

Measurements of lateral flow from the Mississippi River using a towed  
trimaran near the Bohemia Spillway

A field report

Submitted to

The Lake Pontchartrain Basin Foundation

By

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July 05, 2012

# Flow measurements of lateral flow from the Mississippi River using a towed trimaran near the Bohemia Spillway.

## Introduction

The Coastal Hydrodynamics Laboratory, with assistance by a field support group at Pontchartrain Institute for Environmental Sciences conducted a survey of a new small pass in the Mississippi River at the Bohemia Spillway. The survey was conducted on July 03, 2012

## Objective

The objective of the survey was to measure the flow in the pass, namely Mardi Gras pass.

## Methods

To measure flow, we used an Acoustic Doppler Current Profiler (ADCP), and used the instruments bottom track for positioning. The survey was conducted in an area where turbulence and air bubbles were at a minimum, to avoid acoustic errors and therefore errors in the flow measurement. We used a trimaran, towed along the width of the channel using a rope. The instrument is employed with a Bluetooth connection, and beams data to the bank, where a computer receives the data instantaneously. Several passes were conducted to ensure consistency.

## Results

The flow in the new pass, namely Mardi Gras pass, is of the order of  $12.0 - 12.9 \text{ m}^3/\text{s}$ , or 424 - 456 cfs, at the time of measurement. The standard deviation derived from the field measurements is  $0.4 \text{ m}^3/\text{s}$ . Therefore, the average flow at the time of measurement was  $12.3 \pm 0.4 \text{ m}^3/\text{s}$ , or  $436 \pm 13.5$  cfs. Appendix A shows screenshots from different transects conducted by the trimaran. Preliminary stage discharge curves and time of surveys compared with the gauge height in the River are shown in Figures 3 and 4.

## Acknowledgments

We thank Mike Brown and Robert Clark for assistance in the field.



Figure 1. Trimaran transversing the cut



Figure 2. Trimaran transversing the cut

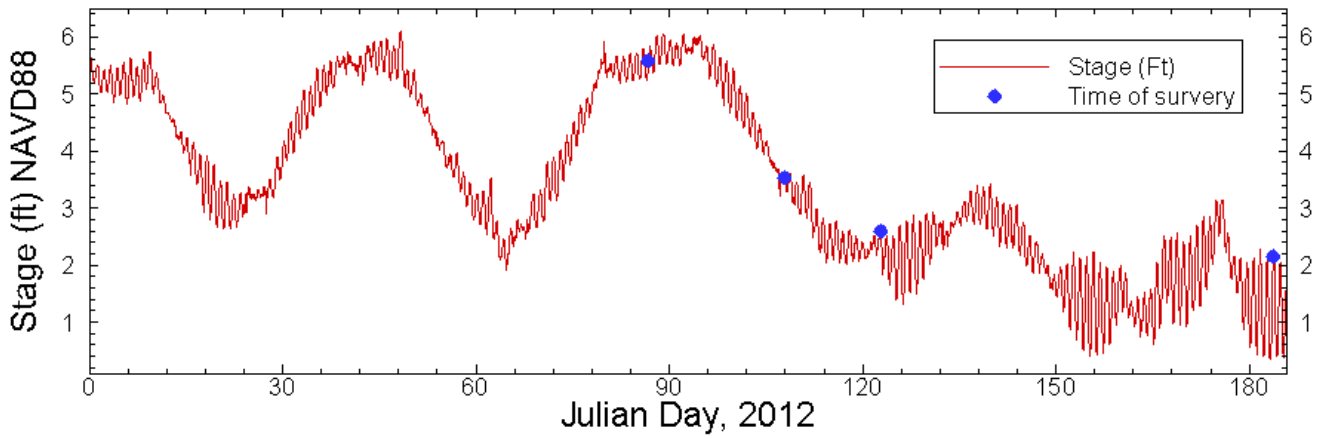


Figure 3. River stage for 2012 at west point a la hache. Blue circles show the time surveys were conducted.

