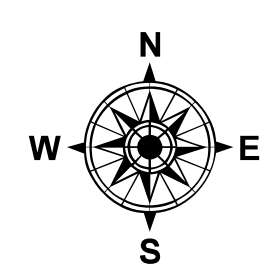
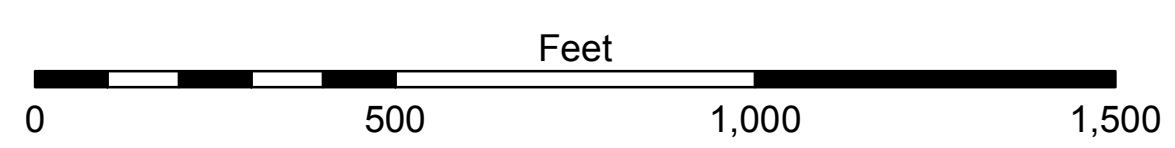


LEGEND

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



Gage Reading: PASS MANCHAC (85420): 1.5 NAVD
 Sea Conditions: CALM
 Vessel Name: OB-167
 Survey Type: CONDITION
 Sounding Frequency***: LOW



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 North American Vertical Datum of 1988
 (NAVD88).
 The location of navigation aids are base on and provided by the U.S. Coast Guard.
 2010 Aerial Photography data source: NAIP Louisiana.
 Reference is N.O.A.A. Navigation Chart No. 11369.
 ** Shoalest Sounding per Quarter per Reach.
 *** High frequency (200 kHz) survey data represents the first signal return at a sounding
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 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.



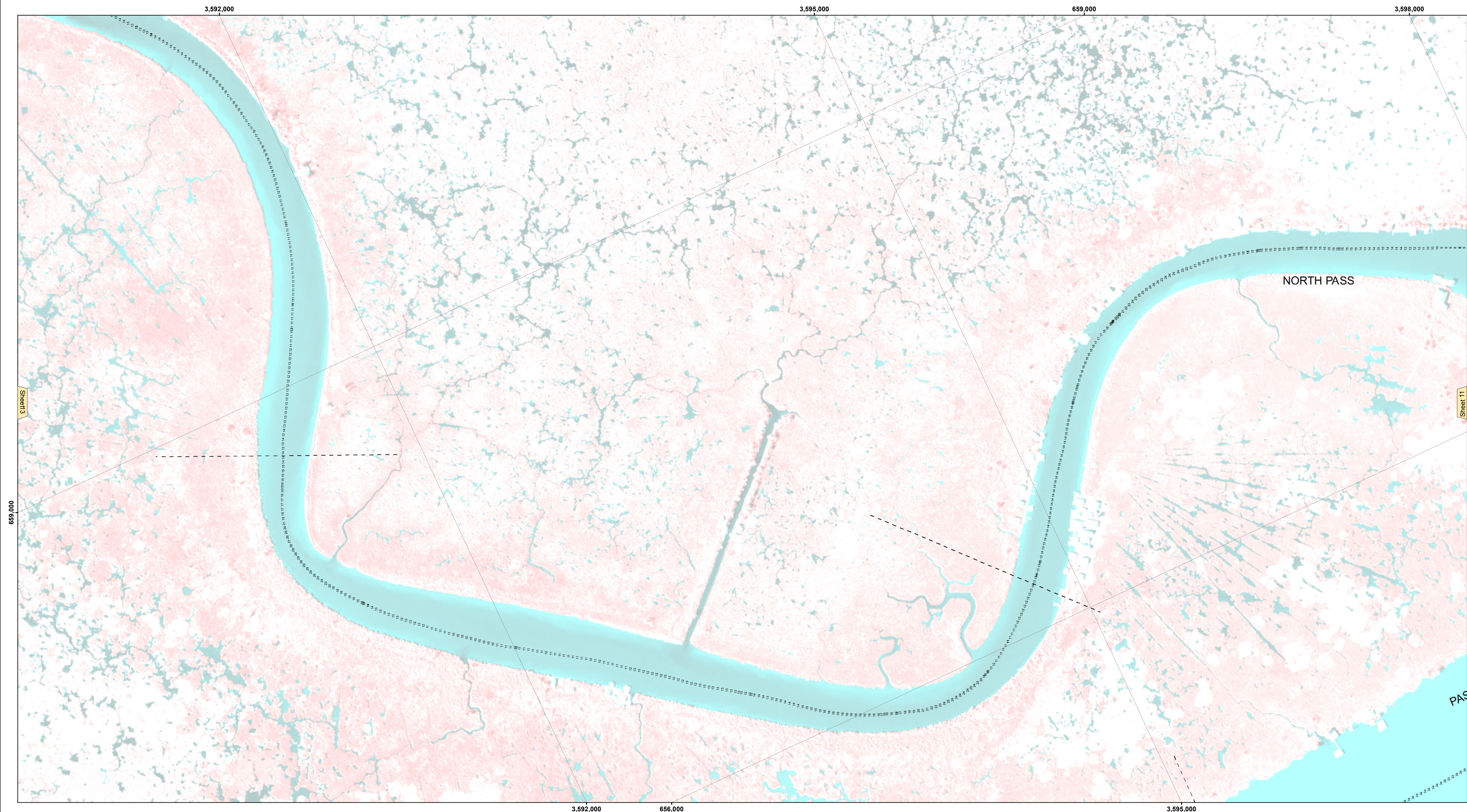
DISTRIBUTION LIABILITY: The data represents the results of data collection/processing for a specific US Army Corps of Engineers project. It is only valid for its intended use, content, time and accuracy specifications. The user is responsible for the results and accuracy of the data for other than its intended purpose.
 Data Constraints: Hydrographic survey data is subject to change apply due to several factors including but not limited to: changing hydrological conditions which develop after the date of the survey; changes in the hydrological conditions which develop after the date of the survey; and changes in the hydrological conditions which develop after the date of the survey. Product maintainers should not rely solely upon it.

