.75	0.71	0.67	0.77	0.69	0.79	0.79
60	0.50	0.66	0.61	0.78	0.46	0.86	0.84	1.05	0.90	0.71	0.70	0.83	0.83	1.09	0.86	0.66
58	0.70	0.57	0.52	0.89	0.84	0.87	0.92	1.25	0.73	0.77	0.80	0.77	0.92	1.11	0.79	0.77
56	0.66	0.53	0.62	0.63	1.19	0.66	0.82	1.26	0.89	0.82	0.80	0.93	1.01	1.02	0.95	0.72
55	0.60	0.68	0.82	0.87	0.67	0.83	1.33	1.16	0.78	0.64	0.83	0.86	0.81	0.89	0.84	0.64
54	0.63	0.85	0.76	0.82	0.79	1.30	0.84	1.10	0.75	0.68	0.66	0.78	0.80	0.80	0.75	0.74
53	1.09	0.99	0.77	0.76	0.61	1.09	1.03	1.08	0.73	0.70	0.59	0.70	0.80	0.82	0.68	0.79
52	0.68	0.81	0.68	0.81	0.88	1.05	1.08	0.91	0.59	0.59	0.55	0.66	0.90	0.73	0.74	0.71
51	0.71	0.59	0.67	0.66	0.81	1.02	0.98	0.87	0.53	0.62	0.64	0.64	0.82	0.87	0.68	0.58
50	0.91	0.73	0.76	0.73	0.90	1.08	1.09	0.81	0.63	0.61	0.71	0.68	0.82	0.84	0.71	0.57
49	0.68	0.83	0.85	0.85	0.90	0.96	0.82	0.69	0.56	0.56	0.71	0.67	0.79	0.74	0.69	0.79
48	0.66	0.85	0.76	0.97	1.04	0.90	0.80	0.73	0.58	0.66	0.70	0.73	0.71	0.78	0.73	0.61
47	0.68	0.83	0.86	1.01	0.89	0.98	0.85	0.67	0.62	0.62	0.73	0.69	0.77	0.74	0.71	0.69
46	0.70	0.75	0.87	0.96	1.08	0.86	0.77	0.67	0.57	0.62	0.72	0.73	0.76	0.82	0.78	0.69
45	0.79	0.81	0.96	0.98	0.94	0.82	0.78	0.66	0.64	0.67	0.70	0.80	0.83	0.82	0.80	0.75
44	0.72	0.89	0.94	0.99	0.94	0.82	0.76	0.73	0.63	0.66	0.71	0.76	0.81	0.78	0.78	0.83
43	0.83	0.85	0.85	0.90	0.86	0.82	0.70	0.69	0.67	0.70	0.66	0.78	0.89	0.85	0.82	0.90
42	0.84	0.90	0.86	0.92	0.90	0.72	0.68	0.73	0.65	0.65	0.71	0.81	0.87	0.81	0.89	0.96
41	0.89	0.94	0.88	0.93	0.91	0.84	0.78	0.72	0.71	0.67	0.69	0.83	0.94	0.90	0.97	1.00
40	0.91	1.07	0.94	1.05	0.92	0.78	0.59	0.69	0.68	0.71	0.67	0.85	0.95	0.95	0.92	1.10
39	1.15	1.09	0.91	0.97	0.94	0.65	0.68	0.65	0.65	0.49	0.61	0.82	1.00	0.99	1.03	1.18
38	1.27	1.15	1.03	1.08	0.92	0.68	0.54	0.62	0.58	0.45	0.53	0.73	1.06	1.05	1.09	1.41
37	1.43	1.26	1.16	1.15	0.85	0.47	0.41	0.61	0.47	0.41	0.40	0.68	1.04	1.15	1.19	1.49
36	1.68	1.38	1.18	1.20	0.75	0.44	0.39	0.42	0.37	0.40	0.42	0.65	1.21	1.20	1.27	1.48
35	1.77	1.39	1.31	1.16	0.57	0.40	0.34	0.36	0.41	0.36	0.35	0.54	1.16	1.36	1.44	1.71
34	1.79	1.58	1.53	1.37	0.44	0.39	0.33	0.38	0.35	0.39	0.34	0.43	0.86	1.45	1.52	1.92

Grey cells indicate RMS/V_{tot}>2

Table C-64 Unit 14A / Unit 15A, 12 kcfs Flow Rate, Vx/Vx

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(8.21)	1.64	1.64	(0.23)	(0.23)	0.40	(1.39)	(0.48)	0.59	4.05	(2.66)	(1.69)	(3.56)	2.12	(9.09)	(0.29)
70	2.62	1.89	0.77	1.58	1.10	1.58	1.75	(2.02)	2.58	(19.04)	2.69	(68.68)	1.49	3.29	0.39	0.35
68	0.36	0.26	0.63	0.73	1.40	0.19	0.16	3.91	0.62	0.74	0.95	3.57	5.84	1.96	(31.14)	0.51
66	0.64	0.45	0.10	0.39	0.25	1.32	6.25	(0.03)	0.72	(2.82)	1.44	(4.03)	1.72	9.41	2.52	1.32
64	0.91	0.82	1.35	0.26	0.16	(0.25)	0.14	1.64	4.59	(1.87)	(6.30)	7.46	1.97	0.94	1.80	1.56
62	0.35	0.46	1.20	0.00	(0.49)	0.28	0.15	(0.38)	0.30	(0.22)	(1.12)	(2.11)	(10.18)	(62.18)	1.53	3.52
60	0.64	0.34	0.11	(0.06)	(0.35)	(0.03)	0.42	1.95	0.14	(0.58)	(0.03)	(0.31)	(0.38)	(0.47)	(1.49)	(19.76)
58	0.53	0.55	(0.25)	(0.04)	(1.09)	0.55	1.26	(0.14)	0.13	0.25	0.29	0.13	0.04	0.37	(5.71)	0.24
56	(4.66)	(10.32)	7.89	0.82	0.83	1.17	1.09	1.39	1.26	1.61	1.20	1.66	1.84	2.49	3.43	11.67
55	(7.98)	31.81	6.21	1.76	0.94	1.02	1.15	1.02	1.28	1.20	2.20	2.12	2.47	3.01	4.94	(14.84)
54	(44.19)	12.71	3.68	1.49	1.83	1.29	1.24	0.86	1.17	1.48	1.39	2.58	2.95	5.06	12.01	(11.95)
53	12.53	22.37	22.42	5.01	1.95	1.28	1.10	0.95	1.45	1.68	1.77	2.21	8.02	5.28	4.54	(198.20)
52	(4.66)	(98.45)	25.36	4.71	2.06	1.94	1.00	1.05	1.49	1.38	1.57	1.89	1.95	1.63	1.97	3.67
51	2.30	2.82	1.50	1.87	1.36	1.21	0.91	1.02	0.97	1.02	0.95	0.96	1.08	1.19	1.25	2.56
50	1.66	1.53	1.63	1.63	1.27	0.82	0.80	0.81	0.89	0.92	0.80	0.94	1.00	0.95	1.00	1.38
49	1.50	0.73	0.90	1.10	0.71	0.73	0.57	0.71	0.74	0.78	0.67	0.74	0.76	0.92	1.16	1.21
48	1.02	1.19	1.16	1.34	0.86	0.67	0.67	0.72	0.81	0.86	0.83	0.84	0.86	0.92	1.35	1.66
47	1.20	1.16	0.95	0.87	0.87	0.74	0.75	0.82	1.01	0.94	0.86	1.10	1.02	1.05	1.25	1.86
46	1.55	1.15	1.14	1.26	0.89	0.80	0.81	0.80	1.03	1.00	1.05	0.99	1.06	1.36	1.63	1.73
45	1.27	1.11	1.03	0.87	0.77	0.73	0.64	0.72	0.78	0.87	0.78	0.80	0.82	1.03	1.01	1.31
44	1.25	1.05	1.10	0.92	0.69	0.63	0.60	0.70	0.77	0.79	0.77	0.79	0.83	0.94	0.94	1.36
43	1.10	1.06	0.87	0.80	0.65	0.54	0.45	0.55	0.74	0.69	0.71	0.77	0.82	0.83	1.07	1.37
42	1.15	1.04	0.93	0.80	0.67	0.57	0.47	0.59	0.78	0.76	0.71	0.72	0.85	0.89	0.82	0.70
41	0.74	1.04	0.92	0.78	0.59	0.49	0.40	0.62	0.71	0.75	0.72	0.73	0.71	1.02	0.90	0.96
40	1.01	0.93	0.85	0.77	0.55	0.47	0.33	0.68	0.83	0.72	0.70	0.65	0.84	0.89	1.31	1.06
39	0.70	1.05	0.91	0.78	0.55	0.32	0.47	0.49	0.78	0.71	0.70	0.78	0.81	1.16	1.11	97.94
38	1.50	1.42	0.89	0.80	0.77	0.71	0.80	0.66	0.91	0.92	0.81	0.89	0.93	1.20	1.60	26.41
37	(6.71)	1.14	0.99	0.74	0.45	0.51	0.47	0.51	0.79	0.72	0.67	0.66	0.78	1.20	1.55	(2.40)
36	4.04	1.18	0.96	0.76	0.62	0.70	0.54	0.65	0.84	0.74	0.67	0.68	0.82	0.99	1.10	5.38
35	1.50	1.13	0.86	0.83	0.72	0.78	0.64	0.77	0.83	0.89	0.78	0.85	0.78	0.94	1.30	6.21
34	0.75	1.29	0.77	0.85	0.68	0.64	0.73	0.78	0.75	0.75	0.75	0.72	0.63	0.92	0.74	1.10
33	0.38	1.23	0.74	0.84	0.74	0.57	0.85	0.75	0.78	0.71	0.81	0.76	0.77	0.80	0.14	0.37

Note: Fail Tests from 14A and 15A have been combined for formatting of the comparison
Grey cells indicate RMS/V_{tot}>2