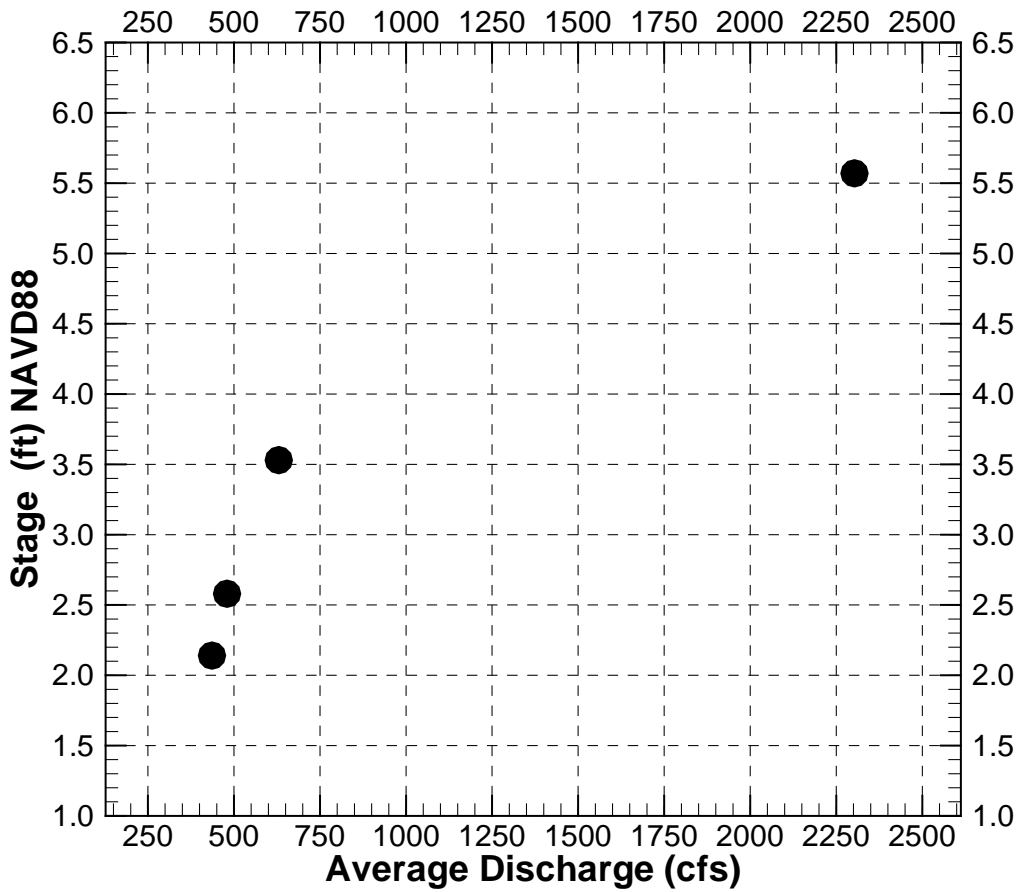


Figure 4. preliminary stage discharge curve for MG Pass.