U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: SPPM
Recommended: Chief Survey Section	Plotted By: AO
Approved: Chief Waterways Maintenance Section	Checked By: RN

**NORTHSORE WATERWAYS
 PASS MANCHAC / NORTH PASS
 NS_07_MAN_20160414_NP
 14 April 2016**

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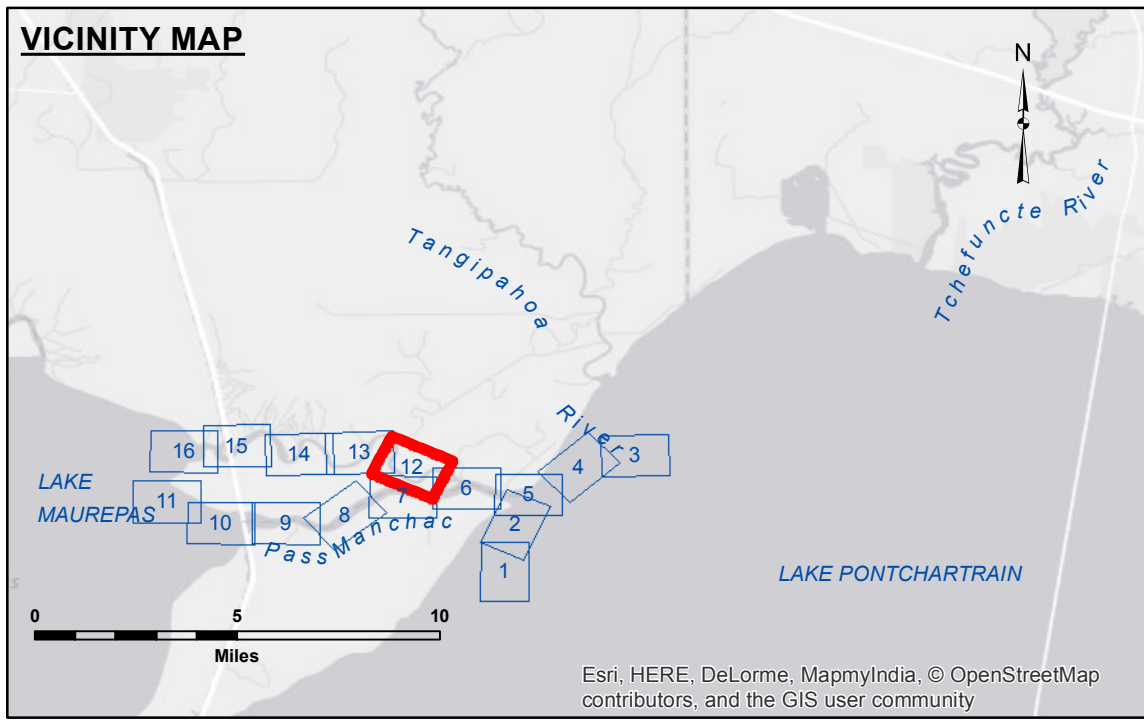


Access Constraints: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the data are not to be used for any purpose other than that for which they were collected, and that the user is responsible for the results of any use of the data for other than its intended purpose.

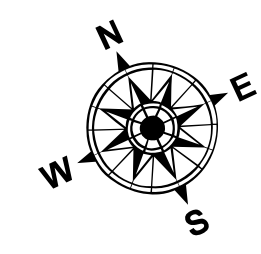
Data Constraints: Hydrographic survey data is subject to change due to several factors including but not limited to changing hydrological conditions which develop after the date of the survey. The information depicted on this map represents the results of a survey conducted on the date shown and is not intended to represent the general condition existing at that time.

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

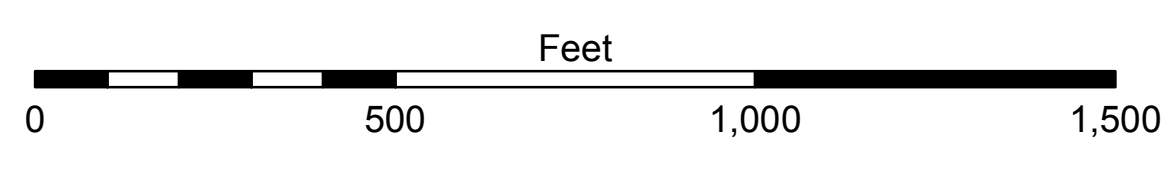
**NORTHSORE WATERWAYS
PASS MANCHAC / NORTH PASS
NS_07_MAN_20160414_NP
14 April 2016**



