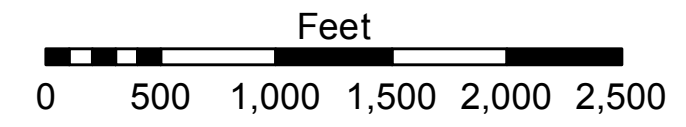
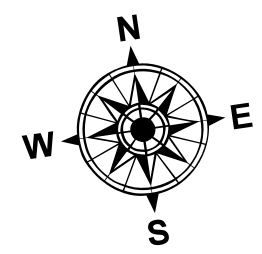


LEGEND	
— Federal Navigation Channel	○ Cable Area
— Federal Navigation Center Line	□ Placement Area
— As-built Pipeline/Cable	□ Anchorage Area
⋯ Unconfirmed Pipeline/Cable	⊗ Obstruction Point
— Project Depth Contour	⚓ Wrecks-Submerged
□ Borrow Area	★ Beacon, General
● Shoalest Sounding**	◆ Red Navigation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



LWRP: 1.9
 Gage Reading: BR:17.2 D:9.8 USED:13.80 NGVD
 Sea Conditions: CALM
 Vessel Name: OB-189
 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 represented on this map represents the results of a survey conducted by the U.S. Army Corps of Engineers. The data is not intended for use in any other application. The user is responsible for the results of any application of the data for other than its intended purpose. The U.S. Army Corps of Engineers is not responsible for any errors or omissions in the data or for any consequences arising from the use of the data. The information depicted on this map represents the results of a survey conducted by the U.S. Army Corps of Engineers. The data is not intended for use in any other application. The user is responsible for the results of any application of the data for other than its intended purpose. The U.S. Army Corps of Engineers is not responsible for any errors or omissions in the data or for any consequences arising from the use of the data.

U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT		
Submitted:	Surveyed By: DR, SP	Checked By: ATO
Recommended: Chief, Survey Section	Plotted By: BTD	
Approved: Chief, Waterways Maintenance Section		

**MISSISSIPPI RIVER - B.R. TO GULF
 GRANADA CROSSING
 MD_10_GRA_20160713
 13 July 2016**

**Sheet
 Reference
 Number
 10 of 97**