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December 9, 2016

Ms. Wendy Robinson; Environmental Specialist Syncom Space Services, LLC NASA - John C. Stennis Space Center Building 1100, Room 201 F Stennis Space Center, Mississippi 39529

Re: Wetland Delineation Report

Area of Investigation - (+/-) 1,160-Acre Tract of Land Northern Portion of Stennis Space Center Property

Hancock County, Mississippi LE, LLC Project No. 2016-119

Dear Ms. Robinson:

Larson Environmental, LLC (LE, LLC) has completed a wetland delineation of the above referenced (+/-) 1,160 acre Area of Investigation (AOI) located within the northern portion of the NASA - Stennis Space Center property in Hancock County, Mississippi, per the scope of work outlined in Task Order No. - S 525 and the Subcontract Agreement No. S3 - 0006271 between LE,LLC and Sycom Space Services (S3) dated September 30, 2016. LE, LLC performed this wetland delineation at S3's request in order to assess the amount of acreage within the subject AOI that the United States Army Corps of Engineers (USACE) would potentially consider to be jurisdictional wetlands. The attached report and supporting documentation presents the findings of our field assessment and wetland delineation activities conducted between October 6, 2016 and October 31, 2016.

Should you have any questions concerning this information, please contact me at (228) 219-2992.

Sincerely,

Lars Larson, R.P.G.

Managing Principal/Professional Geologist

WETLAND DELINEATION REPORT

(+/-) 1,160-ACRE TRACT NORTHERN PORTION OF NASA PROPERTY

SYNCOM SPACE SERVICES, LLC NASA - JOHN C. STENNIS SPACE CENTER BUILDING 1100 STENNIS SPACE CENTER, MISSISSIPPI

SUBCONTRACT NO. S-3 - 0006271 TASK ORDER NO. 525

PREPARED FOR:

MS. WENDY ROBINSON
SYNCOM SPACE SERVICES, LLC
BUILDING 1100, ROOM 201-F
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DATE: DECEMBER 9, 2016

Certification:

Wetland Delineation Report

Syncom Space Services, LLC

(+/-) 1,160-Acre Wetland Delineation **Northern Portion of NASA Property** John C. Stennis Space Center, Mississippi

> **Subcontract No. S-3 - 0006271** Task Order No. 525

> > **Prepared for:**

Ms. Wendy Robinson **Syncom Space Center, LLC** Stennis Space Center, Mississippi 39529

Larson Environmental, LLC hereby certifies the aforementioned report constitutes an accurate presentation of the investigation, research, and findings developed during the completion of this Wetland Delineation prepared for, and submitted to, the client as their approved Consultant of Record.

Signed:

Randy J. Ellis - Managing Principal

Ecological Asset Management, LLC

Lars Larson, R.P.G.

Managing Principal - Professional Geologist

(Seal) Registration No. 0448 State of Mississippi

December 9, 2016

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1.0 INTRODUCTION

Larson Environmental, LLC (LE, LLC) completed a wetland delineation of the 1,160-acre (more or less) area of investigation (AOI) located within the northern portion of the NASA - John C. Stennis Space Center (SSC) property located in Hancock County, Mississippi, per the Subcontract No. S3-0006271 and Task Order No. 525 executed on September 30, 2016. LE, LLC performed this wetland delineation in order to assess the amount of acreage within the subject AOI the United States Army Corps of Engineers (USACE) - Vicksburg, MS District would potentially consider being jurisdictional wetlands. Jurisdictional wetlands have been defined as areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. This definition and further clarification of wetland characteristics can be found in 40 CFR 230.3.

The primary criteria that are required for determining the existence of a wetland are wetlands hydrology, hydrophytic vegetation and hydric soils. Wetlands hydrology consists of surface inundation, subsurface soil saturation within the upper 12-inches of the soil profile and/or observations of geochemical changes or alterations within the soil (i.e. oxidized root channels on living root systems) due to extended periods of water saturation. Other surface observations indicative of wetlands hydrology include evidence of surface water drainage or ponding that produce physical and mechanical changes to vegetation or the ground surface (i.e. drainage patterns, water stained leaves, drift deposits, moss trim lines, etc.) that support contact with water over an extended period of time within a given area. Hydrophytic vegetation is defined as the total amount of macrophytic plant life that is able to grow in water or on a substrate that is at least periodically deficient of oxygen as a result of excessive water content. A hydric soil has been determined to be one that is saturated, flooded or upon which ponding for a sufficient duration of time during a "growing season" develops anaerobic conditions that favor the growth of hydrophytic vegetation. Hydric soils are typically characterized by low chroma (i.e. darker color) soils and/or redoximorphic (Redox) features or evidence of other geochemical processes that occur due to the exchange iron and other metals along with the addition and removal of oxygen within the soil matrix caused by fluctuations in the shallow water table.



LE, LLC has performed the requested wetland delineation in accordance with appropriate USACE delineation methods and procedures as outlined in the US Army Corps of Engineers — Wetlands Delineation Manual — January 1987, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region - 2010. The following report presents the findings of our investigation. This delineation does not grant permission to any landowner to impact any wetland habitat. The USACE - Vicksburg District has jurisdiction over wetland habitats within this subject AOI as authorized in Section 404 of the Clean Water Act (CWA).



2.0 SITE DESCRIPTION

The AOI for this project is a tract of land inclusive of approximately 1,160 contiguous acres of land situated within the NASA - SSC property located in the Southwestern portion of Hancock County, Mississippi. The overall area is inclusive of land within Sections 20, 21, 28, 29, 31, 32, 33 and 37 of Township 7 South, Range 16 West. The AOI includes mostly undeveloped tracts of upland pine flatwoods, mixtures of palustrine forested and palustrine scrub shrub habitats, as well as bottom land hardwoods and riparian buffer areas that adjoin perennial and ephemeral streams. Various other manmade features exist within the AOI including abandoned rail spur and transportation corridors within the northern to northwestern part of the AOI, an inactive landfill within the northeastern part of the AOI, and logging roads that traverse the central and southern portions of the AOI from east to west.

2.1 Area of Investigation - Project Location

The specific AOI within which this wetland delineation was conducted is located in the northern portion of the NASA - Stennis Space Center property. The AOI is bounded on the north by properties owned by the Soterra, LLC entity, to the east by Flat Top Road and Andrew Jackson Road, to the south by Moses Cook Road, and to the west by Highway 607 - Trent Lott Road. Highway 607 represents the main north to south corridor through the NASA-SSC facility. Figure 1 – Area of Investigation Map – is a 100 K United States Geological Survey (USGS) Topographic Map that illustrates the AOI and boundaries within the NASA SSC property and within Hancock County, Mississisppi.

2.2 Physiography

The primary physiographic provinces within the AOI that were observed during these field surveys included pine flatwoods, a mixture of palustrine forested and palustrine scrub shrub habitats, and bottom land hardwood habitats within the main streams and drainage ways. Appendix A - Photographic Record of Survey Plot Locations - illustrates the various soil and vegetative community transitions between and within these physiographic regions of the subject AOI.



Bottom Land Hardwoods – these habitats were exclusively observed within the riparian buffer zone along Turtleskin Creek and some of the ephemeral streams and drainage ways that feed Turtleskin Creek, as well as the other bottom land drainage feature within the central and southern portion of the AOI. These areas are dominated by a tree and sapling canopy primarily of swamp tupelo's, sweet bay magnolia's, pond cypress and slash pines, and an understory of swamp cyrilla, wax myrtles, and various species of ferns and other obligate and facultative wet herbaceous species. Topographic slopes of 0% to 1% appeared to exist within the actual drainage ways with an increase to approximately 2% to 3% along the riparian buffer to upland peripheral boundaries. Fairly significant periods of fluvial flow through Turtleskin Creek were observed by evidence of large accumulated drift deposits within the northern portions of AOI, and secondary channel cuts and small natural levy features that appear to have been created during heavy flow events.

Palustrine Forested and Palustrine Scrub Shrub Areas — the majority of the AOI is comprised of this mixture of palustrine forested (Planted Pine) and scrub shrub habitat. These areas form along the transitional zones with the bottom land hardwoods and extend outward toward the broader flat areas that make up the Pine Flatwoods and other upland ridge areas. These areas are characterized by a mixture of tree and sapling dominated over story that consists of planted slash pine, with slightly smaller percentages of loblolly pine, sweet bay magnolia, tupelo, sweet gum and oak species with a fairly well established understory of gallberrry. These forested and scrub shrub habitats appear to transition into broader planted pine flat areas dominated by a heavier shrub layer.

Pine Flatwoods – these areas were observed primarily within the northeastern portion of the AOI, but also within the central portion of the AOI. This zone is similar to the palustrine forested/scrub shrub areas except that the planted slash pine dominated tree and sapling stratum within the flatwoods appears to increase slightly with a corresponding decrease in the amount of other hardwood tree species. A heavy gallberry shrub understory is still prevalent. The transition between these two habitats is rather broad, and the topography in the flatwoods areas is virtually negligible. Historical silvicultural practices in these areas appears to reveal evidence of manmade surface water drainage features from some of these areas. Additionally, the alterations to the natural canopy from those practices could have contributed to a decline in the amount or rate with which evapotranspiration takes place that would normally result from a larger tree root base and water up take, as well as the resultant decline in rain



penetration from the effects of over story shielding. Other man made alterations in these areas from silvicultural practices include the construction of surface water berms and other drainage barriers along the property boundary that appear to have held water in some areas longer that what potentially "normal" hydro-periods would allow. The construction of a landfill within the northeastern portion of the AOI, and logging roads within the central and southern portions of the AOI also appear to have restricted and altered the natural surface water flow in these areas.



3.0 WETLAND DELINEATION METHODOLOGY

The wetland delineation of the subject property is based on research materials that include the Soil Survey of Hancock County, Mississippi – 1975 published by the United States Department of Agriculture, Soil Conservation Service (Soil Survey), the Web Soil Survey Published by the Natural Resource Conservation Service (NRCS), the United States Geological Survey (USGS) topographic maps of Nicholson, Mississippi and Louisiana - 1998 and Dead Tiger Creek, Mississippi - 1996, the National Wetlands Inventory Map published by the United States Fish and Wildlife Service (USFWS), Light Detection and Ranging (LiDAR) Remote Sensing map information available from NOAA CSC and the Mississippi Department of Environmental Quality, infrared aerial imagery available from the National Agricultural Imagery Program (NAIP) and the Mississippi Automated Resources Information System (Maris), historical aerial photography from the NRCS office in Kiln, MS, the Mississippi Gulf Coast Regional Planning Commission and other on-line sources, as well as field site assessments of the subject property conducted between October 6 and 31, 2016. A complete list of available references used during this assessment is included in Section 6.0.

LE, LLC utilized two field assessment methodologies to delineate the wetland-upland boundaries within the subject AOI. The first survey method included the use of a systematic grid/transect system supplemented with the use of LiDAR elevation model and derived contours and aerial photography within the broader pine flatwood and terraced areas located in the northeastern and central portion of the property. In areas of greater topographic relief such the transitional zones along the bottom land hardwood areas and the upland boundaries, a more directed visual confirmation approach was used that included the use of soil survey and topographic map information to ground truth the contacts between the wetland and upland boundaries.

In the areas of greater topographic relief, historical aerial photography, topographic maps and LiDAR elevation data were used to assist in preliminarily identifying the "potential" contacts (i.e. transitional boundaries) between wetland and upland areas. These zones included the contacts between the riparian buffer zones along Turtleskin Creek and the ephemeral drainage ways with those of the distinctly sloped areas that transition up toward the broader upland flats. LiDAR data, aerial photographs and topographic maps were utilized to mark/estimate variations in tree canopy between



growing and non-growing seasons, as well as subtle changes in topography. These lines were then assessed and verified by surveying them in the field and noting corresponding changes in plant communities, hydrology and in particular, changes in soil characteristics. At points where all three of the field indicators revealed that wetland conditions exist (i.e. hydropytic vegetation, hydrology and hydric soils), field personnel surveyed these locations with sub meter precision accuracy. The instrumentation used to conduct the surveys included a Trimble R-1 Navigation Satellite System (GNSS) global positioning satellite (GPS) receiver using a satellite based augmentation system (SBAS) with real time corrections and paired with a Samsung Galaxy tablet operated by Trimble Terra Flex software. The surveyed points were labeled with a unique identifier representing the numerical sequence of each individual surveyed point. Each field survey point along these lines represents a location where a transition from wetland conditions to more upland conditions exists. Field data sheets were completed in areas along this line where more notable changes in overall plant communities, surface or subsurface hydrology, and/or soil characteristics were encountered. Surveyed areas typically, but not always, included a wetland plot and a corresponding upland plot to provide confirmation of soil and hydrology changes within these areas for establishing wetland boundaries. In some instances, survey plots were investigated to determine habitat, soil and hydrological characteristics for that "area".

Within the pine flatwoods of the northeastern and central portions of the AOI, a more systematic grid/transect system was used. Given the overall lack of topographic relief in these areas, transitions between upland and wetland habitats was much broader and aerially more subjective. Survey personnel first established East to West baselines along the property boundary and fence line in the northeastern part of the AOI, and along the east to west trending logging roads within the central and southern portions of the AOI. Generally north-south trending transect lines were then created along the east-west baseline at approximately 500 foot to 1000 foot intervals, and/or at intervals that intercepted zones where mapped changes from hydric to non-hydric soil conditions were documented so that actual field observations of these changes could be recorded. Field survey personnel then proceeded to walk each transect line making observations of hydrology, changes in plant communities, and digging periodic soil test pits to observe variations in soil conditions. Figure 2 - NRCS Soils Mapillustrates the varied hydric and non-hydric soil types within the overall AOI. Appendix A - Photographic Record of Survey Plot Locations - provides a photographic review of a representative number of



surveyed sites within each physiographic region during this wetland delineation project including views of subsurface soil conditions, vegetative plant communities and landform images.

Field surveys to determine the potential presence of jurisdictional wetlands within the AOI were conducted between October 6, 2016 and October 31, 2016. As previously noted, LE, LLC field personnel developed field sample plot "pairs" that represented transitions from wetland to upland conditions within relatively short distances. At each of these sample plots, field personnel recorded observations of surface and subsurface hydrology and soil conditions, as well as vegetation variations. Appendix B - Wetland Delineation Data Forms; Atlantic and Gulf Coastal Plains Region - document the field observations made at each surveyed sample plot.

The soil conditions at each sample plot were made by removing soil material from approximately one-foot to two-feet below surface grade using hand augers and hand shovel (sharpshooter) type digging instruments. Observations of overall soil color, value and chroma were noted, as well as other geochemical alterations such as iron concentrations and matrix depletions caused by prolonged exposure to water, etc.

Observations of vegetation communities included noting changes in the percent of dominant species coverage within a given area and/or the aerial extent of coverage of those species. Estimations of those amounts were recorded on the field data sheets. The subgroups for the dominant species were divided into several different strata that included tree coverage (i.e. individual species or a percent of overall canopy coverage), sapling, shrubs, as well as the herbaceous plant species layer and woody vines.

Hydrology, typically the most subjective of the three wetland criteria, was evaluated based on the application of several different factors. These included observations of subsurface soil properties (i.e. soil saturation or oxidized root channels, etc.), geographical and topographical observations (i.e. geomorphic position or drainage patterns), physical signs of inundation such as moss trim lines, watermarks, drift lines, water stained leaves, buttressed trees, etc., as well as the prevalence and/or dominance of obligate and facultative wet vegetative species.



4.0 SITE DESCRIPTION

The AOI for this project is a tract of land inclusive of approximately 1,160 contiguous acres of land situated within the NASA - SSC property located in the Southwestern portion of Hancock County, Mississippi. The overall area is inclusive of land within Sections 20, 21, 28, 29, 31, 32, 33 and 37 of Township 7 South, Range 16 West. The AOI includes mostly undeveloped tracts of upland pine flatwoods, mixtures of palustrine forested and palustrine scrub shrub habitats, as well as bottom land hardwoods and riparian buffer areas that adjoin perennial and ephemeral streams. Various other manmade features exist within the AOI including abandoned rail spur and transportation corridors within the northern to northwestern part of the AOI, an inactive landfill within the northeastern part of the AOI, and logging roads that traverse the central and southern portions of the AOI from east to west.

4.1 Hydrology

The main features within the AOI that control water movement are Turteskin Creek and the ephemeral streams and drainage features that feed into the creek, as well as topographic fluctuations that feed depressional areas within the elevated pine flat woods and palustrine forested areas. The majority of the areas where the more pronounced hydrology was observed was within the bottom land hardwoods areas and the drainage features within the AOI. In these physiographic zones, soil saturation within the upper 12-inches of the soil test pit was observed at times, as well as the presence of oxidized root channels. Observations of primary hydrology indicators appeared to be more sporadic during this assessment in relation to secondary hydrology indicators. The secondary hydrology indicators that were most prevalent were drainage patterns, geomorphic position, moss trim lines and water marks, crawfish burrows, drift deposits and water stained leaves. Even within the lower bottom land areas, soil saturation was rarely observed within the upper 12-inches of the soil test pits. Hydrology indicators were also observed within limited areas of the upland flats of the northeastern and central portions of the AOI; however, these areas appeared to be within soils that were identified by the Soil Survey as hydric and/or were located within subtle and restricted topographically lower areas and manmade drains that tied into more pronounced surface water conveyance features on side slopes that fed Turtleskin Creek and other ephemeral features.



An analysis of the Flood Elevation Maps produced by the Federal Emergency Management Agency (FEMA) - 2009 was also conducted. Figure 3 - FEMA Flood Hazard Zone Map of the AOI - illustrates the areas of the AOI that FEMA considers to be within zones subject to periodic inundation. As Figure 3 reveals, FEMA considers the riparian zones that border Turtleskin Creek to be the primary zones within the AOI where flooding would most likely occur. These areas have been mapped as Zone A, indicating that FEMA has not established a "Base Flood Elevation" for these areas. The contour that the FEMA Flood Map follows is estimated to be approximately 60 feet MSL. This information appears to generally support and coincide with what field wetland surveys identified as areas of the AOI that would most likely experience inundation events.

Based on the USACE wetlands manual, hydrological evaluations are necessitated by flooding or soil saturation for "at least five percent of the growing season". In the Soil Survey of Hancock County, Mississippi - 1981, a historical table of daily minimum temperatures documented during the growing season is presented. The information included within this table is somewhat dated in that it represents recorded temperature data between 1951 and 1973. However, this data does provide some statistically valid information regarding the number of days within a typical Gulf Coast growing season with established temperature regimes. Utilizing the data from the 28° F or higher temperature frequency during a five to 10 year cycle, the estimated number of days within the growing season is calculated to be 319. Accordingly, five percent (5%) of this number would be equivalent to approximately 16 consecutive days that inundation or soil saturation would need to be present. Applying the "8 years in 10" data, the resulting number of days with temperatures higher than 28° F is 287, yielding approximately 14.5 consecutive days that inundation or soil would need to exist. Further, applying the "2 years in 10" data, the net number of days with temperatures higher than 28° F is 364 would equal 18 consecutive days that flooding or soil saturation conditions would need to be present. Based on these data, it can be assumed that flooding or soil saturation conditions within this AOI would require a two to three week consecutive time period for wetlands hydrology to be present.

4.2 Vegetation

The vegetation observed during this wetland delineation appears to be representative of the vegetative strata common throughout the Mississippi Gulf Coastal Plain region. Most of the AOI is topographically



flat with perennial streams and ephemeral drainage ways that exist within the lower contoured elevations. The majority of the area is covered by slash pines and to a lesser extent by loblolly pines, with deciduous and hardwood/broad leafed trees mixed in the upland flats and dominating the lower riparian and fluvial areas. Historical silvicultural practices such as clear cutting and timber mining following hurricane events was evident within the northeastern and eastern portions of the AOI.

The most interesting observation about the vegetation within the AOI is that given the fairly large area (i.e. +/- 1,160 acres), there did not appear to be much diversity in vegetative species within the tree, sapling and shrub stratum. Herbaceous species appeared to vary considerably between upland flats and bottom land areas as one would expect, with woody vines species also being fairly consistent through the AOI. Appendix A - Photographic Record of Survey Plot Locations - provides a photographic log of representative areas of the AOI and the vegetative changes that were encountered. Appendix B - Wetland Delineation Data Forms - document the dominant plant species within each vegetative stratum. The following vegetation list includes the most dominant species that were encountered within each of the stratum during this wetland delineation.

Trees

•	Slash Pine and Loblolly Pine	Pinus ellioti and Pinus taeda	FACW and FAC
•	Sweet Bay Magnolia	Magnolia virginiana	FACW
•	Black Gum and Swamp Tupelo	Nyssa sylvatica and biflora	FAC and OBL
•	Sweet Gum	Liquidambar styraciflua	FAC
•	Water Oaks and Live Oaks	Quercus nigra and virginiana	FAC and FACU
•	Pond Cypress	Taxodium ascendens	OBL
•	Southern Magnolia	Magnolia grandiflora	FAC

Saplings

•	Slash Pine and Loblolly Pine	Pinus ellioti and Pinus taeda	FACW and FAC
•	Sweet Bay Magnolia	Magnolia virginiana	FACW
•	Black Gum and Swamp Tupelo	Nyssa sylvatica and biflora	FAC and OBL
•	Sweet Gum	Liquidambar styraciflua	FAC
•	Water Oak	Quercus nigra	FAC



Shrub Layer

•	Large Gallberry	Ilex coriacea	FACW
•	Gallberry	Ilex glabra	FACW
•	Yaupon Holly	Ilex vomitoria	FAC
•	American Holly	Ilex Opaca	FAC
•	Elliot's Huckleberry	Vaccinium elliotti	FAC

Herbs

•	Switch Cane	Arundinaria tecta	FACW
•	Fox Tail Club Moss	Lycopodiella alopecuroides	OBL
•	Japanese Climbing Fern	Lygodium japonicum	FAC
•	Climbing Hempvine	Mikani ascandens	FACW
•	Yellow Pitcher Plant	Sarracenia alabamensis	OBL
•	Netted Chain Fern	Woodwardia areolata	OBL
•	Sawtooth Blackberry	Rubus argustus	FAC

Woody Vines

•	Roundleaf Greenbrier	Smilax rotundafolia	FAC
•	Laurel Greenbriar	Smilax laurifolia	FACW
•	Saw Greenbriar	Smilax bona-nox	FAC
•	Muscandine	Vitis rotundafolia	FAC
•	Poison Ivy	Taxcondendron radicans	FAC



4.3 Soils

The NRCS Soil Survey lists 16 different soil series/units that exist within the subject AOI. The following chart lists the mapped soil unit symbol and name, the corresponding Hydric Soil Rating, the approximate acreage within the AOI and the percentage that each soil series represents within the AOI.

Map unit symbol	Map unit name	Rating	Acres in AOI	% of AOI
AR	Arkabutla-Rosebloom assoc., frequently flooded	95	0.9	0.1%
At	Atmore silt loam, 0 to 2 percent slopes	85	278.6	23.4%
EsA	Escambia loam, 0 to 2 percent slopes	6	117.7	9.9%
EsB	Escambia loam, 2 to 5 percent slopes	6	37.4	3.1%
EuB	Eustis loamy fine sand, 2 to 5 percent	0	82.2	6.9%
Gu	Guyton silt loam, 0 to 1 percent slopes, rarely flooded	94	9.0	0.8%
HIA	Harleston fine sandy loam, 0 to 2 percent slopes	11	8.6	0.7%
HIB	Harleston fine sandy loam, 2 to 5 percent slopes	11	248.5	20.8%
Pe	Plummer loamy sand	91	1.5	0.1%
PoA	Poarch fine sandy loam, 0 to 2 percent slopes	5	16.7	1.4%
РоВ	Poarch fine sandy loam, 2 to 5 percent slopes	0	106.4	8.9%
PoC	Poarch fine sandy loam, 5 to 8 percent slopes	4	0.4	0.0%
SaC	Saucier fine sandy loam, 5 to 8 percent slopes	2	49.2	4.1%
ScB	Saucier-Susquehanna complex, 2 to 5 percent slopes	5	21.1	1.8%
ScD	Saucier-Susquehanna complex, 5 to 12 percent slopes	3	6.5	0.5%
Su	Smithton fine sandy loam, frequently flooded	97	208.3	17.5%
Is for Area of Intere	et .		1,193.0	100.0%



As the preceding table illustrates, there are 16 mapped soil types/series within the AOI. However, seven of these soil units out of the total 16 make up approximately 1,193 acres, or roughly 91% of the total acreage within the AOI. The 1,193 acre total presented in the table is an "estimate" based on the preparation of an approximate AOI polygon made with the NRCS Web Soil Survey mapping tool. The actual amount of total acreage is +/- 1,160 acres. The seven primary soil mapped units include the Atmore (At) Silt Loam, the Escambia (EsA) loam, Eustis (EuB) fine sandy loam, the Harleston (HIB) fine sandy Loam (2 to 5% slopes), the Poarch (PoB) fine sandy laom (2 to 5% slopes), the Saucier fine sandy loam and the Smithton (Su) fine sandy loam. Survey personnel observed that most of the mapped soil units presented by the NRCS were generally consistent with observations made in the field.

The corresponding hydric soil rating that is listed is an indication of the percentage of the mapped soil unit that meets the criteria for hydric soils. The mapped units are often composed of one or more soil types, each of which is rated as a hydric soil or not hydric. The mapped units that are made up primarily of a hydric soil may also have small areas of minor non hydric components possibly within slightly more elevated areas within that landform. Conversely, more elevated areas within that same landform that are made up primarily of non hydric soils may also have small areas of minor hydric inclusions within lower portions of that landform. Accordingly, each mapped soil unit is rated based on its respective components and the percentage of each component within the mapped unit. Given these criteria, the two mapped hydric soil units with the greatest percentage of area coverage within the overall AOI are the Atmore silt loam (23.4%) and the Smithton fine sandy loam (17.5%). The descriptions the seven main soil types that make up the bulk of the overall acreage are described below.

Atmore Silt Loam(At) - the Atmore soil unit comprises approximately 279 acres (+/- 23.4%) of the total AOI. It is found mostly within the Pine Flatwoods within the northeastern and northern areas of the AOI, and within the lower relief palustrine forested and scrub shrub habitats within the central and southern areas of the AOI. The Atmore has a hydric soil rating of 85 and is described as a poorly drained soil found on upland flats and slopes ranging from 0 to 2%. It is also characterized as a silt loam with generally low chromas of less than 2 within the upper 16 inches on the Munsell Soil Color Chart.



Escambia Loam (EsA) - the Escambia Loam soils (0 to 2% slopes) comprises approximately 118 acres (+/-10 %) of the total AOI. The Escambia B unit (2% to 5% slopes) is also found within the AOI, but makes up only 3% of the total area. The Escambia A units is a somewhat poorly drained soil found on the upland flats of the northeastern and northern areas of the AOI in close proximity to Atmore soils, as well as

within transitional areas in the central, southern and southeastern portions of the AOI. The Escambia

unit has a hydric rating of 6.

Eustis Loamy Fine Sand (EuB) - the Eustis loamy fine sand unit (2 to 5% slopes) comprises approximately 82 acres (+/- 7 %) of the total AOI. The Eustis B unit is described as a somewhat excessively drained soil found typically along upland slopes, and has a hydric rating of 0. Within the AOI, the Eustis is found mostly along upland slopes on the sides of the riparian buffer zones above Turtleskin Creek in the central and northern portions of the AOI, and in isolated areas in the southern portion of the AOI. The Escambia soils typically have dark (low chroma) characteristics in the upper 4 to 5 inches of the sampled soil column, and transition to brighter chroma colors (4 to 6) below this.

Harleston Fine Sandy Loam (HIB) - the Harleston Fine Sandy Loam (B Unit - 2 to 5 % slopes) makes up approximately 249 acres (+/- 21 %) of the total AOI. The Harleston B Unit is described as a moderately well drained soil found along ridge tops and upland slopes. The Harleston is also known to have "hydric" soil inclusions within it in certain areas and has a hydric rating of 11. In this AOI, the Harleston is found mostly within upland flatwoods and palustrine scurb shrub area in the eastern portion of the AOI, in upland ridges and side slopes above Turtleskin Creek in the north, and along isolated upland flats and ridges in the western and southern portions of the AOI. The Harleston soils have generally dark (<2) soil chroma within the upper 4-5 inches of the soil column and then lighten appreciably to chromas of 4 to 6 between 6-inches and 20-inches below surface grade.

Poarch Fine Sandy Loam (PoB) - the Poarch Fine Sandy Loam (2 to 5% slopes) makes up approximately 106 acres (+/- 9 %) of the total AOI. There also small areas of the Poarch A unit (0 to 2% slopes), but it makes up only 1.5% of the total area. The Poarch B soil is a well drained soil found in uplands, and within this AOI was encountered typically along upland slopes outside of the Turtelskin Creek riparian



zone in the northern and northeastern portions of the AOI, and above the bottom land drainage ways in the southern portion of the AOI. The Poarch unit is a classic upland soil characterized by a dark surface

organic layer in the upper 5-inches of the soil column, that transitions quickly to a bright yellowish brown sandy loam with chromas of generally greater than 5 or 6 below the 6-inch interval of the soil

column. The Poarch B hydric soil rating is 0.

Saucier Fine Sandy Loam (SaC) - the Saucier fine sandy loam (5 to 8% slopes) makes up approximately 49 acres (+/- 4 %) of the total AOI. The Saucier fine sandy loam is described as a moderately well drained upland soil with a hydric rating of 2. It is found almost exclusively on upland slopes and within pine flat wood areas of the northwestern and western areas of the AOI. The Saucier unit is generally mapped in close proximity to other upland soils like the Poarch and Harleston with a dark the upper soil layer of 5 to 6 inches (soil chroma of 2) and lower intervals with a soil chroma that lightens from 3 to 6.

Smithton Fine Sandy Loam (Su) - the Smithton fine sandy loam unit makes up approximately 208 acres (+/- 18 %) of the total AOI. The Smithton fine sandy loam is characterized as poorly drained soil within wet flats, drainage ways and along riparian stream terraces. The Smithton is a classic hydric soil within Hancock County, Mississippi with a hydric rating of 97. Within the subject AOI, it is found principally within the lower bottom land drainage and riparian areas of Turtleskin Creek and along some of the ephemeral drainage areas that feed into Turtleskin Creek. It is also found in concert with much of the bottom land drainage area within the southern and southeastern portion of the AOI. Smithton soils are typically dark grayish brown with chromas of 2 or less within the upper two to three feet of the soil column.



5.0 CONCLUSIONS

Based on the information presented in this report, LE, LLC believes that out of the total +/- 1,160 acre AOI, approximately 283 acres represent jurisdictional wetlands. This wetland acreage is equivalent to approximately 24% of the total AOI. Figure 4 - Wetland Delineation Map of the Overall AOI - illustrates the portions of the subject AOI where jurisdictional wetlands were identified during this assessment. Figure 5 - Wetland Delineation Sheet Index Map - displays the various "enhanced view" subsections of the property that provide a more detailed view of each portion of the overall AOI. Figure 6 A - Wetland Delineation Map; Sheet Index 1 - is an aerial photograph that illustrates wetland/upland boundaries and field survey plots within the respective portion of the AOI. Figure 6 B - Wetland Delineation Map; Sheet Index 1 - is a topographic map that illustrates wetland/upland boundaries and field survey plots within the same subsection of the AOI as Figure 6 A. The subsequent figures (Figures 7 A and 7 B through Figures 11 A and 11 B) represent the aerial photographs and topographic maps illustrating the wetland/upland boundaries within the corresponding subsections of the AOI.

The interpretation the wetland/upland boundary with this AOI is based on visual observations that were made during the field assessment activities conducted between October 6, 2016 and October 31, 2016, and based on information derived from historical aerial photography, NRCS soil maps, the Hancock County, Mississippi Soil Survey, USGS topographic maps, LiDAR and Infrared map data, and other historical information sources. It should be noted that weather conditions, such as variations in seasonal rainfall amounts, can also influence the interpretation of a wetland delineation by effectively altering the hydro period within the areas of a site that have minimal relief. LE,LLC field personnel found the climatological conditions to be normal, and consistent for this time of the year.



6.0 REFERENCES

Adams, L.G., Baggett, Kay, et. al. 2008. Selected Plants of Coastal Mississippi and Alabama - Grand Bay National Estuarine Research Reserve and Weeks Bay National Estuarine Research Reserve. Publication funded by NOAA under Coastal Zone Management Act of 1972. 160 pp.

Duncan, W.H. and Foote, Leonard E. 1975. Wildflowers of Southeastern United States. The University of Georgia Press.1975, 431pp.

Environmental Laboratory. 1987. "Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1", United States Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

FEMA National Flood Hazard Zones, as distributed by ESRI, ArcGIS Map Service, accessed November 12, 2016.

Hodges, John D., et al. Mississippi Trees. Mississippi State University - Department of Forestry and Mississippi Forestry Commission. Jackson, Mississippi 39201

Keim, Dr. Richard, et al. Louisiana Plant Identification and Interactive Virtual Tours. LSU School of Renewable Natural Resources. LSU Agricultural Center, Baton Rouge, LA. 2016

Kollmorgen Instrument Corporation. 1988. Munsell Soil Color Charts. Baltimore, Maryland.

MDEM/MDEQ Coastal Ground Natural Color Digital Orthophotography 6-inch to 12-inch GSD imagery, distributed by Mississippi Coordinating Council for Remote Sensing and GIS from January to February 2007.

National Agriculture Imagery Program (NAIP) - Farm Service Agency (FSA) - Aerial Photography Field Office (APFO) Digital Ortho Mosaic, Color Infrared - 1 Meter GSD Imagery, distributed by the Mississippi Automated Resources Information System (MARIS) for years 2004, 2009, 2010, 2012 and 2014.

National Agriculture Imagery Program (NAIP) - Farm Service Agency (FSA) - Aerial Photography Field Office (APFO) Digital Ortho Mosaic, Natural Color - 1 Meter GSD Imagery, distributed by the Mississippi Automated Resources Information System (MARIS) for 2012.

NOAA CSS LiDAR DEM of Coastal Mapping for Hancock County, Mississippi distributed by Mississippi Department of Environmental Quality (MDEQ) from February-March 2005.

Reed, P.B., Jr. 1988. National List of Plant Species that Occur in Wetlands: Southeast (Region 2). United States Fish and Wildlife Service Biological Report 88(26.2). 124 pp.



USDA Natural Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) developed and distributed by the Mississippi Automated Information System (MARIS), September 2015.

U.S. Topographic Maps [1:24,000 and 1:100,000 scale] Quadrangle maps as distributed by ESRI ArcGIS Map Service, accessed on-line November 12, 2016.

United States Department of Agriculture, Soil Conservation Service (SCS). 1981. Soil Survey of Hancock County, Mississippi. 103 pgs., plus Map Sheets.

United States Department of Agriculture, Natural Resource Conservation Service (NRCS). 2010. Field Indicators of Hydric Soils. Version 7.0.

United States Department of Agriculture, Natural Resource Conservation Service. Web Soil Survey. (http://websoilsurvey.nrcs.usda.gov/app/)

USDA, NRCS. 2001. The PLANTS Database, Version 3.1 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Manual: Atlantic and Gulf Coastal Plain Region. U.S. Army Research and Development Center, Vicksburg, Mississippi 39180, 180 pp.

Williams, Michael D. 2007. Identifying Trees - An All Season Guide to Eastern North America. Stackpole Books, Mechanicsburg, PA 17055. 406 pp



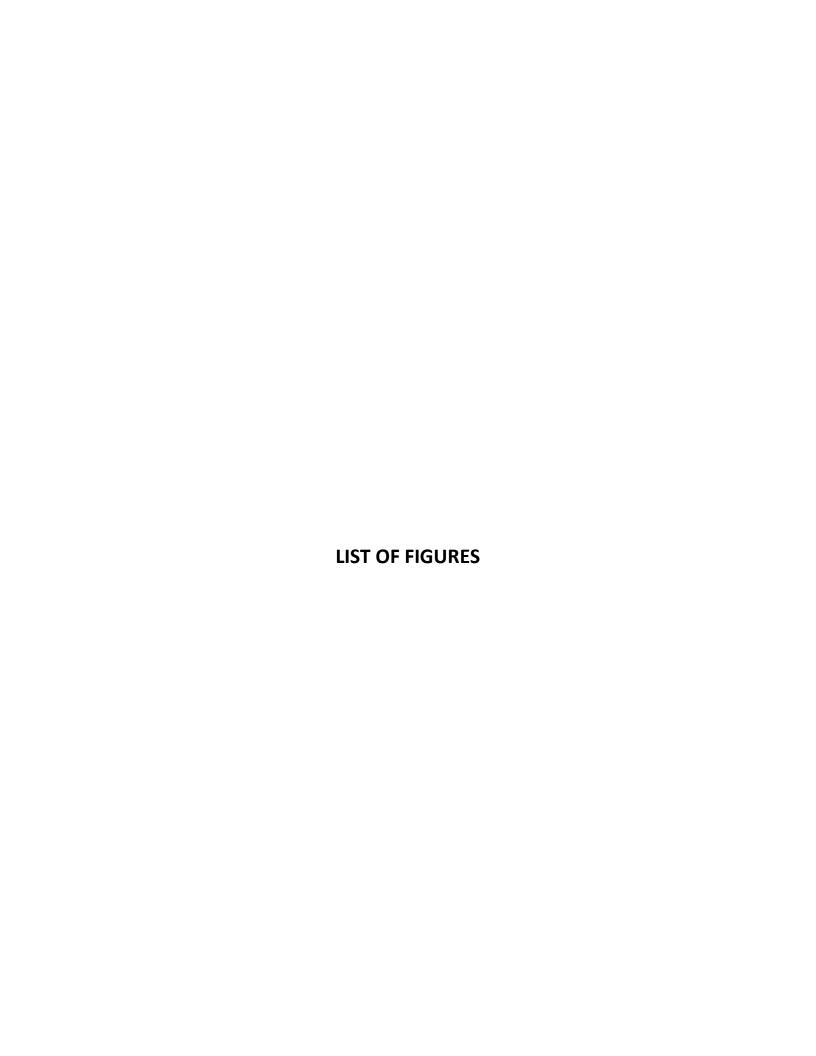


Figure 1

Area of Investigation Map USGS 100 K Topographic Map

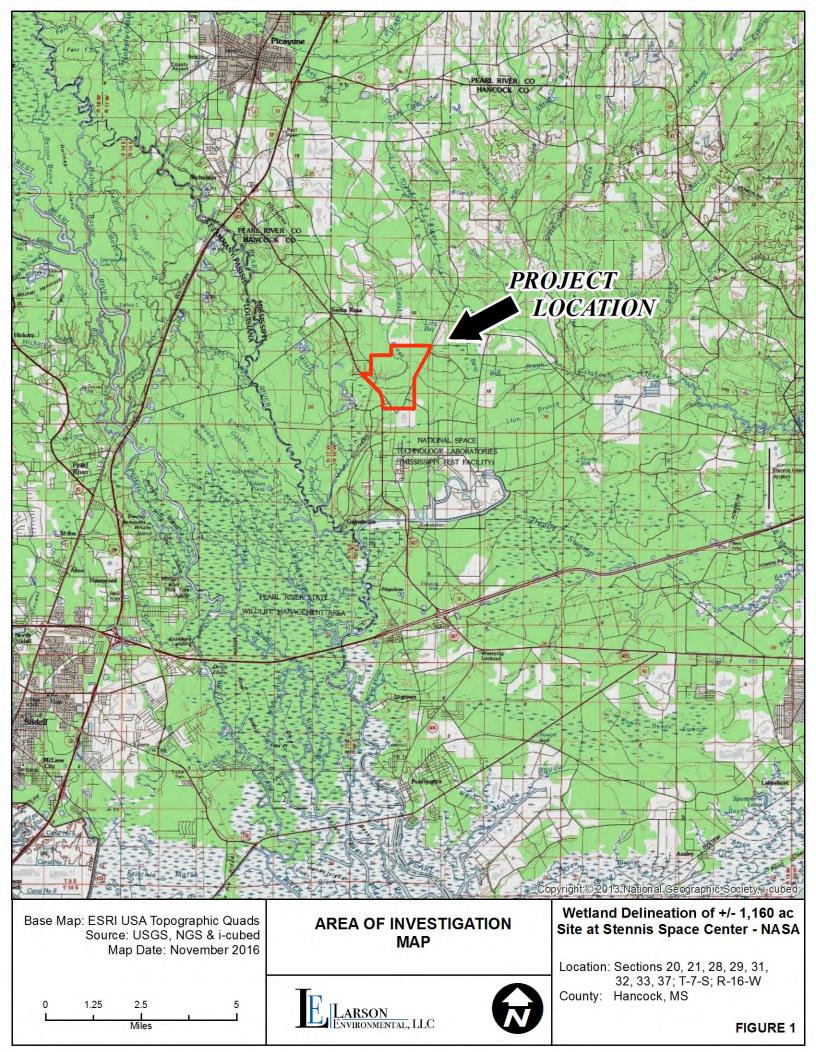
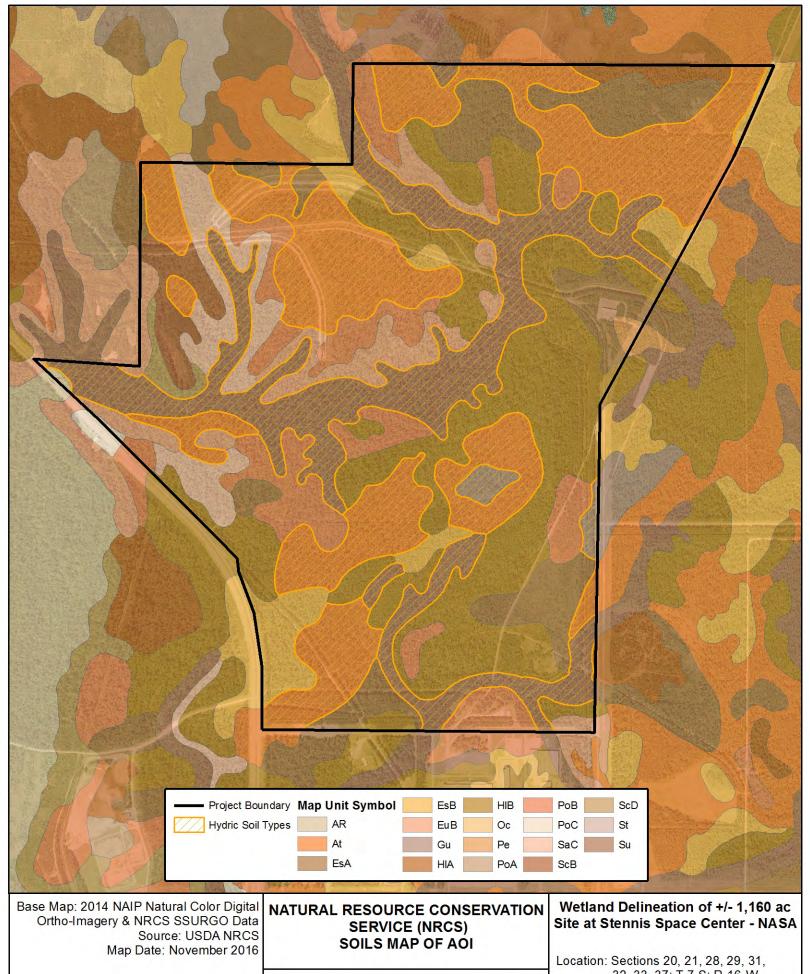


Figure 2 Natural Resource Conservation Service Soils Map of AOI



Map Date: November 2016

0 700 1,400 2,800

Feet





32, 33, 37; T-7-S; R-16-W

County: Hancock, MS

FIGURE 2

Figure 3 FEMA Flood Hazard Zone Map of AOI

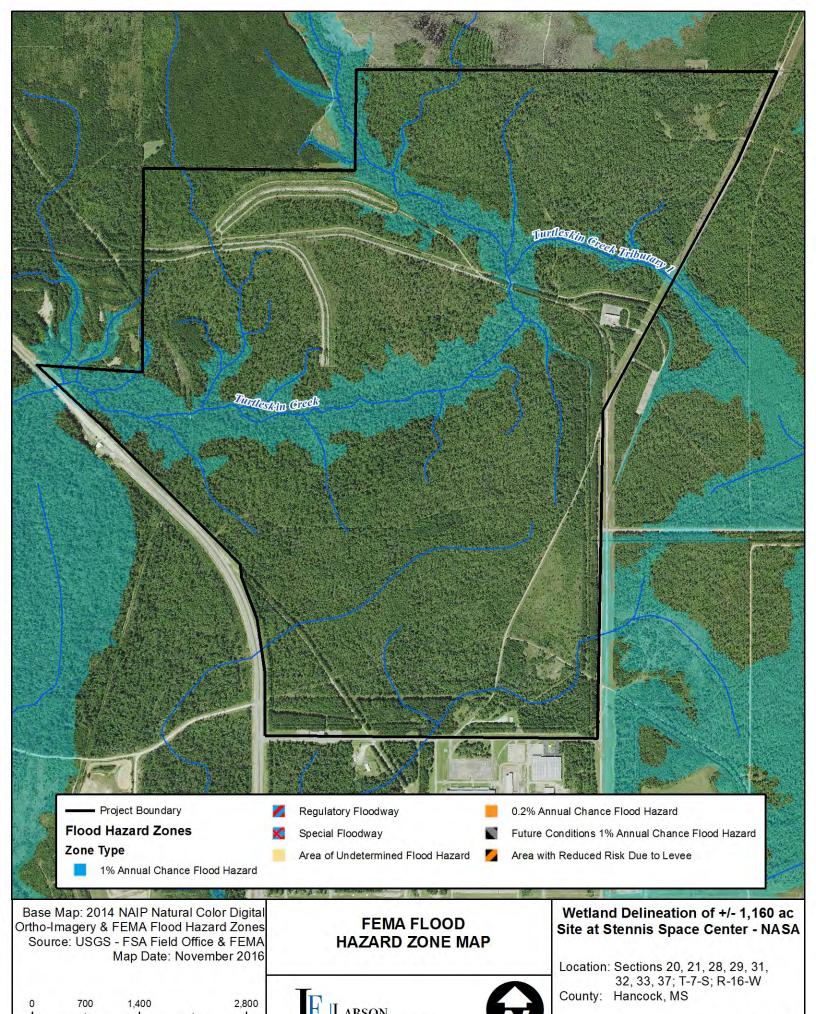
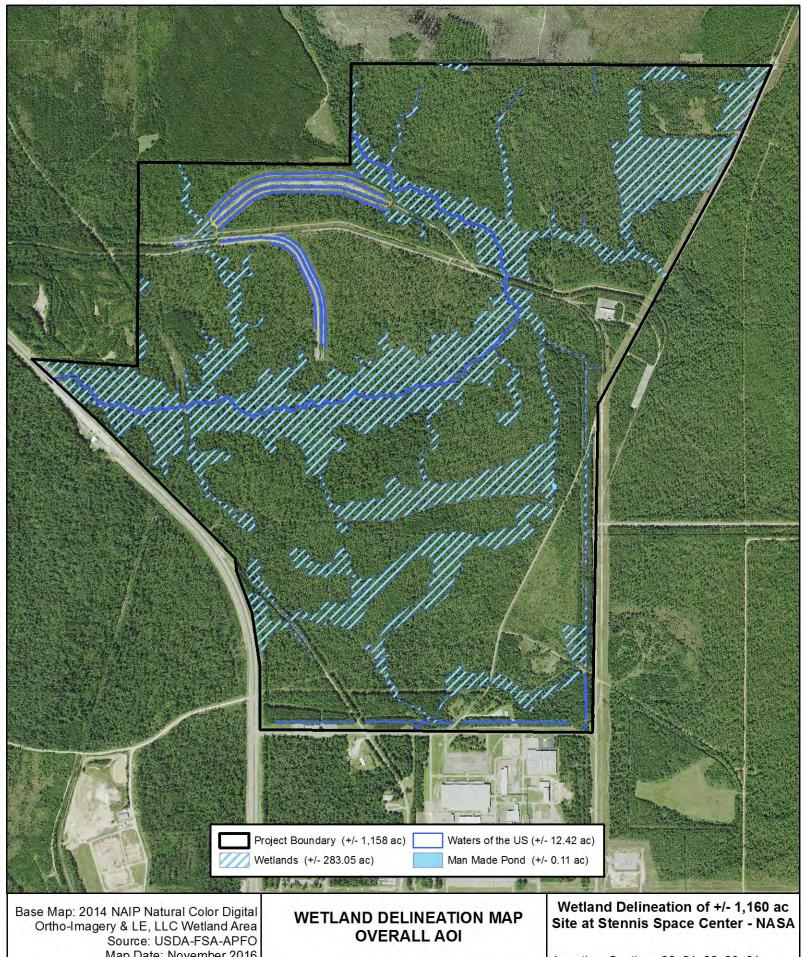


FIGURE 3

Figure 4
Wetland Delineation Map - Overall AOI; November 2016



Map Date: November 2016

700 1,400 2,800





Location: Sections 20, 21, 28, 29, 31,

32, 33, 37; T-7-S; R-16-W

County: Hancock, MS

FIGURE 4

Figure 5
Wetland Delineation Map Sheet Index Maps



Digital Ortho-Imagery Source: USGS - FSA Field Office

Map Date: November 2016

1,700 3,400

SHEET INDEX MAPS





Site at Stennis Space Center - NASA

Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W

County: Hancock, MS

FIGURE 5

Figure 6 A

Wetland Delineation Map - Aerial Photograph Sheet Index Map 1



300 600 1,200

Feet



32, 33, 37; T-7-S; R-16-W

County: Hancock, MS

FIGURE 6A

Figure 6 B

Wetland Delineation Map - Topographic Map Sheet Index Map 1

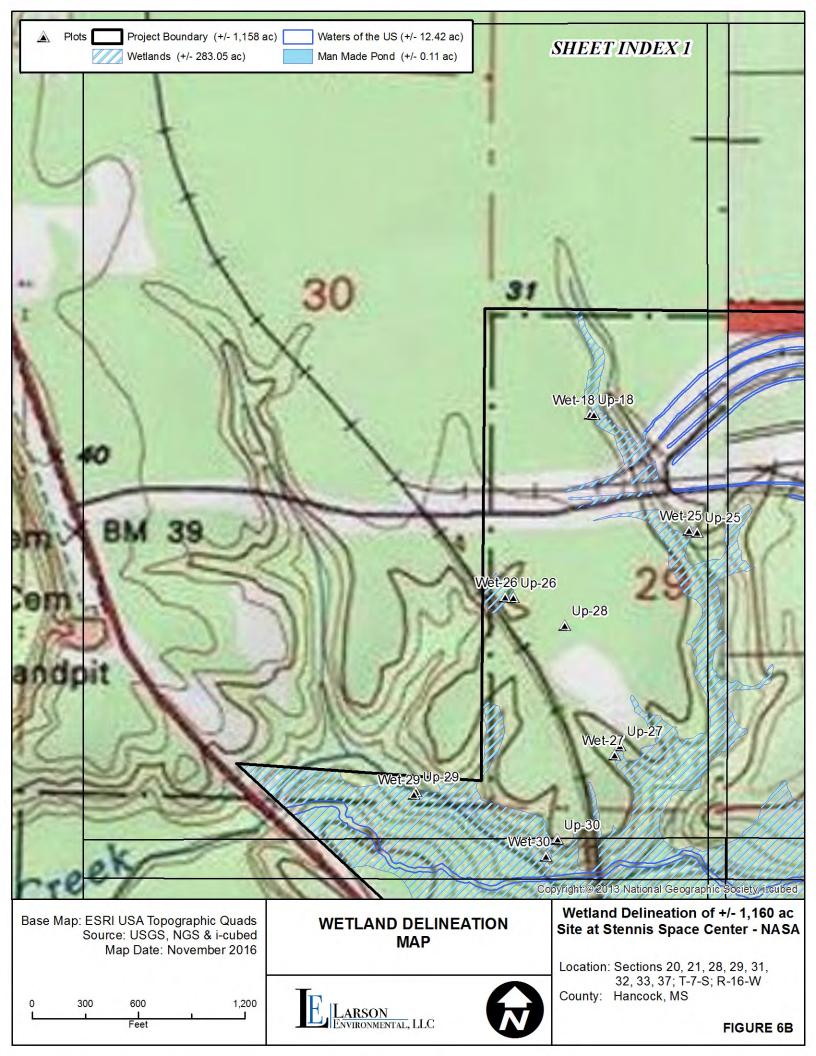


Figure 7 A

Wetland Delineation Map - Aerial Photograph Sheet Index Map 2

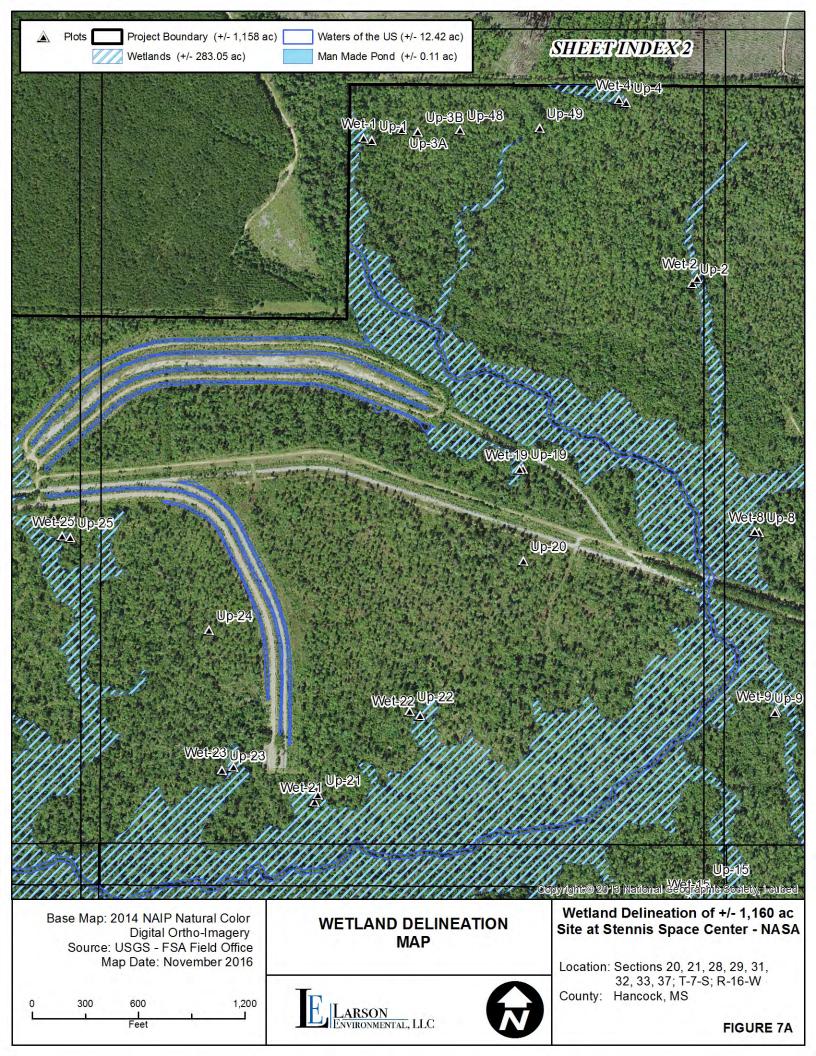


Figure 7 B

Wetland Delineation Map - Topographic Map Sheet Index Map 2

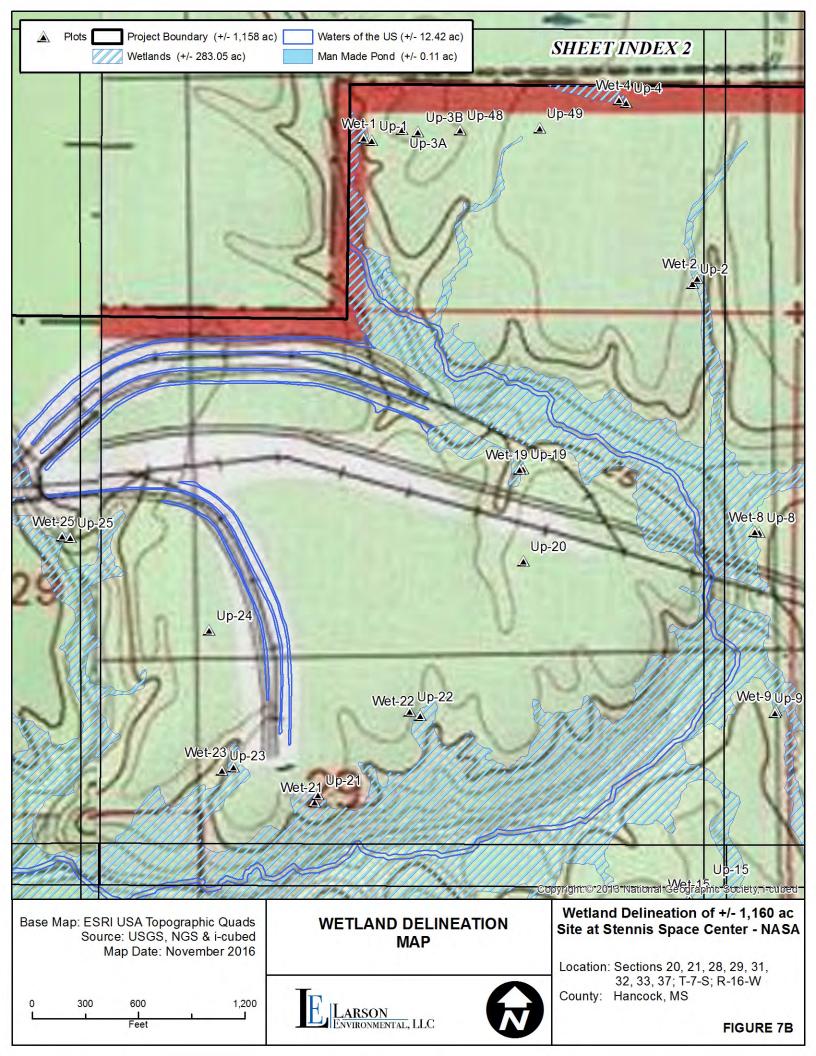


Figure 8 A Wetland Delineation Map - Aerial Photograph Sheet Index Map 3

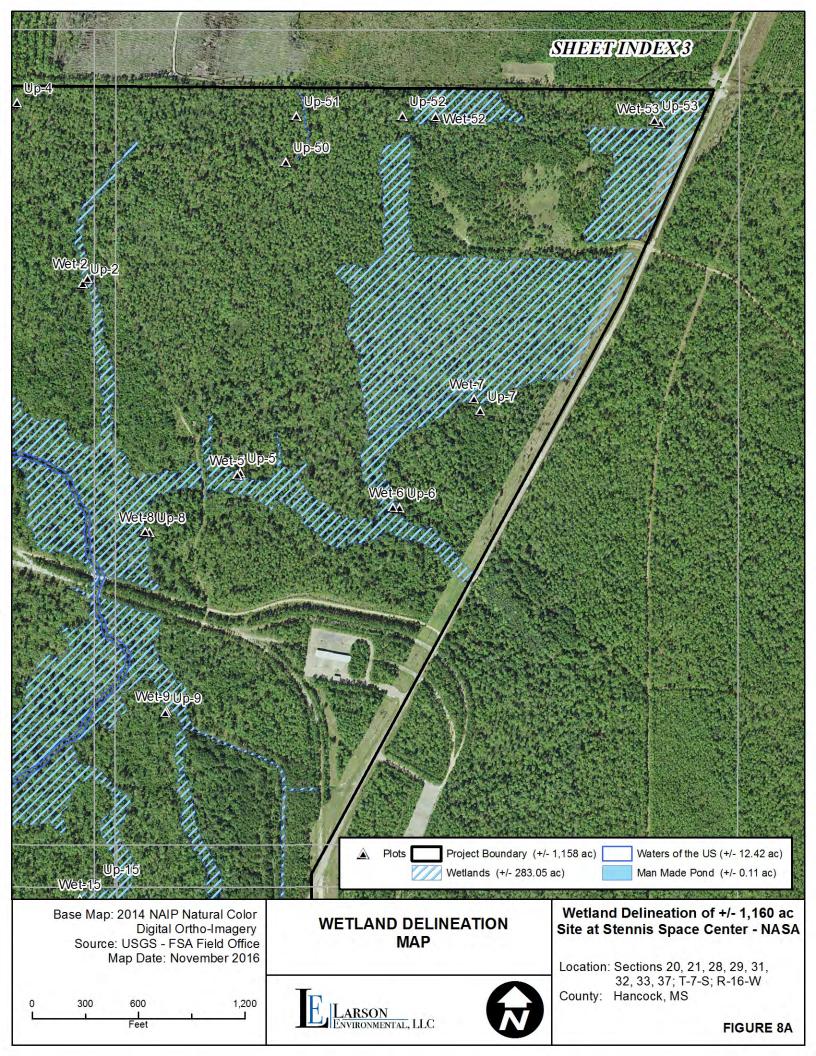


Figure 8 B Wetland Delineation Map - Topographic Map Sheet Index Map 3

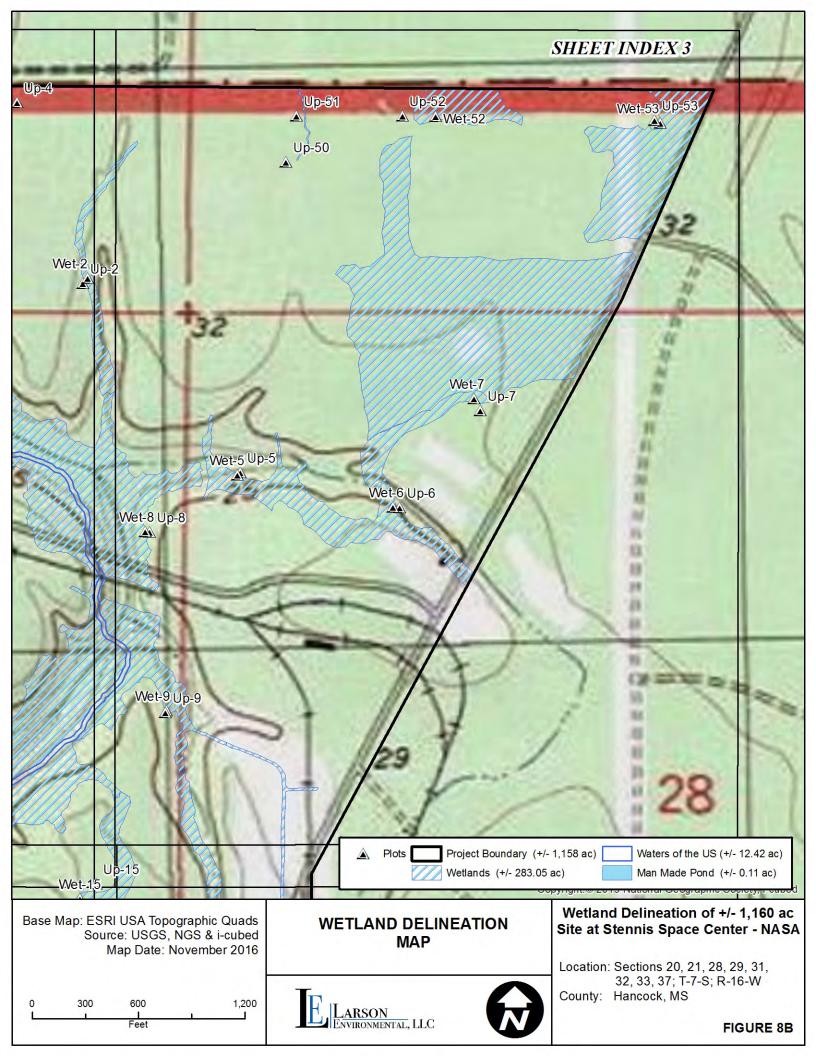


Figure 9 A Wetland Delineation Map - Aerial Photograph Sheet Index Map 4



300 600 1,200 Feet





Location: Sections 20, 21, 28, 29, 31, 32, 33, 37; T-7-S; R-16-W

County: Hancock, MS

FIGURE 9A

Figure 9 B Wetland Delineation Map - Topographic Map Sheet Index Map 4

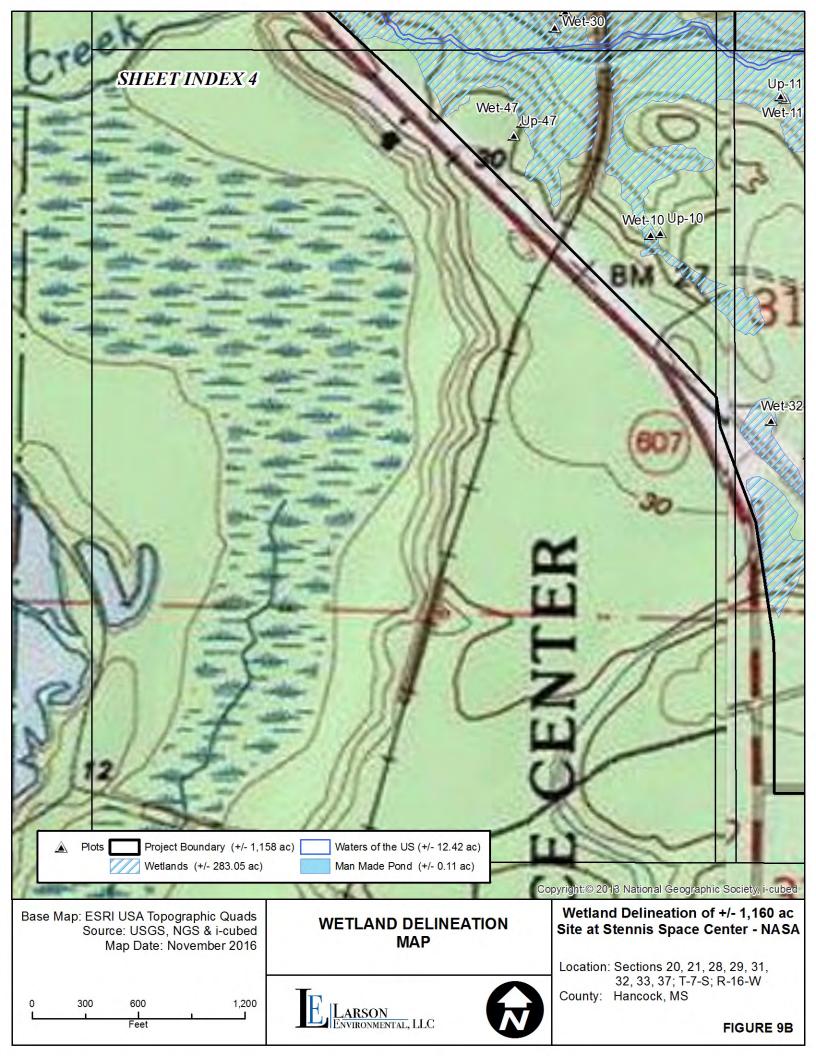
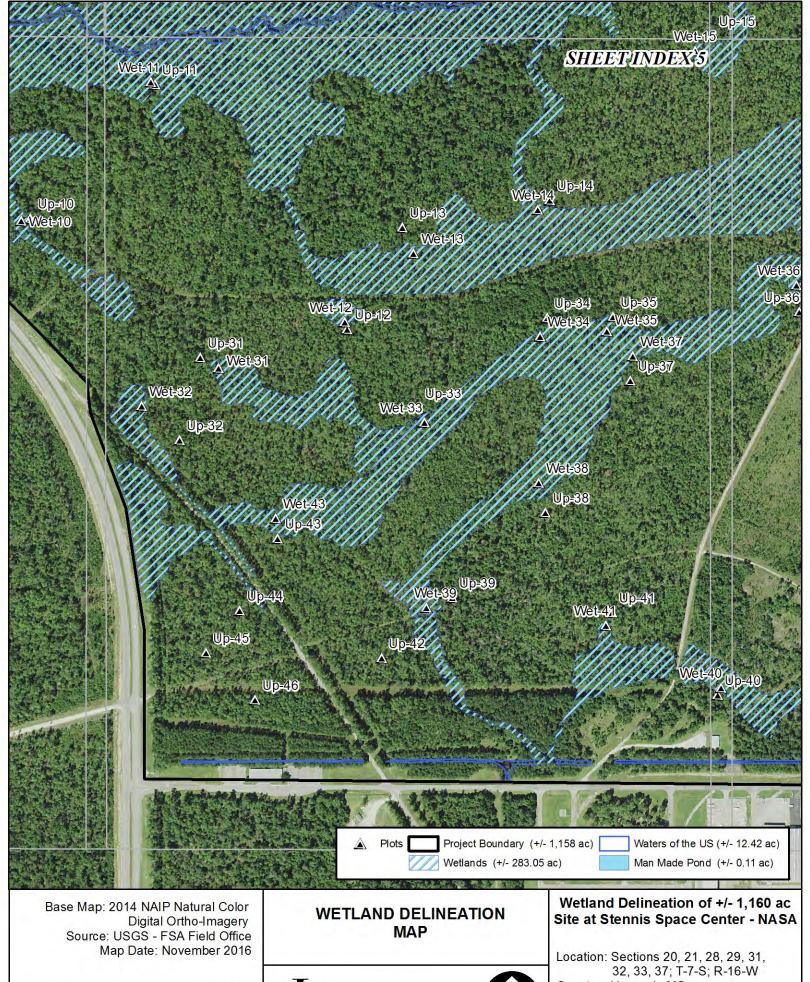