Appendix A. Screenshots of WinRiver II - ADCP - interface with processed data

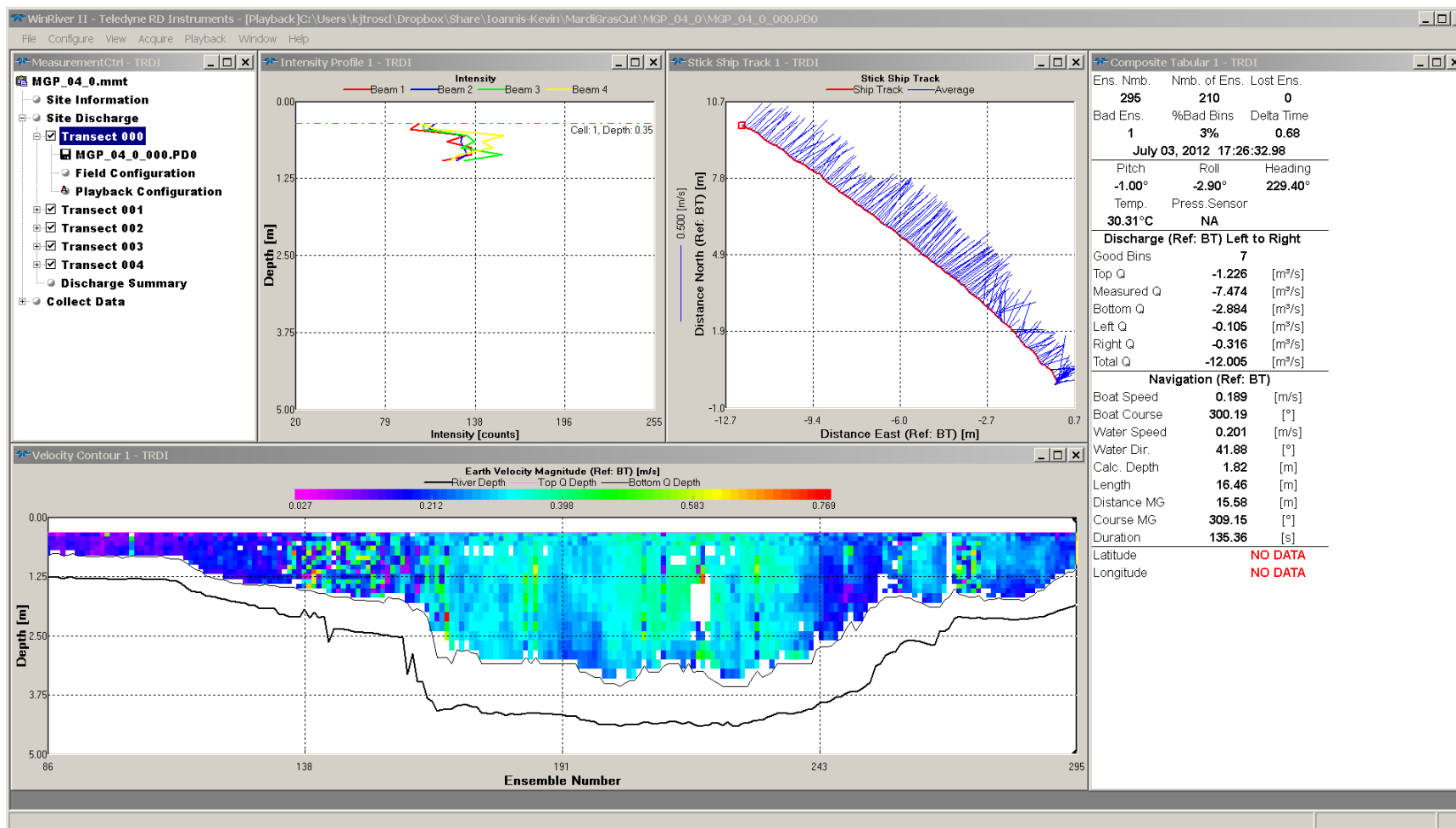


Fig. A1

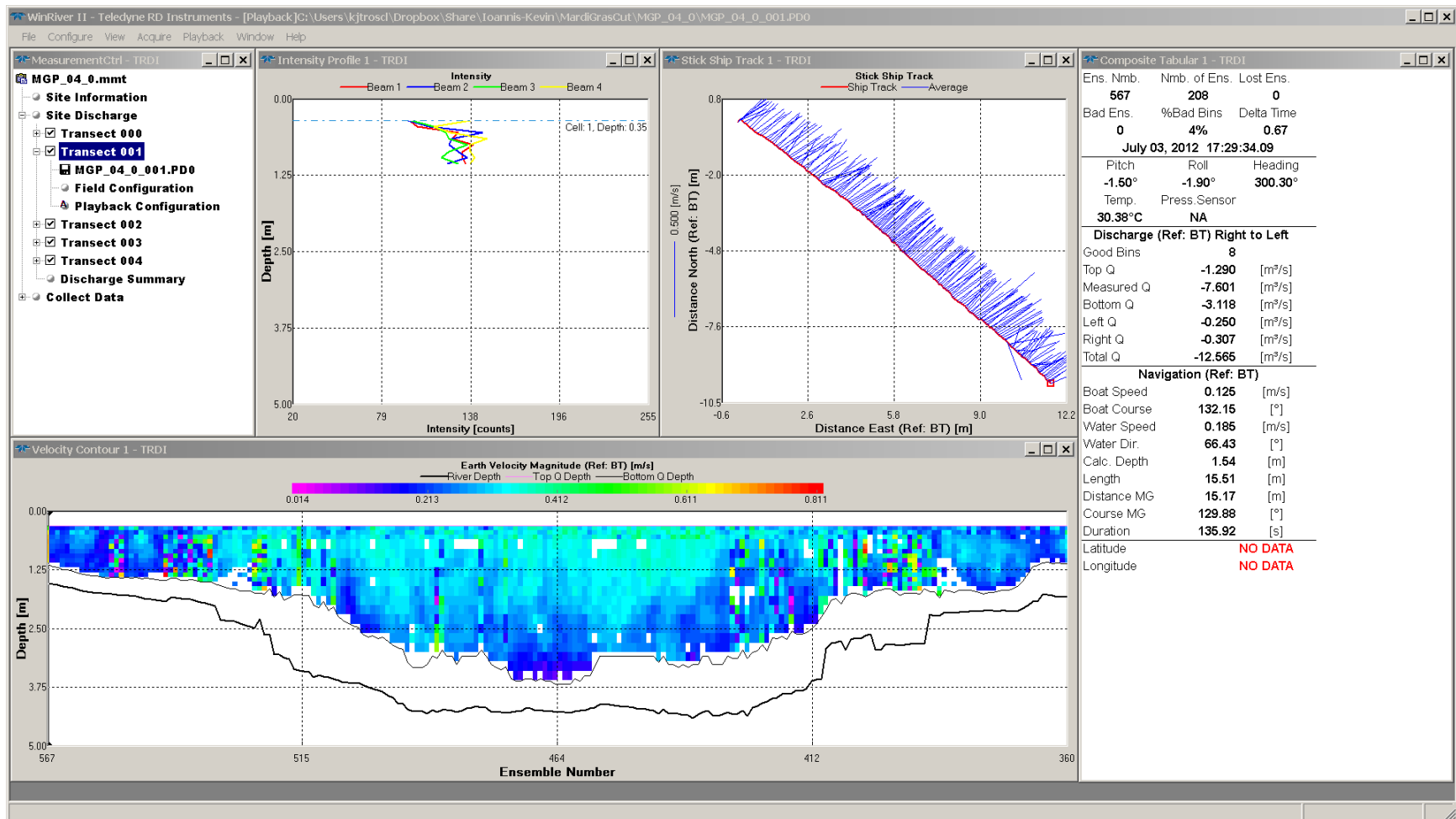