Table C-65 Unit 14A / Unit 15A, 12 kcfs Flow Rate, RMS/RMS

	OR							**Y-Positions (ft)**								**WA**
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	1.04	0.82	0.75	0.99	1.00	0.99	0.91	1.13	1.33	1.95	1.13	1.23	1.18	1.50	1.12	1.06
70	1.12	1.03	1.26	1.89	1.39	1.91	1.22	1.68	0.99	2.72	1.61	1.27	1.40	1.51	1.08	0.96
68	0.95	0.78	0.89	0.60	0.99	0.87	0.75	0.57	0.61	0.66	0.66	1.07	0.65	1.42	1.06	1.02
66	0.88	1.14	0.72	0.75	0.73	0.60	0.53	0.92	1.01	0.86	0.80	0.69	0.83	1.04	1.65	1.17
64	1.03	0.52	0.68	0.61	0.67	0.61	0.85	0.78	1.04	0.85	0.70	0.71	1.00	0.73	0.93	1.15
62	0.35	0.66	0.59	0.55	0.70	0.80	0.35	0.66	1.04	1.05	0.80	0.90	0.91	0.95	0.94	0.95
60	0.96	0.77	0.98	1.05	0.83	0.56	0.67	1.27	0.85	0.85	0.86	0.75	0.61	0.82	0.88	0.76
58	0.63	0.55	1.26	0.81	0.85	1.18	0.83	0.62	0.88	1.09	0.85	0.92	0.90	1.00	1.05	0.77
56	1.42	1.19	0.57	0.69	0.76	1.19	0.66	0.93	1.02	1.06	0.90	0.92	0.95	0.88	0.90	0.76
55	1.37	1.07	1.22	1.23	0.76	0.73	1.44	1.61	0.83	0.96	1.04	1.01	1.10	1.04	1.07	0.80
54	1.42	2.27	0.84	1.21	1.24	1.28	0.69	0.96	0.99	1.04	0.88	0.84	1.01	0.93	1.06	1.11
53	1.24	1.32	1.76	1.73	0.95	1.20	1.37	1.00	1.02	0.81	1.06	0.97	0.91	1.05	0.83	0.86
52	1.32	1.03	1.86	1.47	2.17	1.44	1.00	0.70	1.05	0.97	1.02	0.82	0.98	0.98	0.87	1.31
51	1.76	1.25	1.50	1.39	1.45	1.19	1.00	0.87	1.04	0.89	1.05	1.01	0.92	0.91	0.77	1.21
50	1.09	1.09	1.31	1.07	0.98	1.17	0.81	0.76	0.86	1.00	1.00	1.13	0.98	0.80	0.85	0.89
49	1.34	1.28	1.17	1.21	1.06	1.04	0.88	0.84	1.10	0.82	0.88	0.97	0.94	0.76	0.81	1.09
48	1.00	1.09	0.92	1.23	1.02	1.15	0.92	0.85	0.86	0.92	0.89	1.04	1.02	0.88	0.81	0.78
47	1.09	0.88	1.16	1.20	1.03	0.99	1.19	1.16	0.95	0.86	0.80	0.67	1.13	0.98	0.76	0.67
46	0.96	0.92	0.94	0.90	0.99	1.04	0.81	1.08	0.99	0.98	0.92	1.03	0.88	0.83	0.90	0.79
45	1.05	0.92	0.90	0.95	0.87	1.03	1.06	1.03	0.94	1.02	1.06	1.01	0.88	1.01	0.93	1.00
44	1.03	0.80	1.03	1.06	0.86	0.84	1.11	0.90	1.05	1.09	1.04	1.11	1.29	0.98	0.96	0.80
43	0.92	1.02	0.96	1.09	0.99	1.05	0.95	1.00	1.11	1.06	0.89	1.01	1.04	0.98	0.83	0.85
42	0.96	0.89	1.04	1.03	1.13	0.95	1.02	1.05	1.01	0.90	0.97	1.07	1.11	0.89	0.86	0.78
41	0.88	0.84	1.18	1.01	0.99	0.91	1.06	0.94	1.06	0.93	1.01	1.04	0.98	0.94	0.81	0.79
40	0.89	0.89	1.06	0.89	1.14	1.05	0.95	0.97	0.95	1.04	1.00	1.04	1.04	1.02	0.88	0.94
39	0.79	0.95	1.06	1.16	1.09	0.92	0.97	0.98	1.05	0.89	0.95	1.07	1.06	0.98	0.90	0.98
38	0.86	0.97	1.02	1.12	1.11	0.96	0.95	0.94	1.00	0.87	0.93	1.03	1.03	0.97	0.91	1.05
37	0.87	0.85	1.07	1.08	0.90	0.84	0.88	0.89	0.83	0.72	0.89	1.05	1.03	1.02	0.87	0.94
36	0.75	0.88	1.11	1.05	0.99	0.76	0.74	0.86	1.07	0.96	0.97	0.94	1.02	0.99	0.88	0.99
35	0.73	0.93	1.03	1.07	0.99	0.98	1.05	0.89	0.87	0.77	0.88	0.76	1.08	1.07	0.85	1.24
34	0.65	0.94	1.07	1.02	0.89	1.03	1.15	1.16	0.85	1.09	0.95	0.90	1.07	1.02	1.02	0.95
33	0.73	1.01	1.00	1.59	0.80	0.95	0.88	0.86	1.04	1.11	0.89	0.82	2.17	1.03	0.69	0.59

Note: Fail Tests from 14A and 15A have been combined for formatting of the comparison
Grey cells indicate RMS/V_{tot}>2

Table C-66 Unit 14A / Unit 15A, 15 kcfs Flow Rate, Vx/Vx

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	(0.47)	4.30	(0.30)	(0.91)	(1.73)	2.00	0.31	(0.72)	(1.39)	2.29	1.09	(3.95)	(3.54)	1.08	0.20	0.35
70	(0.48)	(1.02)	0.71	0.65	0.61	0.75	1.04	1.11	1.07	0.83	0.61	1.33	2.42	2.69	4.86	(0.25)
68	(0.13)	2.31	0.37	0.31	1.74	0.12	(0.94)	(0.35)	0.08	(0.30)	0.30	0.29	0.78	0.71	1.61	4.50
66	0.59	0.30	0.45	0.88	0.84	(0.21)	(1.68)	2.82	0.96	(5.01)	0.09	0.14	0.49	0.65	0.84	1.72
64	0.68	0.51	1.18	(0.68)	0.36	(0.64)	(4.93)	(0.26)	8.94	0.45	(1.05)	(1.12)	18.46	0.51	0.72	0.58
62	0.46	0.38	0.10	0.10	(2.04)	(0.13)	(0.66)	2.83	0.04	(0.10)	4.84	(0.26)	0.40	(1.86)	0.04	0.22
60	1.75	0.59	0.31	(0.18)	(1.54)	(3.73)	(1.43)	(1.82)	1.29	0.06	(0.55)	(0.64)	0.25	(0.05)	0.51	0.32
58	0.93	0.26	(0.20)	0.25	(2.91)	(0.56)	(0.28)	0.27	0.16	0.44	0.45	0.32	0.41	0.42	7.43	0.04
56	1.01	1.06	1.64	1.09	0.92	0.90	1.32	1.26	0.88	0.75	0.68	0.54	0.57	0.60	0.40	0.43
55	2.67	0.34	1.03	1.07	0.42	0.70	0.90	1.13	0.97	0.92	0.93	0.87	0.80	0.68	0.64	0.74
54	2.95	1.06	1.16	1.23	1.13	0.72	1.18	1.01	0.91	0.82	0.93	0.82	0.72	0.77	0.62	0.80
53	2.12	1.53	1.32	1.16	0.97	0.91	0.92	0.93	0.86	0.73	0.87	0.74	0.62	0.52	0.45	0.66
52	0.94	1.07	1.35	1.24	0.98	0.90	1.04	0.90	0.69	0.60	0.78	0.62	0.51	0.45	0.43	0.55
51	1.16	1.14	1.07	0.98	0.97	1.04	0.81	0.99	0.77	0.73	0.74	0.77	0.88	0.75	0.81	0.99
50	1.87	1.17	1.20	0.93	1.06	1.02	0.84	0.93	0.91	0.82	0.87	0.93	0.92	0.97	1.08	1.17
49	1.48	1.15	1.13	1.05	1.12	0.82	0.75	0.90	0.91	0.81	0.85	0.79	1.02	1.03	1.05	1.39
48	1.21	1.06	1.12	1.12	0.72	0.72	0.60	0.73	0.79	0.81	0.82	0.88	0.83	1.00	0.94	1.61
47	1.87	1.13	1.13	1.09	0.92	0.81	0.72	0.78	0.88	0.81	0.81	0.85	0.91	0.91	0.96	1.51
46	1.56	1.21	1.07	0.83	0.89	0.68	0.68	0.85	0.84	0.82	0.84	0.86	0.95	0.93	0.99	1.83
45	1.27	0.96	0.91	0.86	0.69	0.52	0.63	0.71	0.81	0.71	0.76	0.78	0.77	0.86	0.98	1.18
44	1.36	1.00	0.93	0.81	0.75	0.68	0.63	0.73	0.90	0.79	0.86	0.89	0.92	0.97	1.07	1.21
43	1.05	1.18	0.83	0.81	0.70	0.65	0.59	0.72	0.89	0.78	0.88	0.91	0.84	0.91	1.10	1.08
42	1.18	0.98	0.84	0.75	0.71	0.48	0.57	0.67	0.68	0.65	0.74	0.77	0.82	0.94	0.88	1.04
41	1.16	1.01	0.91	0.75	0.74	0.57	0.59	0.73	0.82	0.76	0.77	0.80	0.83	0.92	1.08	1.20
40	1.76	1.15	0.89	0.87	0.70	0.63	0.48	0.61	0.88	0.81	0.77	0.84	0.87	1.01	1.35	1.55
39	1.16	1.15	0.87	0.74	0.63	0.52	0.47	0.53	0.69	0.71	0.65	0.71	0.72	0.92	1.32	2.76
38	1.35	1.13	0.96	0.85	0.72	0.70	0.44	0.49	0.77	0.84	0.74	0.86	0.77	0.94	2.06	9.87
37	17.34	1.39	0.96	0.87	0.79	0.50	0.50	0.51	0.84	0.76	0.68	0.67	0.83	0.90	1.77	13.35
36	2.41	0.78	0.89	1.01	0.56	0.63	0.46	0.63	0.81	0.78	0.62	0.75	0.79	0.83	1.75	2.96
35	1.80	1.14	0.98	0.98	0.59	0.61	0.68	0.64	0.84	0.79	0.83	0.82	0.76	0.88	1.12	0.90
34	0.82	1.36	0.64	0.82	0.55	0.70	0.60	0.68	0.83	0.83	0.70	0.74	0.44	0.11	0.62	(0.02)

Note: Fail Tests from 14A and 15A have been combined for formatting of the comparison
Grey cells indicate RMS/V_{tot}>2