Figure 10 A

Wetland Delineation Map - Aerial Photograph Sheet Index Map 5



0 300 600 1,200 L L Feet



County: Hancock, MS

FIGURE 10A

Figure 10 B

Wetland Delineation Map - Topographic Map Sheet Index Map 5

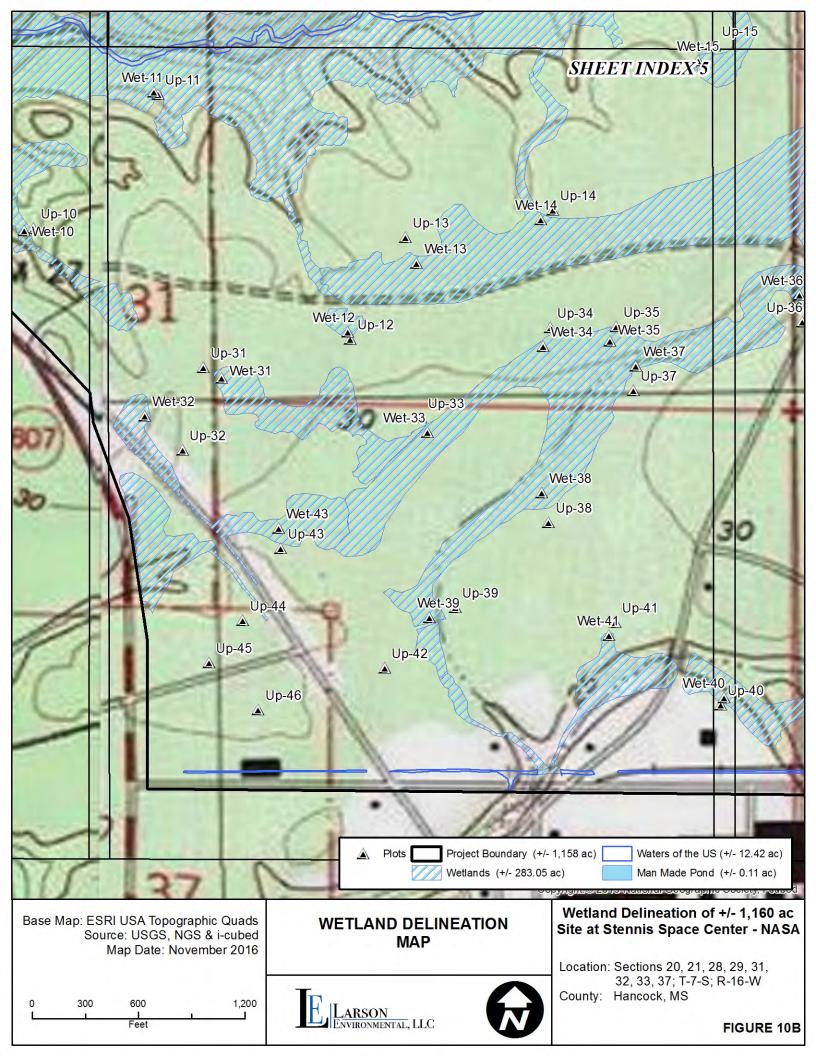
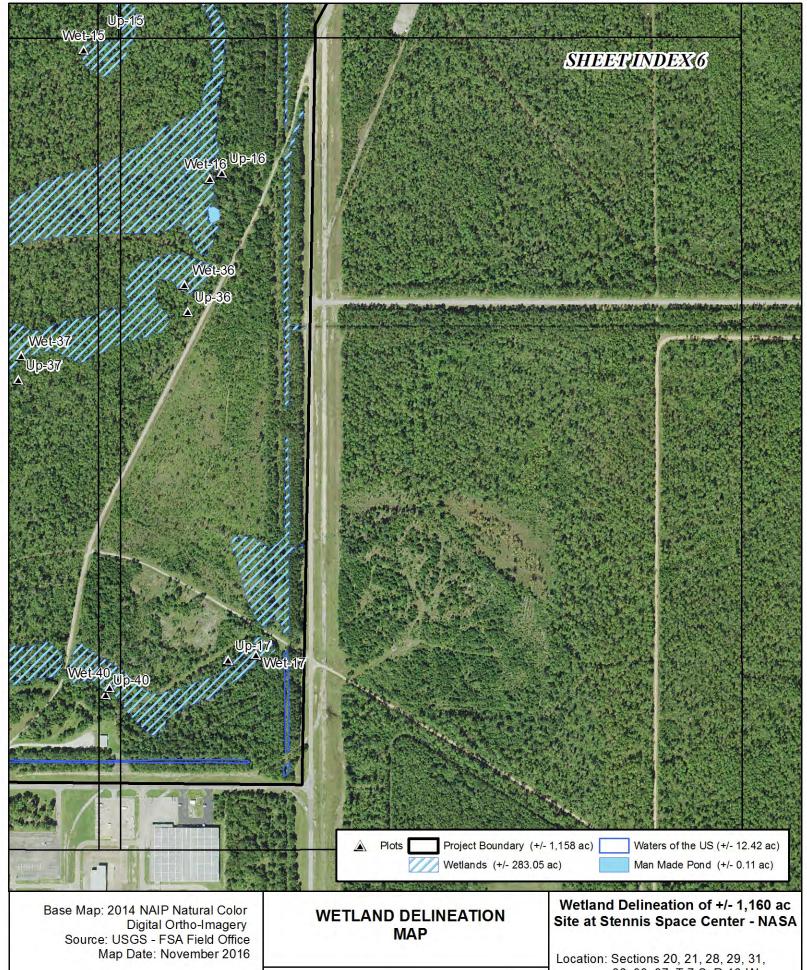


Figure 11 A

Wetland Delineation Map - Aerial Photograph Sheet Index Map 6



600 1,200 Feet





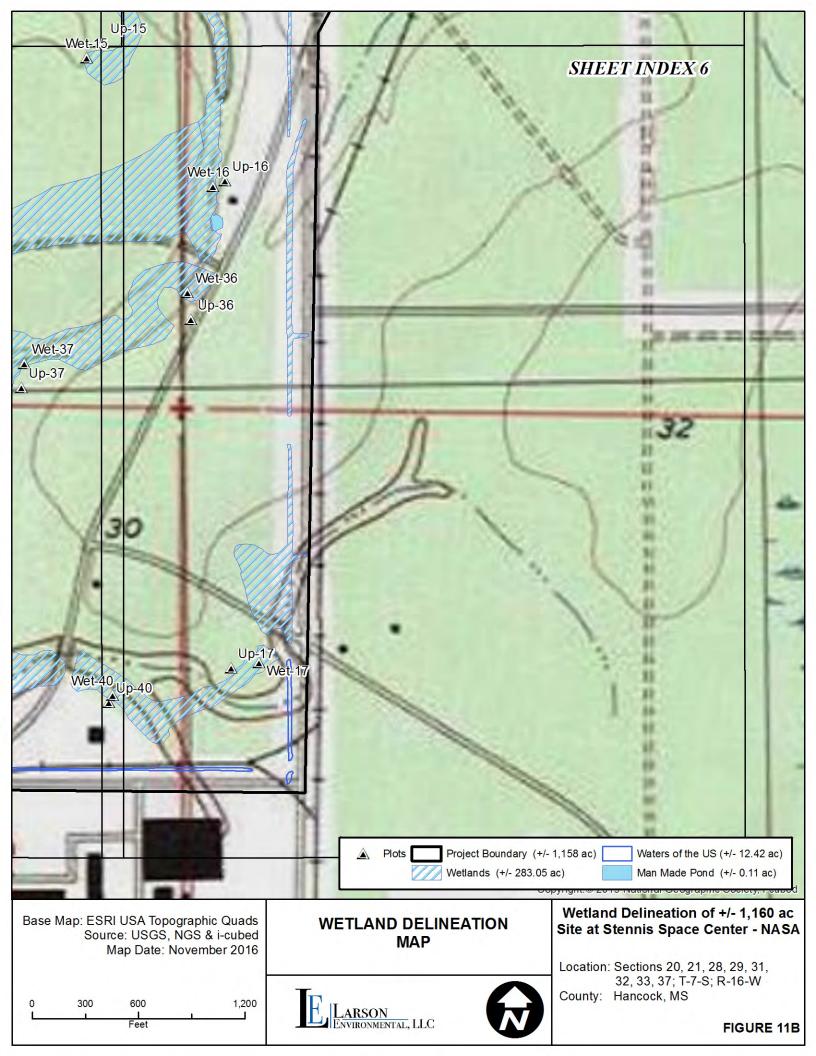
32, 33, 37; T-7-S; R-16-W

County: Hancock, MS

FIGURE 11A

Figure 11 B

Wetland Delineation Map - Topographic Map Sheet Index Map 6





Appendix A

Photographic Record of Survey Plot Locations



Plot Up - 1 - Northeast AOI; soil core from 6 to 12 inches.



Plot Up-1 - Side slope area with heavy gallberry understory.



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Plot Wet - 1 - Northeast AOI; soil core from 6 to 12 inches.



Plot Wet 1 - Lower drainage area within bottom flood plain down slope of Up-1.



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Plot Up - 6 - East-Northeast AOI; soil core from 5 to 11 inches.



Plot Up - 6 - Slightly sloped area with moderately heavy gallbery understory within NE AOI.



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Site Photographic Log 5 - 6



Plot Wet - 6 - View of low chroma, slightly depleted soil matrix in Northeast AOI.



Plot Wet - 6 - Low drainage bottom land area just downslope of plot Up - 6.



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Plot Up - 9 - View of slightly higher chroma soil in upland within Eastern AOI.



Plot Up - 9 - Landform view of pine tree and gallberry understory at plot Up - 9.



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Plot Wet - 9 - View of soil sample with depleted matrix in upland within Eastern AOI.



Plot Wet - 9 - Landform view of gallberry, ferns, switch cane and other herbaceous species along wetland and upland boundary at plot Up - 9.



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Plot Up - 11 - View of soil transitioning to brighter chroma in upland within Western AOI.



Plot Up - 11 - Landform view of gallberry and yaupon understory along slight side slope above bottom land drainage area near Turtleskin Creek.



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Plot Wet - 11 - Depleted matrix and sandy redox (hydric indicators) in wetland plot.



Plot Wet - 11 - View of tupelo trees, sweet bay magnolia's and titi within the riparian buffer-bottom land drainage area on the south side of Turtleskin Creek; west central AOI.



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Plot Up - 14 - Soil profile at Up-14 showing low to medium soil chroma 2 and 3.



Plot Up - 14 - Heavy pine layer on ground at this upland plot (very little herbaceous layer) with thick understory of gallberry.



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Plot Wet - 14 - Soil profile illustrating increase in Redox concentrations with depletions.



Plot Wet - 14 - Slash pine overstory with gallberry and wax myrtle understory.



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Plot Up - 15 Soil profile demonstrating generally lighter chroma (3 to 4).



Plot Up - 15 - Scrub-shrub habitat on upland terrace on south side of Turtleskin Creek.



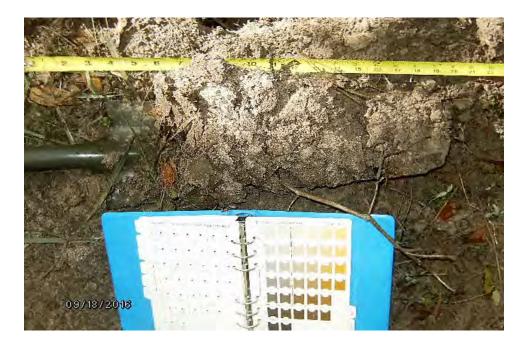
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Plot Wet - 15 Soil profile illustrating mostly matrix depletions and low chroma conditions.



Plot Wet - 15 - Landform view of wetland within slight depressional area near Up-15.



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Plot Up -16 Soil profile illustrating high soil chroma and no hydric indicators in Upland plot near historical settlement site within eastern portion of AOI.



Plot Up - 16 - Landform view of upland area and gradual sideslope downward toward wet area.



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Plot Wet -16 Saturated soil with low chroma color and wet mucky hydric soil indicators.



Plot Wet - 16 - Landform view of area showing surface inundation, buttressed trees and various types of hydrophytic plant species.



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Plot Up - 19 Soil profile on raised side slope above bottom land drainage area.



Plot Up - 19 - Landform view of sideslope area with thick understory of gallberry and yaupon holly shrubs.



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Site Photographic Log



Plot Wet - 19 Soil profile illustrating low chroma sandy loam in bottom drainage area near the railroad spur and Turtleskin Creek in the Northwestern part of the AOI.



Plot Wet - 19- View of Virginia Chain Ferns and other hydrophytes within bottom land drainage area near railroad spur.



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Plot Up - 23 Soil profile illustrating generally bright soil chroma with no hydric indicators.



Plot Up - 23 Landform view from upland ridge in Northwestern portion of AOI.

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Plot Wet -23 Low chroma soil with depleted matrix within low drainage area.



Plot Wet - 23 Landform view of lower elevation drainage area downslope of Up - 23.



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Plot Up - 27 View of soil profile on Upland ridge within western part of AOI.



Plot Up - 27 View of Japanese Climbing Fern, Wax Myrtle and heavy pine cover within Upland ridge plot area.



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Plot Wet - 27 Soil profile showing slightly lower soil chroma and slight evidence of matrix depletions within lower drainage area down gradient of Up - 27.



Plot Wet - 27 Landform view of plot showing geomorphic position and buttressed trees.



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Plot Up - 33 Soil profile light chroma and no hydric soil indicators.



Plot Up - 33 Landform view illustrating pine dominated overstory and gallberry understory.



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Site Photographic Log

graphic Log 41-42



Plot Wet - 33 Low chroma soils with evidence of Redox concentrations.



Plot Wet - 33 Landform view of plot illustrating buttressed trees, moss trim lines and geomorphic position.



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Project:	Project: +/- 1,160 Acre Wetland Delineation - NASA; Stennis Space Center, Hancock County, MS					
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Site Photographic Log



Plot Up - 37 Bright soil chroma within upland plot in eastern portion of AOI.



Plot Up - 37 View illustrating pine and heavy gallberry understory above bottom land drainage area.



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Plot Wet - 37 Soil profile showing moist sandy loam with very low chroma.



Plot Wet - 37 Landform view of area showing buttressed tupelos, drainage patterns, and dominant hydrophytic vegetation.



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Plot Up - 39 Soil profile showing bright soil chroma with no hydric indicators.



Plot Up - 39 Landform view illustrating pine and gallberry dominated habitat within the southern portion of the AOI.

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Site Photographic Log

og 49-50



Plot Wet - 39 Soil profile illustrating wet, low chroma soil within bottom land drainage area near Keller Road.



Plot Wet - 39 Landform view illustrating buttressed trees, water marks, water stained leaves and drainage patterns.



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 Project:
 +/- 1 160 Acre Wetland Delineation - NASA: Steppis Space Center, Hancock County, MS

Project: +/- 1,160 Acre Wetland Delineation - NASA; Stennis Space Center, Hancock County, MS

Title:

Site Photographic Log



Plot Up - 40 Soil profile showing slightly brighter soil chroma (3-4) on sideslope of bottom land drainage way in southeastern portion of AOI near Flat Top Road.



Plot Up - 40 Landform view sideslope dominated by water oak saplings and shrubs as well as Yaupon Holly.



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Drawn by:		Checked by	Scale:	Date:	Project No.:
	LL	LL	NTS	10/25/16	2016-119
Project:	+/- 1,160 Acre	Wetland Delineation - NA	ASA; Stennis Spac	e Center, Hanco	ock County, MS

Title:

Site Photographic Log



Plot Wet - 40 Lower chroma soils showing evidence of depleted matrix within bottom land drainage area near the Upland plot.



Plot Wet - 40 Landform view of the bottom drainage area showing evidence of drainage patterns, moss trim lines, buttressed trees and geomorphic position.



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 Drawn by:
 LL
 Checked by:
 LL
 Scale:
 Date:
 Project No.:
 2016-119

 Project:
 +/- 1 160 Acre Wetland Delineation - NASA: Steppis Space Center Hancock County MS

Project: +/- 1,160 Acre Wetland Delineation - NASA; Stennis Space Center, Hancock County, MS

Title:

Site Photographic Log



Plot Up - 52 Soil profile illustrating higher chroma, loamy silt/sand within Upland area near the northeast corner of the AOI.



Plot Up - 52 Landform view of this plot showing pine dominated overstory and galleberry dominated shrub understory.



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Drawn by:		Checked by	Scale:	Date:	Project No.:	
·	LL	LL	NTS	10/26/16	2016-11	19
Project: +/- 1,160 Acre Wetland Delineation - NASA; Stennis Space Center, Hancock County, MS						
Title:						

Site Photographic Log



Plot Wet - 52 Soil profile illustrating slightly lower chroma soil material with small signs of Redox concentrations.



Plot Wet - 52 Landform view of this plot showing an increase in hydrophytes in the herbaceous strata (i.e. pitcher plants, button tops, panic grass and club moss).



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Drawn by:		Checked by:	Scale:	Date:	Project No.:
	LL	, LL	NTS	10/26/16	2016-119
Project:	. / 4 400 4	Mada d Dalla a dia	A C A - Ct : - C	. 0	L. O L. N.

+/- 1,160 Acre Wetland Delineation - NASA; Stennis Space Center, Hancock County, MS

Title:

Site Photographic Log

Appendix B
Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project State Treat State Stat	City/County: Waveland - Hancock Sampling Date: 07-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 1
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 20 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): convex Slope: 20.0 % /
Subregion (LRR or MLRA): LRR T Lat.: 3	30° 25' 0.964" N Long.: 89° 37" 12.584" W Datum: NAD83
Soil Map Unit Name: EuB, Escambia loamy fine sand, 2 to 5 percent slo	
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation . , Soil . , or Hydrology . significantly	y disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally pr	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing san	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	Is the Sampled Area
Hydric Soil Present? Yes O No 💿	ustkin a Wathanda Yes O No 💿
Wetland Hydrology Present? Yes O No	within a Wetland?
/	
Remarks: Small incline above riparian drainage area in the NE portion of the AC	VI near the fenceline
Small incline above riparian drainage area in the NE portion of the AC) fical the fencemie.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13	_
High Water Table (A2) Marl Deposits (B15)	
☐ Saturation (A3) ☐ Hydrogen Sulfide O	
	res along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	
	ion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface (
☐ Iron Deposits (B5) ☐ Other (Explain in Re	
Inundation Visible on Aeriai Imagery (B7)	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Precent?	Wetland Hydrology Present? Yes ○ No •
(includes capitally fillinge)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos	, previous inspections), if available:
Remarks:	
No hydrology indicators.	
, , , , , , , , , , , , , , , , , , , ,	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
		73.2%	FACW	Number of Dominant Species
** ** * * * * * * * * * * * * * * * * *		✓ 73.2% ✓ 24.4%		That are OBL, FACW, or FAC:7(A)
0 0	10		FAC	Total Number of Dominant
3. Quercus falcata		2.4%	FACU	Species Across All Strata: 7 (B)
4.	0	0.0%		Percent of deminant Charles
5		0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
6		0.0%		This critic obligation of the critical and the critical a
7.				Prevalence Index worksheet:
8	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 20.5 20% of Total Cover: 8.2	41 :	= Total Cove	r	OBL species $0 \times 1 = 0$
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	}			FACW species $101 \times 2 = 202$
1. Nyssa sylvatica		50.0%	FAC	FAC species $50 \times 3 = 150$
2. Liquidambar styraciffua	10	✓ 33.3%	FAC	FACU species $\frac{1}{1}$ x 4 = $\frac{4}{1}$
3. Magnolia virginiana		16.7%	FACW	UPL species 0 x 5 = 0
4		0.0%		l .
5.		0.0%		Column Totals: 152 (A) 356 (B)
0		0.0%		Prevalence Index = B/A = 2.342
-			-	Hydrophytic Vegetation Indicators:
	•	0.0%		Tipe opily and vogettion and to to
8	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 15 20% of Total Cover: 6	30 =	= Total Cove	r	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)				✓ 3 - Prevalence Index is ≤3.0 1
1 Ilex corlacea	50	76.9%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex glabra	5	7.7%	FACW	
3. Ilex vomitoria	10	15.4%	FAC	¹ Indicators of hydric soil and wetland hydrology must
4		0.0%	· IAC	be present, unless disturbed or problematic.
				Definition of Vegetation Strata:
5		0.0%		_
6.	0	□ 0.0%	114114	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 32.5 20% of Total Cover: 13	65 =	= Total Cove	•	(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m				
1. Arundinaria tecta	1	9.1%	FACW	Sapling - Woody plants, excluding woody vines,
2. Ilex coriacea		✓ 90.9%	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3.		0.0%		Than 6 iii. (1.10 din) BBH.
	0	0.0%	-	Sapling/Shrub - Woody plants, excluding vines, less
4	0	0.0%	-	than 3 in. DBH and greater than 3.28 ft (1m) tall.
5.				
0	. 0 ~	0.0%	-	Shrub - Woody plants, excluding woody vines,
7	0	0.0%	-	approximately 3 to 20 ft (1 to 6 m) in height.
8		0.0%		Herb. All herbacous (non weeds) plants including
9		0.0%_		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10	0	0.0%		plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 5.5 20% of Total Cover: 2.2		Total Cove		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size:)	الس	400.00:	h	
1. Vitis rotundifolia		100.0%	FAC	
2		0.0%		
3	00	0.0%		
4	0	0.0%	-	11-alon objekta
5	. 0	0.0%		Hydrophytic Vegetation
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	Total Cove		Present? Yes No
Remarks: (If observed, list morphological adaptations below).				
Heavy pine litter covers much of the herbaceus layter.				
*Indicator suffix = National status or professional decision assigned because Re	nional etatus a	not defined by E	NS	
and the second second sections of broadstated acceptor assigned accepted to	Greenius avaitus ii	or actual by L		

Sampling Point: Up - 1

_	~	

Sampling Point: Up - 1

	iption: (De		the depth	needed to document the indicator or con	firm the	absence of indicato	rs.)	
Depth		Matrix		Redox Features		5 L		
(inches) 0-4	Color ((moist) 3/2	100	Color (moist) % Type 1	Loc2	Texture Loamy Sand	Remarks Fine grained	
					_		Fine Grained	
4-12	10YR	5/4	100			Sandy Loam	Fine grained sands	
12-20	10YR	5/6	100			Sandy Loam	· me granica sanos	
			,					
Type: C=Cond Hydric Soil I		=Depletio	n. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grain	ns ² Loca			
Histosol (A				Polyvalue Below Surface (S8) (LRR S	T 10		Problematic Hydric Soils ³ :	
_ `	edon (A2)			Thin Dark Surface (S9) (LRR S, T, U)		1 cm Muck (
Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)			Loamy Mucky Mineral (F1) (LRR O)		2 cm Muck (A10) (LRR S) Reduced Vertic (F18) (outside MLRA 150A,B) Piedmont Floodplain Soils (F19) (LRR P, S, T)			
			Loamy Gleyed Matrix (F2)					
	odies (A6) (L	DD D T I	IN.	Depleted Matrix (F3)			right Loamy Soils (F20) (MLRA 153B)	
			•	Redox Dark Surface (F6)		☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12)		
_	ky Mineral (A		, 1, 0)	Depleted Dark Surface (F7)				
☐ Muck Presence (A8) (LRR U) ☐ 1 cm Muck (A9) (LRR P, T)				Redox Depressions (F8)	Other (Explain in Remarks)			
				Marl (F10) (LRR U)				
	Below Dark S	_	11)	Depleted Ochric (F11) (MLRA 151)				
_	Surface (A1	-		Iron-Manganese Masses (F12) (LRR	O, P, T)			
Coast Prair	rie Redox (A	16) (MLRA	\ 150A)	Umbric Surface (F13) (LRR P, T, U)				
Sandy Mud	ck Mineral (S	1) (LRR 0	, S)	Delta Ochric (F17) (MLRA 151)		1		
Sandy Gle	yed Matrix (S	54)		Reduced Vertic (F18) (MLRA 150A, 1	50B)	"Indica" wett	tors of hydrophytic vegetation and and hydrology must be present,	
Sandy Red	iox (S5)			Piedmont Floodplain Soils (F19) (MLR	A 149A)		nless disturbed or problematic.	
Stripped M	latrix (S6)			Anomalous Bright Loamy Soils (F20)	-			
Dark Surfa	ice (S7) (LRF	R P, S, T, I	J)		C	,,		
Restrictive La	yer (if obs	erved):		<u></u>				
Type:		0						
Depth (inch	es):					Hydric Soil Presei	nt? Yes O No 👁	
	C3/1			1. - 1				
Remarks:								
Soil has dry cr	umbly, loa	my textu	re. No sat	uration.				

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1.100 Acre Wetland Delineation City	/County: Waveland - Hancock Sampling Date: 07-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up- 2
Investigator(s): Lars Larson, Randy Ellis Se	ction, Township, Range: S 20 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside Loca	al relief (concave, convex, none): convex Slope: 3.0 % / 1.7 °
No. 1 Telephone Control of the Contr	24' 53.090" N Long.: 89° 36' 51.859" W Datum: NAD83
Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly dis	sturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally proble	·
SUMMARY OF FINDINGS - Attach site map showing sample	ing point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes ○ No ●	within a Wetland? Yes O NO O
Remarks:	
Sideslope area within approximately 50 N-NE of Wet-2.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	☐ Surface Soil Cracks (B6)
☐ Surface Water (A1) ☐ Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
☐ High Water Table (A2) ☐ Marl Deposits (B15) (LR	
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (
Water Marks (B1) Oxidized Rhizospheres a	_
Sediment Deposits (B2) Presence of Reduced Iro	
☐ Drift Deposits (B3) ☐ Recent Iron Reduction in	
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C7)	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in Remar	ks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes O No O Depth (inches):	
	Wetland Hydrology Present? Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pro	evious inspections), if available:
Remarks:	
	ľ

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

FACW Number of Dominant Species That are OBL, FACW, or FAC: 5 (A) Total Number of Dominant
FAC
Species Across All Strata: 5 (B)
Bousent of descinent Courses
Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
That Aid Obe, TACM, of TAC.
Prevalence Index worksheet:
Total % Cover of Multiply by:
OBL species $1 \times 1 = 1$
FACW species $107 \times 2 = 214$
FACW FAC species 22 x 3 = 66
FAC FACU species 0 x 4 = 0
or species
Column Totals: 130 (A) 281 (B)
Prevalence Index = B/A = 2.162
Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is > 50%
✓ 3 - Prevalence Index is ≤3.0 ¹
FACW Problematic Hydrophytic Vegetation ¹ (Explain)
FAC 1 Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
Definition of Vegetation Strata:
Tree - Woody plants, excluding woody vines,
approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
(1.0 dil) of larger in diameter at broast height (2514).
Sapling - Woody plants, excluding woody vines,
approximately 20 ft (6 m) or more in height and less
than 3 in. (7.6 cm) DBH.
Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
than 5 m. DDN and greater than 5.25 k (1m) tun.
Shrub - Woody plants, excluding woody vines,
approximately 3 to 20 ft (1 to 6 m) in height.
Herb - All herbaceous (non-woody) plants, including
herbaceous vines, regardless of size, and woody
plants, except woody vines, less than approximately 3 ft (1 m) in height.
The same of the sa
Woody vine - All woody vines, regardless of height.
Troug the terrory though oguidade or hogh
FAC
Hydrophytic
Hydrophytic Vegetation Present? Yes No
ŗ

Sampling Point: Up- 2

	_	-	
-	E 1	ш	

Depth	iption: (Descr	ibe to the d	lepth needed to document the indicator o	or confirm the	absence of indicators.)
		atrix	Redox Features	1	
(inches) 0-6	Color (mo	3/2 100	% Color (moist) % Typ	e Loc²	Texture Remarks Sandy Loam
			9 90 9 60 90 9790 1 42 20 482		A MARIE CONTRACTOR CON
6-24	10YR	5/6 100			Sandy Loam
		epletion. RM	=Reduced Matrix, CS=Covered or Coated Sand	d Grains ² Loca	tion: PL=Pore Lining. M=Matrix
lydric Soil I					Indicators for Problematic Hydric Solls ³ :
Histosol (A	•		Polyvalue Below Surface (S8) (1 cm Muck (A9) (LRR O)
_ ''	pedon (A2)		☐ Thin Dark Surface (S9) (LRR S,		2 cm Muck (A10) (LRR S)
Black Histi			Loamy Mucky Mineral (F1) (LRi	R O)	Reduced Vertic (F18) (outside MLRA 150A,B)
	Sulfide (A4)		Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)
	Layers (A5)		Depleted Matrix (F3)		Anomalous Bright Loamy Soils (F20) (MLRA 153B)
_	odies (A6) (LRR		Redox Dark Surface (F6)		Red Parent Material (TF2)
5 cm Muck	ky Mineral (A7)	(LRR P, T, U	Depleted Dark Surface (F7)		☐ Very Shallow Dark Surface (TF12)
Muck Pres	ence (A8) (LRR	U)	Redox Depressions (F8)		Other (Explain in Remarks)
1 cm Muck (A9) (LRR P, T)			☐ Marl (F10) (LRR U)		_
Depleted E	Below Dark Surf	ace (A11)	Depleted Ochric (F11) (MLRA 1	51)	
Thick Dark	Surface (A12)		☐ Iron-Manganese Masses (F12)	(LRR O, P, T)	
Coast Prair	rie Redox (A16)	(MLRA 150/	Umbric Surface (F13) (LRR P, 7	ັ, U)	
Sandy Muc	ck Mineral (S1)	(LRR O, S)	Delta Ochric (F17) (MLRA 151)		_
	yed Matrix (S4)		Reduced Vertic (F18) (MLRA 15		³ Indicators of hydrophytic vegetation and
Sandy Red			☐ Piedmont Floodplain Soils (F19)		wetland hydrology must be present, unless disturbed or problematic.
Stripped M			Anomalous Bright Loamy Soils		
	ice (S7) (LRR P,	S T 11)	Allottalous Bright Loanly Sons ((1 20) (MERON 143	sa, 1550, 1550)
	ice (37) (LINK F,	3, 1, 0)			
	yer (if observ	ed):			
estrictive La					
estrictive La Type:	es).				Hydric Soil Present? Yes O No 🏵
	(65)1			+	<u></u>
Type: Depth (inch					
Type: Depth (inch emarks:		ad.			
Type: Depth (inch emarks:	cators observe	ed.			
Type: Depth (inch emarks:		ed.			
Type: Depth (inch emarks:		ed.			
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Type: Depth (inch		ed.			
Type: Depth (inch emarks:		ed.			
Type: Depth (inch emarks:		ed.			

WETLAND DETERMINATION DATA FORM - Atlantic and Guif Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Defineation	City/County: Waveland - Hancock Sampling Date: 10-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 3A
Investigator(s): Lars Larson, Randy Ellis	4 - 4 - 104
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 25' 1.581" N Long.: 89° 37' 10.657" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI dassification: N/A
Are climatic/hydrologic conditions on the site typical for this time of yea	ear? Yes No (If no, explain in Remarks.)
Are Vegetation . , Soll . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)
	(,,,
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	
Hydric Soil Present? Yes No No	Is the Sampled Area Yes No No
Wetland Hydrology Present? Yes O No •	within a Wedland? Yes O NO O
Remarks: Upland terrace approximately 50-60- feet frm wet transitional area 2	200 to 300 south of fenceling in NE part of AOI
opiand terrace approximately 50-00- reet initi wet dansidonal area 2	200 to 500 South of Tencenne III NE part of AO1
LIVEROLOGY	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	
Surface Water (A1) Aquatic Fauna (B1	= ' ' '
High Water Table (A2) Marl Deposits (B1:	
Saturation (A3) Hydrogen Sulfide	• •
	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduction (B2) Present type Person (B2)	
	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Iron Deposits (B5) ☐ Other (Explain in F☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	Springrown inos (55) (Ear 1) 5)
Surface Water Present? Yes No Depth (inches):	
Surface visites in the surface visites visites in the surface visites vi	
	Wetland Hydrology Present? Yes ○ No ⊙
Saturation Present? Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	
No observed evidence of hydrology indicators.	
	İ

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant Species?

Tree Stratum (Plot size:	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
				Number of Dominant Species
Pinus elliottii	25	78.1%	FACW	That are OBL, FACW, or FAC: 4 (A)
	Ţ	0.0%	EAG	Total Number of Dominant
	5_	15.6%	FAC	Species Across All Strata: 4 (B)
Magnolia grandiflora	. 2	6.3%	_FAC	Percent of dominant Species
	(Carona	0.0%	(Car 38 / 15 //	That Are OBL, FACW, or FAC: 100.0% (A/B)
-		0.0%		
		0.0%		Prevalence Index worksheet:
	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 16 20% of Total Cover: 6.4	32 :	= Total Cover		OBL species $0 \times 1 = 0$
apling or Sapling/Shrub Stratum (Plot size:	}}			FACW species 115 x 2 =230
Pinus elliottii	30	76.9%	FACW	FAC species $17 \times 3 = 51$
Magnolia virginiana	5	12.8%	FACW	FACU species 2 x 4 = 8
Nyssa sylvatica	2	5.1%	FAC	UPL species $0 \times 5 = 0$
Quercus falcata	1	2.6%	FACU	Column Totals: 134 (A) 289 (B)
	1	2.6%		
		0.0%		Prevalence Index = B/A = 2.157
		0.0%		Hydrophytic Vegetation Indicators:
		0.0%	1.0	✓ 1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 19.5 20% of Total Cover: 7.8	-	= Total Cover		l
Gritisa ()				✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size:)	F0		EACH!	✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea		84.7%	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria	5	8.5%	FAC	1 - 4:
Ilex opaca		5.1%	FAC	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Quercus falcata	1	1.7%	FACU	
	. 0	0.0%		Definition of Vegetation Strata:
	. 0	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
60% of Total Cover: 29.5 20% of Total Cover: 11.8 erb Stratum (Plot size:)	59 =	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
, Ilex coriacea		100.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
	0	0.0%		than 3 in. (7.6 cm) DBH.
	0	0.0%		
	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	0.0%		Shrub - Woody plants, excluding woody vines,
· · · · · · · · · · · · · · · · · · ·	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
V =	0	0.0%		
The most first three ways of commissions are not because the time and the commission with the commission of the commissi	0	0.0%		Herb - All herbaceous (non-woody) plants, including
	0	0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
•	0	0.0%	-	3 ft (1 m) in height.
	0		*	, ,
0% of Total Cover: 2.5 20% of Total Cover: 1		Total Cover	-	Woody vine - All woody vines, regardless of height.
oody Vine Stratum (Plot size:)				
	_	0.0%		
1 m		0.0%		
		0.0%		
	0	0.0%		Hardana badia
	0 [0.0%		Hydrophytic Vegetation
	0 =	Total Cover		Present? Yes No
0% of Total Cover: 0 20% of Total Cover: 0				

Sampling Point: Up - 3A

00	-	
SI	ш	

SOIL			Sampling Point: Up - 3A
Profile Descr	ription: (Describe to the depth	needed to document the indicator or confirm the	e absence of Indicators.)
Depth	Matrix	Redox Features	
(inches)	Color (moist) %	Color (moist) % Type 1 Loc2	Texture Remarks
0-3	10YR 4/2		
3-10	10YR 5/3		
10-20	10YR 6/4		
10 20	10110 0,1		
		<u> </u>	
		All two	
Type: C=Cond	rentration D=Depletion PM=Ped	uced Matrix, CS=Covered or Coated Sand Grains ² Loc	cation: PI =Pore Lining M=Matrix
Hydric Soil I		aced Platfix, CS-covered of Coaled Sain Grains - Loc	Indicators for Problematic Hydric Soils ³ :
Histosol (A		Polyvalue Below Surface (S8) (LRR S, T, U)	
_ `	pedon (A2)	Thin Dark Surface (S9) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Black Histi		Loamy Mucky Mineral (F1) (LRR O)	2 cm Muck (A10) (LRR S)
_	Sulfide (A4)	Loamy Gleyed Matrix (F2)	Reduced Vertic (F18) (outside MLRA 150A,B)
	Layers (A5)	Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
	odies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
	ky Mineral (A7) (LRR P, T, U)	Depleted Dark Surface (F7)	Red Parent Material (TF2)
	sence (A8) (LRR U)	Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12) ☐
_	k (A9) (LRR P, T)	Mari (F10) (LRR U)	Uther (Explain in Remarks)
	Below Dark Surface (A11)	Depleted Ochric (F11) (MLRA 151)	
_ ·	Surface (A12)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
	rie Redox (A16) (MLRA 150A)	Umbric Surface (F13) (LRR P, T, U)	
_	ck Mineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)	
_ `	yed Matrix (S4)	Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Red		Piedmont Floodplain Soils (F19) (MLRA 149A)	wetland hydrology must be present, unless disturbed or problematic.
Stripped M		Anomalous Bright Loamy Soils (F20) (MLRA 1-	
	ace (S7) (LRR P, S, T, U)	Midnigious bright Edainy Solis (120) (FIECA 1	T3A, 133C, 133D)
	(, (, ., ., .,		
	yer (if observed):		
Type:			Hydric Soil Present? Yes No •
Depth (inch	les):		
Remarks:			
ight orange-	-brown mottling observed in 6	-20 inch intervals.	

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wedand Delineation	City/County: Wa	- ex 'N / / X -	Sampling Date:	10-Oct-16
Applicant/Owner: NASA		te: MS	Sampling Point: Up - 3B	
Investigator(s): Lars Larson, Randy Ellis	Section, Townsh	ip, Range: S 20	T 7 _S R 1	
Landform (hillslope, terrace, etc.): Floodplain	Local relief (conca	ive, convex, none)	concave Slope:	0.0 % / 0.0°
Subregion (LRR or MLRA): LRR T Lat:	30° 25′ 1.450″ N	Long.:	39° 37' 9.611" W Dar	tum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes			NWI classification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year	ar? Yes 🧐	No ○ (If n	o, explain in Remarks.)	
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed?	Are "Normal Circ	ımstances" present? Yes	● No ○
Are Vegetation . , Soil . , or Hydrology . naturally p	problematic?	(If needed, expla	In any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point lo	cations, trans	ects, important features	s, etc.
Hydrophytic Vegetation Present? Yes No	Te the Sar	npled Area		
Hydric Soil Present? Yes No		V	○ No •	
Wetland Hydrology Present? Yes ○ No ⑤	within a V	Wetland?	♥ 140 ♥	
Remarks: HYDROLOGY				
Wetland Hydrology Indicators:		m	ondary Indicators (minimum of 2 re	equired)
Primary Indicators (minimum of one required; check all that apply)	123		Surface Soil Cracks (B6)	(00)
Surface Water (A1) Aquatic Fauna (B1.			Sparsely Vegetated Concave Surfac	ce (B8)
High Water Table (A2) Saturation (A3) Hydrogen Sulfide 0			Drainage Patterns (B10) Moss Trim Lines (B16)	
	neres along Living Roo		Dry Season Water Table (C2)	
Sediment Deposits (B2) Presence of Reduc			Crayfish Burrows (C8)	
	ction in Tilled Soils (C6		Saturation Visible on Aerial Imager	v (C9)
Algal Mat or Crust (B4) Thin Muck Surface	_	-	Geomorphic Position (D2)	
Iron Deposits (B5) Other (Explain in R	• •		Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)	,		FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)			Sphagnum moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes No Depth (inches):				
Water Table Present? Yes No Depth (inches):				
		Wetland Hydrolog	y Present? Yes 🔾 No 🤆	•
(includes capillary fringe) Yes No Depth (inches):				
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspect	tions), it available:		
				- 1
				ŀ

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

Tree Stratum (Plot size:)	Absolute % Cover		el.Strat. Cover	Indicator Status	Dominance Test worksheet:
Pinus elliottii	Y . X	V			Number of Dominant Species
	25 10		71.4%	FACW	That are OBL, FACW, or FAC: 9 (A)
				FACW	Total Number of Dominant
·	0	\vdash	0.0%		Species Across All Strata: 9 (B)
		닏	0.0%		
	0_	Ш	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	0		0.0%		That Are ODL, TACIV, OF TAC.
4	0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 17.5 20% of Total Cover: 7	35	= To	otal Cove	r	OBL species 7 x 1 = 7
apling or Sapling/Shrub Stratum (Plot size:					FACW species 79 x 2 =158
Name alliated	r	V	50.0%	FACW	FAC species 2 x 3 =6
Marchines Carlos		V	30.0%	FACW	FACU species 0 x 4 = 0
Magnolia virginiana Nyssa sylvatica	2	V	20.0%	FAC	
				FAC	UPL species $0 \times 5 = 0$
			0.0%		Column Totals: 88 (A) 171 (B)
		\square	0.0%		Prevalence Index = B/A = 1.943
			0.0%	-	
	0		0.0%		Hydrophytic Vegetation Indicators:
	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 5 20% of Total Cover: 2	10 =	= To	tal Cove	r	✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size:					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	25	V	71.4%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Cyrilla racemiflora	-			FACW	Froblematic nytrophytic vegetation * (Explain)
				TACVV	¹ Indicators of hydric soil and wetland hydrology must
**			0.0%		be present, unless disturbed or problematic.
	. 0	Н	0.0%		
		\square	0.0%		Definition of Vegetation Strata:
	0	Ц,	0.0%	10.00	Tree - Woody plants, excluding woody vines,
60% of Total Cover: 17.5 20% of Total Cover: 7 erb Stratum (Plot size:)	35 =	= To	tal Cove	•	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Lycopodiella alopecuroides	5	\checkmark	71.4%	OBL	Sapling - Woody plants, excluding woody vines,
Woodwardia areolata		V	28.6%	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
* - *			0.0%	UDL	titali o iii. (7.0 oiii) bbi i.
-					Sapling/Shrub - Woody plants, excluding vines, less
		Η.	0.0%	-	than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	片.	0.0%		, ,
·	0	닏.	C.0%		Shrub - Woody plants, excluding woody vines,
* max. ** * * * * * * * * * * * * * * * * *	0	Щ	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
•	0		0.0%		
	0		0.0%		Herb - All herbaceous (non-woody) plants, including
•	0		0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
7		$\prod_{i=1}^{n}$	0.0%		3 ft (1 m) in height.
/ =	0	$\overline{\Box}$	0.0%		,
ON of Tabel Course 2.5 200/ of Tabel Course 1.4					Woody vine - All woody vines, regardless of height.
0% of Total Cover: 3.5 20% of Total Cover: 1.4	7 =	- 10	tal Cover		,,
oody Vine Stratum (Plot size:)		_		ŀ	
Smilax laurifolia	11	╚.	100.0%	FACW	
	0		0.0%		
a a contract only contract			0.0%		
		\Box	0.0%		
	0				
	0		0.0%		Hydrophytic
	0		0.0% tal Cover		Hydrophytic Vegetation Present? Yes No No

Sampling Point: Up - 3B

Color (moist) % Color (moist) % Color (moist) % Type Loc Texture Remarks		ription: (Describe to	the dep th n	eeded to docume	nt the indi	icator or co	infirm the	absence of indicato	ors.)		
0-3 10YR 3/1 100 Sandy Loam	Depth	Matrix		F	tedox Feat				-		
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains To Reduced Very Sand Sand Sand Sand Sand Sand Sand Sand				Color (moist)	%_	Type 1	Loc2		Remarks		
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains alocation: PL=Pore Lining. M=Matrix **Indicators for Problematic Hydric Soils**: Histosol (A1)	188 Tal. 1.			10VD 7/3		-	M		Very fine grained		
Nydric Soil Indicators: Histosol (A1)	3-12	101K 3/2	- 33	10TK 7/3			14	Salluy Loalii			
Indicators: Histosol (A1)		0	-		30.7	=/==)),	*		
Addric Soil Indicators: Histosol (A1) Histosol (A2) Thin Dark Surface (S8) (LRR S, T, U) Histo Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) Black Histoc (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Depleted Matrix (F3) Muck Presence (A8) (LRR U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Sandy Muck Mineral (S1) (LRR P, S) Delate Overtic (F18) (MLRA 150A) Sandy Muck Mineral (S1) (LRR P, S) Delate Overtic (F18) (MLRA 150B) Reduced Vertic (F18) (outside MLRA 150A,B) Reduced Vertic (F18) (outside MLRA 150A,B) Reduced Vertic (F18) (outside MLRA 150A,B) Reduced Vertic (F18) (MLRA 150B) Reduced Vertic (F18) (MLRA 150B) Piedmont Floodplain Soils (F19) (LRR P, F, F) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR P, F, T, U) Sandy Muck Mineral (S1) (LRR P, S, T) Delta Ochric (F17) (MLRA 151) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, T, U) Problemont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Pestrictive Layer (if observed): Type: Depth (inches):		-						-			
Nydric Soil Indicators: Histosol (A1)											
Indicators: Histosol (A1)						7.0					
Indicators: Histosol (A1)	Type: C=Cond	centration. D≕Depletior	n. RM ≂Re duc	ed Matrix. CS=Cove	ered or Coat	ed Sand Gra	nins ² Loca	tion: PL=Pore Lining	. M=Matrix		
Histosol (A1)											
Black Histic (A3)	☐ Histosol (A1) ☐ Polyvalue Below Surface (S8) (LRR S, T, U)					S, T, U)		-			
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T)	Histic Epip	oedon (A2)		Thin Dark S	urface (S9)	(LRR S, T, U	J)	2 cm Muck	(A10) (LRR S)		
Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 1538) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Other (Explain in Remarks) Thick Dark Surface (A11) Depleted Below Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Deita Ochric (F17) (MLRA 150B) Reduced Vertic (F18) (MLRA 150B) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Pestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	_			Loamy Muc	ky Mineral (F1) (LRR O)		Reduced Ve	rtic (F18) (outside MLRA 150A,B)		
Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) S cm Mucky Mineral (A7) (LRR P, T, U) Pepleted Dark Surface (F7) Depleted Dark Surface (F8) I cm Muck (A9) (LRR P, T) Redox Depressions (F8) Other (Explain in Remarks) I cm Muck (A9) (LRR P, T) Redox Depressions (F8) Other (Explain in Remarks) Thick Dark Surface (A11) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Hydrogen	Sulfide (A4)		Loamy Gley	ed Matrix (F	- 2)		Piedmont Fl	oodplain Soils (F19) (LRR P, S, T)		
S cm Mucky Mineral (A7) (LRR P, T, U)	Stratified I	Layers (A5)		Depleted M	atrix (F3)						
5 cm Mucky Mineral (A7) (LRR P, T, U)	Organic Bo	odies (A6) (LRR P, T, U))	Redox Dark	Surface (F6	ō)					
Muck Presence (A8) (LRR U) 1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Redox Depressions (F8) Other (Explain in Remarks) In Muck (A9) (LRR P, T) Other (Explain in Remarks) In Muck (A9) (LRR P, T) Other (Explain in Remarks) In Muck (A15) In Other (Explain in Remarks) In Muck (A15) In Other (Explain in Remarks) In Muck (A15) In Other (Explain in Remarks) In Other (Explain in Remarks) In Other (Explain in Remarks) In Muck (A15) In Other (Explain in Remarks) In Other	_ 5 cm Mucl	ky Mineral (A7) (LRR P,	, T, U)	Depleted Da	ark Surface	(F7)					
1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Setrictive Layer (if observed): Type: Depth (inches): Marl (F10) (LRR U) Depleted Ochric (F11) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Umbric Surface (F13) (LRR P, T, U) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Wetland hydrology must be present, unless disturbed or problematic. Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Pestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Muck Pres	sence (A8) (LRR U)		Redox Depr	essions (F8)			• •		
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Park Surface (S7) (LRR P, S, T, U) Depth (inches): Hydric Soil Present? Yes No	1 cm Muck	k (A9) (LRR P, T)			•	•		□ Other (Expe	all III Remarks/		
Thick Dark Surface (A12)	Depleted F	Below Dark Surface (A1	11)			MLRA 151)					
Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Park Surface (S7) (LRR P, S, T, U)	Thick Dark	k Surface (A12)					1 (), P. T)				
Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Participle Layer (if observed): Type: Depth (inches): Type: Depth (inches):	_	• •	(150A)								
Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 149A) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Park Surface (S7) (LRR P, S, T, U) Park Surface (S7) (LRR P, S, T, U) Pestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	_										
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	_			_		•	1500)				
Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	_						-				
Dark Surface (S7) (LRR P, S, T, U) estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No									inless disturbed or problematic.		
estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No No			n	☐ Anomaious	Bright Loam	y 50115 (F20) (MLRA 145	3A, 153C, 153D)			
Type: Depth (inches): Hydric Soil Present? Yes No No	■ Dark Suna	ice (57) (LKR P, 5, 1, 0	")								
Depth (inches): Hydric Soil Present? Yes No								•			
pepai (maisos).		yer (if observed):							0 0		
emarks:	estrictive La	nyer (if observed):						Hydric Soil Prese	ent? Yes 🖭 No 🔾		
	estrictive La				1.70						
	estrictive La Type: Depth (inch				1. p. b						
	estrictive La Type: Depth (inch					· · · · · · · · · · · · · · · · · · ·					
	estrictive La Type: Depth (inch										
	estrictive La Type: Depth (inch				- 17-18-						
	estrictive La Type: Depth (inch										
	estrictive La Type: Depth (inch				10.0						
	estrictive La Type: Depth (inch				- 44 t						
	estrictive La				- 44 t						
	estrictive La Type: Depth (inch										
	estrictive La Type: Depth (inch										
	estrictive La Type: Depth (inch										
	estrictive La Type: Depth (inch										

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	ity/County: Waveland - Hancock Sampling Date: 10-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 4
	Section, Township, Range: S 20 T 7s R 16 W
	ocal relief (concave, convex, none): Slope: 0.0 % / 0.0 °
And A MANUAL MANUAL THREE NO. 1 C. A. 1 C. A.	0° 25' 3.162" N Long.: 89° 36' 56.200" W Datum: NAD83
	NWI classification: N/A
Soil Map Unit Name: Atmore	
Are climatic/hydrologic conditions on the site typical for this time of year?	
Are Vegetation , Soil , or Hydrology isignificantly of	Are normal entallistations present:
Are Vegetation . , Soil . , or Hydrology . naturally prol	blematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing samp	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area
Hydric Soil Present? Yes ○ No ⑨	within a Wetland? Yes O No 💿
Wetland Hydrology Present? Yes ○ No No	withing wedgings
Remarks:	
Transitional area approximately 150-200 feet south of North fenceline.	Begin picking up Live Oaks and S. Red Oaks.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	
High Water Table (A2) Marl Deposits (B15) (
Saturation (A3) Hydrogen Sulfide Odd	
	es along Living Roots (C3) Dry Season Water Table (C2)
☐ Sediment Deposits (B2) ☐ Presence of Reduced ☐ Drift Deposits (B3) ☐ Recent Iron Reduction	
Algal Mat or Crust (B4) Thin Muck Surface (C	
Iron Deposits (B5)	· · · · · · · · · · · · · · · · · · ·
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present?	Wetland Hydrology Present? Yes ○ No ④
(Interest of the control of the con	
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:
Remarks:	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

Tree Stratum (Plot size: 30 m)	Absolute % Cover		Strat.	Indicator Status	Dominance Test worksheet:
1 Pinus elliottii	10		76,9%		Number of Dominant Species
2. Quercus falcata	2			FACW	That are OBL, FACW, or FAC: 4 (A)
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Η-	15.4%	FACU	Total Number of Dominant
3. Quercus virginiana		Η-	7.7%	FACU	Species Across All Strata: 4 (B)
4		Н-	0.0%		B - I Clean Company
5		Ц.	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
6		\square_{-}	0.0%		That Are Obl., TACW, Of TAC.
7.	0		0.0%		Prevalence Index worksheet:
8	0		0.0%		Total % Cover of: Multiply by
50% of Total Cover: 6.5 20% of Total Cover: 2.6	13	= Tot	al Cove		OBL species 5 x 1 = 5
Company of the Compan					
Sapling or Sapling/Shrub Stratum (Plot size: 30 m				nazair.	
1 Pinus elliottii			78.1%	FACW	FAC species $0 \times 3 = 0$
Pinus palustris		\vdash	15.6%	FACU	FACU species $10 \times 4 = 40$
3 Quercus virginiana	2	Ц_	6.3%	FACU	UPL species 0 x 5 = 0
4	0	Ш,	0.0%		Column Totals: 101 (A) 217 (B)
5	0		0.0%		
3	0		0.0%		Prevalence Index = B/A = 2-149
7.	D		0.0%		Hydrophytic Vegetation Indicators:
	0	$\overline{\Box}$	0.0%		
6		- 9.9			✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 16 20% of Total Cover: 6.4	32 :	= Tota	al Covei	·	2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is \leq 3.0 ¹
Ilex coriacea	50	V	100.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2.			0.0%		
	0	\Box	0.0%		¹ Indicators of hydric soil and wetland hydrology must
	_		0.0%		be present, unless disturbed or problematic.
_ = = = = = = = = = = = = = = = = = = =		_	-	-	Definition of Venetation Courts
5.		=	0.0%		Definition of Vegetation Strata:
5.	0	L	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 25 20% of Total Cover: 10	50 =	= Tota	al Cover	' I	(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m)					
4 1	5	V	100.0%	OBL	Sapling - Woody plants, excluding woody vines,
2.	0			OUL	approximately 20 ft (6 m) or more in height and less
		H-	0.0%		than 3 in. (7.6 cm) DBH.
3	0	Η-	0.0%		Onding/Obs. b. Minds alone and discount alone
4		Ц-	0.0%	,	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5,	0	□	0.0%		that o in. Don't and groater than 6.20 it (this tail.
6	. 0	$\square_{}$	0.0%		Shrub - Woody plants, excluding woody vines,
7.	0	\square_{-}	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8			0.0%		
9.			0.0%		Herb - All herbaceous (non-woody) plants, including
0,	0		0.0%		herbaceous vines, regardless of size, and woody
1	0		0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.
1	-	=	-	-	o a (a my maneight.
2			0.0%		Mondy uine All woods vince regardless of beight
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= Tota	l Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m					
Smilax laurifolia	1	□ 1	.00.0%	FACW	
		$\overline{}$	0.0%	.,	
			-		
. =			0.0%		
	_ O I		0.0%		Hudronhutie
	0	Ш.	0.0%		Hydrophytic Vegetation
50% of Total Cover: 0.5 20% of Total Cover: 0.2	1 =	= Tota	l Cover		Present? Yes No
temarks: (If observed, list morphological adaptations below).					
*Indicator suffix = National status or professional decision assigned because R.	ecional status n	not defi	ned by FW	' S.	

