

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: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

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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Horizontal Coordinate System:
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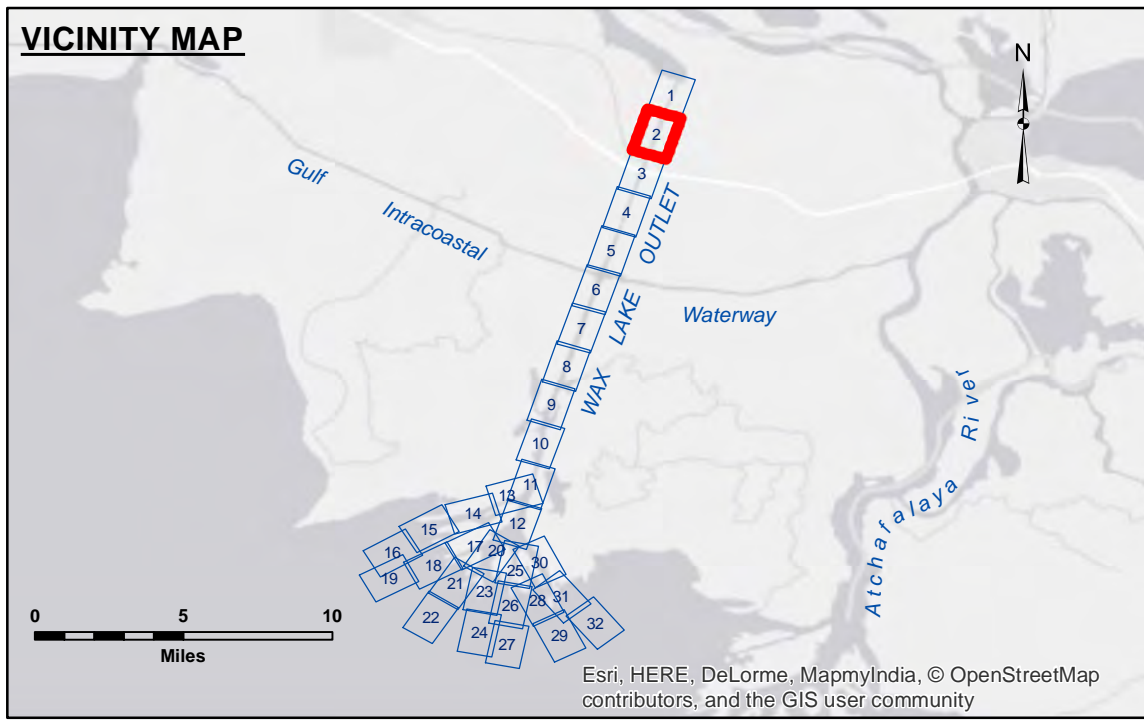
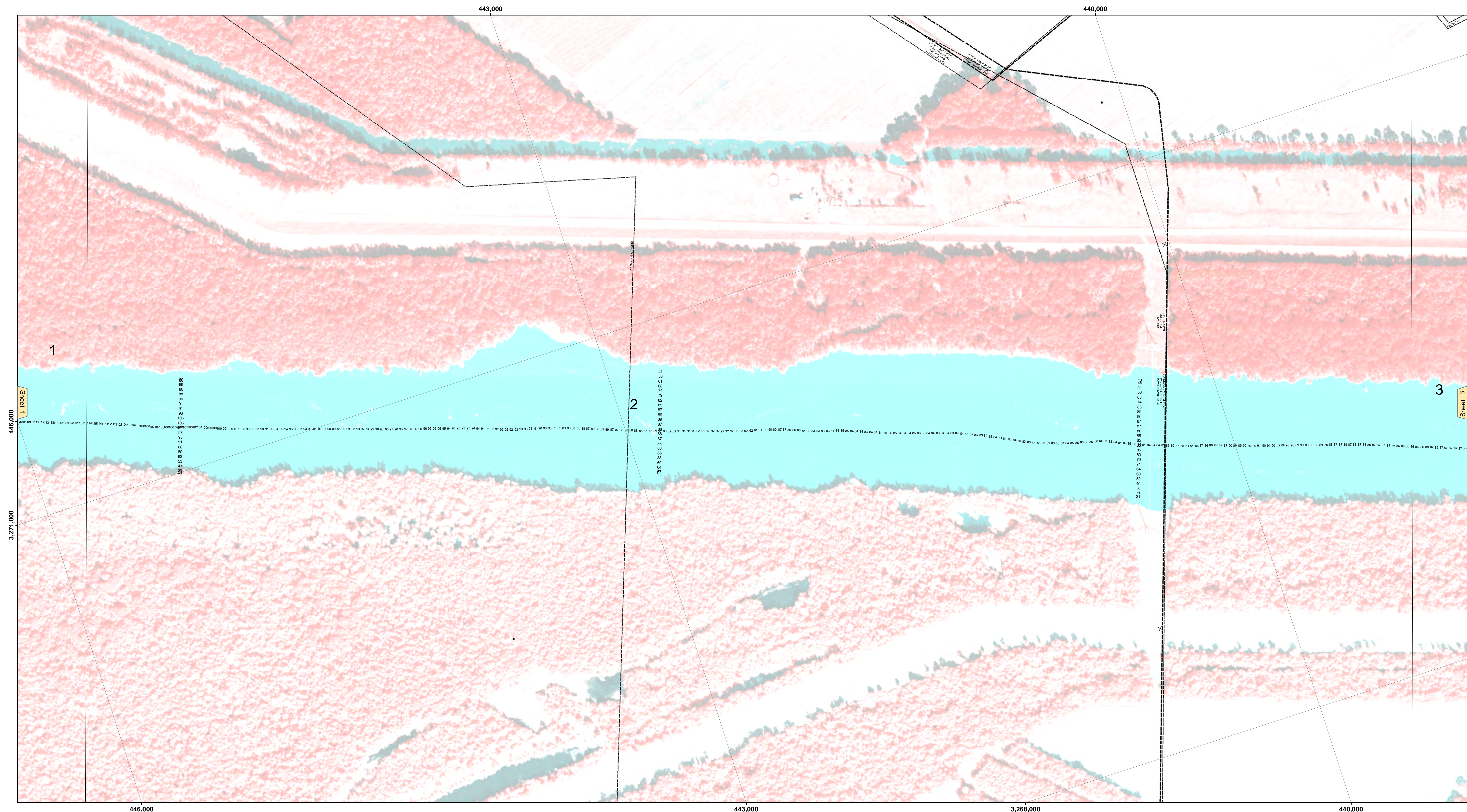


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U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT		
Submitted:	Surveyed By: DR.SP	Plotted By: BD
Recommended:	Chief, Survey Section	Checked By: AO
Approved:	Chief, Waterways Maintenance Section	

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

**Sheet
Reference
Number
1 of 32**



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: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

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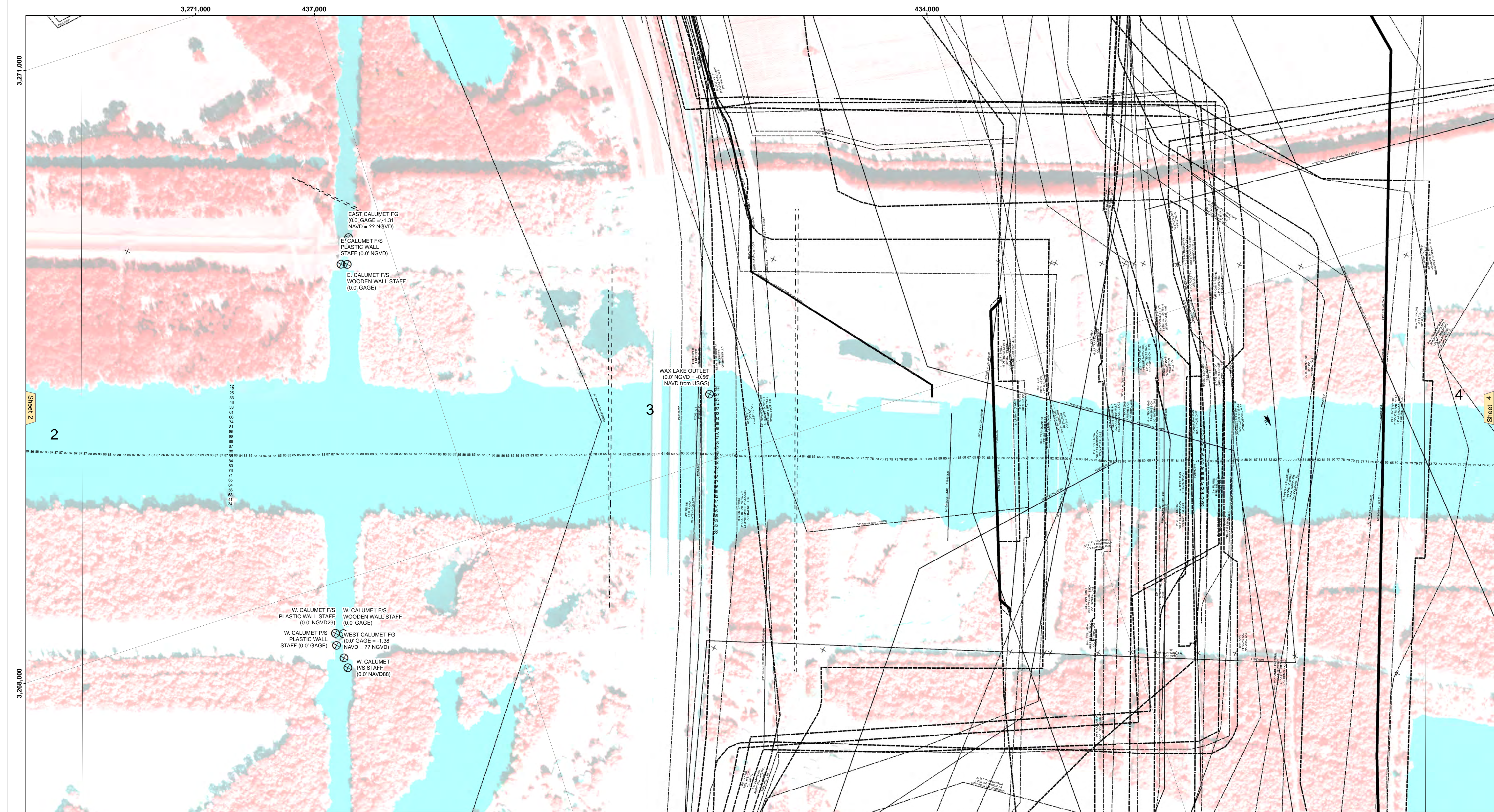
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Planned By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

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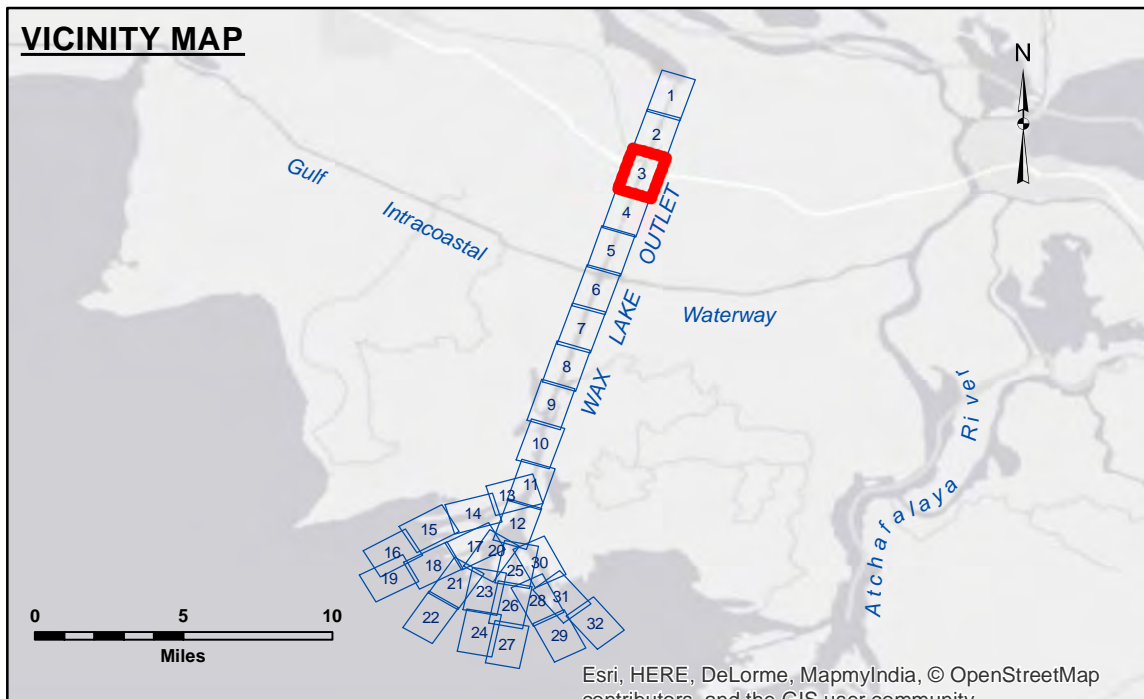
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Submitted:	Surveyed By: DR.SP	Plotted By: BD
Recommended:	Checked By: AO	Checked By: AO
Approved:	Chief, Waterways Maintenance Section	

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

**Sheet
Reference
Number
3 of 32**

Revision Number:
3.810-2115(2012)



LEGEND		
--- Federal Navigation Channel	○ Cable Area	□ Borrow Area
— Federal Navigation Center Line	■ Placement Area	● Shoalest Sounding**
— As-built Pipeline/Cable	□ Anchorage Area	★ Beacon, General
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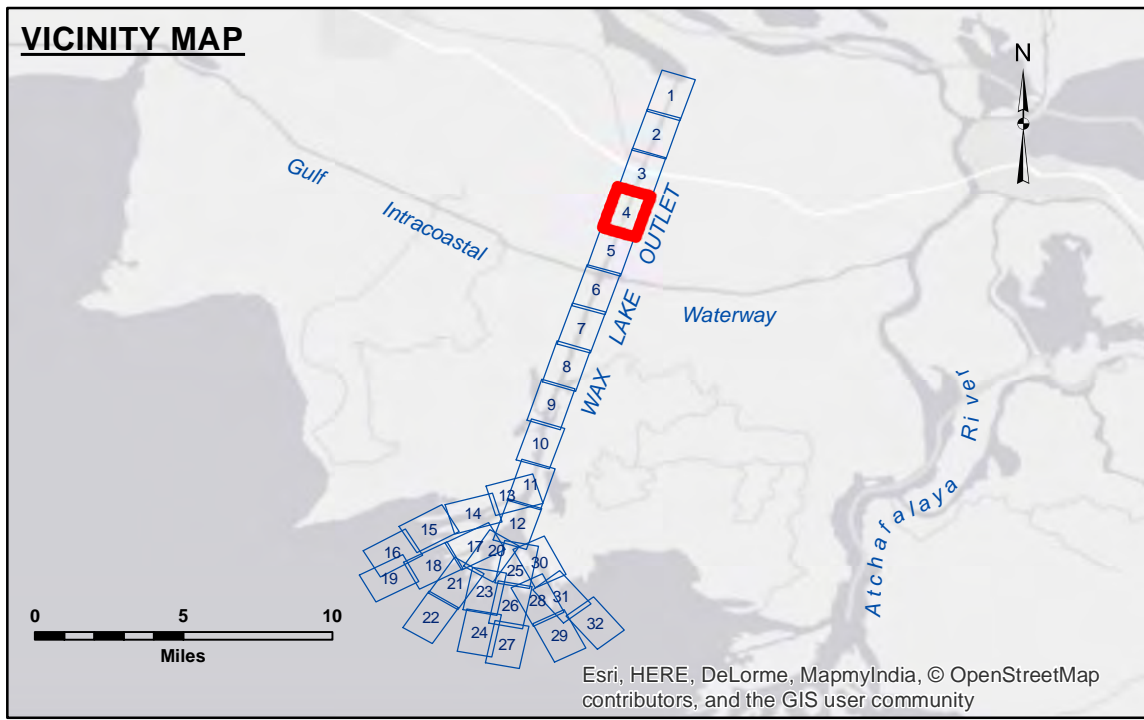
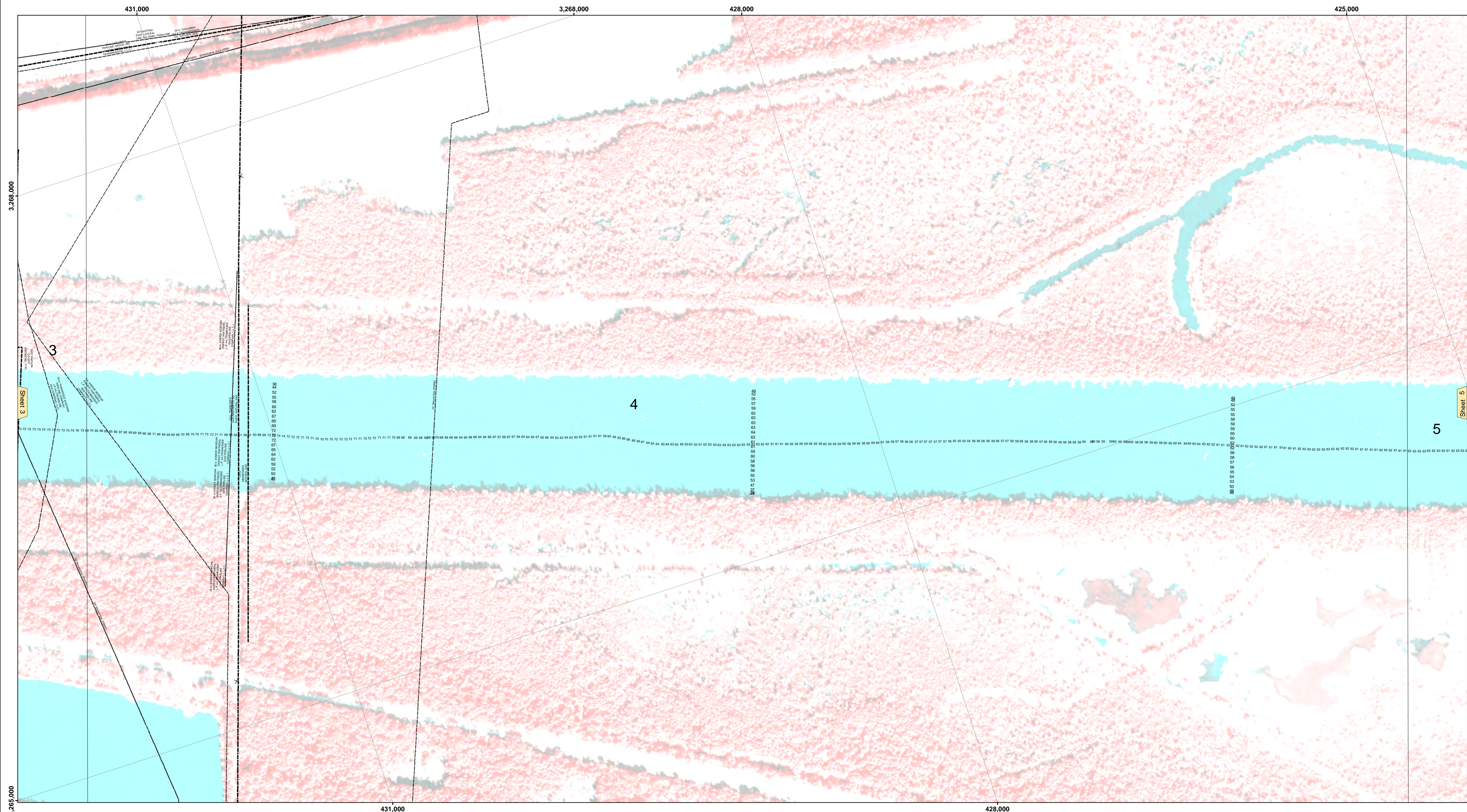
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Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
Sea Conditions: CALM
Vessel Name: OB 189
Survey Type: CONDITION
Sounding Frequency***: HIGH



LEGEND

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Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
Sea Conditions: CALM
Vessel Name: OB 189
Survey Type: CONDITION
Sounding Frequency***: HIGH

0 500 1,000 Feet



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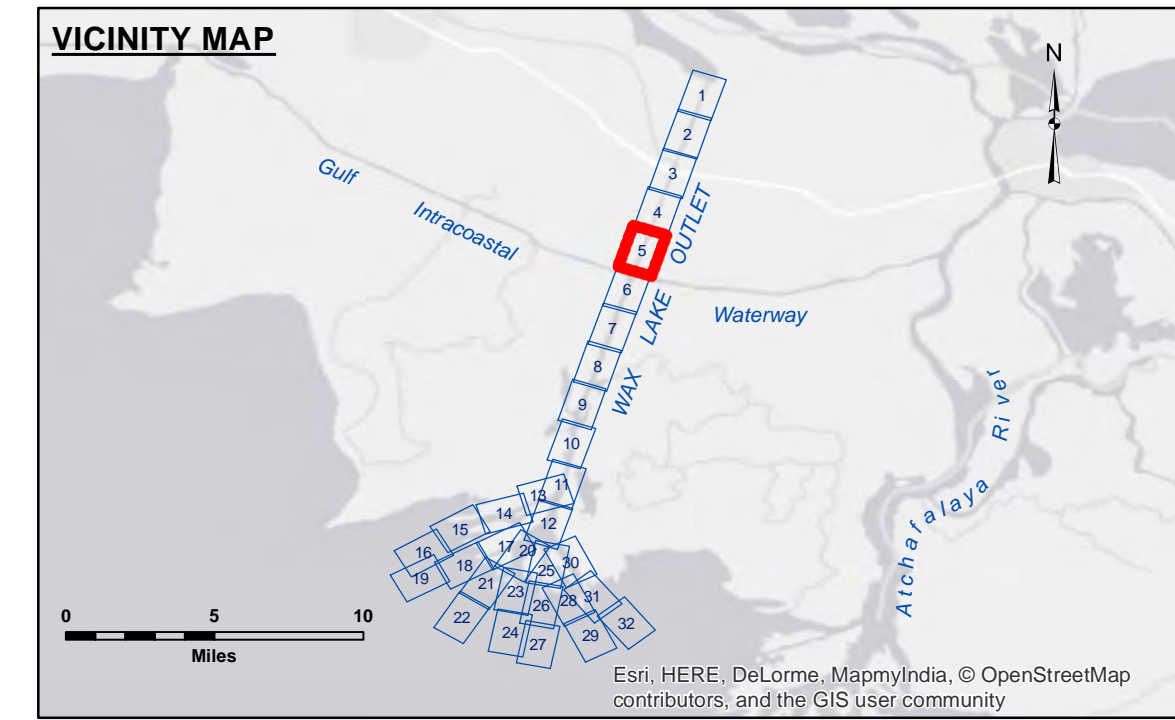
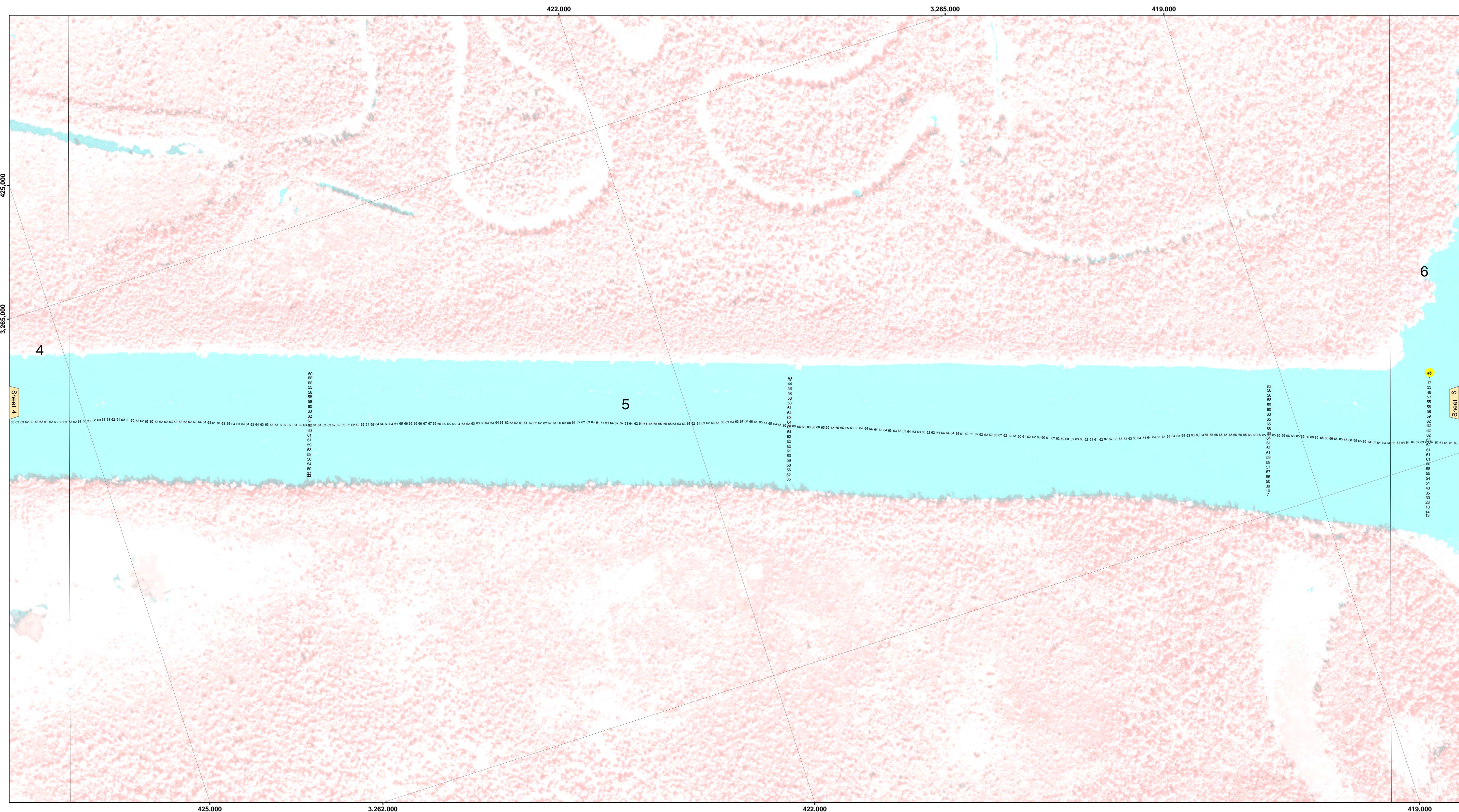
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

**Sheet
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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: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

NOTES:

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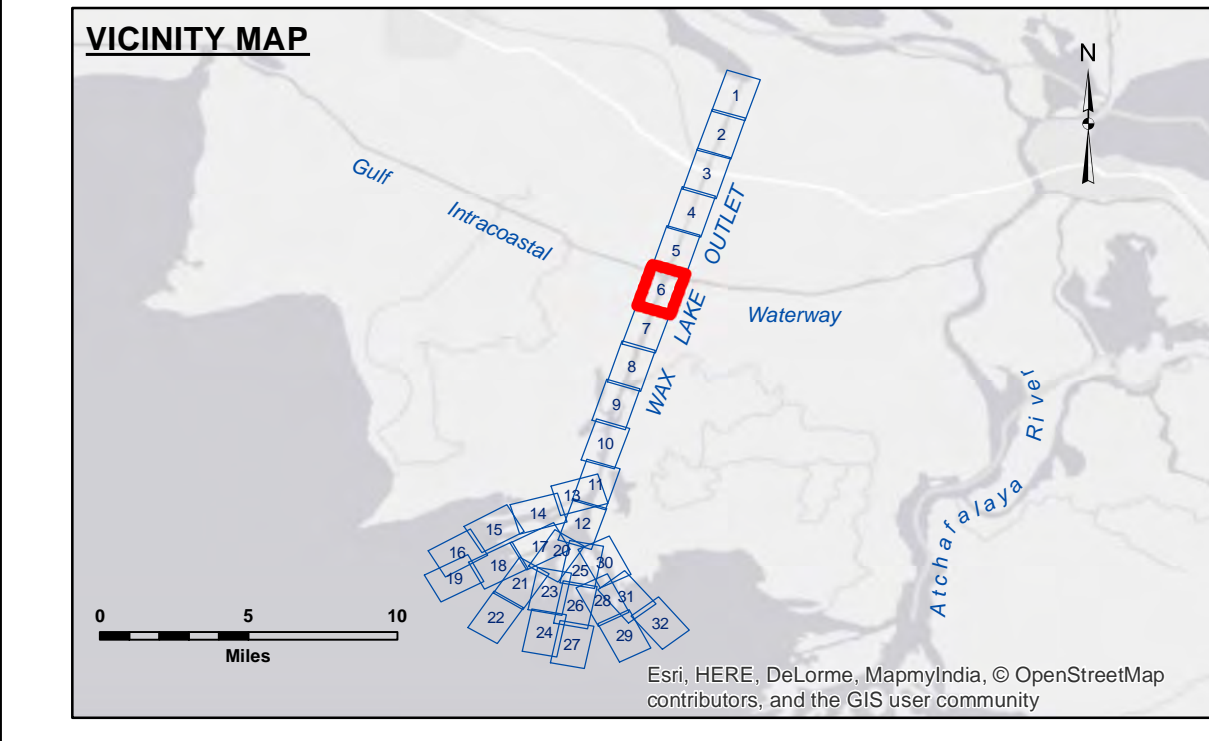
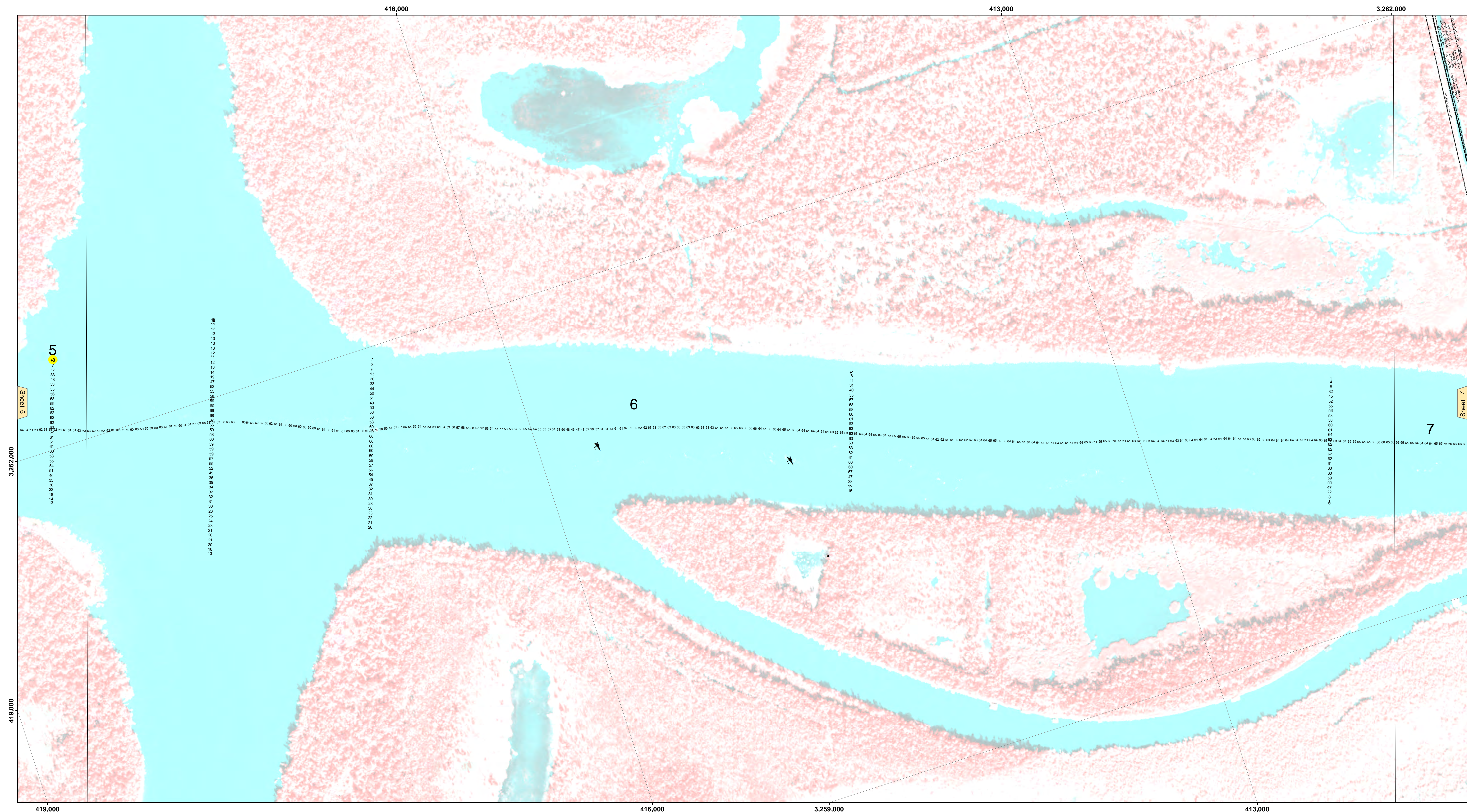
U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR, SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

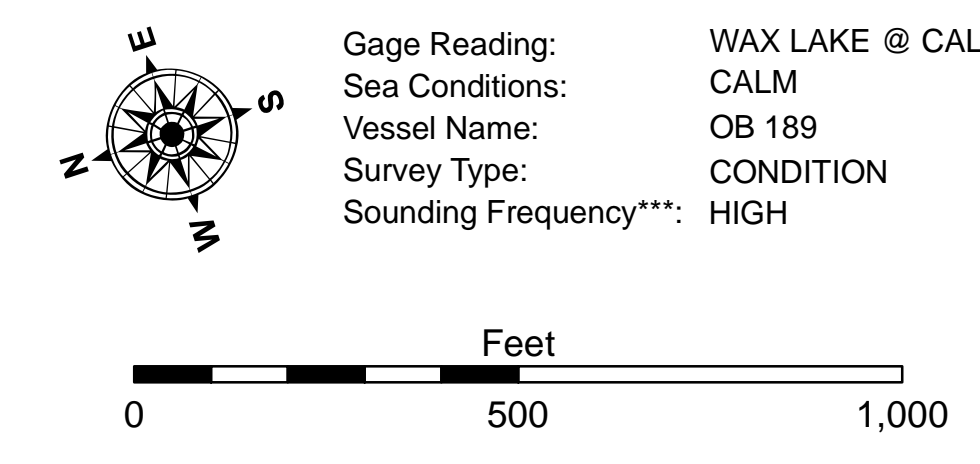
**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

**Sheet
Reference
Number
5 of 32**

Revision Number:
3.8.10-21/15/2012



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



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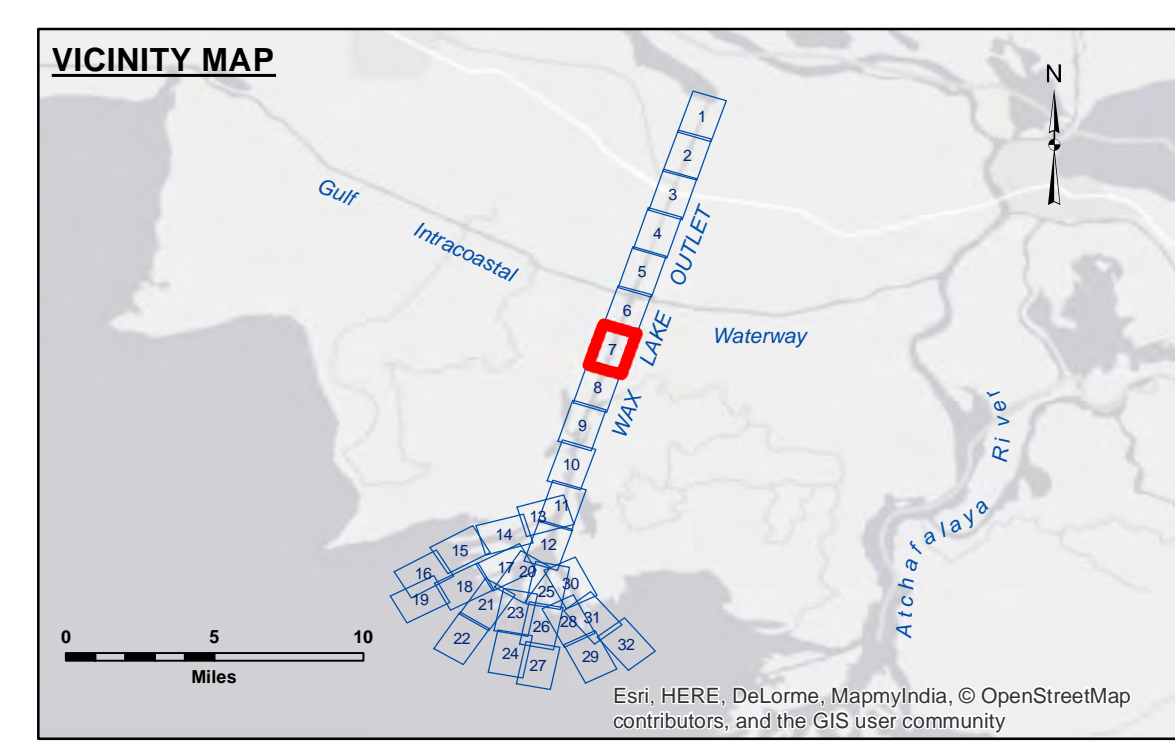
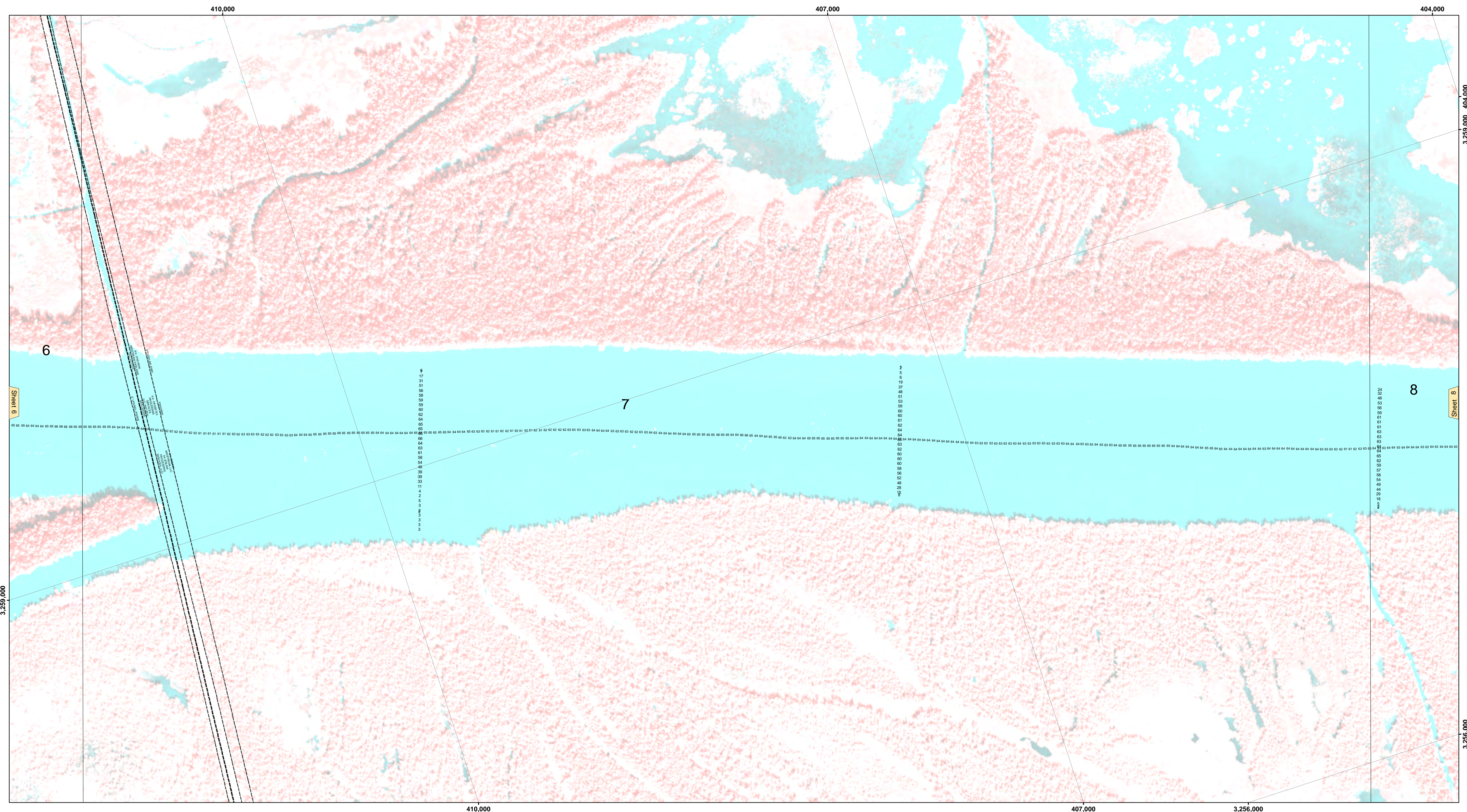


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U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT	
Submitted:	Surveyed By: DR, SP
Recommended:	Plotted By: BD
Approved:	Checked By: ACO

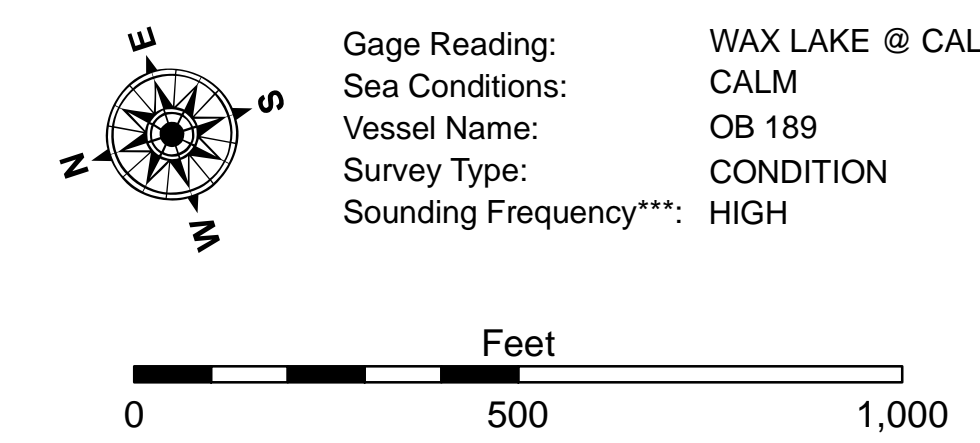
**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

**Sheet
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 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
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Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
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NOTES:
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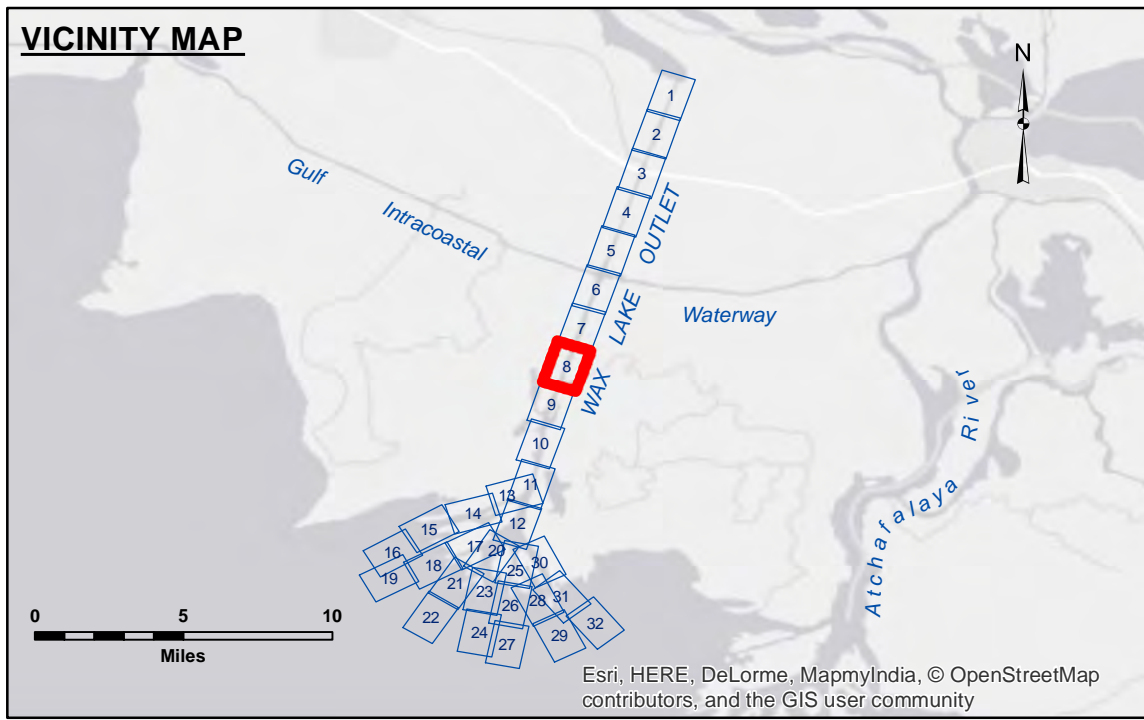
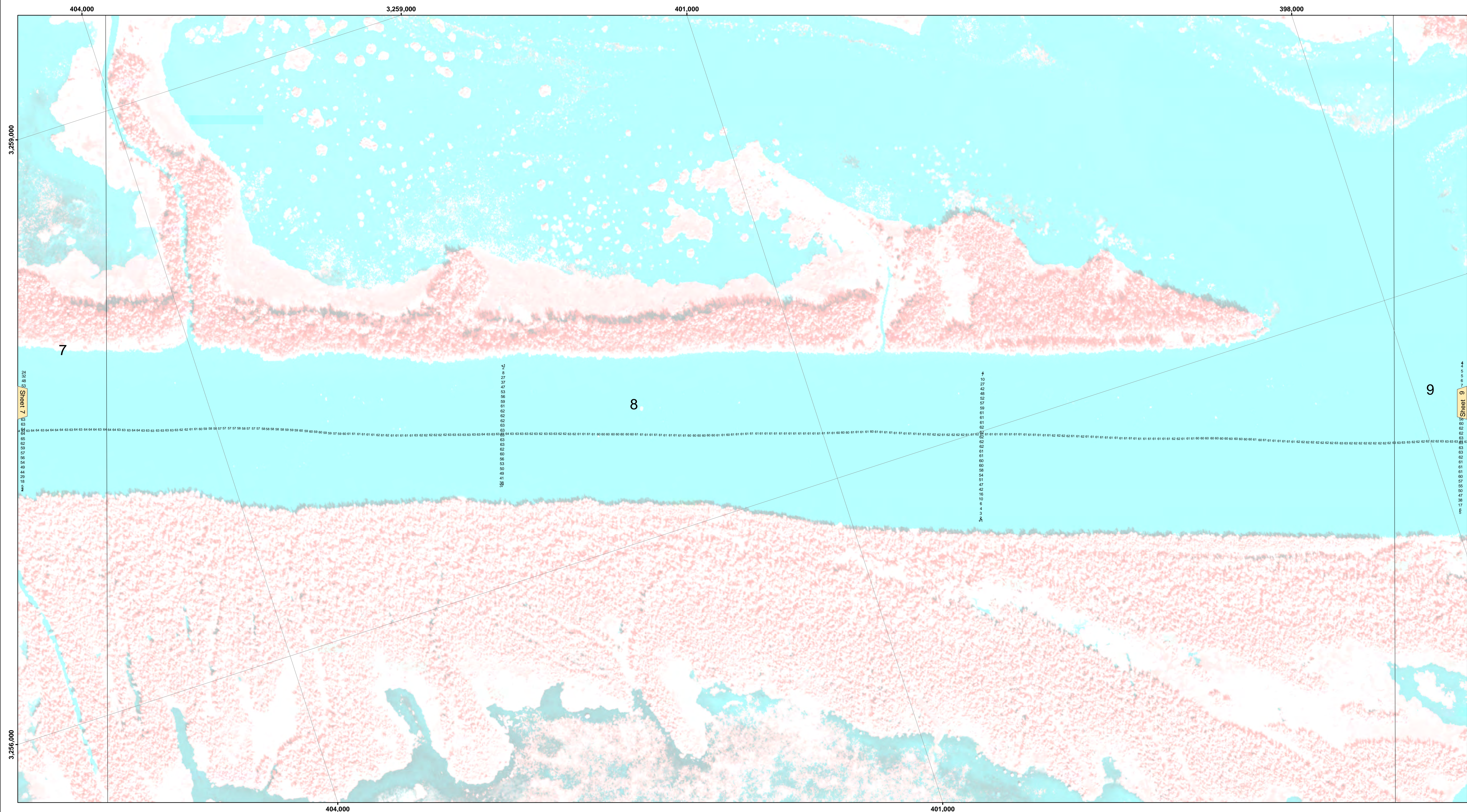
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

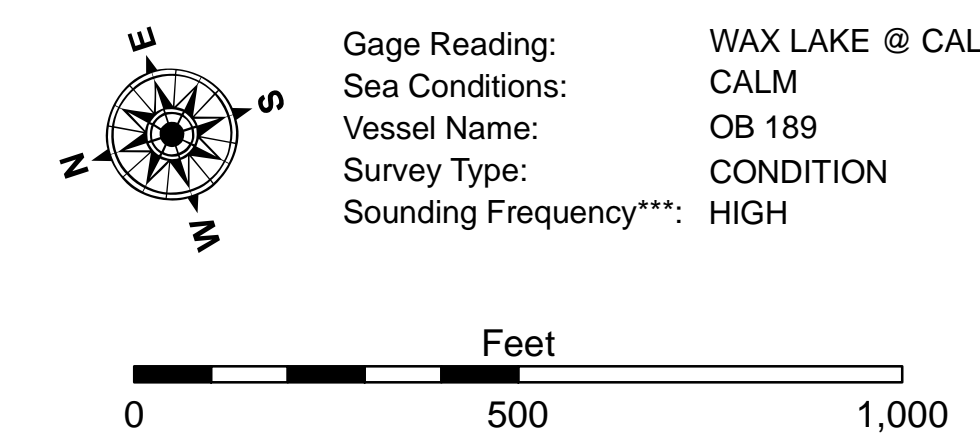
NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016