Fig. A2



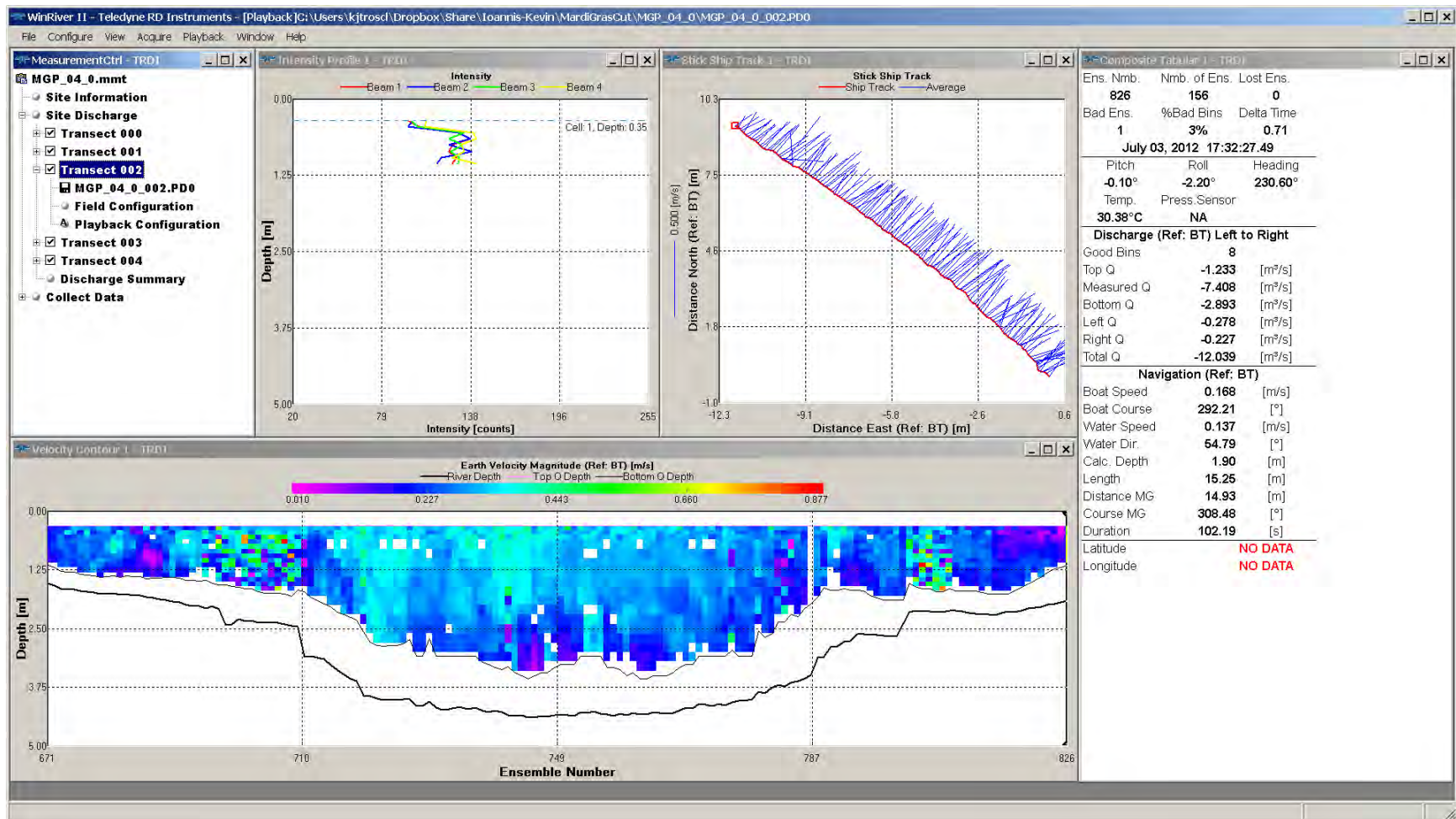


Fig. A3