Table C-67 Unit 14A / Unit 15A, 15 kcfs Flow Rate, RMS/RMS

	OR							Y-Positions (ft)								WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
72	0.86	0.98	0.73	0.64	0.57	0.80	0.65	0.53	0.68	0.73	0.75	0.65	0.72	0.59	0.86	0.76
70	0.79	0.73	0.95	0.89	0.89	0.71	0.83	0.79	0.98	0.50	0.61	1.12	1.10	0.94	0.79	0.87
68	0.62	0.69	0.88	0.76	0.64	0.76	0.70	0.78	0.89	0.70	0.79	0.80	0.63	0.71	0.97	0.80
66	0.49	0.58	0.75	0.94	0.66	0.83	0.83	0.88	0.76	0.80	0.75	0.81	0.72	0.79	0.64	0.88
64	0.66	0.77	0.71	1.14	1.03	1.11	0.71	1.03	1.06	0.83	0.84	0.70	0.65	0.70	0.63	0.67
62	0.60	0.99	1.14	1.04	0.66	1.00	1.19	0.89	0.61	0.78	0.77	0.80	0.53	1.20	0.56	0.59
60	0.89	0.57	0.71	1.18	1.31	0.51	1.42	1.09	0.67	0.90	0.97	1.07	0.82	0.76	0.61	0.50
58	0.74	0.67	1.19	0.71	1.19	1.26	1.42	0.69	0.91	1.01	0.92	0.88	0.54	0.87	0.49	0.61
56	1.59	0.70	0.88	1.32	0.79	0.74	1.11	0.77	0.92	1.01	1.24	0.80	0.98	0.69	0.57	0.56
55	1.69	0.99	1.29	1.16	0.81	0.67	0.55	0.75	1.15	0.85	0.89	0.94	0.73	0.63	0.93	0.84
54	0.66	2.36	0.79	0.81	1.15	0.66	1.02	0.82	0.98	0.88	0.80	0.98	0.98	0.63	0.65	0.84
53	0.76	1.12	1.13	1.21	1.13	1.13	0.87	0.90	1.14	0.92	1.05	0.98	0.87	0.60	0.71	0.70
52	1.10	1.07	1.01	1.13	1.22	0.98	0.99	1.02	1.06	1.04	0.95	0.99	0.91	0.68	0.79	0.87
51	0.96	1.07	1.17	1.26	0.96	0.87	1.12	1.11	1.05	1.12	1.10	1.01	0.97	0.96	0.94	0.96
50	1.30	1.07	1.38	1.04	0.88	1.09	1.03	0.89	1.00	1.01	1.07	1.05	1.03	0.86	0.83	1.23
49	1.09	1.16	1.22	1.08	1.02	0.94	0.99	0.89	1.00	0.96	1.21	1.21	0.91	1.01	0.92	0.89
48	1.03	0.86	1.08	0.99	1.01	1.14	1.01	0.94	1.12	0.96	1.05	0.98	0.91	0.97	0.92	0.96
47	1.01	1.07	1.11	0.83	1.09	1.15	1.05	0.98	1.02	0.93	0.95	1.02	1.06	0.92	0.86	0.83
46	0.88	0.92	1.02	1.07	1.12	1.08	1.04	1.08	1.12	0.96	0.96	1.04	0.98	0.85	0.87	0.73
45	0.95	0.83	1.04	0.90	0.95	1.05	1.01	1.04	0.85	1.00	0.89	1.01	0.99	0.87	0.88	0.79
44	0.99	0.94	1.06	1.12	1.06	1.12	0.99	0.99	0.95	1.00	0.88	1.01	1.00	0.92	0.80	0.73
43	0.94	0.92	0.99	1.08	1.12	1.03	0.96	1.03	0.99	0.95	0.97	0.98	0.97	0.83	0.77	0.69
42	0.80	0.91	0.94	1.04	1.10	0.93	1.03	0.95	0.91	0.97	1.00	1.01	0.99	0.89	0.82	0.64
41	0.80	0.85	0.98	1.06	1.00	1.03	1.04	0.95	0.93	0.94	0.99	0.92	0.92	0.88	0.82	0.71
40	0.80	0.81	0.96	0.98	1.11	1.17	0.96	0.96	0.98	0.93	0.97	0.96	1.02	0.96	0.80	0.72
39	0.80	0.81	0.95	0.99	1.14	1.08	1.04	0.93	1.00	1.00	1.07	1.02	1.01	0.90	0.85	0.76
38	0.79	0.88	1.00	0.99	1.49	1.43	1.09	0.82	0.85	0.92	1.02	1.12	2.71	0.95	0.82	0.73
37	0.75	0.84	0.97	0.99	5.59	1.57	1.05	1.07	0.86	0.79	0.92	1.06	3.82	1.00	0.81	0.80
36	0.68	0.89	0.95	1.07	6.21	1.67	0.99	0.79	0.90	1.11	0.98	0.84	3.45	2.36	0.81	0.89
35	0.84	0.88	1.00	1.04	6.89	8.08	0.74	0.94	0.86	0.92	0.92	0.67	4.15	2.21	0.85	0.87
34	0.85	1.12	0.95	1.14	7.07	8.22	1.01	0.91	0.90	0.85	0.92	0.85	0.90	2.37	0.90	2.30

Note: Fail Tests from 14A and 15A have been combined for formatting of the comparison
Grey cells indicate RMS/V_{tot}>2

Table C-68 Unit 14A / Unit 15A, 17 kcfs Flow Rate, Vx/Vx

	OR							Y-Positions (ft)							WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.69	0.48	0.52	0.53	0.97	0.62	0.75	0.63	0.45	0.80	1.65	3.16	0.31	1.21	0.95	(5.30)
68	1.19	1.58	0.60	0.18	0.92	(0.19)	1.04	(0.24)	(3.59)	0.95	1.30	0.63	0.87	0.59	0.76	1.26
66	0.27	0.41	0.77	0.77	1.37	(0.19)	1.91	1.88	(0.04)	(0.29)	(0.37)	(1.21)	1.85	0.78	0.92	0.66
64	1.26	0.23	0.28	0.88	(19.02)	5.19	(1.33)	2.12	1.28	(0.08)	0.30	(0.47)	(1.79)	(0.93)	1.24	0.63
62	1.10	0.46	2.45	0.74	(1.00)	6.02	4.75	3.74	(0.10)	(0.08)	(1.25)	(0.81)	(0.34)	(9.18)	0.69	0.82
60	0.52	1.42	(0.23)	0.51	2.97	(0.39)	(2.80)	(0.09)	(0.25)	(0.21)	0.15	(1.55)	(0.48)	(0.49)	0.14	0.42
58	0.81	0.11	(0.29)	0.84	0.13	(2.55)	(1.64)	4.07	0.14	(0.05)	0.09	0.36	0.22	0.99	0.60	0.16
56	0.82	0.43	0.83	0.93	0.53	0.52	0.96	0.98	0.71	0.71	0.61	0.68	0.88	0.89	0.85	0.95
55	1.79	1.20	1.19	0.89	0.91	0.68	1.20	1.14	1.15	1.03	1.14	1.30	1.47	1.24	1.14	1.18
54	1.48	1.00	0.99	0.91	0.96	0.77	0.92	0.87	0.91	0.88	0.83	0.91	0.95	0.96	1.01	1.16
53	1.00	1.16	1.01	1.02	1.05	1.00	0.98	0.92	0.98	0.95	1.04	1.05	1.08	1.06	0.97	1.25
52	1.47	1.41	1.40	1.60	1.50	1.34	1.17	1.19	1.28	1.24	1.25	1.41	1.34	1.36	1.40	1.81
51	1.24	1.05	1.03	1.11	0.99	0.85	0.75	0.78	0.94	0.81	0.93	0.83	0.93	1.01	0.98	1.21
50	1.17	1.05	1.17	0.95	1.05	0.90	0.94	0.86	1.01	0.89	0.91	0.94	0.97	1.13	1.01	1.43
49	1.52	1.22	1.22	1.26	1.12	0.72	0.73	0.91	1.15	1.05	1.05	1.09	1.13	1.16	1.30	1.45
48	1.33	1.01	0.98	1.01	0.95	0.75	0.66	0.73	0.87	0.78	0.75	0.81	0.88	0.90	0.97	1.30
47	0.51	1.03	1.08	1.04	0.99	0.70	0.59	0.77	1.01	0.94	0.93	0.88	0.92	1.01	1.04	1.45
46	1.12	1.22	1.19	1.16	1.07	0.66	0.65	0.92	1.21	1.07	0.96	1.02	1.08	1.03	1.22	1.98
45	1.00	1.00	1.01	0.80	0.79	0.49	0.48	0.61	0.88	0.81	0.76	0.83	0.74	0.89	0.89	1.03
44	1.08	1.12	1.01	0.87	0.68	0.58	0.66	0.64	0.89	0.76	0.93	0.97	0.87	0.91	0.95	1.15
43	1.22	1.31	1.19	1.07	0.87	0.59	0.69	0.67	0.89	0.80	1.01	1.03	1.00	1.12	1.17	1.21
42	0.68	0.91	0.87	0.67	0.47	0.36	0.31	0.34	0.60	0.57	0.62	0.64	0.62	0.75	0.88	0.70
41	0.87	1.22	0.95	0.92	0.67	0.55	0.47	0.57	0.88	0.72	0.82	0.83	0.84	1.00	1.02	1.13
40	0.70	1.27	1.17	1.05	0.69	0.53	0.42	0.60	0.96	0.85	0.76	0.91	0.84	1.15	1.31	1.05
39	0.15	1.01	0.97	0.85	0.50	0.36	0.30	0.37	0.66	0.77	0.61	0.67	0.66	0.81	1.58	1.53
38	2.40	1.33	1.08	1.13	0.69	0.51	0.47	0.46	0.74	0.68	0.67	0.77	0.83	1.05	1.99	2.67
37	2.15	1.01	1.16	1.27	0.67	0.60	0.45	0.52	0.83	0.81	0.64	0.69	0.84	1.04	2.41	4.93

Note: Fail Tests from 14A and 15A have been combined for formatting of the comparison
Grey cells indicate $RMS/V_{tot}>2$