Sampling Point: Up - 4

rofile Descr	ription: (Des	cribe to	the denth	needed to document the indi	ator or cor	ifirm the ab	sence of indicators.)		
		Matrix	Tio achei	Redox Feat					
Depth (inches)	Color (%	Color (moist) %	Type 1	Loc2	Texture	Remarks	
0-4	10YR	3/3	100						
4-16	10YR	5/6	100						
. 20		3,0							
								-	
ype: C=Con	centration. D	=Depletio	n. R M=R edu	uced Matrix, CS=Covered or Coate	ed Sand Grai	ns ² Loc atio	n: PL=Pore Lining, M=N	latrix	
lydric Soil I				_			Indicators for Probl	ematic Hydric Soils ³ :	
∐ Histosof (-			Polyvalue Below Surface	(S8) (LRR S	, T, U)	1 cm Muck (A9) (LRR O)	
	pedon (A2)			Thin Dark Surface (S9)	LRR S, T, U	1	2 cm Muck (A10)	(LRR S)	
_ Black Hist				Loamy Mucky Mineral (F	1) (LRR O)		Reduced Vertic (F	18) (outside MLRA 150A,B)	
_	Sulfide (A4)			Loamy Gleyed Matrix (F	2)		Piedmont Floodpla	ain Soils (F19) (LRR P, S, T)	
Stratified	Layers (A5)			Depleted Matrix (F3)				Loamy Soils (F20) (MLRA 153B)	
Organic B	odies (A6) (LI	RR P, T, L	l)	Redox Dark Surface (F6)		Red Parent Materi		
5 cm Muc	ky Mineral (A	7) (LRR P	, T, U)	Depleted Dark Surface (F7)		☐ Very Shallow Dark	• •	
Muck Pres	sence (A8) (Li	RR U)		Redox Depressions (F8)			Other (Explain in Remarks)		
1 cm Muc	k (A9) (LRR P	r, T)		Marl (F10) (LRR U)			C Odici (Explain III	(Cinario)	
Depleted	Below Dark S	urface (A:	11)	Depleted Ochric (F11) (I	/LRA 151)				
Thick Darl	k Surface (A1:	2)		☐ Iron-Manganese Masses		O. P. T)			
_	irie Redox (A1	-	150A)	Umbric Surface (F13) (L		~ [.,.,.)			
_	ck Mineral (S:	, ,		Delta Ochric (F17) (MLR					
_	yed Matrix (S		, -,	_		EUD)	³ Indicators	of hydrophytic vegetation and	
Sandy Rec		•,		Reduced Vertic (F18) (M				ydrology must be present,	
7				Piedmont Floodplain Soi		-		disturbed or problematic.	
- ''	/latrix (S6)	D.C.T.I	13	Anomalous Bright Loam	/ Solls (F20)	(MLKA 149A	, 153C, 153D)		
J Dark Suna	ace (S7) (LRR	P, S, 1, L	J)						
	yer (if obse	rved):							
Type:							Hydric Soil Present?	Yes O No 💿	
Depth (inch	nes):						, and bod riescile	163 C 110 C	
emarks:									

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 11-Oct-16 State: MS Sampling Point: Up - 5
Applicant/Owner: NASA	
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: \$ 28 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): none Slope: 2.0 % / 1.1
Subregion (LRR or MLRA): LRR T Lat:	30° 24' 42.587" N Long.: 89° 36' 41.655" W Datum: NAD83
Soil Map Unit Name: PoB, Poarch fine sandy loam, 2 to 5% slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes No (If no, explain in Remarks.)
	ntly disturbed? Are "Normal Circumstances" present? Yes No O
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	To the Campled Aven
Hydric Soil Present? Yes O No	Is the Sampled Area Yes No No
Wetland Hydrology Present? Yes ○ No ⑤	within a Wetland?
Remarks:	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	
Surface Water (A1) Aquatic Fauna (B	
☐ High Water Table (A2) ☐ Marl Deposits (B:	
☐ Saturation (A3) ☐ Hydrogen Sulfide	
	sheres along Living Roots (C3)
Sediment Deposits (B2) Presence of Redu Presente (B2)	
☐ Drift Deposits (B3) ☐ Recent Iron Redu ☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	Springham moss (20) (2011, 70)
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (Inches):	
	Wetland Hydrology Present? Yes ○ No ●
(includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial phote Remarks:	tos, previous inspections), if available:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

Tree Stratum (Plot size: 30 m)	Absolute			Indicator Status	Dominance Test worksheet:
1 Pinus elliottii	20	V	66,7%	FACW	Number of Dominant Species
2. Nyssa sylvatica			16.7%	FAC	That are OBL, FACW, or FAC: 3 (A)
O Output plans		H	,,, ,		Total Number of Dominant
		H	16.7%	FAC	Species Across All Strata: 3 (B)
4. Quercus texana	0	H.	0.0%	FACW	Barrant of deminant Consider
5			0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100 0% (A/B)
6	0		0.0%		That Are Obe, Then, of The
7	0	Ш,	0.0%		Prevalence Index worksheet:
8	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 15 20% of Total Cover: 6	30	= To	tal Cove	г	OBL species $0 \times 1 = 0$
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	1				FACW species $105 \times 2 = 210$
1. Pinus elliottii	30	V	69.8%	FACW	FAC species 30 x 3 = 90
	•		18.6%	FAC	
	5	H	11.6%	FACW	UPL species $0 \times 5 =0$
4	0	H.	0.0%		Column Totals: 135 (A) 300 (B)
5	0		0.0%		Prevalence Index = B/A = 2.222
6	0	Ц.	0.0%		,
7	0	\square	0.0%		Hydrophytic Vegetation Indicators:
8	0_		0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 21.5 20% of Total Cover: 8.6	43	= To	tal Cover		✓ 2 - Dominance Test is > 50%
Charle Charles (District 20 and)					l <u> </u>
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
1 Ilex coriacea			83.3%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex vomitoria	10	Ц.	16.7%	FAC	
3	0 .	Ш	0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	0		0.0%		be bresend trilless disturbed of problematic.
5	0		0.0%		Definition of Vegetation Strata:
6.	0		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 30 20% of Total Cover: 12	60 = Total Cover			approximately 20 ft (6 m) or more in height and 3 in.	
					(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m					Sapling - Woody plants, excluding woody vines,
1			0.0%		approximately 20 ft (6 m) or more in height and less
2	0		0.0%		than 3 in. (7.6 cm) DBH.
3	_		0.0%		
4			0.0%		Sapling/Shrub - Woody plants, excluding vines, less
5.	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0		0.0%		
7		H	0.0%	-	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7		7-	-	-	approximately 3 to 20 ft (1 to 6 ff) in fleight.
8,		H-	0.0%		Herb - All herbaceous (non-woody) plants, including
9	0	H_	0.0%		herbaceous vines, regardless of size, and woody
l0.,	0	Ц,	0.0%		plants, except woody vines, less than approximately
1,	0	Ш.	0.0%		3 ft (1 m) in height.
12	0		0.0%		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= Tot	al Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m				}	· · · · · · · · · · · · · · · · · · ·
Vitis rotundifolia	2	Ц.,	100.0%	FAC	
	0	<u> </u>	0.0%	-	
3	0	L 6	0.0%		
	0		0.0%		
5	0		0.0%		Hydrophytic Vegetation
50% of Total Cover: 1 20% of Total Cover: 0.4	2 =	Tot	al Cover		Vegetation Present? Yes No No
20/0 of Total Cover. 0.4	-	- 101	TI COAG		
Remarks: (If observed, list morphological adaptations below). Heavy pine litter very little herbaceous layer.		- 100	ZI COVE		

Sampling Point: Up - 5

SOIL								Sai	mpling Point	: Up-5
Profile Desc	ription: (Des	scribe to	the dep th	needed to document	the indica	ator or co	nfirm the a	absence of indicato	rs.)	·
Depth		Matrix		Rec	iox Featu					
(inches)	Color (moist)		%	Color (moist)	%	Type 1	Loc2	Texture		Remarks
0-6	10YR	3/3	100							
6-16	10YR	5/4	100						some	mottling
-					-			-		, sound
		_	-				_	-		
				Ass. Bree a real						
	ξ.,									
		=Depletio	n. R M=R edu	uced Matrix, CS=Covere	d or Coate	d Sand Grai	ins ² Locat	tion: PL=Pore Lining.	M=Matrix	
Hydric Soil 1				_				Indicators for I	Problematic !	Hydric Soils ³ :
Histosol (•			Polyvalue Belo				1 cm Muck (A9) (LRR O)	
	pedon (A2)			☐ Thin Dark Surf)	🔲 2 cm Muck (A10) (LRR S)	
☐ Black Hist				Loamy Mucky				Reduced Ver	tic (F18) (out	side MLRA 150A,B)
	Sulfide (A4)			Loamy Gleyed)		Piedmont Flo	odplain Soils	(F19) (LRR P, S, T)
	Layers (A5)	BB B T 1		Depleted Matri	• /			_		Soils (F20) (MLRA 153B)
	Bodies (A6) (Li			Redox Dark Su				Red Parent N	Material (TF2)	
	cky Mineral (A sence (A8) (Li	, ,	, 1, 0)	☐ Depleted Dark		7)		└─ Very Shallow	v Dark Surface	(TF12)
	:k (A9) (LRR F			Redox Depress				U Other (Expla	in in Remarks))
	Below Dark \$		11)	☐ Mari (F10) (LR	-	UDA 151\				
	k Surface (A1		11)	Depleted Ochr		-	0.0.70			
	irie Redox (Al	•	150A)	☐ Iron-Manganes			0, P, 1)			
	ick Mineral (S:		-	Umbric Surface Delta Ochric (F						
_	yed Matrix (S		, 0,	Reduced Vertic		-	150B)			hytic vegetation and
Sandy Re	-	•		☐ Piedmont Floor			•			must be present, I or problematic.
	Matrix (S6)							A, 153C, 153D)	ness discarse	or problemates
Dark Surfa	ace (S7) (LRR	P, S, T, U	J)		,,	,	(, ,,,		
Restrictive La	ayer (if obse	erved):								
Туре:					-		ŀ			0 0
Depth (incl	hes):				rs.			Hydric Soil Prese	nt? Yes	O No 💿
Remarks:				-						
No strong hyd	dric indictors	. Some	dark oran	ge mottling in lower	interval o	f soil colu	mn.			

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 11-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 6
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 28 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): convex Slope: 3.0 % / 1.7°
	100
7 N 7 N 7 N 7 N 7 N 7 N 7 N 7 N 7 N 7 N	30° 24' 40.701" N Long.: 89° 36' 31.360" W Datum: NADB3
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of yea	
Are Vegetation . , Soil . , or Hydrology . significantl	tly disturbed? Are "Normal Circumstances" present? Yes 🍥 No 🔘
Are Vegetation . , Soil . , or Hydrology . naturally pr	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sar	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes O No	within a Wetland? Yes ○ No ⑥
Remarks:	a) and 200, 200 feet could be TC Creek
Sideslope approximately 300 feet west of East Site Road (A. Jackson)	n) and 200-300 feet south of 15 creek.
HYDROLOGY	
Wetland Hydrology Indicators:	Consider Tadiobar (sining of 2 yearing)
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
Surface Water (A1) Aquatic Fauna (B13	
High Water Table (A2) Marl Deposits (B15	
Saturation (A3) Hydrogen Sulfide C	
Sediment Deposits (B2) Presence of Reduce	= '
☐ Iron Deposits (B5) ☐ Other (Explain in Re	
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)
	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Surface video vide	7.0
popul (minus)	Wetland Hydrology Present? Yes ○ No •
Saturation Present? Yes No Depth (inches):	Treating Hydrology Flostine.
Describe Recorded Data (stream gauge, monitoring well, aerial photos	os, previous inspections), if available:
Remarks:	***
Remarks:	
	i

Tree Stratum (Plot size: 30 m)	Absolute % Cover		el.Strat. Cover	Indicator Status	Dominance Test worksheet:
		V			Number of Dominant Species
Pinus elilottii Quercus nigra	., 15 10	V		FACW	That are OBL, FACW, or FAC: 8 (A)
3. Nyssa sylvatica				FAC FAC	Total Number of Dominant
4 Oversen termen	2_		7.1%		Species Across All Strata: 8 (B)
Quercus texana		Н	3.6%	FACW	Percent of dominant Species
^	0	\exists	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
6.			0.0%		
7.			0.0%		Prevalence Index worksheet:
8.	0	Щ	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 14 20% of Total Cover: 5.6	10-1-	= Te	otal Cove	r	OBL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species $52 \times 2 = 104$
1 Pinus elliottii	15	V	48.4%	FACW	FAC species 38 x 3 = 114
2. Quercus nigra		V	32.3%	FAC	FACU species $0 \times 4 = 0$
3. Nyssa sylvatica	5		16.1%	FAC	UPL species 0 x 5 = 0
4. Ilex opaca	1		3.2%	FAC	Column Totals: 90 (A) 218 (B)
5	0		0.0%		
6.	0		0.0%		Prevalence Index = B/A = 2.422
7.	0		0.0%		Hydrophytic Vegetation Indicators:
8.	0		0.0%	-	D. B. Barti France (Ind.)
50% of Total Cover: 15.5 20% of Total Cover: 6.2	10 p		otal Cove		1 - Rapid Test for Hydrophytic Vegetation
July 20	21 :	- 10	Juan Cove		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m		_			✓ 3 - Prevalence Index is ≤3.0 ¹
1. Ilex coriacea		✓	71.4%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex vomitoria	5	\mathbf{V}	23.8%	FAC	
3. Persea borbonia	1		4.8%	FACW	Indicators of hydric soil and wetland hydrology must
4.	0		0.0%		be present, unless disturbed or problematic.
5.	С		0.0%		Definition of Vegetation Strata:
6.	0		0.0%	100000000000000000000000000000000000000	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 10.5 20% of Total Cover: 4.2 Herb Stratum (Plot size: 30 m) 1. Arundinaria tecta		= To	100,0%	FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2	0	Щ,	0.0%		than 3 in. (7.6 cm) DBH.
3	0	Щ	0.0%		
4	_ 0	\Box	0.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0		0.0%		than 5 m. DBH and greater than 5.26 it (1m) tall.
6.	0		0.0%		Shrub - Woody plants, excluding woody vines,
7	00		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8,.			0.0%		
9			0.0%		Herb - All herbaceous (non-woody) plants, including
10			0.0%	3	herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11			0.0%		3 ft (1 m) in height.
12	0		0.0%	/	
50% of Total Cover: 2.5 20% of Total Cover: 1		: To	tal Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m		- 10	LLI COTCI		
1. Vitis rotundifolia	5	V	100.0%	FAC	
	4		0.0%		
2.		H			
3.		٣.	0.0%		
4.		۲,	0.0%		Hydrophytic
5		L	0.0%		Vegetation V C
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	То	tal Cover		Present? Yes No
Remarks: (If observed, list morphological adaptations below). *Indicator suffix = National status or professional decision assigned because Re					

COT	4

Sampling Point: Up - 6 Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) Color (moist) % Type Loc2 Texture Remarks 0-6 10YR 3/2 6-22 10YR 5/6 100 Sandy Loam ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils³: ☐ Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) ☐ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Lavers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) ☐ Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (If observed): Type: Yes O No 💿 **Hydric Soil Present?** Depth (inches): Remarks: Soil becomes bright yellowish brown below 5 inches.

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hanco	- II Out 10
Applicant/Owner: NASA	State: MS	Sampling Point: Up - 7
Investigator(s): Lars Larson. Randy Ellis	Section, Township, Range: S	28 T 7s R 16W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, n	one): none
Subregion (LRR or MLRA): LRR T Lat:	30° 24' 46.148" N Long	3.: 89° 36' 26.206" W Datum : NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes		NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes No	(If no, explain in Remarks.)
		Circumstances" present? Yes No O
		explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, tr	ransects, important features, etc.
Hydrophytic Vegetation Present? Yes No	You the Compiled Associ	
Hydric Soil Present? Yes No	Is the Sampled Area	Yes O No 💿
Wetland Hydrology Present? Yes ○ No •	within a Wetland?	res O NO O
Remarks:		
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1	•	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)		Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	• •	Moss Trim Lines (B16)
	neres along Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduc	• •	Crayfish Burrows (C8)
	ction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
	• •	Geomorphic Position (D2) Shallow Aquitard (D3)
☐ Iron Deposits (B5) ☐ Other (Explain in I ☐ Inundation Visible on Aerial Imagery (B7)	kemarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
		Springfrum moss (DO) (LRC 1, O)
Field Observations: Surface Water Present? Yes No Depth (inches):		
Surface victor victoria.		
	Wetland Hydr	rology Present? Yes O No 💿
Saturation Present? Yes No Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), ir avail	able:

Tree Stratum (Plot size: 30 m	Absolute % Cover			Indicator Status	Dominance Test worksheet:
, 1100,0110		_			Number of Dominant Species
1. Pinus elliottii	30		35.7%	FACW	That are OBL, FACW, or FAC: 6 (A)
2. Quercus nigra	5	-	4.3%	FAC	Total Number of Dominant
3.	0	<u> </u>	0.0%		Species Across All Strata: 6 (B)
4.	_ 0		0.0%		
5.	0		0.0%		Percent of dominant Species
6.	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7.	0		0.0%		Prevalence Index worksheet:
8.	0		0.0%		
	-	= Total		-	
50% of Total Cover: 17.5 20% of Total Cover: 7		= Total	Cover		, , , , , , , , , , , , , , , , , , ,
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species $55 \times 2 = 110$
1 Pinus elliottil	25	✓ 6.	2.5%	FACW	FAC species $70 \times 3 = 210$
2. Acer rubrum	10	✓ 2.	5.0%	FAC	FACU species $2 \times 4 = 8$
3. Quercus nigra	_	1	2.5%	FAC	UPL species 0 x 5 = 0
4	0		0.0%		
E			0.0%		Column Totals: 127 (A) 328 (B)
			0.0%	-	Prevalence Index = $B/A = 2.583$
6		=			Hydrophytic Vegetation Indicators:
/	0		0.0%		nyurophytic vegetation mulcators.
8	0	0	0.0%	-	1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 20 20% of Total Cover: 8	40 =	= Total	Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)	1				✓ 3 - Prevalence Index is ≤3.0 ¹
	20		c 701	-10	
1 Morella cerifera	30		_	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Acer rubrum	10			FAC	
3. Ilex vomitoria	. 5	1:	1.1%	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4	0		0.0%		be present, unless disturbed or problematica
5.	0		0.0%		Definition of Vegetation Strata:
6.	0		0.0%	-	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 22.5 20% of Total Cover: 9		= Total			approximately 20 ft (6 m) or more in height and 3 in.
30% of Ibital Cover. 22.5 20% of Ibital Cover. 9	43	= rocar	Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m					
1 Eupatorium capillifolium	2	10	0.0%	FACU	Sapling - Woody plants, excluding woody vines,
2.			0.0%	70	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
	-	=	0.0%		than o in (1.0 oin) DDI i.
3	-				Sapling/Shrub - Woody plants, excluding vines, less
4			.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
5,	0		0.0%		,
6,	0		.0%		Shrub - Woody plants, excluding woody vines,
7	0		.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8.	0	o.	0.0%		
9	0	□ 0.	.0%		Herb - All herbaceous (non-woody) plants, including
10.	0	_ n	0.0%		herbaceous vines, regardless of size, and woody
11			.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.
11					o ic (1 iii) iii iioigiia
12	0	LJ_0.	.0%		Woody vine - All woody vines, regardless of height.
50% of Total Cover: 1 20% of Total Cover: 0.4	2 =	= Total	Cover		vyoddy ville - Ail woddy villes, regardless of fleight.
Woody Vine Stratum (Plot size: 30 m					
Vitis rotundifolia	5	1 00	0.0%	FAC [
2			.0%		
3	0		.0%	-	
1.	0	٥.	.0%		15-d
5.	0	0.	.0%		Hydrophytic Vegetation
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= Total	Cover		Present? Yes No
Remarks: (If observed, list morphological adaptations below).					

SOIL Sampling Point: Up - 7 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (Inches) Color (moist) 0/p Loc2 Color (moist) % Type Texture Remarks 0-5 10YR 3/2 100 Mottling in lower horizon. 10YR 5-20 4/4 95 10YR Loamy Sand 6/6 ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soll Indicators: Indicators for Problematic Hydric Soils3: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) ☐ 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) ☐ Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, unless disturbed or problematic. Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomaious Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) ☐ Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Hydric Soil Present? Yes 💿 No O Depth (inches): Remarks: there appears to be some silty clay below 16 inches. Some dark orange brown mottles and some rusty orange redox features in approximately 5% of the total matrix.

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date:	11-Oct-16		
Applicant/Owner: NASA	State: MS Sampling Point: Up - 8			
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 s R 1	6 W		
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): convex Slope:	3.0 % / 1.7°		
A seed 1. * * *** seeded - APT**-A		tum; NAD83		
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: N/A	Lann, I.V. II. O		
Are climatic/hydrologic conditions on the site typical for this time of you	(● No ○		
	The Hollies discullations probable.	9 NO C		
	problematic? (If needed, explain any answers in Remarks.)			
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations, transects, important features	s, etc.		
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area			
Hydric Soil Present? Yes ○ No ●	Von O No O			
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?			
Remarks:				
Sideslope within 30 to 40 feet of drainage way approximately 200 f	eet from Turtleskin Creek Bridge.			
HYDROLOGY				
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 re	equired)		
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)			
Surface Water (A1)	13) Sparsely Vegetated Concave Surface	ce (B8)		
High Water Table (A2) Marl Deposits (B:	.5) (LRR U) Drainage Patterns (B10)	Drainage Patterns (B10)		
Saturation (A3) Hydrogen Sulfide	_ ` `			
	heres along Living Roots (C3)			
Sediment Deposits (B2)				
i — —	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery	y (C9)		
Algal Mat or Crust (B4) Thin Muck Surface				
Iron Deposits (B5) Other (Explain in Inundation Visible on Aerial Imagery (B7)				
Water-Stained Leaves (B9)	✓ FAC-Neutral Test (D5)			
	☐ Sphagnum moss (D8) (LRR T, U)			
Field Observations: Surface Water Present? Yes No Depth (inches):				
	Wetland Hydrology Present? Yes O No	●		
Saturation Present? (includes capillary fringe) Yes No Depth (inches):				
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if available:			
Remarks:				
		ĺ		

Tree Stratum (Plot size: 30 m)	Absolute % Cover		d.Strat. Cover	Indicator Status	Dominance Test worksheet:
Plot size: 30 m					Number of Dominant Species
	10	-	55.6%	FACW	That are OBL, FACW, or FAC: 7 (A)
Nyssa sylvatica	5	V,	27.8%	FAC	Total Number of Dominant
Quercus nigra	3	Н	16.7%	FAC	Species Across All Strata: 7 (B)
### ## ##		Η.	_0.0%		Descent of deminant Cassian
-			0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
···	0		0.0%	ab - , 'm	That rice obe, Trioti, of Trio.
A SHARE WAS AND LIKE I MAY I VINNE	0	Щ	0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 9 20% of Total Cover: 3.6	18	= To	tal Cove	r	OBL species 0 x 1 = 0
apling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species 44 x 2 = 88
Nyssa sylvatica	10	V	55.6%	FAC	FAC species 28 x 3 =84
Pinus elliottii		V	27.8%	FACW	FACU species 0 x 4 = 0
Quercus texana		\Box	5.6%	FACW	
Quercus nigra	2		11.1%	FAC	
Quercus nigra	0		0.0%	FAC	Column Totals: 72 (A) 172 (B)
		H			Prevalence Index = B/A = 2.389
		H	0.0%		Hudronhutic Vocatation Tudicators
и .			0.0%	-	Hydrophytic Vegetation Indicators:
*! *	0	\square	0.0%		1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 9 20% of Total Cover: 3.6	18 :	= To	tal Cove	r	✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	20	Y	71.4%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
			17.9%	FAC	Problematic Hydrophytic Vegetation - (Explain)
Calle and like a		-		r-	Indicators of hydric soil and wetland hydrology mus
Cyrnia raceminora	. 3	H	10.7%	FACW	be present, unless disturbed or problematic.
	. 0	Н-	0.0%	_	D. Chalden of Manager Charles
11.		\square	0.0%		Definition of Vegetation Strata:
	0	ш,	0.0%	1 2	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0% of Total Cover: 14 20% of Total Cover: 5.6 erb Stratum (Plot size: 30_m) Ilex coriacea	5	V	71.4%	FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Morella cerifera		Y	28.6%	FAC	than 3 in. (7.6 cm) DBH.
V	0		0.0%		One Provide the Mark and a standard and the standard and
,	Ö		0.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	Ш,	0.0%		and the borraine groater than e.20 it (111) tall.
	0	Ш	0.0%		Shrub - Woody plants, excluding woody vines,
n marin en	0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
	0		0.0%		
			0.0%		Herb - All herbaceous (non-woody) plants, including
•	0		0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
	0		0.0%		3 ft (1 m) in height.
	0		0.0%		•
0% of Total Cover: 3.5 20% of Total Cover: 1.4	7 =	- Tot	al Cover		Woody vine - All woody vines, regardless of height,
	-	- 100	ai cover		, , , , , , , , , , , , , , , , , , , ,
oody Vine Stratum (Plot size: 30 m					
Vitis rotundifolia	1		100.0%	FAC	
	0		0.0%		
			0.0%		
			0.0%		
			0.0%		Hydrophytic
	41		U10 /U		Vegetation
		_	al Cover		Present? Yes • No •

SOIL					Sampling Point: Up8	
Profile Descr	iption: (Des	cribe to	the depth	needed to document the Indicator or confirm	m the absence of indicators.)	
Depth		Matrix		Redox Features		
(inches) Color (moist)		0/0	Color (moist) % Type 1 L	.oc² Texture Remarks		
0-4	10YR	4/2	100			_ , , ,
4-16	10YR	5/6	100			
					3 477	
_		wom · : ·	5 p.:	· 100000		
		_	_			
_		v				_
		Depletio	n. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains	² Location: PL=Pore Lining. M=Matrix	
lydric Soll I					Indicators for Problematic Hydric Soils ³ :	
☐ Histosol (A	-			Polyvalue Below Surface (S8) (LRR S, T,	U) 1 cm Muck (A9) (LRR O)	
→	edon (A2)			Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)	
_ Black Histi				Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)	
_ ′ -	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodpiain Soils (F19) (LRR P, S, T)	,
=	_ayers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 1	.53B)
	odies (A6) (LR		-	Redox Dark Surface (F6)	Red Parent Material (TF2)	
_	ky Mineral (A7		, T, U)	Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (TF12)	
_	ence (A8) (LR	-		Redox Depressions (F8)	Other (Explain in Remarks)	
_	((A9) (LRR P,	-		Marl (F10) (LRR U)		
Depleted E	Below Dark Su	rface (A	11)	Depleted Ochric (F11) (MLRA 151)		
Thick Dark	Surface (A12	!)		☐ Iron-Manganese Masses (F12) (LRR O, P.	P, T)	
	rie Redox (A1		-	Umbric Surface (F13) (LRR P, T, U)		
Sandy Mud	ck Mineral (S1) (LRR O	, S)	Delta Ochric (F17) (MLRA 151)	3	
Sandy Gley	yed Matrix (S4	1)		Reduced Vertic (F18) (MLRA 150A, 150B)	Jindicators of hydrophytic vegetation an wetland hydrology must be present,	nd
Sandy Red	lox (S5)			Piedmont Floodplain Soils (F19) (MLRA 1-		
Stripped M	latrix (S6)			Anomalous Bright Loamy Soils (F20) (MLI	.RA 149A, 153C, 153D)	
Dark Surfa	ce (S7) (LRR	P, S, T, l	J)			
actrictive I a	yer (if obse	wed):				
Type:	iyei (ii obsei	veuj.				
Depth (inch	es):				Hydric Soil Present? Yes O No 💿	
	ca).					
emarks:						

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 11-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up -9
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): Slope: 1.0 % / 0.6 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 29.150" N Long.: 89° 36' 46.346" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of yea	ar? Yes No (If no, explain in Remarks.)
	tly disturbed? Are "Normal Circumstances" present? Yes No O
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sar	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	T-41-6:1-11-2
Hydric Soil Present? Yes ○ No ●	Is the Sampled Area Within a Motional Yes No No No
Wetland Hydrology Present? Yes O No •	within a Wetland? Yes ONO O
Remarks:	
Sideslope of moving into land drainage feature that feeds and ephen	meral stream flowing into Turtleskin Creek.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1)	
High Water Table (A2) Marl Deposits (B15)	
Saturation (A3) Hydrogen Sulfide (
	heres along Living Roots (C3)
Sediment Deposits (B2) Presence of Reduc	\equiv \cdot
	ction In Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in R	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Denth (inches):	
Surface Witch Frederick	
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ④
Saturation Present? (Includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	
Rendra.	.0

(Diot size: 20 m)		e Rel.Strat.	Indicator Status	Dominance Test worksheet:
Free Stratum (Plot size: 30 m)	% Cove		,	Number of Dominant Species
Pinus ellottii	10	31.3%	FACW	That are OBL, FACW, or FAC: 5 (A)
Magnolla virginiana	15	46,9%	FACW	Total Number of Dominant
Quercus nigra	5	15.6%	FAC	Species Across All Strata:5 (B)
Nyssa sylvatica	2	6.3%	FAC	Barrant of January Country
-	0	□ 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	0	□ 0.0%	r w	That Aic obc, Thew, of the
1	0	0.0%		Prevalence Index worksheet:
	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 16 20% of Total Cover: 6.4	32	= Total Cove		OBL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	1			FACW species 113 x 2 =226
Magnolia virginiana	20	✓ 57.1%	FACW	FAC species 18 x 3 = 54
Pinus elliottii		₹ 28.6%	FACW	FACU species $0 \times 4 = 0$
	_	14.3%	FAC	
		0.0%	IAC	
***************************************	_			Column Totals: 131 (A) 280 (B)
*		0.0%		Prevalence Index = B/A = 2-137
-	0	0,0%		
	0	0.0%		Hydrophytic Vegetation Indicators:
	0	0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 17.5 20% of Total Cover: 7	35	= Total Cove		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	50	✓ 83.3%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
The same of the sa	_	8.3%	FAC	Problematic nydrophytic vegetation - (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
Cyrilla racemiflora		8.3%	FACW	be present, unless disturbed or problematic.
	0	0.0%		D. State and Sta
	0	0.0%		Definition of Vegetation Strata:
	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 30 20% of Total Cover: 12	60	= Total Cove		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot size: 30 m)				(110 only of langer 17 diameter at 21 oder 110 gill (227 y).
	3	100.0%	FACW	Sapling - Woody plants, excluding woody vines,
1 Arundinaria tecta 2 .	0	0.0%	TACVV	approximately 20 ft (6 m) or more in height and less
**				than 3 in. (7.6 cm) DBH.
3	0	0.0%		Continue/Charle Mondy plants avaluating vipos long
1	0	0.0%	-	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0	□ 0.0%		
j,	0	0.0%		Shrub - Woody plants, excluding woody vines,
7,	0_	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
3,	. 0	0.0%		
9		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
).	0	0.0%		plants, except woody vines, less than approximately
	0	0.0%		3 ft (1 m) in height.
		0.0%	.===	•
50% of Total Cover: 1.5 20% of Total Cover: 0.6	• •	= Total Cover		Woody vine - All woody vines, regardless of height.
+ + + + + + + + + + + + + + + + + + +		= Total Cover	ĺ	
Voody Vine Stratum (Plot size: 30 m			}	
Vitis rotundifolia	1_	100.0%	FAC	
to the same of the	0	0.0%		
		0.0%		
		0.0%		
	0	0.0%		Hydrophytic
		= Total Cover	, , , , , , , , , , , , , , , , , , ,	Vegetation Present? Yes No ○
60% of Total Cover: 0.5 20% of Total Cover: 0.2				

SOIL Sampling Point: Up -9 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) Loc2 Texture Color (moist) Type Remarks 0-5 10YR 3/2 100 Loamy Sand 5-16 10YR 4/4 100 Loamy Sand ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils3: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) ☐ Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) □ Very Shallow Dark Surface (TF12) ☐ Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Delta Ochric (F17) (MLRA 151) Sandy Muck Mineral (S1) (LRR O, S) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, unless disturbed or problematic. Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (If observed): Туре: Yes 🔾 No 💿 Hydric Soil Present? Depth (inches):, Remarks: Sandy loam, fairly dry with crumbly texture. Uniform grayish yellow to brown below 4-inches.

Applicant/Owner: NASA Investigator(s): Lars Larson, Randv Ellis Landform (hillslope, terrace, etc.): Terrace Subregion (LRR or MLRA): LRR T Lat.: Soil Map Unit Name: SaC, Saucier fine sandy loam, 5 to 8 percent slope: Are climatic/hydrologic conditions on the site typical for this time of year Are Vegetation , Soil , or Hydrology significantly	r? Yes No (If no, explain in Remarks.) y disturbed? Are "Normal Circumstances" present? Yes No (
	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: Just off logging road-cut trail 30 feet approximately 500-feet south of	Is the Sampled Area within a Wetland? Yes O No o f railbed on West side of AOI.
HYDROLOGY	
☐ Sediment Deposits (B2) ☐ Presence of Reduce	Drainage Patterns (B10) Drainage Patterns (B10) Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Table (C2) ed Iron (C4) Crayfish Burrows (C8) tion in Tilled Soils (C6) Geomorphic Position (D2)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos	Wetland Hydrology Present? Yes ○ No ④
Remarks:	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Species? Absolute Rel.Strat. Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: _30 m) % Cover Cover Status Number of Dominant Species 1. Pinus elliottii 15 \mathbf{V} 53.6% FACW That are OBL, FACW, or FAC: (A) 6 Nyssa sylvatica 5 17.9% FAC Total Number of Dominant Quercus virginiana 5 17.9% **FACU** 6 ___ Species Across All Strata: (B) Quercus nigra 3 10.7% FAC Percent of dominant Species 0.0% 100.0% (A/B) That Are OBL, FACW, or FAC: 6. 0.0% 7. 0 0.0% Prevalence Index worksheet: 0 8. 0.0% Total % Cover of: Multiply by: 50% of Total Cover: 14 20% of Total Cover: 5.6 $0 \times 1 = 0$ 28 = Total Cover OBL species FACW species 40 x 2 = Sapling or Sapling/Shrub Stratum (Plot size: 30 m 1. Pinus elliottii 204 **V** 68 x 3 = 15 60.0% FACW FAC species 2. Quercus nigra 10 **V** 40.0% $5 \times 4 = 20$ FACU species ...0 3. $0 \times 5 = 0$ UPL species 0 0.0% (B) Column Totals: 113 (A) 304 5. 0 0.0% Prevalence Index = B/A = 2.690 6. 0 0.0% **Hydrophytic Vegetation Indicators:** \Box 0 0.0% 8. 0 0.0% 1 - Rapid Test for Hydrophytic Vegetation 50% of Total Cover: 12.5 20% of Total Cover: 5 25 = Total Cover ✓ 2 - Dominance Test is > 50% Shrub Stratum (Plot size: 30 m 3 - Prevalence Index is ≤3.0 ¹ 40 1 Ilex vomitoria 75.5% FAC Problematic Hydrophytic Vegetation ¹ (Explain) 2. Ilex coriacea 10 18.9% FACW $^{
m 1}$ Indicators of hydric soil and wetland hydrology must Quercus nigra 3 5.7% FAC be present, unless disturbed or problematic. 4. 0 0.0% **Definition of Vegetation Strata:** 5. 0 0.0% 6. 0 Tree - Woody plants, excluding woody vines, 0.0% approximately 20 ft (6 m) or more in height and 3 in. 50% of Total Cover: 26.5 20% of Total Cover: 10.6 = Total Cover (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum (Plot size: 30 m) Sapling - Woody plants, excluding woody vines, 0 0.0% approximately 20 ft (6 m) or more in height and less 0 0.0% than 3 in. (7.6 cm) DBH. 0 0.0% 0 Sapling/Shrub - Woody plants, excluding vines, less 0.0% than 3 in. DBH and greater than 3.28 ft (1m) tall. 0 0.0% 0 0.0% Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 8. 0 0.0% Herb - All herbaceous (non-woody) plants, including 0 0.0% herbaceous vines, regardless of size, and woody 10. _______<u>_____</u> 0.0% plants, except woody vines, less than approximately 11.__ 3 ft (1 m) in height. 0 0.0% 12. ___0 0.0% Woody vine - All woody vines, regardless of height. 50% of Total Cover: 0 20% of Total Cover: 0 0 = **Total Cover** Woody Vine Stratum (Plot size: 30 m 1 Vitis rotundifolia **V** 71.4% 2. Smilax rotundifolia 28.6% 3. __ 0. 0.0% 0 4. 0.0% Hydrophytic 5. 0.0% Vegetation Yes

No 20% of Total Cover: 1.4 Present? 50% of Total Cover: 3.5 7 = Total Cover Remarks: (If observed, list morphological adaptations below). *Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS,

Dominant

Up - 10

Sampling Point:

TOTILE DESCRI	ption: (Des	cribe to	the depth i	needed to documen	t the indic	cator or co	nfirm the al	bsence of indicators.)		
Depth		Matrix	W	Re	dox Feat	ıres				
(inches)	Color (r		₩	Color (moist)	%	Type 1	Loc2	Texture	Remarks	
0-5	10YR	4/2	100	THE .		·*			· # - V.	
5-16	10YR	5/3	100			-				
Type: C=Conc		-Depletion	n. RM= Redu	ced Matrix, CS=Cover	ed or Coate	ed Sand Gra	ins ^z Locatio	on: PL=Pore Lining, M=		
Histosol (A				Polyvalue Be	low Eurface	(CO) (LDD (: T II)		lematic Hydric Soils ³ :	
Histic Epip	-							1 cm Muck (A9)	` '	
_	Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O))	2 cm Muck (A10)				
	Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)					_	F18) (outside MLRA 150A,B)			
Stratified L							_	lain Soils (F19) (LRR P, S, T)		
_	Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6)						_	t Loamy Soils (F20) (MLRA 153B)		
	y Mineral (A7		-	Depleted Dar				Red Parent Mater	• •	
_	ence (A8) (LF		, - ,	Redox Depre		'''		Very Shallow Dar		
_	(A9) (LRR P			☐ Marl (F10) (LRR U)				Uther (Explain in Remarks)		
_	elow Dark Su	•	1)	Depleted Och		ΔΙ RΔ 151)				
_ `	Surface (A12	•	•	☐ Iron-Mangan			0 P T)			
	ie Redox (A1	•	150A)	Umbric Surfa			O, 1 , 1)			
_	k Mineral (S1			Delta Ochric						
_	ed Matrix (S		, -,	Reduced Verl		-	150B)	³ Indicators of hydrophytic vegetation and		
Sandy Red	_	•,		☐ Piedmont Flo			-	wetland hydrology must be present,		
Stripped M								, 153C, 153D)	disturbed or problemade.	
- ···	ce (S7) (LRR	P. S. T. U	מ	Anomalous D	rigine coairiy	30113 (1 20)	(HILLAN LTSA	(, 1550, 1550)		
		.,.,.,					1			
estrictive La Type:	yer (if obse	rved):	_							
Depth (inch	es):				_			Hydric Soil Present?	Yes O No 🖲	
emarks:										

Troject/ order Trans Seems, 1,100 Acre Frederica Demicación	/County: Waveland - Hancock Sampling Date: 12-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 11
Investigator(s): Lars Larson, Randy Ellis Sec	ction, Township, Range: S 31 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside Local	al relief (concave, convex, none): convex Slope: 3.0 % / 1.7°
	24' 16.645" N Long.: 89° 37' 26.574" W Datum: NAD83
Soil Map Unit Name: PoB, Poarch fine sandy loam, 2 to 5% slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significantly dist	sturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally proble	ematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampli	ing point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes ○ No •	Vac O No (
Wetland Hydrology Present? Yes ○ No ⑥	within a Wetland?
Remarks:	·
On sideslope 30-feet up from bottom drainage area, approximately 150-fe	eet North of Turtleskin Creek
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (I.RF	
Saturation (A3) Hydrogen Sulfide Odor (
Water Marks (B1) Oxidized Rhizospheres at	
Sediment Deposits (B2) Presence of Reduced Iro	_ · · · · · · · · · · · · · · · · · · ·
☐ Drift Deposits (B3) ☐ Recent Iron Reduction in	
Algal Mat or Crust (B4) Thin Muck Surface (C7)	
☐ Iron Deposits (B5) ☐ Other (Explain in Remark	· ·
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ⑨
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No •
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:
Joseph Jo	,,
	· · · · · · · · · · · · · · · · · · ·
Remarks:	

			minant		Sampling Point: Up - 11
	Absolute	Re		Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m)	% Cover		Cover	Status	Number of Dominant Species
Pinus elliottii	5	V	20.0%	FACW	That are OBL, FACW, or FAC: 6 (A)
Nyssa sylvatica	10	V	40.0%	FAC	Total Number of Dominant
Magnolia virginiana		✓.	32.0%	FACW	Species Across All Strata: 6 (B)
Quercus nigra	2		8.0%	FAC	
	0		0.0%		Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)
	0		0.0%		That Are OBL, FACW, or FAC: 100 0% (AVB)
LWELL B. PALMAN CAST	0		0.0%		Prevalence Index worksheet:
	0		0.0%	,	Total % Cover of: Multiply by:
0% of Total Cover: 12.5 20% of Total Cover: 5	25 =	= To	tal Cove		OBL species 0 x 1 = 0
apling or Sapling/Shrub Stratum (Plot size: 30 m	}				FACW species49 x 2 =98
Nyssa sylvatica	10	V	55.6%	FAC	FAC species $31 \times 3 = 93$
Magnolia virginiana	5_	V	27.8%	FACW	FACU species $\frac{1}{x}$ $x = \frac{4}{x}$
Quercus texana	1		5.6%	FACW	UPL species 0 x 5 = 0
Quercus nigra	2		11.1%	FAC	Column Totals: 81 (A) 195 (B)
	•		0.0%		CO181111 10C2131 231 (A)
	0		0.0%		Prevalence Index = B/A = 2.407
			0.0%		Hydrophytic Vegetation Indicators:
No. 10 No	0		0.0%		
			tal Cove		1 - Rapid Test for Hydrophytic Vegetation
***	10	- 10	tai Corci		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	30	~	85.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria	3	Ц.	8.6%	FAC	1
Ilex opaca	2	Щ	5.7%	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	0	Ш,	0.0%		· · · · · · · · · · · · · · · · · · ·
	0	\square	0.0%	. (**	Definition of Vegetation Strata:
	0	⊔.	0.0%	, .	Tree - Woody plants, excluding woody vines,
0% of Total Cover: 17.5 20% of Total Cover: 7	35 =	= To	tal Cove		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m)					
, Pteridium aquilinum	1		100.0%	FACU	Sapling - Woody plants, excluding woody vines,
	0		0.0%		approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
			0.0%		
•		\Box	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
-	0	$\overline{\Box}$	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
		\Box	0.0%		
	0	Η.	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
	0	Η.	0.0%		approximately 5 to 20 it (1 to 5 iii) iii lielgiit.
	0		0.0%		Herb - All herbaceous (non-woody) plants, including
No. of the state o					herbaceous vines, regardless of size, and woody
•			0.0%	-	plants, except woody vines, less than approximately 3 ft (1 m) in height.
•	0	-	0.0%		3 K (1 m) in neight.
	0	-	0.0%		Woody vine - All woody vines, regardless of height.
0% of Total Cover: 0.5 20% of Total Cover: 0.2	=	= To	tal Cover	7	Troons the American throat throat togethere
oody Vine Stratum (Plot size: 30 m)					
Vitis rotundifolia	2		100.0%	FAC	
	0		0.0%		
4 57 4 70	0	\Box	0.0%	1.04	
· · · · · · · · · · · · · · · · · · ·			0.0%		
	0	ш,	0.0 /0	1 1 2 2 2	
	0		0.0%		Hydrophytic Vegetation
	. 0	i Tol	447 4474 7		Hydrophytic Vegetation Present? Yes No

rofile Descri						Sampling Point: Up - 11
	ption: (Des		the depth	needed to document the indicator or confi	rm the a	bsence of indicators.)
Depth (inches)	Calau (Matrix	0/	Redox Features Color (moist) % Type 1	Loc²	Texture Remarks
(inches) 0-5	Color (1	3/3	%	Color (moist) % Type *	LOC-	Loamy Sand
5-16	10YR		100			Loamy Sand
2-10	IOTR	5/6	100			Loanly Salid
ype: C=Conce		=Depletio	n. RM= R edu	iced Matrix, CS=Covered or Coated Sand Grains	² Locati	ion: PL=Pore Lining. M=Matrix Indicators for Problematic Hydric Soils ³ :
Histosol (A:	1)			Polyvalue Below Surface (S8) (LRR S, T	г, u)	1 cm Muck (A9) (LRR O)
Histic Epipe	edon (A2)			Thin Dark Surface (S9) (LRR S, T, U)	. ,	2 cm Muck (A10) (LRR S)
Black Histic	(A3)			Loamy Mucky Mineral (F1) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen S	Sulfide (A4)			Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified La	ayers (A5)			Depleted Matrix (F3)		Anomalous Bright Loamy Soils (F20) (MLRA 153B)
Organic Bo	dies (A6) (LI	RR P, T, L	J)	Redox Dark Surface (F6)		Red Parent Material (TF2)
5 cm Muck	y Mineral (A	7) (LRR P	, T, U)	Depleted Dark Surface (F7)		Very Shallow Dark Surface (TF12)
-	nce (AB) (Li			Redox Depressions (F8)		Other (Explain in Remarks)
_	(A9) (LRR P			Marl (F10) (LRR U)		
	eiow Dark Si		11)	Depleted Ochric (F11) (MLRA 151)		
_	Surface (A1	-		Iron-Manganese Masses (F12) (LRR O,	P, T)	
_	e Redox (A1		_	Umbric Surface (F13) (LRR P, T, U)		
_	k Mineral (S:		, S)	Delta Ochric (F17) (MLRA 151)		³ Indicators of hydrophytic vegetation and
	ed Matrix (S	4)		Reduced Vertic (F18) (MLRA 150A, 150)B)	wetland hydrology must be present,
Sandy Redo				Piedmont Floodplain Soils (F19) (MLRA	149A)	unless disturbed or problematic.
Stripped Ma				Anomaíous Bright Loamy Soils (F20) (M	1LRA 149A	A, 153C, 153D)
Dark Surfac	ce (\$7) (LRR	P, S, T, l	J)			
estrictive Lay	yer (if obse	rved):				
Type:	se\.					Hydric Soil Present? Yes O No
Depth (inche	:5)			79 to 141 to 1		
emarks:						

Soll Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes Are climatic/hydrologic conditions on the site typical for this time of ye	
Are Vegetation , Soil , or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.) Impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No No No Wetland Hydrology Present? Yes No No Remarks:	Is the Sampled Area within a Wetland? Yes O No O
HYDROLOGY	
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Trion Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) heres along Living Roots (C3) Dry Season Water Table (C2) ced Iron (C4) Crayfish Burrows (C8) settion in Tilled Soils (C6) Geomorphic Position (D2)
Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Obeyth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photo	Wetland Hydrology Present? Yes ○ No ●
Remarks:	

Absolute % Cover 25 5 3 0 0	Re	75.8% 15.2% 9.1%	Indicator Status FACW FACW	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant
25 5 3 0		75.8% 15.2% 9.1%	FACW FACW	That are OBL, FACW, or FAC: 4 (A)
5 3 0 0		15.2% 9.1%	FACW	That are OBL, FACW, or FAC: 4 (A)
3 0 0		9.1%		Total Number of Dominant
0			FAC	
. 0	Ш,	0.55		Species Across All Strata: 4 (B)
		0.0%		
0	Ц.	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
-	Ш	0.0%		THACKIE ODL, TACW, OF TAC.
0		0.0%		Prevalence Index worksheet:
0		0.0%	N F 1000 T	Total % Cover of: Multiply by:
33	= To	tal Cove	•	OBL species 0 x 1 = 0
}				FACW species
30	V	71.4%	FACW	FAC species 19 x 3 = 57
10	V	23.8%	FAC	FACU species 0 $\times 4 = 0$
		4.8%	FAC	UPL species $0 \times 5 = 0$
0		0.0%		Column Totals: 129 (A) 277 (B)
0		0.0%		COTOMIC TOLETS ILD CO
0		0.0%		Prevalence Index = B/A = 2.147
0		0.0%		Hydrophytic Vegetation Indicators:
0		0.0%		David France - 12 december - 1
	 _ To			1 - Rapid Test for Hydrophytic Vegetation
72	_ 10	OF COACI		✓ 2 - Dominance Test is > 50%
				✓ 3 - Prevalence Index is ≤3.0 ¹
	Y .			Problematic Hydrophytic Vegetation ¹ (Explain)
3	Ц,	5.6%	FAC	1
1	Ш.	1.9%	FAC	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
0	Ш,	0.0%		
0		0.0%		Definition of Vegetation Strata:
0	Щ	0.0%		Tree - Woody plants, excluding woody vines,
54 =	= To	tal Cover	•	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
				, ,
		0.0%		Sapling - Woody plants, excluding woody vines,
0	\Box			approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
	\exists			than 5 lit. (7.5 cm) DBH.
	\Box	_		Sapling/Shrub - Woody plants, excluding vines, less
	\Box			than 3 in. DBH and greater than 3.28 ft (1m) tall.
			.м.	
Ser or me	H		-	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
-	<u> </u>			approximately 5 to 20 ft (1 to 6 m) in neight.
	님.			Herb - All herbaceous (non-woody) plants, including
-	H			herbaceous vines, regardless of size, and woody
_	H			plants, except woody vines, less than approximately 3 ft (1 m) in height.
	H		4	o it (1 iii) iii noigiit
-	Ц.			Woody vine - All woody vines, regardless of height.
0 =	= Tol	taı Çover		
				
0		0.0%		
0		0.0%		
0		0.0%		
0		0.0%		
0		0.0%		Hydrophytic Vegetation
0 =	= Tot	tal Cover		Present? Yes No
	30 10 2 0 0 0 0 0 0 42 50 3 1 0 0 0 0 0 54 8 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	30	30	30

Color (moist) % Color (moist) % Type Loc2 Texture Remarks Loamy Sand Loamy	Depth	ription: (De	Matrix		Re	dox Featu				
Coamy Sand Coamy Sand Coam		Color		. %				Loc2	Texture	Remarks
This Dark Surface (SB) (LRR S, T, U) Black Histic Epipedon (A2) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Corganic Bodies (A5) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Som Mucky Mineral (A7) (LRR P, T, U) Mark (F10) (LRR U) Redox Depressions (F8) I Loamly Salid Redissiblity some REDOx below PL=Pore Lining. M=Matrix Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 4: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 4: Indicators for Problemati	-									
Histosol (A1) Histo Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Tom Mucky Mineral (A7) (LRR P, T, U) Redox Dark Surface (F6) Muck Presence (A8) (LRR U) Tom Muck (A9) (LRR O) 1 cm Muck (A10) (LRR S) Reduced Vertic (F18) (outside MLRA 150A,B) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151)	5-16	10YR	4/3	97	10YR 6/8	3	. С	М	Loamy Sand	appears to be mottles, rossibly some REDOX below
Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151)	ydric Soil I Histic Epip Histic Epip Black Hist Hydrogen Stratified I Organic B 5 cm Muci Muck Pres 1 cm Muci Depleted I Thick Dark	indicators: A1) pedon (A2) ic (A3) Sulfide (A4) Layers (A5) odies (A6) (L ky Mineral (A sence (A8) (L k (A9) (LRR (A9) k (A9) (LRR (A9) k Surface (A1 irie Redox (A	.RR P, T, U .V7) (LRR P, .RR U) P, T) Surface (A1 .L2) 16) (MLRA	.) .T, U) .1)	Polyvalue Bek Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Matr Redox Dark S Depleted Dark Redox Depres Marl (F10) (LF Depleted Ochr Iron-Mangane	ow Surface face (S9) (Mineral (F Matrix (F2 ix (F3) urface (F6) Surface (F8) RR U) ic (F11) (M se Masses	(S8) (LRR LRR S, T, L 1) (LRR O) :) =7) ILRA 151) (F12) (LRR	S, T, U))	Indicators for P 1 cm Muck (/ 2 cm Muck (/ Reduced Verl Pledmont Flo Anomalous B Red Parent M Very Shallow	M=Matrix roblematic Hydric Soils ³ : A9) (LRR O) A10) (LRR S) dic (F18) (outside MLRA 150A,B) odplain Soils (F19) (LRR P, S, T) right Loamy Soils (F20) (MLRA 153B) faterial (TF2) Dark Surface (TF12)
		yer (if obs	erved):							
estrictive Layer (if observed):		nes):							Hydric Soil Preser	nt? Yes 🏵 No 🔾
Type:						in the lo	war nartia	n of the so	oil profile, but has t	ne appearance of a sandy redox

Traject, Start Starting 1/2007 at C Produits Sources	ounty: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 14
Investigator(s): Lars Larson, Randy Ellis Section	on, Township, Range: S 29 T 7s R 16 W
Landform (hillshope, terrace, etc.): Terrace Local re	elief (concave, convex, none): _none
Subregion (LRR or MLRA): LRR T Lat.: 30° 24	1 10.337" N Long.: 89° 37' 1.097" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
	(a) 11- (a) 11- (b)
Are Vegetation , Soil , or Hydrology significantly disturbed. Are Vegetation , Soil , or Hydrology naturally problem.	Ale Hornia chedinocolices presenti
SUMMARY OF FINDINGS - Attach site map showing sampling	
Hydrophytic Vegetation Present? Yes No No	
Hydric Soil Present? Yes ○ No ⑥	Is the Sampled Area Ves O No No No No No No No No
Wetland Hydrology Present? Yes O No •	within a Wetland? Yes O NO O
Remarks: Terrace Upland area approximately 400 feet North of logging road in centra transition out of slightly wetter area to the south.	Il portion of AOI south of TS Creek. Small patch area that appears to
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LRR U	
Saturation (A3) Hydrogen Sulfide Odor (C1	
Water Marks (B1) Oxidized Rhizospheres alor	
Sediment Deposits (B2) Presence of Reduced Iron	
Drift Deposits (B3) Recent Iron Reduction in T Algal Mat or Crust (B4) Thin Muck Surface (C7)	Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in Remarks) ☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
	Spriagram moss (po) (ERC 1, 0)
Field Observations: Surface Water Present? Yes No Depth (inches):	
	Wetland Hydrology Present? Yes O No 💿
Saturation Present? Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previ	ious inspections), if available:
Remarks:	
Remarks:	

Tree Stratum (Plot size: 30 m	Absolute % Cover		trat.	Indicator Status	Dominance Test worksheet:
Pinus elliottii			6.7%	FACW	Number of Dominant Species That are OBL. FACW. or FAC: 9 (A)
			**		That are OBL, FACW, or FAC: 9 (A)
				FAC	Total Number of Dominant
Magnolia virginiana	2			FACW	Species Across All Strata: 9 (B)
1366 5	0	0	0.0%		
	0	o	.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	0	□ 0	.0%		That Are OBL, FACW, or FAC: 100.0% (AVB)
· · · · · · · · · · · · · · · · · · ·	•		.0%		Prevalence Index worksheet:
	0		.0%		Total % Cover of: Multiply by:
50% of Total Cover: 7.5 20% of Total Cover: 3	15 =	= Total	Cover		OBL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	}}				FACW species 77 x 2 = 154
Pinus elliottii	10	9 50	0.0%	FACW	FAC species $19 \times 3 = 57$
Quercus falcata		□ 5	.0%	FACU	FACU species $\frac{1}{1}$ x 4 = $\frac{4}{1}$
A and a substantial to the subst	_	✓ 25		FAC	
Havida da abando		_		FAC	ore species
				FAC	Column Totals: 97 (A) 215 (B)
			.0%		Prevalence Index = B/A = 2.216
	0	0	.0%		
•	0	□ 0	.0%		Hydrophytic Vegetation Indicators:
	0	0	.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 10 20% of Total Cover: 4	20 =	= Total	Cover		
30% of Total Cover. 10 20% of Total Cover. 4	20 -	- IOCAL	COVE		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	30	66	5.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria	5	11	1.1%	FAC	
The chair	10	✓ 22	2.2%	FACW	¹ Indicators of hydric soil and wetland hydrology must
				IACVV	be present, unless disturbed or problematic.
· .			.0%		De Proteto e e Para e e esta e Danada e
	0	0	.0%		Definition of Vegetation Strata:
	0	0	.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 22.5 20% of Total Cover: 9 lerb Stratum (Plot size: 30,m) 1. Ilex glabra 2. Ilex corlacea	10		5.7%	FACW FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
				IACW	
3	_		.0%	_	0 -1:
4	0	0.	.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0	o.	.0%		than 3 in. Den and greater than 5.20 it (ini) tall.
ô.	0	0.	.0%		Shrub - Woody plants, excluding woody vines,
7	0		.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0		.0%		approximately a to 20 in () to a my asserting and
	0	=		-	Herb - All herbaceous (non-woody) plants, including
9			.0%	-	herbaceous vines, regardless of size, and woody
0	0		.0%		plants, except woody vines, less than approximately
1,	0	□ 0.	.0%		3 ft (1 m) in height.
2	0	O.	.0%		
50% of Total Cover: 7.5 20% of Total Cover: 3	15 =	= Total	Cover		Woody vine - All woody vines, regardless of height.
Voody Vine Stratum (Plot size: 30 m				ļ	
Smllax rotundifolia	2	100	0.0% I	FAC	
			0%		
		_ `	٧,		
	_ <u> </u>		.0%		
	0	بر ا	.0%		Mudrophytic
	0	□0.	.0%		Hydrophytic Vegetation
50% of Total Cover: 1 20% of Total Cover: 0.4	2 =	Total	Cover		Present? Yes No O
50% of Total Cover: 1 20% of Total Cover: 0.4 Remarks: (If observed, list morphological adaptations below). Heavy pine litter Limited herbaceous layer.	2 =	Total (Cover		

	haom (ne	Matrix	sebell	needed to document the Indicator or Redox Features	-omnin ale		•
Depth (inches)	Color (0/0	Color (moist) % Type	1 Loc2	Texture	Remarks
0-5	10YR	3/2	100	- Color (1110)3C)		Sandy Loam	NOTION TO
5-18	10YR	5/6	100			Sandy Loam	- A.M.
			=				
ype: C≔Conc	entration. D	=Depletion	n. RM=Redu	ced Matrix, CS=Covered or Coated Sand	 Grains ²Loca	tion: PL=Pore Lining. M:	=Matrix
lydric Soil I	ndicators:			•		Indicators for Pro	blematic Hydric Solls ³ :
Stratified L Organic Bo 5 cm Muck Muck Pres 1 cm Muck Depleted E Thick Dark Coast Prair	edon (A2) c (A3) Sulfide (A4) ayers (A5) dies (A6) (L y Mineral (A ence (A8) (LR (A9) (LRR F delow Dark S Surface (A1 die Redox (A) k Mineral (S yed Matrix (S ox (S5)	RR P, T, U 7) (LRR P, RR U) P, T) Jurface (A1 2) 16) (MLRA 1) (LRR O,	, T, U) 11) 150 A)	Polyvalue Below Surface (S8) (L Thin Dark Surface (S9) (LRR S, Loamy Mucky Mineral (F1) (LRR Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR U) Depleted Ochric (F11) (MLRA 15 Iron-Manganese Masses (F12) (Umbric Surface (F13) (LRR P, T, Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 151) Pledmont Floodplain Soils (F19) Anomalous Bright Loamy Soils (if	T, U) O) LRR O, P, T) U) DA, 150B) (MLRA 149A)	Piedmont Flood Anomalous Brig Red Parent Mat Very Shallow D Other (Explain) 3Indicator wetland	O) (LRR S) (F18) (outside MLRA 150A,B) plain Soils (F19) (LRR P, S, T) ht Loamy Soils (F20) (MLRA 153B) erial (TF2) ark Surface (TF12)
estrictive La	ce (S7) (LRR yer (if obse					Madeia Call Breanth	
Depth (inch	es):					Hydric Soil Present	Yes O No 🖲
emarks: iil brightens	up in color	apprecia	ibly below	4-5 incher bsg. No moisture or hyd	ric indicators		

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 16
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 28 T 7s R 16 W
Landform (hillslope, terrace, etc.):	Local relief (concave, convex, none): Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24′ 11.929" N Long.: 89° 36′ 42.814" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	
Are climatic/hydrologic conditions on the site typical for this time of ye	
Are Vegetation, Soil, or Hydrology significant	ntly disturbed? Are "Normal Circumstances" present? Yes No No
Are Vegetation , Soil , or Hydrology naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area
Hydric Soil Present? Yes O No 🖲	Ves O No (®)
Wetland Hydrology Present? Yes No	within a Wetland?
Remarks:	
	ast Side of the AOI. Drinking Water Well (broken - flowing water) feeds a man
made pond and then downslope into a natural wetland.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required: check all that apply)	
☐ Surface Water (A1) ☐ Aquatic Fauna (B:	
High Water Table (A2) Marl Deposits (B1	
Saturation (A3) Hydrogen Sulfide	e Odor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☐ Oxidized Rhizosph	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	uced Iron (C4) Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Redu	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	ce (C7) Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in	·
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	*
Describe Recorded Data (Scream gauge, monitoring well, acrial prior	.os, previous inspections), ii available.
Remarks:	

Tree Stratum (Plot size: 30 m)	Absolute % Cover			Indicator Status	Dominance Test worksheet:			
			•		Number of Dominant Species			
Pinus taeda Pinus elliottii	10	P. Transport	3.5%	FAC	That are OBL, FACW, or FAC: 8_ (A)			
* **	10		3.5%	FACW	Total Number of Dominant			
Quercus nigra	5		.2%	FAC	Species Across All Strata: 8 (B)			
Quercus virginiana	1	-	.8%	FACU				
.4			.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)			
		0.	.0%		That are obly tacw, of tac.			
• ., . _{**}	0	□ <u>,</u> o.	.0%		Prevalence Index worksheet:			
	0	□ 0.	.0%		Total % Cover of: Multiply by:			
50% of Total Cover: 13 20% of Total Cover: 5.2	26	= Total	Cover		OBL species 0 x 1 = 0			
Sapling or Sapling/Shrub Stratum (Piot size: 30 m	1				FACW species 17 x 2 = 34			
Pinus elliottil	5	V 25	.0%	FACW	FAC species 63 x 3 = 189			
Pinus taeda			.0%	FAC	FACU species $\frac{1}{2}$ x 4 = $\frac{4}{2}$			
Quercus nigra	10		0.0%	FAC	UPL species $0 \times 5 = 0$			
Quercus virginiana	0		0%	FACU	Column Totals: 81 (A) 227 (B)			
Magnolia virginiana	2	10	.0%	FACW	Prevalence Index = B/A = 2 802			
W. T, T	0	0.	0%					
	.0	0.	.0%		Hydrophytic Vegetation Indicators:			
Process of the Control of the Contro	0	□ 0.	.0%		1 - Rapid Test for Hydrophytic Vegetation			
50% of Total Cover: 10 20% of Total Cover: 4		= Total	Cover		✓ 2 - Dominance Test is > 50%			
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹			
Ilex vomitoria			.0%	FAC	☐ Problematic Hydrophytic Vegetation ¹ (Explain)			
Ilex opaca	5	✓ 20	.0%	FAC				
	0	□ 0.	.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
·w	0	. 0.	.0%		be present, unless disturbed or problematic.			
		□ 0.	.0%		Definition of Vegetation Strata:			
	0	0.	0%	/ ·*I	Tree - Woody plants, excluding woody vines,			
50% of Total Cover: 12.5 20% of Total Cover: 5	25	= Total (Cover	•	approximately 20 ft (6 m) or more in height and 3 in.			
	2.7	- 10001	00101		(7.6 cm) or larger in diameter at breast height (DBH).			
lerb Stratum (Plot size: 30 m)					C-E- Missale stanta such ding woods since			
1 _ Ilex vomitoria	5_,	100	0,0%	FAC	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less			
	0	□ 0.	0%		than 3 in. (7.6 cm) DBH.			
3.	0	0.	.0%					
	0		0%		Sapling/Shrub - Woody plants, excluding vines, less			
			.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.			
o	0		.0%					
	-				Shrub - Woody plants, excluding woody vines,			
The second of th		$\overline{}$.0%		approximately 3 to 20 ft (1 to 6 m) in height.			
S,			0%	-	Herb - All herbaceous (non-woody) plants, including			
),		0.	0%		herbaceous vines, regardless of size, and woody			
),,,	0	0.	0%		plants, except woody vines, less than approximately			
	0	0.0	0%	.,,	3 ft (1 m) in height.			
2	0	0.0	0%					
60% of Total Cover: 2.5 20% of Total Cover: 1	5 =	Total C	Cover		Woody vine - All woody vines, regardless of height.			
/oody Vine Stratum (Plot size: 30 m								
Vitis rotundifolia			0.0%	FAC				
-		0.0	0%					
	0	0.0	0%					
		0.0	0%					
	0	o.c	0%		Hydrophytic			
iO% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= Total (Cover		Vegetation Present? Yes No ○			
	J =	- IOLAL C	-UTCI		• • • • • • • • • • • • • • • • • • • •			

SOIL						Sampling Point: Up - 16	
Profile Desci	ription: (De	scribe to	the depth	needed to document the indicator or	confirm the	absence of indicators.)	
Depth Matrix				Redox Features			
(inches)	Color (moist)	%	Color (moist) % Type	1 Loc2	Texture Remarks	
0-5	10YR	3/3	100			Loamy Sand	
5-16	10YR	5/6	100			Loamy Sand	
	-				4		
•			-				
	•	•		A A T COMMON AS		λ	
1 Type: C=Cone	centration. D:	=Depletio	n. RM=Redu	iced Matrix, CS=Covered or Coated Sand	Grains ² Loca	ation: PL=Pore Lining, M=Matrix	
Hydric Soil I	indicators:		-	<u> </u>		Indicators for Problematic Hydric Soils ³ :	
Histosol (A1)			Polyvalue Below Surface (S8) (Li	RR S, T, U)	1 cm Muck (A9) (LRR O)	
Histic Epip	pedon (A2)			☐ Thin Dark Surface (S9) (LRR S, 1	-, U)	2 cm Muck (A10) (LRR S)	
Black Hist	ic (A3)			Loamy Mucky Mineral (F1) (LRR	0)	Reduced Vertic (F18) (outside MLRA 150A,B)	
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)	
Stratified	Layers (A5)			Depleted Matrix (F3)		Anomalous Bright Loamy Soils (F20) (MLRA 153B)	
_	odies (A6) (L			Redox Dark Surface (F6)		Red Parent Material (TF2)	
5 cm Muc	ky Mineral (A	7) (LRR P	, T, U)	Depleted Dark Surface (F7)		☐ Very Shallow Dark Surface (TF12)	
	sence (A8) (Li	•		Redox Depressions (F8)		Other (Explain in Remarks)	
1 cm Muc	k (A9) (LRR F	P, T)		Marl (F10) (LRR U)		• • •	
	Below Dark S	•	11)	Depleted Ochric (F11) (MLRA 15	1)		
	k Surface (A1			Iron-Manganese Masses (F12) (I	RR O, P, T)		
	irie Redox (A:		-	Umbric Surface (F13) (i_RR P, T,	U)		
	ck Mineral (S		, S)	Delta Ochric (F17) (MLRA 151)		³ Indicators of hydrophytic vegetation and	
	yed Matrix (S	34)		Reduced Vertic (F18) (MLRA 150	A, 150B)	wetland hydrology must be present,	
Sandy Red				Piedmont Floodplain Soils (F19)		unless disturbed or problematic.	
_	/atrix (S6)			Anomalous Bright Loamy Soils (F	20) (MLRA 14	19A, 153C, 153D)	
☐ Dark Surfa	ace (S7) (LRR	P, S, T, I	J)				
Restrictive La	ayer (if obse	erved):					
Туре:				-		Hydric Soil Present? Yes No 💿	
Depth (incl	nes):	•		· · · · · · · · · · · · · · · · · · ·		Tyune son Pleache: 165 O NO O	
Remarks:							
No hydric indi	icators.						