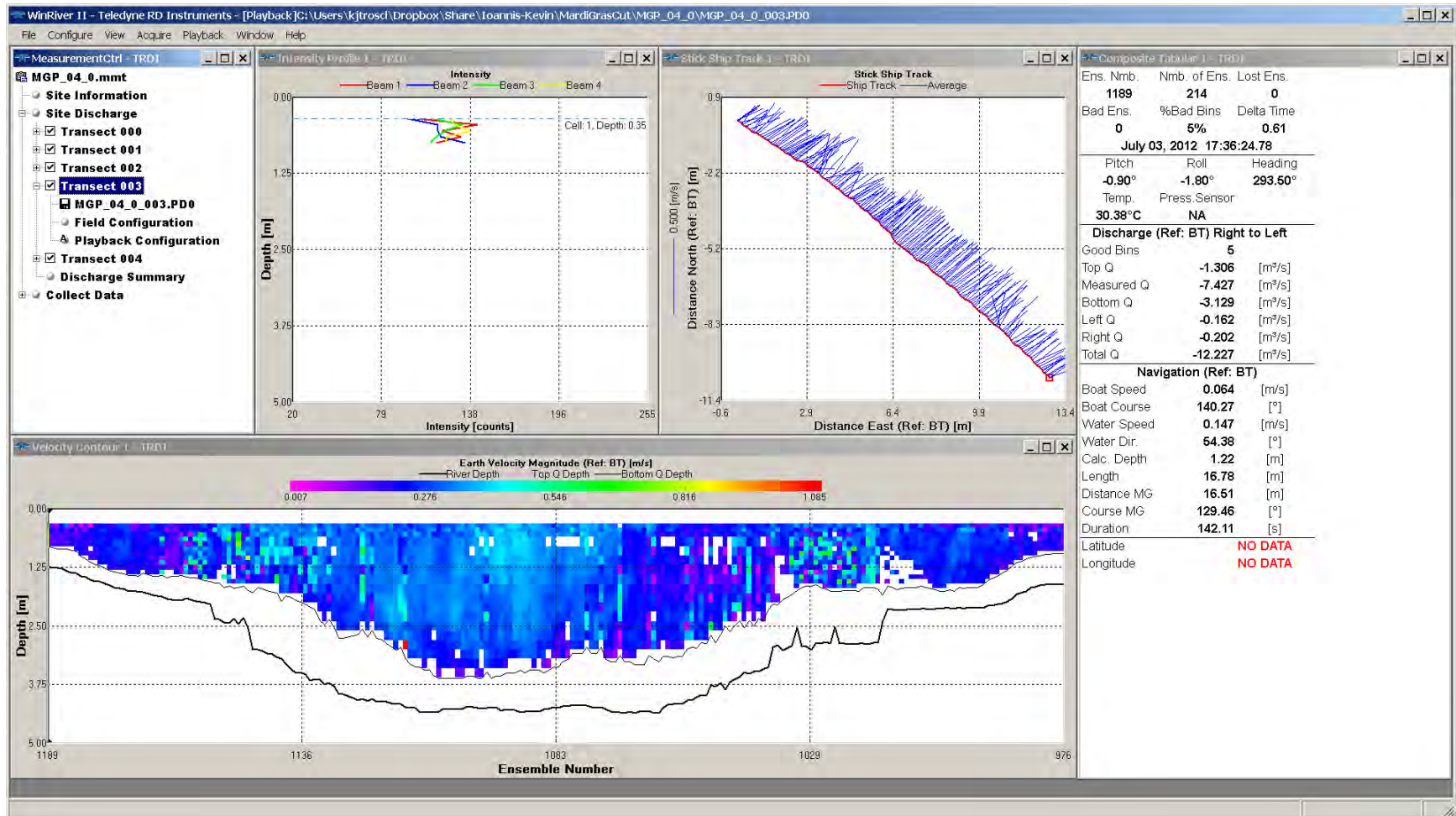


Fig. A4



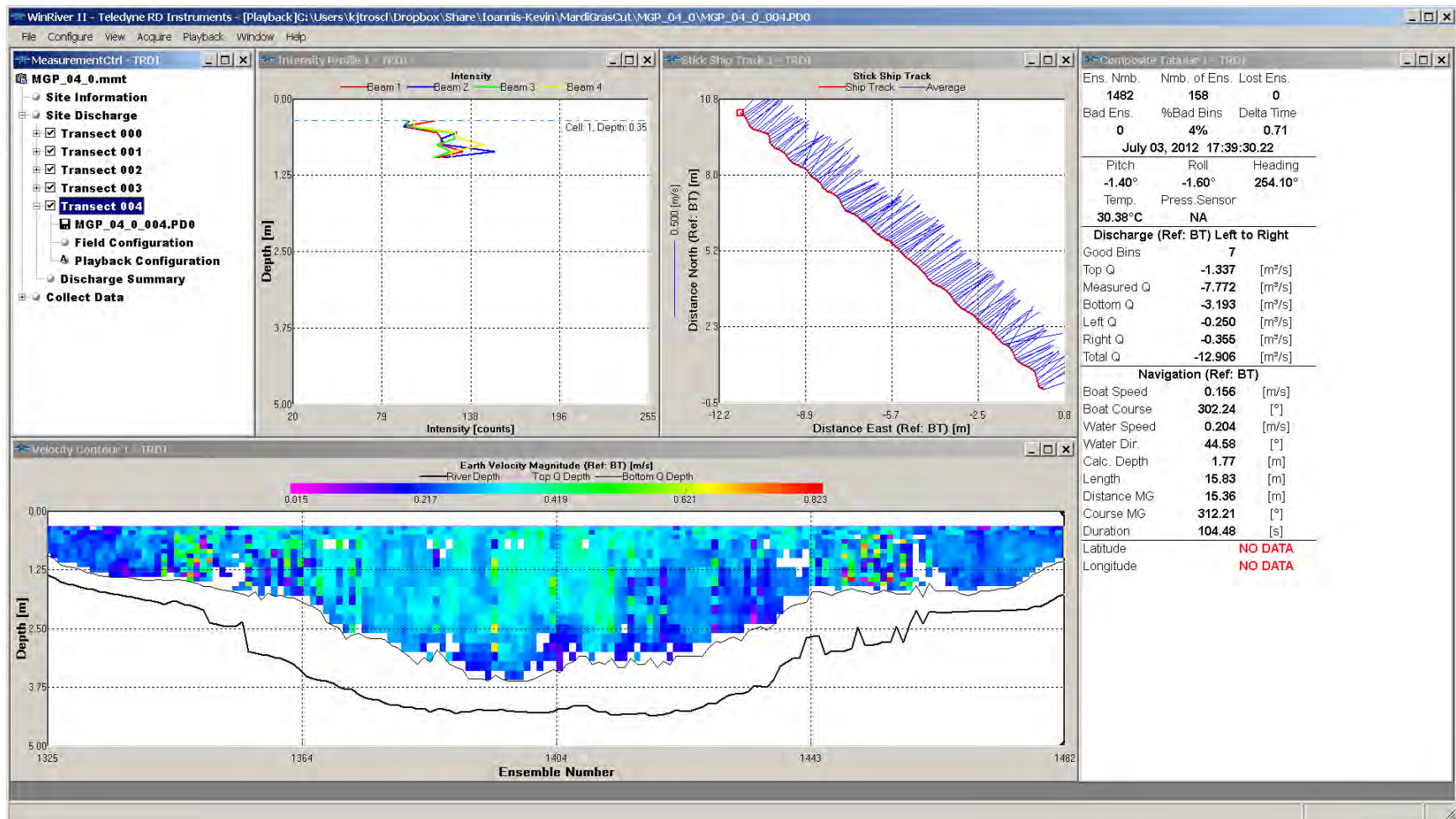


Fig. A5