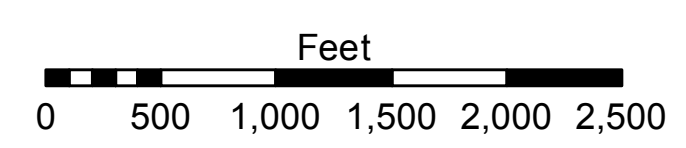
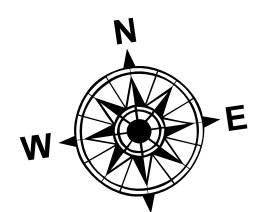
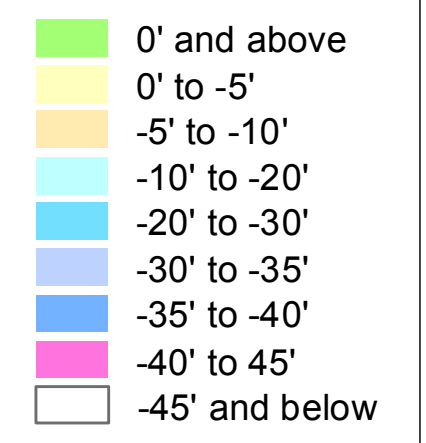


LEGEND	
— Federal Navigation Channel	○ Cable Area
— Federal Navigation Center Line	□ Placement Area
— As-built Pipeline/Cable	□ Anchorage Area
..... Unconfirmed Pipeline/Cable	⊗ Obstruction Point
— Project Depth Contour	⚓ Wrecks-Submerged
□ Borrow Area	★ Beacon, General
● Shoalest Sounding**	◆ Red Navigation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



LWRP: 1.9  
 Gage Reading: BR:8.0D:4.4 USED:6.4 NGVD  
 Sea Conditions: CALM  
 Vessel Name: OB189  
 Survey Type: CONDITION  
 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 data represents the results of data collection processing for a specific US Army Corps of Engineers project. The data is not intended for use in any other project or for any other purpose. The user is responsible for the results and accuracy of the data. The application of the data for other than its intended purpose is at the user's risk. The US Army Corps of Engineers is not responsible for any errors or omissions in the data. The information depicted on this map represents the results of a survey conducted by the US Army Corps of Engineers. The information is not intended to represent the general condition existing at this time.

U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT	
Submitted:	Surveyed By: SPS_JH
Recommended:	Plotted By: AO
Approved:	Checked By: AO

**MISSISSIPPI RIVER - B.R. TO GULF  
 GRANADA RECON  
 MR\_10\_GRA\_20161201  
 01 December 2016**

**Sheet Reference Number  
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