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 17
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 33 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): none Slope: 1.0 % / 0.6°
Therefore by "AA - F	
1 12 1 mm / 1 12 1 mm	30 23 11/20 11
Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes	· · · · · · · · · · · · · · · · · · ·
Are climatic/hydrologic conditions on the site typical for this time of ye	
Are Vegetation , Soll , or Hydrology significant	ntly disturbed? Are "Normal Circumstances" present? Yes No No
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	Is the Sampled Area
Hydric Soil Present? Yes O No	Vac O No 💿
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?
lack of hydrology. Soils still show signs of REDOX and mottling.	Vet-17. This is on the side of a drained wetland. This area is dryer because of a
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	_
Surface Water (A1) Aquatic Fauna (B	
High Water Table (A2) Marl Deposits (B1	
Saturation (A3) Hydrogen Sulfide	
	pheres along Living Roots (C3)
Sediment Deposits (B2) Presence of Redu	
	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	
Iron Deposits (B5) Uther (Explain In	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Surface Water Hesselft	
	: Wetland Hydrology Present? Yes No
Saturation Present? Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos, previous inspections), if available:
Demodes	
Remarks:	la, disela es a
some light redoximorphic features in lower portion of test hole. No h	nyarology.

- (Diet size, 20)			l.Strat. Cover	Indicator Status	Dominance Test worksheet:		
Tree Stratum (Plot size: 30 m)	% Cove	·			Number of Dominant Species		
1 Quercus nigra	10		50.0%	FAC	That are OBL, FACW, or FAC: 8 (A)		
2. Pinus elliottil	5	V	25.0%	FACW	Total Number of Dominant		
3 Nyssa sylvatica			15.0%	FAC	Species Across All Strata: 8 (B)		
Liquidambar styraclflua		Η.	_5,0%	FAC	Barrent of descinant Consise		
j		Ц.	5.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)		
3.	0	Ш	0.0%		That we obe, there, of the		
7.	0	Ш	0.0%		Prevalence Index worksheet:		
3	. 0		0.0%		Total % Cover of Multiply by:		
50% of Total Cover: 10 20% of Total Cover: 4	20	= To	tal Cove	r	OBL species 0 x 1 = 0		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	. F				FACW species 16 x 2 = 32_		
Pinus elliottii	3		12.5%	FACW	FAC species $60 \times 3 = 180$		
Uquidambar styraciflua		V	20.8%	FAC	FACU species 4 x 4 = 16		
A	4.0		41.7%	FAC			
M		,	4.2%	FAC	of a specific		
Magnolia grandiflora		V			Column Totals: 80 (A) 228 (B)		
Nyssa sylvatica	5		20.8%	FAC	Prevalence Index = B/A = 2.850		
)		H.	0.0%	-	Hydrophytic Vegetation Indicators:		
			0.0%		Hydrophytic vegetation indicators:		
3,	0	Ш,	0.0%		1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 12 20% of Total Cover: 4.8	24	= To	tal Cove	г	✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹		
Ilex vomitoria	10	V	71.4%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
Ilex coriacea	1		7.1%	FACW			
•				-	¹ Indicators of hydric soil and wetland hydrology must		
Magnolia virginiana	2		14.3%	FACW	be present, unless disturbed or problematic.		
. Morella cerifera	1	Ц.	7.1%	FAC	m Carte and Albandarian Chamber		
	0	Ц.	0.0%		Definition of Vegetation Strata:		
	0_	Ш_	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.		
50% of Total Cover: 7 20% of Total Cover: 2.8 Herb Stratum (Plot size: 30 m) 1. Arundinaria tecta 2. Lygodium japonicum	5	Y V	26.3% 52.6%	FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
O Physidian			5.3%	FACU			
A man a state to	_		15.8%	FACU	Sapling/Shrub - Woody plants, excluding vines, less		
	-	H	0.0%	, IACO	than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5,		H					
6,	0	H	0.0%		Shrub - Woody plants, excluding woody vines,		
7,	0	<u> </u>	0.0%	-	approximately 3 to 20 ft (1 to 6 m) in height.		
8,		Н.	0.0%		Horb All herbaceous (non woody) plante including		
9,		닏.	_0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody		
0	0	Ц	0.0%		plants, except woody vines, less than approximately		
1	.0	\Box _	0.0%	1 44	3 ft (1 m) in height.		
2	0		0.0%				
50% of Total Cover: 9.5 20% of Total Cover: 3.8	19	= Tol	al Cove		Woody vine - All woody vines, regardless of height.		
Voody Vine Stratum (Plot size: 30 m							
Vitis rotundifolia	3		75.0%	FAC			
Rubus argutus			25.0%	FAC			
	0		0.0%				
		\Box	0.0%				
	0		0.0%		Hydrophytic		
	, w.	Ш.	n.0%		Managettan		
50% of Total Cover: 2 20% of Total Cover: 0.8	4 = Total Cover				Present? Yes • No •		

Profile Descr	iption: (De:	scribe to	the depth	needed to d	ocument	the indic	cator or co	onfirm the	absence of indicato	rs.)	
Depth	,. · · · · · · · · · · · · · · · · · · ·	Matrix			Re	dox Featı					
(inches)	Color (%	Color (moist)	%	Type 1	Loc2	Texture	Remarks	
0-3	10YR	3/2	100		-		-				
3-8	10YR	4/2	100						Loamy Sand		
8-16	10YR	4/3	90	10YR	5/6	10	Ç	M	Loamy Sand	rusty brown mottling/red in lower section of test	
										·•	
Type: C=Cond		=Depletio	n. RM≂Redu	iced Matrix, C	S=Covere	ed or Coate	ed Sand Gr	ains ^z Loca	tion: PL=Pore Lining.	M=Matrix Problematic Hydric Soils ³ :	
Histosol (Poly	value Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (
Histic Epip	edon (A2)			Thin	Dark Sur	face (S9) ((LRR S, T, I	U)	2 cm Muck (
Black Histi	c (A3)			Loar	ny Mucky	Mineral (F	1) (LRR 0))	_ `	tic (F18) (outside MLRA 150A,B)	
Hydrogen	Loar	ny Gleyed	l Matrix (F2	2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)					
Stratified i	Dep	leted Matr	ix (F3)			Anomalous Bright Loamy Soils (F20) (MLRA 153B)					
Organic Bo	_		urface (F6)			Red Parent Material (TF2)					
5 cm Mucl	`		Surface (•		Very Shallow Dark Surface (TF12)					
Muck Presence (A8) (LRR U)						sions (F8)			Other (Explain in Remarks)		
☐ 1 cm Muck (A9) (LRR P, T) ☐ Depleted Below Dark Surface (A11)					(F10) (LF	-					
			11)				MLRA 151)				
_	Surface (A1		1.4504)	_	-		(F12) (LRI				
	rie Redox (A:						RR P, T, U))			
	k Mineral (S), 5)		•	F17) (MLR	-		³ Indica	tors of hydrophytic vegetation and	
_	yed Matrix (S	4)					ILRA 150A,	-	wetl	and hydrology must be present,	
Sandy Rec						•		LRA 149A)		nless disturbed or problematic.	
Stripped M Dark Surfa	iaurix (S6) ice (S7) (LRR	P, S, T,	J)	∐ Anoi	malous Br	ight Loamy	y Soils (F20)) (MLRA 149	9A, 153C, 153D)		
lestrictive La	yer (if obse	erved):								·	
Type:						-			Hydric Soil Prese	nt? Yes O No 🖲	
Depth (inch	es):			v		_			-	100 0 110 0	
Remarks:											
egin to have	some mott	ling in lo	wer portio	n of test pit	(>12-in	ches) as	clay conte	ent begins	to increase.		

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation Applicant/Owner: NASA Investigator(s): Lars Larson, Randy Ellis Landform (hillslope, terrace, etc.): Hillside Subregion (LRR or MLRA): LRR T Lat.:	City/County: Waveland - Hancock Sampling Date: 18-Oct-16 State: MS Sampling Date: 18-Oct-16 Section, Township, Range: 5 29 T 7 s R 16 W Local relief (concave, convex, none): Slope: 1.0 % / 0.6° 30° 24' 45.183" N Long.: 89° 37' 38.549" W Datum: NAD83
Are Vegetation , Soil , or Hydrology naturally p	NWI dassification: N/A Par? Yes No (If no, explain in Remarks.) Itly disturbed? Are "Normal Circumstances" present? Yes No problematic? (If needed, explain any answers in Remarks.) ampling point locations, transects, important features, etc. Is the Sampled Area
Hydric Soil Present? Wetland Hydrology Present? Remarks: Hillslope approximately 30 to 40 feet up from draiange way (ephemolycome) HYDROLOGY	within a Wetland? Yes O No 💿
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Aquatic Fauna (B1) High Water Table (A2) Marl Deposits (B19) Saturation (A3) Hydrogen Sulfide (Coxider Marks (B1)) Water Marks (B1) Oxidized Rhizosph Sediment Deposits (B2) Presence of Reductions	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) heres along Living Roots (C3) Dry Season Water Table (C2) Ided Iron (C4) Crayfish Burrows (C8) Juction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo Remarks:	Wetland Hydrology Present? Yes No No

(District 20 or)	Absolute			Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30 m)	% Cover		over	Status	Number of Dominant Species		
1. Pinus elliottii	10	V _	62.5%	FACW	That are OBL, FACW, or FAC: 6 (A)		
2. Nyssa sylvatica	5	Z _	31.3%	FAC	Total Number of Dominant		
3. Quercus falcata	1	H-	6.3%	FACU	Species Across All Strata: 6 (B)		
4		H	0.0%		Percent of dominant Species		
5		H -	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)		
j	0		0.0%				
7			0.0%		Prevalence Index worksheet:		
3	0	Ш,	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 8 20% of Total Cover: 3.2	16 :	= Tot	tal Cove	r	OBL species 0 x 1 = 0		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	}}				FACW species		
Pinus elliottii	10	✓_	55.6%	FACW	FAC species $20 \times 3 = 60$		
Nyssa sylvatica	5	V	27.8%	FAC	FACU species1 x 4 =4		
Magnolia virginlana			11.1%	FACW	UPL species $0 \times 5 = 0$		
Quercus nigra			5.6%	FAC	Column Totals: 95 (A) 212 (B)		
5.	0		0.0%		35 00		
).	0		0.0%		Prevalence Index = B/A = 2.232		
(E) 1028	0		0.0%		Hydrophytic Vegetation Indicators:		
	0		0.0%		David Tank South Laborate Market		
50% of Total Cover: 9 20% of Total Cover: 3.6	· · · · · · · · · · · · · · · · · · ·	- Tot	al Cove		1 - Rapid Test for Hydrophytic Vegetation		
	10 .	- 101	ai Cove		✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30 m)		_			☑ 3 - Prevalence Index is ≤3.0 ¹		
Ilex coriacea	DAM	V	81.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
Ilex vomitoria	5		10.2%	FAC			
Ilex opaca	2	□.	4.1%	FAC	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
Liquidambar styraciflua	1		2.0%	FAC	be present unless disturbed of problematici		
Magnoila virginiana	1		2.0%	FACW	Definition of Vegetation Strata:		
i	0		0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 24.5 20% of Total Cover: 9.8	49 =	= Total Cover		-	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size:					(7.0 dil) of larger in diameter at breast height (DBH).		
	40	V	00 004	FACILL	Sapling - Woody plants, excluding woody vines,		
1. Ilex coriacea			90.9%	FACW	approximately 20 ft (6 m) or more in height and less		
2. Arundinaria tecta		Η-	9.1%	FACW	than 3 in. (7.6 cm) DBH.		
3	- 0	Η-	0.0%		Sapling/Shrub - Woody plants, excluding vines, less		
4		Н.	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5.	0	H-	0.0%		σ		
6.	0	H.	0.0%		Shrub - Woody plants, excluding woody vines,		
7		Ц,	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.		
8			0.0%		Lierb All horboscous (non procedi à planta lingli-11		
9		<u> </u>	0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody		
0	0	∐	0.0%		plants, except woody vines, less than approximately		
1	0	□	0.0%		3 ft (1 m) in height.		
2	0		0.0%				
50% of Total Cover: 5.5 20% of Total Cover: 2.2	11 =	= Tot	al Cover		Woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30 m)							
Smilax rotundifolia	1		100.0%	FAC			
		Η-		TAC			
1 1.00			0.0%	117.000			
	0	片	0.0%				
au :		닏_	0.0%		Hydrophytic		
		□	0.0%		Vegetation Van (a) Na (
50% of Total Cover: 0.5 20% of Total Cover: 0.2	1 =	= Tota	al Cover		Present? Yes No		
Remarks: (If observed, list morphological adaptations below).							
*Indicator suffix = National status or professional decision assigned because I	Regional status r	not def	fined by FV	vs.			

Depth (inches) Color (moist) 0-4 10YR 4/2 4-16 10YR 5/6 Type: C=Concentration. D=Deplet Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T	** Ca 100 100	lor (moist)	d or Coated	Type 1	Loc²	Texture Loamy Sand Loamy Sand	Remarks
0-4 10YR 4/2 4-16 10YR 5/6 Type: C=Concentration. D=Deplet Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T	100	trix, CS=Covered				Loamy Sand	
Type: C=Concentration. D=Deplet Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T			d or Coated	1 Sand Grai	ns 2l ocat	Loamy Sand	
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T	on. RM=Reduced Mad		or Coated	l Sand Grai	ns 2locat		
Stratified Layers (A5) Organic Bodies (A6) (LRR P, T	1	Thin Dark Surfi Loamy Mucky	ace (S9) (L Mineral (F1	.RR S, T, U)	S, T, U)	Indicators for Prol 1 cm Muck (A9) 2 cm Muck (A10	blematic Hydric Soils ³ : (LRR O)
Muck Presence (A8) (LRR U) 1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (Thick Dark Surface (A12)	P, T, U)	Loamy Gleyed Depleted Matri Redox Dark Su Depleted Dark Redox Depress Marl (F10) (LRI Depleted Ochri Iron-Manganes	ix (F3) urface (F6) Surface (F sions (F8) R U) ic (F11) (M se Masses (7) LRA 151) (F12) (LRR	O, P, T)	Anomalous Brigh	rk Surface (TF12)
Coast Prairie Redox (A16) (ML Sandy Muck Mineral (S1) (LRR Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T	0, S)	Umbric Surface Delta Ochric (F Reduced Vertic Piedmont Flood Anomalous Brig	:17) (MLRA : (F18) (ML dplain Soils	. 151) .RA 150A, 1 .(F19) (MLI	RA 149A)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. PA, 153C, 153D)	
Restrictive Layer (if observed):					H		
Type:			-			Hydric Soil Present?	Yes O No 💿
Depth (inches):Remarks:			2 0		1		

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 18-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 19
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): Slope: 2.0 % / 1.1°
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 42.673" N Long.: 89° 37' 2.692" W Datum: NAD83
Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent sl	lopes NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 💿 No 🔾 (If no, explain in Remarks.)
	tly disturbed? Are "Normal Circumstances" present? Yes No O
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	To the Compled Aven
Hydric Soil Present? Yes O No	Is the Sampled Area Within a Workland? Yes O No No
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?
Remarks:	
Sideslope of natural ridge leading up to railspur 70 to 80-feet to nor	rth.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	13) Sparsely Vegetated Concave Surface (B8)
☐ High Water Table (A2) ☐ Marl Deposits (B1	L5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	heres along Living Roots (C3)
Sediment Deposits (B2)	iced Iron (C4) Crayfish: Burrows (C8)
Drift Deposits (B3)	rction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	e (C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in I	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	(
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	
	ļ
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				ominant Species? _		Sampling Point: Up - 19	
	(Olas also a company)		R	lei.Strat.	Indicator	Dominance Test worksheet:	
	itratum (Plot size: 30 m	% Cover	_	Cover	Status	Number of Dominant Species	
Ny	ssa sylvatica	2		15.4%	FAC	That are OBL, FACW, or FAC: 6 (A)	
Pln	nus elliottii	10	V	76.9%	FACW	TAIN AND ASSOCIATION	
Qu	iercus nigra	1		7.7%	FAC	Total Number of Dominant Species Across All Strata: 6 (B)	
		0.		0.0%		,	
		_		0.0%		Percent of dominant Species	
				0.0%	,	That Are OBL, FACW, or FAC: 100.0% (A/B	
				0.0%		Prevalence Index worksheet:	
		0		0.0%			
-	57-tal Cause	-	_		·. ·	Total % Cover of: Multiply by:	
	of Total Cover: 6.5 20% of Total Cover: 2.6		= 10	otal Cover	ſ	OBL species $0 \times 1 = 0$	
	g or Sapling/Shrub Stratum (Plot size: 30 m	_)	_			FACW species $41 \times 2 = 82$	
Pin	us elliottii	15	V	75.0%	FACW	FAC species $39 \times 3 = 117$	
Ny	ssa sylvatica	. 2		10.0%	FAC	FACU species $0 \times 4 = 0$	
Ace	er rubrum			10.0%	FAC	UPL species $0 \times 5 = 0$	
Ma	gnolia virginiana			5.0%	FACW	4-1	
	N	0		0.0%		Column Totals: 80 (A) 199 (B)	
		0		0.0%		Prevalence Index = B/A = 2.487	
			\exists	0.0%		Hydrophytic Vegetation Indicators:	
				· · · · · · · · · · · · · · · · · · ·			
				C.0%		1 - Rapid Test for Hydrophytic Vegetation	
50% o	f Total Cover: 10 20% of Total Cover: 4	20	= To	otal Cover	1	✓ 2 - Dominance Test is > 50%	
hrub	Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹	
Ileo	c corlacea	5		16.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
Ilex	a secondaryin		<u>_</u>		FAC	- Hobidinate Hydrophysic regention (explain)	
	rella cerifera	5		16.7%	FAC	¹ Indicators of hydric soil and wetland hydrology mus	
NO				_	FAL	be present, unless disturbed or problematic.	
-	a br			0.0%	3 3	Deficial or of Manageria Charles	
		0	님	0.0%		Definition of Vegetation Strata:	
_		0	. О Ц		0.0%	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.	
0% of	f Total Cover: 15 20% of Total Cover: 6	30 =	= To	otal Cover	1	(7.6 cm) or larger in diameter at breast height (DBH).	
lerb S	tratum (Plot size: 30 m						
	indinaria tecta	10	V	100.0%	EAC'A/	Sapling - Woody plants, excluding woody vines,	
)	indirection of the second	0		0.0%	IACVI	approximately 20 ft (6 m) or more in height and less	
-						than 3 in. (7.6 cm) DBH.	
-		0	Η.	0.0%	_	Sapling/Shrub - Woody plants, excluding vines, less	
	····	0	Ш	0.0%			
						Than 3 in TIBH and dreater than 3.28 ft (1m) fall	
j		0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.	
5 5		0		0.0%	12 (13 24)		
		0				Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
-		0		0.0%		Shrub - Woody plants, excluding woody vines,	
		0		0.0%	**************************************	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including	
7. 3 9		0 0 0		0.0% 0.0% 0.0% 0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody	
		0 0 0 0		0.0% 0.0% 0.0% 0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately	
7 3 9),		0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	STATE OF THE STATE	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody	
7. 33. 9. 9. 9.		0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
7. 3. 9. 9. 1. 2.	Total Cover: 5 20% of Total Cover: 2	0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately	
7. 3.).).		0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
7. 3.).).	Total Cover: 5 20% of Total Cover: 2	0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	ŀ	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
0% of	Total Cover: 5 20% of Total Cover: 2 Vine Stratum (Plot size: 30 m) us argutus	0 0 0 0 0 0 0 0	☑.	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FAC	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
0% of	Total Cover: 5 20% of Total Cover: 2 Vine Stratum (Plot size: 30 m)	0 0 0 0 0 0 0 0	☑.	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% otal Cover 28.6% 71.4%	FAC	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
0% of	Total Cover: 5 20% of Total Cover: 2 Vine Stratum (Plot size: 30 m) us argutus	0 0 0 0 0 0 0 10 =	☑.	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.1al Cover 28.6% 71.4% 0.0%	FAC	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
7. 3.). 60% of foody Rub	Total Cover: 5 20% of Total Cover: 2 Vine Stratum (Plot size: 30 m) us argutus	0 0 0 0 0 0 0 10 =	☑.	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% otal Cover 28.6% 71.4% 0.0%	FAC	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height. Hydrophytic	
7. 3. 9. 0. 1. 2. 50% of Voody Vitts	Total Cover: 5 20% of Total Cover: 2 Vine Stratum (Plot size: 30 m) us argutus	0 0 0 0 0 0 0 10 =		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.1al Cover 28.6% 71.4% 0.0%	FAC FAC	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.	

SOIL Sampling Point: Up - 19 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) **Redox Features** Matrix Depth (inches) Color (moist) % Color (moist) 9/0 Type 1 Loc2 Remarks 10YR 100 0 - 44/2 10YR 4-16 5/4 100 ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) ☐ Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Materia! (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, じ) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) ☐ Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Туре: **Hydric Soil Present?** Yes O No 💿 Depth (inches): Remarks:

Applicant/Owner: NASA Investigator(s): Lars Larson. Randy Ellis Landform (hillslope, terrace, etc.): Terrace	City/County: Waveland - Hancock Sampling Date: 18-Oct-16 State: MS Sampling Point: Up - 20 Section, Township, Range: Name: No.0 % / 0.0 % <
Are Vegetation , Soll , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally pu SUMMARY OF FINDINGS - Attach site map showing same Hydrophytic Vegetation Present? Yes No	Is the Sampled Area No O No
Hydric Soil Present? Wetland Hydrology Present? Yes No No Remarks: This is a broad flat just south of railroad spur 150 feet.	within a Wetland? Yes O No
Sediment Deposits (B2)	Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) eres along Living Roots (C3) Dry Season Water Table (C2) ded Iron (C4) Crayfish Burrows (C8) ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) (C7) Geomorphic Position (D2)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos Remarks:	Wetland Hydrology Present? Yes ○ No ④

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

			ominant pecies? _		Sampling Point: Up - 20
(0)		R	el.Strat.		Dominance Test worksheet:
ee Stratum (Plot size: 30 m)	% Cove		Cover	Status	Number of Dominant Species
Magnolia virginiana	10	V	83.3%	FACW	That are OBL, FACW, or FAC: 3 (A)
Nyssa sylvatica	1_		8,3%	FAC	Total Number of Dominant
Quercus nigra	1		8.3%	FAC	Species Across All Strata:3 (B)
	0		0.0%_		
The control of the co	_ 0		0.0%		Percent of dominant Species That Are OBL FACW or FAC: 100-0% (A/B
	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B
	0		0.0%		Prevalence Index worksheet:
C	0		0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 6 20% of Total Cover: 2.4	12	= To	otal Cove		OBL species 2 x 1 = 2
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species
Pinus elliottii	5	V	83.3%	FACW	FAC species 3 x 3 = 9
Quercus nigra			16.7%	FAC	FACU species 0 x 4 = 0
	_	\Box	0.0%		
-		$\overline{\Box}$	0.0%		
			0.0%		Column Totals: 82 (A) 165 (B)
	~ -		0.0%		Prevalence Index = B/A = 2.012
		H			Hydrophytic Vegetation Indicators:
	0	出	0.0%	_	
		Ш.	0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 3 20% of Total Cover: 1.2	6	= To	otal Cover	•	✓ 2 - Dominance Test is > 50%
rub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex corlacea	50	V	82.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex glabra	4.0		16.4%	FACW	
Vaccinium elliottii	1		1.6%	FACW	¹ Indicators of hydric soil and wetland hydrology mus
			0.0%		be present, unless disturbed or problematic.
			0.0%		Definition of Vegetation Strata:
	0	$\overline{\Box}$	0.0%		Tree - Woody plants, excluding woody vines,
0% of Total Cover: 30.5 20% of Total Cover: 12.2	61	= Tr	tal Cover		approximately 20 ft (6 m) or more in height and 3 in.
					(7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m)					Sapling - Woody plants, excluding woody vines,
, Sabal minor	1_	Щ	33.3%	FACW	approximately 20 ft (6 m) or more in height and less
Lycopodiella alopecuroides	2	\square	66.7%	OBL	than 3 in. (7.6 cm) DBH.
	0	\sqcup	0.0%		
**	0	\Box	0.0%	0.54.0	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
-	Ŏ	\square	0.0%		than 3 in. DDH and greater than 3.20 it (111) tall.
Caaua_a	0		0.0%		Shrub - Woody plants, excluding woody vines,
The state of the s	0	\square	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
As I was known as the second of the second o		\Box	0.0%		
	0		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
	0		0.0%		plants, except woody vines, less than approximately
	0		0.0%		3 ft (1 m) in height.
•	0		0.0%		
0% of Total Cover: 1.5 20% of Total Cover: 0.6	3 =	= To	tal Cover		Woody vine - All woody vines, regardless of height.
		-			
oody Vine Stratum (Plot size: 30 m	•		0.004	ŀ	
	_ 0		0.0%	-	
		片	0.0%		
		H	0.0%		
			0.0%		The description of the later
		一"			Hydrophytic
0% of Total Cover: 0 20% of Total Cover: 0	0		0.0%		Hydrophytic Vegetation Present? Yes No

	^	
-		

SOIL									Sampling Pol	nt: Up - 20	
Profile Desci	iption: (De:	scribe to	the depth	needed to d	locument	t the indi	cator or co	onfirm the	absence of indicators.)		
Depth		Matrix			. Re	dox Feat	ures				
(inches)	Color (moist)	. %	Color (moist)	%	Type ¹	Loc2	Texture	Remarks	
0-5	10YR	3/2	100						Loamy Sand		
5-12	10YR	4/3	100						Loamy Sand		
12-20	10YR	5/4	90	10YR	6/6	10	c	M	Loamy Sand		
	-									· · ·	
			_	=							
Type: C=Con	centration. D	=Depletio	n. RM=Redu	ced Matrix, (S=Cover	ed or Coat	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=Matrix		
Hydric Soil I	ndicators:								Indicators for Problemati	c Hydric Soils ³ :	
Histosol (/	A1)			Poly	value Bel	ow Surfac	e (\$8) (LRR	S, T, U)	☐ 1 cm Muck (A9) (LRR O)	1	
Histic Epip	edon (A2)			Thir	n Dark Sui	face (S9)	(LRR S, T, l	J)	2 cm Muck (A10) (LRR S	5)	
🔲 Błack Hist	ic (A3)			Loa	my Mucky	Mineral (F1) (LRR 0)	i	Reduced Vertic (F18) (o	•	
Hydrogen	Sulfide (A4)			☐ Loa	my Gleve	d Matrix (F	·2)		Piedmont Floodplain Soi		
Stratified	Layers (A5)			_	leted Mat		-			/ Soils (F20) (MLRA 153B)	
Organic B	odies (A6) (L	RR P, T, U	J)			urface (F6	i)		Red Parent Material (TF		
	ky Mineral (A		-	_		k Surface	-		_ `	•	
_	ence (A8) (L		, -, •,	`		ssions (F8)	• /		☐ Very Shallow Dark Surface (TF12)		
_	k (A9) (LRR F	-		_	•		,		Other (Explain in Remar	(\$)	
_			111		l (F10) (LI						
_ `	Below Dark S	_	11)				(MLRA 151)				
_	Surface (A1	•		_	_		s (F12) (LRF				
_	rie Redox (A		_	Uml	oric Surfac	ce (F13) (i	LRR P, T, U)	ı			
Sandy Mu	ck Mineral (\$	1) (LRR O	, S)	Delt	a Ochric (F17) (MLF	₹A 151)		3- 11 - 61 -	1	
Sandy Gle	yed Matrix (S	54)		Red	uced Vert	ic (F18) (M	MLRA 150A,	150B)	Indicators of hydrolo	ophytic vegetation and gy must be present,	
Sandy Red	fox (S5)			☐ Pied	mont Floo	odplain So	ils (F19) (MI	LRA 149A)		ed or problematic.	
Stripped N	latrix (S6)			_		•			19A, 153C, 153D)		
_	ice (S7) (LRF	R P, S, T, U	J)				, (, (, , _, , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , , ,		
			•								
estrictive La	yer (if obse	erved):	-								
Type:											
Depth (inch	es).								Hydric Soil Present? Ye	s ● No O	
	ics)			7 7 7 7		-			-		
lemarks:											
ome mottlin	g and small	l redox c	oncentratio	ons below 1	0-12 inc	hes.					

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hanco	ock Sampling Date: 18-Oct-16
Applicant/Owner: NASA	State: MS	Sampling Point: Up - 21
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S	29 T 7s R 16W
	Local relief (concave, convex, r	
(* 8 , * 15 , a.c. a.c. a.c. a.c. a.c. a.c. a.c. a.		g.: 89° 37' 15.745" W Datum: NAD83
Soil Map Unit Name: PoB, Poarch fine sandy loam, 2 to 5% slopes		NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of yea	Yes No O	(If no, explain in Remarks.)
		Circumstances" present? Yes No No
		i di dali da la contra di da co
Are Vegetation, Soil, or Hydrology naturally possible. SUMMARY OF FINDINGS - Attach site map showing sar	•	explain any answers in Remarks.) ransects. important features, etc.
1	Is the Sampled Area	
Hydric Soil Present? Yes No No	within a Wetland?	Yes ○ No •
Wetland Hydrology Present? Yes ○ No ●		
Remarks:		
Hillslope just up from Plot Wet 21 approximately 50 to 60-feet.		
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	м:	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15)	(LRR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide C	dor (C1)	Moss Trim Lines (B16)
☐ Water Marks (B1) ☐ Oxidized Rhizosphe	res along Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (B2)	d Iron (C4)	Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Reduct	ion in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	(C7)	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in Re	emarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes No Depth (inches):		
Water Table Present? Yes No Depth (inches):		
Saturation Present? (Includes capillary fringe) Yes No Depth (inches):	Wetland Hyd	rology Present? Yes O No 💿
(in the second	i	labla
Describe Recorded Data (stream gauge, monitoring well, aerial photos	, previous inspections), ir avai	iable:
Remarks:		
I		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

			ominant pecies? _		Sampling Point: Up - 21
(Diotaine 20 mg)	Absolute	R	el.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m)	% Cover		Cover	Status	Number of Dominant Species
Pinus elliottii	101	V	96.2%	FACW	That are OBL, FACW, or FAC: 3 (A)
Magnolia virginiana	3	\Box	2.9%	FACW	Total Number of Dominant
Quercus nigra	1	\sqcup	1.0%	FAC	Species Across All Strata: 3 (B)
3834	0		0.0%		
*	0		0.0%		Percent of dominant Species That Are OBI FACW or FAC: 100.0% (A/B)
W. Jan. 1	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
17 to 17	0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 52.5 20% of Total Cover: 21		= To	tal Cove		OBL species 3 x 1 = 3
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species $161 \times 2 = 322$
		✓.	83.3%	FACW	FAC species 11 x 3 = 33
Proceedings of the second control of the sec				FACW	
		\exists		I ACVV	
		Η.	0.0%		UPL species $0 \times 5 = 0$
		H	0.0%		Column Totals: 175 (A) 358 (B)
	0	닏	0.0%		Prevalence Index = B/A = 2.046
- -		\vdash	0.0%		
	0	\sqsubseteq	0.0%		Hydrophytic Vegetation Indicators:
	0	\square	0.0%	-	✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 3 20% of Total Cover: 1.2	6	= To	tai Cove	r	✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
Ylan anda an	50	V	83.3%	FACW	
Ilex contacta		,	16.7%		Problematic Hydrophytic Vegetation ¹ (Explain)
	10	H	-	FAC	¹ Indicators of hydric soil and wetland hydrology must
		H	0,0%		be present, unless disturbed or problematic.
	O O	<u></u>	0.0%	t., , , , , , , , out	
		닏.	0.0%		Definition of Vegetation Strata:
	0	Ц,	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
60% of Total Cover: 30 20% of Total Cover: 12	60	= To	tal Cover	•	(7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot size: 30 m)					
. Lycopodiella alopecuroides	2		66.7%	OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
. Woodwardia areolata	1		33.3%	OBL	than 3 in. (7.6 cm) DBH.
3,	0		0.0%		
	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
		$\overline{\Box}$	0.0%	_	<u></u>
., ., .,	0	Π.	0.0%	-	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
		\Box	0.0%		approximately 3 to 20 it (1 to 5 m) in neight.
the second secon		Η.	0.0%		Herb - All herbaceous (non-woody) plants, including
·					herbaceous vines, regardless of size, and woody
r _{ph} .			0.0%		plants, except woody vines, less than approximately
·		<u>ا</u> .	0.0%		3 ft (1 m) in height.
	0	Щ	0.0%		Manager Alleranders and the Control of the Control
0% of Total Cover: 1.5 20% of Total Cover: 0.6	3 =	= To	tal Cover		Woody vine - All woody vines, regardless of height.
(Plot size: 30 m					
Smilax laurifolia	_ 1		100.0%	FACW	
· .m	. 0		0.0%		
	0		0.0%		
	0		0.0%		
	0		0.0%		Hydrophytic
	u	Tol	tal Cover	,,,,	Vegetation Present? Yes No
50% of Total Cover: 0.5 20% of Total Cover: 0.2					

SOIL									Sampling Point: Up - 21
Profile Desc	ription: (De:	scribe to	the depth	needed to	documen	t the ind	icator or co	onfirm the	absence of indicators.)
Depth		Matrix			Re	dox Feat	tures		
(inches)	Color (moist)_	0/0	Color	(moist)	%	Type 1	Loc2	Texture Remarks
0-3	10YR	3/2	100						
3-15	10YR	5/3	98	10YR	6/6	2	С	М	Sandy Loam
*					. М				2)
-			E (NK 10404 M-		0				mai: Marma - da cost lato (P
					_				
		h :				B.,1 6 *-			
						-			
¹ Type: C=Con	centration. D	=Depletion	n. RM=Red	uced Matrix,	CS=Cover	ed or Coat	ted Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=Matrix
Hydric Soil 1									Indicators for Problematic Hydric Soils ³ :
Histosol (•				-		ce (S8) (LRR		1 cm Muck (A9) (LRR O)
	pedon (A2)			∐ Th	in Dark Su	rface (S9)	(LRR S, T, U	١)	2 cm Muck (A10) (LRR S)
Black Hist				Lo.	amy Muck	/ Mineral ((F1) (LRR 0)		Reduced Vertic (F18) (outside MLRA 150A,B)
_ ′ ~	Sulfide (A4)			Lo.	amy Gleye	d Matrix (I	F2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)
	Layers (A5)		_		pleted Mai	` '			Anomalous Bright Loamy Soils (F20) (MLRA 153B)
	odies (A6) (L		-		dox Dark S		-		Red Parent Material (TF2)
	ky Mineral (A		, T, U)		pleted Dar		` .		Very Shallow Dark Surface (TF12)
	sence (A8) (L	•			dox Depre	-	3)		Other (Explain in Remarks)
	ik (A9) (LRR P			_	л (F10) (L				
	Below Dark S	•	.1)				(MLRA 151)		
	k Surface (A1	-	1504\				s (F12) (LRF		
	irie Redox (A1		-				LRR P, T, U)		
	ick Mineral (S		, 5)		ta Ochric				³ Indicators of hydrophytic vegetation and
Sandy Red	yed Matrix (S	(1)					MLRA 150A,		wetland hydrology must be present,
	dox (33) Matrix (S6)					•	oils (F19) (Mi		unless disturbed or problematic.
_	ace (S7) (LRR	DSTI	r\	An	omalous B	right Loan	ny Soils (F20) (MLRA 14)	9A, 153C, 153D)
Dark Surio	ace (37) (LRN	r, 5, 1, 0	"						
								<u>-</u>	
Restrictive La	ayer (if obse	rved):						}	
Type:									Hydric Soil Present? Yes No
Depth (incl	nes);								nyunc soit Present: Yes No
Remarks:									
loamy sand to	sandy loan	л							

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date:	18-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 22	* .
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W	
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): Slope: 2.0 °	% / 1.1°
the second of th		
• • • • • • •	50 21 25/051 11	TEADOS
Soil Map Unit Name: EuB, Escambia loamy fine sand, 2 to 5 percent sk	0 0	
Are climatic/hydrologic conditions on the site typical for this time of year		0
Are Vegetation , Soil , or Hydrology significant	ly disturbed? Are "Normal Circumstances" present? Yes	No O
Are Vegetation . , Soil . , or Hydrology . naturally p	oroblematic? (If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, et	C.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area	
Hydric Soil Present? Yes ○ No ●	Vec O No 💿	
Wetland Hydrology Present? Yes O No	within a Wetland?	
Remarks:		
900 feet (+/-) east of Up - 21.		
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 require	d)
Primary Indicators (minimum of one required: check all that apply)	Surface Soil Cracks (B6)	
Surface Water (A1) Aquatic Fauna (B1	3) Sparsely Vegetated Concave Surface (B8	1)
High Water Table (A2) Marl Deposits (B1	<u> </u>	
Saturation (A3) Hydrogen Sulfide		
	eres along Living Roots (C3) Dry Season Water Table (C2)	
Sediment Deposits (B2)		
	ction in Tilled Soils (C6)	j
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface		
☐ Iron Deposits (B5) ☐ Other (Explain in F	· =	
☐ Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)	
Field Observations: Surface Water Present? Yes No Depth (inches):		
Salidad Trade Trade Control of the C		
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes O No	
Saturation Present? Yes No Depth (inches):	Wedana Hydrology Present: 100 0 100 0	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:	
Remarks:		
Side slope 60-feet (+/-) up from bottom drain area and riparian buff	or zona an North cida of Turtle Skin Creek	
Side slope ob-reet (+/-) up from bottom drain area and riparian bull-	51 ZONE ON MOLET SIZE OF FUTUE SKIT CICCA.	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

Species? Absolute Rel.Strat. Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: 30 m ___) % Cover Cover Status Number of Dominant Species 1. Pinus elliottii 10 FACW 33.3% That are OBL, FACW, or FAC: 5 (A) 2 Magnolia virginiana 15 50.0% **FACW** Total Number of Dominant 3. Nyssa sylvatica 5 16.7% Species Across All Strata: 5 (B) 4. 0_ 0.0% Percent of dominant Species 5. 0 0.0% 100.0% (A/B) That Are OBL, FACW, or FAC: 6. 0 0.0%0 7. 0.0% Prevalence Index worksheet: 0 ... Total % Cover of: Multiply bv: 50% of Total Cover: 15 20% of Total Cover: 6 30 = **Total Cover** OBL species $3 \times 1 = 3$ 160 Sapling or Sapling/Shrub Stratum (Plot size: 30 m) FACW species __80 x 2 = Pinus elliottii 13 x 3 = **V** 5 27.8% FACW FAC species 2. Magnolia virginiana 10 ~ <u>0</u> x4= 55.6% **FACW** FACU species Nyssa sylvatica 0 x 5 = 16.7% 0 4. 0.0% (B) Column Totals: 96 (A) 202 5. ______0_ 0.0% Prevalence Index = B/A = 2,104 6. 0 0.0% Hydrophytic Vegetation Indicators: 7. 0___ 0.0% 8. _ 0 0.0% ✓ 1 - Rapid Test for Hydrophytic Vegetation 50% of Total Cover: 9 20% of Total Cover: 3.6 18 = Total Cover 2 - Dominance Test is > 50% Shrub Stratum (Plot size: 30 m) 3 - Prevalence Index Is ≤3.0 ¹ 1 Ilex coriacea 40 88.9% FACW Problematic Hydrophytic Vegetation ¹ (Explain) Ilex opaca 5 11.1% 1 Indicators of hydric soil and wetland hydrology must 3. __ _____0 0.0% be present, unless disturbed or problematic. 4. _____0 **Definition of Vegetation Strata:** 5. 0 0.0% 6. 0 0.0% Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. 50% of Total Cover: 22.5 20% of Total Cover: 9 45 = Total Cover (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum (Plot size: 30 m) Sapling - Woody plants, excluding woody vines, 1 Sarracenia alabamensis 66.7% approximately 20 ft (6 m) or more in height and less 2. Lycopodiella alopecuroides 1 33.3% than 3 in. (7.6 cm) DBH. 0.0% 4. ______0 Sapling/Shrub - Woody plants, excluding vines, less 0.0% than 3 in. DBH and greater than 3.28 ft (1m) tall. O 0.0% 0.0% Shrub - Woody plants, excluding woody vines, ____0 approximately 3 to 20 ft (1 to 6 m) in height. 0.0% 0 0.0% Herb - All herbaceous (non-woody) plants, including ____0 0.0% herbaceous vines, regardless of size, and woody ____0 10. 0.0% plants, except woody vines, less than approximately 11.__ _____0 0.0% 3 ft (1 m) in height. 12. 0 0.0% Woody vine - All woody vines, regardless of height. 50% of Total Cover: 1.5 20% of Total Cover: 0.6 3 = Total Cover Woody Vine Stratum (Plot size: 30 m 1 Smilax laurifolia 0 0.0% 0 2. 0.0% 3. 0.0%0 4. 0.0% Hydrophytic ___0 5. Vegetation Yes 💿 No O 20% of Total Cover: 0 0 = Total Cover Present? 50% of Total Cover: 0 Remarks: (If observed, list morphological adaptations below). transitional area just up from obvious wetland boundary. Gallberry understrory thickens appreciably within 30 feet of this plot. *Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Up - 22

Sampling Point:

COTI	r

OIL						Sampling Point: Up - 22
Profile Descr	iption: (Des	cribe to	the depth	needed to document the indicator or confir	rm the a	absence of Indicators.)
Depth		Matrix		Redox Features		2
(inches)	Color (ı	moist)	0/0	1	Loc2	Texture Remarks
0-4	10YR	3/2	100			Loamy Sand
4-16	10YR	5/4	100			Loamy Sand
· - ·		·:·•			-	
Гуре: C=Cond	centration. D=	=Depletio	n. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains	² Locat	ation: PL=Pore Lining, M=Matrix
lydric Soil I	ndicators:					Indicators for Problematic Hydric Soils ³ :
Histosol (A	A1)			Polyvalue Below Surface (S8) (LRR S, T	T, U)	1 cm Muck (A9) (LRR O)
Histic Epip	edon (A2)			☐ Thin Dark Surface (S9) (LRR S, T, U)		2 cm Muck (A10) (LRR S)
Black Histi	ic (A3)			Loamy Mucky Mineral (F1) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)
_	Layers (A5)			Depleted Matrix (F3)		
	odies (A6) (LF	RR P. T. I	J)	Redox Dark Surface (F6)		Anomalous Bright Loamy Soils (F20) (MLRA 153B)
	ky Mineral (A		•			Red Parent Material (TF2)
	ence (A8) (LF		, , , ,	Depleted Dark Surface (F7)		☐ Very Shallow Dark Surface (TF12)
_		-		Redox Depressions (F8)		Other (Explain in Remarks)
_	k (A9) (LRR P			Marl (F10) (LRR U)		
_ `	Below Dark Su	-	11)	Depleted Ochric (F11) (MLRA 151)		
_	Surface (A12	-		Iron-Manganese Masses (F12) (LRR O,	P, T)	
Coast Prai	rie Redox (A1	.6) (MLRA	150A)	Umbric Surface (F13) (LRR P, T, U)		
Sandy Muc	k Mineral (S1	l) (LRR O	, S)	Delta Ochric (F17) (MLRA 151)		-
_	yed Matrix (S			Reduced Vertic (F18) (MLRA 150A, 150)B)	³ Indicators of hydrophytic vegetation and
Sandy Red	lox (S5)			Piedmont Floodplain Soils (F19) (MLRA	-	wetland hydrology must be present, unless disturbed or problematic.
Stripped M				Anomalous Bright Loamy Soils (F20) (M		-
_	ice (S7) (LRR	P, S, T, U	J)	Milotifalous Bright Loainy Sois (120) (Pr	ILNA 172	7N, 133C, 133O)
estrictive La	yer (if obse	rved):		 		
Type:	iyei (ii obse	i veuj.				
						Hydric Soil Present? Yes O No 💿
Depth (inch	es):			and great and an expension of		
emarks:						

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 23
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): rolling Slope: 3.0 % / 1,7°
A 11 manuary 100 mans	NADO2
	30° 24' 25.737" N Long.: 89° 37' 21.949" W Datum: NAD83
Soil Map Unit Name: EuB, Escambia loamy fine sand, 2 to 5 percent slo	
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes 🍳 No 🔾
Are Vegetation , Soil , or Hydrology naturally p	oroblematic? (If needed, explain any answers in Remarks.)
	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No	
Hydric Soil Present? Yes No	Is the Sampled Area Yes No No
Wetland Hydrology Present? Yes O No •	within a Wetland? Yes O No O
Remarks: Area along drainage way (North to south) on the west side of the ra	pilchur accesss mad - Western AOT
Area along drainage way (North to South) of the west side of the ra	nispui accesss road - Western Aoz.
HYDROLOGY	· · · · · · · · · · · · · · · · · · ·
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	☐ Surface Soil Cracks (B6)
☐ Surface Water (A1) ☐ Aquatic Fauna (B1	(3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15)	5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide 6	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduc	ced Iron (C4) Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Reduc	ction in Tifled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	e (C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in F	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (87)	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes O No O Depth (inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ⊙
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	ne province increations) if available:
Describe Recorded Data (Stream gauge, monitoring wen, aeriai prioto	s, previous inspections), ii avaliable.
Remarks:	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

	% Cove		el.Strat. Cover	Indicator Status	
ree Stratum (Plot size: 30 m)	,		4		Number of Dominant Species
Pinus elliottii	5		22.7%	FACW	That are OBL, FACW, or FAC: 7 (A)
Pinus tzeda	5	V	22.7%	FAC	Total Number of Dominant
Acer rubrum	2		9.1%	FAC	Species Across All Strata: 9 (B)
Quercus falcata	10	V	45.5%	FACU	Percent of dominant Species
4			0.0%	1. p.	That Are OBL, FACW, or FAC: 77.8% (A/B)
		Н	0.0%	-	
	0	Ш	0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 11 20% of Total Cover: 4.4	22	= To	otal Cove	F	OBL species $0 \times 1 = 0$
ppling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species 25 x 2 = 50
Quercus nigra	15	V	93.8%	FAC	FAC species $84 \times 3 = 252$
Quercus muehlenbergli	1		6.3%	UPL	FACU species $12 \times 4 = 48$
			0.0%		UPL species $\frac{1}{x}$ x $5 = \frac{5}{x}$
			0.0%	,,	4
	^		0.0%		COTO 10 122, (70 535
. For the second of the second			0.0%		Prevalence Index = $B/A = 2.910$
	0		0.0%		Hydrophytic Vegetation Indicators:
			0.0%		
ON of Tabel Causes 20 20 of Tabel Causes 22					1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 8 20% of Total Cover: 3.2	16	= 10	otal Cove	HT	✓ 2 - Dominance Test is > 50%
nrub Stratum (Plot size: 30 m		_			✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex vomitoria	25	V	55.6%	FAC	Problematic Hydrophytic Vegetation ¹ (Explaîn)
Ilex coriacea	15	✓	33,3%	FACW	
			11.1%	FAC	Indicators of hydric soil and wetland hydrology must
Quercus nigra	5	ш.	11.170	IAC	
S	5		0.0%	IAG	be present, unless disturbed or problematic.
Quercus nigra	0			INC	Definition of Vegetation Strata:
Quercus nigra	0		0.0%	TAG	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines,
Quercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9	0	= To	0.0%		Definition of Vegetation Strata:
Ouercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m)	0 0 0 45		0.0% 0.0% 0.0% otal Cove	r	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines,
Ouercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata	0 0 0 45	✓	0.0% 0.0% 0.0% otal Cove	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Overcus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 0 45		0.0% 0.0% 0.0% otal Cove 28.6% 71.4%	r	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines,
Ouercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 0 45	✓	0.0% 0.0% 0.0% otal Cove 28.6% 71.4% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Overcus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Liex corlacea	0 0 0 45	✓	0.0% 0.0% 0.0% stal Cove 28.6% 71.4% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less
Ouercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 0 45	✓	0.0% 0.0% 0.0% stal Cove 28.6% 71.4% 0.0% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Ouercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 0 45 2 5 0 0	✓	0.0% 0.0% 0.0% stal Cove 28.6% 71.4% 0.0% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
Owercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Lilex corlacea	0 0 0 45	✓	0.0% 0.0% 0.0% stal Cove 28.6% 71.4% 0.0% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Overcus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 0 45 2 5 0 0	✓	0.0% 0.0% 0.0% stal Cove 28.6% 71.4% 0.0% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
Ouercus nigra O% of Total Cover: 22.5 20% of Total Cover: 9 orb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 0 45 2 5 0 0 0	✓	0.0% 0.0% 0.0% 0.0% 0.0% 28.6% 71.4% 0.0% 0.0% 0.0% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including
Owercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 0 45 2 5 0 0 0	✓	0.0% 0.0% 0.0% 0.0kai Cove 28.6% 71.4% 0.0% 0.0% 0.0% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
Overcus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 45 2 5 0 0 0 0		0.0% 0.0% 0.0% 0.0% otal Cove 28.6% 71,4% 0.0% 0.0% 0.0% 0.0% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
Owercus nigra Owercus nigra Owercus nigra Owercus falcata Ilex corlacea	0 0 0 45		0.0% 0.0% 0.0% 0.0% otal Cove 28.6% 71.4% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	r FACU	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
Owercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea 0% of Total Cover: 3.5 20% of Total Cover: 1.4	0 0 0 45		0.0% 0.0% 0.0% 0.0% 28.6% 71.4% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU FACW	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
Owercus nigra Owercus nigra Owercus nigra Owercus nigra Owercus nigra Owercus of Total Cover: 22.5 20% of Total Cover: 9 Owercus falcata Ilex corlacea Owercus falcata Ilex corlacea Owercus falcata Ilex corlacea	0 0 0 45	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU FACW	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Owercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea	0 0 0 45 2 5 0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU FACW	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Owercus nigra O% of Total Cover: 22.5 20% of Total Cover: 9 Perb Stratum (Plot size: 30 m) Quercus falcata Lilex corlacea O% of Total Cover: 3.5 20% of Total Cover: 1.4 Doody Vine Stratum (Plot size: 30 m) Smilax rotundifolia	0 0 0 45 2 5 0 0 0 0 0 0 0	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	0.0% 0.0% 0.0% 0.0% 28.6% 71.4% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACU FACW	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Owercus nigra O% of Total Cover: 22.5 20% of Total Cover: 9 Price Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea O% of Total Cover: 3.5 20% of Total Cover: 1.4 Price Stratum (Plot size: 30 m) Smilax rotundifolia Vitis rotundifolia	0 0 0 45 2 5 0 0 0 0 0 0 0 7	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	0.0% 0.0% 0.0% 0.0% 28.6% 71.4% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACU FACW	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Owercus nigra 0% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea 0% of Total Cover: 3.5 20% of Total Cover: 1.4 coody Vine Stratum (Plot size: 30 m) Smllax rotundifolia Vitis rotundifolia Smilax bona-nox	0 0 0 45 2 5 0 0 0 0 0 0 0 0 7	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU FACW	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Owercus nigra O% of Total Cover: 22.5 20% of Total Cover: 9 erb Stratum (Plot size: 30 m) Quercus falcata Ilex corlacea O% of Total Cover: 3.5 20% of Total Cover: 1.4 coody Vine Stratum (Plot size: 30 m) Smilax rotundifolia Vitis rotundifolia	0 0 0 45 2 5 0 0 0 0 0 0 0 0 7	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACU FACW	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

SOIL					Sampling Point: Up - 23
Profile Descr	ription: (Des	scribe to	the depth	needed to document the indicator or confirm	the absence of indicators.)
Depth		Matrix		Redox Features	
(inches) 0-5	Color (moist) 4/2	100	Color (moist) % Type 1 Loc	c2 Texture Remarks Loamy Sand
5-16	10YR	6/4	100		Loamy Sand
V - 1			-	100	—— N
	-				
• •	+		-		100 pt 100 pt 1 V 1
	y and the second				
	-	=Depletio	n. RM≃Redu	ced Matrix, CS=Covered or Coated Sand Grains 2	
Hydric Soil I Histosol (A				Data who below 600 to 500 to 50 T to	Indicators for Problematic Hydric Soils ³ :
_ `	nedon (AZ)			Polyvalue Below Surface (S8) (LRR S, T, U)	
Black Hist				☐ Thin Dark Surface (S9) (LRR S, T, U) ☐ Loamy Mucky Mineral (F1) (LRR Q)	2 cm Muck (A10) (LRR S)
_	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Reduced Vertic (F18) (outside MLRA 150A,B)
_	Layers (A5)			Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
	odies (A6) (L	RR P. T. L	i)	Redox Dark Surface (F6)	□ Anomalous Bright Loamy Solls (F20) (MLRA 153B) □ Red Parent Material (TF2)
	ky Mineral (A		•	Depleted Dark Surface (F7)	
	sence (A8) (LI		, , ,	Redox Depressions (F8)	Very Shallow Dark Surface (TF12)
_	k (A9) (LRR P	-		Mari (F10) (LRR U)	Other (Explain in Remarks)
Depleted I	Below Dark S	urface (A.	1)	Depleted Ochric (F11) (MLRA 151)	
Thick Dark	k Surface (A1	2)		☐ Iron-Manganese Masses (F12) (LRR O, P, 7	T)
Coast Prai	irie Redox (A1	L6) (MLRA	150A)	Umbric Surface (F13) (LRR P, T, U)	•
Sandy Mu	ck Mineral (S	1) (LRR O	, S)	Delta Ochric (F17) (MLRA 151)	
Sandy Gle	yed Matrix (S	(4)		Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
☐ Sandy Red	dox (S5)			Piedmont Floodplain Soils (F19) (MLRA 149	wedand nydrology indic be presency
Stripped M	1atrix (S6)			Anomalous Bright Loamy Soils (F20) (MLRA	A 149A, 153C, 153D)
☐ Dark Surfa	ece (S7) (LRR	P, S, T, l	J)		
Restrictive La	ever (if obse	erved):			
Type:		,			
Depth (inch	nes):				Hydric Soil Present? Yes ○ No ⑥
Remarks:		•			
No hydric indi	cators obse	rved.			