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

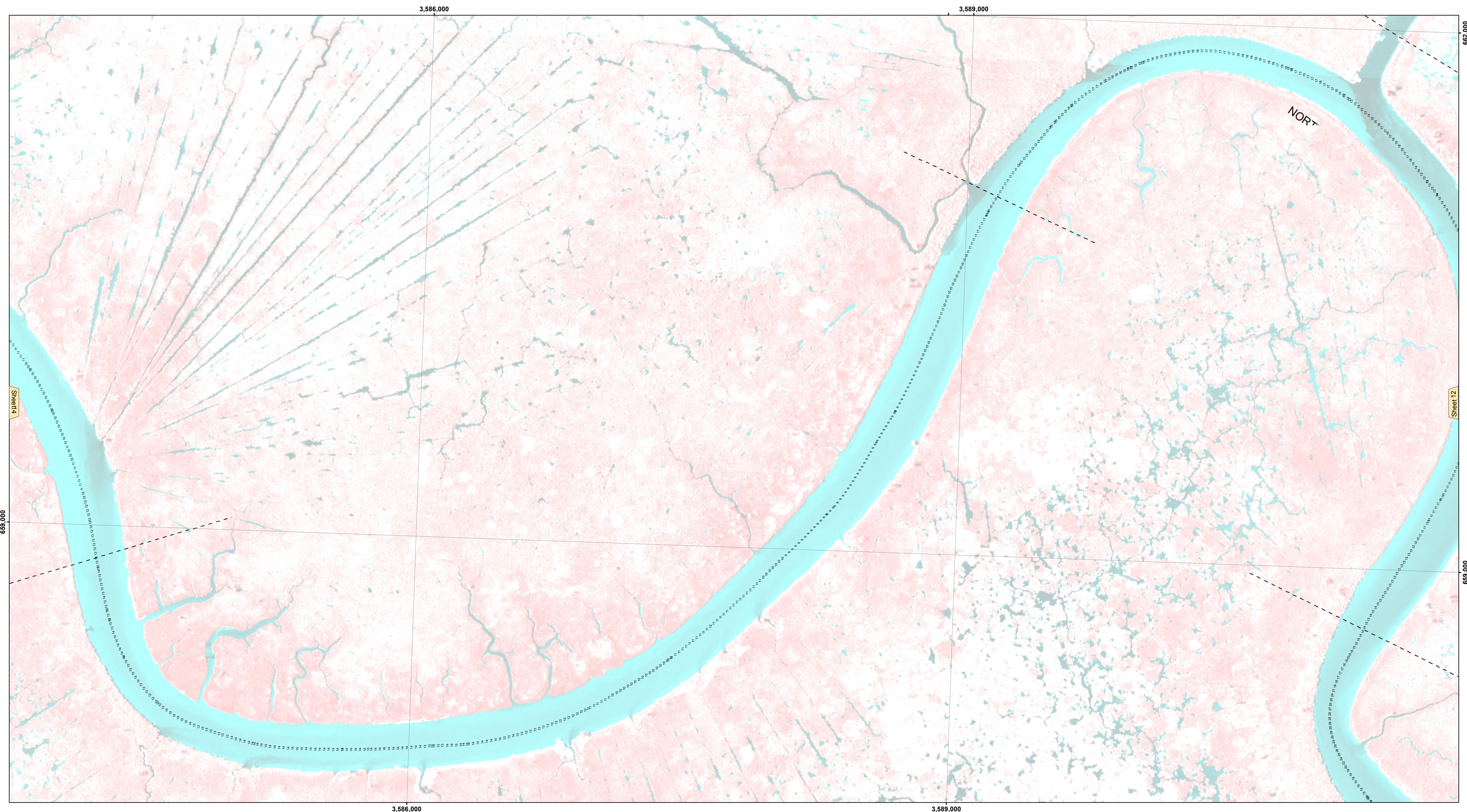


Gage Reading: PASS MANCHAC (85420): 1.5 NAVD
 Sea Conditions: CALM
 Vessel Name: OB-167
 Survey Type: CONDITION
 Sounding Frequency***: LOW



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 North American Vertical Datum of 1988 (NAVD88).
 The location of navigation aids are base on and provided by the U.S. Coast Guard.
 2010 Aerial Photography data source: NAIP Louisiana.
 Reference is N.O.A. Navigation Chart No. 11369.
 ** 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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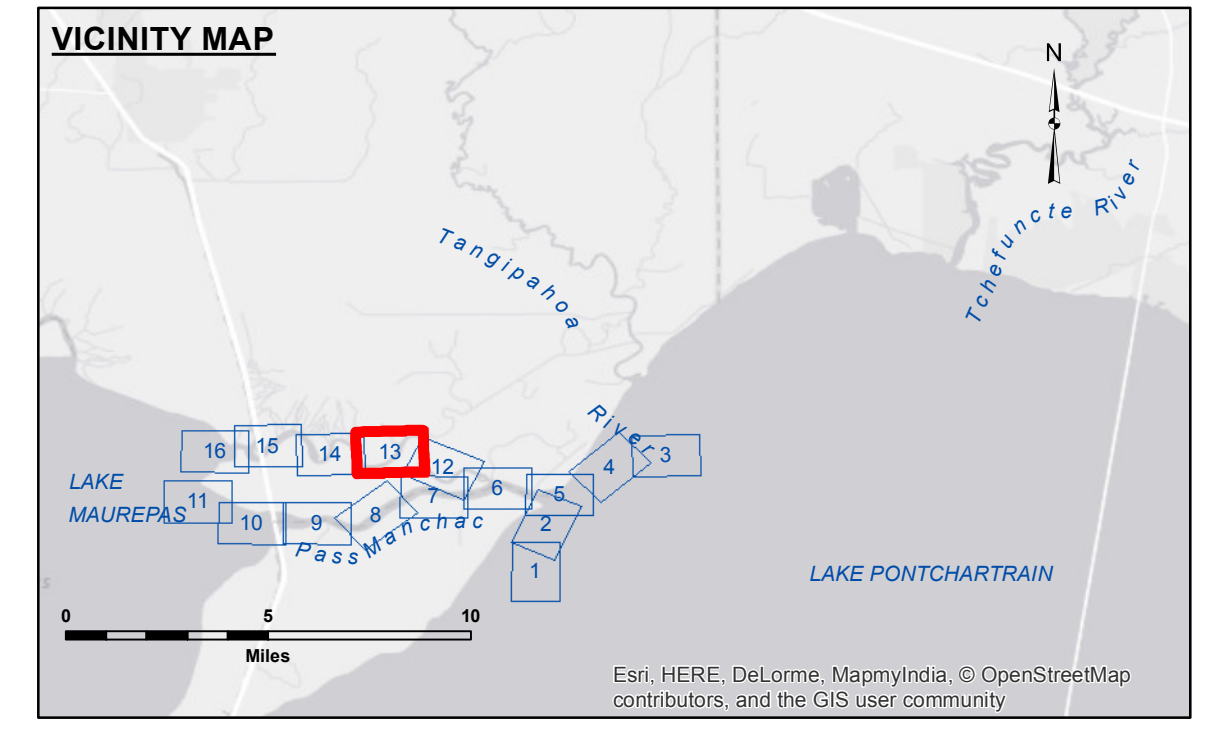


