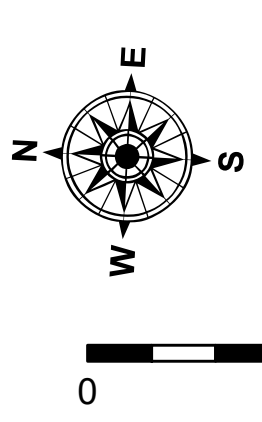


LEGEND

--- 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: RANGE D: 1.30 MLLW
 Sea Conditions: CALM
 Vessel Name: OB-189
 Survey Type: CONDITION
 Sounding Frequency***: LOW

Vertical Datum:
 Soundings are shown in feet and indicate depths below Mean Lower Low Water Datum (MLLW).
 Datum Relationships for gage 73575 as of December 2013:
 0.0' NAVD88 (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 based 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.



DISCLAIMER
 Distribution Liability: The data represents the results of data collection for a specific US Army Corps of Engineers project and is only valid for its intended use, control, time and accuracy specifications. The user is responsible for the results of any application 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, channel migration, and other factors. The user is responsible for the results of any application of the data for other than its intended purpose.
 The information depicted on this map represents the results of a survey conducted on the date indicated. It is not intended to represent the general condition existing at that time.

U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: JHDS
Recommended:	Plotted By: BD
Approved:	Checked By: AC

**CALCASIEU SHIP CHANNEL
 UPPER SHEET 9
 CR_09_UPR_20190416_CS
 16 April 2019**

**Sheet Reference Number
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