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hanc	ock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS	Sampling Point: Up - 24
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S	5 29 T 7s R 16W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex,	none): Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	•	g.: 89° 37' 22,840" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	30 24 33.340 N	NWI classification: N/A
	Yes No O	
Are climatic/hydrologic conditions on the site typical for this time of ye		(If no, explain in Remarks.)
		al Circumstances" present? Yes Vo V
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed,	explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, t	ransects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area	
Hydric Soil Present? Yes ● No ○		Yes ○ No ⑨
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?	
Remarks: Transitional area 400-500 feet west of access orad in old Ammunition borderline wet/up and no significant hydrological indicators are presented.		ance of hydrophytic vegetation, BUT, soils are
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	,	Surface Soil Cracks (B6)
Surface Water (A1)	13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	.5) (LRR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1)	Moss Trim Lines (B16)
☐ Water Marks (B1) ☐ Oxidized Rhizosph	eres along Living Roots (C3)	☐ Dry Season Water Table (C2)
Sediment Deposits (B2)	ced Iron (C4)	Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Redu	ction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	e (C7)	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in	Remarks)	Shallow Agultard (D3)
Inundation Visible on Aerial Imagery (B7)	·,	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes No Depth (inches):		
Water Table Present? Yes O No O Depth (inches):		
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hyd	Irology Present? Yes ○ No •
Describe Recorded Data (stream gauge, monitoring well, aerial photo		ilahle:
beschibe recorded batta (stream gauge, monitoring well, dental prob	ss, previous inspections,, ir uvu	idora.
Description		
Remarks: No significant hydrology indicators in soil or area except for FAC Neuequipment usage in the past.	uetral test. Only true wetlands a	appear to be areas disturbed by heavy
		İ

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

Tree Stratum (Plot size: 30 m)	Absolute	e R	pecies? _ el.Strat. Cover	Indicator Status	Dominance Test worksheet:
1 Pinus elliottii		V	80.0%	37.373.4	Number of Dominant Species
II escape and a con-	8	=		FACW	That are OBL, FACW, or FAC:5(A)
2. Pinus taeda	2	V	20.0%	FAC	Total Number of Dominant
3	0	Ш	0.0%		Species Across All Strata: 5 (B)
4	0		0.0%		
5	0		0.0%		Percent of dominant Species
6			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7	0		0.0%		Prevalence Index worksheet:
7	0		0.0%	or over the	
		_			Total % Cover of: Multiply by:
50% of Total Cover: 5 20% of Total Cover: 2	10	= To	otal Cove	Г	OBL species $2 \times 1 = 2$
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species $77 \times 2 = 154$
1 Pinus elliottii	. 5	V	71,4%	FACW	FAC species $4 \times 3 = 12$
2. Magnolia virginiana	2	Y	28.6%	FACW	FACU species 0 x 4 = 0
3.	0		0.0%		UPL species $0 \times 5 = 0$
		$\overline{\Box}$	0.0%		
		H			Column Totals: 83 (A) 168 (B)
5.	. 0		0.0%	_	Prevalence Index = B/A = 2.024
6	0		0.0%	-	·
7	. 0		0.0%		Hydrophytic Vegetation Indicators:
8	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 3.5 20% of Total Cover: 1.4	7	= To	otal Cover		✓ 2 - Dominance Test Is > 50%
					<u></u>
Shrub Stratum (Plot size: 30 m					3 - Prevalence Index is ≤3.0 ¹
1. Ilex corlacea	50	✓	83.3%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex glabra	10		16.7%	FACW	
3.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
4.	0		0.0%		be present, unless disturbed or problematic.
_ = ===================================	-	П	0.0%	_	Definition of Vegetation Strata:
		H			_
6	0	Щ	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 30 20% of Total Cover: 12	60	≖ To	otal Cover	•	(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m)					
1. Lycopodiella alopecuroides	2		50.0%	OBL	Sapling - Woody plants, excluding woody vines,
		H			approximately 20 ft (6 m) or more in height and less
			50.0%	FACW	than 3 in. (7.6 cm) DBH.
3.	0	Щ	0.0%		
4	0. ,	\square	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
5	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0		0.0%		Shrub - Woody plants, excluding woody vines,
7	0	\square	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8.	n	\Box	0.0%	-	
	L L	\exists	0.0%		Herb - All herbaceous (non-woody) plants, including
9			· -		herbaceous vines, regardless of size, and woody
10		\vdash	0.0%		plants, except woody vines, less than approximately
11	0	Ш	0.0%		3 ft (1 m) in height.
12	0		0.0%		
50% of Total Cover: 2 20% of Total Cover: 0.8	4	= To	tal Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m					
1 Smilax rotundifolia	2	Ц,	100.0%	FAC	
2.	0		0.0%		
3.	0		0.0%		
4	0		0.0%		
5. <u></u>	0	\Box	0.0%		Hydrophytic
		Ш.			Vegetation Present? Yes No
50% of Total Cover: 1 20% of Total Cover: 0.4	2	= To	tal Cover		Present? Yes V No V
Remarks: (If observed, list morphological adaptations below).					
*Indicator cuffix National status or professional decision assigned because Dr	alanal abbus		-6 L. CV	HC-	

SOIL									Sampling Point: Up - 24
Profile Descr	iption: (Des	scribe to	the depth	needed to	documen	nt the indi	cator or o	onfirm the	absence of indicators.)
Depth		Matrix				edox Feati	ures		
(Inches)	Color (ı	moist)	%	Color	(moist)	%	Type 1	Loc2	Texture Remarks
0-5	10YR	3/2	100			,			Loamy Sand
5-15	10YR	4/3	99	10YR	6/8	1	С.	М	Loarny Sand
	· *** *** *** ***	(2 ° 100, 000	a				-i : w xxxx		
						-			
					_				****
¹ Type: C=Conc	centration. D:	=Depletio	n. RM=Redu	iced Matrix,	, CS=Cover	ed or Coat	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=Matrix
Hydric Soll I	ndicators:								Indicators for Problematic Hydric Soils ³ :
Histosol (A	A1)			Po	olyvalue Be	low Surface	e (58) (LRR	(S, T, U)	1 cm Muck (A9) (LRR O)
Histic Epip	oedon (A2)				-	ırface (S9) (2 cm Muck (A10) (LRR S)
Black Histl	lc (A3)					y Mineral (F			Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)					ed Matrix (F		Ï	Piedmont Floodplain Soils (F19) (LRR P, S, T)
	Layers (A5)			-	epleted Mat		-,		Anomalous Bright Loamy Soils (F20) (MLRA 153B)
Organic Bo	odies (A6) (Li	RR P, T, l	J)		•	Surface (F6)	Λ		Red Parent Material (TF2)
5 cm Muck	ky Minerai (A	7) (LRR P	, Τ, U)			rk Surface (i	•		Very Shallow Dark Surface (TF12)
Muck Pres	sence (A8) (LF	RR U)			edox Depre:				Other (Explain in Remarks)
1 cm Muck	k (A9) (LRR P	', T)		_	ari (F10) (L	. ,			— Other (ехрівін ін келівіка)
Depleted B	Below Dark Si	urface (Af	11)	_		hric (F11) (N	MLRA 151)		
Thick Dark	k Surface (A12	2)	-	_		ese Masses			
Coast Prair	rie Redox (A1	16) (MLR#	4 150A)			ice (F13) (Li			
	ck Mineral (S1					(F17) (MLR		,	_
Sandy Gley	yed Matrix (S	4)				tic (F18) (M	•	. 150B)	³ Indicators of hydrophytic vegetation and
Sandy Red						odplain Soil		-	wetland hydrology must be present, unless disturbed or problematic.
Stripped M	fatrix (S6)								9A, 153C, 153D)
Dark Surfa	ce (S7) (LRR	. P, S, T, l	J)	_			,	,	,
Restrictive La	/4F obso								
	iyer (ii ouse	rveu _j .							
Type:	1.					_			Hydric Soil Present? Yes No
Depth (inch	les):	- Jac		, K > -					
Remarks:									

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 25
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): undulating Slope: 2.0 % / 1.1°
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 38.668" N Long.: 89° 37' 31.839" W Datum: NAD83
Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes	NWI dassification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🔲 significant	ly disturbed? Are "Normal Circumstances" present? Yes 🍥 No 🔘
Are Vegetation . , Soil . , or Hydrology . naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing said	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area
Hydric Soil Present? Yes O No 💿	Van O Na 📵
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?
Remarks:	
Upland plot approximatley 50-60 feet up from lower riparian drainag	e area.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1)	3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15	() (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide (=
	eres along Living Roots (C3)
Sediment Deposits (B2) Presence of Reduc	
	tion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in R	·
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
V O N O	
	Wetland Hydrology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	
İ	,
!	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

Tree Stratum (Plot size: 30 m)			el.Strat. Cover	Indicator Status	Dominance Test worksheet:
	% Cover	_			Number of Dominant Species
1 Pinus elliottii	10	V	55.6%	FACW	That are OBL, FACW, or FAC: 7 (A)
2. Nvssa sylvatica	3		16.7%	FAC	Total Number of Dominant
3 Magnolia virginiana		Y	27.8%	FACW	Species Across All Strata: 7 (B)
4	0	Ш	0.0%		
5	0	\square	0.0%		Percent of dominant Species That Are OBL FACW or FAC: 100-0% (A/B)
6.	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7.	0		0.0%		Prevalence Index worksheet:
8.	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 9 20% of Total Cover: 3.6	18	= To	tal Cove	r	OBL species 0 x 1 = 0
				•	FACW species 83 x 2 = 166
Sapling or Sapling/Shrub Stratum (Plot size: 30 m			45 504	FAC	
1. Nyssa sylvatica	10	V	45.5%	FAC	FAC species $25 \times 3 = 75$
2. Pinus elikittii		V.	45.5%	FACW	FACU species $0 \times 4 = 0$
3. Quercus nigra	2 .	□.	9.1%	FAC	UPL species 0 x 5 = 0
4. ,. , ,	0	\Box	0.0%		Column Totals: 108 (A) 241 (B)
5	0	Щ	0.0%		Decombrace Index - D/A - 2 221
6.	0		0.0%		Prevalence Index = B/A = 2.231
7.	0		0.0%		Hydrophytic Vegetation Indicators:
8.	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 11 20% of Total Cover: 4.4	22	- To	tal Cove	r	
			icus corc	•	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m					3 - Prevalence Index is ≤3.0 ¹
1 Ilex coriacea	40_	⊻.	81.6%	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
2. Magnolia grandiflora	1	\square	2.0%	FAC	
3. Ilex vomitoria	. 5		10.2%	FAC	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Ilex glabra	3		6.1%	FACW	be present, unless discurbed or problematic.
5	0		0.0%		Definition of Vegetation Strata:
6.	0		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 24.5 20% of Total Cover: 9.8	49 :	= Total Cover		r	approximately 20 ft (6 m) or more in height and 3 in.
					(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m					Sapling - Woody plants, excluding woody vines,
1, Ilex corlacea	_	✓.	66.7%	FACW	approximately 20 ft (6 m) or more in height and less
2. Ilex glabra	5	✓	33.3%	FACW	than 3 in. (7.6 cm) DBH.
3	0		0.0%		
4.	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less
5.	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.	0		0.0%		Shrub - Woody plants, excluding woody vines,
7	0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8.	-	\Box	0.0%		approximately o to 20 it (1 to 0 tri) in the gran
	_		0.0%	. 14.	Herb - All herbaceous (non-woody) plants, including
1 3111	0		0.0%		herbaceous vines, regardless of size, and woody
10		H	-		plants, except woody vines, less than approximately
11,	0	늗	0.0%		3 ft (1 m) in height.
12,	0	Ц,	0.0%		Mondy sing. All woods sings regardless of beight
50% of Total Cover: 7.5 20% of Total Cover: 3	15 =	= To	tal Cove	·	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m)					
1 Vitis rotundifolia	3		75.0%	FAC	
11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Ξ.	25.0%	FAC	
3.		H	0.0%	1710	
		7			
1.		Η-	0.0%		Hydrophytic
5		□_	0.0%		Vegetation V (a) No (
50% of Total Cover: 2 20% of Total Cover: 0.8	4 =	= Tol	tal Covei		Present? Yes No C
Tanandar (Tf abanyad list mounhalastal adamhattan baku)					<u> </u>
Remarks: (If observed, list morphological adaptations below).					
*Indicator suffix = National status or professional decision assigned because Re	ecional status r	not de	efined by Fl	WS.	

Sampling Point: Up - 25 Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) % % Type Loc2 Remarks 0-5 10YR 4/2 100 5-16 10YR 5/4 100 ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Solls³: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: **Hydric Soil Present?** Yes 🔾 No 💿 Depth (inches): Remarks:

Troject/oracl Table Stelling 1,100 fore Wedania Delineation	City/County: Waveland - Hancock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 26
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): undulating Slope: 3.0 % / 1.7°
Subregion (LRR or MLRA): LRR T Lat.:	30° 24′ 34.961" N Long.: 89° 37′ 43.663" W Datum: NAD83
Soil Map Unit Name: SaC, Saucier fine sandy loam, 5 to 8 percent slope	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Are climatic/hydrologic conditions on the site typical for this time of year	(27 110) 24 (27 110)
	Are trouver encourage present.
	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map snowing san	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Ta the Counted two
Hydric Soil Present? Yes O No	Is the Sampled Area Wes ○ No ●
Wetland Hydrology Present? Yes No No	within a Wetland?
Remarks: Area is just inside railbed approximately 200-250-feet, in western-not	orthorn partian of AOI
Area is just inside railbed approximately 200-250-reet, in western-nor	Tulerii portion of Aox.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
☐ Surface Water (A1) ☐ Aquatic Fauna (B13	3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15)	(LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide O	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizospine	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	
	tion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in Re	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	Springfruit from (20) (2007)
Surface Water Present? Yes No Depth (inches):	
	Wetland Hydrology Present? Yes ○ No ⑨
Saturation Present? Yes No Depth (inches):	Tracada Tryatology Flasciti.
Describe Recorded Data (stream gauge, monitoring well, aerial photos	s, previous inspections), if available:
Remarks:	
	i

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

Tree Stratum (Plot size: 30 m) 1 Pinus elliottii	7/0 1.0VPF		CALA	
Pinus elliottii	% Cover		Status	Number of Dominant Species
	.5_	38.5%	FACW	That are OBL, FACW, or FAC: 6 (A)
2. Pinus taeda	2	15.4%	FAC	Total Number of Dominant
Magnolia virginiana	. 3	23.1%	FACW	Species Across All Strata: 8 (B)
Liriodendron tulipifera		23.1%	FACU	
5	0	0.0%		Percent of dominant Species That Are OBL_FACW, or FAC: 75.0% (A/B)
5	•	0.0%		That Are OBL, FACW, or FAC:75.0% (A/B)
7	0	0.0%		Prevalence Index worksheet:
3.	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 6.5 20% of Total Cover: 2.6	13	= Total Cove		OBL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum (Plot size: 30 m				FACW species <u>78</u> x 2 = 156
· · · · · · · · · · · · · · · · · · ·		✓ 21.7%	FAC	
Magnolia virginiana		43.5%	_FACW	FACU species $9 \times 4 = 36$
Quercus falcata		21.7%	FACU	UPL species $0 \times 5 = 0$
Quercus nigra		13.0%	FAC	Column Totals: 104 (A) 243 (B)
5.	0	0.0%		Prevalence Index = B/A = 2.337
5	0	0.0%		
7.	0	0.0%		Hydrophytic Vegetation Indicators:
A STATE OF THE PROPERTY OF THE PARTY OF THE	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 11.5 20% of Total Cover: 4.6	23 :	= Total Cove		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 ¹
	EO	✓ 89.3%	EACW	
	-		FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Quercus nigra		8.9%	FAC	1 Tadiostore of budgle out and westland budgeless much
Quercus falcata	1	1.8%	FACU	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
J	0	0.0%	r (- z	
5	0	0.0%	le z	Definition of Vegetation Strata:
S	0	□ 0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 28 20% of Total Cover: 11.2	56 =	= Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m)				(to only of larger in alamotor at broadt holy in (= = +).
	10	1 00.0%	FACW	Sapling - Woody plants, excluding woody vines,
			FACIV	approximately 20 ft (6 m) or more in height and less
2.	0	0.0%	$\overline{}$	than 3 in. (7.6 cm) DBH.
3,		0.0%	-	Sapling/Shrub - Woody plants, excluding vines, less
4.		□ 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0	0.0%		3. a.a a.a a.a a.a a.a a.a a.a a.a a.a a.a a.a a.a a.a a.a a.a a.a
6	0	0.0%		Shrub - Woody plants, excluding woody vines,
7	. 0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0_	0.0%	e i e	
9		0.0%		Herb - All herbaceous (non-woody) plants, including
0		0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
1.	0	0.0%		3 ft (1 m) in height.
2.	0	0.0%		
50% of Total Cover: 5 20% of Total Cover: 2		Total Cover		Woody vine - All woody vines, regardless of height.
	- 10	- IOCAI COVEI		
Woody Vine Stratum (Plot size: 30 m		_		
Smilax rotundifolia	2	100.0%	FAC	
	. 0	0.0%	c	
	_	0.0%		
		0.0%		
	0	0.0%		Hydrophytic
		Total Cover		Vegetation Present? Yes No ○
50% of Total Covery 1 20% of Total Covery 0.4	2 =	· I Utai LUVEI	- 1	

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SOIL					Sampling Point: Up - 26
Profile Desci	ription: (Descr	ibe to	the depth r	needed to document the indicator or confirm the	e absence of indicators.)
Depth	М	atrix		Redox Features	
(inches)	Color (mo	ist)	0/2	Color (moist) % Type 1 Loc2	Texture Remarks
0-5	10YR	4/2	100		Sandy Loam
5-15	10YR	5/4	100		Loamy Sand
				· · ·	1 PURA DEL . ACCESO
¹Type: C=Con	centration. D=D	epletio	n. RM≕Reduc	ed Matrix, CS=Covered or Coated Sand Grains 2Lo	cation: PL=Pore Lining. M=Matrix
Hydric Soil I	indicators:			· · · · · · · · · · · · · · · · · · ·	Indicators for Problematic Hydric Soils 3:
Histosol (A	A1)			Polyvalue Below Surface (S8) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Histic Epip	pedon (A2)			☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
☐ Black Hist	ic (A3)			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
☐ Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
Organic B	odies (A6) (LRR	P, T, L	J)	Redox Dark Surface (F6)	Red Parent Material (TF2)
5 cm Muç	ky Mineral (A7)	(LRR P	, T, U)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Muck Pres	sence (A8) (LRR	U)		Redox Depressions (F8)	Other (Explain in Remarks)
1 cm Muc	k (A9) (LRR P, T)		☐ Marl (F10) (LRR U)	Collet (Explain in Remarks)
Depleted	Below Dark Surf	ace (A	11)	Depleted Ochric (F11) (MLRA 151)	
Thick Darl	k Surface (A12)			☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Prai	irie Redox (A16)	(MLRA	150A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Mu	ck Mineral (S1)	(LRR O), S)	Delta Ochric (F17) (MLRA 151)	_
Sandy Gle	yed Matrix (\$4)			Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
☐ Sandy Red	dox (S5)			Piedmont Floodplain Soils (F19) (MLRA 149A	wetland hydrology must be present,) unless disturbed or problematic.
☐ Stripped N	4atrix (S6)			Anomalous Bright Loamy Soils (F20) (MLRA 1	
Dark Surfa	ace (S7) (LRR P,	S, T, U	J)	_ , , , ,	, , ,
D1-1-1 (-	// // · · · · · · · · · · · · · · · · ·	_ 48 -			
	ayer (if observ	eu):			
Type:					Hydric Soil Present? Yes No No
Depth (inch	ies):				
Remarks:					

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hance	ock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS	Sampling Point: Up - 27
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S	707.
		produced a transfer to the second of the sec
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex,	
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 26.719" N Lon	g.: 89° 37′ 36.739″ W Datum: NAD83
Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes		NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of yea	ar? Yes 💿 No 🔾	(If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significant	:ly disturbed? Are "Norma	l Circumstances" present? Yes ● No ○
Are Vegetation, Soil, or Hydrology naturally p		explain any answers in Remarks.)
Rie vegetation — , son — , or rivatology — materially p	Topicmatic: (II liceded,	explain any answers in remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, t	ransects, important features, etc.
Hydrophytic Vegetation Present? Yes ⊙ No ○	Is the Sampled Area	
Hydric Soil Present? Yes O No	-	Yes ○ No •
Wetland Hydrology Present? Yes O No	within a Wetland?	To The T
Remarks:		
Plot is in area west of RR Spur about 400 to 500 feet in NW area of	AOI.	
· ·		
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1		Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1)	5) (LRR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1)	Moss Trim Lines (B16)
☐ Water Marks (B1) ☐ Oxidized Rhizosph	eres along Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (B2)	ced Iron (C4)	Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Reduc	ction In Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	(C7)	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in F	Remarks)	Shallow Aquitard (D3)
☐ Inundation Visible on Aerial Imagery (B7)	,	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes O No O Depth (inches):		
Water Table Present? Yes No O Depth (inches):		
Saturation Present?	Wetland Hyd	rology Present? Yes 🔾 No 🖲
(includes capillary Hinge)		
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if avai	ilable:
Remarks:	<u>-</u>	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant Species? .

_	(Plot size: 20 m	Absolute	Re		Indicator	Dominance Test worksheet:
		% Cover		over	Status	Number of Dominant Species
1.	Pinus elliottii	10	V	41.7%	FACW	That are OBL, FACW, or FAC: 7 (A)
2.	Pinus taeda	5	V .	20.8%	FAC	Total Number of Dominant
3.	Nyssa sylvatica		Y	20.8%	FAC	Species Across Ali Strata: 7 (B)
4.	Liquidambar styraciflua		븜.	12.5%	FAC	Parcent of deminant Species
5.	Quercus falcata		Η.	4.2%	FACU	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
6.		-	Ц.,	0.0%		Triatria del Triony di Trion
7.	#	0	Ц.	0.0%		Prevalence Index worksheet:
8.		. 0		0.0%		Total % Cover of: Multiply by:
50	% of Total Cover: 12 20% of Total Cover: 4.8	24 :	= Tot	al Cover		OBL species $0 \times 1 = 0$
Sa	oling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species $72 \times 2 = 144$
1.	Pinus elliottii	25	~	62.5%	FACW	FAC species 46 x 3 = 138
2.	Pinus taeda	5		12.5%	FAC	FACU species $\frac{1}{x} \times 4 = \frac{4}{x}$
3.	Liquidamber styraciflua			12.5%	FAC	UPL species $0 \times 5 = 0$
4.	Magnolia virginiana			5.0%	FACW	
5.	Nyssa sylvatica		\Box	7.5%	FAC	Column Totals: 119 (A) 286 (B)
~ '		^		0.0%		Prevalence Index = B/A = 2.403
7.				0.0%		Hydrophytic Vegetation Indicators:
		-	Π-	0.0%		
	N STANDON DO DON STANDON D		<u> </u>			1 - Rapid Test for Hydrophytic Vegetation
50	% of Total Cover: 20 20% of Total Cover: 8	40 =	= Tot	al Cover		✓ 2 - Dominance Test is > 50%
5h	rub Stratum (Plot size: 30 m)					☑ 3 - Prevalence Index is ≤3.0 ¹
1.	Ilex coriacea		~	74.5%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2.	Ilex vomítoria	10	✓_	21.3%	FAC	
3.	Acer rubrum	2		4.3%	FAC	Indicators of hydric soil and wetland hydrology must
4.	·	0		0.0%		be present, unless disturbed or problematic.
_ '		9.125		0.0%		Definition of Vegetation Strata:
6.		0		0.0%	No. v.	Tree - Woody plants, excluding woody vines,
	% of Total Cover: 23.5 20% of Total Cover: 9.4	47 =	= Tot	al Cover		approximately 20 ft (6 m) or more in height and 3 in.
						(7.6 cm) or larger in diameter at breast height (DBH).
	b Stratum (Plot size: 30 m)					Sapling - Woody plants, excluding woody vines
	Lygodium japonicum	-	V _		FAC	approximately 20 ft (6 m) or more in height and less
2.			<u> </u>	0.0%		than 3 in. (7.6 cm) DBH.
3.		0	\sqcup	0.0%		Continue (Oberta March 1997)
4.		. 0	∐	0,0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5.		0	Ш_	0.0%		and one portain greater than 0.20 it (111) tail.
6.		0	□	0.0%		Shrub - Woody plants, excluding woody vines,
7.	A.W. J. A.W. J.	. 0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8.	and the second s	0		0.0%		
9.		0		0.0%		Herb - All herbaceous (non-woody) plants, including
0.		. 0		0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11.		0		0.0%		3 ft (1 m) in height.
12.	, (2.7 %	0		0.0%		
	% of Total Cover: 2.5 20% of Total Cover: 1	-	: Tota	al Cover		Woody vine - All woody vines, regardless of height.
	ody Vine Stratum (Plot size: 30 m	, ng 1 - 11			}	
	Vitis rotundifolia			100.0%	FAC	
2.			닏	0.0%		
3.		0		0.0%		
		0	∐	0.0%		Madana hadia
5.		0	$\Box_{,}$	0.0%		Hydrophytic Vegetation
50	6 of Total Cover: 1.5 20% of Total Cover: 0.6	3 =	- Tota	al Cover		Present? Yes No
					l	<u> </u>

SOIL									Samp	ling Point: Up - 27	
Profile Descri	iption: (De:	scribe to	the depth	needed to d	ocumen	t the indic	cator or co	nfirm the a	absence of indicators.)	
Depth			ures								
(inches)	Color (moist)_	%	Color (r	noist)_	%	Type 1	Loc2	Texture	Remarks	
0-4	10YR	3/2	100								
4-16	10YR	6/4	100								
6 mm mm.						-			(**9-11		
						-		_			
-							-				_
4.4										y	
¹ Type: C=Conc	entration. D	=Depletio	n. RM=Redu	ced Matrix, C	S=Covere	ed or Coate	ed Sand Gra	ins ² Locat	tion: PL=Pore Lining. M	=Matrix	
Hydric Soil II				_					Indicators for Pro	blematic Hydric Soils ³ :	
Histosol (A	-						(S8) (LRR :		1 cm Muck (A9)	(LRR O)	
Histic Epip				_			(LRR S, T, U	1)	2 cm Muck (A10)) (LRR S)	
Black Histi				_		•	F1) (LRR O)		Reduced Vertic	(F18) (outside MLRA 150A,B)	
	Sulfide (A4)					d Matrix (F.	2)		Piedmont Flood	plain Soils (F19) (LRR P, S, T)	
_	ayers (A5)				eted Mat				Anomalous Brig	ht Loamy Soils (F20) (MLRA 153B)	
	dies (A6) (L		•			urface (F6	•		Red Parent Mat	erial (TF2)	
_	y Mineral (A		, I, U)			k Surface (Very Shallow Da	ark Surface (TF12)	
_	ence (A8) (Li : (A9) (LRR F	•			•	ssions (F8)			Uther (Explain i	n Remarks)	
	selow Dark S	•	(1)	_	(F10) (LI	•	MI DA 454)				
	Surface (A1	-	11)				MLRA 151)	0.0.7			
	ie Redox (A:	•	1504)		-		(F12) (LRR	.U, P, 1)			
	k Mineral (S						.RR P, T, U)				
	ed Matrix (S		, 5,	_		(F17) (MLR	121) 12RA 150A, 1	1E0B)		s of hydrophytic vegetation and	
Sandy Gley		7.13		_			icka 1304, is (F19) (ML			I hydrology must be present, ss disturbed or problematic.	
Stripped M				_				•	9A, 153C, 153D)	is disturbed or problemade.	
	ce (S7) (LRR	P. S. T. I	וו	Alloi	IIGIUUS LII	igne Loann	y 30115 (1 20)	(I-IDO 143	,,, 1550, 1550)		
			•								
Restrictive La	yer (if obse	erved):									
Type:									Hydric Soil Present?	? Yes ○ No •	
	es):					-			Tryanc oon Fresents		
Remarks:											

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up -28
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 33.408" N Long.: 89° 37' 40.343" W Datum: NAD83
Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes	NWI dassification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year	ar? Yes 📵 No 🔾 (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally ;	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes O No	Vec () No (
Wetland Hydrology Present? Yes O No	within a Wetland?
Remarks:	
Terrace area located in NW part of AOI. Site is near an ephemeral of	channel that displays evidence of hydric soils.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	neres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	ced Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	e (C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in F	Remarks) Shallow Aquitard (D3)
☐ Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No 💿
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	
indires.	
	İ

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

Tree Stratum (Plot size: 30 m	Absolute % Cover	Re	pecies? . el.Strat. Cover	Indicator Status	Dominance Test worksheet:
1 Pinus elliottii	15	V	78.9%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)
2. Nyssa sylvatica	3		15.8%	FAC	
3. Magnolia grandifiora	1		5.3%	FAC	Total Number of Dominant Species Across All Strata: 5 (B)
4.	0		0.0%		Species Across Air Strate.
5.	0	\Box	0.0%		Percent of dominant Species
6.		\Box	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
7	0	\Box	0.0%		Prevalence Index worksheet:
8.	0		0.0%	•	Total % Cover of: Multiply by:
50% of Total Cover: 9.5 20% of Total Cover: 3.8		 - To	tal Cove		OBL species 0 x 1 = 0
*******	1		COI COTC		FACW species83 _ x 2 =166
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	-1	. 0	F0.00/	E46941	
1. Pinus elliottii	5			FACW	FAC species 18 x 3 = 54
2 Magnolla virginiana		✓.	_30.0%	FACW	FACU species $0 \times 4 = 0$
Liquidambar styraciflua	2.	✓.	20.0%	FAC	UPL species $0 \times 5 = 0$
4.			0.0%		Column Totals: 101 (A) 220 (B)
5.			0.0%		Prevalence Index = B/A = 2.178
6		H	0.0%		·
7.	0	片	0.0%		Hydrophytic Vegetation Indicators:
8.	0	$\square_{\frac{1}{2}}$	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 5 20% of Total Cover: 2	10 :	= To	tal Cove	•	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Piot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 1
1. Ilex corlacea	60	V	85.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex vomitoria	10		14.3%	FAC	
3.	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
4.	0		0.0%		be present, unless disturbed or problematic.
5.	Section 10		0.0%		Definition of Vegetation Strata:
6.	0	Ē.	0.0%	-	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 35 20% of Total Cover: 14	1111	- To	tal Cover	49	approximately 20 ft (6 m) or more in height and 3 in.
w.		. •			(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 33)			7272257		Sapling - Woody plants, excluding woody vines,
1		片	0.0%		approximately 20 ft (6 m) or more in height and less
2		٣.	0.0%		than 3 in. (7.6 cm) DBH.
3.	C	Η,	0.0%		One Provide the Market and the state of the
4	0	ᆜ.	0.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0	Ц.	0.0%		than one bornario ground than o.20 it (111) tall.
6	0	Ц.	0.0%		Shrub - Woody plants, excluding woody vines,
7	0	Ще	0,0%		approximately 3 to 20 ft (1 to 6 m) in height.
8	0	LJ.	0.0%		Llowb All bowhonous (now weath Automic frobuilty)
9	0	Ш.	0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10			0.0%		plants, except woody vines, less than approximately
11	0		0.0%	2A 🖘 V.:	3 ft (1 m) in height.
12	0		0.0%		
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Tol	tal Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m					
1. Vitis rotundifolia	2	П	100.0%	FAC	
2	0	\Box	0.0%		
3.	0		0.0%		
4			0.0%		
4 5	0	_	0.0%		Hydrophytic
		,-	, , , , , , , , , , , , , , , , , , ,	,	Vegetation Present? Yes No
50% of Total Cover: 1 20% of Total Cover: 0.4	2 =	Tot	al Cover		Present? Yes No U
Remarks: (If observed, list morphological adaptations below). *Indicator suffix = National status or professional decision assigned because Re-					

Depth (inches) 0-5 5-16	_	Matrix	% 100	Color (. uic inul	JOHN OF CI		absence of indicators.)	
(inches) 0-5	Color (n 10YR	4/2		Color (dox Feati		Augustin file	•	
0-5	10YR	4/2			moist)	%	Type 1	Loc2	Texture	Remarks
5-16	10YR	5/4						,	Loamy Sand	
			95	10YR	7/6	5	С	PL	Loamy Sand	w. J. w.
							10	_		· · · · · · ·
	'F . 7 W1	_		_		-	-		-	
			-						1 .0000000	e ,
									V	
			•							
	hunting D	Daulatia	- DM D-d		OC C		d Cond Co	nine 71 non	ition: PL=Pore Lining, M=!	Matrice
ydric Soil Indi		Debleno	n. RM=Reu	icea Mairix,	CS=COVER	eu or coate	eu Sanu Gr	allis -Luca		
Histosol (A1)				□ p-1	lv.a Dal	ow Surface	(CO) (LDD	C T 11		lematic Hydric Soils ³ :
Histic Epipedo				_	•	ow surrace face (S9) (1 cm Muck (A9) (•
Black Histic (#				_		Mineral (F		•	☐ 2 cm Muck (A10)	•
Hydrogen Sul	-			_		d Matrix (F		,		F18) (outside MLRA 150A,B)
Stratified Laye					oleted Mat	•	۷,			ain Soils (F19) (LRR P, S, T)
Organic Bodie		R P. T. I	n	_		urface (F6)	`			t Loamy Soils (F20) (MLRA 153B)
5 cm Mucky N			-			k Surface (Red Parent Mater	• •
Muck Presenc			, ., .,			ssions (F8)	•		Very Shallow Dar	
1 cm Muck (A					d (F10) (LI				Other (Explain in	Remarks)
Depleted Belo			11)			ric (F11) (f	MI RA 151)			
Thick Dark Su	ırface (A12	!)	•			ese Masses	_			
Coast Prairie	Redox (A1	6) (MLRA	\ 150A)	_	-	ce (F13) (L				
Sandy Muck N	Mineral (S1) (LRR O	, S)	_		F17) (MLR			2	
Sandy Gleyed	Matrix (S4	1)		Rec	luced Vert	c (F18) (M	ILRA 150A,	150B)	³ Indicators	of hydrophytic vegetation and hydrology must be present,
☐ Sandy Redox	(S5)							LRA 149A)		disturbed or problematic.
Stripped Matri	ix (S6)			☐ And	maious Br	ight Loamy	y Soils (F20) (MLRA 14	9A, 153C, 153D)	
Dark Surface	(S7) (LRR	P, S, T, l	J)							
strictive Laye	r (if obsei	rved):								
Туре:										
Depth (inches)									Hydric Soil Present?	Yes 🔾 No 🖲
		:_						<u> </u>		
temarks: ridence of mott	tina in lov	wer nor	tion of soil	profile > 1	2 inches.	No stror	na redoxii	morphic fe	atures in upper part of s	soil profile.

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 21-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 29
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 31 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): undulating Slope: 3.0 % / 1.7 °
•	30° 24′ 24.071" N Long.: 89° 37′ 49.856" W Datum: NAD83
Soil Map Unit Name: ScD, Saucier-Susquehanna complex, 5 to 12 perc	
Are climatic/hydrologic conditions on the site typical for this time of year	ar? Yes 🏵 No 🔾 (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significant	tly disturbed? Are "Normal Circumstances" present? Yes . No .
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes O No	The Sampled Area Yes No No
Wetland Hydrology Present? Yes ○ No •	within a Wetland?
Remarks: Hillslope approximately 60-feet south ofr E-W Property line fenceline	e in Western part of the AOI.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	
Surface Water (A1) Aquatic Fauna (B1	
High Water Table (A2) Marl Deposits (B1	
Saturation (A3) Hydrogen Sulfide	
	neres along Living Roots (C3)
Sediment Deposits (B2)	
	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	
Iron Deposits (B5) Other (Explain In F	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ●
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes O No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	oc provious inspections) if available:
Describe Recorded Data (Stream gauge, Monitoring Well, aerial prioto	os, previous inspections), ir available.
Remarks:	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant Species?

(Blat size - 20)	Absolute			Indicator	Dominance Test worksheet:
Free Stratum (Plot size: 30 m) Pinus elliottii	% Cove		over	Status	Number of Dominant Species
Pinus elliottii		7.00	50.0%	FACW	That are OBL, FACW, or FAC: 5 (A)
Quercus nigra			25.0%	FAC	Total Number of Dominant
Acer rubrum		Ц.,,	10.0%	FAC	Species Across All Strata: 5 (B)
Magnolia grandiflora		Ш	5.0%	FAC	
Nyssa sylvatica	2	Щ	10.0%	FAC	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	. 0	\square _	0.0%		That Are OBL, FACTY, OF FAC.
W	. 0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
60% of Total Cover: 10 20% of Total Cover: 4	20	= Tota	al Cover		OBL species $0 \times 1 = 0$
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species $50 \times 2 = 100$
Pinus elliottii			12.5%	FACW	FAC species $31 \times 3 = 93$
Quercus nigra		ET A	62.5%	FAC	FACU species 1 x 4 = 4
Magnolia virginiana	3		18.8%	FACW	
			6.3%	FAC	
			0.0%	TAG	Column Totals: 82 (A) 197 (B)
		H-			Prevalence Index = B/A = 2.402
		<u> </u>	0.0%		Hydrophytic Vegetation Indicators:
	_	,·	0.0%	-	indication indicators
**** ********	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 8 20% of Total Cover: 3.2	16	= Tota	al Cover		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 1
Ilex coriacea	30	V	81.1%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
	5		13.5%	FAC	
Ilex vomitoria			201010		¹ Indicators of hydric soil and wetland hydrology musi
Ilex vomitoria	2	\Box	5 49%	FAC	I _ TIINICATOLE OL LIANTIC 2011 9110 MACRIGIIN HANLOIDNA IIIMBI
Quercus nigra		=-	5.4%	FAC	be present, unless disturbed or problematic.
Quercus nigra	0		0.0%	FAC	be present, unless disturbed or problematic.
Quercus nigra	0		0.0% 0.0%	FAC	be present, unless disturbed or problematic. Definition of Vegetation Strata:
Quercus nigra	0 0		0.0% 0.0% 0.0%		be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines,
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4	0 0		0.0% 0.0%		be present, unless disturbed or problematic. Definition of Vegetation Strata:
Quercus nigra 50% of Total Cover: 18.5 20% of Total Cover: 7.4	0 0		0.0% 0.0% 0.0%		be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Quercus nigra 30% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m)	0 0 0 37	= Tota	0.0% 0.0% 0.0%		be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines,
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta	0 0 0 37	= Tota	0.0% 0.0% 0.0% al Cover		be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37	= Tota	0.0% 0.0% 0.6% al Cover	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0	= Tota	0.0% 0.0% 0.6% al Cover 83.3% 16.7%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less
Quercus nigra 50% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37	= Tota	0.0% 0.0% 0.6% al Cover 83.3% 16.7% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0		0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Quercus nigra 30% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0 0	= Tota	0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0 0 0	= Tota	0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0 0 0	= Tota	0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0 0 0 0	= Tota	0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
Quercus nigra 50% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0 0 0 0	= Tota	0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
Quercus nigra 50% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0 0 0 0	= Tota	0.0% 0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
Quercus nigra 50% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37 5 1 0 0 0 0	= Tota	0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Quercus nigra 50% of Total Cover: 18.5 20% of Total Cover: 7.4 lerb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia	0 0 0 37	= Tota	0.0% 0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
Quercus nigra 50% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia 3. 0% of Total Cover: 3 20% of Total Cover: 1.2	0 0 0 37	= Tota	0.0% 0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia 0% of Total Cover: 3 20% of Total Cover: 1.2	0 0 0 37 5 1 0 0 0 0 0 0	= Tota	0.0% 0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACU	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia 0% of Total Cover: 3 20% of Total Cover: 1.2 poody Vine Stratum (Plot size: 30 m) Vitis rotundifolia	0 0 0 37 5 1 0 0 0 0 0 0 0 0	= Tota	0.0% 0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACU	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia 0% of Total Cover: 3 20% of Total Cover: 1.2 coody Vine Stratum (Plot size: 30 m)	0 0 0 37	= Tota	0.0% 0.0% 0.0% 0.0% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACU	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Quercus nigra 0% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia 0% of Total Cover: 3 20% of Total Cover: 1.2 pody Vine Stratum (Plot size: 30 m) Vitis rotundifolia Smilax rotundifolia	0 0 0 37	= Tota	0.0% 0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACU	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Quercus nigra 30% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia 3 20% of Total Cover: 1.2 coody Vine Stratum (Plot size: 30 m) Vitis rotundifolia	0 0 0 37	= Tota	0.0% 0.0% 0.0% 0.0% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACU	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.
Quercus nigra 30% of Total Cover: 18.5 20% of Total Cover: 7.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Toxicodendron quercifolia 3.4 3.6 3.7 3.8 3.9 0% of Total Cover: 3 20% of Total Cover: 1.2 Toxicody Vine Stratum (Plot size: 30 m) Vitis rotundifolia Smilax rotundifolia	0 0 0 37 5 1 0 0 0 0 0 0 0 0 0 0 0	= Tota	0.0% 0.0% 0.0% 0.0% 1 Cover 83.3% 16.7% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACU	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

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Sampling Point: Up - 29 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) % Type 1 Loc2 Texture Remarks 0-5 10YR 3/2 100 Loamy Sand 5-16 10YR 5/4 100 Loamy Sand ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) ☐ 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) ☐ Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) ☐ Thick Dark Surface (A12) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. ☐ Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Yes 🔾 No 💿 **Hydric Soil Present?** Depth (inches): Remarks:

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 21-Oct-16 State: MS Sampling Point: Up - 30
Applicant/Owner: NASA	
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 31 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): undulating Slope: 2.0 % / 1.1°
Subregion (LRR or MLRA): LRR T Lat,:	30° 24' 21.456" N Long.: 89° 37' 40.757" W Datum: NAD83
Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes No (If no, explain in Remarks.)
	ntly disturbed? Are "Normal Circumstances" present? Yes No
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area
Hydric Soil Present? Yes O No	Van O No ®
Wetland Hydrology Present? Yes ○ No •	within a Wetland?
Remarks: Terrace/slight hillside area just above riparian buffer along north sid	de of Turtle Skin Creek West of rail spur 300 feet (+/-).
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B:	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	
Saturation (A3) Hydrogen Sulfide	
<u> </u>	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Redu	
	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in Inundation Visible on Aerial Imagery (B7)	Remarks) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	
	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes O No 💿
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	tos, previous inspections), if available:
Remarks:	
Kendika	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

EGETATION (FIVE/FOUR Strate) - 032 Scientific Halles		Dominant		Sampling Point: Up - 30		
· 1		_ Species? . Rel.Strat.	Indicator	Dominance Test worksheet:		
ree Stratum (Plot size: 30 m	% Cove	Cover	Status	Number of Dominant Species		
Pinus elliottii	10	✓ 47.6%	FACW	That are OBL, FACW, or FAC: 8 (A)		
Magnolia virginiana	5	✓ 23.8%	FACW			
Acer rubrum	3	14.3%	FAC	Total Number of Dominant Species Across All Strata: 8 (B)		
Quercus nigra	2	9.5%	FAC	C (-)		
Magnolia grandiflora		4.8%	FAC	Percent of dominant Species		
.,		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B		
		0.0%		Prevalence Index worksheet:		
	0	0.0%	, , w	Total % Cover of: Multiply by:		
8		= Total Cove		OBL species 1 x 1 = 1		
		_ 10021 0010		FACW species 38 x 2 = 76		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	_	✓ 21.4%	FACIAL			
Pinus elliottii			FACW			
Quercus nigra		35.7%	FAC	FACU species 0 x 4 = 0		
Nyssa sylvatica		21.4%	FAC	UPL species $0 \times 5 = 0$		
Acer rubrum		14.3%	FAC	Column Totals: 68 (A) 164 (B)		
Ilex opaca		7.1%	FAC	Prevalence Index = B/A = 2.412		
	Ó	0.0%				
		0.0%		Hydrophytic Vegetation Indicators:		
· constant and a second	- 0	0.0%		1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 7 20% of Total Cover: 2.8	14	= Total Cover		✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 ¹		
Ilex coriacea	15	✓ 60.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
Ilex opaca	*** *	8.0%	FAC			
Ilex vomitoria		20.0%	FAC	¹ Indicators of hydric soil and wetland hydrology mus		
	_	12.0%	FACW	be present, unless disturbed or problematic.		
· · · · · · · · · · · · · · · · · · ·			1 VICAA	Definition of Vegetation Strata:		
				Tree - Woody plants, excluding woody vines,		
		0.0%	eru wu s	approximately 20 ft (6 m) or more in height and 3 in.		
50% of Total Cover: 12.5 20% of Total Cover: 5	25	25 = Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30 m)						
1 Woodwardia areolata	1	33.3%	OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less		
2. Ilex coriacea	2	66.7%	FACW	than 3 in. (7.6 cm) DBH.		
3.	0	0.0%				
4.	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less		
5,	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
6, "	0	0.0%		Shrub - Woody plants, excluding woody vines,		
7.	<u>-</u>	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.		
8	• *	0.0%				
9.		0.0%		Herb - All herbaceous (non-woody) plants, including		
0.	0	0.0%	-	herbaceous vines, regardless of size, and woody		
1,	0	0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.		
				o te (, y in tiologina		
2		0.0%		Woody vine - All woody vines, regardless of height.		
50% of Total Cover: 1.5 20% of Total Cover: 0.6		= Total Cover		The state of the s		
Voody Vine Stratum (Plot size: 30 m						
Vitis rotundifolia	5	100.0%	FAC			
The state of the s	0	0.0%				
	_	0.0%				
	_	0.0%				
	0	0.0%		Hydrophytic		
50% 57 110 200 200 200 200 200 200 200 200 200		Total Cover		Vegetation Present? Yes No		
50% of Total Cover: 2.5 20% of Total Cover: 1	5 :					

SOIL			Sampling Point: Up - 30
Profile Description: (Descri	be to the depth	needed to document the Indicator or confirm the	absence of indicators.)
Depth Ma	trix	Redox Features	
(inches) Color (moi	st) , % .	Color (moist) % Type 1 Loc2	Texture Remarks
0-6 10YR	3/2 100		Sandy Loam
6-16 10YR	5/4 100		Loamy Sand
			• •
The second of th			
***************************************			1.3
W-112			
1 Types C-Congentration D-Da	nistion DM-Doc	uced Matrix, CS=Covered or Coated Sand Grains 2Loc	otions Ol - Para Lining M-Matrix
Hydric Soil Indicators:	piedon, RM=Rec	uced Matrix, CS=Covered of Coated Sand Grants -Loc	
Histosol (A1)		Debuglios Below Surface (CO) (LDD C. T. II)	Indicators for Problematic Hydric Soils ³ :
Histic Epipedon (A2)		Polyvalue Below Surface (S8) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Black Histic (A3)		☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Hydrogen Sulfide (A4)		Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Stratified Layers (A5)		Loamy Gleyed Matrix (F2)	☐ Piedmont Floodpiain Soils (F19) (LRR P, S, T)
Organic Bodies (A6) (LRR F	2 T II)	Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
5 cm Mucky Mineral (A7) (I		☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7)	Red Parent Material (TF2)
Muck Presence (A8) (LRR L		Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12) ☐
1 cm Muck (A9) (LRR P, T)	•	Mari (F10) (LRR U)	Uther (Explain in Remarks)
Depleted Below Dark Surfa		Depleted Ochric (F11) (MLRA 151)	
Thick Dark Surface (A12)		Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Prairie Redox (A16) ((MLRA 150A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Muck Mineral (S1) (L		Delta Ochric (F17) (MLRA 151)	
Sandy Gleyed Matrix (\$4)		Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Redox (S5)		Piedmont Floodplain Soils (F19) (MLRA 149A)	wetland hydrology must be present, unless disturbed or problematic.
Stripped Matrix (S6)		Anomalous Bright Loamy Soils (F20) (MLRA 14	
Dark Surface (S7) (LRR P, S	S, T, U)	Anomalous origine county sous (120) (MEIOL 21)	1374 2330, 2333,
Restrictive Layer (if observe	:d):		
Type:			Hydric Soil Present? Yes O No 💿
Depth (inches):			Hydric son Present: 165 C NO C
Remarks:			
No hydric indicators.			

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Wave	and - Hancock	Sampling Date:	21-Oct-16			
Applicant/Owner: NASA	State:	MS Sampli	ing Point: Up - 31				
Investigator(s): Lars Larson, Randy Ellis	Section, Township,	Range: S 31	T7s R	16 W			
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave	, convex, none):	Slope:	0.0 % / 0.0°			
in the state of th	•	-	22 E20# W D r	atum: NAD83			
	30° 24' 1.397" N		m	ACCITIC TO THE			
Soil Map Unit Name: PoB, Poarch fine sandy loam, 2 to 5% slopes	ear? Yes 💿 I		lassification: N/A				
Are climatic/hydrologic conditions on the site typical for this time of ye		(ain in Remarks.)	No ○			
Are Vegetation . , Soil . , or Hydrology . significan	itly disturbed? A	re "Normal Circumstand	es" present? Yes	⊕ No ∪			
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (1	If needed, explain any a	inswers in Remarks.)				
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point loca	ations, transects, i	mportant feature	es, etc.			
Hydrophytic Vegetation Present? Yes No	Is the Samp	led Area					
Hydric Soil Present? Yes O No	-	Vec O No	•				
Wetland Hydrology Present? Yes ○ No ●	within a We	tland?	-				
Remarks:							
HYDROLOGY							
Wetland Hydrology Indicators:		Cocondon	adjectore (minimum of 3)	roquirad)			
Primary Indicators (minimum of one required; check all that apply)			ndicators (minimum of 2 r	edouen)			
Surface Water (A1) Aquatic Fauna (B13)			□ Surface Soil Cracks (B6) □ Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2) Mari Deposits (B1)	•		Drainage Patterns (B10)				
				Moss Trim Lines (B16)			
	heres along Living Roots	(C3) Dry Seas	son Water Table (C2)				
Sediment Deposits (B2)	uced Iron (C4)	Crayfish	Burrows (C8)				
☐ Drift Deposits (B3) ☐ Recent Iron Redu	uction in Tilled Soils (C6)	Saturation	on Visible on Aerial Image	ry (C9)			
Algal Mat or Crust (B4)	ce (C7)	Geomory Geomory	phic Position (D2)				
☐ Iron Deposits (B5) ☐ Other (Explain in	Remarks)	Shallow .	Aquitard (D3)				
Inundation Visible on Aerial Imagery (B7)		✓ FAC-Neu	tral Test (D5)				
Water-Stained Leaves (B9)		Sphagnu	m moss (D8) (LRR T, U)				
Field Observations:							
Surface Water Present? Yes No Depth (inches):	0						
Water Table Present? Yes ○ No ⑨ Depth (inches):			nt? Yes O No				
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	. We	tland Hydrology Prese	nt? Yes ∪ No	9			
Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos, previous inspectio	ns), if available:					
, and the same of		,	13				
Remarks:							
No strong evidence of hydrology.							
No strong evidence of flydrology.							

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A) Total Number of Dominant Species Across All Strata: 5 (B) Percent of dominant Species	
Total Number of Dominant Species Across All Strata: Description of Dominant Species Fercent of dominant Species	
Total Number of Dominant Species Across All Strata: C Percent of dominant Species (B)	
Species Across All Strata: 5 (B) Percent of dominant Species	
Percent of dominant Species	
That Are OBL, FACW, or FAC: 100.0% (A/B)	
That are obly ractly of rac.	
Prevalence Index worksheet:	
Total % Cover of: Multiply by	
OBL species 0 x 1 = 0	
FACW species 40 x 2 = 80	
CW FAC species $35 \times 3 = 105$	
_	
url species X J =	
Column Totals: 75 (A) 185 (B)	
Prevalence Index = B/A = 2.467	
Hydrophytic Vegetation Indicators:	
1 - Rapid Test for Hydrophytic Vegetation	
✓ 2 - Dominance Test is > 50%	
✓ 3 - Prevalence Index is ≤3.0 ¹	
Problematic Hydrophytic Vegetation ¹ (Explain)	
CW	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definition of Vegetation Strata:	
Tree - Woody plants, excluding woody vines,	
approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
Sapling - Woody plants, excluding woody vines,	
approximately 20 ft (6 m) or more in height and less	
than 3 in. (7.6 cm) DBH.	
Sapling/Shrub - Woody plants, excluding vines, less	
than 3 in. DBH and greater than 3.28 ft (1m) tall.	
Shrub - Woody plants, excluding woody vines,	
approximately 3 to 20 ft (1 to 6 m) in height.	
Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody	
plants, except woody vines, less than approximately	
3 ft (1 m) in height.	
Woody vine - All woody vines, regardless of height.	
Hydrophytic	
Vegetation Yes No O	
Figselits 188 3 778	

	_	_
co		
~1		

SOIL						Sampling	g Point: Up - 31
Profile Descr	ription: (Describe to	the depth	needed to document the inc	dicator or co	nfirm the	absence of indicators.)	
Depth	Matrix		Redox Fea	itures			
(inches)	Color (moist)	%	Color (moist) %	Type 1	Loc2	Texture	Remarks
0-5	10YR 4/2	100				Loamy Sand	
5-16	10YR 6/3	100				Loamy Sand	
						1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	
		-		*** a ** :=	**************************************	_	
¹ Type: C=Con	centration. D=Depletion	on. RM=Redu	ced Matrix, CS=Covered or Co	ated Sand Gra	ins ² Loca	ition: PL≃Pore Lining. M=Ma	atrix
Hydric Soil I	indicators:					Indicators for Proble	ematic Hydric Soils ³ :
Histosol (A	A1)		Polyvalue Below Surfa	ice (S8) (LRR 9	S, T, U)	1 cm Muck (A9) (Li	RR O)
Histic Epip	oedon (A2)		☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (I	
Black Hist	ic (A3)		Loamy Mucky Mineral	(F1) (LRR O)			8) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)		Loamy Gleyed Matrix	(F2)			in Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Matrix (F3)				Loamy Soils (F20) (MLRA 153B)
Organic B	odies (A6) (LRR P, T,	U)	Redox Dark Surface (I	- 6)		Red Parent Materia	
5 cm Muc	ky Mineral (A7) (LRR	P, T, U)	Depleted Dark Surface	e (F7)		Very Shallow Dark	` '
Muck Pres	sence (A8) (LRR U)		Redox Depressions (F	8)		Other (Explain in R	
1 cm Muc	k (A9) (LRR P, T)		Marl (F10) (LRR U)				,
Depleted I	Below Dark Surface (A	\11)	Depleted Ochric (F11)	(MLRA 151)			
Thick Dark	k Surface (A12)		☐ Iron-Manganese Mass	es (F12) (LRR	O, P, T)		
	irie Redox (A16) (MLR	-	Umbric Surface (F13)	(LRR P, T, U)			
Sandy Mu	ck Mineral (S1) (LRR (O, S)	Delta Ochric (F17) (MI	LRA 151)		3.	
Sandy Gle	yed Matrix (S4)		Reduced Vertic (F18)	(MLRA 150A, :	150B)	"Indicators of wetland by	f hydrophytic vegetation and drology must be present,
Sandy Red	dox (S5)		Piedmont Floodplain S	oils (F19) (ML	RA 149A)		disturbed or problematic.
Stripped M	fatrix (S6)		Anomalous Bright Loa	my Soils (F20)	(MLRA 149	9A, 153C, 153D)	
Dark Surfa	ace (S7) (LRR P, S, T,	U)					
Restrictive La	yer (if observed):						
Type:							0 0
Depth (inch	nes):					Hydric Soil Present?	Yes ○ No •
Remarks:							

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 21-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 32
Investigator(s): Lars Larson, Randv Ellis	Section, Township, Range: S 31 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): undulating Slope: 2.0 % / 1.1°
	30° 23′ 56.796" N Long.: 89° 37′ 24.843" W Datum: NAD83
gradient and the second	
Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent slo	0 0
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation 🦳 , Soil 🗌 , or Hydrology 🔲 significant	ly disturbed? Are "Normal Circumstances" present? Yes 🍳 No 🔾
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲 naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	To the Complet Aven
Hydric Soil Present? Yes ○ No ●	Is the Sampled Area
Wetland Hydrology Present? Yes O No	within a Wetland?
Remarks: This location is approximately 600 feet south of the logging road the this area.	rough center of AOI. This is part of a N-S transect to identify wet-up boundary in
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	3) Sparsely Vegetated Concave Surface (B8)
☐ High Water Table (A2) ☐ Marl Deposits (B15	5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide (Odor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☐ Oxidized Rhizosphe	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	ced Iron (C4) Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Reduc	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	(C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in R	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes O No O Depth (inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ⑥
Describe Recorded Data (stream gauge, monitoring well, aerial photo	
Barrada	
Remarks:	

Tree Stratum (Plot size: 30 m) Pinus elliottil Pinus taeda Magnolia grandiflora Liquidambar styraciflua 50% of Total Cover: 12 20% of Total Cover: 4.8 Sapling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottil Quercus nigra Nyssa sylvatica Magnolia virginiana Liquidambar styraciflua	0 0 0 0 0 24		62.5% 8.3% 20.8% 8.3% 0.0% 0.0% 0.0%	FACW FAC FAC FAC	Number of Dominant Species That are OBL, FACW, or FAC: 5 (A) Total Number of Dominant Species Across All Strata: 5 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)		
Pinus taeda Magnolia grandiflora Liquidambar styraciflua 50% of Total Cover: 12 20% of Total Cover: 4.8 Sapling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottil Quercus nigra Nyssa sylvatica Magnolia virginiana	2 5 2 0 0 0 0 0 24		8.3% 20.8% 8.3% 0.0% 0.0% 0.0%	FAC FAC	Total Number of Dominant Species Across All Strata: 5 (B) Percent of dominant Species		
Magnolia grandiflora Liquidambar styraciflua 50% of Total Cover: 12 20% of Total Cover: 4.8 Sapling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottil Quercus nigra Nyssa sylvatica Magnolia virginiana	5 2 0 0 0 0 0 24		20.8% 8.3% 0.0% 0.0% 0.0% 0.0%	FAC	Species Across All Strata: 5 (B) Percent of dominant Species		
Liquidambar styraciflua 50% of Total Cover: 12 20% of Total Cover: 4.8 apling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottil Quercus nigra Nyssa sylvatica Magnolla virginlana	2 0 0 0 0 0 24		8.3% 0.0% 0.0% 0.0% 0.0%		Species Across All Strata: 5 (B) Percent of dominant Species		
0% of Total Cover: 12 20% of Total Cover: 4.8 apling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottii Quercus nigra Nyssa sylvatica Magnolia virginiana	0 0 0 0 24		0.0% 0.0% 0.0% 0.0%	FAC			
0% of Total Cover: 12 20% of Total Cover: 4.8 apling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottil Quercus nigra Nyssa sylvatica Magnolia virginiana	0 0 0 24		0.0% 0.0% 0.0%				
0% of Total Cover: 12 20% of Total Cover: 4.8 pling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottii Quercus nigra Nyssa sylvatica Magnolia virginiana	0 0 24		0.0%		That Ale ODL, FACIV, of FAC.		
0% of Total Cover: 12 20% of Total Cover: 4.8 ppling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottil Quercus nigra Nyssa sylvatica Magnolia virginiana	0 24 15	 = Tot	0.0%				
0% of Total Cover: 12 20% of Total Cover: 4.8 ppling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottil Quercus nigra Nyssa sylvatica Magnolia virginiana	0 24 15	= Tot			Prevalence Index worksheet:		
apling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottii Quercus nigra Nyssa sylvatica Magnolia virginiana	15	= Tot			Total % Cover of: Multiply by:		
apling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus ellottii Quercus nigra Nyssa sylvatica Magnolia virginlana	15		tal Cover		OBL species 1 x 1 = 1		
Pinus elilottii Quercus nigra Nyssa sylvatica Magnolia virginiana	15				FACW species 90 x 2 = 180		
Quercus nigra Nyssa sylvatica Magnolia virginiana		V	45.5%	FACW	FAC species 19 x 3 = .57		
Nyssa sylvatica Magnolia virginiana	1		1 3 .				
Magnolia virginiana		H-	3.0%	FAC	FACU species $\frac{1}{2}$ x 4 = $\frac{4}{2}$		
			6.1%	FAC	UPL species $0 \times 5 = 0$		
Liquidambar styracifiua		V _	30.3%	FACW	Column Totals: 111 (A) 242 (B)		
	_5	Ш.	15.2%	FAC	Prevalence Index = B/A = 2,180		
	0	Ш_	0.0%				
	0		0.0%	tile e tra	Hydrophytic Vegetation Indicators:		
	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation		
0% of Total Cover: 16.5 20% of Total Cover: 6.6	33	= Tot	al Cove		✓ 2 - Dominance Test is > 50%		
hrub Stratum (Plot size: 30 m				aran.	3 - Prevalence Index is ≤3.0 ¹		
Vaccinium elliottii		片	10.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
Ilex coriacea	_	∠ _	80.0%	FACW			
Ilex glabra	5		10.0%	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
	0		0.0%		be presently arries arounded or problematics		
	0		0.0%		Definition of Vegetation Strata:		
	0		0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 25 20% of Total Cover: 10	50 :	= Tot	al Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
(District 20 m)					(7.6 cm) or larger in diameter at breast neight (DBH).		
lerb Stratum (Plot size: 30 m					Sapling - Woody plants, excluding woody vines,		
Lycopodiella alopecuroides	1	Ц_	50.0%	OBL	approximately 20 ft (6 m) or more in height and less		
Pteridium aquilinum	1	Ш_	50.0%	FACU	than 3 in. (7.6 cm) DBH.		
	0		0.0%				
· · · · · · · · · · · · · · · · · · ·	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less		
	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
	0		0.0%		Charle Mande alore evaluation wonds since		
	0	\Box	0.0%	pas m. r . v	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
)		$\overline{\Box}$	0.0%		approximatory of to 20 th () to 2 th () to 2 th () the control of the control		
		Π.	0.0%		Herb - All herbaceous (non-woody) plants, including		
		\overline{a}			herbaceous vines, regardless of size, and woody		
		=	0.0%		plants, except woody vines, less than approximately		
·	0	=	0.0%		3 ft (1 m) in height.		
**************************************	0		0.0%		Say		
0% of Total Cover: 1 20% of Total Cover: 0.4	2 :	= Tot	al Cover		Woody vine - All woody vines, regardless of height.		
oody Vine Stratum (Plot size: 30 m							
Vitis rotundifolia	2		100.0%	FAC	***		
	* .	\Box	0.0%	•			
And the state of t	_	<u> </u>	0.0%	-			
		-					
		\vdash	0.0%		Hydrophytic		
	0	□	0.0%		Vegetation Vac (a) No (
0% of Total Cover: 1 20% of Total Cover: 0.4	2 =	= Tota	al Cover		Present? Yes V No V		

Profile Descr					Sampling Point: Up - 32
	iption: (Des	cribe to	the depth :	needed to document the indicator or confir	rm the absence of Indicators.)
Depth		Matrix		Redox Features	
(inches)	Color (%	Color (moist)%Type ¹ I	Loc ² Texture Remarks
0-5	10YR	3/2	100		Loamy Sand
5-12	10YR	4/3	100		Loamy Sand
12-22	10YR	5/3	100		Loamy Sand
· • • • • • • • • • • • • • • • • • • •	- Marie - Aure 9				
Гуре: C=Conc	centration. D=	=Depletio	n. RM =Red u	ced Matrix, CS=Covered or Coated Sand Grains	² Location: PL=Pore Lining. M=Matrix
lydric Soll I	ndicators:				Indicators for Problematic Hydric Soils ³ :
Histosol (A	41)			Polyvalue Below Surface (S8) (LRR S, T,	T, U)
Histic Epip				☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
🗌 Black Histi	ic (A3)			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified I	Layers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
Organic Br	odies (A6) (LF	R P, T, L	<i>i</i>)	Redox Dark Surface (F6)	Red Parent Material (TF2)
5 cm Mucl	ky Mineral (A)	7) (LRR P	, T, U)	Depleted Dark Surface (F7)	
_	ence (A8) (LF			Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12)
1 cm Muck (A9) (LRR P, T)				Mari (F10) (LRR U)	Other (Explain in Remarks)
_	Below Dark St		113		
_		•	11)	Depleted Ochric (F11) (MLRA 151)	D. T.
Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A)			1504)	Iron-Manganese Masses (F12) (LRR O, I	P, 1)
_	-		-	Umbric Surface (F13) (LRR P, T, U)	
_	ck Mineral (S1		, 5)	Delta Ochric (F17) (MLRA 151)	³ Indicators of hydrophytic vegetation and
_	yed Matrix (S	4)		Reduced Vertic (F18) (MLRA 150A, 150E	wetland hydrology must be present,
_ Şandy Red ¬				Piedmont Floodplain Soils (F19) (MLRA 1	149A) unless disturbed or problematic.
_ Stripped M				Anomalous Bright Loamy Soils (F20) (ML	ILRA 149A, 153C, 153D)
_ Dark Surfa	ice (S7) (LRR	P, S, T, l	1)		
estrictive La	yer (if obse	rved):			
Туре:					
Depth (inch	es):				Hydric Soil Present? Yes O No 💿
amarka.					
	il profile has	a chror	na > 2. No	ot by maar.	
	il profile has	a chror	na > 2. No	ot by muci.	
	il profile has	a chror	na > 2. No	ot by magr.	
	il profile has	a chror	na > 2. No	ot by magr.	
	il profile has	a chror	na > 2. No	ot by much.	
	il profile has	a chror	na > 2. No	ot by much.	
	il profile has	a chror	na > 2. No	ot by magr.	
	il profile has	a chror	na > 2. No	ot by magr.	
	il profile has	a chror	na > 2. No	ot by magr.	
Remarks: ulk of the soi	il profile has	a chror	na > 2. No	ot by magr.	
	il profile has	a chror	na > 2. No	ot by magr.	
	il profile has	a chror	na > 2. No	ot by magr.	
	il profile has	a chror	na > 2. No	or by magr.	
	il profile has	a chror	na > 2. No	ot by magr.	