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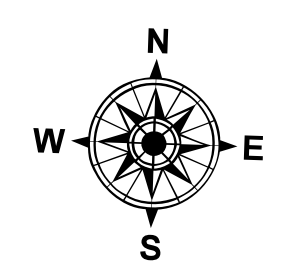
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U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT	
Submitted:	Surveyed By: SPPM
Recommended: Chief Survey Section	Plotted By: AO
Approved: Chief Waterways Maintenance Section	Checked By: RN

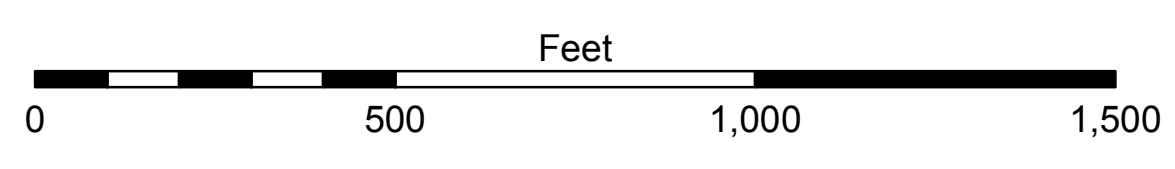
**NORTHSHORE WATERWAYS
PASS MANCHAC / NORTH PASS
NS_07_MAN_20160414_NP
14 April 2016**