Table C-69 Unit 14A / Unit 15A, 17 kcfs Flow Rate, RMS/RMS

	OR						Y-Positions (ft)									WA
EL (ft)	**19.83**	**18.67**	**17.50**	**16.33**	**15.17**	**14.00**	**12.83**	**11.67**	**8.33**	**7.17**	**6.00**	**4.83**	**3.67**	**2.50**	**1.33**	**0.17**
70	0.61	0.70	0.63	0.68	0.68	0.68	0.66	0.61	0.60	0.91	0.87	0.88	0.54	1.18	0.66	0.85
68	0.70	1.02	0.75	0.91	0.50	0.91	0.90	0.94	0.86	0.77	0.79	0.78	0.87	0.83	0.81	1.41
66	0.52	0.50	0.85	0.62	0.80	0.77	0.89	0.88	1.16	0.84	0.81	0.79	0.84	0.68	0.85	0.74
64	1.03	1.02	0.61	0.71	1.50	1.24	0.99	0.94	0.80	0.89	0.84	1.04	0.88	0.82	0.89	0.58
62	0.79	0.89	0.54	0.64	0.78	1.01	0.55	0.95	0.84	0.90	0.79	0.83	0.88	0.78	0.77	0.63
60	0.64	0.64	1.07	0.91	0.70	0.84	1.63	0.90	0.92	0.95	0.89	0.94	0.72	0.75	0.86	0.58
58	0.63	0.68	1.22	0.92	1.01	1.38	1.19	0.94	0.97	1.11	1.12	1.06	0.78	0.52	0.68	0.54
56	1.42	0.85	1.03	1.14	0.81	0.63	0.89	1.36	1.10	0.95	1.02	1.33	1.03	0.85	0.80	0.79
55	1.18	1.22	1.73	0.93	1.36	0.67	1.14	1.05	1.08	1.10	1.32	0.91	0.98	0.82	1.09	0.99
54	1.17	1.20	1.05	1.13	1.38	1.01	1.05	0.99	1.21	1.18	1.11	0.90	0.99	0.88	0.95	0.85
53	1.09	1.03	1.30	1.06	1.16	1.18	0.98	1.14	1.10	1.05	0.95	0.96	1.06	0.86	0.74	0.89
52	0.98	1.12	1.11	1.16	1.03	0.98	0.92	0.84	0.97	1.01	1.04	1.27	0.77	0.84	0.77	0.86
51	1.15	1.06	1.01	1.03	1.09	0.98	1.09	1.02	1.34	1.14	0.89	1.02	1.19	0.83	0.86	1.24
50	1.08	0.97	1.11	0.97	0.97	0.92	0.94	1.07	1.17	1.11	1.29	1.04	0.99	0.79	0.96	0.71
49	1.09	0.95	1.14	1.03	0.96	1.10	0.98	1.02	1.17	1.11	1.15	1.31	0.81	1.05	1.02	0.97
48	2.76	0.99	1.14	0.84	1.13	1.20	1.06	1.13	1.16	1.21	1.09	1.28	0.96	0.95	0.80	1.02
47	1.95	0.99	1.00	0.96	1.23	1.22	1.15	1.20	1.16	1.19	1.08	1.03	1.06	0.99	0.90	0.91
46	1.97	1.02	0.99	1.05	1.33	1.25	1.14	1.05	0.96	1.04	1.07	1.22	1.06	1.01	0.95	1.02
45	0.91	0.96	1.11	1.14	1.29	1.12	1.10	1.14	1.05	1.21	1.12	1.21	1.09	1.01	0.84	0.89
44	0.94	0.95	1.06	1.26	1.15	1.05	1.08	1.20	1.06	0.96	1.08	0.99	0.98	0.91	0.87	0.76
43	0.87	0.92	1.10	1.18	1.15	1.03	1.11	1.06	1.13	1.07	1.18	1.01	1.15	1.03	0.94	1.93
42	0.83	1.03	0.99	1.18	1.45	1.09	1.04	1.12	1.07	0.96	1.11	1.18	1.06	1.08	1.01	0.84
41	0.80	0.89	1.04	1.12	1.16	1.12	0.99	1.08	1.06	1.05	1.09	1.00	0.95	1.09	0.89	0.87
40	0.83	1.06	1.08	1.06	1.42	1.04	1.08	1.14	1.16	1.00	0.94	1.07	1.04	1.00	0.89	0.85
39	1.25	0.99	1.02	1.07	1.40	0.96	0.89	1.03	0.93	0.99	0.19	0.91	1.01	1.05	0.90	0.86
38	0.99	0.96	1.04	1.10	1.38	1.04	0.85	0.88	0.84	0.88	0.19	0.18	0.30	1.18	0.90	0.92
37	0.86	1.03	1.05	1.07	1.55	1.34	1.10	0.86	0.93	0.75	0.86	0.91	0.31	0.35	0.92	0.89

Note: Fail Tests from 14A and 15A have been combined for formatting of the comparison
Grey cells indicate RMS/V_{tot}>2

Appendix D

Memorandum – Comparison of Phase-Space Filtering

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Memorandum

To	File	Page	1 of 8
CC	Gary Henrie (USACE), Laurie Ebner (USACE), Elizabeth Roy (USACE), Brian Abel (Harbor), Joe Orlins (Alden), Chick Sweeney (Alden)		
Subject	Comparison of Phase-Space Filtering in the Bonneville 2nd Powerhouse Gatewells with and without Turbulence Reduction Devices (TRD's)		
From	Peter Grant, ALDEN	Date: 07 June 2013	
Reviewed by:	Joe Orlins, ALDEN	Date: 07 June 2013	

This memorandum provides a brief summary of the effects of the data filtering process used for ADV measurements in the gate wells of the Bonneville Dam 2nd Powerhouse,

Background

As part of the review process of the Harbor-Alden team's Data Collection Report : Water Velocity Measurements on Vertical Barrier Screens with and without Proof-of-Concept Turbulence Reduction Devices at the Bonneville Dam Second Powerhouse, a request was made to provide, if possible, an indication of whether the raw data with and without the Turbulence Reduction Device (TRD) required different amounts of filtering or "despiking." [1]

The despiking process, as outlined in the report, was conducted to remove "outliers" from the time-series data which may have resulted from the combined effects of:

- Signal aliasing
- Velocity fluctuations
- Poor water quality
- Deployment hardware vibrations
- Close proximity to a physical boundary
- Close proximity to other acoustic sources (such as other ADVs)
- Electrical noise
- Large debris passing through the measurement volume.

These influences are not removed individually through the despiking process, and as such, evaluation of the quantity of data replaced as part of the despiking process must also be evaluated as originating from all contributing factors listed above.

However, a presentation of the amount of data "despiked" may demonstrate trends of the spatial location of outliers. In order to provide a consistent means of comparison, the number of data points replaced during the primary identification of outliers (*i.e.*, the first pass through the despiking filter) from each data set (Vx, Vy, and Vz, individually) was counted. **Figure 1** illustrates these identified data points through the red markers on top of data residing outside of the defined ellipsoid that encompasses the "good" data.

[1] DrChecks Comment ID # 5213484

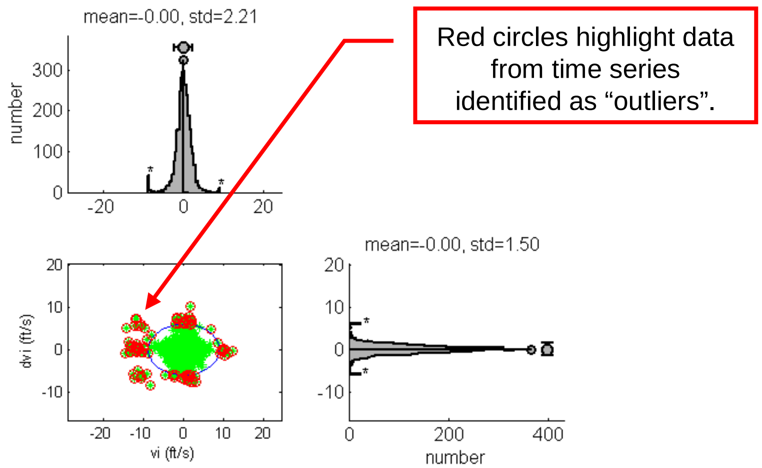


Figure 1: Outliers Identified During Despiking

The total number of outliers at each measurement location was estimated as the square root of the sum of the squares of outliers in each velocity component, in a similar manner to the calculation of overall RMS:

$$\text{Outlier Count} = [\ (Vx_{\#\ \text{of outliers}})^2 + (Vy_{\#\ \text{of outliers}})^2 + (Vz_{\#\ \text{of outliers}})^2\ ]^{0.5}$$

The operation was performed for each measurement location in gatewells 14A (with TRDs) and 15A (without TRDs). Contour plots which illustrate spatially the number of outliers counted during the first iterative loop of despiking for each test are shown in Figures A-1 through A-6. The range of the color bar scaling was selected to facilitate visualization of the majority of contours. The upper limit of the color scale (220 counts) represents ~7% of the discrete samples from each 2 minute time series sampled at 25 Hz.

Some trends emerge that are expected, such as larger values near the bottom of the gatewell, where RMS is also higher. It is expected that the number of outliers will increase as the overall RMS also increases. However, some nuances also emerge that are not easily explainable. Gatewell 14A, during the 15kcfs case exhibits a band of larger outlier counts over the OR-2 probe locations. Also, gatewell 15A, during the 17kcfs case exhibits a zone of high counts between elevations 52-54 and above on the WA side only.

These nuances may be artifacts of many variables, including but not necessarily only, the contributing factors listed above.