13 Control of the con	//County: Waveland - Hancock Sampling Date: 21-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 33
Investigator(s): Lars Larson Randy Ellis Se	ection, Township, Range: S 32 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside Local	al relief (concave, convex, none): undulating Slope: 2.0 % / 1.1°
Subregion (LRR or MLRA): LRR T Lat.: 30°	23' 58,665" N Long.: 89° 37' 9,508" W Datum: NAD83
Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significantly dis	sturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally problem	ematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sample	ing point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ⊙ No ○	Is the Sampled Area
Hydric Soil Present? Yes ○ No ⑥	Van O No ®
Wetland Hydrology Present? Yes O No	within a Wetland?
Remarks:	
Approximately 80-feet north of Wet 33.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required: check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LF	
Saturation (A3) Hydrogen Sulfide Odor	
Water Marks (B1) Oxidized Rhizospheres	
☐ Sediment Deposits (B2) ☐ Presence of Reduced Ir	
Drift Deposits (B3)	
Algal Mat or Crust (B4) Thin Muck Surface (C7)	
☐ Iron Deposits (B5) ☐ Other (Explain in Remai	•
Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes ○ No Depth (inches):	Wetland Hydrology Present? Yes ○ No •
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Treggina Hydrology Present: 140 0 140 0
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	revious inspections), if available:
Remarks:	
	ļ

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Absolute Rel.Strat. Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: 30 m) % Cover Cover Status Number of Dominant Species 1. Pinus elliottii **V** 20 54.1% **FACW** (A) That are OBL, FACW, or FAC: 7 Quercus nigra 10 27.0% FAC Total Number of Dominant Nvssa sylvatica 5 FAC 13.5% 7 (B) Species Across All Strata: ___2 Magnolla virginiana 5.4% **FACW** Percent of dominant Species . 0 5. 0.0% 100.0% (A/B) That Are OBL, FACW, or FAC: 6. _____0_ 0.0% 7. 0.0% Prevalence Index worksheet: 8. 0.0% 0 Total % Cover of: Multiply by: 50% of Total Cover: 18.5 20% of Total Cover: 7.4 37 OBL species 2 x 1 = 2 = Total Cover FACW species 92 _ x 2 = 184 Sapling or Sapling/Shrub Stratum (Plot size: 30 m) Pinus elliottii 10 V 58.8% FACW FAC species 20 x 3 = Nyssa sylvatica 5 29.4% FAC FACU species 3. Magnolia virginiana 2 0 x 5 = 0 11.8% UPL species 0 0.0% (B) 246 Column Totals: 114 5. 2.158 Prevalence Index = B/A = -0.0% 6. 0 Hydrophytic Vegetation Indicators: 0 0.0% 8. 0.0% 1 - Rapid Test for Hydrophytic Vegetation 50% of Total Cover: 8.5 20% of Total Cover: 3.4 17 = Total Cover ✓ 2 - Dominance Test is > 50% Shrub Stratum (Plot size: 30 m 3 - Prevalence Index is ≤3.0 ¹ 1. Ilex coriacea 40 75.5% FACW Problematic Hydrophytic Vegetation 1 (Explain) 2. Ilex glabra 10 **FACW** 18.9% ¹ Indicators of hydric soil and wetland hydrology must 3. Vaccinium elliottii 3 5.7% FACW be present, unless disturbed or problematic. 4. 0 0.0% **Definition of Vegetation Strata:** 5. - 0 0.0% Tree - Woody plants, excluding woody vines, 6. 0 0.0% approximately 20 ft (6 m) or more in height and 3 in. 50% of Total Cover: 26.5 20% of Total Cover: 10.6 = Total Cover (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum (Plot size: 30 m Sapling - Woody plants, excluding woody vines, V 1. Ilex corlacea _____5 71.4% **FACW** approximately 20 ft (6 m) or more in height and less 2. Lycopodielia alopecuroides 28.6% than 3 in. (7.6 cm) DBH. 3. 0 0.0% Sapling/Shrub - Woody plants, excluding vines, less 4. 0 0.0% than 3 in. DBH and greater than 3.28 ft (1m) tall. 0.0% Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 7. 0 0.0% Herb - All herbaceous (non-woody) plants, including 9._ ___0 0.0% herbaceous vines, regardless of size, and woody 10. ___0 plants, except woody vines, less than approximately 3 ft (1 m) in height. 11. C 0.0% 12. 0.0% Woody vine - All woody vines, regardless of height. 50% of Total Cover: 3.5 20% of Total Cover: 1.4 **7 = Total Cover** Woody Vine Stratum (Plot size: 30 m 1. 0.0% 3. _______ 0.0% 4. _ _____0_ 0.0% Hydrophytic 0.0% 0 Vegetation Yes

No Present? 50% of Total Cover: 0 20% of Total Cover: 0 0 = Total Cover Remarks: (If observed, list morphological adaptations below). *Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Dominant

Species?

Sampling Point:

Lin - 33

SOIL					Sampling Point: Up - 33
Profile Descr	iption: (Des	cribe to	the depth	needed to document the indicator or conf	firm the absence of Indicators.)
Depth		Matrix		Redox Features	
(inches)	Color (moist)	0/0	Color (moist) % Type 1	Loc ² Texture Remarks
0-4	10YR	3/2	100		
4-16	10YR	5/4	100		
7.11					
					10. No. 10.47 to asset
Type: C=Cond	centration. D=	=Depletio	n. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains	ns ² Location: PL=Pore Lining, M=Matrix
lydric Soil I	ndicators:				Indicators for Problematic Hydric Soils ³ :
Histosol (/	A1)			Polyvalue Below Surface (S8) (LRR S,	
Histic Epip	oedon (A2)			☐ Thin Dark Surface (S9) (LRR S, T, U)	
Black Histi	ic (A3)			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified I	Layers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
_	odies (A6) (LI	RR P. T. L	J)	Redox Dark Surface (F6)	
	ky Mineral (A		-	Depleted Dark Surface (F7)	Red Parent Material (TF2)
_	ence (A8) (Li		, ., -,	Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12)
_	k (A9) (LRR P	,		Mart (F10) (LRR U)	Other (Explain in Remarks)
_	Below Dark S		(1)		
	Surface (A1)	-	,	Depleted Ochric (F11) (MLRA 151)	0.5.73
_	rie Redox (A1		15041	☐ Iron-Manganese Masses (F12) (LRR O	J, P, T)
				Umbric Surface (F13) (LRR P, T, U)	
_	ck Mineral (S:		, 5)	☐ Delta Ochric (F17) (MLRA 151)	3Indicators of hydrophytic vegetation and
_	yed Matrix (S	4)		Reduced Vertic (F18) (MLRA 150A, 15	wetland hydrology must be present,
_ Sandy Rec	• .			Piedmont Floodplain Soils (F19) (MLR/	· ·
Stripped M		D C T 1		Anomalous Bright Loamy Soils (F20) ((MLRA 149A, 153C, 153D)
_ Dark Surfa	ice (S7) (LRR	P, S, !, U	J)		
estrictive La	yer (if obse	rved):			
Type:	iyer (ii obbe	. reaji			
Depth (inch	ne).				Hydric Soil Present? Yes O No 💿
	lesj:		, , ,	10 . • 1 . 2 . 1 . 1 . 2 . 1 . 1 . 1 . 1 . 1 .	
emarks:					

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	ity/County: Waveland - Hancock Sampling Date: 24-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 34
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace Landform	ocal relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.: 3	10° 24' 3.767" N Long.: 89° 37' 1.217" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of years	Yes No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly	disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrology naturally pro	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	To the Countries of the
Hydric Soil Present? Yes O No •	Is the Sampled Area Within a Worland? Yes O No
Wetland Hydrology Present? Yes O No 💿	within a Wetland? Yes O NO O
Remarks: Transitional area back to an Upland. 100-feet (+/-) from Wet-34.	
Transitional area back to an opinio. 100-reet (+7-) from wet-54.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required: check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	
High Water Table (A2) Marl Deposits (B15)	
☐ Saturation (A3) ☐ Hydrogen Sulfide Od	
☐ Water Marks (B1) ☐ Oxidized Rhizosphere	es along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	_ `
	on in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C	
☐ Iron Deposits (B5) ☐ Other (Explain in Rer	
☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes ○ No Depth (inches):	
Saturation Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No No
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:
, and a second s	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Demodes	
Remarks:	
	j

			ominant pecies?		Sampling Point: Up - 34
		e R	el.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m) Pinus elliottii	% Cove		Cover	Status	Number of Dominant Species
Pinus elliottii Pinus taeda	20	V		FACW	That are OBL, FACW, or FAC: 6 (A)
Pinus taeda	10	V	27.0%	FAC	Tabel Niverbox of Daminant
Magnolia virginiana	5		13.5%	FACW	Total Number of Dominant Species Across All Strata: 6 (B)
Liquidambar styraciffua	2		5.4%	FAC	
	0		0.0%		Percent of dominant Species
V (a)	.0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B
	0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 18.5 20% of Total Cover: 7.4		 = To	otal Cove	r	OBL species $0 \times 1 = 0$
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species
Pinus elliottii		V	68.2%	FACW	FAC species 36 x 3 = 108
Minus de ada		V	-	FAC	
Magnolia virginiana			9.1%	FACW	
Pregricile Virginiana				FACVV	UPL species $0 \times 5 = 0$
			0.0%	-	Column Totals: 110 (A) 256 (B)
			0.0%		Prevalence Index = B/A = 2.327
		닏	0.0%		
	0	\sqcup	0.0%		Hydrophytic Vegetation Indicators:
THE COLUMN TWO STATES AND THE COLUMN TWO STA	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 11 20% of Total Cover: 4.4	22	= Te	otal Cove	r	✓ 2 - Dominance Test Is > 50%
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	30	V	71.4%	FACW	_
			11.9%		Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex opaca	5			FAC	¹ Indicators of hydric soil and wetland hydrology mus
Vaccinium elliottii	2		4.8%	FACW	be present, unless disturbed or problematic.
Morella cerifera	5		11.9%	FAC	
	0	Ц	0.0%		Definition of Vegetation Strata:
	0_	Ш	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 21 20% of Total Cover: 8.4	42	= To	otal Cove	r	approximately 20 ft (6 m) or more in height and 3 in. (7,6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m					, , ,
Lygodium japonicum	5	V	100.0%	FAC	Sapling - Woody plants, excluding woody vines,
	0	\Box	0.0%		approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
		Ħ	0.0%		dian one (1.0 only DBH.
			0.0%		Sapling/Shrub - Woody plants, excluding vines, less
·	0	=		-	than 3 in. DBH and greater than 3.28 ft (1m) tall.
		\vdash	0.0%	-	
- · · · · · · · · · · · · · · · · · · ·		H	0.0%		Shrub - Woody plants, excluding woody vines,
Service Automotive Aut			0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
Company of the second of the s	0	Н	0.0%		
	0	\Box	0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
5	0	Ш	0.0%		plants, except woody vines, less than approximately
	0		0.0%		3 ft (1 m) in height.
·	0		0.0%		
0% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= To	tal Cove	,	Woody vine - All woody vines, regardless of height.
(Plot size: 30 m					
	3		75.0%	FAC	
Vitis rotundifolia		\Box	25.0%		
Vitts rotundifolia Smilax rotundifolia				170	
Smilax rotundifolia	Δ.	1_ [0.0%		
Smilax rotundifolia			0.004		
Smilax rotundifolia	0		0.0%	47 4	Hydrophytic
Smilax rotundifolia	0		0.0%	4: 4: :0	Hydrophytic Vegetation Present? Yes No

SOIL					Sampling Point: Up - 34
Profile Desc	ription: (De	scribe to	the depth	needed to document the indicator or confirm t	he absence of indicators.)
Depth		Matrix		Redox Features	
(inches)	Color (moist)	%	Color (moist) % Type 1 Loc	Texture Remarks
0-5	10YR	6/2	100		Loamy Sand
5-15	10YR	5/6	100		Loamy Sand
94 ·	_				
¹ Type: C=Con	centration. D	=Depletio	n. RM=Redi	iced Matrix, CS=Covered or Coated Sand Grains 2L	ocation: PL=Pore Lining, M=Matrix
Hydric Soil	Indicators:				Indicators for Problematic Hydric Solls ³ :
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Histic Epi	pedon (A2)			☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Black His	tic (A3)			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Hydroger	1 Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
Organic E	Bodies (A6) (L	RR P, T, l	J)	Redox Dark Surface (F6)	Red Parent Material (TF2)
5 cm Muc	cky Mineral (A	7) (LRR P	, Τ, U)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Muck Pre	sence (A8) (L	RR U)		Redox Depressions (F8)	
1 cm Muc	ck (A9) (LRR F	P, T)		Marl (F10) (LRR U)	Other (Explain in Remarks)
-	Below Dark S		11)	Depleted Ochric (F11) (MLRA 151)	
	k Surface (A1	-	•	Iron-Manganese Masses (F12) (LRR O, P, T)	,
	irie Redox (A	•	4 150A)	Umbric Surface (F13) (LRR P, T, U)	,
-	ıck Mineral (S		•	Delta Ochric (F17) (MLRA 151)	
	eyed Matrix (S		, -,	Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Re		, ·,		_	wetland hydrology must be present,
	Matrix (S6)			Piedmont Floodplain Soils (F19) (MLRA 149A	
	ace (S7) (LRR	, D S T I	ıN.	Anomalous Bright Loamy Soils (F20) (MLRA	149A, 153C, 153U)
	occ (Sv) (Env		"		
Restrictive L	ayer (if obse	erved):			
Туре:					
Depth (inc	hes):				Hydric Soll Present? Yes O No 💿
Remarks:					
Kemarks.					

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 24-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 35
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 3.834" N Long.: 89° 36' 56.966" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significant	ntly disturbed? Are "Normal Circumstances" present? Yes No O
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: Transitional area back into an Upland - approximately 100 feet north	Is the Sampled Area within a Wetland? Yes O No th of Wet-35.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	
Surface Water (A1) Aquatic Fauna (B:	
High Water Table (A2) Marl Deposits (B1	
Saturation (A3) Hydrogen Sulfide	
	wheres along Living Roots (C3) Dry Season Water Table (C2)
	uced Iron (C4) Crayfish Burrows (C8) uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	, , ,
☐ Iron Deposits (B5) ☐ Other (Explain in	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes O No O Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? (includes capillary frings) Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No •
Describe Recorded Data (stream gauge, monitoring well, aerial photo	
Describe Recorded Data (Scream gauge, monitoring well, aerial prior	.us, previous inspections), it available.
Remarks:	

Tree Stratum (Plot size: 30 m)	Absolute % Cover		at. Indicator	
1. Pinus elliottii	10	€ 62.5		Number of Dominant Species That are OBL, FACW, or FAC:5(A)
2. Magnolia virginiana	5	31.3		THE BIE OBL, I MCVV, OF FAC. 5. (A)
				Total Number of Dominant
	1	6.3	· · · · · · · · · · · · · · · · · · ·	Species Across All Strata: 5 (B)
4.		0.0		
5.		0.0	%	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
6.	0	0.0	%	That Are Obl., PACW, OF PAC.
7	0	0.0	%	Prevalence Index worksheet:
8.	0	0.0	%	Total % Cover of: Multiply by:
50% of Total Cover: 8 20% of Total Cover: 3.2	3 - V	= Total Co		OBL species 1 x 1 = 1
	- 1	- Iotal C	JVC1	*1
Sapling or Sapling/Shrub Stratum (Plot size: 30 m		_		FACW species 95 x 2 = 190
1 Pinus elliottii		78.1	% FACW	FAC species $\frac{4}{}$ x 3 = $\frac{12}{}$
2. Magnolla virginiana	5	15.6	% FACW	FACU species $0 x 4 = 0$
3. Liquidambar styraciflua		6.3	% FAC	UPL species $0 \times 5 = 0$
4		0.0	%	
F		0.0		Column Totals: 100 (A) 203 (B)
6				Prevalence Index = B/A = 2.030
		0.0		Live and the Venetables Todienhouse
7	0	0.0	% <u></u>	Hydrophytic Vegetation Indicators:
8	. 0	U0.0	%	✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 16 20% of Total Cover: 6.4	32 =	= Total Co	over	✓ 2 - Dominance Test is > 50%
	**			
Shrub Stratum (Plot size: 30 m				3 - Prevalence Index is ≤3.0 ¹
1 Ilex coriacea	40	80.0	% FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex glabra	10	✓ 20.0	% FACW	
3	0	0.0	Vo	¹ Indicators of hydric soil and wetland hydrology must
4	0	0.09	/ ₀	be present, unless disturbed or problematic.
		0.0		Definition of Vegetation Strata:
5 6			*	Tree - Woody plants, excluding woody vines,
	. 0	0.0		approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 25 20% of Total Cover: 10 Herb Stratum (Plot size: 30 m)	50 =	= Total Co	ver	(7.6 cm) or larger in diameter at breast height (DBH).
				Sapling - Woody plants, excluding woody vines,
1 Lycopodiella alopecuroides	1		% OBL	approximately 20 ft (6 m) or more in height and less
2		0.09	/o	than 3 in. (7.6 cm) DBH.
3	0	0.09	/a	
4.,	0	0.09	6	Sapling/Shrub - Woody plants, excluding vines, less
5.	0	0.09	/o	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0	0.09		
7				Shrub - Woody plants, excluding woody vines,
7		0.09		approximately 3 to 20 ft (1 to 6 m) in height.
8		0.0%	4	III. A MIC Access of the AMERICAN AND A CONTRACT OF THE CONTRA
9	0	0.09	6	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10	0	0.09	6	plants, except woody vines, less than approximately
11	0	0.09	6	3 ft (1 m) in height.
12.	0	0.09		•
4. ··				Woody vine - All woody vines, regardless of height.
50% of Total Cover: 0.5 20% of Total Cover: 0.2	1 =	: Total Co	ver	The state of the s
Woody Vine Stratum (Plot size: 30 m				
Smilax rotundifolia	1	100.0	% FAC	
	_ 0 [0.0%	* *11 * - * - *	
3.				
	0	0.09	6	FB. adam and Condition
5	. 0	0.0%	6	Hydrophytic Vegetation
50% of Total Cover: 0.5 20% of Total Cover: 0.2	. 1 =	Total Co	ver	Present? Yes No
Pemarke: (If observed, list morphological adaptations below)				
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because R	enional status n	ot defined h	v FWS.	

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Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of Indicators-) Depth Mitrik (Insheb) Color (noish) % Colo	SOIL					Sampling Point: Up - 35
Depth	Profile Descr	iption: (Desc	ribe to	the depth	needed to document the indicator or confirm the	absence of indicators.)
Color (molet)						
0-4 10YR 3/2 100 Loamy Sand 1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 Type: C=Concentration. D=Depletion. RM=Reduced Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 Type: C=Concentration. D=Depletion. RM=Reduced Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 type: C=Concentration. D=Depletion. RM=Reduced Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 type: C=Concentration. D=Depletion. RM=Reduced Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 type: C=Concentration. D=Depletion. RM=Reduced Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 type: C=Concentration. D=Depletion. RM=Reduced Sand Grains 2 Location: PL=Pore Lining. M=Natrix 1 type: C=Concentration. D=Depletion. RM=Reduced Plank Surface (\$8) (LRR S, T, U)				%		Texture Remarks
1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Costed Sand Grains 2 Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators:	0-4	10YR	3/2	100		Loamy Sand
1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Costed Sand Grains 2 Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators:	4-15	10YR	5/4	100	* · ^ * . ·	Loamy Sand
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Black Histic (A3) Coasy Prairie Redox (A1) Coast Prairie Redox (A10) Coast Prairie Redox (A10) Coast Prairie Redox (A10) Coast Surface (S8) (LRR S, T, U) Coast Surface (S9) (LRR S, T, U) Coard Muck (A10) Coast Surface (A10) Coast Prairie Redox (A10) Coast Surface (S8) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Prairie Redox (A16) Coast Surface (A12) Coast Prairie Redox (A16) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F19) Coast Reduced			-7'			
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Black Histic (A3) Coasy Prairie Redox (A1) Coast Prairie Redox (A10) Coast Prairie Redox (A10) Coast Prairie Redox (A10) Coast Surface (S8) (LRR S, T, U) Coast Surface (S9) (LRR S, T, U) Coard Muck (A10) Coast Surface (A10) Coast Prairie Redox (A10) Coast Surface (S8) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Prairie Redox (A16) Coast Surface (A12) Coast Prairie Redox (A16) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F18) Coast Reduced Vertic (F19) Coast Reduced			_			
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Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Black Histic (A3) Coasy Prairie Redox (A1) Coast Prairie Redox (A10) Coast Prairie Redox (A10) Coast Stripped Black (A10) Coast Stripped Black (A10) Coast Stripped Black (A10) Coast Stripped Black (A10) Coast Stripped Black (A10) Coast Stripped Black (A10) Coast Prairie Redox (A10) Coast Stripped Black (A10) Coast Stripped Matrix (S4) Coast Stripped Matrix (S6) Coast Stripped Matr						
Histosol (A1)	1 Type: C=Cond	centration. D=I	Depletion	n. RM= R edu	aced Matrix, CS=Covered or Coated Sand Grains 2Loc	ation: PL=Pore Lining. M=Matrix
Histosol (A1) Histosol (A2) Histosol (A2) Histosol (A2) Thin Dark Surface (S9) (LRR S, T, U) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Dark Surface (F7) Muck Presence (A8) (LRR P, T, U) Depleted Dark Surface (F7) Mari (F10) (LRR U) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Delta Ochric (F17) (MLRA 151) Sandy Redox (S5) Delta Ochric (F17) (MLRA 150B) Mari (F10) (LRR U) Polyvalue Below Surface (S8) (LRR O, P, T) Depleted Dark Surface (F12) Umbric Surface (F12) (LRR O, P, T) Depleta Ochric (F11) (MLRA 150B) Reduced Vertic (F18) (MLRA 150B) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No I cm Muck (A9) (LRR O, S) Sandy Ruck (A10) (LRR S) I cm Muck (A10) (LRR S) Reduced Vertic (F18) (MLRA 150A) Depleted Matrix (S4) Reduced Vertic (F18) (MLRA 150B) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No No No Hydric Soil Present? Yes No No No Hydric Soil Present? Yes No No No No No No No No	Hydric Soil I	ndicators:				Indicators for Problematic Hydric Soils ³ :
Histic Epipedon (A2)	Histosol (A	A1)			Polyvalue Below Surface (S8) (LRR S, T, U)	
Black Histic (A3)	Histic Epip	edon (A2)				
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Muck Presence (A8) (LRR U) Depleted Dark Surface (F7) Depleted Dark Surface (F7) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (A5) Delta Ochric (F17) (MLRA 150A) Sandy Redox (S5) Delta Ochric (F19) (MLRA 150A, 150B) Sandy Redox (S5) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Piedmont Floodplain Soils (F19) (MRA 150A) Piedmont Floodplain Soils (F19) (MLRA 149A) Piedmont Floodplain Soils (F19) (MLRA 149A, 153C, 153D)	Black Histi	ic (A3)			_	
Stratified Layers (A5)	Hydrogen	Sulfide (A4)				
Organic Bodies (A6) (LRR P, T, U)	= ' -					
□ 5 cm Mucky Mineral (A7) (LRR P, T, U) □ Depleted Dark Surface (F7) □ Very Shallow Dark Surface (TF12) □ Muck Presence (A8) (LRR U) □ Redox Depressions (F8) □ Other (Explain in Remarks) □ 1 cm Muck (A9) (LRR P, T) □ Marl (F10) (LRR U) □ Depleted Below Dark Surface (A11) □ Depleted Dehric (F11) (MLRA 151) □ Thick Dark Surface (A12) □ Iron-Manganese Masses (F12) (LRR O, P, T) □ Coast Prairie Redox (A16) (MLRA 150A) □ Umbric Surface (F13) (LRR P, T, U) □ Sandy Muck Mineral (S1) (LRR O, S) □ Delta Ochric (F17) (MLRA 151) □ Sandy Gleyed Matrix (S4) □ Reduced Vertic (F18) (MLRA 150A, 150B) □ Sandy Redox (S5) □ Piedmont Floodplain Soils (F19) (MLRA 149A) □ unless disturbed or problematic. □ Stripped Matrix (S6) □ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) □ Dark Surface (S7) (LRR P, S, T, U) □ Restrictive Layer (if observed): Type: □ Depth (inches): □ Hydric Soil Present? Yes □ No ●			R P. T. U	n		_
Muck Presence (A8) (LRR U)	<u> </u>	,		-		
□ 1 cm Muck (A9) (LRR P, T) □ Marl (F10) (LRR U) □ Depleted Below Dark Surface (A11) □ Depleted Ochric (F11) (MLRA 151) □ Thick Dark Surface (A12) □ Iron-Manganese Masses (F12) (LRR O, P, T) □ Coast Prairie Redox (A16) (MLRA 150A) □ Umbric Surface (F13) (LRR P, T, U) □ Sandy Muck Mineral (S1) (LRR O, S) □ Delta Ochric (F17) (MLRA 151) □ Sandy Gleyed Matrix (S4) □ Reduced Vertic (F18) (MLRA 150A, 150B) □ Wetland hydrology must be present, unless disturbed or problematic. □ Sandy Redox (S5) □ Piedmont Floodplain Soils (F19) (MLRA 149A) □ unless disturbed or problematic. □ Stripped Matrix (S6) □ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) □ Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): □ Type: □ Depth (inches): □ Hydric Soil Present? Yes □ No ●				., -,		
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Depleted Ochric (F13) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Depleted Ochric (F13) (LRR O, P, T) Depleted Ochric (F13) (LRR O, P, T) Depleted Ochric (F13) (LRR O, P, T) Depleted Ochric (F13) (LRR O, P, T) Depleted Ochric (F14) (MLRA 151) Tron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F15) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F17) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F18) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses (F12) (LR O, P, T) Iron-Manganese Masses						U Other (Explain in Remarks)
Thick Dark Surface (A12)				11)		
Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No				/		
□ Sandy Muck Mineral (S1) (LRR O, S) □ Delta Ochric (F17) (MLRA 151) □ Sandy Gleyed Matrix (S4) □ Reduced Vertic (F18) (MLRA 150A, 150B) □ Sandy Redox (S5) □ Piedmont Floodplain Soils (F19) (MLRA 149A) □ unless disturbed or problematic. □ Stripped Matrix (S6) □ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) □ Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): □ Type: □ Depth (inches): □ Hydric Soil Present? Yes □ No ●				1504)		
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.						
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	_	• •		, 3)		³ Indicators of hydrophytic vegetation and
Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No •			,			wetland hydrology must be present,
Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes O No						
Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes O No No				15	Anomalous Bright Loamy Soils (F20) (MLRA 14	19A, 153C, 153D)
Type: Depth (inches): Hydric Soil Present? Yes O No No	□ Dark Surra	ice (S/) (LKK i	, S, I, L	<i>')</i>		
Type: Depth (inches): Hydric Soil Present? Yes O No No						
Type: Depth (inches): Hydric Soil Present? Yes O No No	Restrictive La	ver (if ohser	ved):			
Depth (inches): Hydric Soil Present? Yes No No		., (
		vec).				Hydric Soil Present? Yes O No 💿
Remarks:		res).,		110	V 1	
	Remarks:					
· · · · · · · · · · · · · · · · · · ·						

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 24-Oct-16 State: MS Sampling Point: Up - 36
Applicant/Owner: NASA	
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat:	30° 24′ 4.173" N Long.: 89° 36′ 44.961" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes Are climatic/hydrologic conditions on the site typical for this time of year	NWI classification: N/A ar? Yes No (If no, explain in Remarks.)
	ly disturbed? Are "Normal Circumstances" present? Yes No
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No No No No No No No No No No No No No	Is the Sampled Area within a Wetland? Yes ○ No ●
Remarks: Upland Area approximately 100 feet west of access road along easter	ern side of AOI.
HYDROLOGY	
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1)
Remarks:	

Tree Stratum (Plot size: 30 m) 1 Pinus elliottii	% Cover			Status			
	20	V	69.0%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)		
2. Magnolia virginiana	5		17.2%	FACW	That are OBL, FACW, or FAC: 7 (A)		
3. Liquidambar styraciflua	3		10.3%	FAC	Total Number of Dominant		
A Musea subvatica			3.4%	FAC	Species Across All Strata: 7 (B)		
en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de La companya de la companya del companya de la companya de la companya del companya de la companya del la companya de la	1	1	0.0%	- IAC	Percent of dominant Species		
^			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)		
7	0						
		H	0.0%		Prevalence Index worksheet:		
8.	0	Щ,	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 14.5 20% of Total Cover: 5.8		= To	tal Cove	r	OBL species 0 x 1 = 0		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species $91 \times 2 = 182$		
1. Pinus elliottii	10	✓.	58.8%	FACW	FAC species $13 \times 3 = 39$		
Magnolia virginiana	5_	✓,	29.4%	FACW	FACU species $0 \times 4 = 0$		
3. Liquidambar styraciflua	2		11.8%	FAC	UPL species $0 \times 5 = 0$		
4.	0		0.0%		Column Totals: 104 (A) 221 (B)		
5	0		0.0%				
6	0		0.0%		Prevalence Index = B/A = 2.125		
7.	0		0.0%		Hydrophytic Vegetation Indicators:		
8	0		0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 8.5 20% of Total Cover: 3.4	17 :	- To	tal Cover				
		- 10	LLI COTCI		✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹		
1. Ilex corlacea			41.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
2. Ilex glabra	15	ዾ.	41.7%	FACW			
3. Ilex vomitoria	5	Ш	13.9%	FAC	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
4. Cyrilla racemiflora	11	Ш	2.8%	FACW	be present aniess distarbed or prostended		
5	. 0		0.0%		Definition of Vegetation Strata:		
6	0		0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 18 20% of Total Cover: 7.2	36 =	= Total Cover			approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30 m)					(7.5 dil) of larger in diameter at bleast height (DDII).		
	40		F0 00/	54004	Sapling - Woody plants, excluding woody vines,		
1 Tlex corlacea 2 Tlex glabra		V	50.0%		approximately 20 ft (6 m) or more in height and less		
,		V _	50.0%	FACW	than 3 in. (7.6 cm) DBH.		
3	0	Η.	0.0%		Continue/Charle Manche alone available visco 1000		
4		片	0.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5	0	<u> </u>	0.0%		g		
6	0_	<u></u>	0.0%		Shrub - Woody plants, excluding woody vines,		
7,		Щ,	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.		
8,		Ц	0.0%				
9			0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody		
10	0		0.0%		plants, except woody vines, less than approximately		
11	0		0.0%		3 ft (1 m) in height.		
12	0		0.0%				
50% of Total Cover: 10 20% of Total Cover: 4	20 =	= Tot	al Cover		Woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30 m)		\Box	100.007				
Smilax rotundifolia			100.0%	FAC			
The state of the s		Щ	0.0%				
3	0_	Ц.	0.0%				
1.		∐	0.0%	· · · · · · · · · · · · · · · · · · ·	Hydronhytic		
5	0	Ш <u>,</u> _	0.0%		Hydrophytic Vegetation		
50% of Total Cover: 1 20% of Total Cover: 0.4	2 =	- Tot	al Cover		Present? Yes No O		
Series Construction of the second Construction o					*****		
Remarks: (If observed, list morphological adaptations below).							
lemarks: (If observed, list morphological adaptations below).							

Profile Descri	ption: (Desc	cribe to th	ne d ept h	needed to documen	t the indic	ator or co	nfirm the a	bsence of indicators	.)	
Depth		Matrix		Re	dox Featu	res				
(inches)	Color (m		%	Color (moist)	%	Type 1	Loc2	Texture	Remarks	
0-4	10YR	4/2	100	e e						
4-15	10YR	5/6	100				_			
			w.,							
		Depletion.	RM=Redu	ced Matrix, CS=Cover	ed or Coate	d Sand Gra	ins ²Locati	on: PL=Pore Lining. M		
Hydric Soil Ir								Indicators for Pro	oblematic Hydric Soils ³ :	
☐ Histosol (A	-			Polyvalue Bel				1 cm Muck (A9) (LRR 0)	
_ Histic Epipe _ Black Histic				Thin Dark Su)	2 cm Muck (A1		
	Sulfide (A4)			Loamy Mucky				_	: (F18) (outside MLRA 150A,B)	
Stratified L				Loamy Gleyer	-	:)			dplain Soils (F19) (LRR P, S, T)	
_	dies (A6) (LRI	RP T II)		Depleted Mat					ght Loamy Soils (F20) (MLRA 153B	
_	y Mineral (A7)		. 115	Redox Dark S				Red Parent Ma	• •	
_	ence (A8) (LRI		, 0,	Depleted Dark		7)			ark Surface (TF12)	
	(A9) (LRR P,	-		☐ Redox Depres ☐ Marl (F10) (L				Other (Explain in Remarks)		
_	elow Dark Sur		١		•	U DA 4E4\				
_	Surface (A12)		,	Depleted Och			O D T			
_	ie Redox (A16	•	504)	Iron-Mangane			O, P, 1)			
_	k Mineral (\$1)			Umbric Surfac						
_ `	ed Matrix (S4)		"	Delta Ochric ((EQD)	³ Indicato	rs of hydrophytic vegetation and	
Sandy Gley Sandy Red		7		Reduced Vert		-	-	wetlan	d hydrology must be present,	
Stripped Ma				☐ Piedmont Floo	•		•		ss disturbed or problematic.	
		C T IN		Anomalous Br	ignt Loamy	Soils (F20)	(MLKA 149A	A, 153C, 153D)		
_ Dark Surial	ce (S7) (LRR F	7, 3, 1, 0)								
estrictive Lay	yer (if obser	ved):			_				0 6	
Depth (inche	es):				_			Hydric Soil Present	? Yes ○ No ⑨	
emarks:										

Applicant/Owner: NASA Investigator(s): Lars Larson, Randy Ellis Sect	NWI classification: N/A Yes No (If no, explain in Remarks.)
Are Vegetation . , Soll . , or Hydrology . naturally problem	natic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling	g point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks:	Is the Sampled Area within a Wetland? Yes O No
HYDROLOGY	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Moss Trim Lines (B16) Ong Living Roots (C3) Ory Season Water Table (C2) Orayfish Burrows (C8) Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous presents)	Wetland Hydrology Present? Yes ○ No ④
Remarks:	

		Snor	ies? .		Sampling Point: Up - 37		
Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.S	trat.	Indicator Status	Dominance Test worksheet:		
Pinus elliottii	V. C				Number of Dominant Species		
Quercus nigra	10		6.9%	FACW	That are OBL, FACW, or FAC:3(A)		
	2		5.4%	FAC	Total Number of Dominant		
	_		7.7%	FACU	Species Across All Strata: 3 (B)		
			0.0%		Percent of dominant Species		
	0		0.0%	of managed by	That Are OBL, FACW, or FAC: 100.0% (A/B)		
- A*			0.0%	21 X			
** ** * * * * * * * * * * * * * * * *		10000	0.0%	• • • · · · · · · · · · · · · · · · · ·	Prevalence Index worksheet:		
	0	□	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 6.5 20% of Total Cover: 2.6	13	= Total	Cove	г	OBL species 1 x 1 = 1		
apling or Sapling/Shrub Stratum (Plot size: 30 m	}				FACW species $91 \times 2 = 182$		
Pinus elliottii	10	✓ 8.	3.3%	FACW	FAC species $4 \times 3 = 12$		
Nyssa sylvatica	2	1	6.7%	FAC	FACU species $\frac{1}{x^4}$ $\frac{4}{x^4}$		
	_		0.0%		UPL species $0 \times 5 = 0$		
	0		0.0%		Column Totals: 97 (A) 199 (B)		
	0		0.0%				
	0		0.0%		Prevalence Index = B/A = 2.052		
	0		0.0%		Hydrophytic Vegetation Indicators:		
	0_		0.0%		A Darid Wash for Handmanharis Manageria		
0% of Total Cover: 6 20% of Tot al Cover: 2.4		= Total	Cove	_	1 - Rapid Test for Hydrophytic Vegetation		
	4.5.	· vvul			✓ 2 - Dominance Test is > 50%		
hrub Stratum (Plot size: 30 m					3 - Prevalence Index is ≤3.0 ¹		
Ilex corlacea			-	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)		
		0	1.0%				
-	0	<u></u> 0	.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
	0	□0	.0%		<u> </u>		
	0		.0%		Definition of Vegetation Strata:		
	0	0	.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 35 20% of Total Cover: 14	70 =	= Total	Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
lerb Stratum (Plot size: 30 m)							
, Lycopodiella alopecuroides	1	50	0,0%	OBL	Sapling - Woody plants, excluding woody vines,		
Arundinaria tecta		☐ 50	0.0%	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
	0		.0%				
	0	o.	.0%		Sapling/Shrub - Woody plants, excluding vines, less		
· ····	0		.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
	0		.0%	_			
	0		.0%	-	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
The second secon	-		.0%	F	approximatory o to zo it () to o inj in neight.		
• • • • • • • • • • • • • • • • • • •	_ 0		.0%	# · · · · · · · · ·	Herb - All herbaceous (non-woody) plants, including		
*	0		.0%	A	herbaceous vines, regardless of size, and woody		
	0		.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.		
		,			o a (i iii) iii noigia,		
			.0%		Woody vine - All woody vines, regardless of height.		
0% of Total Cover: 1 20% of Total Cover: 0.4	2 =	Total	Cover	ĺ	Trees, and the reserver since, regardless of delyth.		
oody Vine Stratum (Plot size: 30 m		 ,					
	0		.0%				
	0		.0%				
	0 [0.	.0%				
	0	0.	0%				
	0 [o.	0%		Hydrophytic Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0		the state of the s			Vegetation Present? Yes No		
0% of Total Cover: 0 20% of Total Cover: 0	0 =	lotal	cover		Troubline.		

Profile Descri	iption: (De		the depth i	needed to document the indicator o	r confirm the	absence of indicators.)	
Depth		Matrix		Redox Features	1		
(inches)		(moist)	100	Color (moist) % Type	e Loc²	Texture	Remarks
0-6	10YR	4/2	100			Loamy Sand	-
6-16	10YR	5/4	100		-	Loamy Sand	· •••
						K	
**		=Depletio	n. RM≃Redu	ced Matrix, CS=Covered or Coated Sand	Grains ² Loca	tion: PL=Pore Lining, M=	Matrix
Hydric Soil II						Indicators for Prob	olematic Hydric Solls ³ :
Histosol (A	•			Polyvalue Below Surface (S8) (L		1 cm Muck (A9)	(LRR O)
Histic Epip				☐ Thin Dark Surface (S9) (LRR S,	T, U)	2 cm Muck (A10) (LRR S)
Black Histi	c (A3)			Loamy Mucky Mineral (F1) (LRF	l O)	Reduced Vertic ((F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)			olain Soils (F19) (LRR P, S, T)
Stratified L	ayers (A5)			Depleted Matrix (F3)		Anomalous Brigh	nt Loamy Soils (F20) (MLRA 153B)
Organic Bo	dies (A6) (L	RR P, T, L	J)	Redox Dark Surface (F6)		Red Parent Mate	
_ 5 cm Muck	y Mineral (A	17) (LRR P	, T, U)	Depleted Dark Surface (F7)			rk Surface (TF12)
Muck Pres	ence (A8) (L	.RR U)		Redox Depressions (F8)		Other (Explain in	
1 cm Muck	(A9) (LRR I	P, T)		☐ Marl (F10) (LRR U)			r Kellidi KS/
Depleted E	Below Dark S	Surface (A:	l1)	Depleted Ochric (F11) (MLRA 1	51)		
Thick Dark	Surface (A1	12)		☐ Iron-Manganese Masses (F12) (•		
_	ie Redox (A	-	15CA)	Umbric Surface (F13) (LRR P, T			
_	k Mineral (S		•	Delta Ochric (F17) (MLRA 151)	, 0,		
_ `	ed Matrix (S		, 0,		04 4505)	³ Indicators	of hydrophytic vegetation and
Sandy Red	-	J-1)		Reduced Vertic (F18) (MLRA 15	•		hydrology must be present,
_				Piedmont Floodplain Soils (F19)			s disturbed or problematic.
Stripped M Dark Surfa	ce (S7) (LRF	R P, S, T, U	I)	Anomalous Bright Loamy Soils (F20) (MLRA 149	9 A, 153C, 153D)	
estrictive La	yer (IT ODS	ervea):					
Type:						Hydric Soil Present?	Yes O No 💿
Depth (inch	es):			The last of the last of		Tryario Son Tresent.	169 C NO C
temarks:							

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 24-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 38
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 32 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): undulating Slope: 1.0 % / 0.6°
A TOTAL OF THE PARTY OF THE PAR	30° 23' 52.876" N Long.: 89° 37' 1.236" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI dassification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 🏵 No 🔾 (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes No
	problematic? (If needed, explain any answers in Remarks.)
	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	
Hydric Soil Present? Yes O No	Is the Sampled Area
Wetland Hydrology Present? Yes No	within a Wetland? Yes O No 🏵
Remarks: Terrace (slight slope) approximately 130 feet up from main drainage	e way near Wet 37.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Mari Deposits (B1)	(5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	= ····, ····
	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algai Mat or Crust (B4)	e (C7) Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in F	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes ○ No ⑤ Depth (Inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No •
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	

Tree Stratum (Plot size: 30 m	Absolute % Cover			dicator tatus	Dominance Test worksheet:	
					Number of Dominant Species	
1. Pinus elliottii	15	- Company		CW	That are OBL, FACW, or FAC: 5 (A)	
2. Nyssa sylvatica	3	_	.0% FA		Total Number of Dominant	
Quercus virginiana	. 5			VCU	Species Across All Strata: 6 (B)	
4. Quercus falcata	1	4.0	0% FA	ACU .		
5. Quercus nigra		4.1	.0% FA	vc _	Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)	
6	0	O.	.0%		That are Obl., FACW, of FAC.	
7.	0	□ 0.0	.0%		Prevalence Index worksheet:	
8.	0	O.0	.0%		Total % Cover of: Multiply by:	
50% of Total Cover: 12.5 20% of Total Cover: 5	25 :	= Total (Cover		OBL species 3 x 1 = 3	
Sapling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species 61 x 2 = 122	
4 ** 10	_	✓ 31.	.3% FA	ICW .	FAC species 19 x 3 = 57	
11 11 11 11 11 11 11 11 11 11 11 11 11						
2. Nyssa sylvatica			.8%_ FA		FACU species $9 \times 4 = 36$	
3. Liquidambar styraciflua			.3% FA		UPL species $0 \times 5 = 0$	
4 Quercus virginiana	. 2			CU	Column Totals: 92 (A) 218 (B)	
5. Quercus falcata	1 .		***	CU	Prevalence Index = B/A = 2.370	
6	0	0.0	.0%			
7	0	0.0	.0%		Hydrophytic Vegetation Indicators:	
8	_ 0	0.0	0%		1 - Rapid Test for Hydrophytic Vegetation	
50% of Total Cover: 8 20% of Total Cover: 3.2	16 :	= Total C	Cover		✓ 2 - Dominance Test is > 50%	
Shrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹	
1. Ilex corlacea	30			CW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Ilex glabra		✓ 22.	.7% FA	CW		
3. Quercus nigra	3	6.8	8% FA	C	² Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
4. Magnolla virginiana	1	2.3	3% FA	CW	be present unless distance of problematica	
5	. 0	0.0	0%		Definition of Vegetation Strata:	
6.	0	0.0	0%		Tree - Woody plants, excluding woody vines,	
50% of Total Cover: 22 20% of Total Cover: 8.8		= Total Cover			approximately 20 ft (6 m) or more in height and 3 in.	
	44 =				(7.6 cm) or larger in diameter at breast height (DBH).	
Herb Stratum (Plot size: 30 m		_			Sapling - Woody plants, excluding woody vines,	
1 Lycopodiella alopecuroides	3	100	0.0% OE	3L	approximately 20 ft (6 m) or more in height and less	
2		0.0	0%		than 3 in. (7.6 cm) DBH.	
3	. 0	0.0	0%	.,		
4.		0.0	0%		Sapling/Shrub - Woody plants, excluding vines, less	
5.		0.0	0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.	
6	0	0.0	0%		Charle Micada alasta avaludina wasaki vinas	
7		=	0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
8,			0%	_	approximately o to 20 it (1 to o iii) iii lieight.	
			0%		Herb - All herbaceous (non-woody) plants, including	
9				_	herbaceous vines, regardless of size, and woody	
10			0%	-	plants, except woody vines, less than approximately	
11	0		0%	_	3 ft (1 m) in height.	
12.	_ 0	0.0	0%			
50% of Total Cover: 1.5 20% of Total Cover: 0.6	3 =	= Total C	Cover		Woody vine - All woody vines, regardless of height.	
Woody Vine Stratum (Plot size: 30 m						
1 Vitis rotundifolia	3	75.0	0% FA	_		
11 0/10		25.0				
2. Smilax rotundifolia						
3	0	0.0				
4	-	☐ . 0.0	· · · · · · · · · · · · · · · · · · ·		Hydronhytic	
5	0	0.0	0%		Hydrophytic Vegetation	
50% of Total Cover: 2 20% of Total Cover: 0.8	4 =	Total C	Cover		Present? Yes No	
	70 1 7 2 2				·	
Remarks: (If observed, list morphological adaptations below).						

SOIL							Samplin	g Point: Up - 38
Profile Descri	iption: (Des	cribe to	the depth	needed to document the	indicator or co	nfirm the a	bsence of Indicators.)	
Depth		Matrix		Redox	Features	,		
(inches)	Color (ı	moist)	. %	Color (moist)	% Type 1	Loc2	Texture	Remarks
0-4	10YR	4/2	100	11 No. 18 197 198 177	· · · · · · · · · · · · · · · · · · ·			
4-16	10YR	5/6	100					
							4-	
								•
ç					5 a 50.			- 0:-
								, with
								<u></u>

1Type: C=Cono	entration. D=	=Depletio	n. RM=Redi	iced Matrix, CS=Covered or	Coated Sand Grai	ins 21 ocati	on: PL=Pore Lining, M=Ma	etrîx
Hydric Soil Ir							Indicators for Proble	· · · · · · · · · · · · · · · · · · ·
Histosol (A				Polyvalue Below S	Surface (SR) (LRR 5	S. T. UY	_	-
Histic Epipe	•			☐ Thin Dark Surface		-	☐ 1 cm Muck (A9) (LI☐ 2 cm Muck (A10) (I	
Black Histic				Loamy Mucky Min		,		.8) (outside MLRA 150A,B)
Hydrogen 5	Sulfide (A4)			Loamy Gleyed Mai				in Soils (F19) (LRR P, S, T)
Stratified L	ayers (A5)			Depleted Matrix (F	• •			Loamy Soils (F20) (MLRA 153B)
Organic Bo	odies (A6) (LF	RR P, T, L	J)	Redox Dark Surfac			Red Parent Materia	
5 cm Muck	y Mineral (A	7) (LRR P	, T, U)	Depleted Dark Sur				• •
Muck Prese	ence (A8) (LF	RR U)		☐ Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF: ☐ Redox Depressions (F8) ☐ Other (Explain in Remarks)				• •
1 cm Muck	(A9) (LRR P	, T)		Marl (F10) (LRR U)		Other (Explain in it	cindikaj
Depleted B	Below Dark St	urface (A:	l1)	Depleted Ochric (F	- - -11) (MLRA 151)			
Thick Dark	Surface (A12	2)		☐ Iron-Manganese M	lasses (F12) (LRR	O, P, T)		
Coast Prair	ie Redox (A1	.6) (MLRA	150A)	Umbric Surface (F	13) (LRR P, T, U)			
Sandy Muc	k Mineral (S1	L) (LRR O	, S)	Delta Ochric (F17)	(MLRA 151)		7	
Sandy Gley	ed Matrix (S	4)		Reduced Vertic (F:	18) (MLRA 150A, 1	L50B)		f hydrophytic vegetation and drology must be present,
Sandy Red	ox (S5)			Piedmont Floodpla	in Soils (F19) (MU	RA 149A)		listurbed or problematic.
Stripped Ma	atrix (S6)			Anomalous Bright	Loamy Soils (F20)	(MLRA 149/	A, 153C, 153D)	
Dark Surface	ce (S7) (LRR	P, S, T, U	J)					
Restrictive Lay	ver (if obse	nad):						
Type:	yei (ii obse	i vooj.						
Depth (inche	ac).					i	Hydric Soil Present?	Yes O No 💿
<u> </u>	cs)							
Remarks:								

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Da	ate: 24-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 39	9
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 32 T 7 s	R 16 W
Landform (hillslope, terrace, etc.): Hillside	.ocal relief (concave, convex, none): undulating Slope:	2.0 % / 1.1°
Subregion (LRR or MLRA): LRR T Lat.:	30° 23' 48.113" N Long.: 89° 37' 7.209" W	Datum: NAD83
Soil Map Unit Name: PoB, Poarch fine sandy loam, 2 to 5% slopes	NWI classification: N/A	1
Are climatic/hydrologic conditions on the site typical for this time of yea		_
Are Vegetation . , Soil . , or Hydrology . significantl	disturbed? Are "Normal Circumstances" present?	res ● No ○
Are Vegetation , Soil , or Hydrology naturally p	oblematic? (If needed, explain any answers in Remark	(s.)
SUMMARY OF FINDINGS - Attach site map showing sar	ppling point locations, transects, important feat	ures, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area	
Hydric Soil Present? Yes ○ No ⑥	Van O Na 📵	
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?	
Remarks:		- -
Plot is 100 feet east - NE of plot Wet - 19 on slight ridge above wetland	nd drainage way	
FIGURE 100 real case. The or place real as on origin rings above from	no dramage way.	
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicators (minimum o	of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)	
Surface Water (A1) Aquatic Fauna (B1:	_	Surface (B8)
☐ High Water Table (A2) ☐ Marl Deposits (B15	<u> </u>	
Saturation (A3) Hydrogen Sulfide C	<u> </u>	
Water Marks (B1) Oxidized Rhizosphe	res along Living Roots (C3) Dry Season Water Table (C2)	ı
Sediment Deposits (B2)	d Iron (C4) Crayfish Burrows (C8)	
☐ Drift Deposits (B3) ☐ Recent Iron Reduc	on in Tilled Soils (C6) Saturation Visible on Aerial In	nagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	(C7) Geomorphic Position (D2)	
☐ Iron Deposits (B5) ☐ Other (Explain in R	marks) Shallow Aquitard (D3)	
☐ Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T	, υ)
Field Observations:		
Surface Water Present? Yes O No O Depth (inches):	TW.	
Water Table Present? Yes No Depth (inches):		<u> </u>
Saturation Procent?	Wetland Hydrology Present? Yes	No 💿
(moreov supmer) imiguy		
Describe Recorded Data (stream gauge, monitoring well, aerial photo	, previous inspections), if available:	
Remarks:		
		i

Tree Stratum (Plot size: 30 m	Absolute		l.Strat. over	Indicator Status	Dominance Test worksheet:		
					Number of Dominant Species		
1 Pinus elliottii	5	V	31.3%	FACW	That are OBL, FACW, or FAC: 11 (A)		
Plnus taeda	5	V	31.3%	FAC	Total Number of Dominant		
Nyssa sylvatica		Ц.	18.8%	FAC	Species Across All Strata: 11 (B)		
Quercus nigra		Ш.,	12.5%	FAC			
Quercus falcata		\square	6.3%	FACU	Percent of dominant Species That Are OBL FACW or FAC: 100.0% (A/B)		
5	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (AVB)		
7.	0		0.0%		Prevalence Index worksheet:		
3.	0		0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 8 20% of Total Cover: 3.2	16	= Tot	al Cove		OBL species 0 x 1 = 0		
2.21		_ ,	ai corc		FACW species 65 x 2 = 130		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m							
Pinus taeda	5	V	50.0%	FAC	FAC species 43 x 3 = 129		
Quercus nigra		_	30.0%	FAC	FACU species $1 \times 4 = 4$		
Magnolia virginiana	2,,	V	20.0%	FACW	UPL species $0 \times 5 = 0$		
	0		0.0%		Column Totals: 109 (A) 263 (B)		
5.	0		0.0%				
).	0		0.0%		Prevalence Index = B/A = 2.413		
7.	0		0.0%		Hydrophytic Vegetation Indicators:		
	0		0.0%	K 141			
* * * * * * * * * * * * * * * * * * *					1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 5 20% of Tot al Cover: 2	10	= Tot	al Cove	•	✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹		
Ilex coriacea	3		4.4%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
Ilex glabra	40	V	58.8%	FACW			
They would be stored to	20	V	29.4%	FAC	¹ Indicators of hydric soll and wetland hydrology must		
	5	<u> </u>	7.4%	FACW	be present, unless disturbed or problematic.		
				PACW	Definition of Variation Strates		
5	0	Н,	0.0%		Definition of Vegetation Strata:		
5	0	Ш_	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.		
50% of Total Cover: 34 20% of Total Cover: 13.6	68	= Total Cover			(7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30 m)					(,,		
	-	V	ED 00/	EACIN	Sapling - Woody plants, excluding woody vines,		
1. Ilex glabra	5		50.0%	FACW	approximately 20 ft (6 m) or more in height and less		
2. Ilex corlacea	5	Y _	50.0%	FACW	than 3 in. (7.6 cm) DBH.		
3		Ц.	0.0%				
4	0	Ш_	0.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5,	0		0.0%		than 5 in. DBN and greater than 5.20 it (inly tall.		
6	0		0.0%		Shrub - Woody plants, excluding woody vines,		
7	0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.		
8.			0.0%		, , ,		
9			0.0%	n yi kaya i kan	Herb - All herbaceous (non-woody) plants, including		
			0.0%	· w	herbaceous vines, regardless of size, and woody		
0,		_			plants, except woody vines, less than approximately		
1	0	-	0.0%		3 ft (1 m) in height.		
2.	0	Ш	0.0%		Manakesina Albumakesinas sassallas af haisht		
50% of Total Cover: 5 20% of Total Cover: 2	10 :	= Tot	al Cover		Woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30 m				j			
Smllax rotundifolia	3	V	60.0%	FAC			
•	-						
Vitis rotundifolia	2		40.0%	TAC			
	0		0.0%				
	_ C		0.0%		Usednambatic		
	0		0.0%		Hydrophytic Vegetation		
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= Tota	al Cover		Present? Yes No O		
SANCE AND ADDRESS OF THE PROPERTY OF THE PROPE							
emarks: (If observed, list morphological adaptations below).							