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

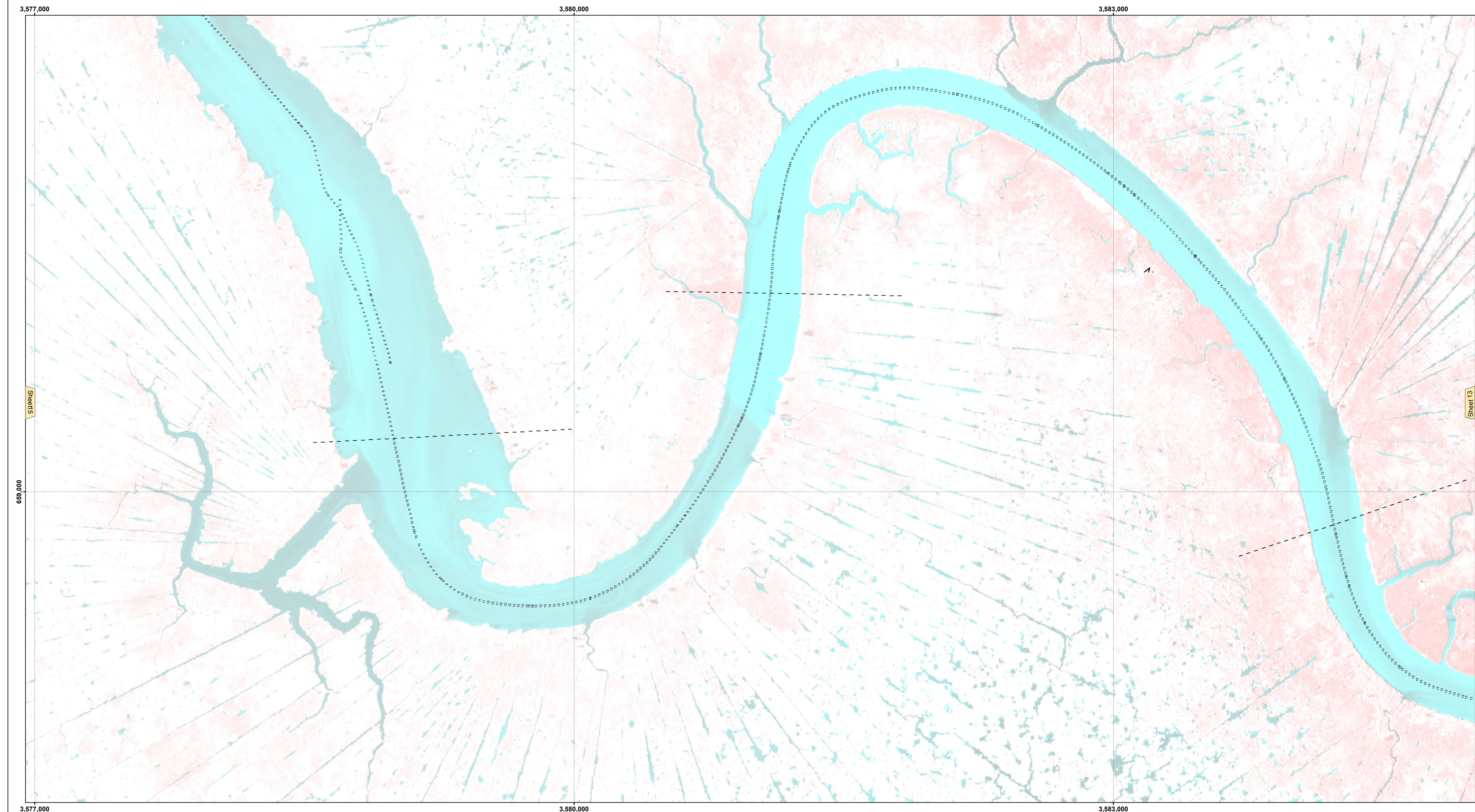


Gage Reading: PASS MANCHAC (85420): 1.5 NAVD
 Sea Conditions: CALM
 Vessel Name: OB-167
 Survey Type: CONDITION
 Sounding Frequency***: LOW



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 North American Vertical Datum of 1988 (NAVD88).
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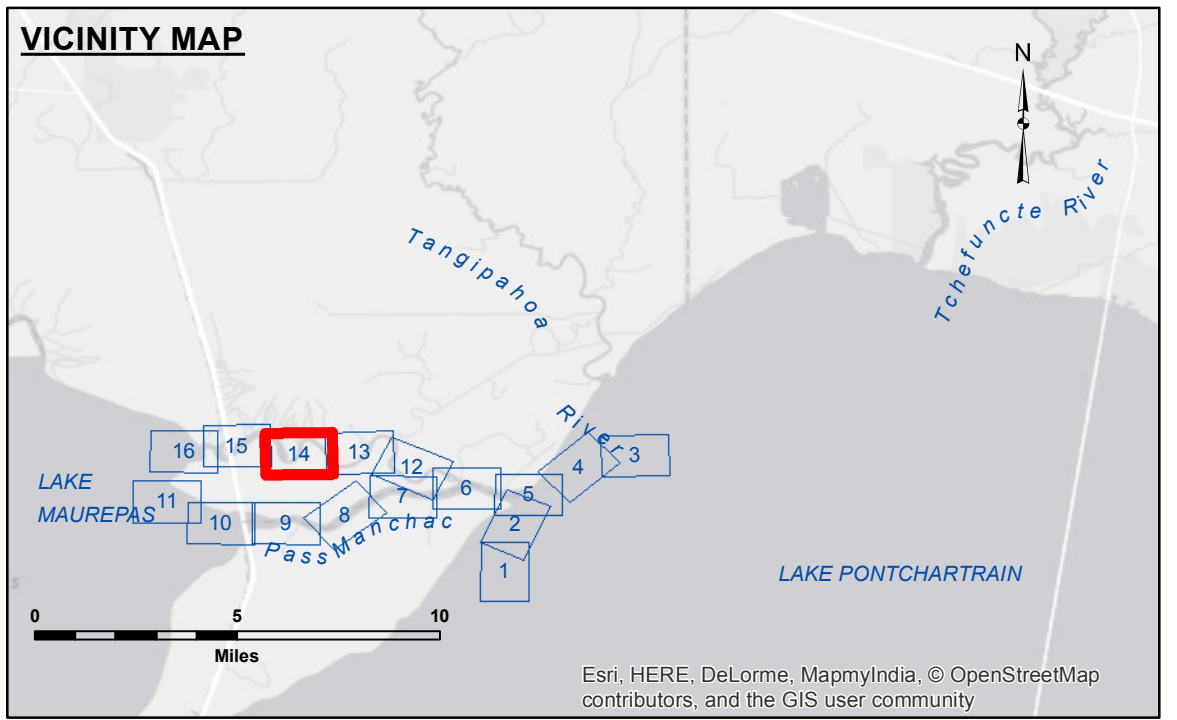
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Data Constraints: Hydrographic survey data is subject to change due to several factors including but not limited to dredging, shoaling, and other changes in the hydrographical conditions which develop after the date of the survey. The US Army Corps of Engineers accepts no responsibility for changes in the hydrographical conditions which develop after the date of the survey. Product maintainers should not rely solely upon it.

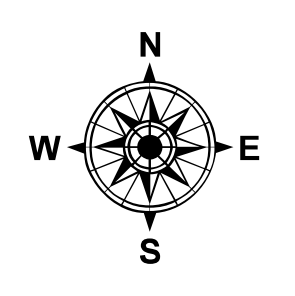
U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT	
Submitted:	Surveyed By: SPPM
Recommended: Chief Survey Section	Plotted By: AO
Approved: Chief Waterways Maintenance Section	Checked By: RN

