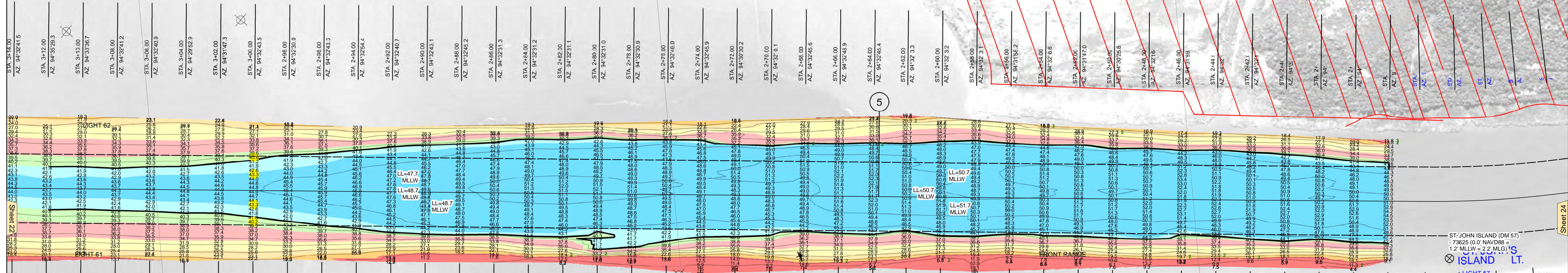
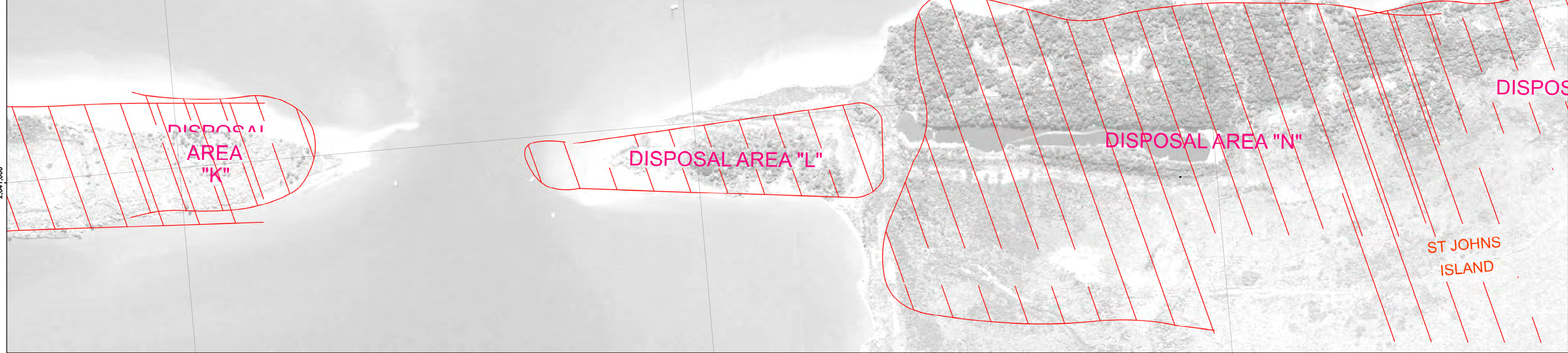


**US Army Corps of Engineers District: CEMVN**

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 Distribution Liability: The data represents the results of data collected for a specific US Army Corps of Engineers project. It is only valid for its intended use, content, time and accuracy specifications. The user is responsible for the results of any use of the data for other than its intended purpose.  
 Data Constraints: Hydrographic survey data is subject to change rapidly due to several factors including but not limited to dredging, accretion, and other channel changes. The user is responsible for the results of any use of the data for other than its intended purpose. The user is responsible for the results of any use of the data for other than its intended purpose.