SOIL					Sampling Point: Up - 39
Profile Desc	ription: (Des	cribe to	the depth	needed to document the indicator or confirm the	e absence of indicators.)
Depth	., , ,	Matrix		Redox Features	
(inches)	Color (moist)	%	Color (moist) , , % , Type 1 Loc2	Texture Remarks
0-5	10YR	3/2	100		
5-16	10YR	5/6	100		
			1 14		
					·
-		_			
			-		
					· · · · · · · · · · · · · · · · · · ·
¹Tyne: C=Con	ncentration. De	=Depletic	n. RM=Redi	ced Matrix, CS=Covered or Coated Sand Grains ² Loc	ration: PI =Pore Lining, M=Matrix
Hydric Soil		Боргоск		Section of Country Country (1997)	Indicators for Problematic Hydric Soils ³ :
Histosol ((A1)			Polyvalue Below Surface (S8) (LRR S, T, U)	
	pedon (A2)			☐ Thin Dark Surface (S9) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Black Hist				Loamy Mucky Mineral (F1) (LRR O)	2 cm Muck (A10) (LRR S)
	1 Sulfide (A4)			Loamy Gleyed Matrix (F2)	Reduced Vertic (F18) (outside MLRA 150A,B)
	Layers (A5)			Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
_	Bodies (A6) (LF	RR P, T, I	U)	Redox Dark Surface (F6)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
	cky Mineral (A		•	Depleted Dark Surface (F7)	Red Parent Material (TF2)
	sence (A8) (LF		, , ,	Redox Depressions (F8)	
1 cm Muc	ck (A9) (LRR P	, T)		Mari (F10) (LRR U)	Uther (Explain in Remarks)
	Below Dark Si		11)	Depleted Ochric (F11) (MLRA 151)	
☐ Thick Dar	k Surface (A1	2)		Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Pra	irie Redox (A1	.6) (MLR/	4 150A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Mu	ıck Mineral (S1	L) (LRR C), S)	Deita Ochric (F17) (MLRA 151)	
	eyed Matrix (S			Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Re	dox (S5)			Piedmont Floodplain Soils (F19) (MLRA 149A)	wetland hydrology must be present, unless disturbed or problematic.
Stripped I	Matrix (S6)			Anomalous Bright Loamy Soils (F20) (MLRA 14	-
☐ Dark Surf	ace (S7) (LRR	P, S, T,	U)		,,
Restrictive L	aver (if obse	rvad):			
Type:	ayer (III obse	iveu).			
Depth (incl	hes).	_ ~	-, -, -, -		Hydric Soil Present? Yes No 💿
	ilea)		4	,	
Remarks:					
No hydric ind	icators obse	rvea.			
				*:	

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 25-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 40
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 32 T 7s R 16 W
	Local relief (concave, convex, none): none Slope: 2.0 % / 1.1°
	30° 23′ 42.761" N Long.: 89° 36′ 50.066" W Datum: NAD83
Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent slo	
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation . , Soil . , or Hydrology . significantl	ly disturbed? Are "Normal Circumstances" present? Yes No No
Are Vegetation, Soil, or Hydrology naturally p.	roblematic? (If needed, explain any answers in Remarks.)
	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	
Hydric Soil Present? Yes ○ No ●	Is the Sampled Area
1 1 2 - 1 - 1 1 1 - 1 - 1 1 1 - 1 1 1 1	within a Wetland? Yes ○ No
Wetland Hydrology Present? Yes ○ No ●	
Remarks: Side slope - step up edge approximtely 25-30 feet of wet drainage a	rea - ephemeral drain.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13) High Water Table (A2) Marl Deposits (B15)	
High Water Table (A2) Saturation (A3) Hydrogen Sulfide C	
Sediment Deposits (B2) Presence of Reduct	
Iron Deposits (B5) Uther (Explain in R	<u> </u>
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)
	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Carrace visite Flacing	
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ⊙
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	wedand hydrology Present? Tes C No C
Describe Recorded Data (stream gauge, monitoring well, aerial photos	s, previous inspections), if available:
Remarks:	
Remarks:	

2. 3. 4. 5.	Quercus nigra Acer rubrum	25	_				
2. 3. 4. 5.	· T. · · · · · · · · · · · · · · · · · ·	23	V	67,6%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: (A)	
3. 4. 5. 6.	7.00.	2		5.4%	FAC	This are obly there, or their	
4. 5. 6.	Nyssa sylvatica	40		27.0%	FAC	Total Number of Dominant	
5. 6.	INVOSE SYIVELLE	. 10.		****	FAC	Species Across All Strata: 8 (B)	
6.				0.0%	-	Percent of dominant Species	
_	• • • • • • • • • • • • • • • • • • • •			0.0%	20	That Are OBL, FACW, or FAC: 100.0% (A/B)	
	μ.			0.0%	-		
	and the state of t	. 0		0.0%		Prevalence Index worksheet:	
8.		0	Щ	0.0%	in the second	Total % Cover of: Multiply by:	
509	% of Total Cover: 18.5 20% of Total Cover: 7.4	37	= To	tal Cove	-	OBL species 0 x 1 = 0	
Sap	oling or Sapling/Shrub Stratum (Plot size: 30 m.)				FACW species 8 x 2 = 16	
			V	54.1%	FAC	FAC species 95 x 3 = 285	
	Llauldombor et maiffue	4.0	V	27.0%	FAC	FACU species0 _ x 4 = _0	
	Acer rubrum	5		13.5%	FAC		
	Maria a halfa	-	Η.			UPL species $0 \times 5 = 0$	
	Nyssa sylvatica			5.4%	FAC	Column Totals: 103 (A) 301 (B)	
5.		0		0.0%		Prevalence Index = B/A = 2.922	
3	State of the state	0	Щ	0.0%			
7.		0	\square	0.0%		Hydrophytic Vegetation Indicators:	
В	Tager : , we to the second of	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation	
505	% of Total Cover: 18.5 20% of Total Cover: 7.4	37	= To	tal Cover		✓ 2 - Dominance Test is > 50%	
						_	
	ub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹	
	Quercus nigra	. 5	✓.	25.0%	FAC	☐ Problematic Hydrophytic Vegetation ¹ (Explain)	
2.	Ilex vomitoria	10	✓	50.0%	FAC		
3. 🖫	Ilex opaca	2		10.0%	FAC	Indicators of hydric soil and wetland hydrology must	
4. 🖆	Vaccinium elliottil	_3		15.0%	FACW	be present, unless disturbed or problematic.	
5.			П	0.0%	-	Definition of Vegetation Strata:	
3.		0	\Box	0.0%		Tree - Woody plants, excluding woody vines,	
50% of Total Cover: 10 20% of Total Cover: 4			= To	tal Cover		approximately 20 ft (6 m) or more in height and 3 in.	
						(7.6 cm) or larger in diameter at breast height (DBH).	
Her	b Stratum (Plot size: 30 m)					Copling Moody plants, evaluding woody viscs	
1./	Arundinaria tecta	. 5	✓ 71.4% FACW		FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less	
2.	Rubus argutus		✓	28.6%	FAC	than 3 in. (7.6 cm) DBH.	
3.		0		0.0%			
4.		0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less	
5.	' 1. ♥ 7.	0	\Box	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.	
6	•	0		0.0%			
7			\Box	0.0%		Shrub - Woody plants, excluding woody vines,	
<u>/</u> =			Н		p. 14 14 1440 144	approximately 3 to 20 ft (1 to 6 m) in height.	
Ö.		_0	Η.	0.0%		Herb - All herbaceous (non-woody) plants, including	
	· · · · · · · · · · · · · · · · · · ·		H	0.0%		herbaceous vines, regardless of size, and woody	
0		0	Ш,	0.0%		plants, except woody vines, less than approximately	
1.		0		0.0%		3 ft (1 m) in height.	
2.		0		0.0%			
50%	6 of Total Cover: 3.5 20% of Total Cover: 1.4	7 :	= To	tal Cover		Woody vine - All woody vines, regardless of height.	
	ody Vine Stratum (Plot size: 30 m		_		}		
	Vitis rotundifolia	2	Ц.	100.0%	FAC		
	AT VINE TUTTER THE ME	0	\square	0.0%			
		0		0.0%			
		0		0.0%			
		0		0.0%		Hydrophytic	
			,,,,			Vegetation Present? Yes No	
50%	6 of Total Cover: 1 20% of Total Cover: 0.4	2 =	= Tol	al Cover		rieselle:	
	rks: (If observed, list morphological adaptations below).		-				

Profile Descr	iption: (Des	scribe to	the depth	needed to document the indicator or confirm	the absence of indicators.)	
Depth	11 TW TIP	Matrix		Redox Features		
(inches)	Color (0/0	Color (moist)%Type ¹ Lo		Remarks
0-6	10YR	4/2	100		Loamy Sand	(4)44
6-16	10YR	5/3	100		Loamy Sand	
	3					
		-				
			_			
						The Table
¹ Type: C=Cond	entration. D	=Depletion	a. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains	Location: PL=Pore Lining. M=Matrix	
Hydric Soil I					Indicators for Problema	tic Hydric Soils ³ :
Histosol (A	•			Polyvalue Below Surface (S8) (LRR S, T, L) 1 cm Muck (A9) (LRR =	D)
Histic Epip				Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR	. 5)
Black Histi	c (A3)			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain S	oils (F19) (LRR P, S, T)
Stratified L	_ayers (A5)			Depleted Matrix (F3)	_	my Soils (F20) (MLRA 153B)
Organic Bo	odies (A6) (LI	RR P, T, U)	Redox Dark Surface (F6)	Red Parent Material (T	
5 cm Muci	ky Mineral (A	7) (LRR P,	T, U)	Depleted Dark Surface (F7)	Very Shallow Dark Sur	•
Muck Pres	ence (A8) (LI	rr u)		Redox Depressions (F8)	Other (Explain in Rema	
1 cm Muck	((A9) (LRR P	, T)		☐ Mari (F10) (LRR U)		,
Depleted E	Below Dark S	urface (A1	1)	Depleted Ochric (F11) (MLRA 151)		
Thick Dark	Surface (A1	2)		Iron-Manganese Masses (F12) (LRR O, P,	Τ)	
Coast Prair	rie Redox (A1	l6) (MLRA	150A)	Umbric Surface (F13) (LRR P, T, U)		
Sandy Muc	k Mineral (S:	1) (LRR O,	S)	Delta Ochric (F17) (MLRA 151)	2	
Sandy Gley	yed Matrix (S	4)		Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hy	drophytic vegetation and logy must be present,
Sandy Red	lox (S5)			Piedmont Floodplain Soils (F19) (MLRA 14	9A) unless distu	rbed or problematic.
Stripped M	latrix (S6)			Anomalous Bright Loamy Solls (F20) (MLR		· ·
Dark Surfa	ce (S7) (LRR	P. S, T, U))			
Restrictive La	ver / if ohse	rved).				
Type:	yel (il obse	a veey.				
Depth (inch	oc).				Hydric Soil Present?	′es ○ No •
	C3).					
Remarks:						
						i
						,

Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes Are climatic/hydrologic conditions on the site typical for this time of year Are Vegetation , Soil , or Hydrology significant	tly disturbed? Are "Normal Circumstances" present? Yes No O
· - / - /	Is the Sampled Area within a Wetland? Wetland? Wetland? Wetland? Within a Wetland? Wetland? Within a Wetland? Within a Wetland? Within a Wetland? Within a Wetland? Within a Wetland?
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) Peres along Living Roots (C3) Crayfish Burrows (C8) Ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) E (C7) Geomorphic Position (D2)
Water-Stained Leaves (B9) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? (includes capillary fringe) Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photo Remarks:	□ Sphagnum moss (D8) (LRR T, U) Wetland Hydrology Present? Yes □ No ●

ree Stratum (Plot size: 30 m) Pinus elliottii Magnolia virginiana	% Cover	•	41,7%	Status	Number of Dominant Species
, · · ·	10	Y	41 /%		
May 1018 VIGINIANA	-	V	h	FACW	That are OBL, FACW, or FAC: 8 (A)
Marrie a Ambre	_	=	29.2%	FACW	Total Number of Dominant
Nyssa sylvatica		V	20.8%	FAC	Species Across All Strata: 8 (B)
Acer rubrum			8.3%	, FAC	Percent of dominant Species
			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
		님	0.0%		
344 - 3 - 3 - 4 - 4	0		0.0%		Prevalence Index worksheet:
	0	Ш	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 12 20% of Total Cover: 4.8	24	= To	otal Cove	r	OBL species 1 x 1 = 1
apling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species
Pinus elliottii	10	V	45.5%	FACW	FAC species 28 x 3 = 84
Magnolia virginiana	5	V	22.7%	FACW _	FACU species $0 \times 4 = 0$
Liquidambar styraciflua	3		13.6%	FAC	UPL species $0 \times 5 = 0$
Acer rubrum			9.1%	FAC	Column Totals: 103 (A) 233 (B)
Nyssa sylvatica			9.1%	FAC	CO 14MM 10 24 13 1 200 (10 22 23
			0.0%		Prevalence Index = B/A = 2.262
			0.0%		Hydrophytic Vegetation Indicators:
	ō		0.0%	train to	
* 1.1 . 7 . 1			otal Cove		1 - Rapid Test for Hydrophytic Vegetation
	22	- 10	rai cose		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m)		_			✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex glabra		V	54.1%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex cortacea	. 5 _.	\square	13.5%	FACW	
Ilex vomitoria	1.0	\mathbf{V}	27.0%	FAC	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Persea palustris	. 2		5.4%	FACW	be present, unless disturbed of problematic.
	0		0.0%		Definition of Vegetation Strata:
	0		0.0%		Tree - Woody plants, excluding woody vines,
550% of Total Cover: 18.5 20% of Total Cover: 7.4		= To	tal Cove	r	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot size: 30 m)					(1.0 only of larger in diameter at breast height (bbilly.
	10	V	93.8%	FACW	Sapling - Woody plants, excluding woody vines,
. Arundinaria tecta					approximately 20 ft (6 m) or more in height and less
. Lycopodiella alopecuroides	1	H	6.3%	OBL	than 3 in. (7.6 cm) DBH.
		吕.	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
		Η,	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0,	Ц	0.0%		,
	<u> </u>	닏.	0.0%		Shrub - Woody plants, excluding woody vines,
7 	0	Ц,	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
3	0	\bigsqcup_{i}	0.0%	pu .	I lock All bank as a constant of the lock at the lock
	C		0.0%	,	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
)	0		0.0%		plants, except woody vines, less than approximately
S	0		0.0%		3 ft (1 m) in height.
	0		0.0%		
60% of Total Cover: 8 20% of Total Cover: 3.2	16 =	= To	tal Cove		Woody vine - All woody vines, regardless of height,
				Ì	
(Plot size: 30 m)	5.1		E0 00/	EAC	•
Smilax rotundifolia	2	片.	50.0%	FAC	
Vitis rotundifolia	. 2	片.	50.0%	FAC	
-	0	님	0.0%		
		닏	0.0%		Hydrophytic
	0	⊔,	0.0%		Variation
0% of Total Cover: 2 20% of Total Cover: 0.8	4 =	= To	tal Cover		Present? Yes No

_	\sim τ	
•		

SOIL					Sampling Poin	t: Up - 41
Profile Descr	iption: (De	scribe to	the depth	needed to document the indicator or confir	the absence of indicators.)	
Depth		Matrix		Redox Features		
(inches)	Color (moist)	0/0	Color (moist) % Type 1	oc² Texture	Remarks
0-5	10YR	3/2	100			71.00
5-15	10YR	5/4	100			
C.				W		
P		12 *				· · · · · · · · · · · · · · · · · · ·
VA.			a		-	
1		- L.		1444	2	
- ' '		=Debietto	n. RM=Redu	iced Matrix, CS=Covered or Coated Sand Grains	² Location: PL=Pore Lining, M=Matrix	
Hydric Soil I					Indicators for Problematic	Hydric Soils ³ :
Histosol (A	•			Polyvalue Below Surface (S8) (LRR S, T	U) 1 cm Muck (A9) (LRR O)	
F*-	edon (A2)			Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)	
☐ Black Histi				Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (out	side MLRA 150A,B)
_	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils	(F19) (LRR P, S, T)
	Layers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy	Soils (F20) (MLRA 153B)
	odies (A6) (L		•	Redox Dark Surface (F6)	Red Parent Material (TF2)	I
	ky Mineral (A	-	, T, U)	Depleted Dark Surface (F7)	Very Shallow Dark Surface	e (TF12)
(mm)	ence (A8) (LI			Redox Depressions (F8)	Other (Explain in Remarks	;)
	k (A9) (LRR P			☐ Marl (F10) (LRR U)		
	Below Dark S	-	(1)	Depleted Ochric (F11) (MLRA 151)		
	Surface (A1	-		☐ Iron-Manganese Masses (F12) (LRR O,	·T)	
	rie Redox (Al		-	Umbric Surface (F13) (LRR P, T, U)		
	ck Mineral (S		, S)	Delta Ochric (F17) (MLRA 151)	3Tradiontors of budge	niutia unastatian and
	yed Matrix (S	4)		Reduced Vertic (F18) (MLRA 150A, 150		phytic vegetation and y must be present,
Sandy Red				Piedmont Floodplain Soils (F19) (MLRA		ed or problematic.
Stripped M				Anomalous Bright Loamy Soils (F20) (M	RA 149A, 153C, 153D)	
☐ Dark Surfa	ice (S7) (LRR	P, S, T, (J)			
Restrictive La	ver (if obse	rved):				
Type:	7/17/					
	es):				Hydric Soil Present? Yes	: ○ No ⑨
Remarks:						
No hydric indi	cators					

Transition of the state of the	City/County: Waveland - Hancock Sampling Date: 25-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 42
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 32 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): Slope: 1.0 % / 0.6°
Subregion (LRR or MLRA): LRR T Lat:	30° 23' 44.711" N Long.: 89° 37' 11.723" W Datum: NAD83
Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of yea	
Are Vegetation $\ \square$, Soil $\ \square$, or Hydrology $\ \square$ significantly	y disturbed? Are "Normal Circumstances" present? Yes . No .
Are Vegetation . , Soil . , or Hydrology . naturally pr	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sar	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	T- No Complet to
Hydric Soil Present? Yes O No •	Is the Sampled Area Yes ○ No ●
Wetland Hydrology Present? Yes ○ No •	within a Wedand?
Remarks: NO Wet 42	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13	
☐ High Water Table (A2) ☐ Marl Deposits (B15	
☐ Saturation (A3) ☐ Hydrogen Sulfide C	
	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduct Percent Iron Reduct	
	tion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) (C7) Geomorphic Position (D2)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface ☐ Iron Deposits (B5) ☐ Other (Explain in R	
☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	Springson mos (50) (EACT, 0)
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
	Wetland Hydrology Present? Yes ○ No •
(includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photos	y previous inspectavisty in available.

(Plot size, 20 m)		e Rel.Strat.		Dominance Test worksheet:
Tree Stratum (Plot size: ,30 m ,) Pinus elliottii	% Cove		Status	Number of Dominant Species
	15	40.5%	FACW	That are OBL, FACW, or FAC: 7 (A)
Nyssa sylvatica	10	27.0%	FAC	Total Number of Dominant
Quercus nigra	5	13.5%	FAC	Species Across All Strata: 7 (B)
Magnolia grandiflora		5.4%	FAC	Percent of dominant Species
Pinus taeda	5	13.5%	FAC	That Are OBL, FACW, or FAC: 100.0% (A/B)
		0.0%		
	0	0.0%		Prevalence Index worksheet:
	. 0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 18.5 20% of Total Cover: 7.4	37	= Total Cove	•	OBL species $0 \times 1 = 0$
apling or Sapling/Shrub Stratum (Plot size: 30 m	}}			FACW species 92 x 2 = 184
Pinus elliottii	10	✓ 41.7%	FACW	FAC species 42 x 3 = 126
Nyssa sylvatica		✓ 29.2%	FAC	FACU species $0 \times 4 = 0$
Magnolia virginiana	5	₹ 20.8%	FACW	UPL species $0 \times 5 = 0$
Acer rubrum		8.3%	FAC	
## - - - - - - - - - -	0	0.0%		Column Totals: 134 (A) 310 (B)
	0	0.0%		Prevalence Index = B/A = 2,313
	0	0,0%	-	Hydrophytic Vegetation Indicators:
1 To (a)		0.0%		
		•		1 - Rapid Test for Hydrophytic Vegetation
60% of Total Cover: 12 20% of Total Cover: 4.8	24	= Total Cove	1	✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m)				✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	50	✓ 83.3%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria		16.7%	FAC	
2 2 2	0	0.0%		¹ Indicators of hydric soil and wetland hydrology must
		0.0%		be present, unless disturbed or problematic.
	•	0.0%		Definition of Vegetation Strata:
	0	0.0%		Tree - Woody plants, excluding woody vines,
0% of Total Cover: 30 20% of Total Cover: 12	60	= Total Cover		approximately 20 ft (6 m) or more in height and 3 in.
				(7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot size: 30 m)				Sapling - Woody plants, excluding woody vines,
, Ilex corlacea		83.3%	FACW	approximately 20 ft (6 m) or more in height and less
Arundinaria tecta	2	16,7%	FACW	than 3 in. (7.6 cm) DBH.
8	0	0.0%		
V	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	0.0%	_	than 5 m. DDH and greater than 5.26 m (min) tail.
·	0	0.0%		Shrub - Woody plants, excluding woody vines,
Mercels - Construct Constr	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
11 27 2441 - 4444 44 44 44		0.0%		
No.		0.0%	~ `	Herb - All herbaceous (non-woody) plants, including
		0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
	0	0.0%		3 ft (1 m) in height.
` 	0	0.0%		
Of of Tatal Causes 5 20% of Tatal Causes 2.4			_	Woody vine - All woody vines, regardless of height.
0% of Total Cover: 6 20% of Total Cover: 2.4	12	= Total Cover		,
		三		
		100.0%	FAC	
Vitis rotundifolia		0.0%		
Vitis rotundifolia	0	0.0%		
Vitts rotundifolia	0.			
Vitis rotundifolia	0 0 0	0.0%		Hydrophytic
A. **	0 0 0	0.0%		Hydrophytic Vegetation Present? Yes No

	_	_	_	_	 _	
		г	п	7	C	3

SOIL					Sampling Point: Up - 42
Profile Desc	ription: (De	scribe to	the depth	needed to document the Indicator or confirm the	e absence of indicators.)
Depth		Matrix		Redox Features	
(Inches)	Color	moist)	%	Color (moist) % Type 1 Loc2	Texture Remarks
0-5	10YR	3/2	100		
5-15	10YR	5/3	100		
		•			
				- *	
	-			· w : (Transe Nutr. on 1 (months) at 1 200
			-		
	·				- J+
			, * u)		
1=					
		=Depletio	n. KM=Kedu	ced Matrix, CS=Covered or Coated Sand Grains ² Loc	-
Hydric Soil I					Indicators for Problematic Hydric Soils ³ :
				Polyvalue Below Surface (S8) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
	pedon (A2)			Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Black Hist				Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Pledmont Floodplain Soils (F19) (LRR P, S, T)
_	Layers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
	Bodies (A6) (L		•	Redox Dark Surface (F6)	Red Parent Material (TF2)
<u> </u>	:ky Mineral (A		, T, U)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
	sence (A8) (L			Redox Depressions (F8)	Other (Explain in Remarks)
1	:k (A9) (LRR F			Marl (F10) (LRR U)	
	Below Dark S	•	11)	Depleted Ochric (F11) (MLRA 151)	
	k Surface (A1	•		☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Pra	irie Redox (A:	16) (MLRA	150A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Mu	ıck Mineral (S	1) (LRR O	, S)	Delta Ochric (F17) (MLRA 151)	3
Sandy Gle	eyed Matrix (S	64)		Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
Sandy Re	dox (S5)			Piedmont Floodplain Soils (F19) (MLRA 149A)	
Stripped N	Matrix (S6)			Anomalous Bright Loamy Soils (F20) (MLRA 14	49A, 153C, 153D)
Dark Surfi	ace (S7) (LRR	l P, S, T, L	J)		
Restrictive L	aver (if obse	erved):			
Type:	., (0				
	hes):				Hydric Soil Present? Yes O No 💿
Remarks:					
			ti 2 2		
Soil chroma a	ppears to D	e borden	iine 2 - 3.		

Project/Site: NASA - Stennis; 1.100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 25-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 43
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 32 T 7s R 16 W
	Local relief (concave, convex, none): Slope: 1.0 % / 0.6° 30° 23' 51.321" N Long.: 89° 37' 18.476" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: N/A
Are Vegetation , Soil , or Hydrology naturally p	Are "Normal Circumstances" present? Yes No No problematic? (If needed, explain any answers in Remarks.) Impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks:	Is the Sampled Area within a Wetland? Yes ○ No ④
Plot is about 75 feet south-southeast of Wet-43 on side slope just up HYDROLOGY	p from the drainage area.
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) Dry Season Water Table (C2) ced Iron (C4) Crayfish Burrows (C8) Ction in Tilled Soils (C6) E (C7) Remarks) Saturation Visible on Aerial Imagery (C9) E (C7) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U) Wetland Hydrology Present? Yes No
Remarks:	

		_	ominant pecies? .		Sampling Point: Up - 43
	Absolute	R	el.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m	% Cover		Cover	Status	Number of Dominant Species
Pinus elliottii	10	V	66.7%	FACW	That are OBL, FACW, or FAC: 7 (A)
Magnolia virginiana	3	V	20.0%	FACW	Total Number of Dominant
Nyssa sylvatica	0		0.0%	FAC	Species Across All Strata: 7 (B)
Pinus taeda	2		13.3%	FAC	
	0 _		0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	. 0		0.0%	-,	That are Obl., FACW, or FAC:
a managana wa sana ana ana ana ana ana ana ana ana a	0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 7.5 20% of Total Cover: 3	15	= To	otal Cove	г	OBL species <u>1</u> x 1 = <u>1</u>
apling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species 94 x 2 = 188_
Pinus elliottil	15	V	68,2%	FACW	FAC species $11 \times 3 = 33$
Magnolia virginiana	. 5	V	22.7%	FACW	FACU species 0 x 4 = 0
Magnolia grandiflora			4.5%	FAC	UPL species $0 \times 5 = 0$
Liquidambar styraciflua			4.5%	FAC	Column Totals: 106 (A) 222 (B)
			0.0%		
401			0.0%		Prevalence Index = B/A = 2.094
	0		0.0%		Hydrophytic Vegetation Indicators:
	0		0.0%		
60% of Total Cover: 11 20% of Total Cover: 4.4			otal Cove		✓ 1 - Rapid Test for Hydrophytic Vegetation
		- 10	nai cove	•	✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 1
Ilex coriacea	10	V	21.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex glabra	30	V	65.2%	FACW	
Liquidambar styraciffua		Ш	10.9%	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Persea palustris	1		2.2%	FACW	be present, unless disturbed of problematic
	0		0.0%		Definition of Vegetation Strata:
	0		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 23 20% of Total Cover: 9.2	46 =	= To	tal Cove	r	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot size: 30 m					
Lycopodiella alopecuroides	- 1		4.8%	OBL	Sapling - Woody plants, excluding woody vines,
lex glabra		<u> </u>	95.2%	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
	0	\Box	0.0%		dian o in (110 on) DD111
·	0		0.0%	_	Sapling/Shrub - Woody plants, excluding vines, less
*	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
		\Box	0.0%		
Ç	0	Ħ,	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
		\Box	0.0%		approximatory of to be figure of my in neighbors
			0.0%		Herb - All herbaceous (non-woody) plants, including
		H	0.0%		herbaceous vines, regardless of size, and woody
	0		0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.
				6.0	o it (1 try it noight
	0		0.0%		Woody vine - All woody vines, regardless of height.
60% of Total Cover: 10.5 20% of Total Cover: 4.2	21 =	= 10	tal Cover		,,
oody Vine Stratum (Plot size: 30 m		_			
Smilax rotundifolia	1	\bigsqcup_{\bullet}	50.0%	FAC	
Vitis rotundifolia	1		50.0%	FAC	
	0		0.0%		
	Ô		0.0%		
	0		0.0%		Hydrophytic Vegetation
0% of Total Cover: 1 20% of Total Cover: 0.4	2 =	= To	tal Cover		Present? Yes No O
10% of Lotal Cover: 1 20% of Lotal Cover: 11.4					

SOIL Sampling Point: Up - 43 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) % Color (moist) Loc2 **Texture** Remarks 0-4 10YR 100 4-15 3/2 Loamy Sand 10YR 100 Loamy Sand 4-15 5/3 ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soll Indicators: Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) ☐ 1 cm Muck (A9) (LRR P, T) ☐ Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) ☐ Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (\$7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Yes 🔾 No 💿 **Hydric Soil Present?** Depth (inches): Remarks:

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation City.	/County: Waveland - Hancock Sampling Date: 25-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 44
	ction, Township, Range: S 37 T 7s R 16 W
	Z v v v v v v v v v v v v v v v v v v v
* * * * * * * * * * * * * * * * * * * *	*
	23' 47.297" N Long.: 89° 37' 20.892" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significantly dis	sturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally proble	
SUMMARY OF FINDINGS - Attach site map showing sample	
Hydrophytic Vegetation Present? Yes No O	
Hydric Soil Present? Yes ○ No ⑥	Is the Sampled Area
Wetland Hydrology Present? Yes ○ No ●	within a Wetland? Yes O No 🏵
Remarks: Transect between Northwest-Southeast trending site road within the SW	portion of the overall AOI
Transect between Northwest Southeast digitaling site 1988 Within the SW	portion of the overall Aost
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LR	R U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor ((C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres a	along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	on (C4) Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Reduction in	n Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C7)	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in Remar	ks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes O No O Depth (inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ⑥
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	evieus inspections) if availables
Describe Recorded Data (stream gauge, monitoring well, aerial priotos, pri	evious inspections), it available.
Remarks:	
	j

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

			ominant pecies? _		Sampling Point: Up - 44
	Absolute	R	el.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: _30 m)	% Cove		Cover	Status	Number of Dominant Species
Pinus elliottii	<u>"</u> 20	V	51.3%	FACW	That are OBL, FACW, or FAC: 7 (A)
Pinus taeda	5		12.8%	FAC	
Magnolia virginiana	10	V	25.6%	FACW	Total Number of Dominant Species Across Ali Strata: 7 (B)
Magnolia grandiflora	3		7.7%	FAC	
Nyssa sylvatica			2.6%	FAC	Percent of dominant Species
	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
	0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 19.5 20% of Total Cover: 7.8	39	 = To	otal Cove		OBL species 0 x 1 = 0
)	- '			FACW species 83 x 2 = 166
Pinus elliottii		V	62.5%	FACW	
Magnolia virginiana	15 5	V	20.8%	14.4.1.	
4	-			FACW _	
Liquidambar styraciflua	3		12.5%	FAC	UPL species $0 \times 5 = 0$
Nyssa sylvatica			4.2%	FAC	Column Totals: 108 (A) 241 (B)
			0.0%		Prevalence Index = B/A = 2.231
	0		0.0%		
			0.0%		Hydrophytic Vegetation Indicators:
process of the second	0	Ш	0.0%		1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 12 20% of Total Cover: 4.8	24	= To	tal Cover		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	20	V	52.6%	FACW	
91	4.0	V	26.3%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
	_	<u>.</u>			¹ Indicators of hydric soil and wetland hydrology mus
Vaccinium elliottii		H	13,2%	FACW	be present, unless disturbed or problematic.
Ilex glabra	3	片.	7.9%	FACW	Definition of Managerian Street
		片	0.0%		Definition of Vegetation Strata:
	0	Щ	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
60% of Total Cover: 19 20% of Total Cover: 7.6	38	= To	tal Cover		(7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m)					
Ilex glabra	5	V	100.0%	FACW	Sapling - Woody plants, excluding woody vines
	0		0.0%		approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
· · · · · · ·	0	\Box	0.0%		and the (1.0 only BB).
	0	$\overline{\Box}$	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
**************************************	0	\exists	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
-	-	H		-	
	0_	H	0.0%		Shrub - Woody plants, excluding woody vines,
S. C. W. C. C. C. C. C. C. C. C. C. C. C. C. C.		H	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
Name of the second seco		H	0.0%		Herb - All herbaceous (non-woody) plants, including
· · · · · · · · · · · · · · · · · · ·			0.0%		herbaceous vines, regardless of size, and woody
·		ш	0.0%		plants, except woody vines, less than approximately
t	0		0.0%		3 ft (1 m) in height.
	0		0.0%		
0% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= To	tal Cover		Woody vine - All woody vines, regardless of height.
(Plot size: 30 m					
Vitis rotundifolia	2		100.0%	FAC	
		\Box	0.0%		
• • • • • • • • • • • • • • • • • • •		\exists	0.0%		
	- · · · · · · · · · · · · · · · · · · ·				
	-	一	0.0%	· · · · · · · · · · · · · · · · · · ·	Hydrophytic
	0	ш,	0.0%		Vegetation Present? Yes No
i0% of Total Cover: 1 20% of Total Cover: 0.4					Present? Yes V No V

~ 1	

SOIL				Sampling Point: Up - 44
Profile Desc	ription: (Describe t	o the depth	needed to document the indicator or confirm t	the absence of indicators.)
Depth	Matrix		Redox Features	-
(inches)	Color (moist)	0/0	Color (moist) % Type 1 Loc	
0-5	10YR 4/2	100		Loarny Sand
5-16	10YR 5/3	100		Loamy Sand
•				
	L			
			-	
¹ Type: C=Con	ncentration. D=Depleti	on. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains 2L	ocation: PL=Pore Lining, M=Matrix
Hydric Soil 1	Indicators:			Indicators for Problematic Hydric Soils ³ :
Histosol ((A1)		Polyvalue Below Surface (S8) (LRR S, T, U)	
Histic Epi	ipedon (A2)		☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Black Hist	tic (A3)		Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	n Sulfide (A4)		Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)		Depleted Matrix (F3)	
	Bodies (A6) (LRR P, T,	U)	Redox Dark Surface (F6)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
	cky Mineral (A7) (LRR	•	Depleted Dark Surface (F7)	Red Parent Material (TF2)
	sence (A8) (LRR U)	, , -,	Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12)
_	k (A9) (LRR P, T)		Mari (F10) (LRR U)	Uther (Explain in Remarks)
	Below Dark Surface (A	\11)	Depleted Ochric (F11) (MLRA 151)	
_ :	rk Surface (A12)	,	☐ Iron-Manganese Masses (F12) (LRR O, P, T	1
	nirie Redox (A16) (MLR	A 150A)	Umbric Surface (F13) (LRR P, T, U)	,
	ıck Mineral (S1) (LRR (•		
	eyed Matrix (S4)	0, 0,	Delta Ochric (F17) (MLRA 151)	³ Indicators of hydrophytic vegetation and
Sandy Re	• • •		Reduced Vertic (F18) (MLRA 150A, 150B)	wetland hydrology must be present,
	Matrix (S6)		Piedmont Floodplain Soils (F19) (MLRA 149)	
	ace (S7) (LRR P, S, T,	IIN.	Anomalous Bright Loamy Soils (F20) (MLRA	149A, 153C, 153U)
Dark Surre	ace (5/) (Ltt. F, 5, 1,	u,		
			 	
Restrictive La	ayer (if observed):			
Type:			?	Hydric Soil Present? Yes O No 💿
Depth (incl	hes):			Hydric Soil Present? Yes O No 🖲
Remarks:				

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Wavelan	nd - Hancock Sampling Date: 25-Oct-16		
Applicant/Owner: NASA	State:	MS Sampling Point: Up - 45		
Investigator(s): Lars Larson, Randy Ellis	Section, Township, R	Range: 5 37 T 7s R 16 W		
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, o			
10 M 10 M 10 M 10 M 10 M 10 M 10 M 10 M	30° 23' 44.917" N			
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes		NWI classification: N/A		
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲 No	(, explain realizably		
Are Vegetation . , Soli . , or Hydrology . significant	tly disturbed? Are	"Normal Circumstances" present? Yes No		
Are Vegetation , Soil , or Hydrology naturally	problematic? (If	needed, explain any answers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map showing sa	_			
Hydrophytic Vegetation Present? Yes No O				
Hydric Soil Present? Yes ○ No ④	Is the Sample			
Wetland Hydrology Present? Yes O No	within a Wetia	_{and?} Yes ○ No		
	<u>_</u>			
Remarks:	ar aguipment usa			
plot is near disturbed area previously impacted by (apparently) hear	ry equipment use.			
LIVERGLOCY				
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)		
Surface Water (A1)	•	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2) Marl Deposits (B1	5) (LRR U)	Drainage Patterns (B10)		
Saturation (A3) Hydrogen Sulfide	Odor (C1)	Moss Trim Lines (B16)		
Water Marks (B1) Oxidized Rhizosph	neres along Living Roots (C	g Living Roots (C3) Dry Season Water Table (C2)		
Sediment Deposits (B2)	ced Iron (C4)	Crayfish Burrows (C8)		
Drift Deposits (B3)	ction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Thin Muck Surface	e (C7)	Geomorphic Position (D2)		
☐ Iron Deposits (B5) ☐ Other (Explain In I	Remarks)	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	•	✓ FAC-Neutral Test (D5)		
Water-Stained Leaves (B9)		☐ Sphagnum moss (D8) (LRR T, U)		
Field Observations:				
Surface Water Present? Yes No Depth (inches):				
Water Table Present? Yes No Depth (inches):				
Saturation Present? (includes capillary frince) Yes No Depth (inches):		and Hydrology Present? Yes 🔾 No 🍑		
Describe Recorded Data (stream gauge, monitoring well, aerial photo		A if availables		
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections	o), it available:		
Remarks:				

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant
Species?

Tree Stratum (Plot size: 30 m) 1 Pinus elliottii			Status	Dominance Test worksheet:	
I. Fillus allows	% Cover	Cover 55.6%	FACW	Number of Dominant Species	
Nyssa sylvatica	5	18.5%	FAC	That are OBL, FACW, or FAC: 5 (A)	
				Total Number of Dominant	
3. Magnolla virginiana 4. Magnolla grandiflora	-	18.5%	FACW	Species Across All Strata: 5 (B)	
	2	7.4%	FAC	Percent of dominant Species	
5		0.0%	-	That Are OBL, FACW, or FAC: 100.0% (A/B)	
<u> </u>		0.0%	-		
(1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		0.0%		Prevalence Index worksheet:	
3	. 0	□ 0.0%	-	Total % Cover of: Multiply by:	
50% of Total Cover: 13.5 20% of Total Cover: 5.4	27 =	= Total Cove	er .	OBL species 1 x 1 = 1	
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)			FACW species 59 x 2 = 118	
Pinus elliottii	10	52.6%	FACW	FAC species $24 \times 3 = 72$	
Nyssa sylvatica	5	₹ 26.3%	FAC	FACU species $0 \times 4 = 0$	
Magnolia virginiana		15.8%	FACW	UPL species $0 \times 5 = 0$	
1 Liquidambar styraciflua		5.3%	FAC	Column Totals: 84 (A) 191 (B)	
5.		0.0%		COTUMN TOLETS: OT (A)151	
		0.0%		Prevalence Index = B/A = 2.274	
7.		0.0%		Hydrophytic Vegetation Indicators:	
3.	0	0.0%			
				1 - Rapid Test for Hydrophytic Vegetation	
50% of Total Cover: 9.5 20% of Total Cover: 3.8	19=	= Total Cove	er	✓ 2 - Dominance Test Is > 50%	
Shrub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 ¹	
Ilex coriacea	15	✓ 42.9%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
2 Ilex glabra		✓ 28.6%	FACW		
3. Ilex vomitoria		14.3%	FAC	¹ Indicators of hydric soil and wetland hydrology must	
l liex opaca	-	5.7%	FAC	be present, unless disturbed or problematic.	
. Liquidambar styraciflua	3	8.6%	FAC	Definition of Vegetation Strata:	
	0	0.0%		Tree - Woody plants, excluding woody vines,	
50% of Total Cover: 17.5 20% of Total Cover: 7	* • *	= Total Cover		approximately 20 ft (6 m) or more in height and 3 in.	
		- TOURI COVE	•	(7.6 cm) or larger in diameter at breast height (DBH).	
Herb Stratum (Plot size: 30 m)				Casting Mandy plants avaluating woods vince	
1. Hypericum cistifolium	1	50.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less	
2. Lycopodiella alopecuroides	1	50.0%	OBL	than 3 in. (7.6 cm) DBH.	
3,	0	0.0%			
4.	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less	
5.	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.	
6.	0	0.0%		Shrub - Woody plants, excluding woody vines,	
7	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.	
8.		0.0%			
9.		0.0%		Herb - All herbaceous (non-woody) plants, including	
0		0.0%		herbaceous vines, regardless of size, and woody	
1		0.0%	_	plants, except woody vines, less than approximately 3 ft (1 m) in height.	
			i e	o it (1 m) it noight	
2.	0	0.0%	-	Woody vine - All woody vines, regardless of height.	
50% of Total Cover: 1 20% of Total Cover: 0.4	2 =	: Total Cove	r	11000 Tillo Till 11000 Villoo, Togaralogo Villoight	
Woody Vine Stratum (Plot size: 30 m					
Vitis rotundifolia	1	100.0%	FAC		
· · · · · · · · · · · · · · · · · · ·	0	0.0%			
		0.0%			
		0.0%			
	0	0.0%		Hydrophytic	
				Vegetation Present? Yes No	
50% of Total Cover: 0.5 20% of Total Cover: 0.2	1 =	: Total Cove	r I	r recognition	

SOIL				Sampling Point: Up - 45
Profile Desc	ription: (Describe to th	e depth r	needed to document the indicator or confirm the	e absence of Indicators.)
Depth	Matrix		Redox Features	
(inches)	Color (moist)	%	Color (moist) % Type Loc2	Texture Remarks
0- 5	10YR 4/2	100		Loamy Sand
5-15	10YR 5/4	100		Loamy Sand
		_	N	: : : : : : : : : : : : : : : : : : :
	dar. 1 non no. 1 months around bes			ANN: : AME SHARING V.
ψ				
-				
			*	211
Type: C-Con	centration D—Depletion (OM-Dodu	ced Matrix, CS=Covered or Coated Sand Grains ² Loc	ration: DI - Dara Lining M-Matrix
lydric Soil 1	· · · · · · · · · · · · · · · · · · ·	- Reuu	The matrix, CS—covered of Coated Saild Grains —Loc	Indicators for Problematic Hydric Solis ³ :
Histosol (Polyvalue Below Surface (S8) (LRR S, T, U)	
_	pedon (A2)		☐ Thin Dark Surface (S9) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Black Hist	• •		Loamy Mucky Mineral (F1) (LRR O)	2 cm Muck (A10) (LRR S)
_	Sulfide (A4)		Loamy Gleyed Matrix (F2)	Reduced Vertic (F18) (outside MLRA 150A,B)
	Layers (A5)			Piedmont Floodplain Soils (F19) (LRR P, S, T)
	lodies (A6) (LRR P, T, U)		Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
_		10	Redox Dark Surface (F6)	Red Parent Material (TF2)
_	:ky Mineral (A7) (LRR P, T,	, u)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
_	sence (A8) (LRR U)		Redox Depressions (F8)	Other (Explain in Remarks)
_	k (A9) (LRR P, T)		Mari (F10) (LRR U)	
¬ '	Below Dark Surface (A11)		Depleted Ochric (F11) (MLRA 151)	
_ Thick Dari	k Surface (A12)		☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Pra	irie Redox (A16) (MLRA 15	50A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Mu	ick Mineral (S1) (LRR O, S))	Delta Ochric (F17) (MLRA 151)	7
Sandy Gle	eyed Matrix (S4)		Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
Sandy Red	dox (S5)		Piedmont Floodplain Soils (F19) (MLRA 149A)	
☐ Stripped №	Matrix (S6)		Anomalous Bright Loamy Soils (F20) (MLRA 1-	•
Dark Surfa	ace (S7) (LRR P, S, T, U)			
strictive L	ayer (if observed):			
Type:				
Depth (incl	nes):			Hydric Soil Present? Yes O No 💿
emarks:				-
emarks.				

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hanco	ock Sampling Date: 26-Oct-16
Applicant/Owner: NASA	State: MS	Sampling Point: Up - 47
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S	
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, n	Control of the contro

tick to the second of the seco		J.: 89° 37′ 44.011″ W Datum: NAD83
Soil Map Unit Name: EuB, Escambia loamy fine sand, 2 to 5 percent s		NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes No O	(If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Normal	Circumstances" present? Yes ● No ○
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (If needed, o	explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, t	ransects, important features, etc.
Hydrophytic Vegetation Present? Yes No		******
Hydric Soil Present? Yes O No •	Is the Sampled Area	Yes ○ No ⑨
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?	res o no o
Remarks:		
Sideslope approximately 60–70 feet up from Wet - 47.		
HYDROLOGY	· ·····	
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B.	13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	5) (LRR U)	☐ Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1)	Moss Trim Lines (B16)
	neres along Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (B2)	' '	Crayfish Burrows (C8)
	ction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	• •	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in	Remarks)	Shallow Aquitard (D3)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9)		FAC-Neutral Test (D5)
		Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):		
	0.00	
Water Table Present? Yes No Depth (inches):		rology Present? Yes O No 💿
Saturation Present? Yes No Depth (inches):	Wedana nya	ology Fiesence Fes O No O
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if avail	able:
Remarks:	<u> </u>	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

Tree Stratum (Plot size: 30 m)	Absolute % Cover		l.Strat. cover	Indicator Status	Dominance Test worksheet:	
Prison - 101 - 4415				-	Number of Dominant Species	
	-	V	62.5% 31.3%	FACW	That are OBL, FACW, or FAC: 8 (A)	
	_ :		• • • • • • • • • • • • • • • • • • • •		Total Number of Dominant	
		-	6.3%	FAC	Species Across All Strata: 8 (B)	
	_	H-	0.0%	THE RESERVE THE PERSON NAMED IN COLUMN 1	Percent of dominant Species	
		H	0.0%	m = mw:,	That Are OBL, FACW, or FAC: 100.0% (A/B)	
			0.0%			
TO A MET TO STATE OF THE STATE		H.,	0.0%		Prevalence Index worksheet:	
		□,	0.0%		Total % Cover of: Multiply by:	
0% of Total Cover: 8 20% of Total Cover: 3.2		= Tot	al Cove	r	OBL species 0 x 1 = 0	
apling or Sapling/Shrub Stratum (Plot size: 30 m	}}	_			FACW species $28 \times 2 = 56$	
Pinus elliottii	1		7.1%	FACW	FAC species76 x 3 =228	
Nyssa sylvatica		⊻ _	21.4%	FAC	FACU species $0 \times 4 = 0$	
Ilex opaca		✓	35.7%	FAC	UPL species $0 \times 5 = 0$	
Magnolia grandiflora	5	~	35.7%	FAC	Column Totals: 104 (A) 284 (B)	
	0		0.0%			
			0.0%		Prevalence Index = B/A = 2.731	
,	0		0.0%		Hydrophytic Vegetation Indicators:	
	0		0.0%		1 - Danid Took for Madanahati - Verstetin-	
0% of Total Cover: 7 20% of Total Cover: 2.8	_	= Tot	al Cove	r	1 - Rapid Test for Hydrophytic Vegetation	
to · · ·	-				✓ 2 - Dominance Test is > 50%	
hrub Stratum (Plot size: 30 m)		. 4	70 444	F40	✓ 3 - Prevalence Index is ≤3.0 ¹	
Ilex vomitoria	-		79.4%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)	
Ilex coriacea	10	Ш	15.9%	FACW		
Vaccinium elliottii	2	□.	3.2%	FACW	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Quercus nigra	1		1.6%	FAC	be present unless eister bed or problematic.	
	0		0.0%	n (*)	Definition of Vegetation Strata:	
	0		0.0%		Tree - Woody plants, excluding woody vines,	
0% of Total Cover: 31.5 20% of Total Cover: 12.6	63 =	3 = Total Cover		•	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).	
erb Stratum (Plot size: 30 m)					(7.5 cm) or larger in diameter at breast neight (DBH).	
	_		100 001	E4.0044	Sapling - Woody plants, excluding woody vines,	
, Ilex corlacea			100.0%	FACW	approximately 20 ft (6 m) or more in height and less	
		Ц.	0.0%		than 3 in. (7.6 cm) DBH.	
	O	Щ.	0.0%			
·	. 0		0,0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.	
	0		0.0%		than 3 in. DDR and greater than 3.20 it (1111) tail.	
K	_0_	\square_{-}	0.0%		Shrub - Woody plants, excluding woody vines,	
Note the control of t	0 _		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.	
3	0		0.0%			
	_ 0		0.0%		Herb - All herbaceous (non-woody) plants, including	
	0		0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately	
	0		0.0%		3 ft (1 m) in height.	
	0		0.0%	*	· -	
		Tot-	al Cover		Woody vine - All woody vines, regardless of height.	
		- 100	-1 -0451			
Toody Vine Stratum (Plot size: 30 m		_		-		
Lygodium japonicum	5	✓	83.3%	FAC		
Vitis rotundifolia	1	□	16.7%	FAC		
			0.0%			
	0 [0.0%			
	0 [0.0%		Hydrophytic	
50% of Total Cover: 3 20% of Total Cover: 1.2		: Tota	al Cover		Vegetation Present? Yes No ○	
		1000				

	_	_	_
c	$\boldsymbol{\wedge}$	Ŧ	
•	гэ	п	

OIL			Sampling Point: Up - 47
rofile Descr	iption: (Describe to the	depth needed to document the indicator or confirm the	e absence of indicators.)
Depth	Matrix	Redox Features	
(inches)	Color (moist)	% Color (moist) % Type ¹ Loc²	Texture Remarks
0-5	10YR 4/2 10		
5-15	10YR 6/4 10	0	
	- 17		Total
-		. I make . Cat passers with the first to	
	,		
		W 1.	·
ne. C=Con	rentration, D=Cenletion, RN	=Reduced Matrix, CS=Covered or Coated Sand Grains ² Loc	ration' PI =Pore Lining M≂Matrix
ydric Soil I		The state of the s	
Histosol (/		Polyvalue Below Surface (S8) (LRR S, T, U)	Indicators for Problematic Hydric Soils ³ :
	pedon (A2)	☐ Thin Dark Surface (S9) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Black Histi		Loamy Mucky Mineral (F1) (LRR O)	2 cm Muck (A10) (LRR S)
	Sulfide (A4)	Loamy Gleyed Matrix (F2)	Reduced Vertic (F18) (outside MLRA 150A,B)
_	Layers (A5)	Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
	odies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
	ky Mineral (A7) (LRR P, T, L	• •	Red Parent Material (TF2)
	ence (A8) (LRR U)	Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12) ☐ Transport of the Property of the Proper
	k (A9) (LRR P, T)	Marl (F10) (LRR U)	Other (Explain in Remarks)
1	Below Dark Surface (A11)	Depleted Ochric (F11) (MLRA 151)	
	Surface (A12)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
	rie Redox (A16) (MLRA 150		
	ck Mineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)	
,	yed Matrix (S4)	Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Red		Piedmont Floodplain Soils (F19) (MLRA 149A)	wetland hydrology must be present, unless disturbed or problematic.
Stripped M	latrix (S6)	Anomalous Bright Loamy Soils (F20) (MLRA 14	
Dark Surfa	ice (S7) (LRR P, S, T, U)		,,
	yer (if observed):		
Type:	- 1	VI	Hydric Soil Present? Yes No No
Depth (inch	es):		Hydric soil Present? Yes O NO O
marks:			

Are Vegetation , Soil , or Hydrology naturally p	State: MS Sampling Point: Up - 48 Section, Township, Range: S 20 T 7 s R 16 W Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 ° 30° 25' 1.579" N Long.: 89° 37' 6.912" W Datum: NAD83 NWI classification: N/A ar? Yes NO (If no, explain in Remarks.) tly disturbed? Are "Normal Circumstances" present? Yes No (If needed, explain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Remarks:	Is the Sampled Area within a Wetland? Yes No No
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) Dry Season Water Table (C2) ced Iron (C4) Crayfish Burrows (C8) ction in Tilled Soils (C6) Geomorphic Position (D2)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Cincludes capillary fringe) Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photo	Wetland Hydrology Present? Yes ○ No ④

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Species? Absolute Rel.Strat. Indicator Tree Stratum (Plot size: 30 m) % Cover Cover Status Number of Dominant Species 1 Pinus elliottii 15 **V** 75.0% FACW That are OBL, FACW, or FAC: 6 (A) ____5 Magnolia virginiana 25.0% Total Number of Dominant 3. 0 0.0% (B) Species Across All Strata: 6 0 0.0% Percent of dominant Species 5. _________ 0.0% 100.0% (A/B) That Are OBL, FACW, or FAC: 6. ______0 0.0% 7. Prevalence Index worksheet: 8. 0 0.0% Total % Cover of: Multiply by: 50% of Total Cover: 10 20% of Total Cover: 4 20 $0 \times 1 = 0$ = Total Cover OBL species FACW species _110 x 2 = Sapling or Sapling/Shrub Stratum (Plot size: 30 m Pinus elilottii 10 10 x 3 = FAC species 2. Magnolla virginiana 10 $0 \times 4 = 0$ 50.0% FACW FACU species 3. 0 0.0% 0. x 5 = 0 UPL species 0 Column Totals: 120 (A) 5. 0 0.0% Prevalence Index = B/A = 2-083 6. 0 0.0% Hydrophytic Vegetation Indicators: 0 0.0% 8. 0 ✓ 1 - Rapid Test for Hydrophytic Vegetation 50% of Total Cover: 10 20% of Total Cover: 4 20 = Total Cover ✓ 2 - Dominance Test is > 50% Shrub Stratum (Plot size: 30 m) 3 - Prevalence Index is ≤3.0 ¹ 1 Ilex corlacea 60 85.7% FACW Problematic Hydrophytic Vegetation ¹ (Explain) 2. Ilex vomitoria 10 14.3% ¹ Indicators of hydric soil and wetland hydrology must 3. _____ 0 0.0% be present, unless disturbed or problematic. 4. 0 0.0% 5. Definition of Vegetation Strata: 0.0% ___0 6. 0 Tree - Woody plants, excluding woody vines, 0.0% approximately 20 ft (6 m) or more in height and 3 in. 50% of Total Cover: 35 20% of Total Cover: 14 70 = Total Cover (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum (Plot size: 30 m) Sapling - Woody plants, excluding woody vines, 10 ✓ 100.0% FACW approximately 20 ft (6 m) or more in height and less 0 0.0% than 3 in. (7.6 cm) DBH. 0 0.0% Sapling/Shrub - Woody plants, excluding vines, less 0 0.0% than 3 in. DBH and greater than 3.28 ft (1m) tall. 0.0% 0.0% Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 8.______0 0.0% Herb - All herbaceous (non-woody) plants, including 9. _______ 0.0% herbaceous vines, regardless of size, and woody 10. _____0 plants, except woody vines, less than approximately 3 ft (1 m) in height, 11.__ 0.0% 0 12. 0.0% 0 Woody vine - All woody vines, regardless of height. 50% of Total Cover: 2 10 = Total Cover Woody Vine Stratum (Plot size: 30 m 0 3. _______ 0.0% 4. __ Hydrophytic _____0 0.0% Vegetation Yes

No Present? 50% of Total Cover: 0 20% of Total Cover: 0 0 = **Total Cover** Remarks: (If observed, list morphological adaptations below). *Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Domlnant

Up - 48

Sampling Point:

_	-	

rofile Desc										
	ription: (Des	cribe to	the depth	needed to docu	nent the In	dicator or o	onfirm the	absence of indicators.)		
Depth		Matrix			Redox Fe					
(inches)	Color (moist)	%	Color (mois	t)%	Type 1	Loc2	Texture Remarks		
0-3	10YR	3/2	100					Loamy Sand		
3-11	10YR	4/2	99	10YR 6	/6 1	С	М	Loamy Sand		
11-20	10YR	5/3	. 99	10YR (/6 1	С	M	Loamy Sand		
	· 44444, 9000) · 140		1 (A W	MATA PART	TON . GROOM 31. MORROW	MANAGER 4 1.00		N. W. Sharet. No. 2 W. (AMR) 1 1 1 1		
			=				-			
	centration. Da	=Depletion	n. RM=RedL	uced Matrix, CS=C	overed or Co	ated Sand Gr	ains ²Loca	tion: PL=Pore Lining. M=Matrix		
Histosol (C Dollarshu	Dolous Curé	nen (CO) (LDD	C T 11)	Indicators for Problematic Hydric Soils ³ :		
-	pedon (A2)			-		ace (S8) (LRR		1 cm Muck (A9) (LRR O)		
Black Hist						9) (LRR S, T, 1		2 cm Muck (A10) (LRR S)		
	n Sulfide (A4)				-	l (F1) (LRR 0)	1	Reduced Vertic (F18) (outside MLRA 150A,B)		
					eyed Matrix	(F2)		☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)		
	Layers (A5)				Matrix (F3)			Anomalous Bright Loamy Soils (F20) (MLRA 153B)		
_	Bodies (A6) (LI		•		ırk Surface (Red Parent Material (TF2)		
	cky Mineral (A		, T, U)	☐ Depleted	Dark Surfac	e (F7)		☐ Very Shallow Dark Surface (TF12)		
	sence (A8) (Li			Redax D	pressions (I	8)		Other (Explain in Remarks)		
1 cm Muc	:k (A9) (LRR P	, T)		Mari (F10) (LRR U)					
Depleted	Below Dark Si	urface (At	1)	Depleted	Ochric (F11) (MLRA 151)				
Thick Dar	k Surface (A1	2)		☐ Iron-Man	ganese Mas	ses (F12) (LRI	R O, P, T)			
Coast Pra	irie Redox (A1	(MLRA	150A)	Umbric S	urface (F13)	(LRR P, T, U))			
Sandy Mu	ıck Mineral (S:	1) (LRR O	, S)		ric (F17) (M			_		
Sandy Gle	eyed Matrix (S	4)				-	150B)	³ Indicators of hydrophytic vegetation and		
					, ,			wetland hydrology must be present, unless disturbed or problematic.		
l Sandy Re							•	9A, 153C, 153D)		
	Matrix (S6)			Anomalo	is bright too	iiily 30iiS (i 2t) (MERCA 17:	5A, 133C, 133D)		
Stripped I		PSTI	13							
Stripped I	Matrix (S6) ace (S7) (LRR	P, S, T, U	J)							
Stripped I Dark Surfi			J)							
Stripped I Dark Surfi	ace (S7) (LRR		J)					Hydric Soil Present? Yes No		
Stripped Mark Surfictive Lastrictive Lastrictive Lastrippe:	ace (S7) (LRR		,					Hydric Soil Present? Yes No		
Stripped Mark Surfictive Lastrictive Lastr	ace (S7) (LRR ayer (if obse	rved):		. Low chroma s	oil (<2), bu	ut begins to	brighten sl	Hydric Soil Present? Yes No O		
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		. Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		. Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped I Dark Surfi strictive La Type: Depth (inci	ace (S7) (LRR ayer (if obse	rved):		. Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		, Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		, Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped Mark Surfictive Lastrictive Lastr	ace (S7) (LRR ayer (if obse	rved):		. Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		. Low chroma s	oil (<2), bu	at begins to	brighten si			
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		, Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		, Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		, Low chroma s	oil (<2), bu	ut begins to	brighten sl			
Stripped I Dark Surfi	ace (S7) (LRR ayer (if obse	rved):		, Low chroma s	oil (<2), bu	ut begins to	brighten sl			

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 26-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 49
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 20 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
	30° 25' 1.706" N Long.: 89° 37' 1.780" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year	
	tly disturbed? Are "Normal Circumstances" present? Yes No O
	problematic? (If needed, explain any answers in Remarks.)
	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Remarks: East to west Transect point approximately 500-600 feet south of account in the south of account in the south of account in the south of account in the south of account in the south in the	Is the Sampled Area within a Wetland? Yes No ccess path along northeast property fenceline.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Trin Muck Surface Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) Dry Season Water Table (C2) ced Iron (C4) Ctayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) e (C7) Geomorphic Position (D2)
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	Wetland Hydrology Present? Yes No No
Remarks:	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

Tree Stratum (Plot size: 30 m)	% Cover		pecies? _ el.Strat. Cover	Indicator Status	Dominance Test worksheet:
Pinus elliottii	15	V	65.2%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)
Magnolia virginiana	5	V	21.7%	FACW	That are obey the trial
•••••					Total Number of Dominant
*	2		8.7%	FAC	Species Across All Strata: 6 (B)
Quercus nigra	. 1		4.3%	FAC	Bt of developed Consider
	0	\square	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	0		0.0%		That Are Obt., FACW, OF FAC.
	^		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 11.5 20% of Total Cover: 4.6		- Te	tal Cove		OBL species 0 x 1 = 0
		- 10	JEZI COVE	•	
Sapling or Sapling/Shrub Stratum (Plot size: _30 m	_}				FACW species $91 \times 2 = 182$
Pinus elliottii		\Box	18.5%	FACW	FAC species 20 x 3 = 60
Magnolia virginiana	10	✓	37.0%	FACW	FACU species 0 x 4 = 0
Acer rubrum	_	V	25.9%	FAC	UPL species $0 \times 5 = 0$
Quercus nigra	5		18.5%	FAC	
	0		0.0%	0	Column Totals: 111 (A) 242 (B)
	0		0.0%		Prevalence Index = $B/A = 2.180$
					Hydrophytic Vegetation Indicators:
		Η,	0.0%	× 1>	inyarophytic regetation findicators:
· in the second	0	Щ	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 13.5 20% of Total Cover: 5.4	27	= To	tal Cove	r	✓ 2 - Dominance Test is > 50%
Maria de la companya del companya de la companya de la companya del companya de la companya de l					
Shrub Stratum (Plot size: 30 m	-22				✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea		Y	90.9%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria	5	\square	9.1%	FAC	
	0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
	0		0.0%		be present, unless disturbed or problematic.
		Π΄	0.0%		Definition of Vegetation Strata:
		Η.			Tree - Woody plants, excluding woody vines,
	0	_	0.0%	· #	approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 27.5 20% of Total Cover: 11 Stratum	55	= 10	tal Cove		(7.6 cm) or larger in diameter at breast height (DBH).
	_			272	Sapling - Woody plants, excluding woody vines,
1, Ilex coriacea		✓.	100.0%	FACW	approximately 20 ft (6 m) or more in height and less
2	0	Ш	0.0%		than 3 in. (7.6 cm) DBH.
3	Ó		0.0%	.	
4	0		0.0%		Sapiing/Shrub - Woody plants, excluding vines, less
5.	0		0.0%	•	than 3 in. DBH and greater than 3.28 ft (1m) tall.
8	0		0.0%	1.	
7	- 0	Η.	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in helaht.
7					approximately 5 to 20 ft (1 to 6 m) in neight.
<u>. </u>		Щ.	0.0%		Horb All borbacous (non-woods) plents, including
9	0_		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
0,	0		0.0%		plants, except woody vines, less than approximately
1	0		0.0%		3 ft (1 m) in height.
2	0		0.0%		
	-			_	Woody vine - All woody vines, regardless of height.
50% of Total Cover: 2.5 20% of Total Cover: 1 Voody Vine Stratum (Piot size: 30 m)		= 10	tal Cover		
Smilax laurifolia		\Box	100.007	EACH,	· · · · · · · · · · · · · · · · · · ·
	1		100.0%	racvv	
A	. 0	닏-	0.0%		
	0		0.0%		
	0		0.0%		
	0		0.0%		Hydrophytic
		- To	tal Cover		Vegetation Present? Yes No

Sampling Point: Up - 49 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Color (moist) Loc2 Color (moist) % **Texture** Remarks 0-3 10YR 3/2 100 Loamy Sand 3-12 10YR 4/2 99 10YR D М Loamy Sand 6/2 12-20 10YR 5/3 99 10YR 6/2 1 D М Loamy Sand ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location; PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils³: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) ☐ Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleved Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) ☐ 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, ✓ Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Hydric Soil Present? Yes ● No ○ Depth (inches): Remarks: Very sandy - loamy soil, dry, crumbly texture - seems to have good draining capacity. Some slight evidence of redox, but not much.