Attachments:

Figure A-1	Gatewell 14A, Low Flow, Outliers
Figure A-2	Gatewell 14A, Medium Flow, Outliers
Figure A-3	Gatewell 14A, High Flow, Outliers
Figure A-4	Gatewell 15A, Low Flow, Outliers
Figure A-5	Gatewell 15A, Medium Flow, Outliers
Figure A-6	Gatewell 15A, High Flow, Outliers

Figure A-1 Gatewell 14A, Low Flow, Number of Outliers

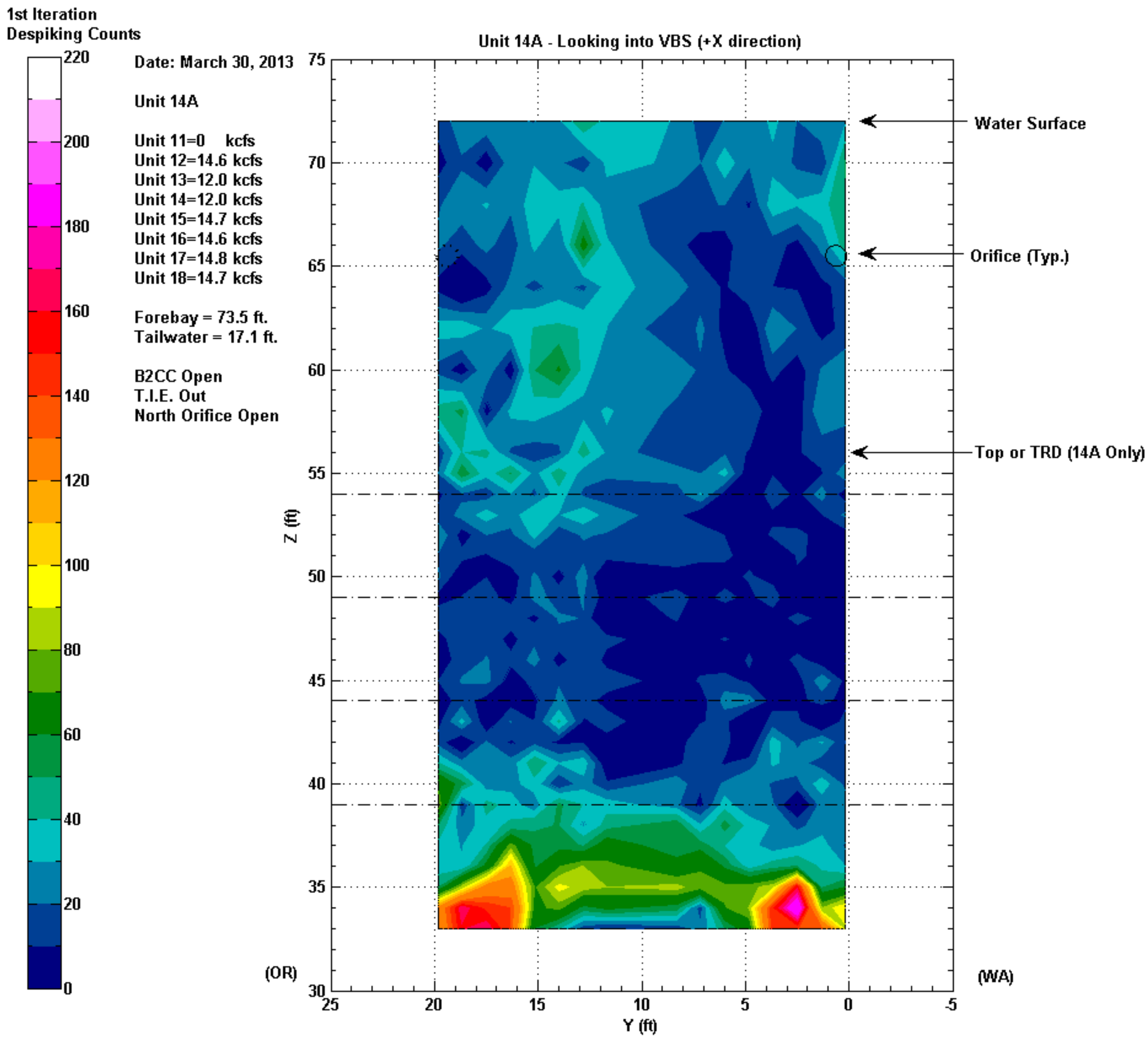