NORTHSHORE WATERWAYS
PASS MANCHAC / NORTH PASS
NS_07_MAN_20160414_NP
14 April 2016

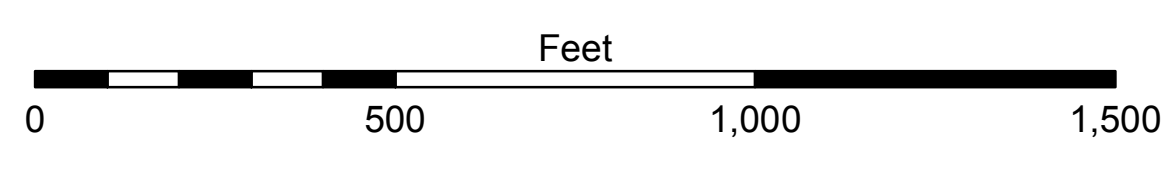
Sheet Reference Number
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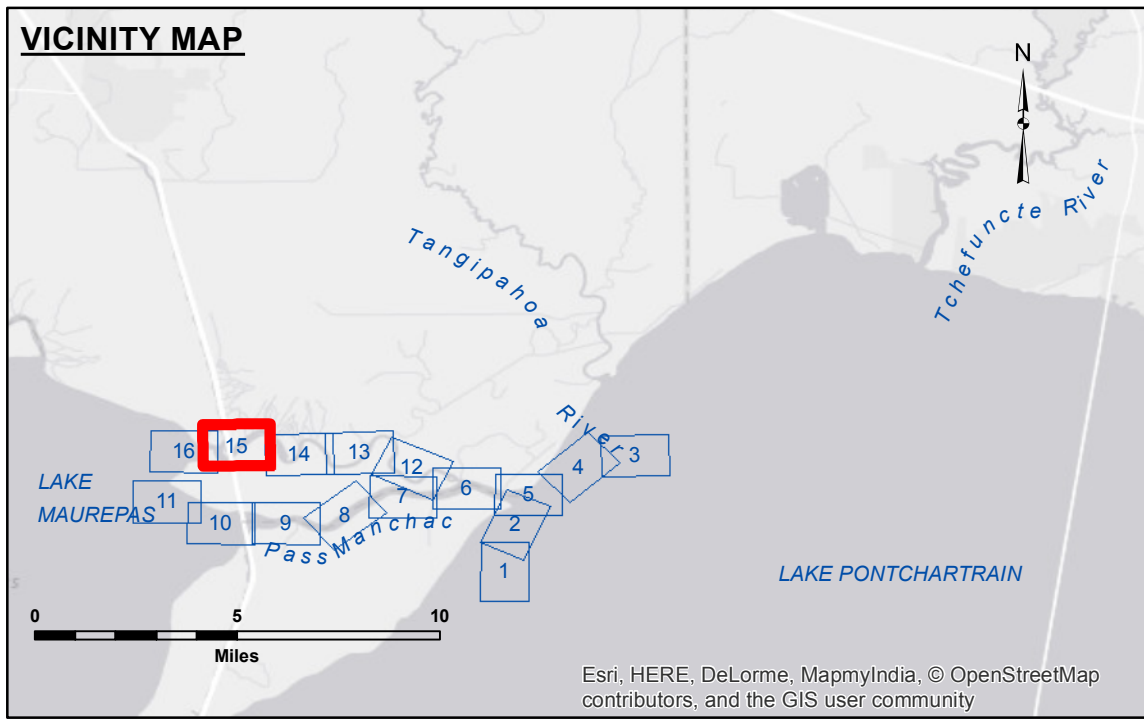
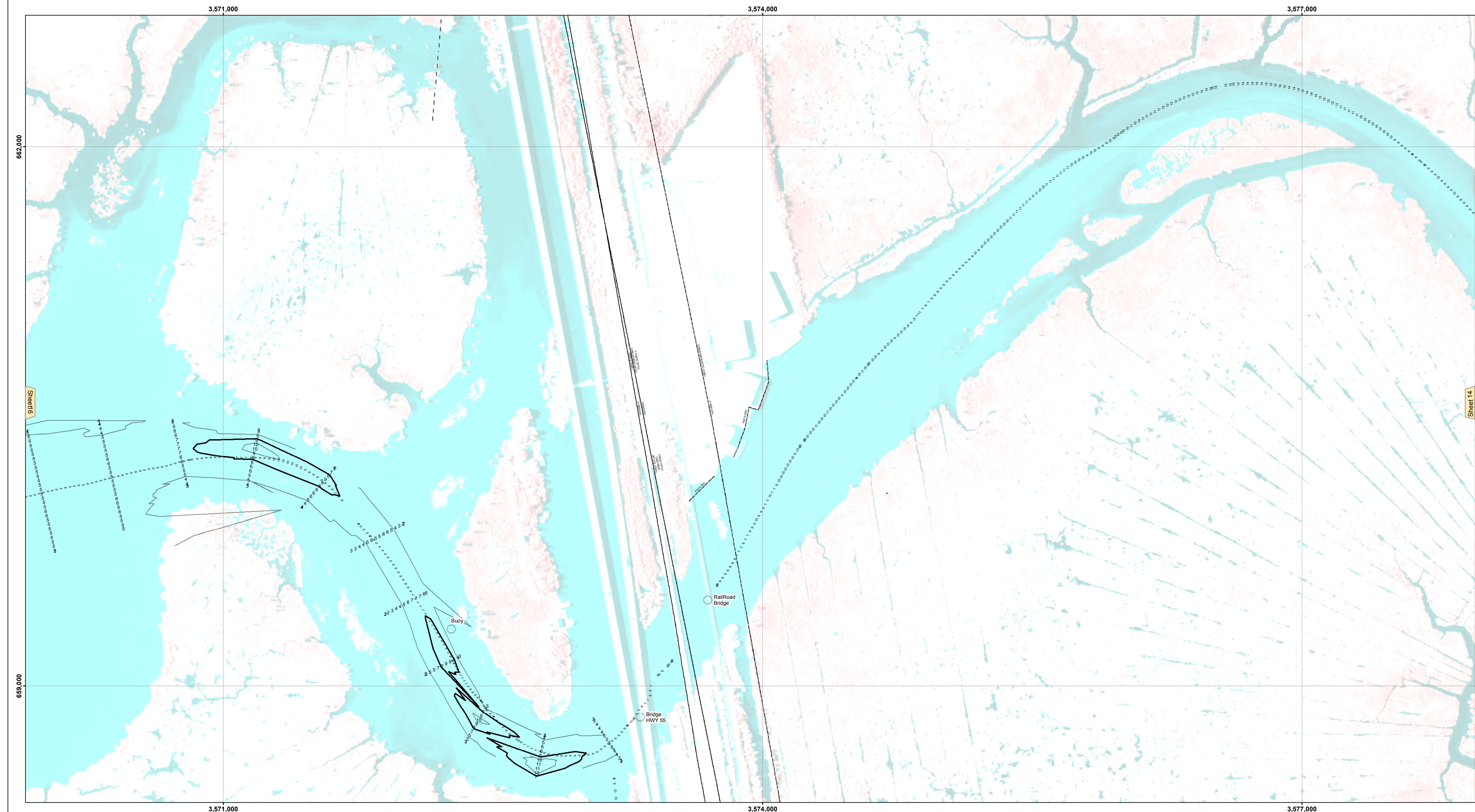
LEGEND		
--- Federal Navigation Channel	○ Cable Area	□ Borrow Area
— Federal Navigation Center Line	□ Placement Area	● Shoalest Sounding**
— As-built Pipeline/Cable	□ Anchorage Area	★ Beacon, General
..... Unconfirmed Pipeline/Cable	⊗ Obstruction Point	◆ Red Navigation Buoy
— Project Depth Contour	✈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



