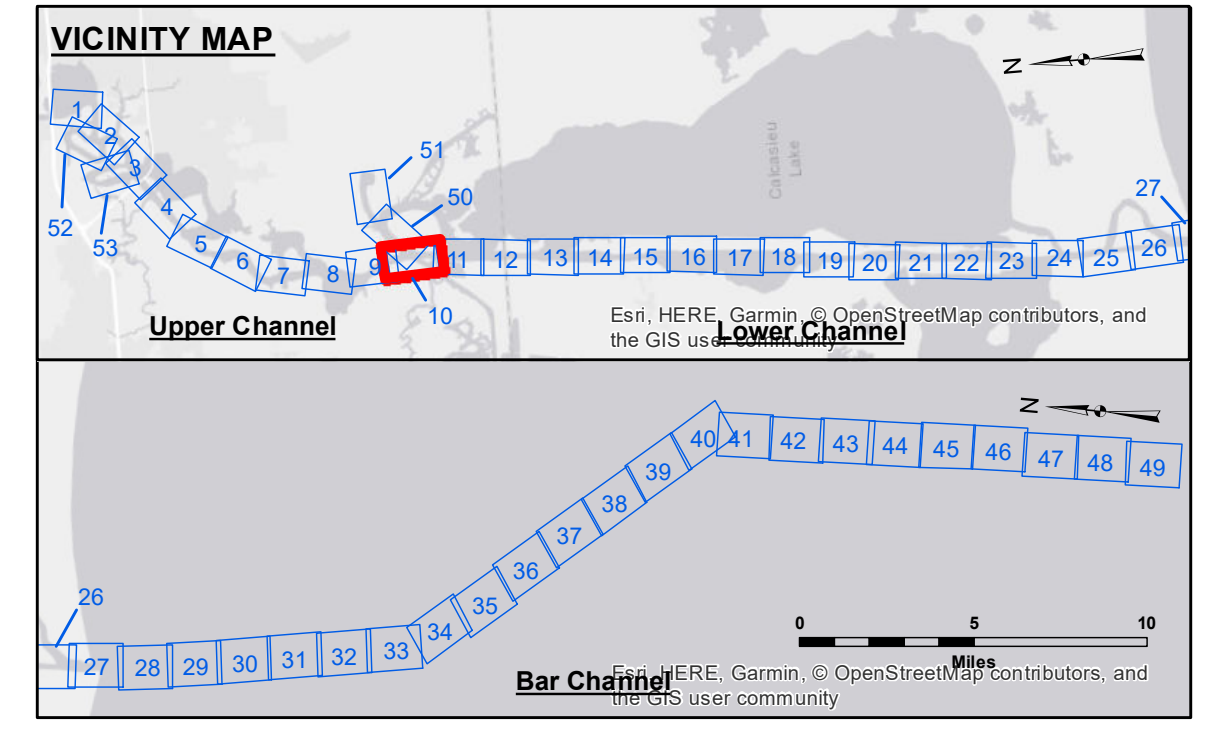


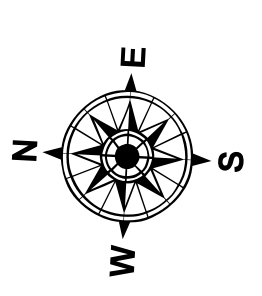
DISCLAIMER
 The information depicted on this map represents the results of a hydrographic survey conducted by the U.S. Army Corps of Engineers. The data represents the results of a collection of soundings for a specific US Army Corps of Engineers project. It is not intended for use in any other project, nor is it intended to be used as a substitute for a hydrographic survey. The user is responsible for the accuracy, completeness, and reliability of the data for their intended use. The user is not to be held liable for any damage or injury resulting from the use of this data. The user is not to be held liable for any damage or injury resulting from the use of this data. The user is not to be held liable for any damage or injury resulting from the use of this data.

U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT		
Submitted:	Surveyed By: JHDS	Plotted By: AO
Recommended:	Checked By: AO	Checked By: AO
Approved:	Chief, Waterways Maintenance Section	

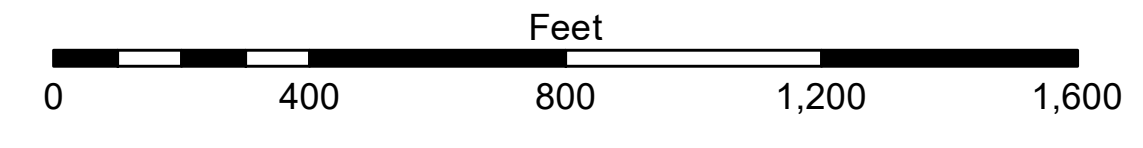
**CALCASIEU SHIP CHANNEL
 UPPER SHEET 10
 CR_10_UPR_20190417_CS
 17 April 2019**



LEGEND		
--- Federal Navigation Channel	○ Cable Area	3 Fluff Thickness (feet)*
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
— As-built Pipeline/Cable	□ Anchorage Area	★ Beacon, General
..... Unconfirmed Pipeline/Cable	⊗ Obstruction Point	◆ Red Navigation Buoy
— Project Depth Contour	⚓ Wrecks-Submerged	◆ Green Navigation Buoy



Gage Reading: RNG D: 1.7 MLLW
 Sea Conditions: 1'
 Vessel Name: OB-189
 Survey Type: CS
 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 73585 as of December 2013:
 0.0' NAVD83 (OPUS 2013) = 0.8' MLLW = 1.8' 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.

**Sheet
 Reference
 Number
 10 of 53**