Sheet
Reference
Number
7 of 32



LEGEND

--- Federal Navigation Channel	○ Cable Area	□ Borrow Area
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— As-built Pipeline/Cable	□ Anchorage Area	★ Beacon, General
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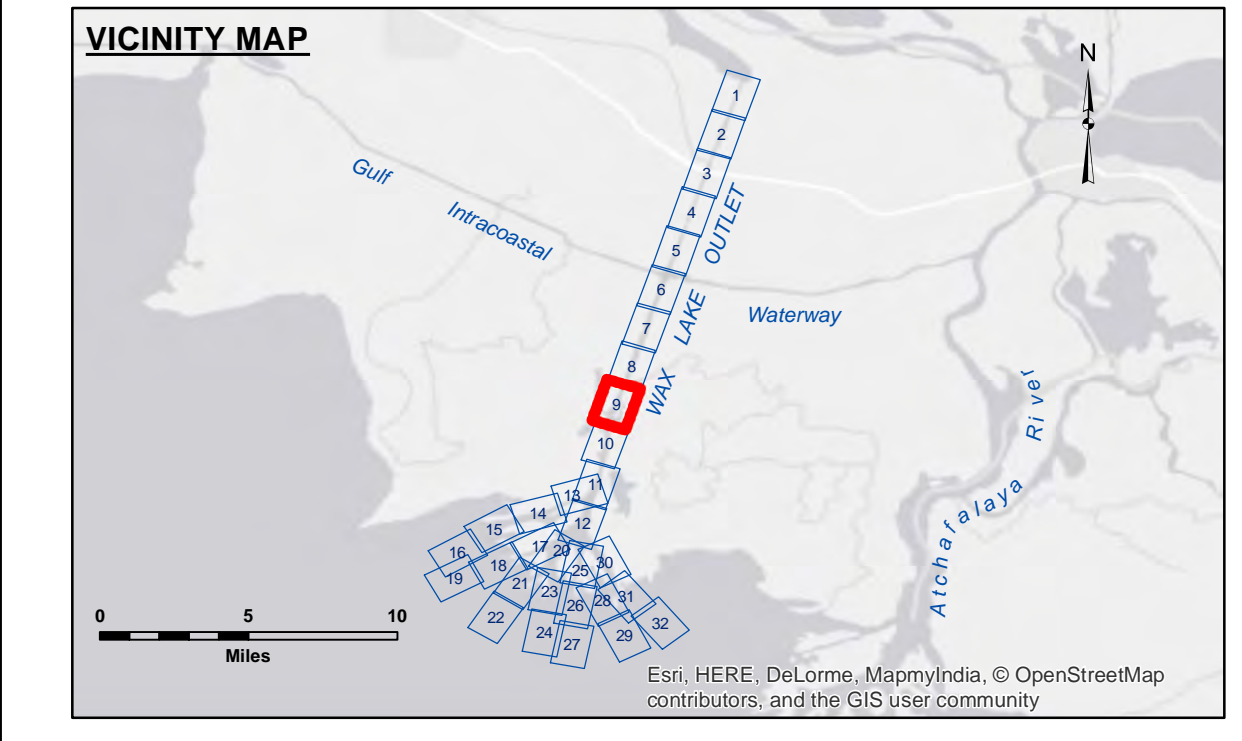
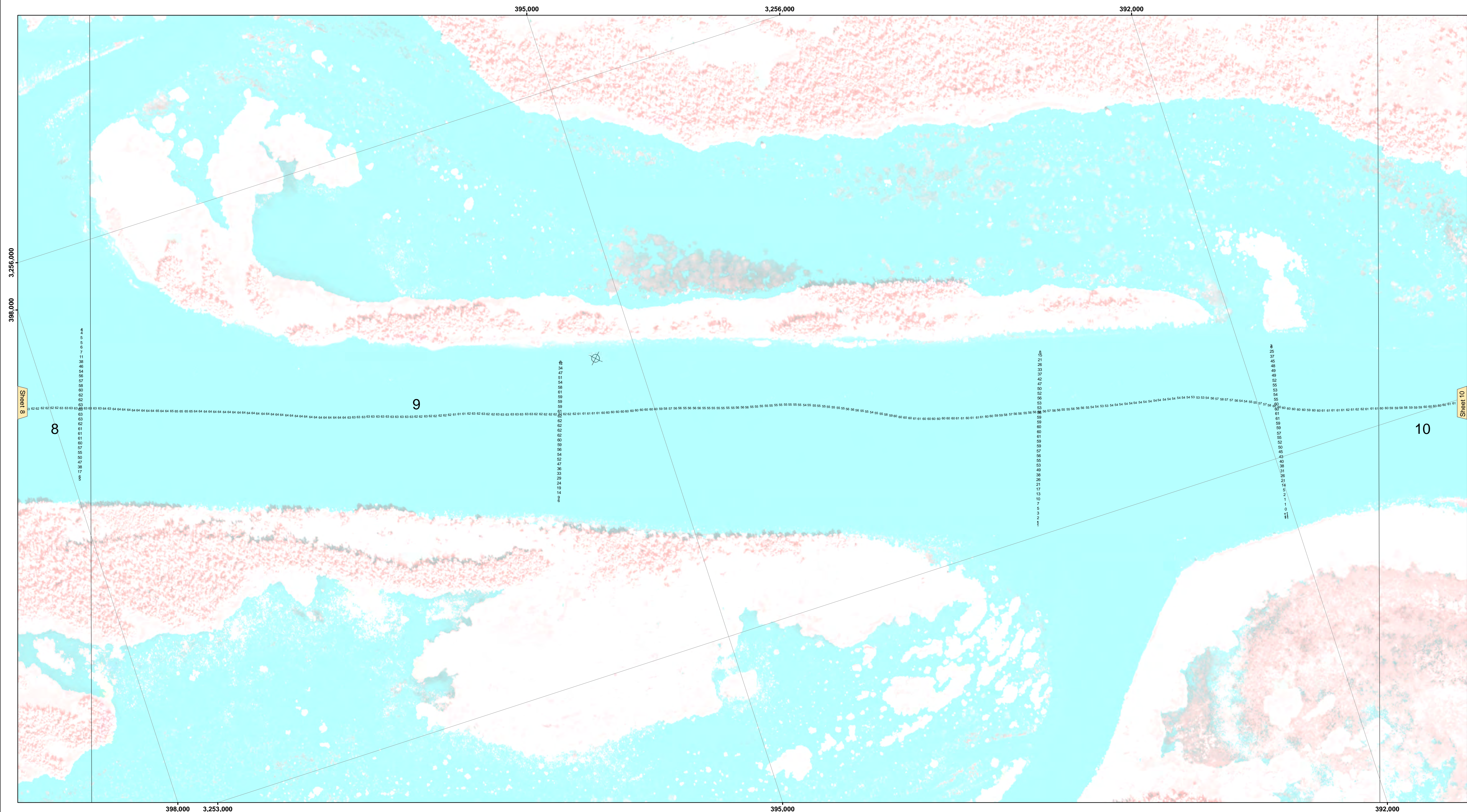
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AC

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

**Sheet
 Reference
 Number
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LEGEND

--- Federal Navigation Channel	○ Cable Area	□ Borrow Area
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Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
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 Sounding Frequency***: HIGH

North Arrow
 Scale: 0, 500, 1,000 Feet

NOTES:

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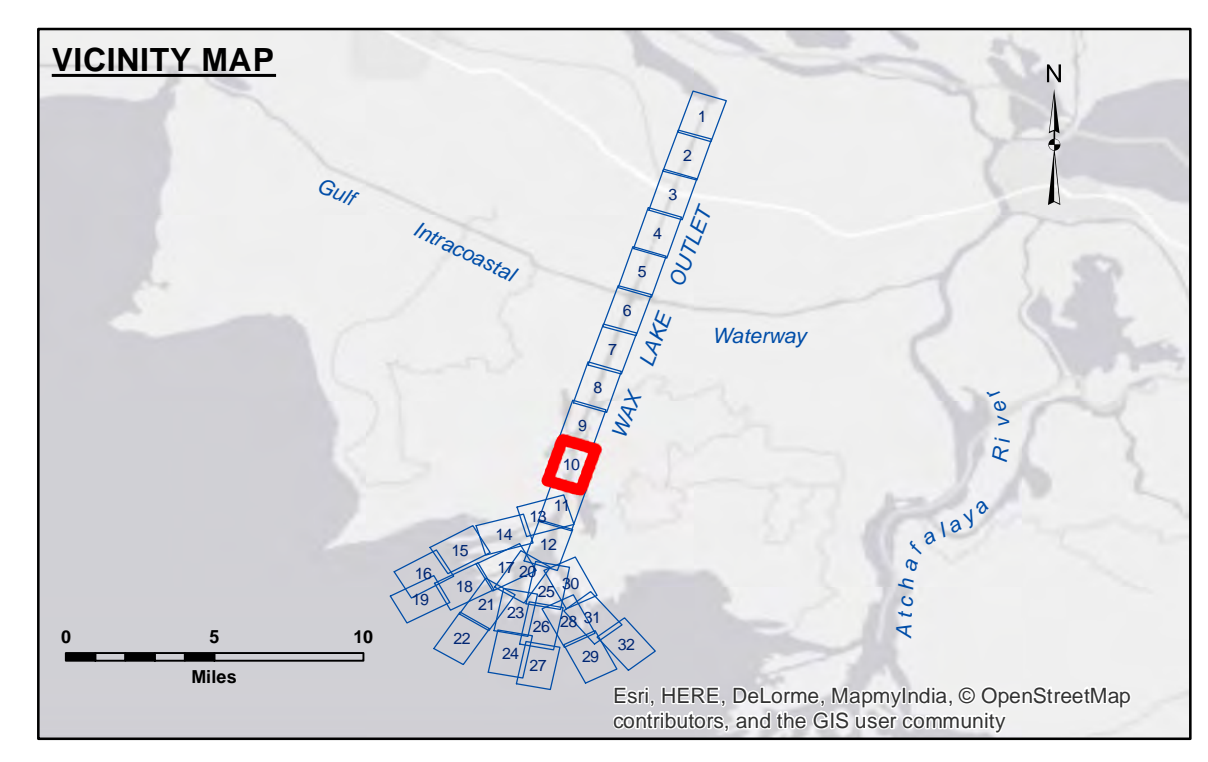
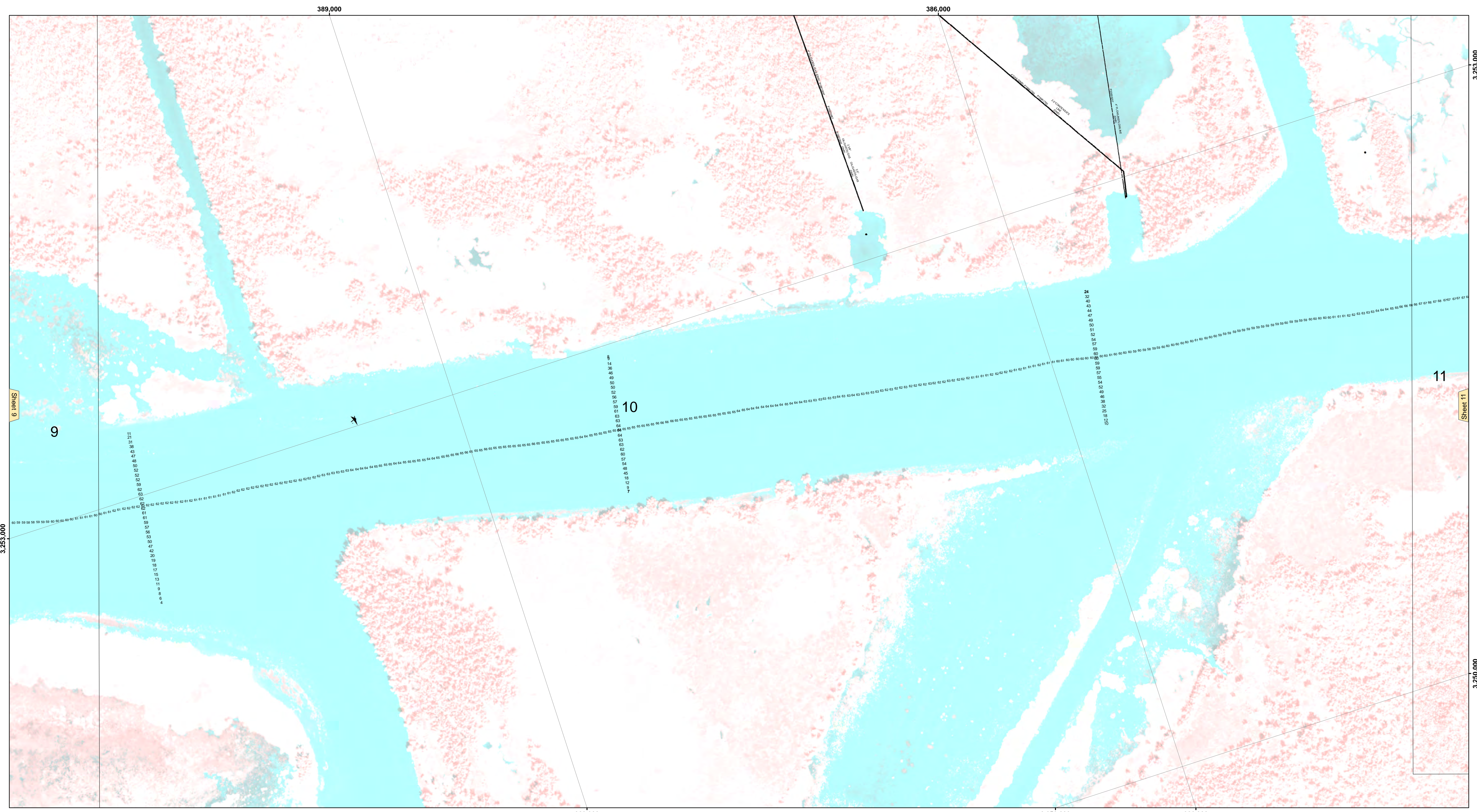
DISCLAIMER: The United States Government furnishes these data and the recipient accepts and uses them with the express understanding that the data are not to be used for any purpose other than that for which they were originally collected, expressed, or implied concerning the accuracy, completeness, reliability, usability or availability for any particular purpose of the recipient. The user is responsible for the results of any use of the data under no liability whatsoever to any person by reason of any use of the data. The recipient agrees to indemnify and hold the United States Government harmless from and against all claims, damages, losses and expenses, including reasonable attorneys' fees, that may be incurred by the United States Government as a result of the recipient's use of the data. The recipient may not transfer these data to others without also transferring this Disclaimer. The information depicted on this map represents the results of a survey conducted on or about the date shown on the map. It is not intended to represent the general condition existing at that time.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AC

NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 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: WAX LAKE @ CALUMET: 4.1 MLG
 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 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 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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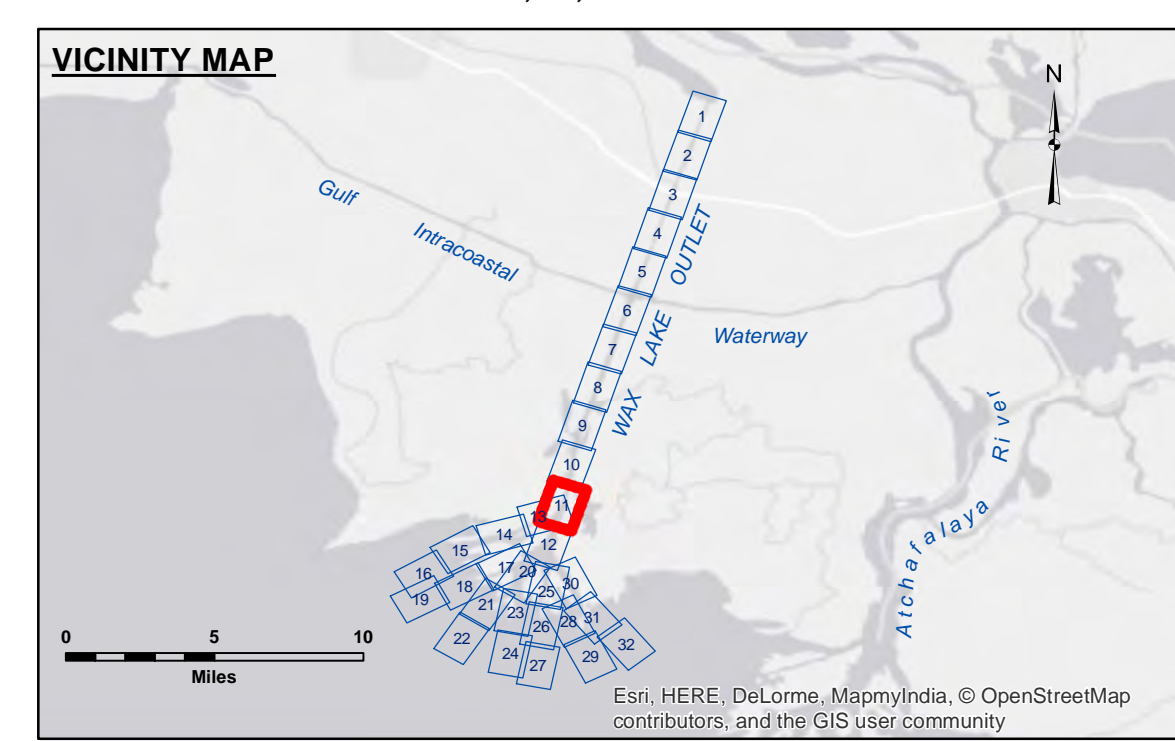
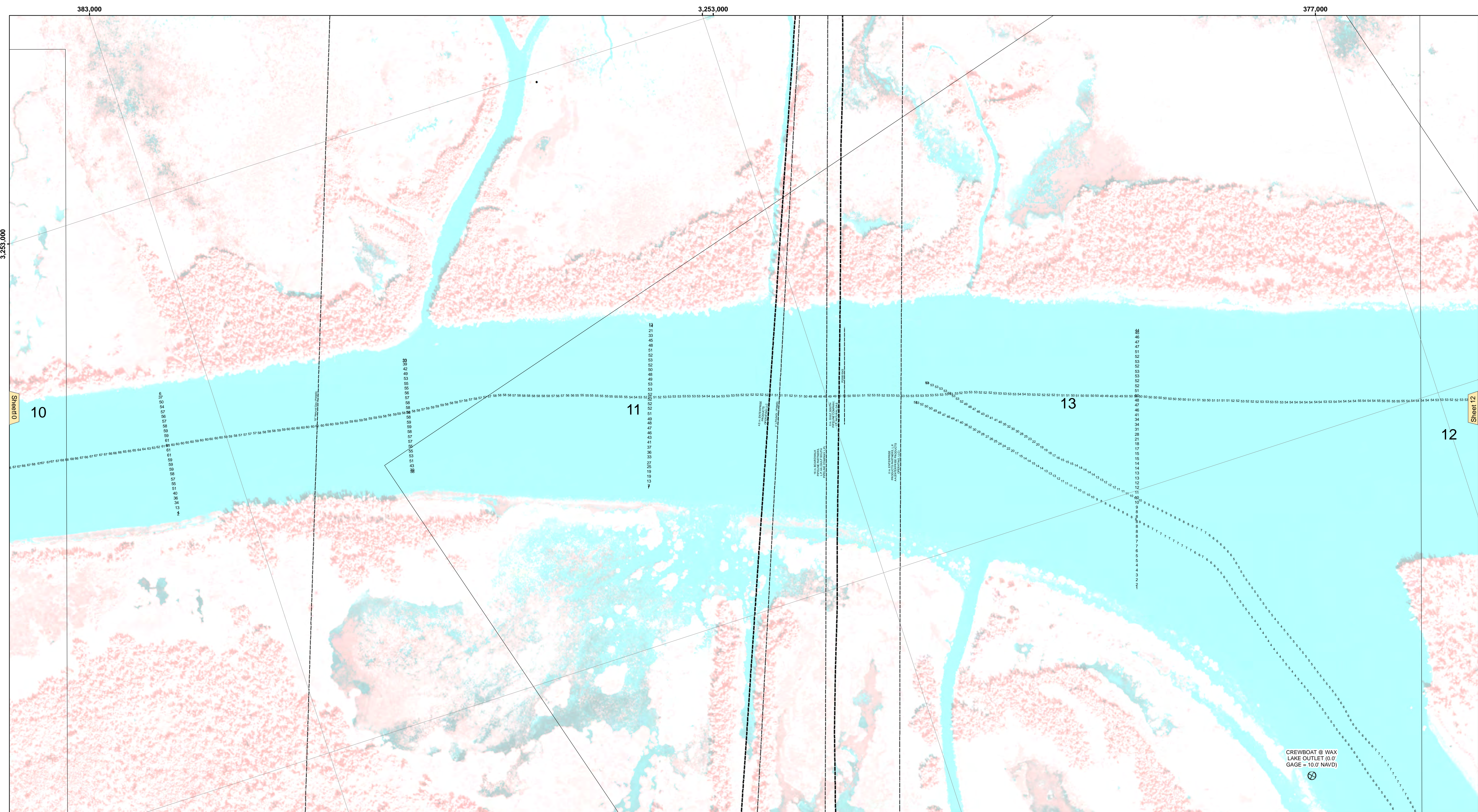
Data Constraints: Hydrographic survey data is subject to change due to several factors including but not limited to dredging, shoaling, and other changes in the hydrographical conditions which develop after the date of the survey. The US Army Corps of Engineers accepts no responsibility for changes in 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: DR, SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

**Sheet
Reference
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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: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

WAX LAKE @ CALUMET: 4.1 MLG
 CALM
 OB 189
 CONDITION
 HIGH

Feet
 0 500 1,000

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.

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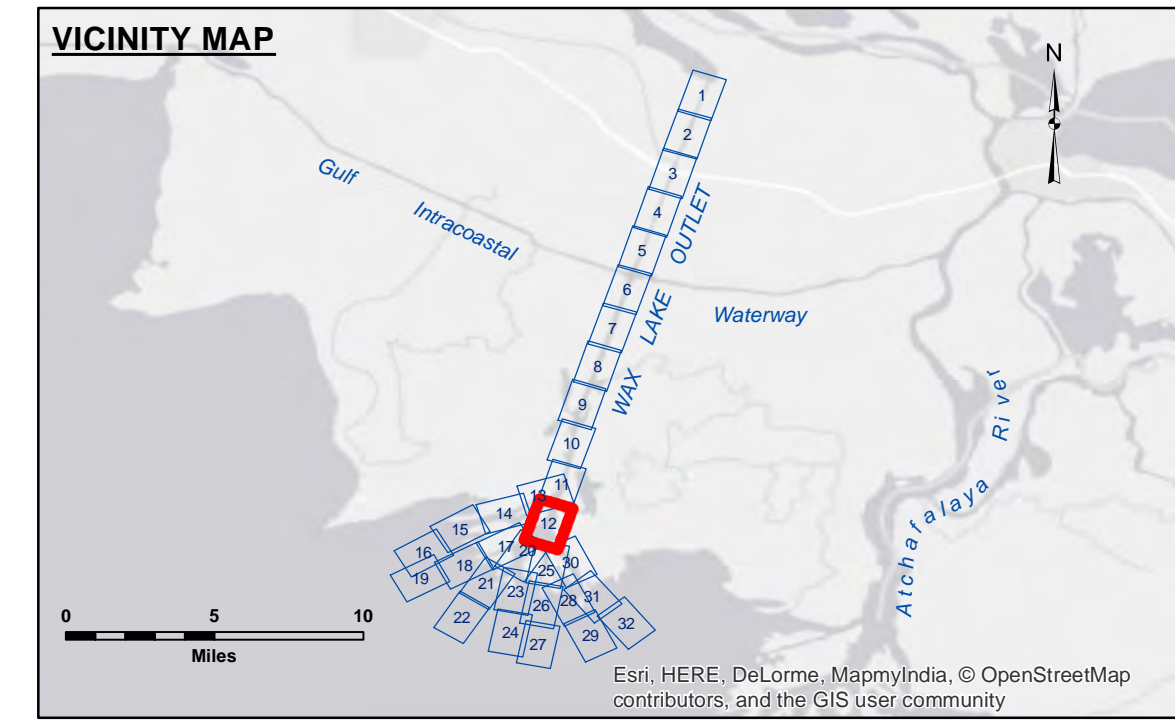
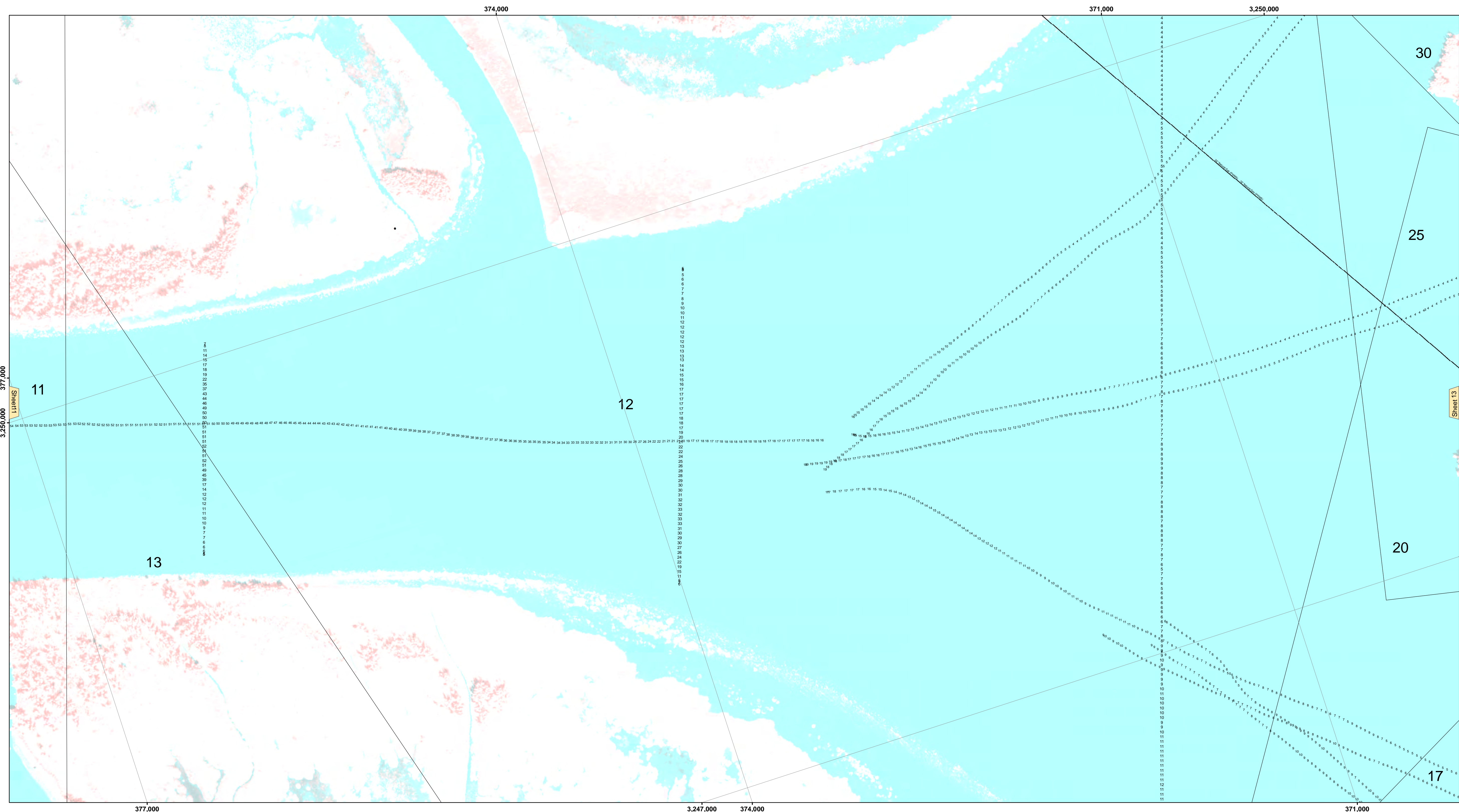
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Planned By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016

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11 of 32



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: WAX LAKE @ CALUMET: 4.1 MLG
 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 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.