Figure A-2 Gatewell 14A, Medium Flow, Number of Outliers

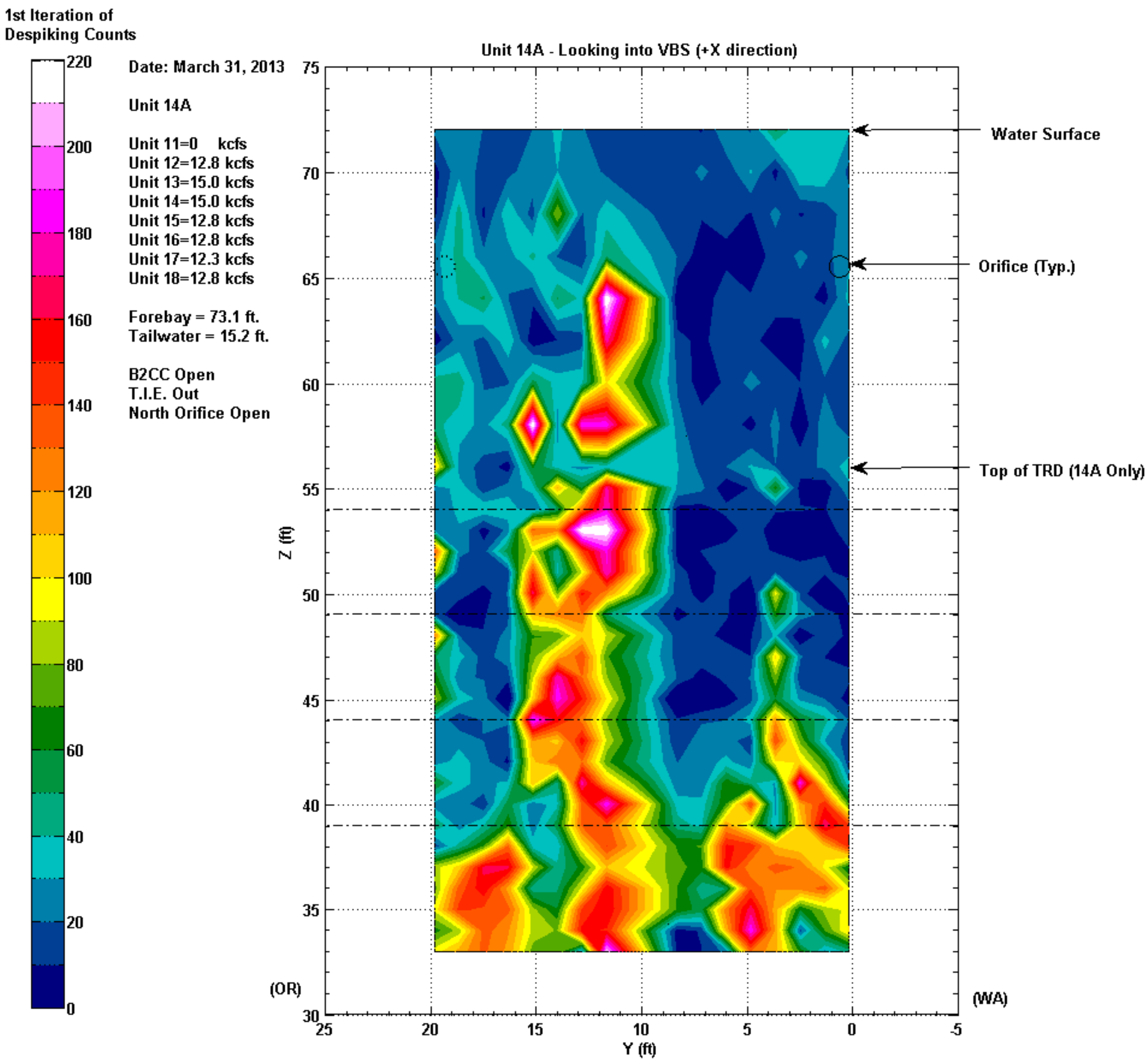


Figure A-3 Gatewell 14A, High Flow, Number of Outliers

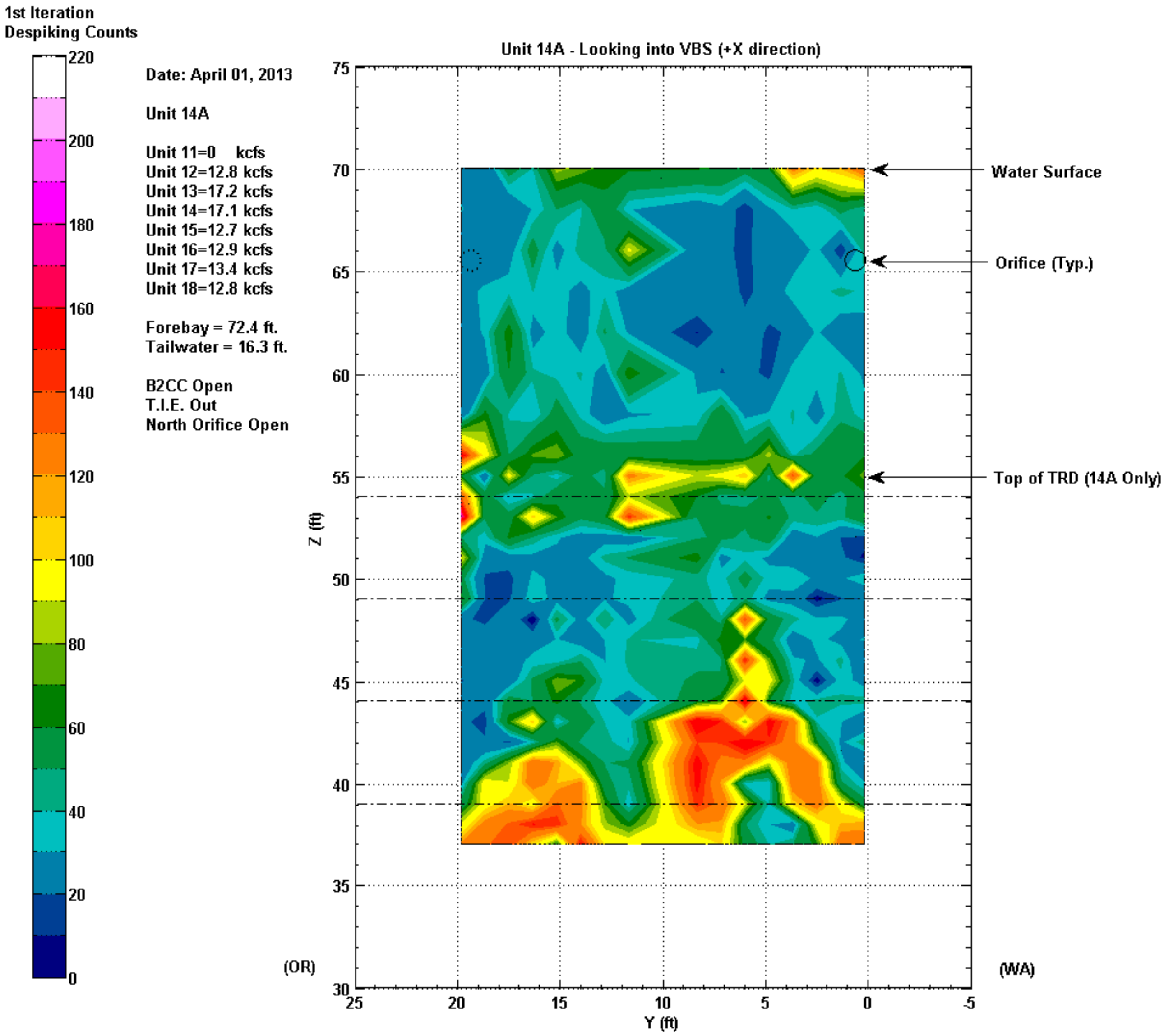


Figure A-4 Gatewell 15A, Low Flow, Number of Outliers

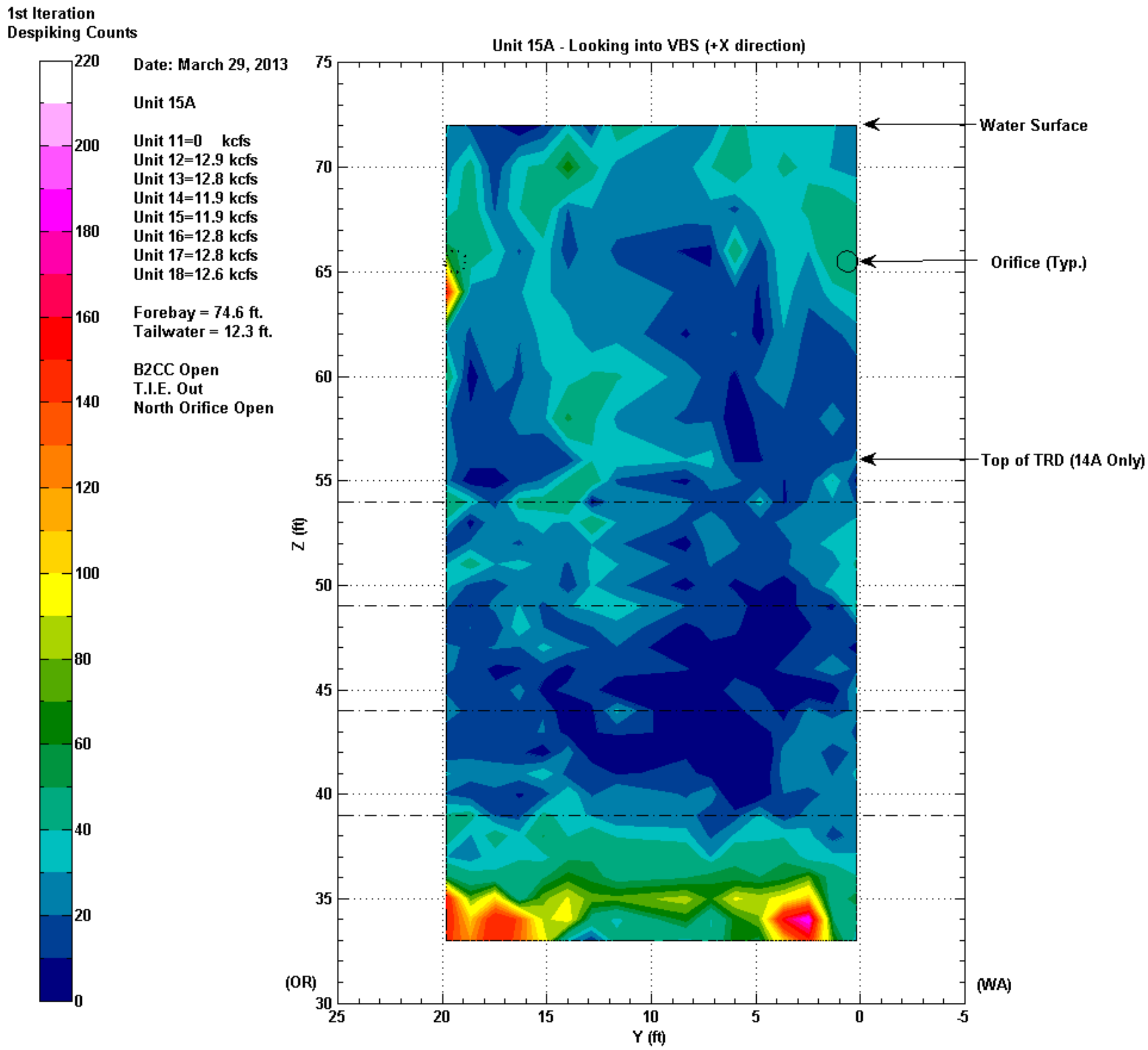


Figure A-5 Gatewell 15A, Medium Flow, Number of Outliers

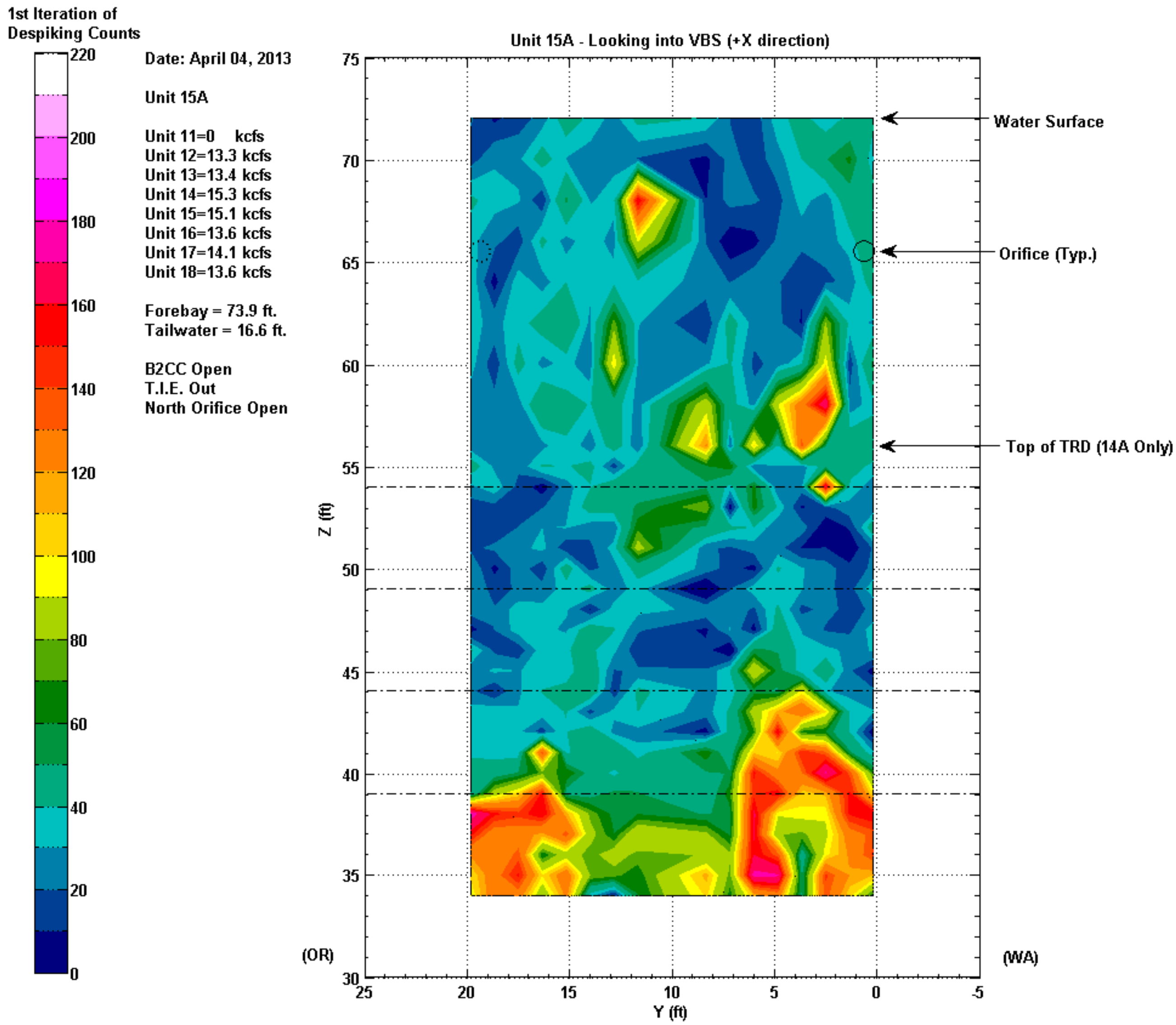
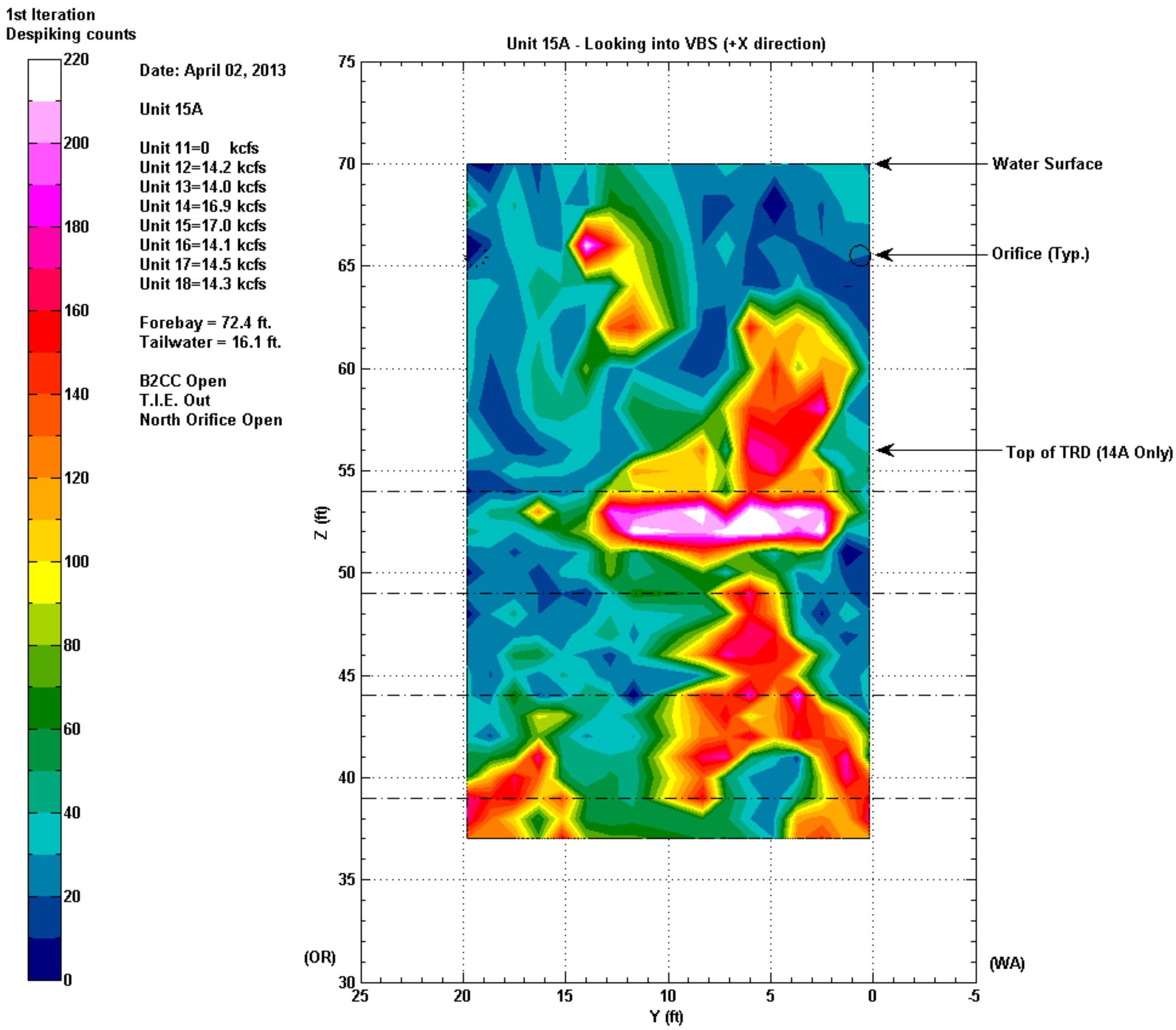