Gage Reading: PASS MANCHAC (85420): 1.5 NAVD
 Sea Conditions: CALM
 Vessel Name: OB-167
 Survey Type: CONDITION
 Sounding Frequency***: LOW

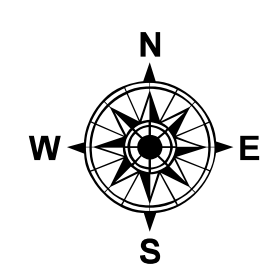


NOTES:
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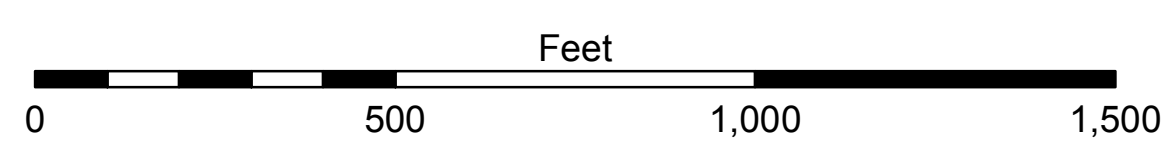


LEGEND

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



Gage Reading: PASS MANCHAC (85420): 1.5 NAVD
 Sea Conditions: CALM
 Vessel Name: OB-167
 Survey Type: CONDITION
 Sounding Frequency***: LOW



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.
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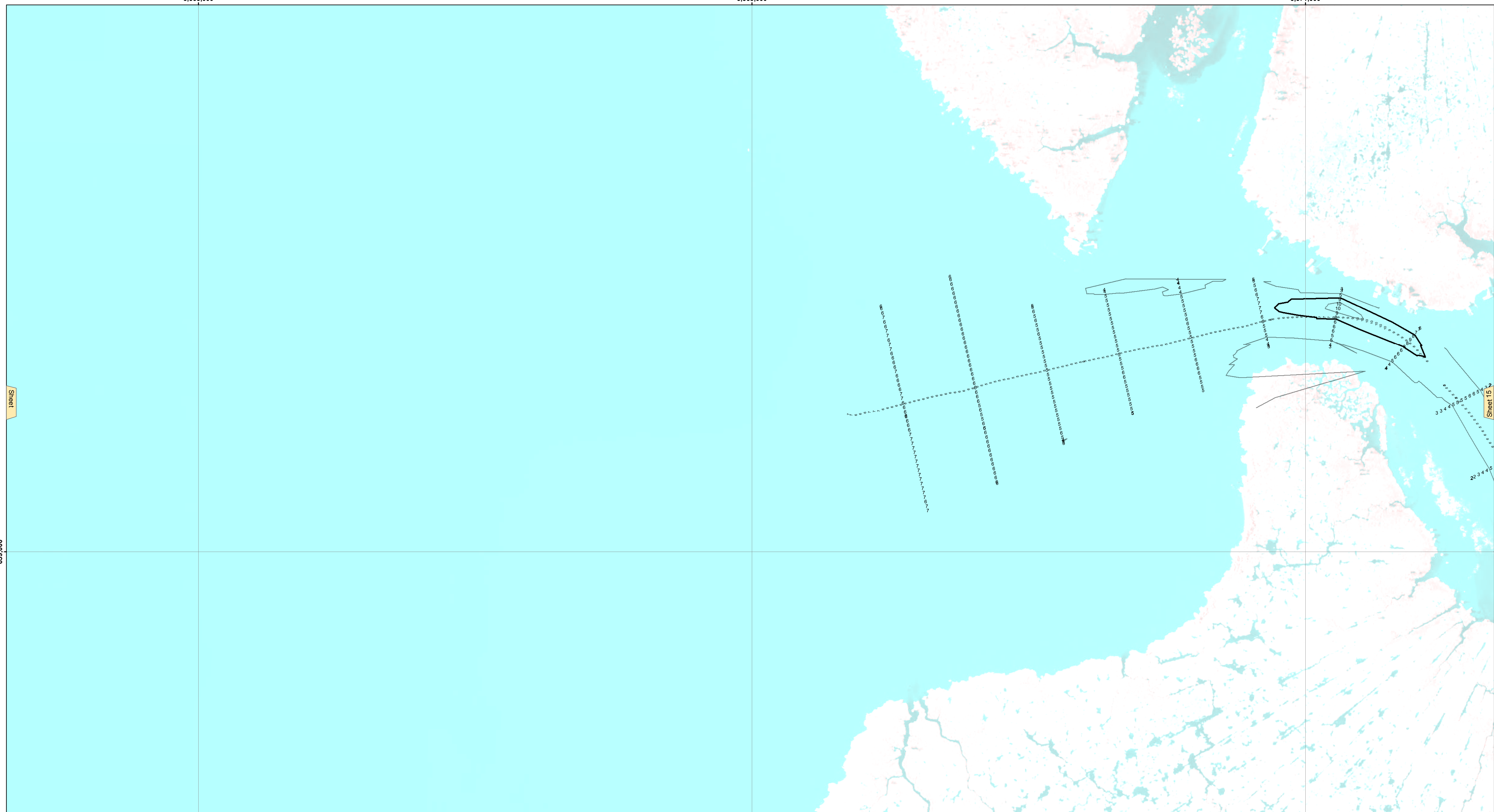
U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: SPPM
Recommended: Chief, Survey Section	Plotted By: AO
Approved: Chief, Waterways Maintenance Section	Checked By: RN

