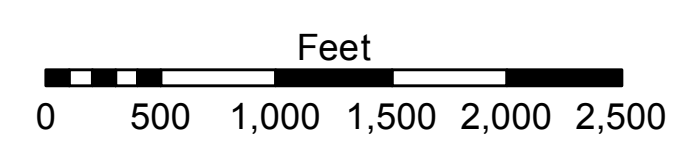
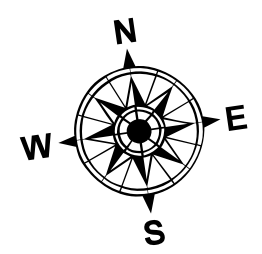


**LEGEND**

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



LWRP: 1.9  
 Gage Reading: BR 12.1:D:6.7 USED:9.6 NGVD  
 Sea Conditions: CHOPPY  
 Vessel Name: OB189  
 Survey Type: CONTROL  
 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 base on and provided by the U.S. Coast Guard and USACE crew.

2010 Aerial Photography data source: NAIP, USDA-FSA-APFO Aerial Photography Field Office.

Reference is N.O.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.



**DISCLAIMER:**

The information depicted on this map represents the results of a survey conducted by the U.S. Army Corps of Engineers. The information is provided for informational purposes only and is not intended to be used for any other purpose. The user is responsible for the accuracy, reliability, and completeness of the information. The user is responsible for the accuracy, reliability, and completeness of the information. The user is responsible for the accuracy, reliability, and completeness of the information.

U.S. ARMY CORPS OF ENGINEERS  
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DS/SR
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\_20161221  
 21 December 2016**

**Sheet Reference Number  
 10 of 97**

Revision Number:  
 3.8-20150202