Figure A-5 Gatewell 15A, High Flow, Number of Outliers



Appendix E

DrChecks Comment Record

Comment Report: All Comments
Project: Bonneville 2nd PH Gatewell Turbulence Reduction Device
Review: Draft Final Data Collection Report
Displaying 19 comments for the criteria specified in this report.

Id	Discipline	Section/Figure	Page Number	Line Number
5202472	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

Page 2. Last sentence of section 1.2 Background. The turning vane was not designed to minimize turbulence at the VBS. I would either eliminate that part of the sentence or change it to say maximize flow up the gate well.

Submitted By: Laurie Ebner ((503) 808-4880). Submitted On: May 28 2013

1-0 Evaluation **Concurred**
Sentence was updated to reflect the turning vane intent.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Laurie Ebner ((503) 808-4880) Submitted On: Jun 20 2013
Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5202475	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

Page 4. In the sentence that states "developed and are regulated by NOAA's" I would delete 'and are regulated'.

Submitted By: Laurie Ebner ((503) 808-4880). Submitted On: May 28 2013

1-0 Evaluation **Concurred**
"and are regulated" has been removed.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Laurie Ebner ((503) 808-4880) Submitted On: Jun 20 2013
Current Comment Status: **Comment Closed**

5202479 Hydraulics n/a n/a n/a
Comment Classification: **Public (Public)**

Page 4 - third paragraph, last sentence needs editorial help.

Submitted By: Laurie Ebner ((503) 808-4880). Submitted On: May 28 2013

1-0 Evaluation **Concurred**
Sentence has been deleted.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Laurie Ebner ((503) 808-4880) Submitted On: Jun 20 2013
Current Comment Status: **Comment Closed**

5202480 Hydraulics n/a n/a n/a
Comment Classification: **Public (Public)**

Page 8. It would be nice to get an idea of scale on this photo. How big is the device?

Submitted By: Laurie Ebner ((503) 808-4880). Submitted On: May 28 2013

1-0 Evaluation **Concurred**
A scale was added to the photo. The black conditioning module is 12" Long and 2-3/4" in Diameter. For more information on size of the device, you may navigate here:
http://www.nortekusa.com/usa/products/acoustic-doppler-velocimeters/vector-1
and download the product technical specifications

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Laurie Ebner ((503) 808-4880) Submitted On: Jun 20 2013
Current Comment Status: **Comment Closed**

5203483 Hydraulics n/a n/a n/a
Comment Classification: **Public (Public)**

I'm pretty sure that for some tests data were collected starting from the bottom of the gatewell (El ~35) and working up to top of the gatewell (El ~72) and for others the data were collected from top to bottom. Please make sure the order of data collection for each test is noted in the report.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 28 2013

Revised May 29 2013.

1-0 Evaluation **Concurred**

Concur. The following sentence was added to the paragraph under Section 3.0 Results: "Measurements were collected starting from the lower elevations and progressing upwards during tests with low flows in gatewell slots 14A and 15A and for the high flow test in slot 14A. Otherwise the tests were conducted starting near the water surface and progressing downwards for time efficiency purposes.".

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 20 2013

Current Comment Status: **Comment Closed**

5203486	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

Figure 3-6 and Figure 3-12 contour formatting should match the formatting of other RMS contour plots. (Lines at contour color changes.)

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 28 2013

Revised May 28 2013.

1-0 Evaluation **Concurred**

Concur. These Figures were older versions, and have been revised accordingly.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 20 2013

Current Comment Status: **Comment Closed**

5203490	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

Minor formatting/spelling/grammar comments:

Figure 2-2 the positive y-coordinate direction is mislabeled as (+) Vz_USACE when it should be (+) Vy_USACE.

Photo 2-4 the two annotations at the bottom of the photo have the bottom of text cut off ("on laptop")

Section 2.5 Data Collection – The first "to" should be removed from the following sentence: "The motion program traversed to the probes to the northern most position, position 1."

Section 2.6.4 Statistical Analysis – In the first sentence, both "is" and "was" should be "were". (Once the data were sufficiently processed, the mean velocity components and turbulence were computed.)

Section 2.6.5 Fail Testing Post-Processed data – First word should be Post-Processing.

Section 3.1.2 Slot 14A – Medium Flow – Second paragraph, second sentence: "all" should be removed

Section 3.2.3 Slot 15A – High Flow – Second paragraph, first sentence: ")" needed after "(Vx – see Figure 3-11"

Section 3.3 Gatewell Slot 14C – Fourth paragraph, first sentence: ")" needed after "(Vx – see Figure 3-13"

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 28 2013

1-0 Evaluation **Concurred**
Figure 2-2 has been corrected.
Photo 2-4 has been corrected.
Section 2.5, "to" has been removed.
Section 2.6.4, "is" and "was" replaced with "were".
Section 2.6.5, changed to "Post-processing".
Section 3.1.2, "all" was removed.
Section 3.2.3, ")" added.
Section 3.3, ")" added.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 20 2013

Current Comment Status: **Comment Closed**

5203560	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

Throughout the report there is mention of "high screen approach velocity located near elevations 54-56 ft." while the contour plots and data show the highest approach velocities consistently measured at elevation 53 ft. Please resolve this discrepancy.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 28 2013

1-0 Evaluation **Concurred**
Elevation range has been updated to "52 - 56"

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 20 2013

Current Comment Status: **Comment Closed**

5203571 Hydraulics n/a n/a n/a

Comment Classification: **Public (Public)**

Page 17 - The bulleted list has "Water surface elevation in the gatewell upstream and downstream of the VBS (ft)". If the actual water surface elevations were collected, please include them in the report (the differentials are included). If not, please change the wording to indicate that what was collected is the differential head across the VBS.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 28 2013

1-0 Evaluation **Concurred**
Wording has been changed to "Water surface differential head in gatwell across the VBS"

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 20 2013

Current Comment Status: **Comment Closed**

5205530 Hydraulics n/a n/a n/a

Comment Classification: **Public (Public)**

Page 25, the last sentence states: "The results discussed below do not include the data that did not pass the fail test." The contour plots include the data that did not pass the fail test. Please resolve this discrepancy.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 29 2013

1-0 Evaluation **Concurred**
The sentence has been revised to: "The results discussed below do not include the data that did not pass the fail test, with exception of displayed contour plots."

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 20 2013
Current Comment Status: **Comment Closed**

5213399 Hydraulics n/a Page 4. n/a
Comment Classification: **Public (Public)**

3rd Para. Suggest deleting all but the first sentence. Combine the first sentence with the next paragraph. It may be helpful to mention at the end of this paragraph that data were collected at locations similar to the PNNL study to confirm performance of the TRDs.

Section 1.3, 1st para. Second sentence, suggest "CENWP will use the results of this study along with results of biological testing to determine the effectivenes..."

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**
Paragraphs have been modified.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013
Current Comment Status: **Comment Closed**

5213412 Hydraulics Section 1.2 n/a n/a
Comment Classification: **Public (Public)**

End of Section 1.2 refers to Photo 1-1 and 1-2 of the TRD. It may be helpful to have a schematic or figure of the VBS/gatewell and the TRDs at this point as well as the photos. Something like the measurement grid figure (2-4) with labels would be adequate.

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**
Isometric figures of the TRD and TRD installation have been added as Figure 1-5.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013
Current Comment Status: **Comment Closed**

5213463 Hydraulics Section 2.4 n/a n/a
Comment Classification: **Public (Public)**

Section 2.4.1 last sentence, suggest changing to "...to verify satifactory perfomance with USACE personnel prior to proceeding with data collection.

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**
Sentence has been modified as suggested.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013
Current Comment Status: **Comment Closed**

5213466 Hydraulics Section 2.4.2 n/a n/a
Comment Classification: **Public (Public)**

Second Para, CENWP Hydraulic Design (need caps on Hydraulic Design)

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**
Modified as suggested.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013
Current Comment Status: **Comment Closed**

5213472 Hydraulics Figure 2-4 n/a n/a
Comment Classification: **Public (Public)**

Is Figure 2-3 missing or did I miss it?

Typo on "Fine Measurement Grid"

also, indicate that the units for the Fine and Coarse Measurement Grids are inches, feet for others.

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**

Figure 2-3 is on page 12. It is the 3D labeled image from CAD of the traversing beam tipping into position.

Corrected spelling on Figure

Changed all units to Feet and indicated as such.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013

Current Comment Status: **Comment Closed**

5213484	Hydraulics	Section 2.6.2.2	n/a	n/a

Comment Classification: **Public (Public)**

Phase space thresholding: We would like to have some indication of whether the data with and without the TRD in place required different amounts of "despiking". Is there some indicator that can be provided for the level of filtering that was done on each data set? One example is given for Unit 14A High flow, but an overall trend is what we are interested in.

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**

See the attached Memorandum to file. The Memorandum has also been added as Appendix D of the final report.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013 (Attachment: Memo-to-File(FilteringComparison)_07June2013-jjo.pdf)

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013

Current Comment Status: **Comment Closed**

5213602	Hydraulics	Section 2.6.4	n/a	n/a

Comment Classification: **Public (Public)**

First sentence needs "were" instead of "was"...