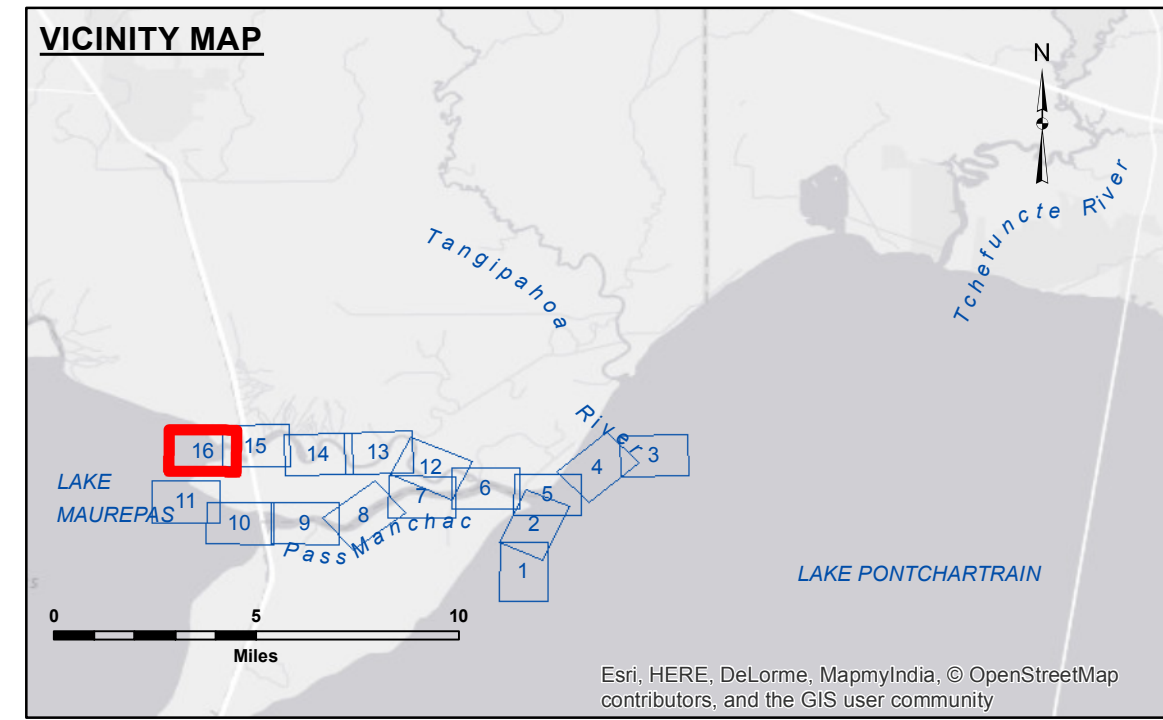
**NORTHSORE WATERWAYS
 PASS MANCHAC / NORTH PASS
 NS_07_MAN_20160414_NP
 14 April 2016**

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3,565,000 3,568,000 3,571,000



3,565,000 3,568,000 3,571,000



LEGEND

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

Gage Reading: PASS MANCHAC (85420): 1.5 NAVD
 Sea Conditions: CALM
 Vessel Name: OB-167
 Survey Type: CONDITION
 Sounding Frequency***: LOW

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 North American Vertical Datum of 1988 (NAVD88).
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: SP-PM
Recommended: Chief, Survey Section	Plotted By: AO
Approved:	Checked By: RN

Other: Waterways Maintenance Section

**NORTHSORE WATERWAYS
 PASS MANCHAC / NORTH PASS
 NS_07_MAN_20160414_NP
 14 April 2016**

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