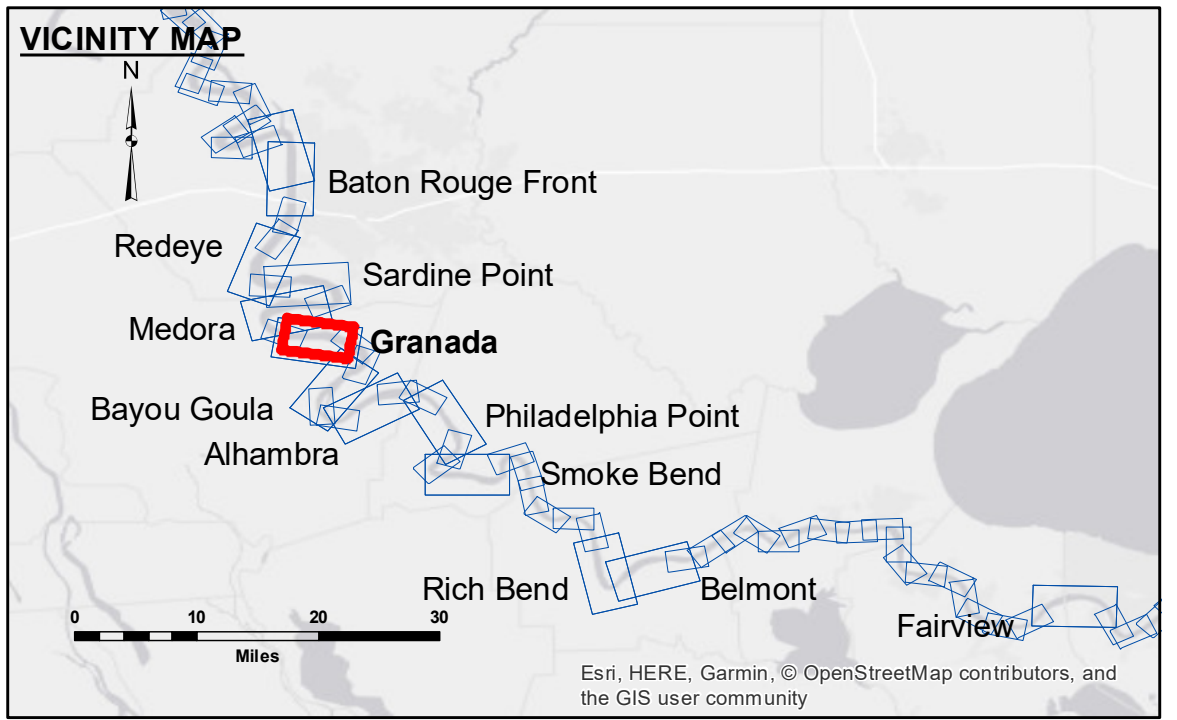


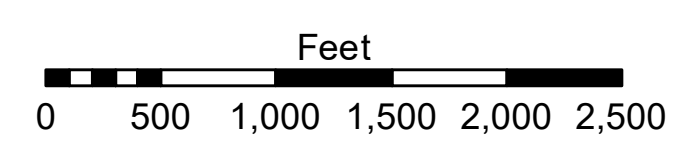
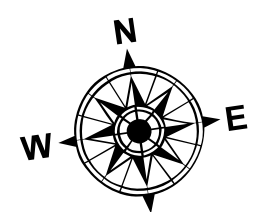
DISCLAIMER: The data represented on this map represents the results of a collection of data for a specific project. The data is not intended to be used for any purpose other than that for which it was collected. The user is responsible for the results of any use of the data for other than its intended purpose. The user is responsible for the results of any use of the data for other than its intended purpose. The user is responsible for the results of any use of the data for other than its intended purpose.

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

**MISSISSIPPI RIVER - B. R. TO GULF
GRANADA RECON
MR_10_GRA_20190123_CS
23 January 2019**



LEGEND		LEGEND		LEGEND	
--- Federal Navigation Channel	○ Cable Area	□ Borrow Area	■ 0' and above	⬆ Shoalest Sounding**	⬆ 0' to -5'
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**	■ -5' to -10'	★ Beacon, General	⬆ -10' to -20'
— As-built Pipeline/Cable	□ Anchorage Area	★ Beacon, General	■ -20' to -30'	◆ Red Navigation Buoy	⬆ -30' to -35'
⋯ Unconfirmed Pipeline/Cable	⊗ Obstruction Point	◆ Red Navigation Buoy	■ -35' to -40'	◆ Green Navigation Buoy	⬆ -40' to 45'
— Project Depth Contour	⚓ Wrecks-Submerged	◆ Green Navigation Buoy	■ -45' and below		⬆ -45' and below



LWRP: 1.9
Gage Reading: BR:38.6 D:28.2 USED:33.9 NGVD
Sea Conditions: ROUGH
Vessel Name: OB189
Survey Type: CS
Sounding Frequency***: HIGH

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 Low Water Reference Plane 2007 (NGVD).
Distances on the Mississippi River, above and below Head of Passes are shown at 1 mile intervals.
The location of navigation aids are based on and provided by the U.S. Coast Guard and USACE crew.
2015 Aerial Photography data source: NAIP, USDA-FSA-APFO Aerial Photography Field Office.
Reference is N.O.A.A. Navigation Chart No. 11370.
** 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.

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