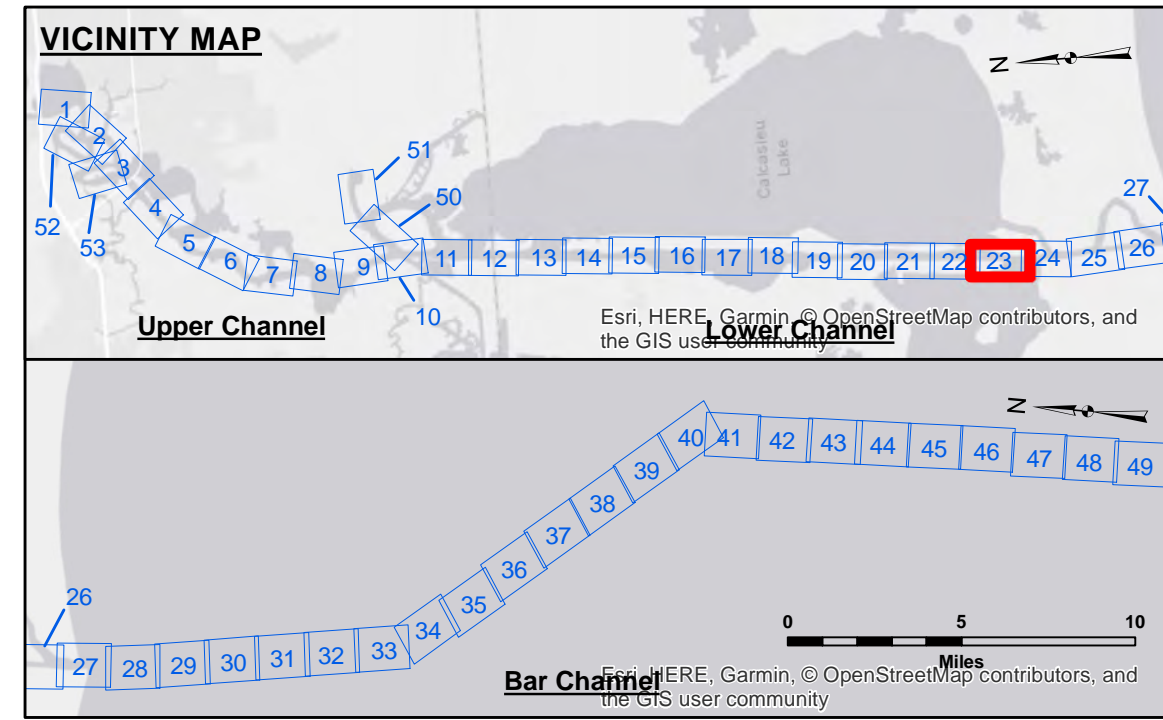


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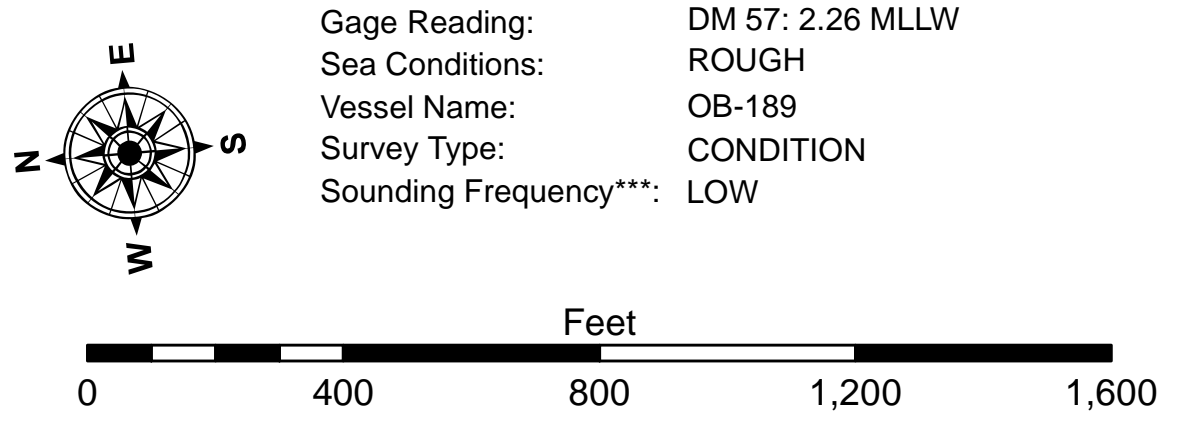
**U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT**

**Surveyed By:** DUS/JH  
**Plotted By:** BD  
**Checked By:** AC



**LEGEND**

|  |                                |  |                   |  |                           |  |                |
|--|--------------------------------|--|-------------------|--|---------------------------|--|----------------|
|  | Federal Navigation Channel     |  | Cable Area        |  | 3 Fluff Thickness (feet)* |  | -16' and above |
|  | Federal Navigation Center Line |  | Placement Area    |  | Shoalest Sounding**       |  | -16' to -21'   |
|  | As-built Pipeline/Cable        |  | Anchorage Area    |  | Beacon, General           |  | -21' to -26'   |
|  | Unconfirmed Pipeline/Cable     |  | Obstruction Point |  | Red Navigation Buoy       |  | -26' to -33'   |
|  | Project Depth Contour          |  | Wrecks-Submerged  |  | Green Navigation Buoy     |  | -33' to -39'   |
|  |                                |  |                   |  |                           |  | -39' to -41'   |
|  |                                |  |                   |  |                           |  | -41' to -43'   |
|  |                                |  |                   |  |                           |  | -43' and below |



Gage Reading: DM 57: 2.26 MLLW  
 Sea Conditions: ROUGH  
 Vessel Name: OB-189  
 Survey Type: CONDITION  
 Sounding Frequency\*\*\*: LOW

**NOTES:**  
 Horizontal Coordinate System: North American Datum of 1983 (NAD83), projected to the State Plane Coordinate System (SPCS), Louisiana South Zone. Distance units in U.S. Survey Feet.

Vertical Datum: Soundings are shown in feet and indicate depths below Mean Lower Low Water Datum (MLLW). Datum Relationships for gage 73625 as of December 2013: 0.0' NAVD83 (2009.55) = 1.2' MLLW = 2.2' MLG or 0.0' MLLW = 1.0' MLG

Distances on the Calcasieu River are shown at 1 mile intervals. The location of navigation aids are base on and provided by the U.S. Coast Guard and USACE survey crews.

2015 Aerial Photography data source: NAIP  
 Reference is N.O.A. Navigation Chart No. 11339.

\* Difference between high and low frequency elevations where greater than 1.0'.  
 \*\* Shoalest Sounding per Quarter per Reach.

\*\*\* High frequency (200 kHz) survey data represents the first signal return at a sounding location and will include suspended solids, known as "fluff", if present. Low frequency (20 kHz) survey data normally penetrates through this "fluff" layer to depict elevations of consolidated bottom material. Low frequency accuracies may vary depending on channel conditions and fathometer settings.

**U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT**

**Calcasieu Ship Channel LOWER SHEET 23**

**CR\_23\_LWR\_20190502\_CS**

**02 May 2019**

**Sheet Reference Number 23 of 53**

Revision Number: 3.12-2016811