Also, suggest changing second sentence to "The root mean square (RMS) of the velocity fluctuations about the mean (mathematically equal to the standard deviation about the mean of the samples) was calculated as an indicator for turbulence."

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**

Concur. See revised.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013

Current Comment Status: **Comment Closed**

5214301	Hydraulics	Fig 3-4	n/a	n/a

Comment Classification: **Public (Public)**

Please make the contour plot portions the same for all figures. Some have lines between contours and some don't.

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**

Concur. Figures 3-2 and 3-12 have been updated accordingly.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013

Current Comment Status: **Comment Closed**

5214486	Hydraulics	Section 5.0	n/a	n/a

Comment Classification: **Public (Public)**

Conclusions: In general in the conclusions and executive summary please remove references to the performance of the TRD. CENWP will make an assessment of the TRD performance using the velocity data, CFD model results, and biological testing results.

The conclusions should reflect the validity of the velocity data, whether the objectives of the field testing to collect data were met, and any limitations of the data set.

Submitted By: Elizabeth Roy (503-808-4835). Submitted On: Jun 04 2013

1-0 Evaluation **Concurred**

All references to an evaluation of TRD performance have been removed from the Conclusions section and Executive Summary. Discussion has been added regarding "banding" observed in the Gatewell 14A results.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

1-1 Backcheck Recommendation **Open Comment**
I agree the references to evaluation of TRD performance were removed. Thanks. I don't see discussion of the "banding". Please let me know if I missed it. I see Appendix D with the memo about filtering but it would be helpful to refer to this in the report text or conclusions (or both)

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 21 2013

2-0 Evaluation **Concurred**
A discussion of the observed "banding" is included in Section 3.1, paragraph 3.

Reference to Appendix D is included in Section 2.6.3 and has been added to the Conclusions section.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 21 2013

2-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Elizabeth Roy (503-808-4835) Submitted On: Jun 26 2013

Current Comment Status: **Comment Closed**

Comment Report: All Comments
Project: Bonneville 2nd PH Gatewell Turbulence Reduction Device
Review: Preliminary Velocity Data
Displaying 7 comments for the criteria specified in this report.

Id	Discipline	Section/Figure	Page Number	Line Number
5173751	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

The data should include the resultant velocity magnitude (total velocity magnitude) for each data collection point.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 08 2013

Revised May 10 2013.

1-0 Evaluation **Concurred**
Total velocity data tables have been included in Appendix C of the Draft Data Collection Report for all data collection points.

Submitted By: Brian Abel (206-709-2397) Submitted On: May 22 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: May 23 2013

Current Comment Status: **Comment Closed**

Id	Discipline	Section/Figure	Page Number	Line Number
5174003	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

For the lower VBS elevations where the one data point per probe was collected (where the beam was not traversed) the data should be associated only with the locations where it was collected. i.e. The data should not use the one data point per probe as a surrogate for all 4 positions, but show the data at the "home" position at which it was collected. These elevations should be removed from the contour plot or noted in some way on the plot.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 08 2013

Revised May 10 2013.

1-0 Evaluation **Concurred**
The non-traversed data was removed from all contour plots and tabulated separetly in Appendix C with their corresponding positions.

Submitted By: Brian Abel (206-709-2397) Submitted On: May 23 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: May 24 2013

Current Comment Status: **Comment Closed**

5174005	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

All data received to date (7 May; 14A 17kcfs, 15A 17kcfs, 14A 15kcfs, 15A 15kcfs) shows Vx (VBS approach) velocities at the top of the VBS (~EL 53 ft) consistently greater than 1.0 ft per second. These velocities are higher than expected (higher than physical and numerical models, PNNL 15.8 kcfs prototype data had only a few high velocity points in this area). Please provide any comments relevant to the integrity or accuracy of these data in the written report.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 08 2013

Revised May 10 2013.

1-0 Evaluation **Concurred**
Discussion has been included in the Draft Data Collection Report.

Submitted By: Brian Abel (206-709-2397) Submitted On: May 22 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: May 24 2013

Current Comment Status: **Comment Closed**

5174008	Hydraulics	n/a	n/a	n/a

Comment Classification: **Public (Public)**

The velocity data (in the Vx and Vz directions) appears to have vertical "banding" that corresponds to the instruments (ie. there appears to be a discontinuity in the velocity data between instruments). Specifically, all data received to date (7 May; 14A 17kcfs, 15A 17kcfs, 14A 15kcfs, 15A 15kcfs) shows a distinct change in Vx and Vz velocities from Y-position 16.33 to 15.17. Please provide any comments relevant to the integrity or accuracy of these data in the written report.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 08 2013

Revised May 10 2013.

1-0 Evaluation **For Information Only**

The appearance of "vertical banding" may be accentuated when reviewing data using Excel's conditional formatting. Contour plots of Vx w/ the Vyz resultants are constant in their trends among all listed tests. This consistency was noted in the report. In addition, all data was conditionally judged using the "Fail Test" described in the report to isolate data that may be discarded due to the effects of signal aliasing, velocity fluctuations, poor water quality, deployment hardware vibrations, proximity to boundaries, proximity to acoustical noises, electrical noise, and/or large debris. All data passing the "Fail Test" and presented in the report is accurate and real to the best of our knowledge. When reviewing the Velocity and RMS contour plots, the Y-positions listed above (16.33 to 15.17) appear to be on the boundary of where RMS values quickly taper off . All data presented is believed to be valid.

Submitted By: Brian Abel (206-709-2397) Submitted On: May 23 2013

1-1 Backcheck Recommendation **Open Comment**

The contour plots are indeed constant in their trends when comparing results from different tests, indicating that the instrument setup did not change from one test to another. The vertical banding, present in all the results, makes me wonder if the setup from instrument to instrument was slightly different. Specifically, for instrument OR-2, the Vx seems to be slightly lower and the Vz seems slightly higher than for OR-1 (and WA-2). Is there a chance OR-2 is slightly rotated about the y-axis, picking up part of the x-direction velocity as being in the z-direction?

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 04 2013

2-0 Evaluation **Concurred**

The ADVs were installed on the deployment arms and remained intact (without removal) for the entire testing duration. ADVs were installed according to Section 2.1, paragraph 5 such that the x-direction on the probe corresponded with the approach velocity (Vx). The orientation of the probe about its central axis is estimated to be accurate within 1-degree (as indicated by the bubble indicator on a level). At a 1-degree rotation of tilt such that the x-direction is 1-degree below the horizontal plane, the resulting Vz component might be recorded within +/- 1% of the true value while the Vx component may vary by significantly more, depending on the magnitude of the resultant vector in the x-z plane. Elevation 37 of the 14A-High Flow test between Y-positions 16.33 and 15.17 ft. have a 6% and 33% change in Vx with a 1-degree rotation, respectively. Review of the resultant x-z velocity vector orientations indicates NO trending between positions 16.33 and 15.17 ft. (OR-1 and OR-2 probes, respectively). It is assumed that if gross misalignment (greater than 1-degree) of the probes occurred, consistent trending between the direction of the x-z resultant vector across Y-positions would indicate such a trend. This was not found to be true, and therefore, does not help to explain any "banding" in the data.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

2-1 Backcheck Recommendation **Close Comment**

Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 21 2013

Current Comment Status: **Comment Closed**

5174016 Hydraulics n/a n/a n/a

Comment Classification: **Public (Public)**

At lower elevations, there are a few measurements in each data set where Vz is far lower than would be expected considering the Vz values above. In many cases these lower Vz velocities correspond to higher than expected Vz RMS values. Please ensure these velocities and RMS values are real and not artifacts of collection/processing activities and provide any comments relevant to the integrity or accuracy of these data in the report.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 08 2013

Revised May 10 2013.

1-0 Evaluation **Concurred**

The development of the "Fail Test" used in the report filters out these data pts. and removes them from the evaluation.

Submitted By: Brian Abel (206-709-2397) Submitted On: May 23 2013

1-1 Backcheck Recommendation **Open Comment**

Please verify that these measurements represent the data collected (not data processing anomalies) before removing them from the data sets using the fail test. Looing at the contour plot of the 14A medium flow, some of the velocities presented for WA-1 from elevations 33 to 37 ft differ drastically from those in the surrounding area.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 04 2013

2-0 Evaluation **Concurred**

The data was checked and confirmed to be presented correctly. It is worth noting that locations noted by the fail test are not removed from the contour plots. Excessively noisy data, as indicated by using the "Fail Test", are often recorded as large oscillations about zero (or near zero). As such, the RMS will be high, and the velocities will be low. This is the case for 14A-medium flow, where the total RMS values between Elevations 33-37 between Y-positions 0.17 and 3.67 ft. are as large as neighboring Vz components. While these values are coincidentally similar in magnitude, they are not incorrectly reported. All data in the "Fail Test" zone have low x,y,and z component velocities and the total RMS value is dominated by the large Vz-rms.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 18 2013

2-1 Backcheck Recommendation **Open Comment**

Please include your statement above regarding the fail test data ("It is worth noting that locations noted by the fail test are not removed from the contour plots.") or a similar one in the Executive Summary and Conclusions sections.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 21 2013

3-0 Evaluation **Concurred**
Reference to fail test data locations in the contour plots was added to the Executive Summary and the first paragraph of the Results section.

Submitted By: Brian Abel (206-709-2397) Submitted On: Jun 21 2013

3-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: Jun 24 2013

Current Comment Status: **Comment Closed**

5182331 Hydraulics n/a n/a n/a

Comment Classification: **Public (Public)**

Test 1 (Vz) velocity data doesn't look right and does not match the sweeping velocities shown in the contour plot on the Test 1 (Vx) tab.

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 13 2013

1-0 Evaluation **Concurred**
This error was found to be a bad copy/paste and was corrected in the Final data submittal and the report.

Submitted By: Brian Abel (206-709-2397) Submitted On: May 23 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: May 24 2013

Current Comment Status: **Comment Closed**

5182367 Hydraulics n/a n/a n/a

Comment Classification: **Public (Public)**

General Comments on Final Data Presentation -
- Please update the cover sheet
- Ensure the test information found in the top left corner of each sheet is accurate (TRD status, etc.)
- Remove markups (lines, circles, notes, etc.)

Submitted By: Gary Henrie ((503) 808-4831). Submitted On: May 13 2013

Revised May 13 2013.

1-0 Evaluation **Concurred**
Corrections were made prior to the final data submittal.

Submitted By: Brian Abel (206-709-2397) Submitted On: May 23 2013

1-1 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Gary Henrie ((503) 808-4831) Submitted On: May 24 2013

Current Comment Status: **Comment Closed**