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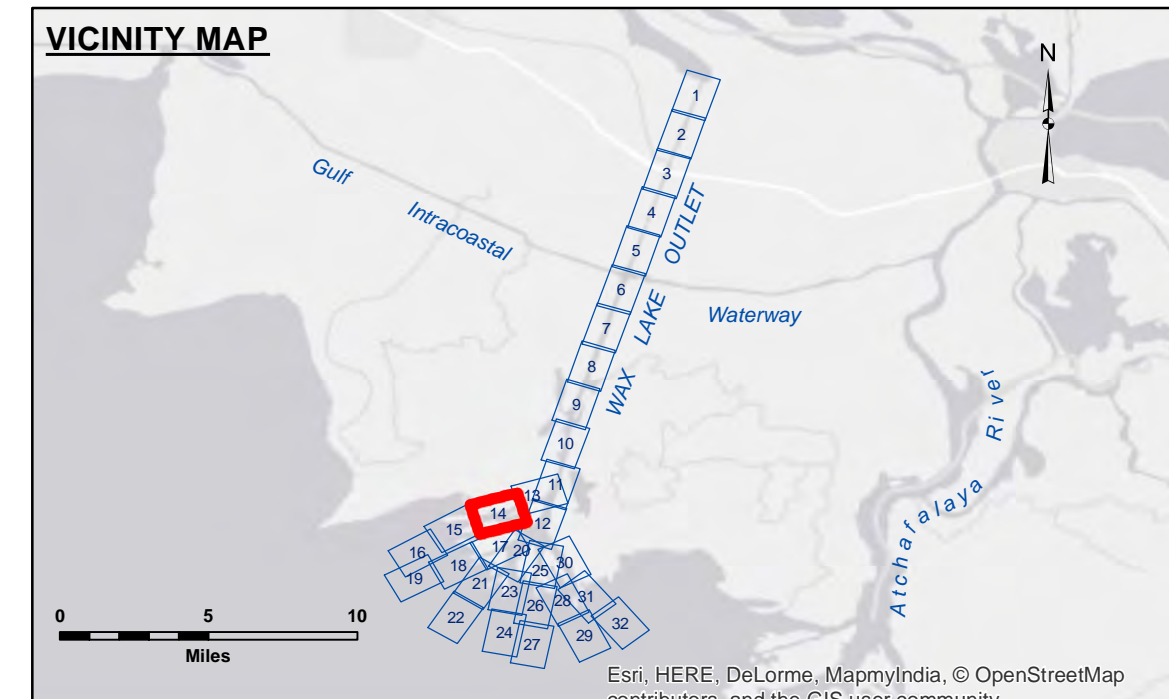
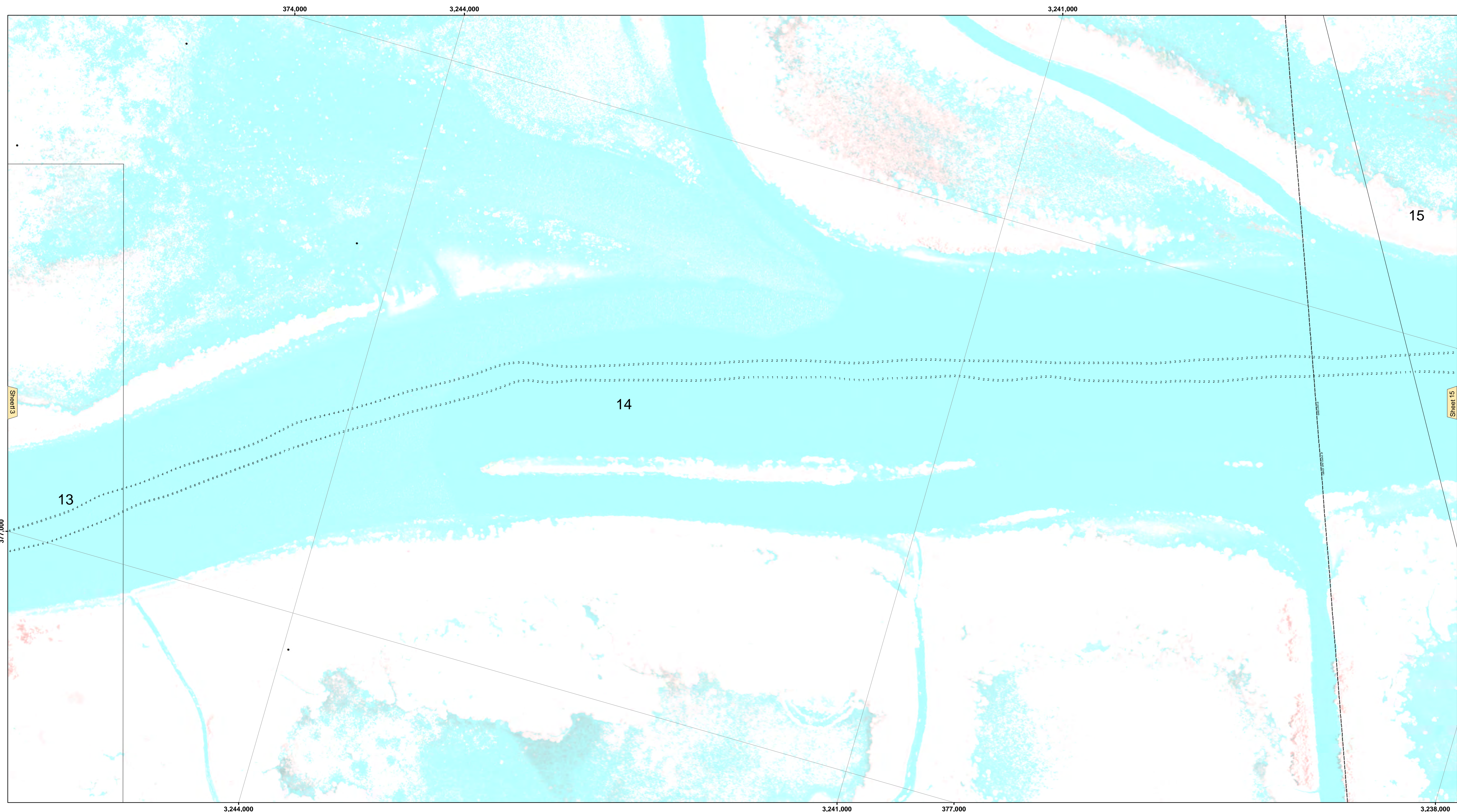
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AC

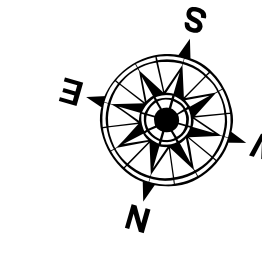
**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

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Number
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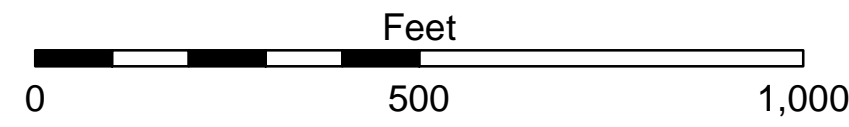


LEGEND

--- 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: WAX LAKE @ CALUMET: 4.1 MLG
 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 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.
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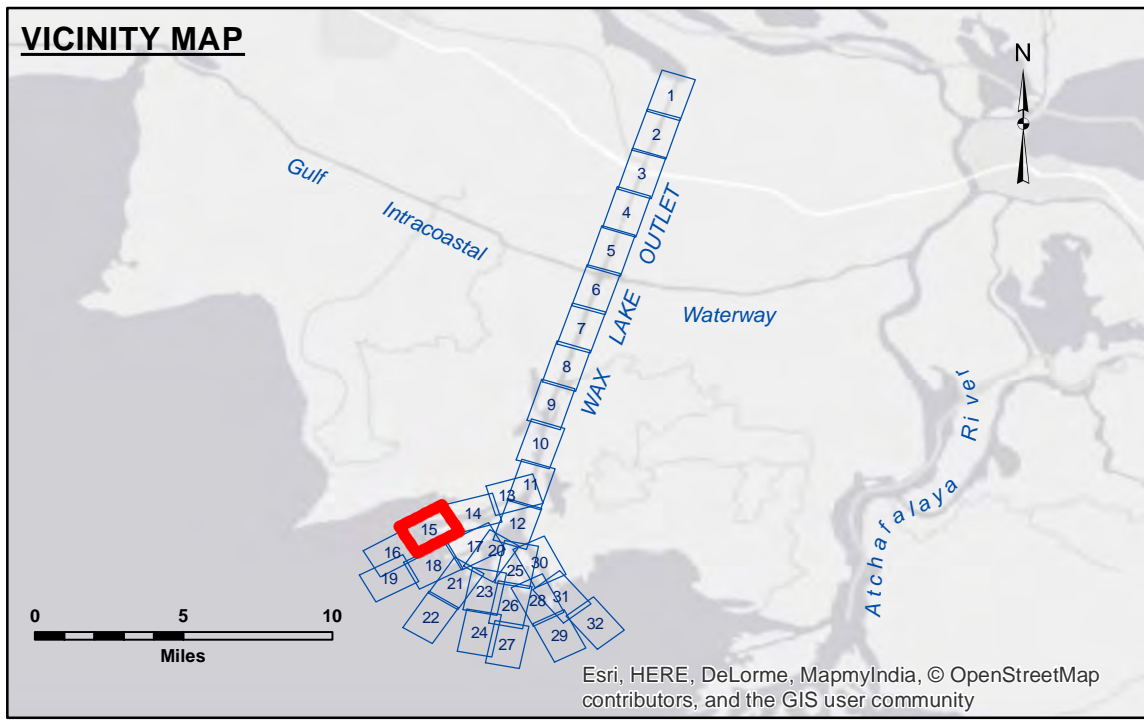
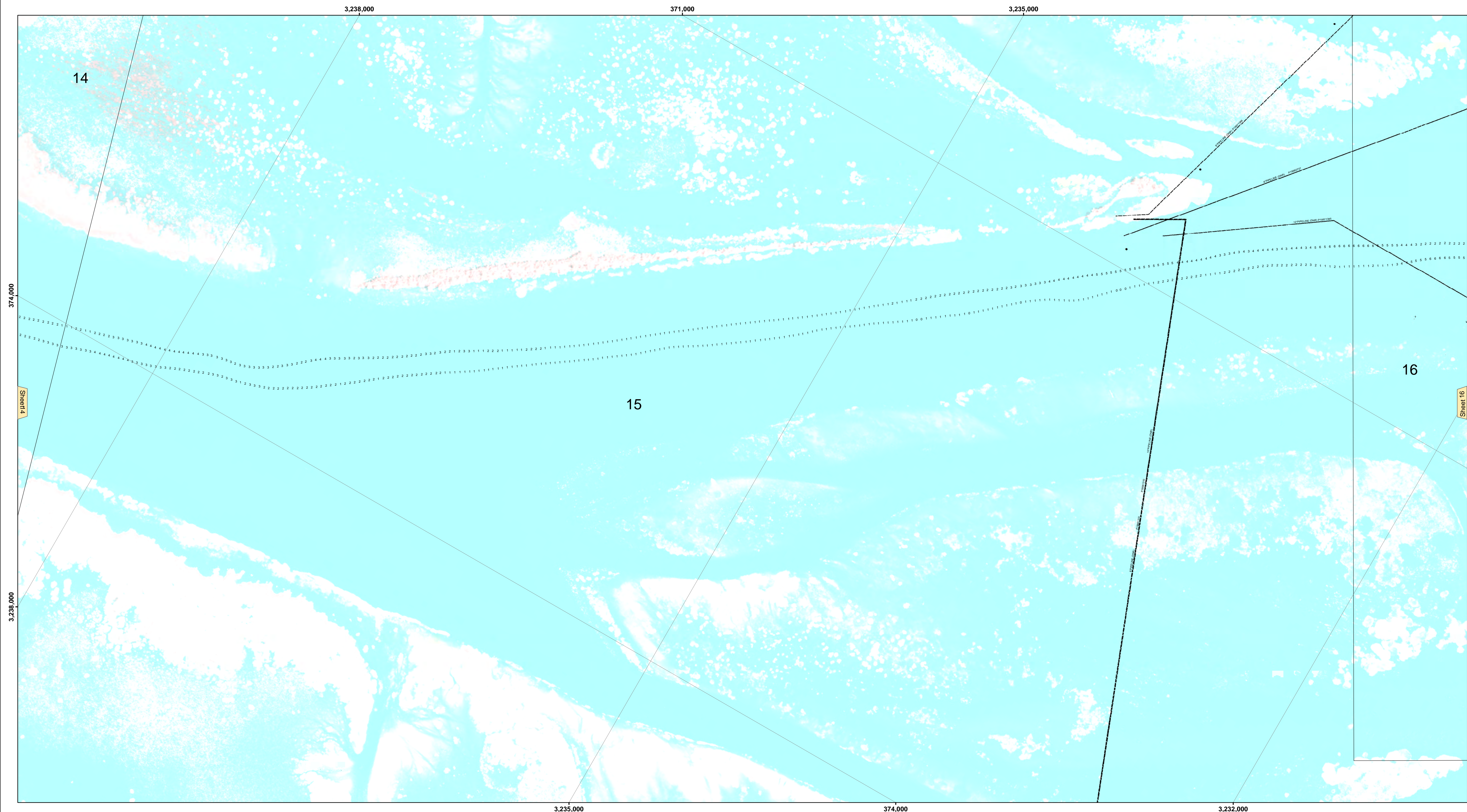
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U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

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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: WAX LAKE @ CALUMET: 4.1 MLG
 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 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.

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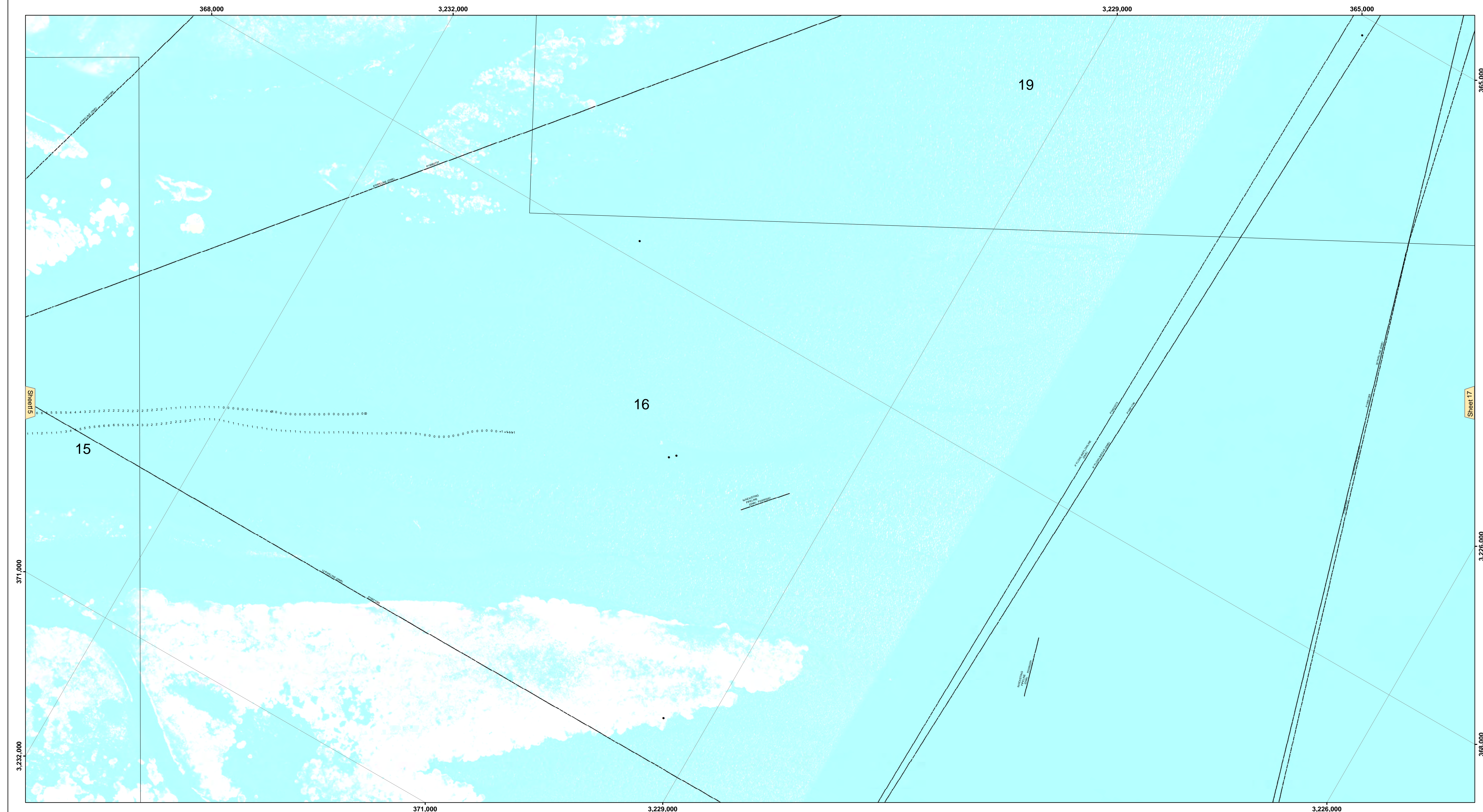
The information depicted on this map represents the results of a survey conducted on or about the date shown. It is not intended to represent the general condition existing at that time.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

**Sheet Reference Number
15 of 32**

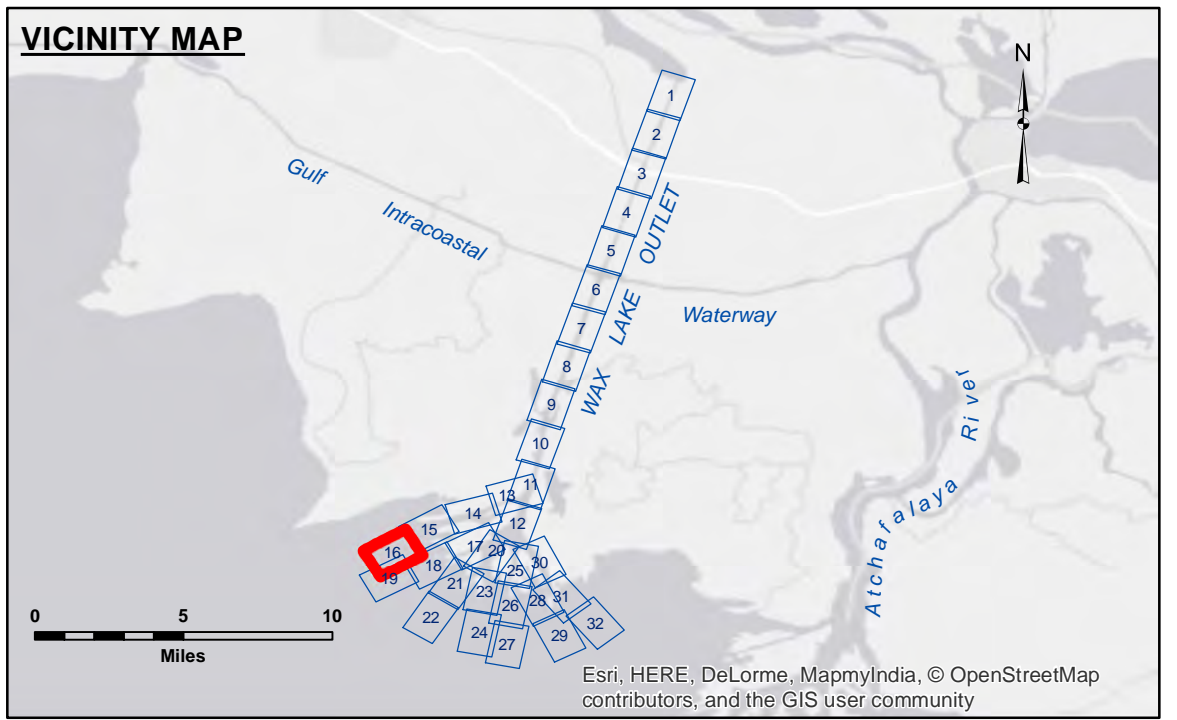


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U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT		
Submitted:	Surveyed By: DR.SP	Plotted By: BD
Room/Desk:	Chief, Survey Section	Checked By: AO
Approved:	Chief, Waterways Maintenance Section	

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

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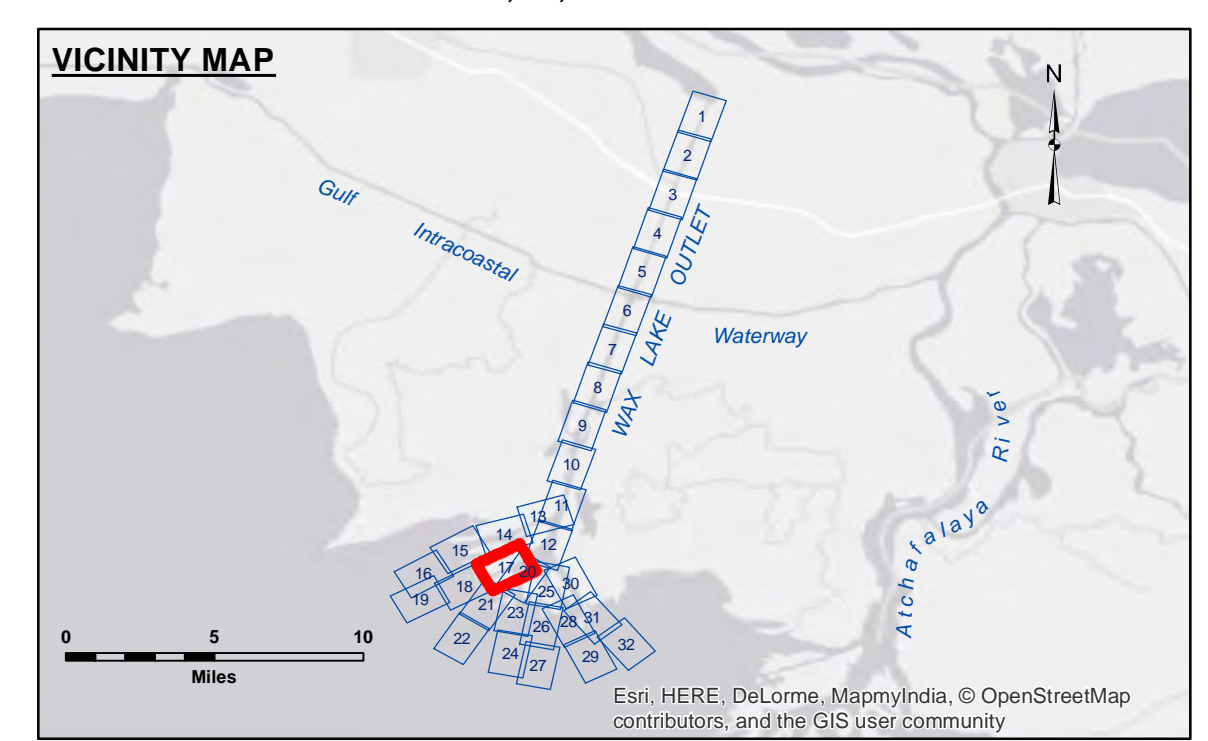
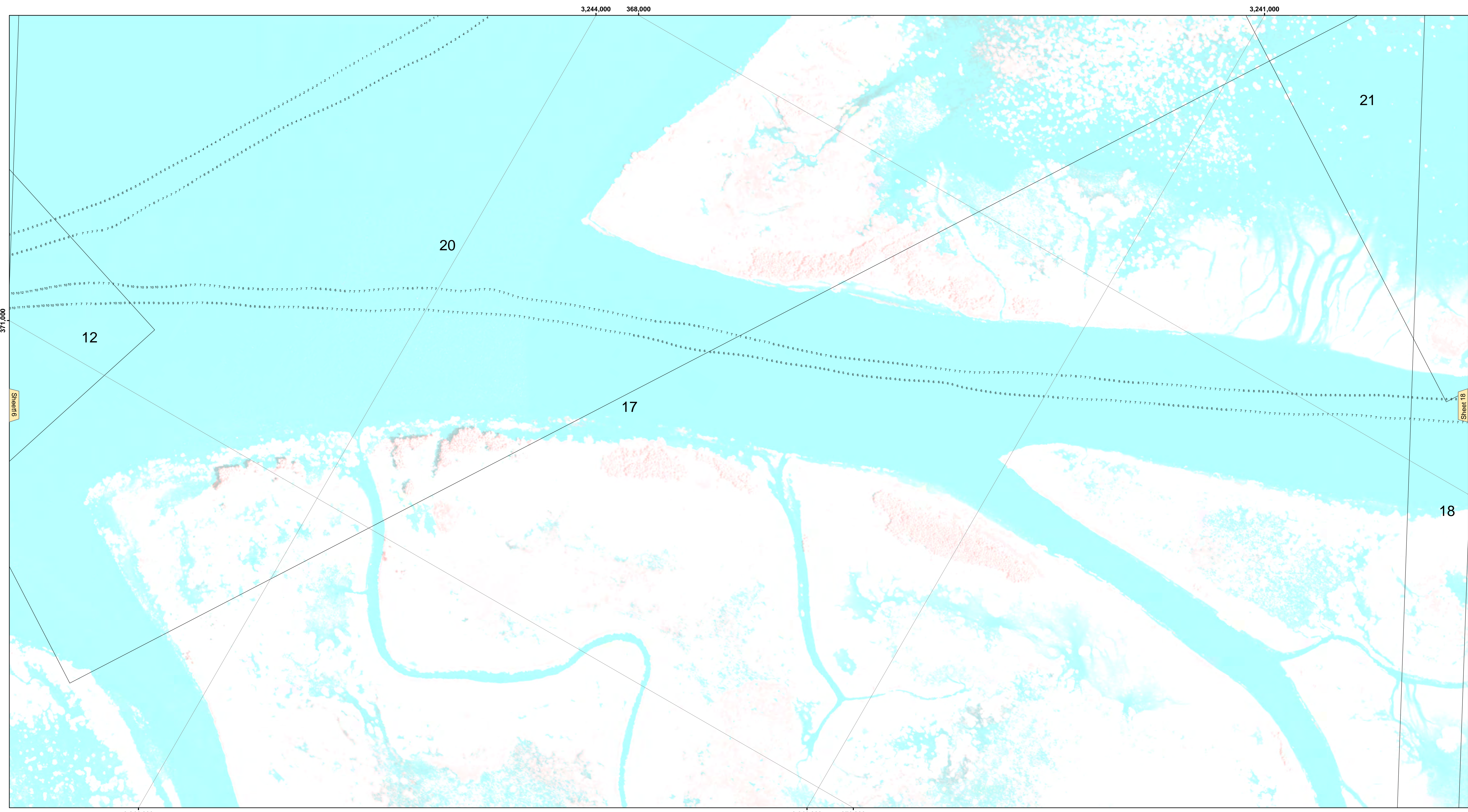


LEGEND

--- 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

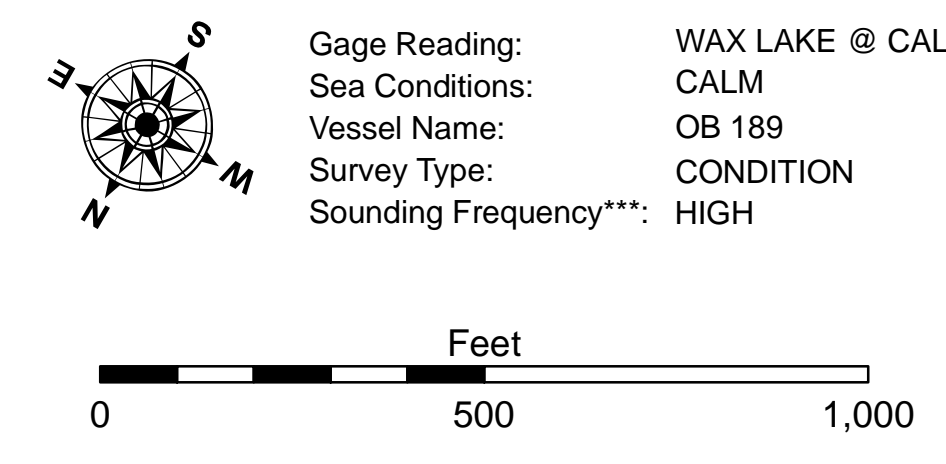
Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
Sea Conditions: CALM
Vessel Name: OB 189
Survey Type: CONDITION
Sounding Frequency*:** HIGH

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 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.
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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



