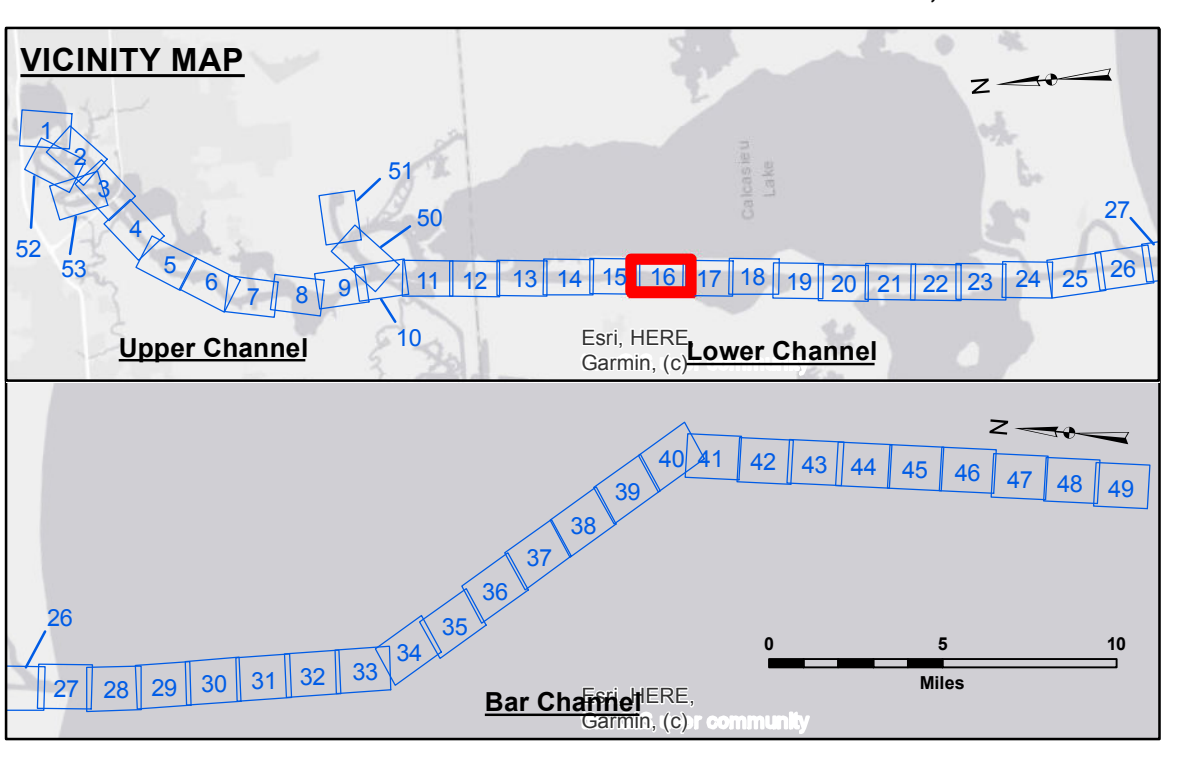
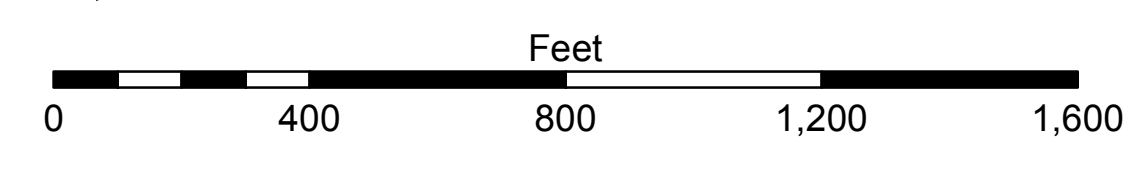
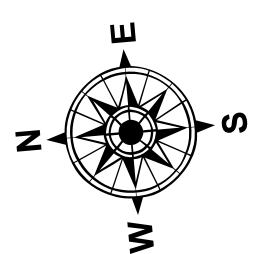


Distribution Liability: The data represents the results of data collection/processing for a specific US Army Corps of Engineers project. It is only valid for its intended use, context, time and accuracy specifications. The user is responsible for the results. The appearance of the data for other than its intended purpose. Data Constraints: Hydrographic survey data is subject to change rapidly due to several factors including but not limited to dredging, sedimentation, and changes in channel conditions. The US Army Corps of Engineers accepts no responsibility for changes in the hydrographic conditions which develop after the date of the original survey. Prudent mariners should not rely solely upon this information.

U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT	
Submitted:	Surveyed By: RYLAND/MOLLERE
Recommended:	Plotted By: BD
Approved:	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: HACKBERRY 1.73 MLLW AVG.
 Sea Conditions: CALM
 Vessel Name: OB-169
 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 73600 as of December 2013: 0.0' NAVD83 (OPUS 2010) = 1.0' MLLW = 2.0' 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.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.

**CALCASIEU SHIP CHANNEL
 LOWER SHEET 16
 CR_16_LWR_20210615_CS
 15 June 2021**

**Sheet Reference Number
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