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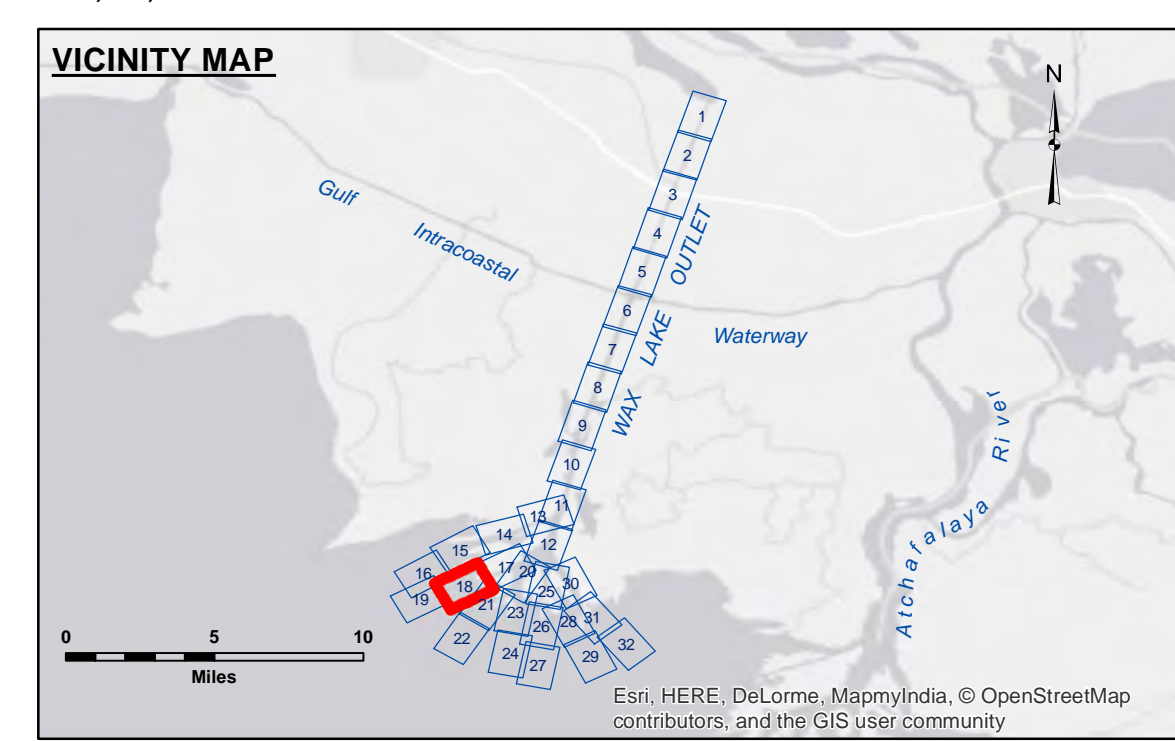
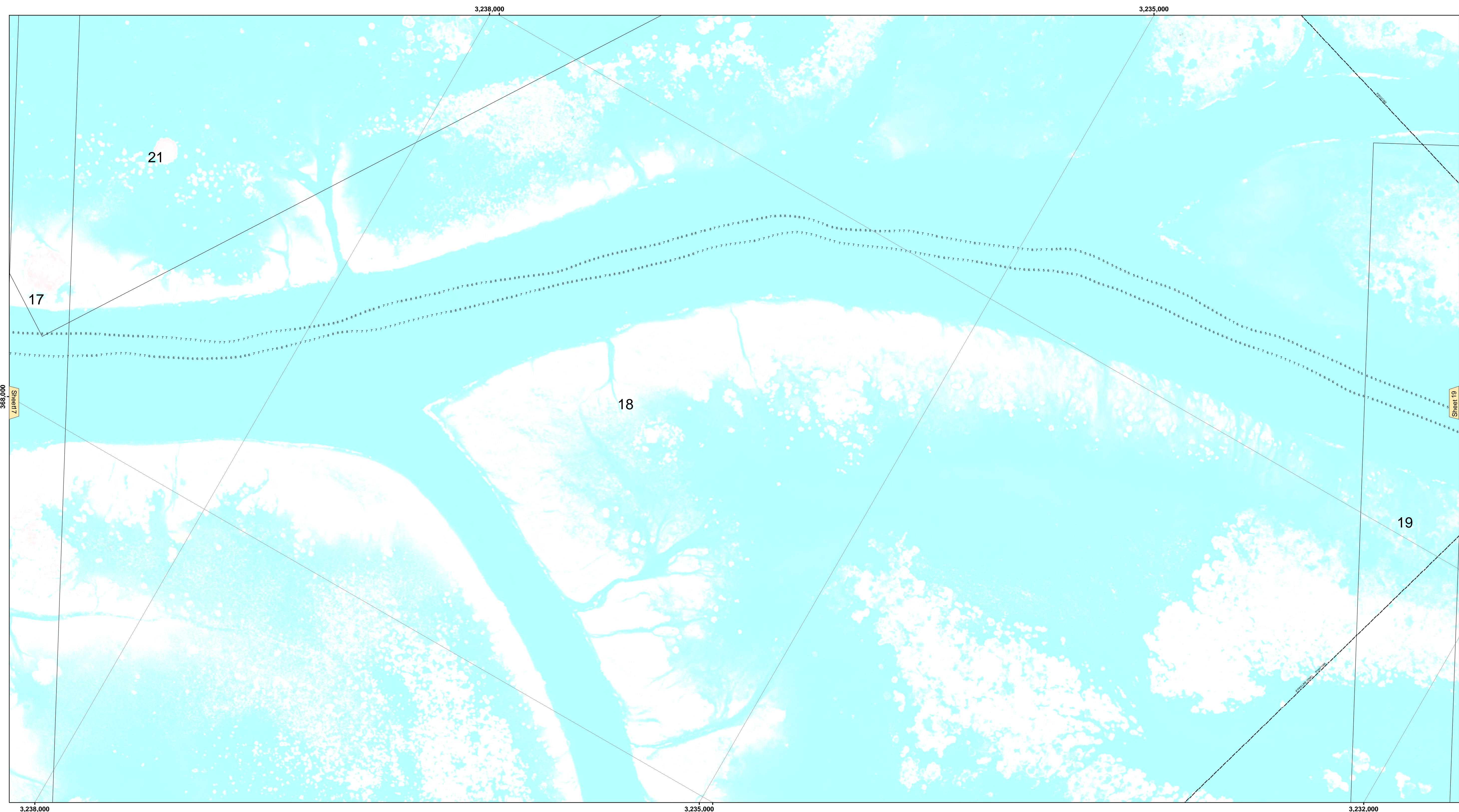
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U.S. ARMY CORPERS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR, SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AC

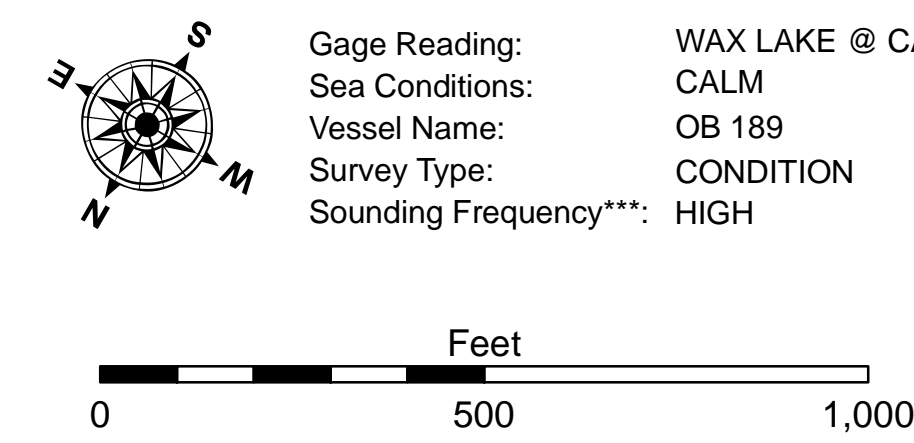
**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

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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: WAX LAKE @ CALUMET: 4.1 MLG
 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.
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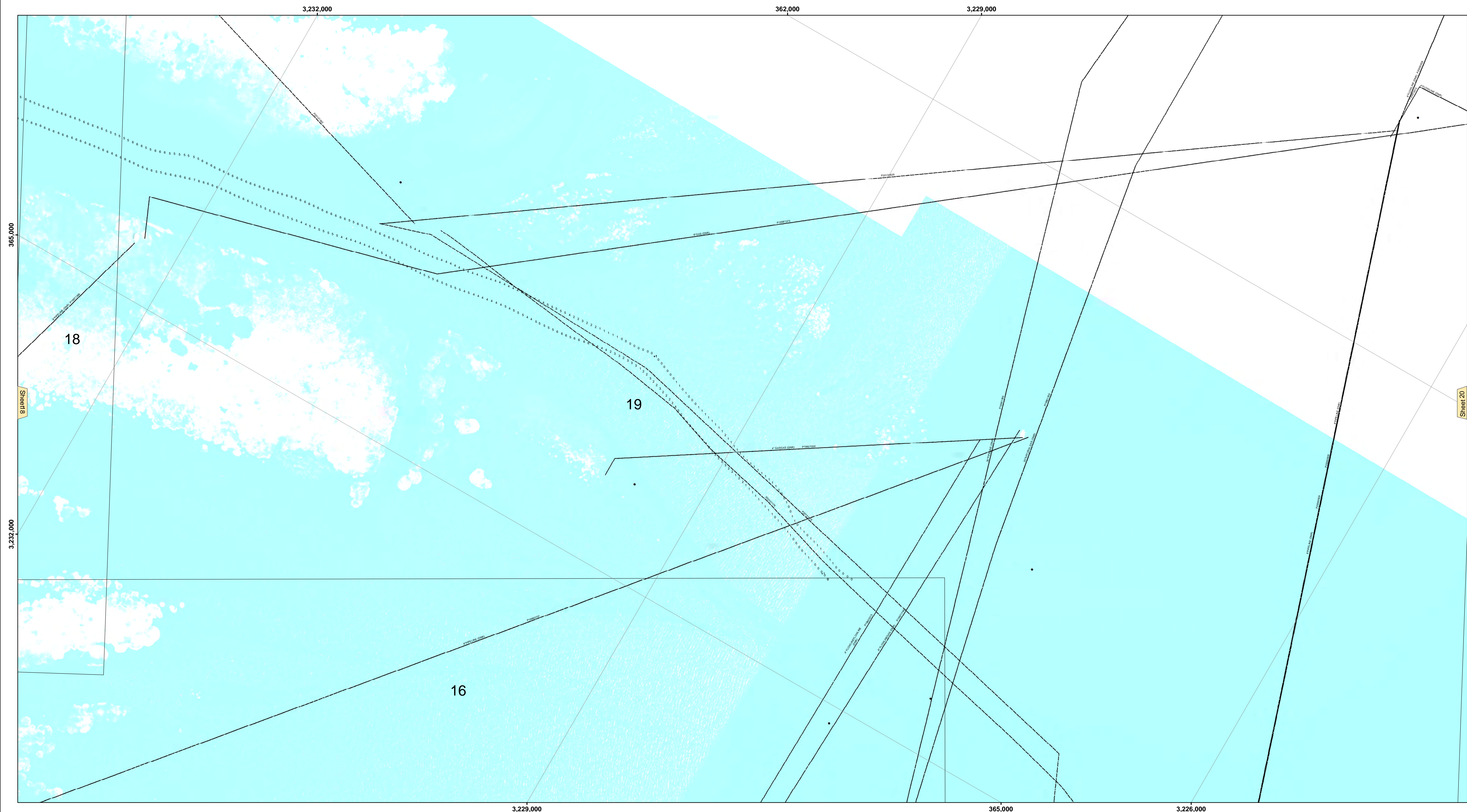
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U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended:	Placed By: BD
Approved:	Checked By: AC

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

**Sheet
 Reference
 Number
 18 of 32**



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

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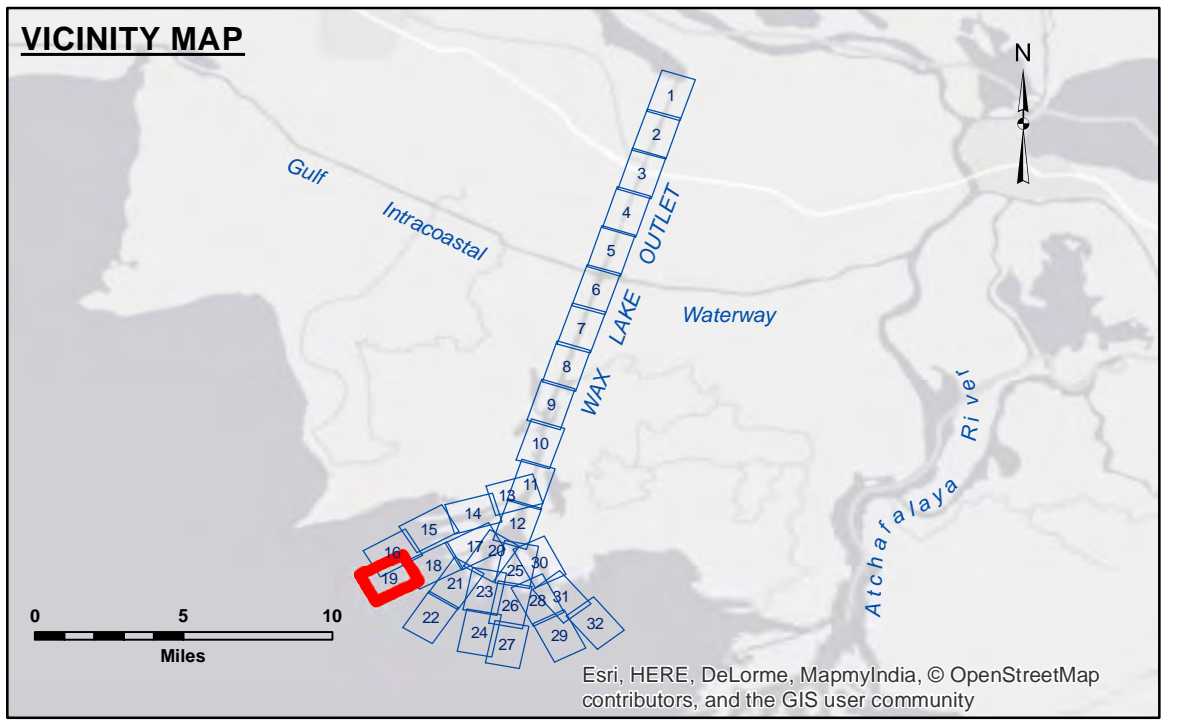
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U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT		
Submitted:	Surveyed By: DR.SP	Plotted By: BD
Recommended:	Chief, Survey Section	Checked By: AC
Approved:	Chief, Waterways Maintenance Section	

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 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

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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2010 Aerial Photography data source: NAIP Louisiana.

Reference is N.O.A.A. Navigation Chart No. 11369.

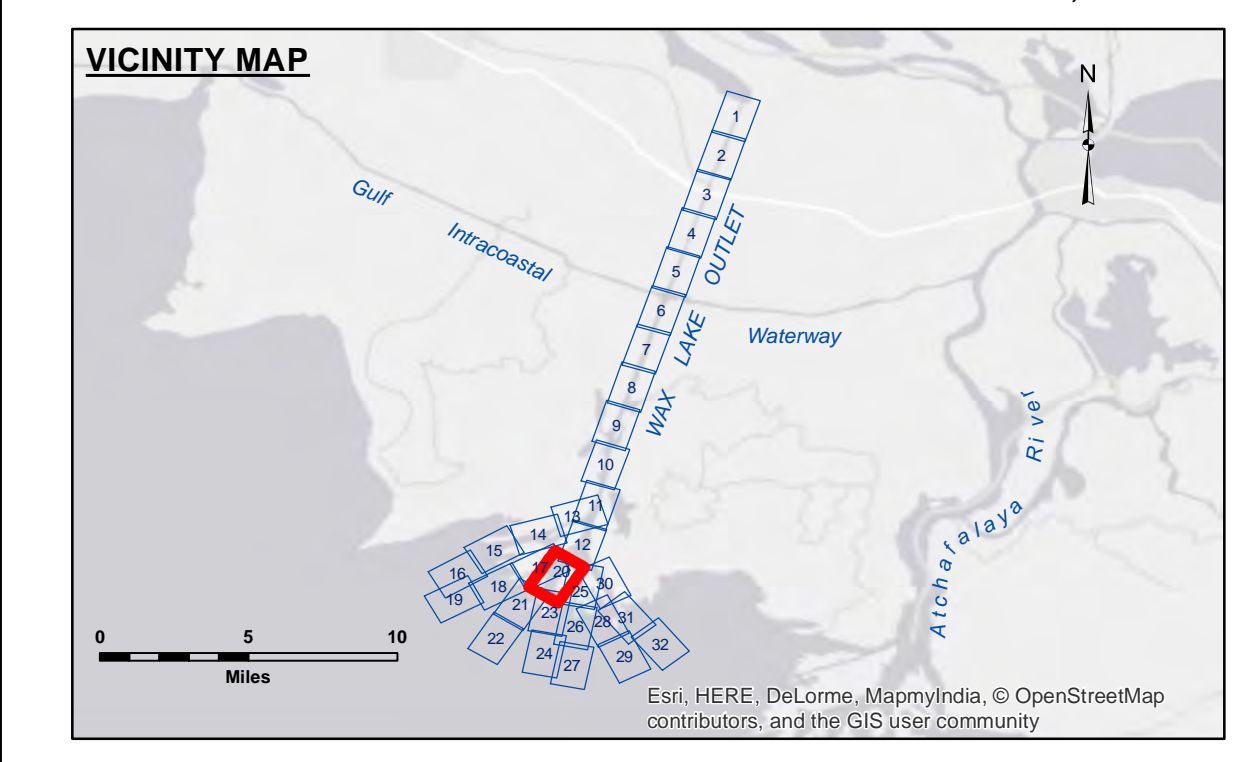
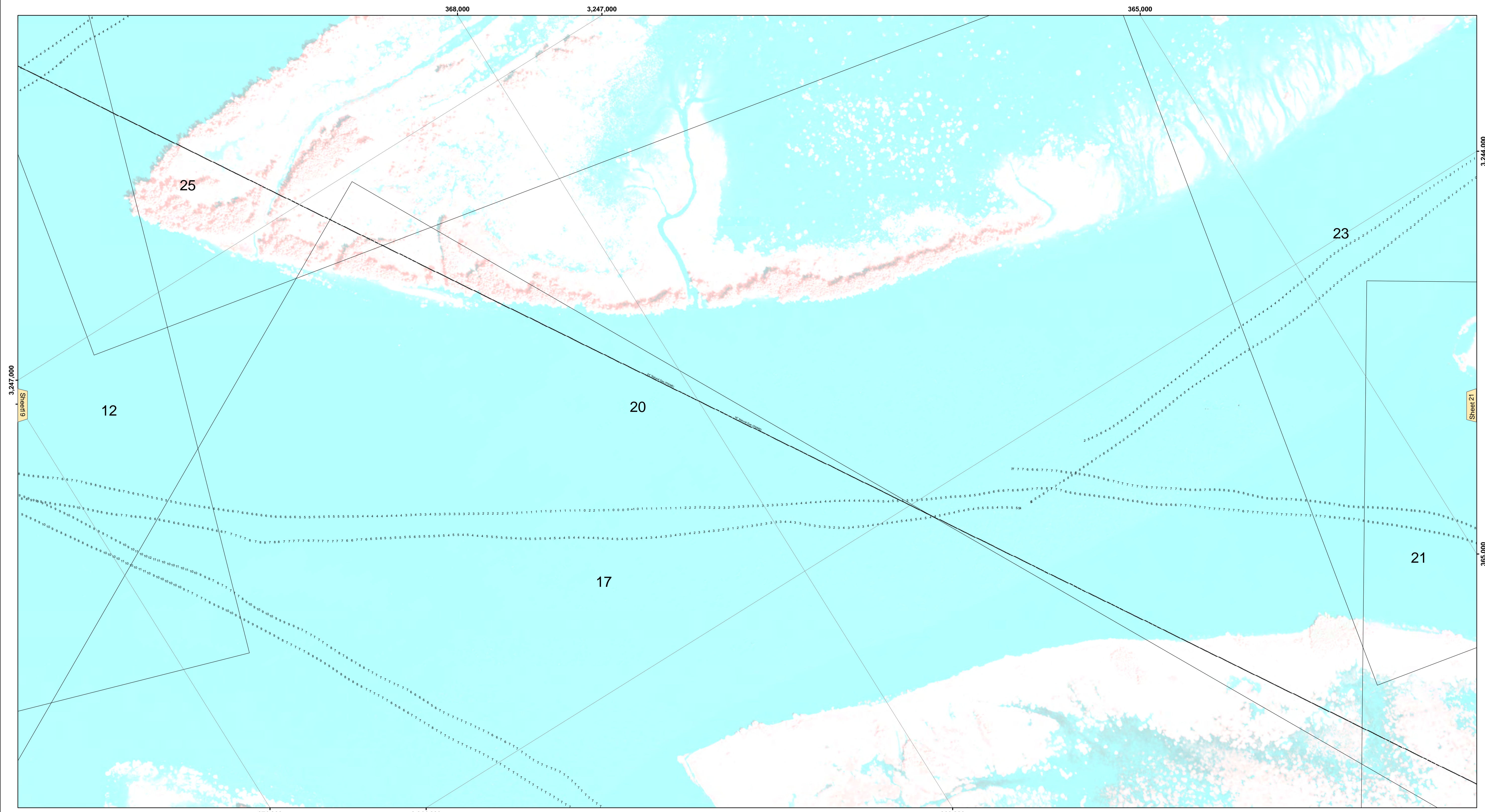
** Shoalest Sounding per Quarter per Reach.

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Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

**Sheet Reference Number
19 of 32**

Revision Number:
3.8.0-2115/2012



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

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.

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Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
Sea Conditions: CALM
Vessel Name: OB 189
Survey Type: CONDITION
Sounding Frequency***: HIGH

0 500 1,000 Feet



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 any application 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 dredging, sedimentation, and changes in bathymetry. The user is responsible for the results and any application of the data for other than its intended purpose.

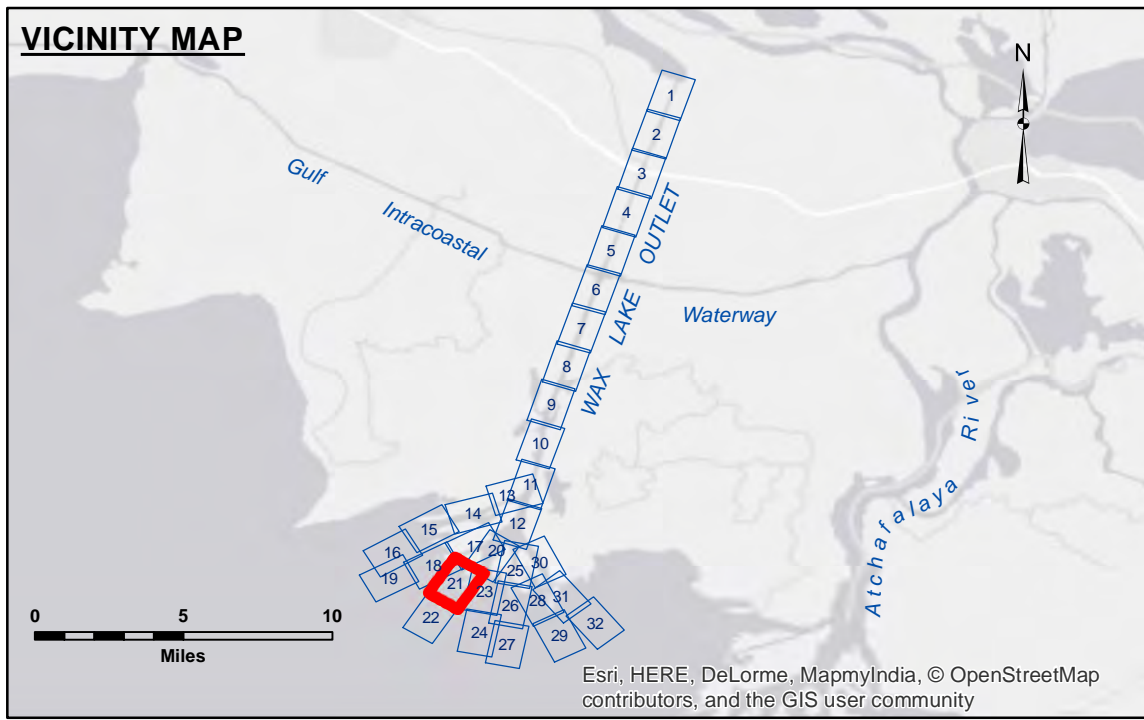
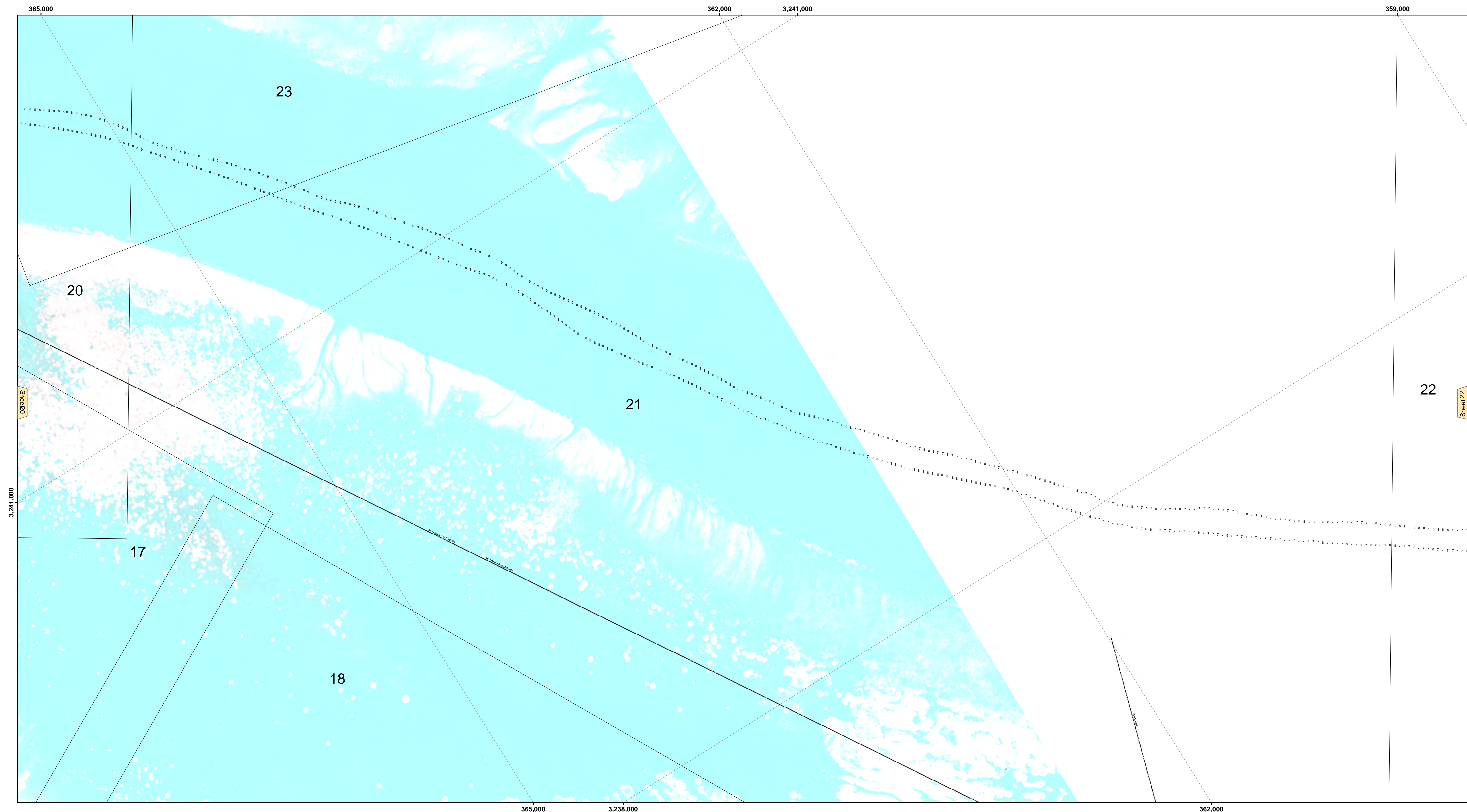
Disclaimer: The information depicted on this map represents the results of a survey conducted on the date of the survey. It is not intended to represent the general condition existing at that time.

U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

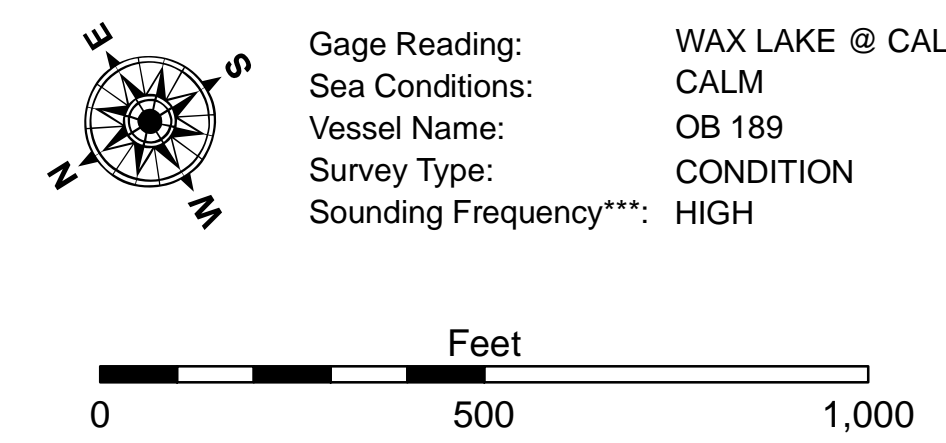
**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

**Sheet
Reference
Number
20 of 32**



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: WAX LAKE @ CALUMET: 4.1 MLG
 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 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.
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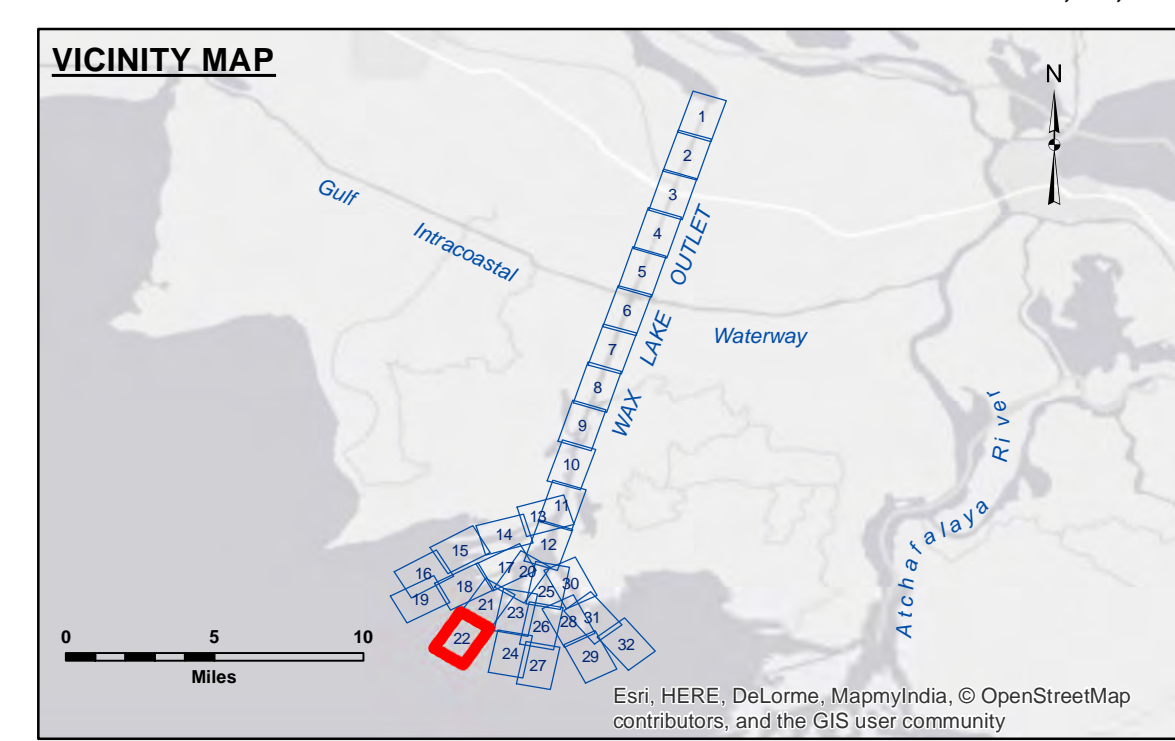
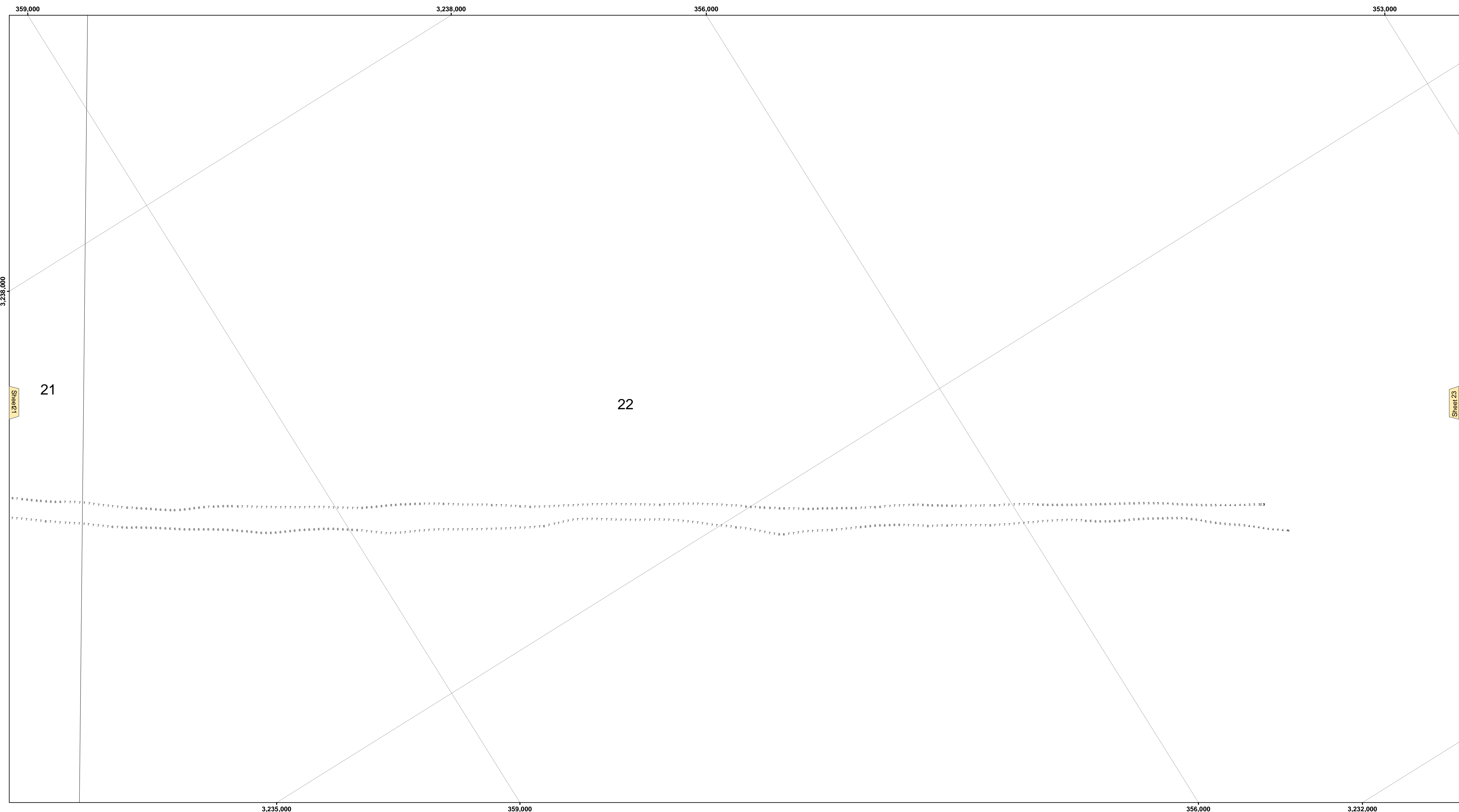
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U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AC

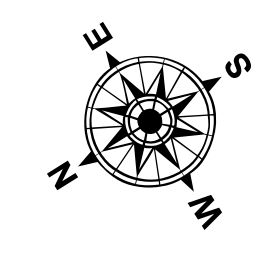
**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

**Sheet
 Reference
 Number
 21 of 32**

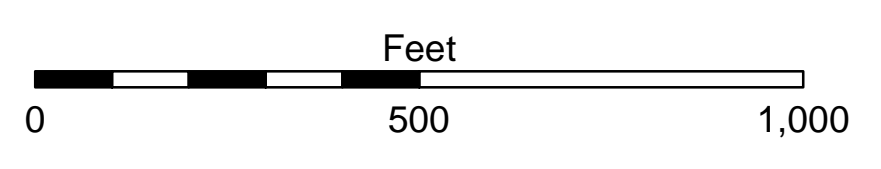


LEGEND

--- 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: WAX LAKE @ CALUMET: 4.1 MLG
 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 North American Vertical Datum of 1988 (NAVD88).
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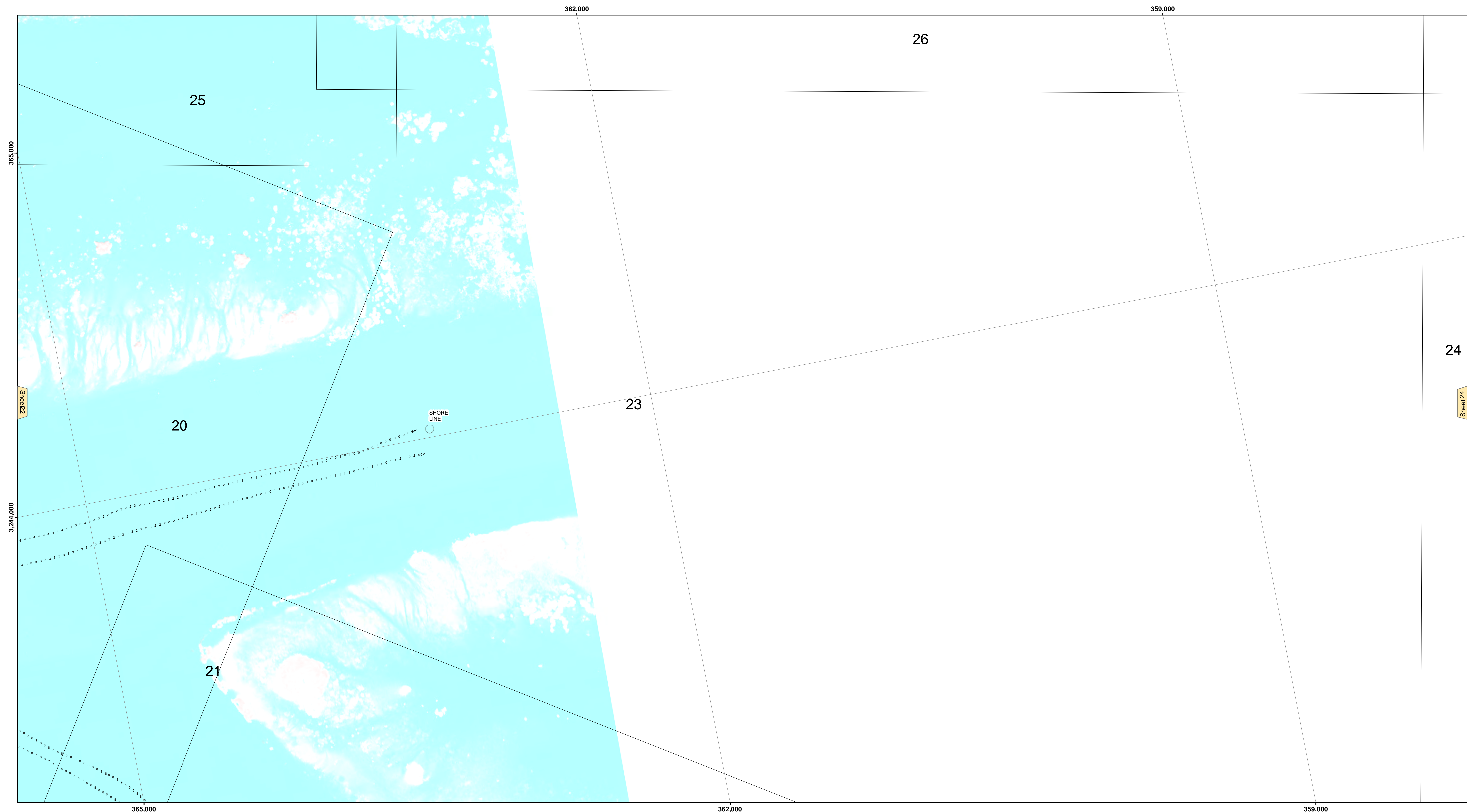
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U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

**Sheet Reference Number
 22 of 32**

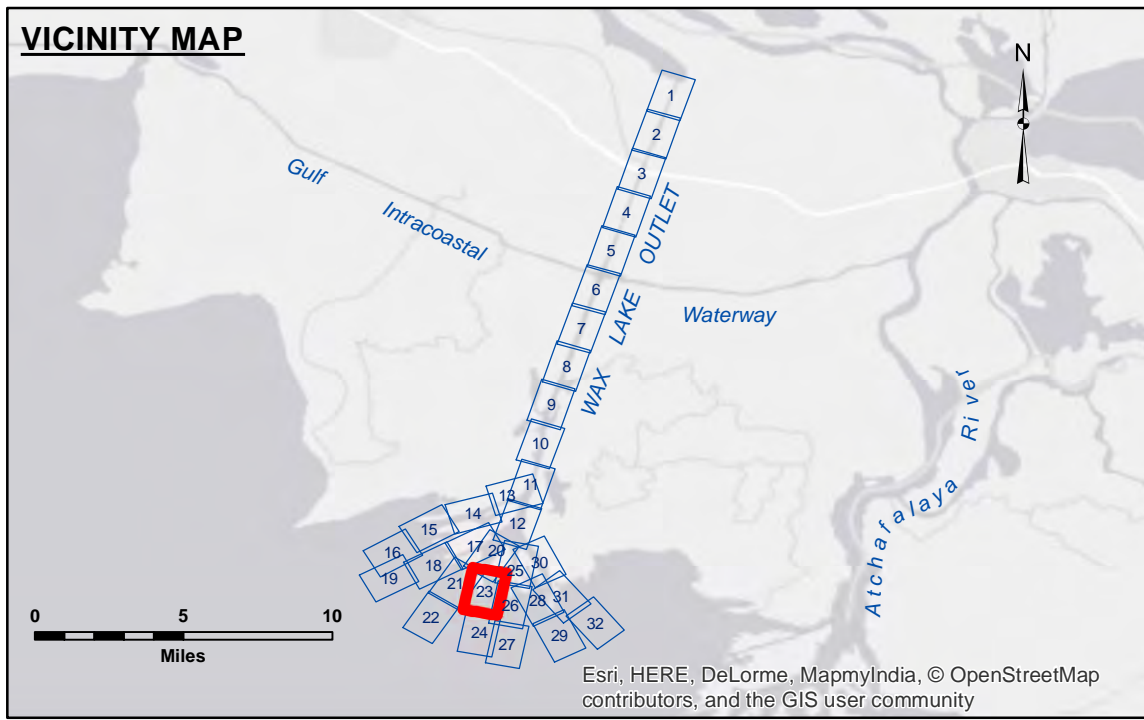


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U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT		
Submitted:	Surveyed By: DR.SP	
Recommended:	Plotted By: BD	
Approved:	Chief, Survey Section	Checked By: AO

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

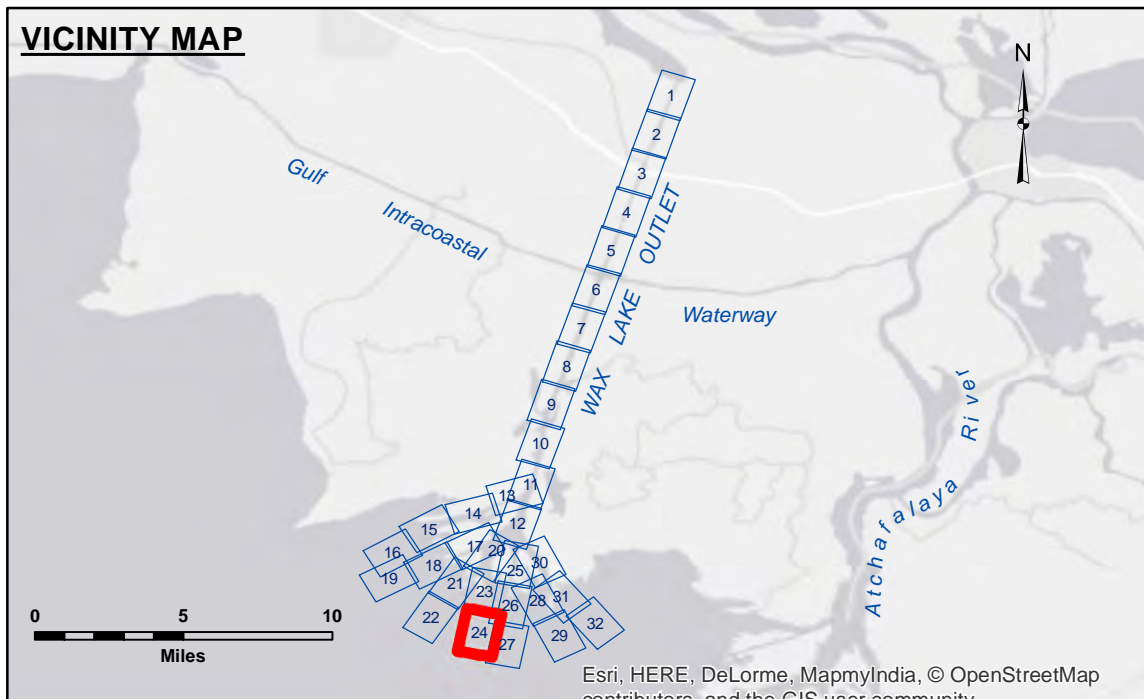
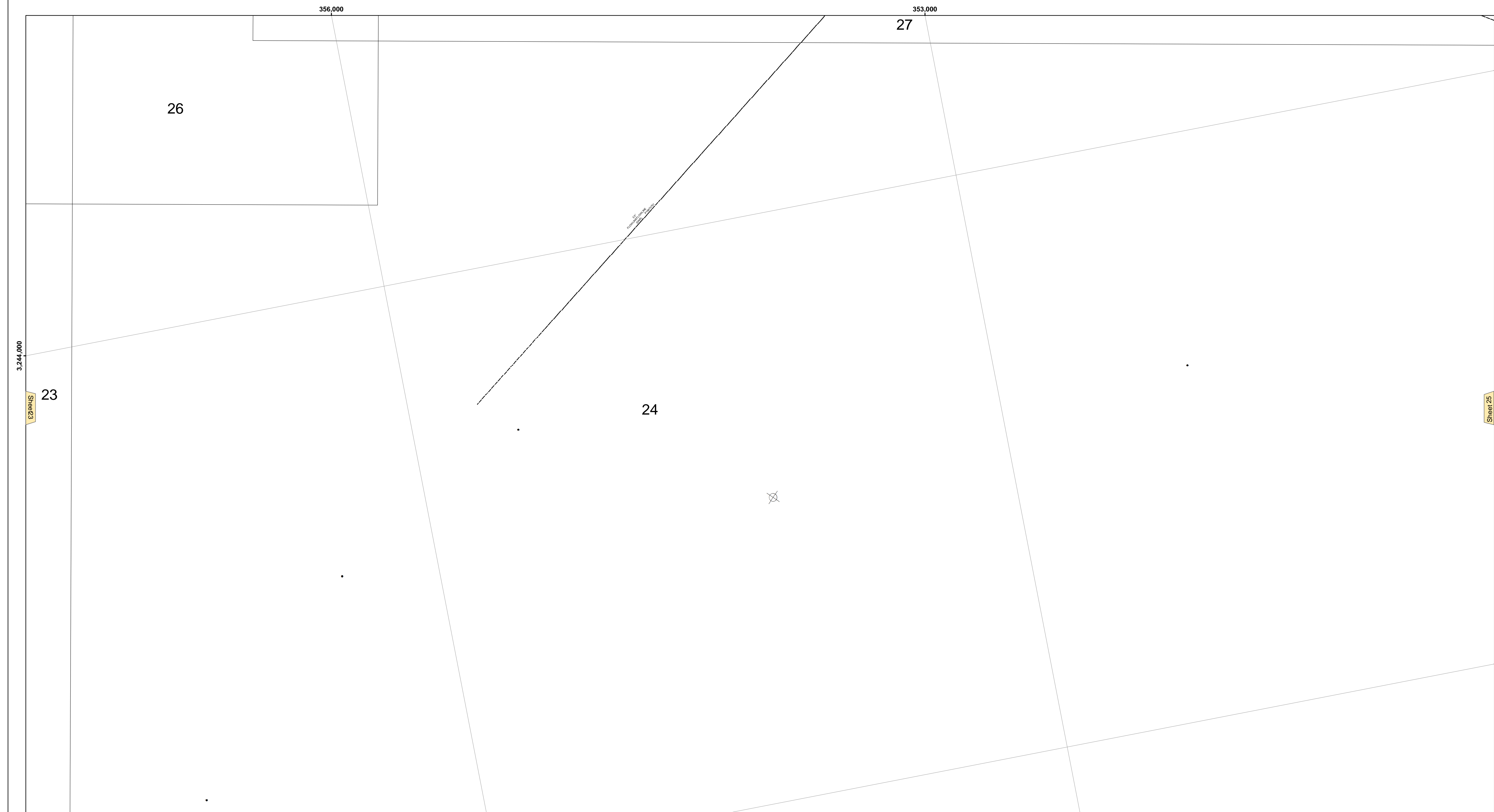


LEGEND		
--- Federal Navigation Channel	○ Cable Area	□ Borrow Area
— Federal Navigation Center Line	■ Placement Area	● Shoalest Sounding**
— As-built Pipeline/Cable	□ Anchorage Area	★ Beacon, General
..... Unconfirmed Pipeline/Cable	⊗ Obstruction Point	♦ Red Navigation Buoy
— Project Depth Contour	✶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

Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
Sea Conditions: CALM
Vessel Name: OB 189
Survey Type: CONDITION
Sounding Frequency*:** HIGH

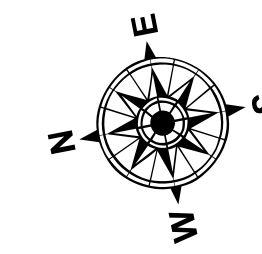
NOTES:
 Horizontal Coordinate System: North American Datum of 1983 (NAD83), projected to the State Plane Coordinate System (SPCS), Louisiana South Zone. Distance units in U.S. Survey Feet.
 Vertical Datum: Soundings are shown in feet and indicate depths below North American Vertical Datum of 1988 (NAVD88).
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**Sheet Reference Number
 23 of 32**

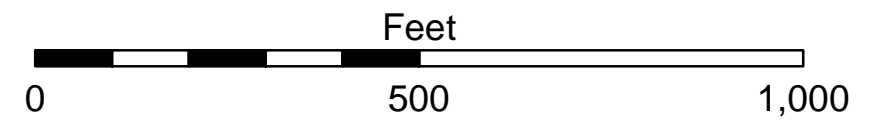


LEGEND

--- 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: WAX LAKE @ CALUMET: 4.1 MLG
 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.
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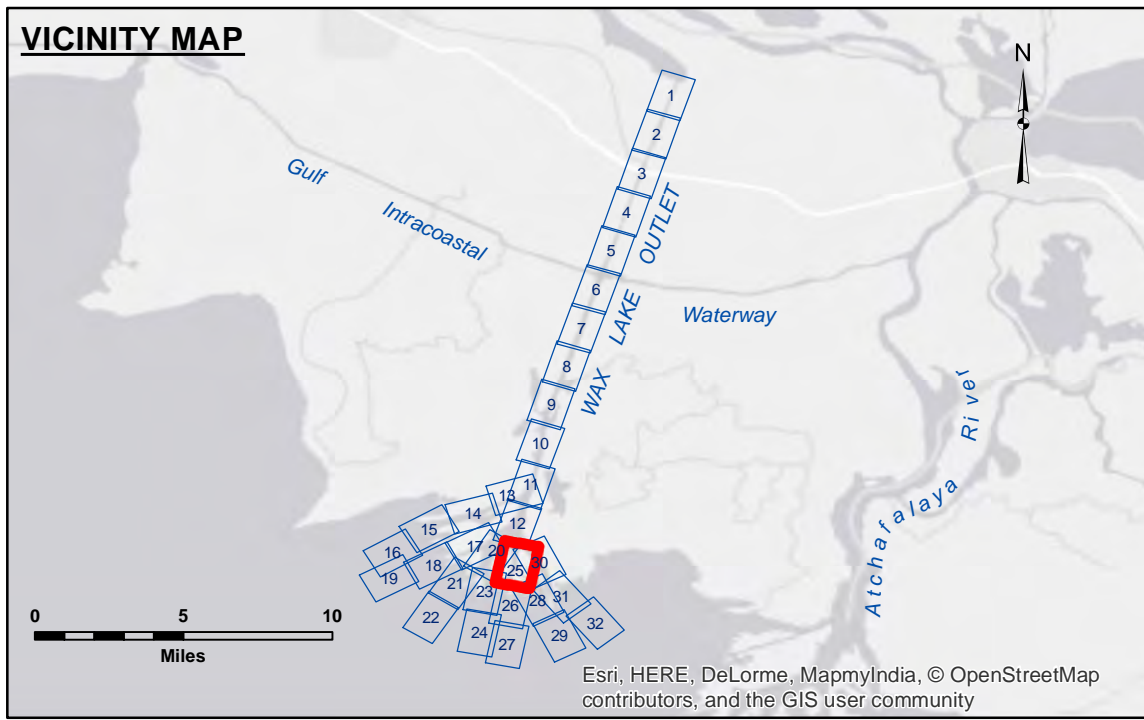
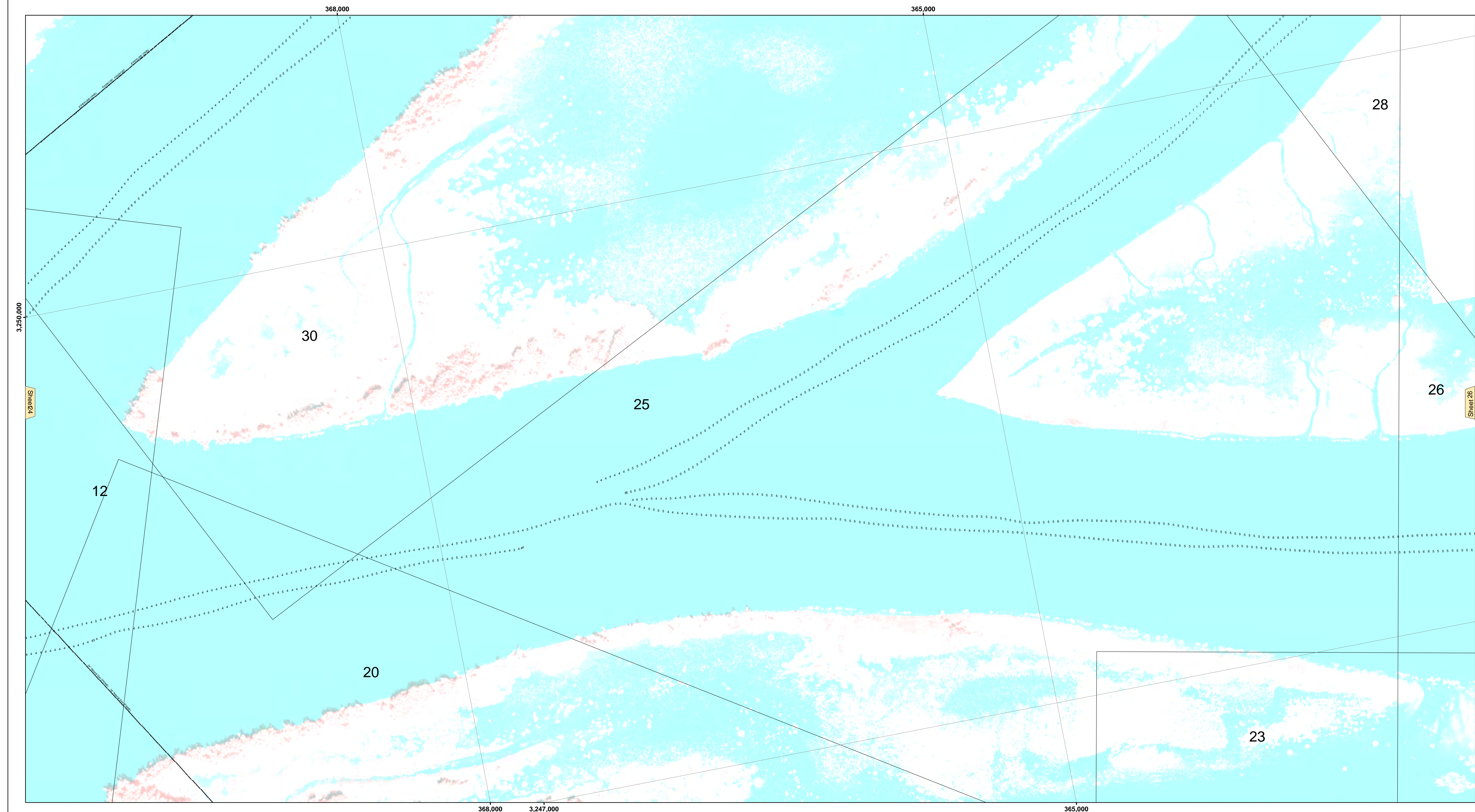
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

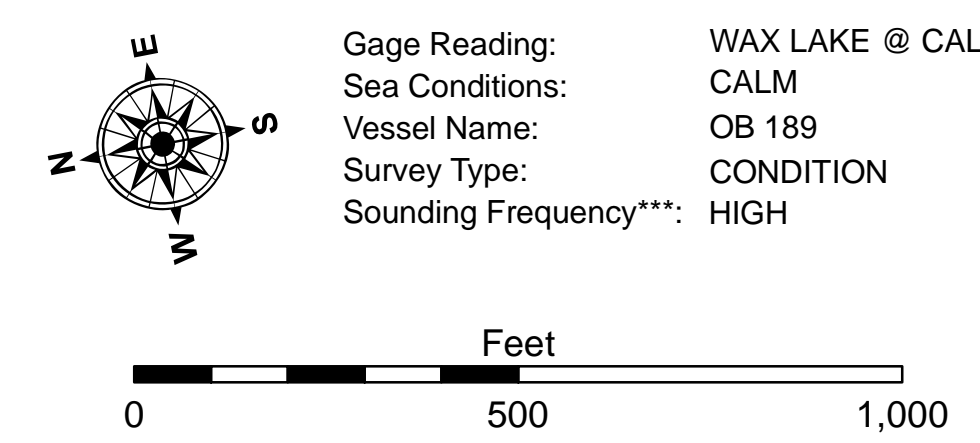
**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

**Sheet
 Reference
 Number
 24 of 32**



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



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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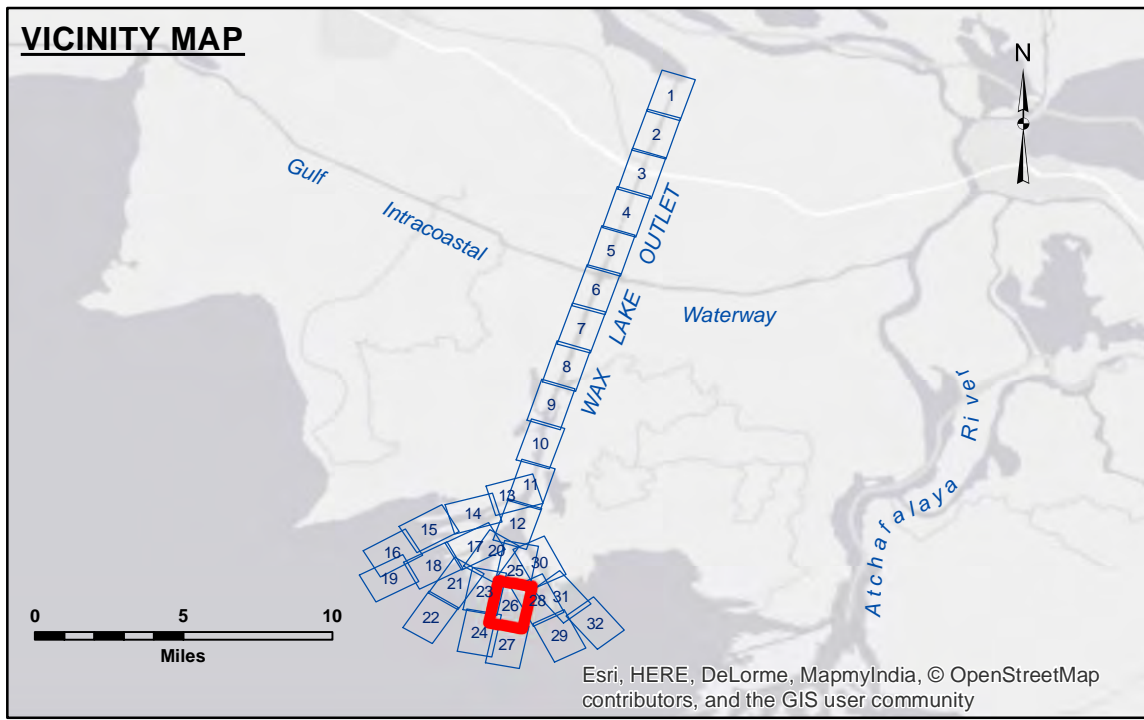
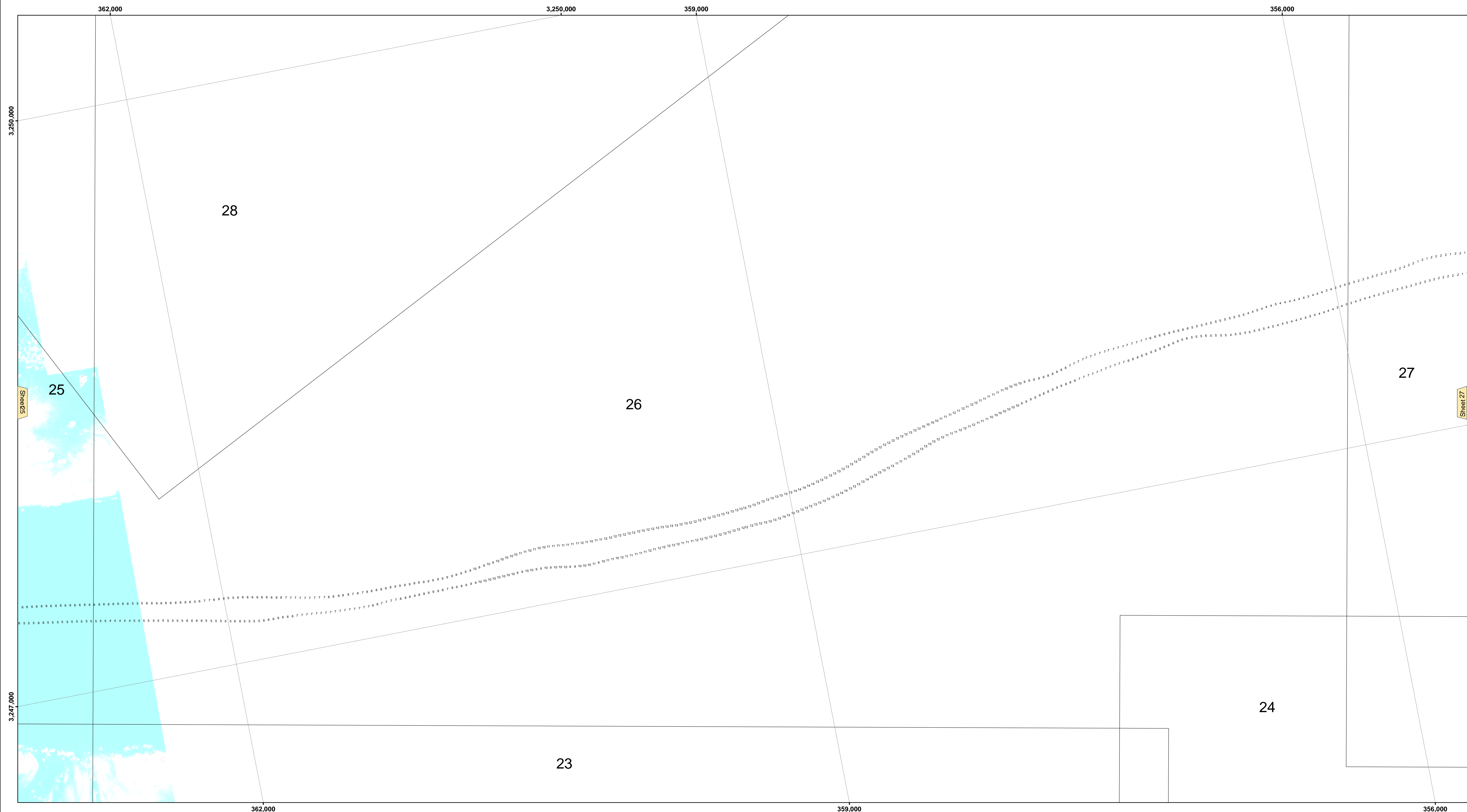
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U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

**Sheet
 Reference
 Number
 25 of 32**



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

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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Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
Sea Conditions: CALM
Vessel Name: OB 189
Survey Type: CONDITION
Sounding Frequency***: HIGH



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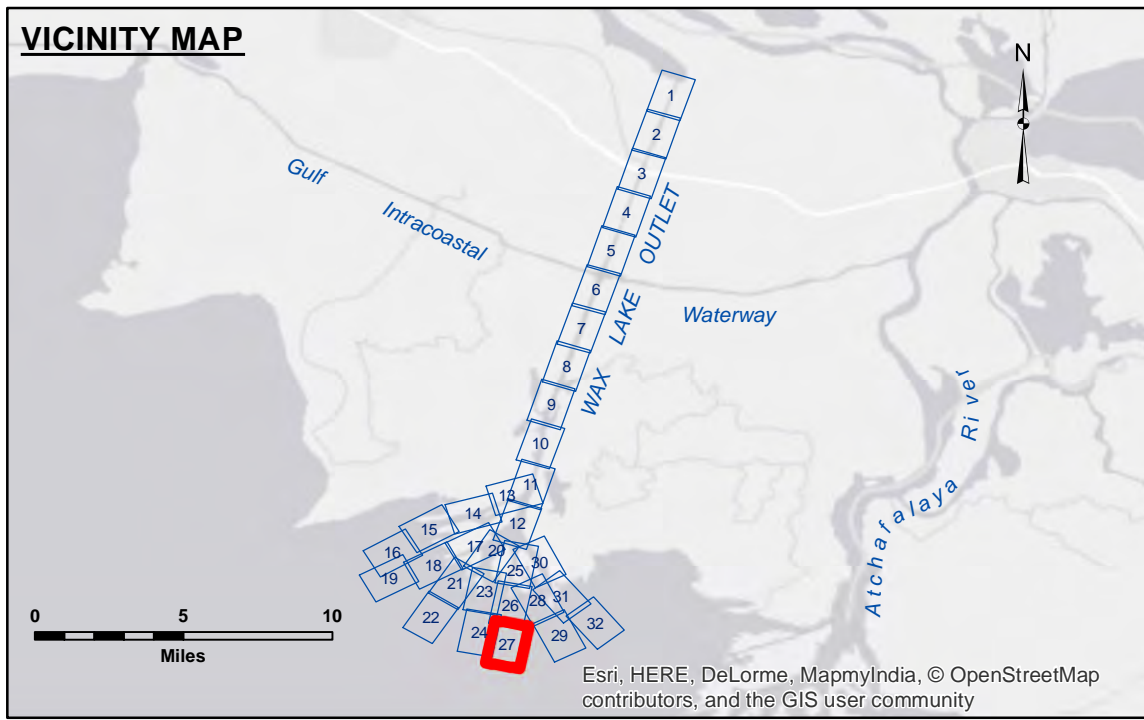
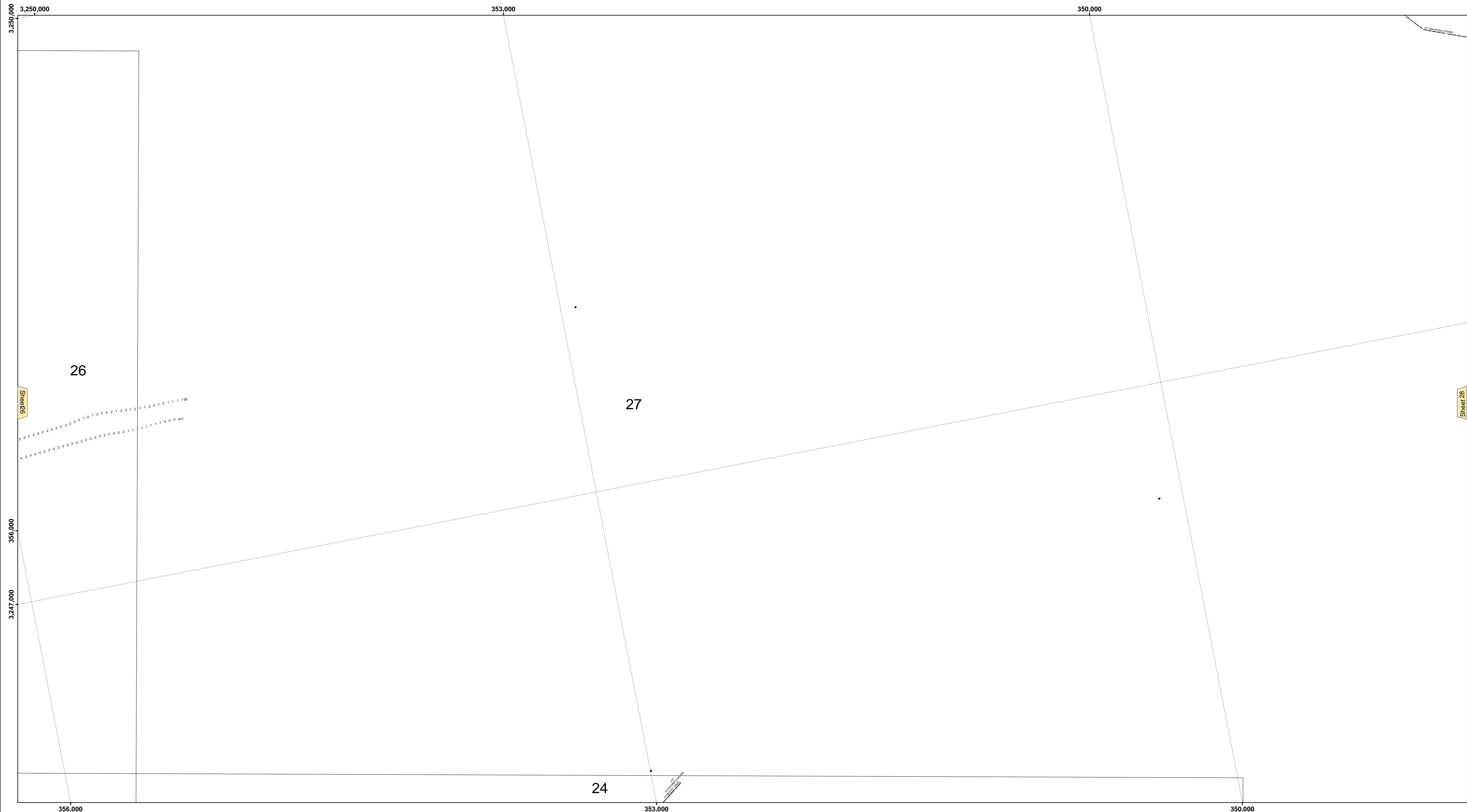
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AC

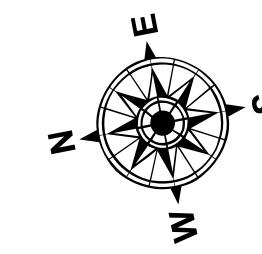
**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

**Sheet
Reference
Number
26 of 32**

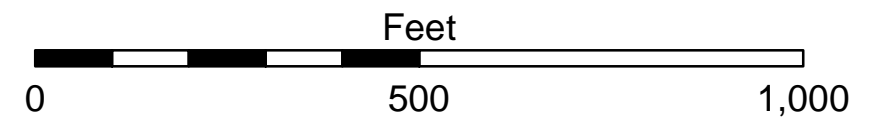


LEGEND

--- 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: WAX LAKE @ CALUMET: 4.1 MLG
 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.
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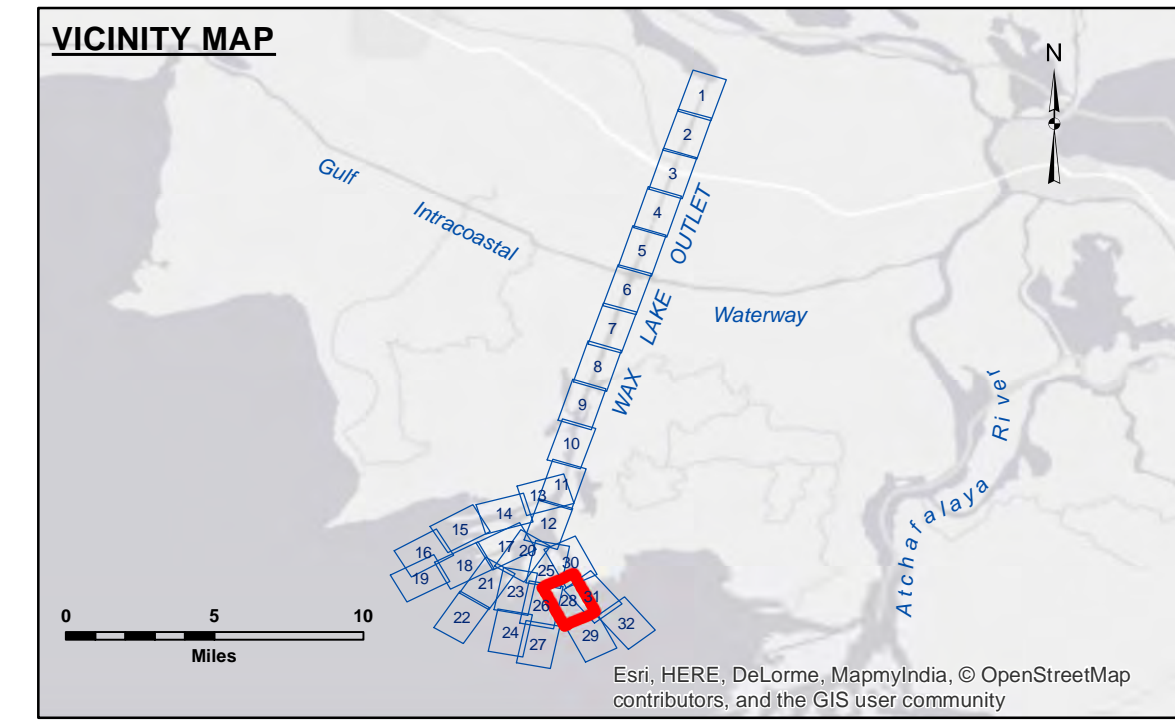
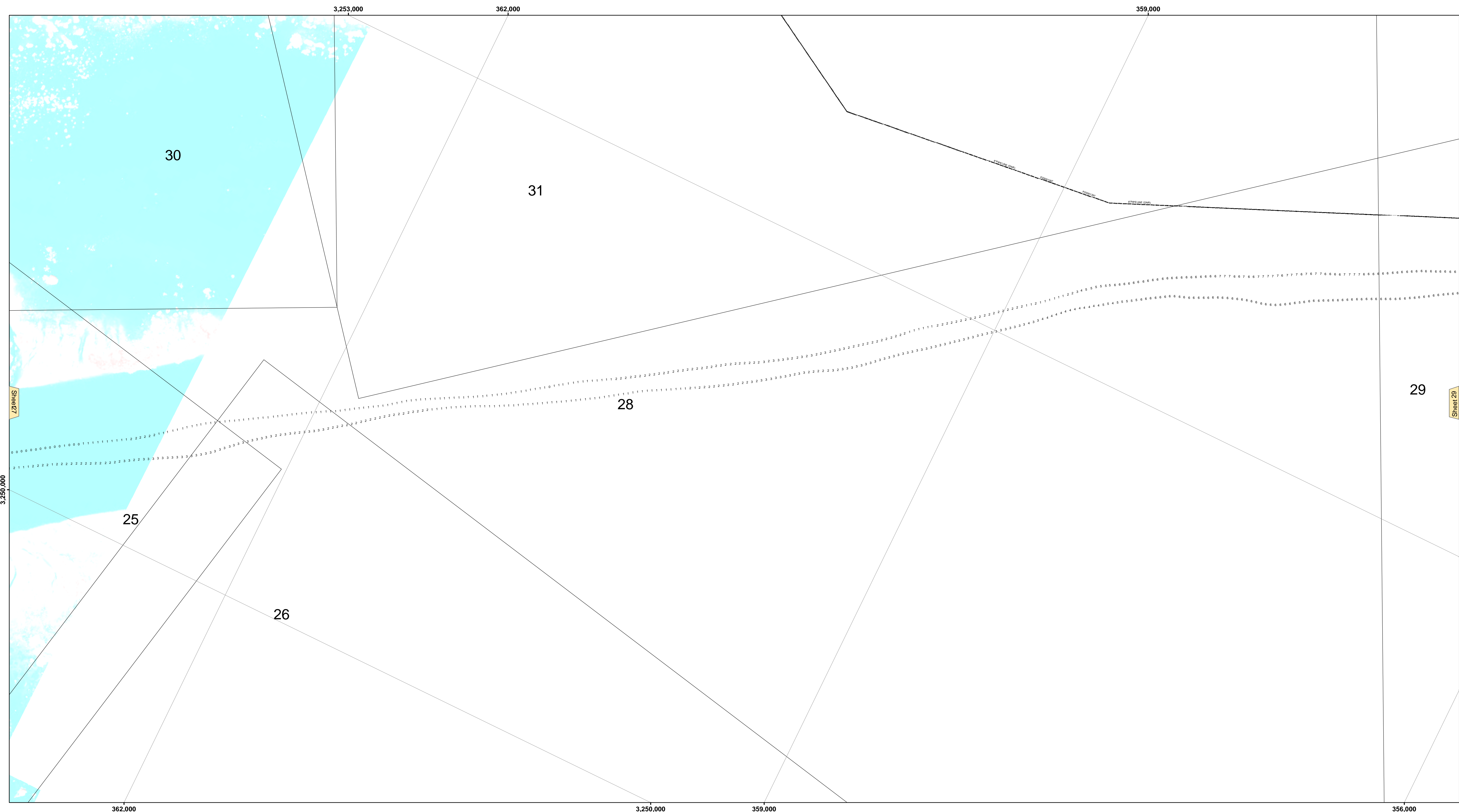
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U.S. ARMY CORPS OF ENGINEERS
 NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

**Sheet
 Reference
 Number
 27 of 32**



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: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

Vertical Datum:
 Soundings are shown in feet and indicate depths below North American Vertical Datum of 1988 (NAVD88).

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 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 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.

NOTES:

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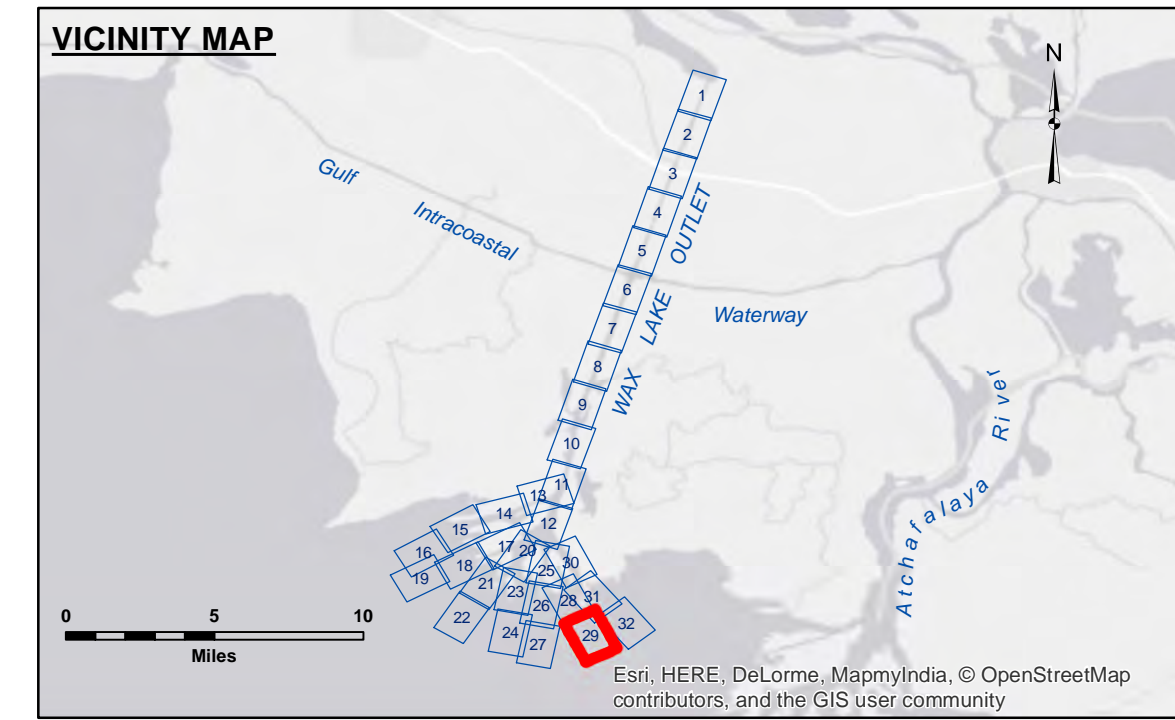
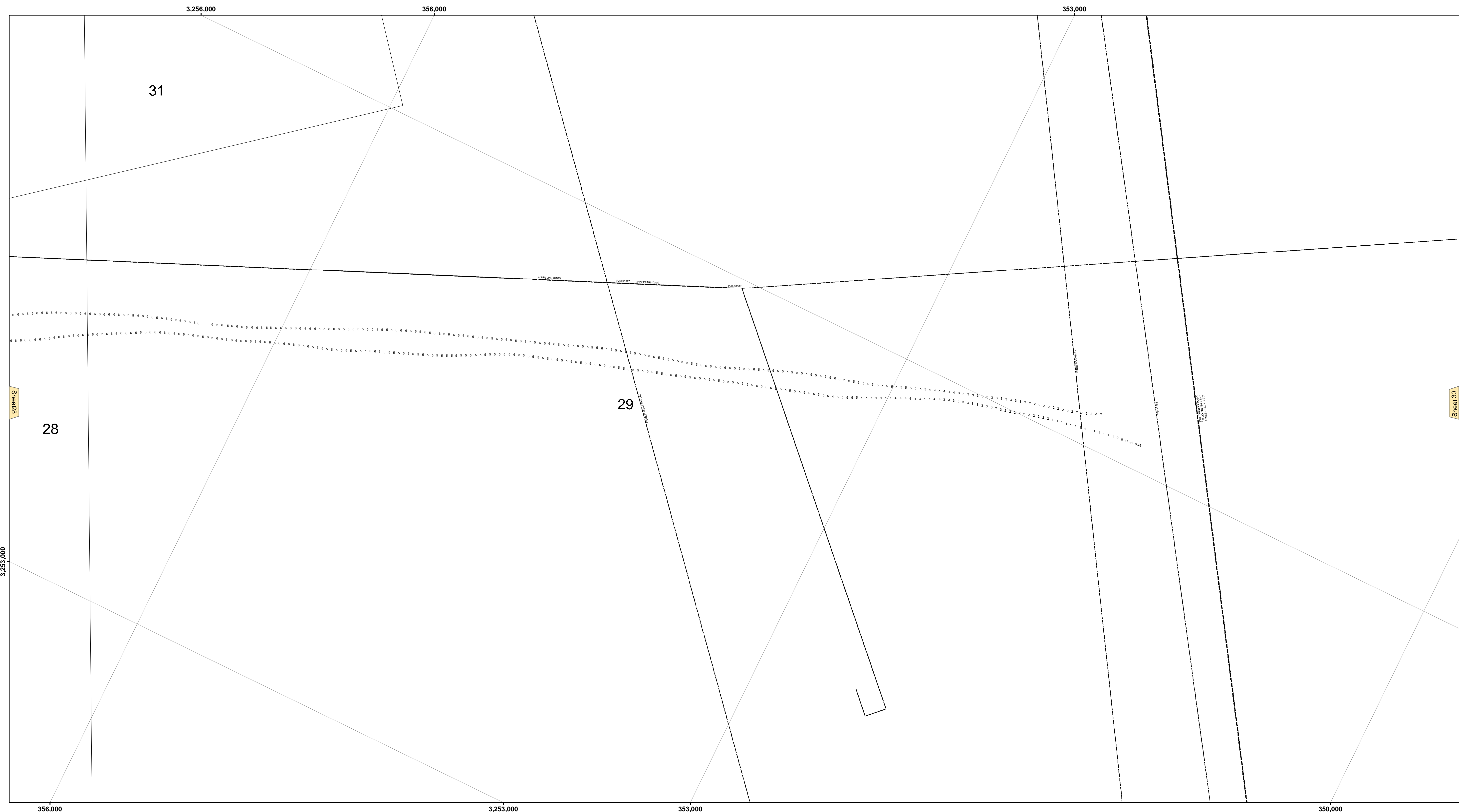
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AC

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

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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: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

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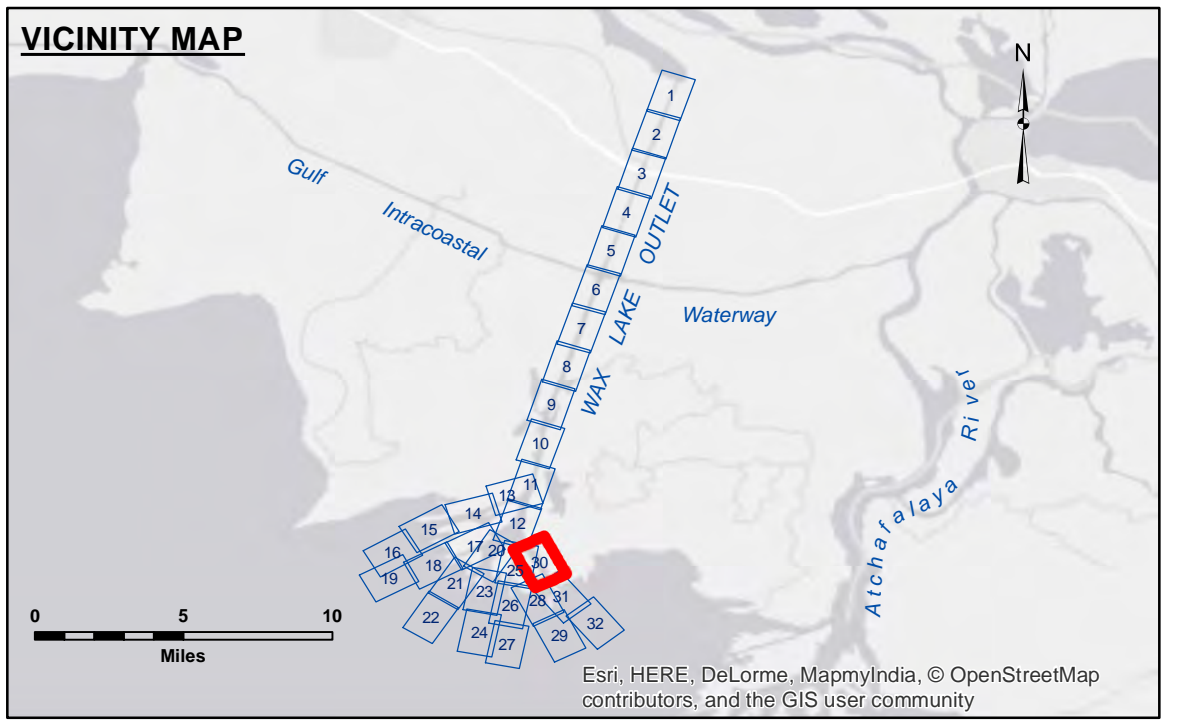
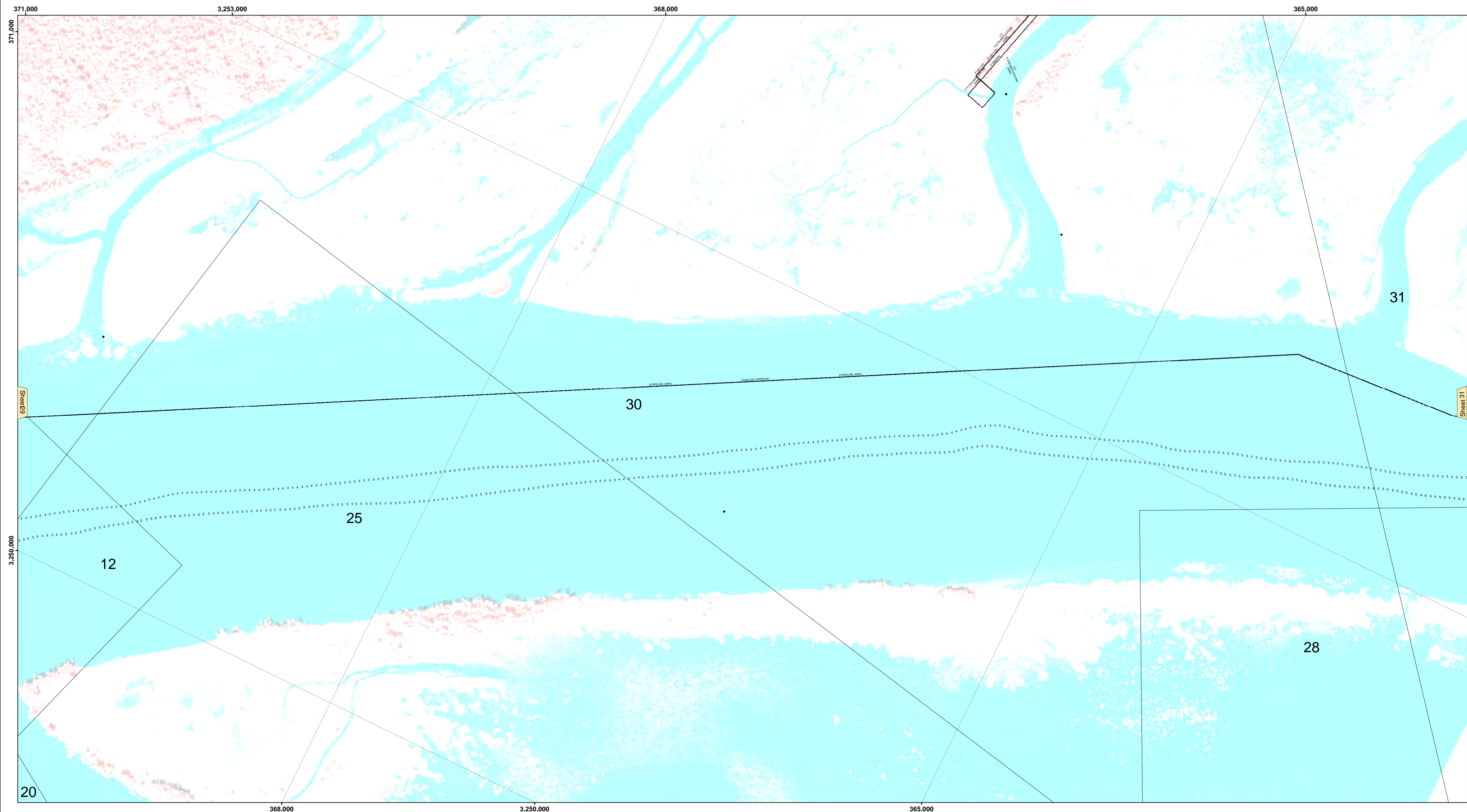
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

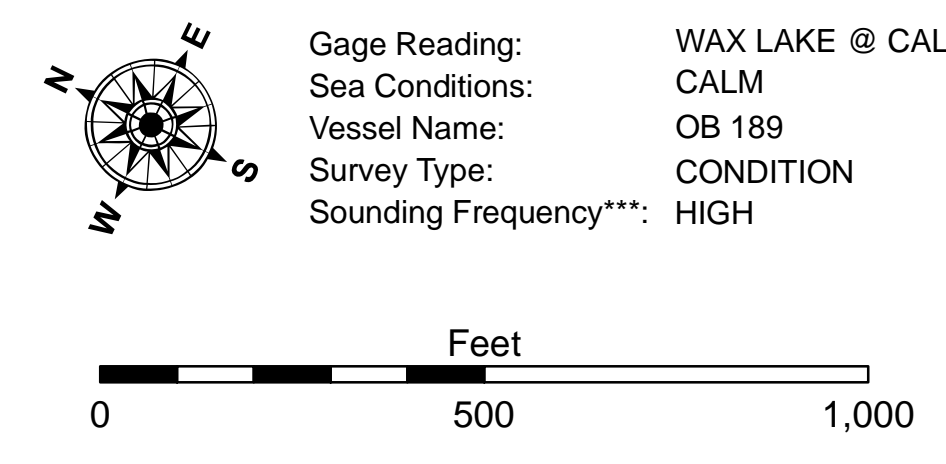
Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AO

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

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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: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
 Sounding Frequency***: HIGH

NOTES:
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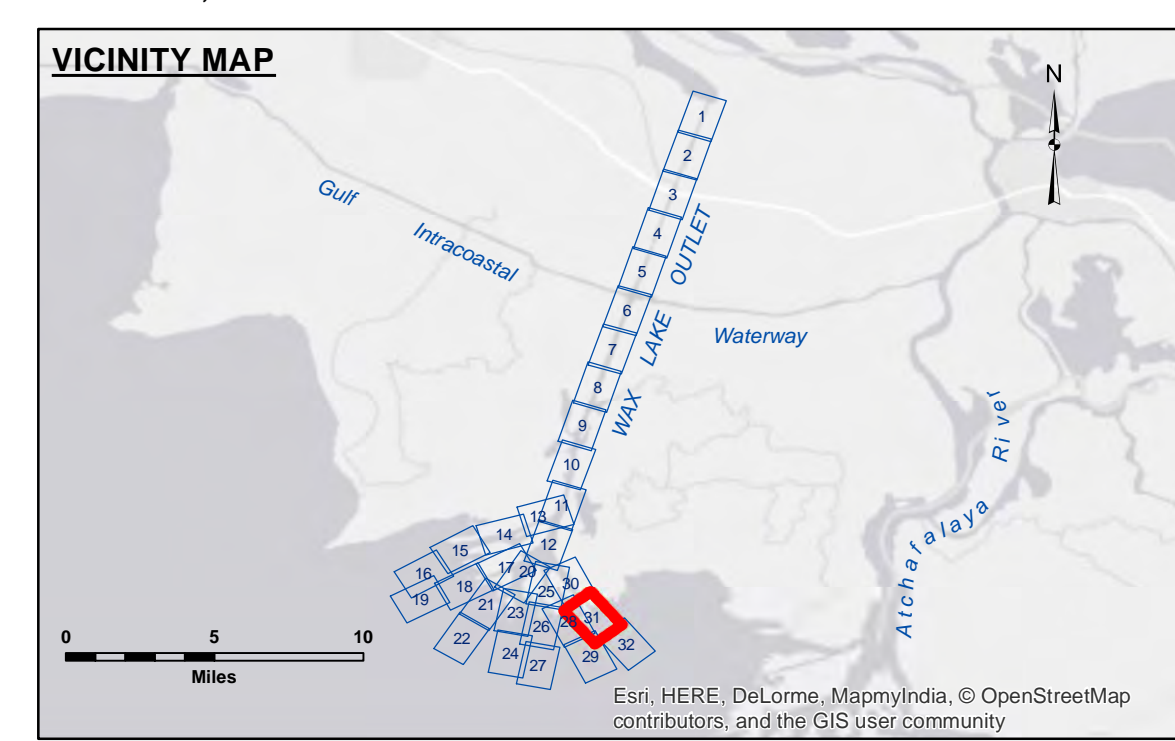
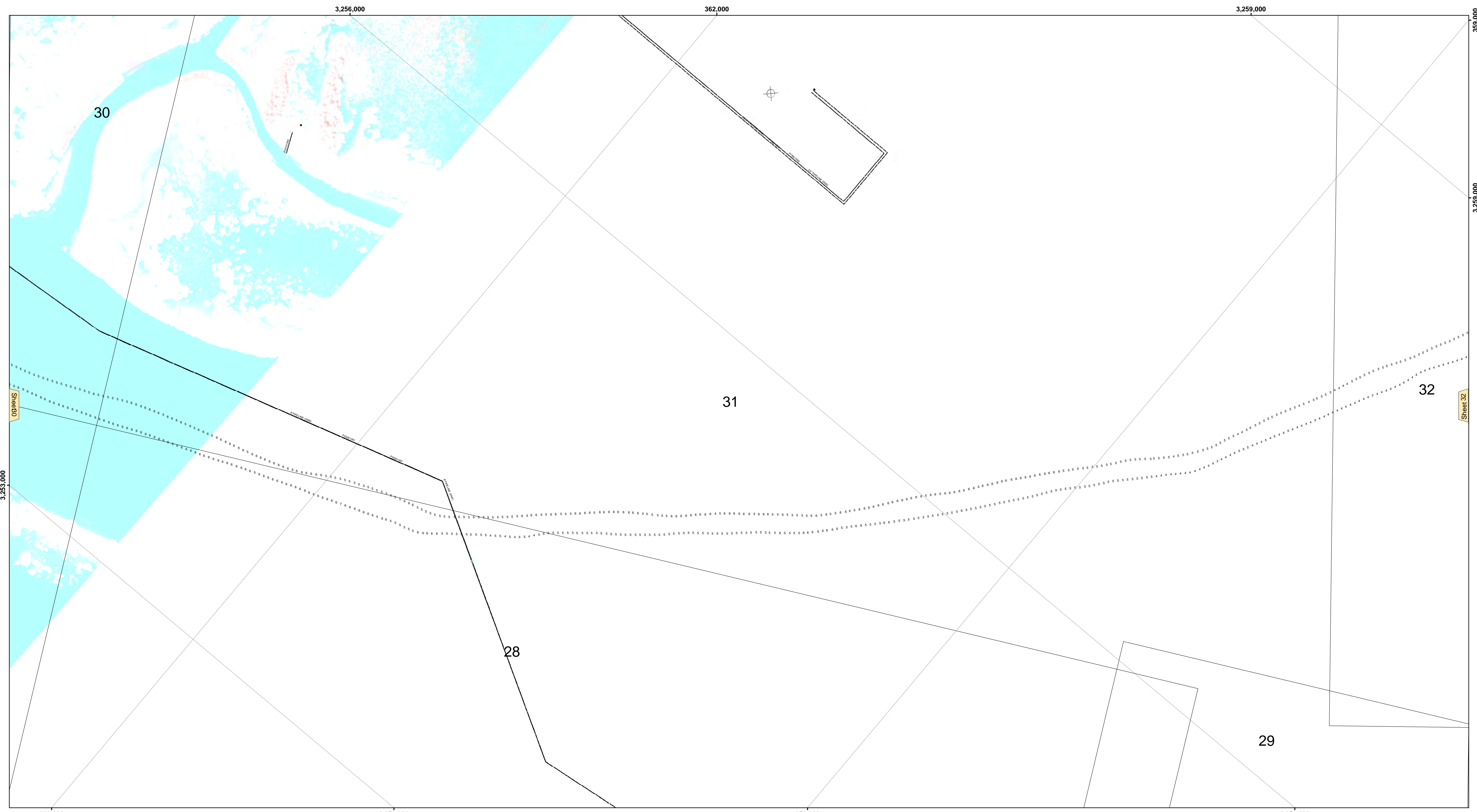


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U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT		
Submitted:	Surveyed By: DR.SP	Plotted By: BD
Recommended:	Chief, Survey Section	Checked By: AC
Approved:	Chief, Waterways Maintenance Section	

**NORTHSHORE WATERWAYS
 WAX LAKE OUTLET
 AB_01_WLO_20160824
 24 August 2016**

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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: WAX LAKE @ CALUMET: 4.1 MLG
 Sea Conditions: CALM
 Vessel Name: OB 189
 Survey Type: CONDITION
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Vertical Datum:
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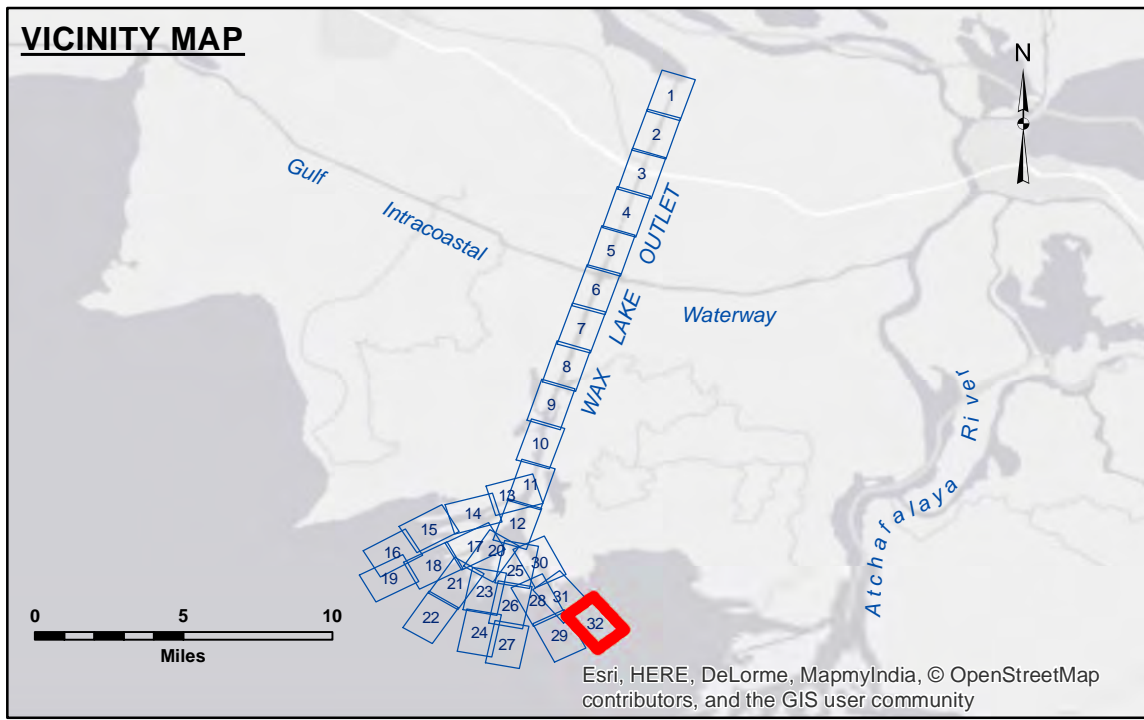
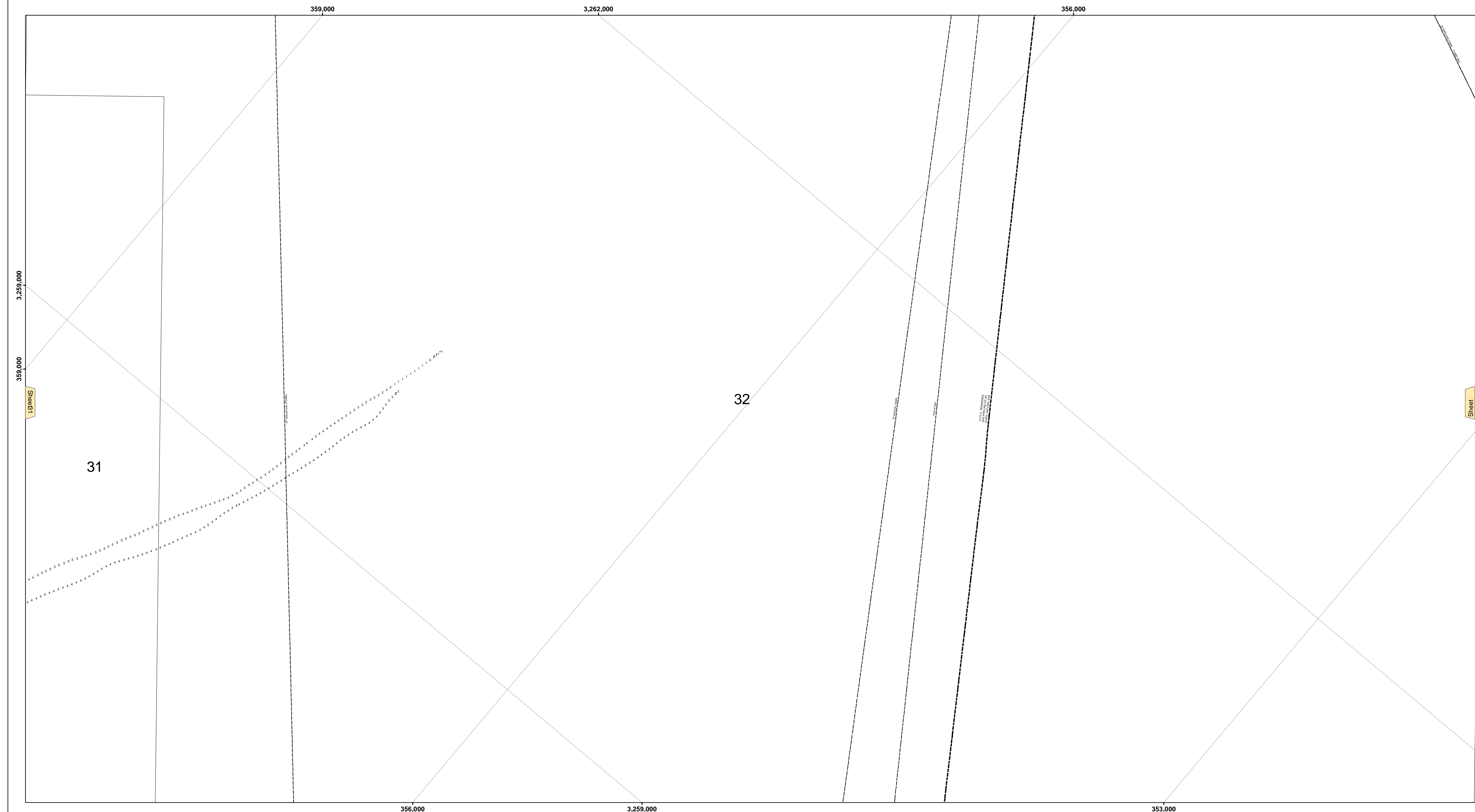
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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended: Chief, Survey Section	Plotted By: BD
Approved: Chief, Waterways Maintenance Section	Checked By: AC

**NORTHSHORE WATERWAYS
WAX LAKE OUTLET
AB_01_WLO_20160824
24 August 2016**

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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
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Gage Reading: WAX LAKE @ CALUMET: 4.1 MLG
Sea Conditions: CALM
Vessel Name: OB 189
Survey Type: CONDITION
Sounding Frequency***: HIGH

0 500 1,000 Feet



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U.S. ARMY CORPS OF ENGINEERS
NEW ORLEANS DISTRICT

Submitted:	Surveyed By: DR.SP
Recommended:	Plotted By: BD
Approved:	Checked By: AO

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