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 26-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 50
Investigator(s): Lars Larson. Randy Ellis	Section, Township, Range: S 21 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 59.955" N Long.: 89° 36' 38.830" W Datum: NAD83
Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes	NWI dassification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes No (If no, explain in Remarks.)
	ntly disturbed? Are "Normal Circumstances" present? Yes No O
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No No No No No No No No No No No No	Is the Sampled Area Yes No No
Wetland Hydrology Present? Yes O No	within a Wetland?
away (to the south) from the upland flat for logging puporses.	g chanell/drainage cut that was made apparently to drain/convey surface water
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Odor (C1) Moss Trim Lines (B16) heres along Living Roots (C3) Dry Season Water Table (C2) Idea Iron (C4) Crayfish Burrows (C8) Idea Iron (C4) Geomorphic Position (D2) Remarks) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U) Wetland Hydrology Present? Yes No Wetland Hydrology Present?
Remarks:	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant Sampling Point: Up - 50

Tree Stratum (Plot size: 30 m) 1. Pinus elliottii 2. Nyssa sylvatica	% Cover		Cover		
	20	V	74.1%	Status FACW	Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)
S. 14939 SYVADO	3		11.1%	FAC	That are OBL, FACW, or FAC: 7 (A)
3 Magnolia virginiana		Η,	7.4%	FACW	Total Number of Dominant
A Commence of control to the		H	7.4%	FACU	Species Across All Strata: 7 (B)
4. Quercus virginiana 5.	0	Η.	0.0%	TACO	Percent of dominant Species
		苗	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
	10.000	\exists	0.0%	14 '	Prevalence Index worksheet:
8.	0		0.0%	er w	
50% of Total Cover: 13.5 20% of Total Cover: 5.4	-	, 	tal Cove		Total % Cover of: Multiply by: OBL species 0 x 1 = 0
		= 10	Ital Cove	•	
Sapling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species $50 \times 2 = 100$
1 Pinus ellottil			13.3%	FACW	FAC species $42 \times 3 = 126$
2 Magnolia virginiana		☑.	33.3%	FACW	FACU species $\frac{2}{3}$ x 4 = $\frac{8}{3}$
3. Nyssa sylvatica		Y .	33.3%	FAC	UPL species $0 \times 5 = 0$
4. Quercus nigra	3	✓.	20.0%	FAC	Column Totals: 94 (A) 234 (B)
5			0.0%		Prevalence Index = B/A = 2.489
j			0.0%		
7		片.	0.0%		Hydrophytic Vegetation Indicators:
3.	. 0.	Ш.	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 7.5 20% of Total Cover: 3	15 :	= To	tal Cover	•	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex vomitoria	30	V	73.2%	FAC	Problematic Hydrophytic Vegetation 1 (Explain)
2 Ilex corlacea	10	V	24.4%	FACW	
3. Ilex cassine	1		2.4%	FACW	¹ Indicators of hydric soil and wetland hydrology must
4			0,0%		be present, unless disturbed or problematic.
5.	C	_"	0.0%		Definition of Vegetation Strata:
5.	0	\Box	0.0%	-	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 20.5 20% of Total Cover: 8.2	41	= To	tal Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m)					(7.5 dif) of larger in alameter at breast neight (bbil).
1. Ilex corlacea	10	✓.	100.0%	ENCW	Sapling - Woody plants, excluding woody vines,
	0		0.0%	5.996.89	approximately 20 ft (6 m) or more in height and less
2	0		0.0%		than 3 in. (7.6 cm) DBH.
J	-				Sapling/Shrub - Woody plants, excluding vines, less
Ť		Η.	0.0%	~	than 3 in. DBH and greater than 3.28 ft (1m) tall.
5,	0	H	0.0%		•
6.	0	Н.	0.0%		Shrub - Woody plants, excluding woody vines,
7.	<u>C</u> _	Н.	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8.		Н.	0.0%		Herb - All herbaceous (non-woody) plants, including
9	C	H.	0.0%		herbaceous vines, regardless of size, and woody
0	0	Ц.	0.0%		plants, except woody vines, less than approximately
1	0	Н.	0.0%		3 ft (1 m) in height.
2	0	ш,	0.0%		Maria de la Companya
50% of Total Cover: 5 20% of Total Cover: 2	10 =	= Tot	tal Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m				L	
Smilax rotundifolia	1		100.0%	FAC	
	0	\Box	0.0%		
·· - · · · · · · · · · · · · · · · · ·			0.0%		
· 	-		0,0%		
	0	\Box	0.0%		Hydrophytic
					Vegetation Present? Yes No
50% of Total Cover: 0.5 20% of Total Cover: 0.2	1 =	= Tot	tal Cover		resolt: 100 -

SOIL					Sampling Point: Up - 50
rofile Desci	ription: (Des	cribe to	the depth	needed to document the indicator or confirm t	he absence of indicators.)
Depth		Matrix		Redox Features	71
(inches)	Color (ı	molst)_	%	Color (moist) % Type 1 Loc	² Texture Remarks
0-4	10YR	5/2	100	V	Loarny Sand
4-16	10YR	5/6	100		Loamy Sand
			,		%. T
ype: C=Con	centration. D=	=Depletio	n. RM= Red u	ced Matrix, CS=Covered or Coated Sand Grains 2L	ocation: PL=Pore Lining. M=Matrix
	ndicators:				Indicators for Problematic Hydric Soils ³ :
│ Histosol (/	•			Polyvalue Below Surface (S8) (LRR S, T, U)	
_	pedon (A2)			Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Black Hist				Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
_	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
-	Layers (A5)	יידים מכ	D	Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
_	odies (A6) (LF ky Mineral (A7			Redox Dark Surface (F6)	Red Parent Material (TF2)
_	ience (A8) (LF		, 1, 0)	Depleted Dark Surface (F7)	☐ Very Shallow Dark Surface (TF12)
	k (A9) (LRR P			Redox Depressions (F8) Mari (F10) (LRR U)	Other (Explain in Remarks)
-	Below Dark S	-	11)	Depleted Ochric (F11) (MLRA 151)	
,	k Surface (A12	•	,	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
-	rie Redox (A1	•	150A)	Umbric Surface (F13) (LRR P, T, U))
-	ck Mineral (S1		-	Delta Ochric (F17) (MLRA 151)	
	yed Matrix (S		, -,	Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Rec		•		Piedmont Floodplain Soils (F19) (MLRA 149/	wetland hydrology must be present, A) unless disturbed or problematic.
Stripped M	fatrix (S6)			Anomalous Bright Loamy Soils (F20) (MLRA	•
Dark Surfa	ice (S7) (LRR	P, S, T, U	J)		,
strictive La	yer (if obse	rved):			
Туре:					
Depth (inch	es):		. ,		Hydric Soil Present? Yes O No 🖲
marks:					

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	y: Waveland - Hancock Sampling Date: 26-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 51
Investigator(s): Lars Larson, Randy Ellis Section,	Township, Range: \$ 21 T 7s R 16 W
Landform (hillstope, terrace, etc.): Terrace Local relief	(concave, convex, none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.: 30° 25′ 2.	**************************************
Soil Map Unit Name: EsA, Escambia loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significantly disturbed	l? Are "Normal Circumstances" present? Yes No ○
Are Vegetation . , Soil . , or Hydrology . naturally problematic	(If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling p	oint locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	the Sampled Area
Hydric Soil Present? Yes O No 💿	Ven () No ()
Wetland Hydrology Present? Yes O No wi	thin a Wedland? 185 ONO O
Remarks:	
This plot is approximately 50-feet to the west of an man-made logging drain in	the NE part of the AOI. There is hydrophytic vegetation, some low
chroma soil colors but NO evidence of hydrology except for the application of the	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres along Li	` '
Sediment Deposits (B2) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Reduction in Tilled	_ , , ,
Algal Mat or Crust (B4)	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	spingfiam mass (55) (Eax 1, 5)
Surface Water Present? Yes No Depth (inches):	
Surface vides (1656)	
o opar (manes)	Wetland Hydrology Present? Yes ○ No ④
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	The state of the s
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous	inspections), if available:
Damasilas	
Remarks:	
	1
	I

VEGETATION	(Five/Four Strata) -	Use scientific names of plants.
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		s	pecies?		Samping Font: Op - 51
del e de la companya			el.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 m	% Cove	r	Cover	Status	Number of Dominant Species
Pinus elliottil	25	V	65.8%	FACW	That are OBL, FACW, or FAC: 6 (A)
Nyssa sylvatica	10	V	26.3%	FAC	
Magnolia virginiana	3	П	7.9%	FACW	Total Number of Dominant
- 171					Species Across All Strata: 6 (B)
· Same			_ 0.0%	_	Dorgant of dominant Charles
	0	Ц	0.0%	-	Percent of dominant Species That Are OBL, FACW, or FAC: 100 0% (A/B)
•			0.0%	· r	mac Arc obly FACVY, of FAC.
* * * * * * * * * * * * * * * * * * * *	0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 19 20% of Total Cover: 7.6	30	- T	otal Cove		OBL species 1 x 1 = 1
		- "	otal Cove		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	}}	_			FACW species 101 x 2 = 202
Pinus elliottii	2	Ш	16.7%	FACW	FAC species $15 \times 3 = 45$
Nyssa sylvatica	5	V	41.7%	FAC	FACU species $0 \times 4 = 0$
Magnolla virginiana		V	41.7%	FACW	UPL species $0 \times 5 = 0$
	0	$\overline{\Box}$	0.0%		
		\equiv			Column Totals: 117 (A) 248 (B)
			0.0%		Prevalence Index = B/A = 2.120
		Ш	0.0%		
	0		0.0%		Hydrophytic Vegetation Indicators:
			0.0%		D 4 Bank Book for Harden book a Vandardina
	12	_ T-	otal Cover		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 6 20% of Total Cover: 2.4	12	= 10	otai Covei		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: , 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	50	V	82.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
91 1-1 -			16.4%	FACW	
					¹ Indicators of hydric soil and wetland hydrology must
Persea palustris			1.6%	FACW	be present, unless disturbed or problematic.
	0	Ш	0.0%	(
	0		0.0%		Definition of Vegetation Strata:
	0		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 30.5 20% of Total Cover: 12.2	61	- To	tal Cover		approximately 20 ft (6 m) or more in height and 3 in.
			oui corci		(7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot size: 30 m					
1 Lycopodiella alopecuroides	1		16.7%	OBL	Sapling - Woody plants, excluding woody vines,
* *		✓	83.3%	FACW	approximately 20 ft (6 m) or more in height and less
				LHCAA	than 3 in. (7.6 cm) DBH.
·		Щ	0.0%		
	0	\square	0.0%	P	Sapling/Shrub - Woody plants, excluding vines, less
),	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
5,	0	\Box	0.0%		Charle Marie de de la contra dela contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra dela contra de la contra dela contra de la contra dela contra de la contra de la contra de la contra dela contra dela contra dela contra dela contra del la contra del la contra dela contra del la contra dela contra del la contra del la contra dela contra del la contra del la contra dela contra del la contra dela contra del la contra del la contra dela contra dela contra del la contra del la contra dela contra del la contra dela contra dela contra del la contra dela contra dela contra del la contra dela contra dela contra del la contra dela contra del la co
		\Box	0.0%	,	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
Common co		\vdash		-	approximately 5 to 20 it (1 to 6 m) in neight.
			0.0%	. 51	Horb All boybosomie (non d.) -lonts including
	0	\square	0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardiess of size, and woody
	0		0.0%		plants, except woody vines, less than approximately
•	0		0.0%		3 ft (1 m) in height.
	0	\Box		a. *	
		Ч,	0.0%	_	Woody vine - All woody vines, regardless of height,
50% of Total Cover: 3 20% of Total Cover: 1.2	6 :	= To	tal Cover		vvoody vine - All woody vines, regardless of height.
Yoody Vine Stratum_ (Plot size: 30 m					
Smilax rotundifolia	0		0.0%	EAC	
Simax roundinia		Η.		FAC	
(F) = 1.7 (F) F F F F F F F F F F F F F F F F F F	, 0	Ц,	0.0%		
	C	\square	0.0%		
	0		0.0%		
	D	\Box	0.0%		Hydrophytic
	-				Vegetation Present? Yes No ○
50% of Total Cover: 0 20% of Total Cover: 0	0 =	= To	tal Cover	i	Present? Yes VO
modes ITE abanced Bot group alexand advertise - Labora					
marks: (If observed, list morphological adaptations below).					
indicator suffix = National status or professional decision assigned because Re	egional status :	not de	efined by FW	rs.	
					·

OIL					Sampling Point:	Up - 51
Profile Descr	iption: (Des	scribe to	the depth	needed to document the indicator or confir	m the absence of indicators.)	
Depth		Matrix		Redox Features		
(inches)	Color (moist)	%	Color (moist) % Type 1	oc² Texture F	Remarks
0-4	10YR	3/2	100			
4-11	10YR	4/2	100			
11-20	10YR	5/4	100			
				1 L and 1 Land L		- 1994 Maria
					# · · · · · ·	
	-		•			
Type: C=Cond	centration. D	 =Depletio	n. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains	² Location: PL=Pore Lining, M=Matrix	
Hydric Soll I		- ор осио			Indicators for Problematic H	
Histosol (/	A1)			Polyvalue Below Surface (S8) (LRR S, T,		,,
Histic Epig	edon (A2)			☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)	
Black Hist	ic (A3)			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outsi	ide MI DA 150A R\
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (I	
_	Layers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy Sc	
Organic B	odies (A6) (LI	RR P, T, L	J)	Redox Dark Surface (F6)	Red Parent Material (TF2)	(מככנ אאטויין) (טג ו) מונ
5 cm Muc	ky Mineral (A:	7) (LRR P	, T, U)	Depleted Dark Surface (F7)	Very Shallow Dark Surface	CTC12)
Muck Pres	ence (A8) (Li	RR U)	-	Redox Depressions (F8)	r=,	
1 cm Mucl	k (A9) (LRR P	ν, Τ)		Marl (F10) (LRR U)	Uther (Explain in Remarks)	
Depleted B	Below Dark Si	urface (A:	11)	Depleted Ochric (F11) (MLRA 151)		
_	Surface (A1)	-	•	Iron-Manganese Masses (F12) (LRR O,) T)	
-	rle Redox (A1	-	150A)	Umbric Surface (F13) (LRR P, T, U)	, '/	
_	ck Mineral (Si			Delta Ochric (F17) (MLRA 151)		
_	yed Matrix (S		, 0,		3Indicators of hydropi	nytic vegetation and
Sandy Rec	-	19		Reduced Vertic (F18) (MLRA 150A, 150B	" wetland hydrology i	must be present,
Stripped M				Piedmont Floodplain Soils (F19) (MLRA :	•	or problematic.
	ice (\$7) (LRR	DCTI	1)	Anomalous Bright Loamy Soils (F20) (Mi	KA 149A, 153C, 153D)	
Dark Surio	ice (37) (Likk		•)			
estrictive La	ver (if ohse	erved):				
Type:	iyei (ii obse	i veu).				
	es):				Hydric Soll Present? Yes	○ No
Remarks:	, , , , , , ,					
oil chroma be	egins to cha	ange to a	ligh ter 3-4	4 below 11-12 inches.		
			•			

Project (Site: NACA - Stoonie: 1 100 Agra Wolland Polinertiian	City/County: Waveland - Hancock Sampling Date: 26-Oct-16
Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	State: MS Sampling Point: Up - 52
Applicant/Owner: NASA	
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 21 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T La	at.: 30° 25′ 2.571" N Long.: 89° 36′ 31.359" W Datum: NAD83
Soil Map Unit Name: HIA, Harleston fine sandy loam, 0 to 2 percen	nt slopes NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of	of year? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology signific	icantly disturbed? Are "Normal Circumstances" present? Yes No
	•
Are regetation	ally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	
Hydric Soil Present? Yes O No 🕥	Is the Sampled Area
Wetland Hydrology Present? Yes O No •	within a Wetland? Yes ○ No ④
Remarks:	OT Alson N.C. francos
Upland area approximately 300-feet south of fence line in NE A0	.O.I., Along N-5 transect,
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that app	ply) Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna	a (B13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits	G (B15) (LRR U) Drainage Patterns (B10)
	fide Odor (C1) Moss Trim Lines (B16)
_	ospheres along Living Roots (C3)
	Reduced Iron (C4) Crayfish Burrows (C8)
	Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)
<u> </u>	Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inche	es):
0 0	
	es): Wetland Hydrology Present? Yes O No 💿
Saturation Present? (includes capillary fringe) Yes No Depth (inche	es):
Describe Recorded Data (stream gauge, monitoring well, aerial pl	hotos, previous inspections), if available:
Remarks:	
Technological Control of the Control	
	İ

VEGETATION	(Five/Four	Strata) -	Use scientific names of	plants.
	•	-		Dominant

		Dominant Species?		Sampling Point: Up - 52
		Rel.Strat.	Indicator	Dominance Test worksheet:
ee Stratum (Plot size: 30 m)	% Cover		Status	Number of Dominant Species
Pinus elliottii		60.0%	FACW	That are OBL, FACW, or FAC: 7 (A)
Magnolia virginiana		20.0%	FACW	Total Number of Dominant
Quercus nigra	2	8.0%	FAC	Species Across All Strata: 7(B)
Magnolia grandiflora		12.0%	FAC	Parcent of deminant Species
	0	0.0%	re.	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	0.	0.0%	10	
NEW PLANE.	0	0.0%		Prevalence Index worksheet:
	0,	□0.0%		Total % Cover of: Multiply by:
% of Total Cover: 12.5 20% of Total Cover: 5	25 =	= Total Cove		OBL species 0 x 1 = 0
pling or Sapling/Shrub Stratum (Plot size: 30 m		-		FACW species83 x 2 =166
Pinus elliottii		25.0%	FACW	FAC species $14 \times 3 = 42$
Magnolia virginiana		✓ 41.7%	FACW	FACU species $0 \times 4 = 0$
Quercus nigra	3	✓ 25.0%	FAC	UPL species $0 \times 5 = 0$
Ilex opaca	1	8.3%	FAC	Column Totals: 97 (A) 208 (B)
	0	0.0%		Prevalence Index = B/A = 2.144
· · · · · · · · · · · · · · · · · · ·	0	0.0%		
	0	0.0%		Hydrophytic Vegetation Indicators:
	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
% of Total Cover: 6 20% of Total Cover: 2.4	12 =	= Total Cover		✓ 2 - Dominance Test is > 50%
rub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 ¹
Toy contact	50	✓ 92.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vonitoria	3	5.6%	FAC	Fromematic nydrophytic vegetation - (Explain)
Ilex opaca		1.9%	FAC	¹ Indicators of hydric soil and wetland hydrology must
Ilex opeica		0.0%	. IAC	be present, unless disturbed or problematic.
			F	Definition of Vegetation Strata:
		0.0%	F	· ·
	0	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
% of Total Cover: 27 20% of Total Cover: 10.8	54 =	: Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
rb Stratum (Piot size: 30 m)				De la companya de la
Ilex coriacea	5	100.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
	0	0.0%		than 3 in. (7.6 cm) DBH.
	0	0.0%		
	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0	0.0%	-	than 3 in. DBH and greater than 3.28 ft (1m) tail.
The state of the s	0 [0.0%		Shrub - Woody plants, excluding woody vines,
	0 1	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
	0	0.0%		
	0 [0.0%		Herb - All herbaceous (non-woody) plants, including
	0	0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
A 10	0 [0.0%		3 ft (1 m) in height.
	0 [0.0%		
% of Total Cover: 2.5 20% of Total Cover: 1		Total Cover		Woody vine - All woody vines, regardless of height.
7 70				
ody Vine Stratum (Plot size: 30 m)			- }	
Vitis rotundifolia	1 L	100.0%	FAC	
	_ O [0.0%		
	[0.0%		
	0	0.0%		Hydrophytic
% of Total Cover: 0.5 20% of Total Cover: 0.2	0			Vegetation Present? Yes No

SOIL				Sampling Point: Up - 52
Profile Desc	cription: (Describe	to the depth	needed to document the indicator or confirm the	absence of indicators.)
Depth	Matri	х	Redox Features	9
(inches)	Color (moist)	%	Color (moist) % Type 1 Loc2	Texture Remarks
0-5	10YR 4/2	100		
5-16	10YR 5/6	100		25.00
				e =
g.,mag * .	fit nixemen			
				4/3
				-
Ç.				-
¹ Type: C=Cor	ncentration. D=Deple	tion. RM= Red u	ced Matrix, CS=Covered or Coated Sand Grains 2Loca	ation: PL=Pore Lining. M=Matrix
Hydric Soil	Indicators:			Indicators for Problematic Hydric Soils ³ :
Histosol ((A1)		Polyvalue Below Surface (S8) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Histic Epi	ipedon (A2)		Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Black His	stic (A3)		Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	n Sulfide (A4)		Loamy Gleyed Matrix (F2)	
	Layers (A5)		Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
	Bodies (A6) (LRR P, T	. u)	Redox Dark Surface (F6)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
_	cky Mineral (A7) (LRF		Depleted Dark Surface (F7)	Red Parent Material (TF2)
	esence (A8) (LRR U)	.,,,,,,,	Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12)
	ck (A9) (LRR P, T)			Other (Explain in Remarks)
	Below Dark Surface	/A11\	Mari (F10) (LRR U)	
		(AII)	Depleted Ochric (F11) (MLRA 151)	
	rk Surface (A12)	D4 4504)	Iron-Manganese Masses (F12) (LRR O, P, T)	
	airie Redox (A16) (ML		Umbric Surface (F13) (LRR P, T, U)	
	uck Mineral (S1) (LRR	(O, S)	Delta Ochric (F17) (MLRA 151)	³ Indicators of hydrophytic vegetation and
	eyed Matrix (S4)		Reduced Vertic (F18) (MLRA 150A, 150B)	wetiand hydrology must be present,
	edox (S5)		Piedmont Floodplain Soils (F19) (MLRA 149A)	unless disturbed or problematic.
	Matrix (S6)		Anomalous Bright Loamy Soils (F20) (MLRA 14	9A, 153C, 153D)
☐ Dark Surf	face (S7) (LRR P, S, T	-, u)		
Restrictive I	ayer (if observed):			
Type:	ayer (ii observed)i			
	-hael			Hydric Soil Present? Yes No No
Depth (inc	nes);		7	
Remarks:				
N				

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion City/County: Waveland - Hand	ock Sampling Date: 31-Oct-16	
	Sampling Point: Up - 53	
Investigator(s): Lars Larson, Randy Ellis Section, Township, Range: S		
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex,	none): flat Slope: 0.0 % / 0.0 °	
Subregion (LRR or MLRA): LRR T Lat.: 30° 25′ 2.412" N Lon	g.: 89° 36' 15.101" W Datum: NAD83	
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: N/A	
Are climatic/hydrologic conditions on the site typical for this time of year?	(If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Norma	I Circumstances* present? Yes ● No ○	
	explain any answers in Remarks.)	
(
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, t	ransects, important reatures, etc.	
Hydrophytic Vegetation Present? Yes No No Is the Sampled Area		
Hydric Soil Present? Yes No No	Yes ○ No ●	
Wetland Hydrology Present? Yes O No O within a Wetland?	100 - 110 -	
Remarks:		
Upland transect approximately 150-feet east of Wet - 53 to the south of the access road in the NE	AOI.	
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)	
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)	
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)	
High Water Table (A2) Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)	
Saturation (A3) Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)	
Water Marks (B1)	Dry Season Water Table (C2)	
Sediment Deposits (B2) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)	
Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)	
Algal Mat or Crust (B4) Thin Muck Surface (C7)	Geomorphic Position (D2)	
	Shallow Aquitard (D3)	
☐ Iron Deposits (B5) ☐ Other (Explain in Remarks) ☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)	
☐ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)	
Fleld Observations:	Springfrum moss (Do) (Error 1, 0)	
Surface Water Present? Yes No Depth (inches):		
Software Proceeds Wetland Hyd	rology Present? Yes O No 💿	
Saturation Present? (includes capillary fringe) Yes No Depth (Inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available	ilable:	
Remarks:		
Remarks.		
	i	

/EGETATION (Five/Four Strata)	-	Use scientific names of plants.
• • • • • • • • • • • • • • • • • • • •		Dominant
		Species?

Pieus salicities	Tree Stratum (Plot size: 30 m)	Absolute % Cover		Indicator Status	
2	Breeze and Breeze and	10	76.9%	FACW	Number of Dominant Species That are ORL FACW or FAC: 4 (4)
1					That are OBL, FACW, DI FAC. 4 (A)
0					
Decoration Dec	4			FAC	Species Across All Strata: 4 (B)
The tare OBL, FACW, or FACE 100,00% (APS)					Percent of dominant Species
0					
Solve of Total Cover: 6.5 20% of Total Cover: 2.6 13	6	(0		es	
Solid Cover 6.5 20% of Total Cover 2.6 13		. 0	0.0%		Prevalence Index worksheet:
Sapiling or Sapiling / Shrub Stratum Plot size: 30 m 2	8	0	0.0%		Total % Cover of: Multiply by:
Finus ellotés	50% of Total Cover: 6.5 20% of Total Cover: 2.6	13	= Total Cover		OBL species 0 x 1 = 0
Finus ellotés	Sapling or Sapling/Shrub Stratum (Plot size: 30 m)			FACW species 122 x 2 = 244
2. Magnolis virginiana 3. Magnolis virginian			71.4%	FACW	FAC species $4 \times 3 = 12$
3. 10.7% FAC 100.0% 1			_ ` ' · *	-	
Column Totals: 126					
0	4	•		rac _	-
0					Column Totals: 126 (A) 256 (B)
0					Prevalence Index = R/Δ = 2.032
Samus Stratum		0	0.0%		
50% of Total Cover: 14 20% of Total Cover: 5.6 28 = Total Cover		0	0.0%		Hydrophytic Vegetation Indicators:
50% of Total Cover: 14 20% of Total Cover: 5.6 28 = Total Cover Shrub Stratum (Plot size: 30 m) 1 1, lex confaces	8.	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
1	50% of Total Cover: 14 20% of Total Cover: 5.6	28 =	= Total Cover		
2.					
3.		-		FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
be present, unless disturbed or problematic. 0		0	□ 0.0%		
1	3	0	0.0%		
Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum (Plot size: 30.m.) 1, llex corisces	4	0	0.0%		be present, unless disturbed or problematic.
Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum (Plot size: 30.m.) 1, llex corisces	5.	0	0.0%		Definition of Vegetation Strata:
50% of Total Cover: 37.5	6.		0.0%		Tree - Woody plants, excluding woody vines,
Herb Stratum (Plot size: 30 m)		75 =	= Total Cover		
10					(7.6 cm) or larger in diameter at breast height (DBH).
10 100.0% FALW approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.			_		Sanling Woody plants evaluding woody vines
2.	1 Ilex coriacea	10	✓ 100.0%	FACW	
3.	2	0	0.0%		
5.	3.	0	0.0%		
5.	4.	0	0.0%		
Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 8.		0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tail.
7.	6	0	0.0%		Oharib 18taada al-eta
8. 0 0.0% 9. 0 0.0% 10. 0.0% 11. 0 0.0% 12. 0 0.0% 50% of Total Cover: 5 20% of Total Cover: 2 10 = Total Cover Woody Vine Stratum (Plot size: 30 m) 10. 0.0% 11. 0 0.0% 12. 0 0.0% 13. 0 0.0% 14. 0 0.0% 15. 0 0.0% 16. 0 0.0% 17. 0 0.0% 18. 0 0.0% 19. 0.0	-	0			
9.	n .m an				while removation, a same or (), said this minimizer.
herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.				•	Herb - All herbaceous (non-woody) plants, including
1.					herbaceous vines, regardless of size, and woody
2.	1U				
Woody Vine Stratum {Plot size: 30 m } O	11.	0	_		3 π (1 m) in neight.
Woody Vine Stratum (Plot size: 30 m) 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% 0 0.0% Vegetation Present? Yes ● No ○ Remarks: (If observed, list morphological adaptations below).	12	0	0.0%		
0 0.0% 0 0.0% 0 0.0% 0 0.0% 1 0.0% 1 0.0% 5. 0 0.0% 5. 0 0.0% 5. 0 0.0% Thydrophytic Vegetation Present? Yes No Commarks: (If observed, list morphological adaptations below).	50% of Total Cover: 5 20% of Total Cover: 2	10 =	Total Cover		vvoody vine - All woody vines, regardless of height.
0 0.0% 0 0.0% 0 0.0% 0 0.0% 1 0.0% 1 0.0% 5. 0 0.0% 5. 0 0.0% 5. 0 0.0% Thydrophytic Vegetation Present? Yes No Commarks: (If observed, list morphological adaptations below).	Woody Vine Stratum (Plot size: 30 m				
0 0.0% 0 0.0% 1. 0 0.0% 1. 0 0.0% 5. 0 0.0% 5. 0 0.0% 5. 0 0.0% Flydrophytic Vegetation Vegetation Present? Yes No vegetation Present?		Λ.	0.084	1	
3. 0 0.0% 4. 0.0% 5. 0 0.0% 5. 0 0.0% 50% of Total Cover: 0 0 = Total Cover temarks: (If observed, list morphological adaptations below).					
5	^				
50					
Solution (1) Solution (2) Solution (2) Solution (3) Solution (3) Solution (4) Solution (4) Solution (5) Solut	4. ,		***		Hydrophytic
50% of Total Cover: 0 20% of Total Cover: 0 0 = Total Cover temarks: (If observed, list morphological adaptations below).	5	0 l	0.0%		Manatation
temarks: (If observed, list morphological adaptations below).	50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover	ļ	Present? Yes No U
*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.	kemarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.					
*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.					
	*Ind!cator sufflx = National status or professional decision assigned because Re	gional status n	ot defined by FW	s.	

Color (molest) Colo
0-4 JOYR 4/I 100 Loamy Sand 4-16 10YR 5/2 98 10YR 7/2 20 C M Loamy Sand Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Top: C-Concentration. D-Depleting. M-Matrix Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 5: Indicators for Problematic Hydric Soils 3: Indicators for Problematic Hydric Soils 6:
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix Hydric Soils 1 Indicators:
Indicators for Problematic Hydric Soils 3: Histosol (A1)
Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stem Mucky Mineral (A7) (LRR P, T, U) Muck Presence (A8) (LRR U) Depleted Dark Surface (F7) Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Depleted Matrix (F3) Depleted Matrix (F3) Redox Dark Surface (F7) Nerdox Dark Surface (F7) Nerdox Dark Surface (F7) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Expla
Type:
emarks:

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 13
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °
*	30° 24' 8.736" N Long.: 89° 37' 10.576" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	
Are Vegetation . , Soll . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes 💿 No 🔾
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (If needed, explain any answers in Remarks.)
	, ,,,,,
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes ○ No ⑥	Is the Sampled Area Ves No No
Wetland Hydrology Present? Yes O No 🕥	within a Wetland? Yes O NO O
Remarks:	
HYDROLOGY	
HTDROLOGI	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	
Saturation (A3) Hydrogen Sulfide	
	neres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	
	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algai Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in I	
Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Baltace traces (labelles	·
Water Table Present? Yes ○ No ● Depth (inches):	
Saturation Present? (includes capillary frince) Yes No Depth (inches):	Wetland Hydrology Present? Yes ○ No ●
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
January Carlotter State (Salary Marian Processing Control of Contr	, , , , , , , , , , , , , , , , , , ,
Remarks:	
Í	

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant Species?

	23.8% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 12.0% 12.0% 8.0% 0.0% 0.0% 0.0% 71.4%	FACW FAC FACU FACW	Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: Percent of dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soif and wetland hydrology mus	
	23.8% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 60.0% 12.0% 8.0% 0.0% 0.0% 0.0% 71.4% 28.6% 0.0% 0.0%	FACW FAC FACW FACW FACW	Total Number of Dominant Species Across All Strata: 7 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 85 7% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 60.0% 12.0% 8.0% 0.0% 0.0% 17.14% 7.14% 7.28.6% 0.0% 0.0%	FACW FACU FACW	Percent of dominant Species That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 7 (B)	
	0.0% 0.0% 0.0% 0.0% 0.0% 120.0% 12.0% 0.0% 0.0% 0.0% 0.0% 12.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACU FACW	Percent of dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 8 x 4 = 32 UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	0.0% 0.0% 0.0% 0.0% 0.0% 120.0% 12.0% 0.0% 0.0% 0.0% 0.0% 0.0% 12.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	That Are OBL, FACW, or FAC: 85 7% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 8 x 4 = 32 UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	0.0% 0.0% 0.0% 0.0% 120.0% 12.0% 0.0% 0.0% 0.0% 0.0% 12.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	Prevalence Index worksheet:	
	0.0% 0.0% 10.0% 10.0% 10.0% 12.0% 12.0% 0.0% 0.0% 10.0%	FACW FAC FACW FACW	Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 8 x 4 = 32 UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	0.0% Fotal Cove 20.0% 60.0% 12.0% 8.0% 0.0% 0.0% 0.0% 71.4% 28.6% 0.0% 0.0%	FACW FAC FACW FACW	Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 8 x 4 = 32 UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	20.0% 60.0% 12.0% 8.0% 0.0% 0.0% 0.0% 71.4% 28.6% 0.0%	FACW FAC FACW FACW	OBL species 0 x 1 = 0 FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 8 x 4 = 32 UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	20.0% 60.0% 12.0% 8.0% 0.0% 0.0% 0.0% 71.4% 28.6% 0.0% 0.0%	FACW FAC FACW FACW	FACW species 52 x 2 = 104 FAC species 27 x 3 = 81 FACU species 8 x 4 = 32 UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	60.0% 12.0% 8.0% 0.0% 0.0% 0.0% 0.0% 71.4% 28.6% 0.0% 0.0%	FACU FACW FACW	FACU species 8 x 4 = 32 UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	12.0% 8.0% 0.0% 0.0% 0.0% 71.4% 28.6% 0.0% 0.0%	FACW FACW	UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	8.0% 0.0% 0.0% 0.0% 0.0% 71.4% 28.6% 0.0% 0.0%	FACW	UPL species 0 x 5 = 0 Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	0.0% 0.0% 0.0% 0.0% Total Cove 71.4% 28.6% 0.0% 0.0%	FACW	Column Totals: 87 (A) 217 (B) Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
- ·	0.0% 0.0% 0.0% Total Cove 71.4% 28.6% 0.0% 0.0%	FACW	Prevalence Index = B/A = 2.494 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
- [0.0% 0.0% 0.0% Total Cove 71.4% 28.6% 0.0% 0.0%	FACW	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
- [0.0% 0.0% Total Cove 71.4% 28.6% 0.0% 0.0%	FACW	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	0.0% Total Cove 71.4% 28.6% 0.0% 0.0%	FACW	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
- - -	71.4% 28.6% 0.0%	FACW	✓ 2 - Dominance Test is > 50% ✓ 3 - Prevalence Index is ≤3.0 ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain)	
	28.6% 0.0% 0.0%		3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain)	
	28.6% 0.0% 0.0%		Problematic Hydrophytic Vegetation ¹ (Explain)	
	28.6% 0.0% 0.0%			
	0.0%	TAC	1 Indicators of budge soil and wetland budgelong must	
	C.0%	_		
[71 71 - 72		be present, unless disturbed or problematic.	
	0.0%		Deficial and Manager Charles	
			Definition of Vegetation Strata:	
	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.	
_ = 1	Total Cove		(7.6 cm) or larger in diameter at breast height (DBH).	
	100.0%	FACW	Sapling - Woody plants, excluding woody vines,	
_			approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
		_	man 3 m. (7.0 cm) DBn.	
	7		Sapling/Shrub - Woody plants, excluding vines, less	
= =	,,	•	than 3 in. DBH and greater than 3.28 ft (1m) tall.	
-	-		Shrub - Woody plants, excluding woody vines,	
-	1		approximately 3 to 20 ft (1 to 6 m) in height.	
			Horb All horbacous (non woods) plants, including	
	0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody	
2 5	0.0%		plants, except woody vines, less than approximate	
L	0.0%		3 ft (1 m) in height.	
	0.0%			
= 1	otal Cove		Woody vine - All woody vines, regardless of height.	
		ļ		
	100.0%	FAC		
	0.0%			
	0.0%			
	0.0%			
	0.0%		Hydrophytic	
	(Vegetation Present? Yes No	
		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	□ 0.0% □ 0.0%	

SOIL				Sampling Point: Up - 13
Profile Descr	ription: (Describe to	the depth	needed to document the indicator or confirm the	absence of indicators.)
Depth	Matrix		Redox Features	2
(inches)	Color (moist)	%	Color (moist) % Type 1 Loc2	Texture Remarks
0-5	10YR 3/2	100		Loamy Sand
5-18	10YR 5/4	100		Loamy Sand

		-		
		·	% A 1, F 14	
1Type: C=Cond	centration. D=Denletic	on RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains 2Loc	ation: PI =Pore Lining, M=Matrix
Hydric Soll I		JIII TOTI-TACAG	eccurrency comeconated of course state craims	Indicators for Problematic Hydric Soils ³ :
Histosol (/	A1)		Polyvalue Below Surface (SB) (LRR S, T, U)	_
	pedon (A2)		☐ Thir: Dark Surface (S9) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O) ☐ 2 cm Muck (A10) (LRR S)
Black Hist			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
	Suifide (A4)		Loamy Gleyed Matrix (F2)	
	Layers (A5)		Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
	odies (A6) (LRR P, T,	U)	Redox Dark Surface (F6)	☐ Anomaious Bright Loamy Solls (F20) (MLRA 153B) ☐ Red Parent Material (TF2)
	ky Mineral (A7) (LRR i	•	Depleted Dark Surface (F7)	. ,
	sence (A8) (LRR U)		Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12)
1 cm Muci	k (A9) (LRR P, T)		Mari (F10) (LRR U)	Other (Explain in Remarks)
Depleted I	Below Dark Surface (A	11)	Depleted Ochric (F11) (MLRA 151)	
Thick Dark	k Surface (A12)		☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Pral	rie Redox (A16) (MLR	A 150A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Mu	ck Mineral (S1) (LRR (D, S)	Delta Ochric (F17) (MLRA 151)	
Sandy Gle	yed Matrix (S4)		Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Rec	dox (S5)		Piedmont Floodplain Solls (F19) (MLRA 149A)	wetland hydrology must be present, unless disturbed or problematic.
Stripped M	Matrix (S6)		Anomalous Bright Loamy Soils (F20) (MLRA 14	
Dark Surfa	ace (S7) (LRR P, S, T,	U)		
Restrictive La	yer (if observed):			
Туре:				
• • • • • • • • • • • • • • • • • • • •	ies):		Particle Manager Programs	Hydric Soil Present? Yes O No 💿
Remarks:			V	
Kemarks.				

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 15
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 19.571" N Long.: 89° 36' 50.740" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation . , Soil . , or Hydrology . significant	ly disturbed? Are "Normal Circumstances" present? Yes ◎ No ○
Are Vegetation . , Soil . , or Hydrology . naturally p	oroblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No	Is the Sampled Area
Hydric Soil Present? Yes O No	Vac () No (i)
Wetland Hydrology Present? Yes ○ No ⑤	within a Wetland?
Remarks: Lower end of up-wet transition line approximately 700 feet south of HYDROLOGY	Turtleskin Creek. Roughly 1,200 feet north of logging road.
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1:	
High Water Table (A2) Marl Deposits (B15	
Saturation (A3) Hydrogen Sulfide (
☐ Water Marks (B1) ☐ Oxidized Rhizosphe ☐ Sediment Deposits (B2) ☐ Presence of Reduction	eres along Living Roots (C3) Dry Season Water Table (C2)
	red Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in R	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
	Wetland Hydrology Present? Yes O No 💿
Saturation Present? Yes No Depth (Inches):	<u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	
	į

VEGETATION (Five/Four Strata) - Use scientific names of plants.

			ominant pecies? .		Sampling Point: Up - 15
		e R	el.Strat.	Indicator	Dominance Test worksheet:
Free Stratum (Plot size: 30 m	% Cove	r	Cover	Status	Number of Dominant Species
Pinus elilottii	15	V	65.2%	FACW	That are OBL, FACW, or FAC: 6 (A)
Magnolia virginiana	. 2		8.7%	FACW	Tatal Number of Bank
Liquidambar styracifiua	5	V	21.7%	FAC	Total Number of Dominant Species Across All Strata: 6 (B)
Quercus texana	1		4.3%	FACW	(0)
10 ACC - 10	0		0.0%		Percent of dominant Species
			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
	. 0		0.0%		Prevalence Index worksheet:
The second of th	0		0.0%	0.4	Total % Cover of: Multiply by:
50% of Total Cover: 11.5 20% of Total Cover: 4.6		= T	otal Cove		OBL species $0 \times 1 = 0$
		- "	otal core		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m		. 0			is manufact to the second seco
Pinus elliottii		V		FACW	FAC species 12 x 3 = 36
Magnolla virginiana		\vdash	17.9%_	FACW	FACU species $0 \times 4 = 0$
Quercus nigra	2	Ц	7.1%	FAC	UPL species $0 \times 5 = 0$
Persea palustris	1_	\sqcup	3.6%	FACW	Column Totals: 107 (A) 226 (B)
	0		0.0%		Prevalence Index = B/A = 2.112
· True, prosp. 1 vs.	0		0.0%		·
• 1-1-1-1	0		0.0%		Hydrophytic Vegetation Indicators:
			0.0%	·	1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 14 20% of Total Cover: 5.6		= To	otal Cove		✓ 2 - Domínance Test is > 50%
Shrub Stratum (Plot size: 30 m)		. al			✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex corlacea		Y	65.2%	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria			10.9%	FAC	1
Ilex glabra	10	V	21.7%	FACW	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Sabal minor		Ш	2.2%	FACW	to present antes diseased of president
	0		0.0%		Definition of Vegetation Strata:
	0		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 23 20% of Total Cover: 9.2	46	= To	tal Cove		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot size: 30 m)					(7.5 cm) or larger in diameter at breast neight (DBH).
	45		100.004	E4.6717	Sapling - Woody plants, excluding woody vines,
1 . Ilex glabra		Y	100.0%	FACW	approximately 20 ft (6 m) or more in height and less
2	. 0		0.0%		than 3 in. (7.6 cm) DBH.
		\equiv			
3	0		0.0%		
3 4	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less
3. 4					Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
4,,	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
4. 5. 6.	0		0.0%	The last last	
4. 5. 6.	0		0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
4. 5. 6	0 0		0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including
4. 5. 6. 7. 3.	0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
4. 5. 6. 7. 3. 9.	0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
4. 5. 6. 7. 3.	0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
4. 5. 6. 7. 8. 9.	0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
4. 5. 6. 7. 8. 9. 9. 1. 2. 60% of Total Cover: 5 20% of Total Cover: 2	0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
4. 5. 6. 7. 8. 9.	0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
4. 5. 6. 7. 8. 9. 9. 1. 2. 60% of Total Cover: 5 20% of Total Cover: 2	0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FAC	than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
4. 5. 6. 7. 3. 9. 1. 2. 60% of Total Cover: 5 20% of Total Cover: 2 Foody Vine Stratum (Plot size: 30 m) Smilax rotundifolia	0 0 0 0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
4. 5. 6. 7. 3. 9. 1. 2. 60% of Total Cover: 5 20% of Total Cover: 2 Foody Vine Stratum (Plot size: 30 m) Smilax rotundifolia	0 0 0 0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
4. 5. 6. 7. 8. 9. 1. 2. 50% of Total Cover: 5 20% of Total Cover: 2 Voody Vine Stratum (Plot size: 30 m) Smilax rotundifolia	0 0 0 0 0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
4. 5. 6. 7. 8. 9. 9. 9. 1. 2. 50% of Total Cover: 5 20% of Total Cover: 2 Voody Vine Stratum (Plot size: 30 m) Smilax rotundifolia	0 0 0 0 0 0 0 0 0 10 ;		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.
4. 5. 6. 7. 8. 9. 1. 2. 50% of Total Cover: 5 20% of Total Cover: 2 Voody Vine Stratum (Plot size: 30 m) Smilax rotundifolia	0 0 0 0 0 0 0 0 0 0 0 0 0		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FAC	than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.) Matrix **Redox Features** Depth (inches) Loc2 Color (moist) Color (moist) % Type Texture Remarks 0-4 10YR 3/2 100 Loamy Sand 4-16 10YR 5/4 100 Loamy Sand ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils3: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) ☐ 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) ☐ Thick Dark Surface (A12) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, unless disturbed or problematic. Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): **Hydric Soil Present?** Yes O No 💿 Depth (inches): Remarks:

Sampling Point:

Up - 15

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation City/Cou	inty: Waveland - Hancock Sampling Date: 07-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 1
Investigator(s): Lars Larson, Randy Ellis Section	n, Township, Range: S 20 T 7 S R 16 W
	ief (concave, convex, none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.: 30° 25'	1.091" N Long.: 89° 37' 13.129" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significantly disturb	ed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally problemat	ic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sampling	point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area
Hydric Soil Present? Yes No No	Von (®) No (
Wetland Hydrology Present? Yes ● No ○	within a Wetland?
Remarks: Low drainage area approximately 60 feet from a topographic rise that transition	ons up toward Upland Plot #1.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LRR U) Saturation (A3)	✓ Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Oxidized Rhizospheres along	Moss Trim Lines (B16)
Sediment Deposits (B2) Presence of Reduced Iron (C	
Drift Deposits (B3) Recent Iron Reduction in Tille	
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C7)	✓ Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in Remarks)	Shallow Aguitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes O No O Depth (inches):	
Saturation Present? (includes capillant frings) Yes No Depth (inches):	Wetland Hydrology Present? Yes ◎ No ○
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous	us inspections) if available:
bescribe Recorded Data (Stream gauge, monitoring weil, denial photos, previou	is inspections), it available.
Remarks:	
	that conveys water from the hilldone above to the significant buffer
No strong primary hydrology indicators, but it is clear that this is drainage area next to Turtieskin Creek below.	that conveys water from the hillstope above to the hpanah buffer

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Dominant

		6	ominant pecies? .		Sampling Point: Wet - 1	
In	Absolute	e R	el.Strat.	Indicator	Dominance Test worksheet:	
ree Stratum (Plot size: 30 m)	% Cove	_	Cover	Status	Number of Dominant Species	
Pinus efliottii	5	V	23.8%	FACW	That are OBL, FACW, or FAC: 9 (A)	
Magnolia virginiana	10	V	47,6%	FACW	Total Number of Dominant	
Nyssa sylvatica	5	V	23,8%	FAC	Species Across All Strata: 9 (B)	
Taxodium ascendens	1		4.8%	OBL		
	0		0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (All	
	0		0.0%	**	That are Obl., FACW, OF FAC: 100.070 VV	
1 san a. 4 san (a.	0		0.0%		Prevalence Index worksheet:	
	0		0.0%		Total % Cover of: Multiply by:	
50% of Total Cover: 10.5 20% of Total Cover: 4.2	21	= To	otal Cove	r	OBL species 9 x 1 = 9	
iapling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species 63 x 2 = 126	
Magnolia virginiana	15	V	50.0%	FACW	FAC species 19 x 3 = 57	
Nyssa sylvatica	-10	V	33.3%	FAC	FACU species $0 \times 4 = 0$	
Orilla normillan			10.0%	FACW		
A			6.7%	FAC		
· And the second second				I AC	Column Totals: 91 (A) 192 (B	
			0.0%	-	Prevalence Index = B/A = 2,110	
					Hydrophytic Vegetation Indicators:	
1=3-3.			0.0%			
er core interest of the core o	0	Ш.	0.0%	× - ×	1 - Rapid Test for Hydrophytic Vegetation	
50% of Total Cover: 15 20% of Total Cover: 6	30	= To	otal Cove	r	✓ 2 - Dominance Test is > 50%	
Shrub Stratum (Plot size: 30m)					✓ 3 - Prevalence Index is ≤3.0 ¹	
Cyrilla racemiflora	10	V	31.3%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
Ilex coriacea	15	V	46.9%	FACW		
Ilex glabra			15.6%	FACW	¹ Indicators of hydric soil and wetland hydrology mus	
Acer rubrum		\Box	6.3%	FAC	be present, unless disturbed or problematic.	
			0.0%		Definition of Vegetation Strata:	
	0	Π.	0.0%		Tree - Woody plants, excluding woody vines,	
50% of Total Cover: 16 20% of Total Cover: 6.4		 = To	tal Cove	L F	approximately 20 ft (6 m) or more in height and 3 in.	
					(7.6 cm) or larger in diameter at breast height (DBH).	
lerb Stratum (Plot size: 30 m)					Sapling - Woody plants, excluding woody vines,	
1 Woodwardia areolata		V	62.5%	OBL	approximately 20 ft (6 m) or more in height and less	
2. Woodwardia virginica	3	✓.	37.5%	OBL	than 3 in. (7.6 cm) DBH.	
3	0		0.0%			
· · · · · · · · · · · · · · · · · · ·	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less	
j	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.	
<u> </u>	0		0.0%		Shrub - Woody plants, excluding woody vines,	
7	0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.	
	0		0.0%			
),	0		0.0%	* 4.	Herb - All herbaceous (non-woody) plants, including	
).	0		0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximatel 3 ft (1 m) in height.	
			0.0%			
2.	0	\Box	0.0%	-		
50% of Total Cover: 4 20% of Total Cover: 1.6		 = To	tal Cover		Woody vine - All woody vines, regardless of height.	
Voody Vine Stratum (Plot size: 30 m)						
	0		0.004			
	1	⊢ .	0.0%			
		吕.	0.0%	-		
	0	片.	0.0%			
		<u> </u>	0.0%	-	Hudroniutic	
· · · · · · · · · · · · · · · · · · ·	Ō.		0.0%	-	Hydrophytic Vegetation	
	0 = Total Cover			Present? Yes No O		

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of Indicators.) Depth	OIL									Sampling Point: Wet - 1
Color (moist) 96 Type: Color (moist) 96 Type: Loary Sand 3-16 10YR 3/2 95 10YR 7/2 5 C M Sandy Loam Type: Co-Concentration, Do-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains ** Location: PL-Pore Lining, M-Matrix Hydric Soil Indicators: Type: Co-Concentration, Do-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains ** Location: PL-Pore Lining, M-Matrix Hydric Soil Indicators: Type: Co-Concentration, Do-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains ** Location: PL-Pore Lining, M-Matrix Hydric Soils*: Tipe: Co-Concentration, Do-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains ** Location: PL-Pore Lining, M-Matrix Hydric Soils*: Tipe: Co-Concentration, Do-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains ** Location: PL-Pore Lining, M-Matrix Hydric Soils*: Tipe: Co-Concentration, Do-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains ** Location: PL-Pore Lining, M-Matrix Hydrix H	Profile Desc	ription: (De	scribe to	the depth	needed to d	locument	t the ind	licator or co	onfirm the	absence of indicators.)
3 10YR 3/2 3-16 10YR 5/2 95 10YR 7/2 5 C M Sandy Loam Type: C~Concentration. D~Depletion. RM~Reduced Matrix, CS~Covered or Coated Sand Grains *Location: PL~Pore Lining. M~Matrix Hydric Soil Indicators: Histosol (A1)	Depth	1	Matrix			Re	dox Fea	tures		41
Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Sand Grains Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Topeletion. Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Counced Sand Grains Topeletion. Type: C-Concentration. D=Depletion. RM=Reduced Matrix, CS=Counced Sand Grains Topeletion. Surface (SS) (LRR S, T, U) Depleted Depleted Dark Surface (FS) (LRR O, P, T) Depleted Depleted Dark Surface (FS) (LRR O, P, T) Depleted Depleted Depleted Depleted Depleted Dark Surface (FS) (LRR D, P, T) Depleted Depl				%	Color (moist)	. %	Type	_ Loc2	
Type: C-Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains Polyvalue Below Surface (S8) (LRR S, T, U)	0-3	10YR	3/2							Loamy Sand
Hydric Soil Indicators: Histosol (A1)	3-16	10YR	5/2	95	10YR	7/2	5	С	М	Sandy Loam
Hydric Soil Indicators: Histosol (A1) Histosol (A2) Black Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) Histosol (A3) Loamy Mucky Mineral (F1) (LRR O) Loamy Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F6) Red James Muck Presence (A8) (LRR P, T, U) Depleted Below Dark Surface (A12) Thin Dark Surface (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A, B) Reduced Vertic (F18) (outside MLRA 150A, B) Pledmont Floodplain Soils (F19) (LRR P, F, T) Reduced Vertic (F18) (outside MLRA 150A, B) Pledmont Floodplain Soils (F19) (LRR P, F, T) Reduced Vertic (F18) (IRR P, F, T) Reduced Vertic (F18) (MLRA 153B) Reduced Vertic (F19) (LRR P, F, T) Depleted Dark Surface (F6) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Depleted Below Dark Surface (A12) Tron-Manganese Masses (F12) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR P, S) Sandy Muck Mineral (S1) (LRR P, S) Sandy Medox (S5) Pledmont Floodplain Soils (F19) (MLRA 150A, 150B) Sandy Redox (S5) Dark Surface (S7) (LRR P, S, T, U) Depleted Observed): Type: Depth (inches): Depth (inches):										
Indicators: Histosol (A1)										
Histosol (A1)	· :		=Depletio	n. RM=Redu	iced Matrix, (CS=Covere	ed or Coa	ted Sand Gr	ains ² Loca	<u> </u>
Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 1538) Organic Bodies (A6) (LRR P, T, U) Depleted Dark Surface (F6) Red Parent Material (TF2) Stratified Layers (A5) Redox Dark Surface (F6) Red Parent Material (TF2) Stratified Layers (A8) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Delta Ochric (F17) (MLRA 151) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F13) (LRR P, T, U) Sandy Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) Very Shallow Dark Surface (F12) Stripped Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Very Shallow Dark Surface (F12) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Sestrictive Layer (If observed): Type:					Poly	walue Bek	nw Surfac	ce (SR) (I RR	S. T. U)	
Black Histic (A3)	_ `	-								
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 1538) Redox Dark Surface (F6) Red Parent Material (TF2) S cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Wery Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Other (Explain in Remarks) Thick Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR Q, S) Sandy Muck Mineral (S1) (LRR Q, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 150A, 150B) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No										
Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 1538) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) S cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Wery Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Depleted Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Umbric Surface (F13) (LRR O, P, T) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Pestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No										
Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetiand hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No					,		-	,		_
S cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Depleted Dark Surface (F8) 1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR 0, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Depleted Dark Surface (F12) Redox Depressions (F8) Wery Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			RR P. T. I	U)				·e)		
Muck Presence (A8) (LRR U)				-			-	-		
1 cm Muck (A9) (LRR P, T)				, 1, 0)						
Depleted Below Dark Surface (A11) □ Depleted Ochric (F11) (MLRA 151) □ Thick Dark Surface (A12) □ Coast Prairie Redox (A16) (MLRA 150A) □ Umbric Surface (F13) (LRR P, T, U) □ Sandy Muck Mineral (S1) (LRR O, S) □ Delta Ochric (F17) (MLRA 151) □ Sandy Gleyed Matrix (S4) □ Reduced Vertic (F18) (MLRA 150A, 150B) □ Sandy Redox (S5) □ Pledmont Floodplain Soils (F19) (MLRA 149A) □ Stripped Matrix (S6) □ Dark Surface (S7) (LRR P, S, T, U) □ Delta Ochric (F11) (MLRA 151) □ Sandy Muck Mineral (S1) (LRR O, P, T) □ Delta Ochric (F13) (LRR P, T, U) □ Delta Ochric (F13) (LRR P, T, U) □ Delta Ochric (F17) (MLRA 151) □ Reduced Vertic (F18) (MLRA 150A, 150B) □ Reduced Vertic (F18) (MLRA 149A) □ Reduced Vertic (F18) (MLRA 149A) □ Umbric Surface (S7) (MLRA 149A) □ Vertical Time Time Time Time Time Time Time Time			-		_		•	5)		Other (Explain in Remarks)
Thick Dark Surface (A12)	_			11)			-			
Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	_ `		-	11)						
Sandy Muck Mineral (S1) (LRR O, S) □ Delta Ochric (F17) (MLRA 151) □ Sandy Gleyed Matrix (S4) □ Sandy Redox (S5) □ Piedmont Floodplain Soils (F19) (MLRA 149A) □ Stripped Matrix (S6) □ Dark Surface (S7) (LRR P, S, T, U) □ Dark Surface (S7) (LRR P, S, T, U) □ Depth (inches): □ Depth (inches): □ Delta Ochric (F17) (MLRA 151) □ Reduced Vertic (F18) (MLRA 150B) □ Reduced Vertic (F18) (MLRA 150B) □ Reduced Vertic (F18) (MLRA 149A) □ Reduced Vertic (F18) (MLRA 149A) □ Reduced Vertic (F18) (MLRA 149A) □ Reduced Vertic (F18) (MLRA 149A) □ Reduced Vertic (F18) (MLRA 150B) □ Red	_		-			-			,	
Sandy Gleyed Matrix (S4) ☐ Reduced Vertic (F18) (MLRA 150A, 150B) ☐ Sandy Redox (S5) ☐ Pledmont Floodplain Soils (F19) (MLRA 149A) ☐ Stripped Matrix (S6) ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) ☐ Dark Surface (S7) (LRR P, S, T, U) ☐ Cestrictive Layer (if observed): Type: ☐ Depth (inches): ☐ Hydric Soil Present? Yes ● No ☐		•		-					1	
Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No				1, 5)				•		³ Indicators of hydrophytic venetation and
Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Destrictive Layer (if observed): Type: Depth (inches): Depth (inches):			4)						-	wetfand hydrology must be present,
Dark Surface (S7) (LRR P, S, T, U) Destrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No No									-	
Type: Depth (inches): No O Remarks:					☐ Ano	malous Br	ight Loan	ny Soils (F20) (MLRA 14	19A, 153C, 153D)
Type:	Dark Surfi	ace (S/) (LRR	(P, S, 1, 1	J)						
Depth (inches): Hydric Soil Present? Yes No O	lestrictive L	yer (if obse	erved):							
Remarks:	Type:						_ ;			# 4 · 4 · 4 · 4 · 4 · 4 · 6 · 4 · 6 · 4 · 6 · 4 · 6 · 4 · 6 · 4 · 6 · 4 · 6 · 4 · 6 · 4 · 6 · 6
	Depth (incl	nes):		,	12.00	22. 6				Hydric Soil Present? Yes W No U
ripped depleted matrix lower in soil column > 4 inches with some small redox concentrations.	Remarks:									
	ripped depl	eted matrix	lower in	soil colum	n > 4 inche	s with so	me sma	all redox co	ncentratio	ons.

Project / Cites NACA - Stannics 1 100 Acre Wattend Delinastion	City/County: Waveland - Han	cock Sampling Date: 07-Oct-16
Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatilion	State: MS	Sampling Point: Wet - 2
Applicant/Owner: NASA		
Investigator(s): Lars Larson, Randy Ellis		5 20 T 7s R 16 W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex,	
	_30° 24' 53.385" N Lo	
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	4	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significan	tly disturbed? Are "Norm	al Circumstances" present? Yes No O
Are Vegetation , Soil , or Hydrology naturally	problematic? (If needed	l, explain any answers in Remarks.)
		•
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations,	transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	7-11-0	
Hydric Soil Present? Yes No O	Is the Sampled Area	Yes No
Wetland Hydrology Present? Yes No	within a Wetland?	ies © NO C
Remarks:		
Reflans.		
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B	•	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B:		✓ Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide		✓ Moss Trim Lines (B16)
	heres along Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (B2)		✓ Crayfish Burrows (C8)
	uction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	· ·	✓ Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain In	Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		✓ FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):		
7	-	
Water Table Present? Yes ○ No ⊙ Depth (inches):	Matland Hy	rdrology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	12	urology Present: 165 C No C
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if av	ailable:
Remarks:		
	- C 11	
Saturation begins to develop around 10 to 12 inches below ground	surrace. However, numerous o	other hydology indicators are evident.

VEGETATION	Five/Four	Strata) -	Use scientific names of plants.
A FOR I WITOIL	ILIAC\ LOMI	Juga -	ose scientific harmes of plants

•		Dominant _ Species? _		Sampling Point: Wet - 2
		Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 m	% Cover	Cover	Status	Number of Dominant Species
1 Magnolia virginiana	15	48.4%	FACW	That are OBL, FACW, or FAC: 8 (A)
Nyssa sylvatica	10	32.3%	FAC	Total Number of Descious
Pinus elliottii	5	16.1%	FACW	Total Number of Dominant Species Across All Strata: 8 (B)
. Taxodium ascendens	1	3.2%	OBL	, , , , , , , , , , , , , , , , , , ,
i	0	0.0%		Percent of dominant Species
	0	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
	0	0.0%	ras 700_ 7.00a	Prevalence Index worksheet:
A** V. '- A-W /. '	0	0.0%		Total % Cover of Multiply by:
50% of Total Cover: 15.5 20% of Total Cover: 6.2		= Total Cover		OBL species 4 x 1 = 4
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	1			FACW species85 x 2 =170
Magnolia virginiana		✓ 59.5%	FACW	FAC species 25 x 3 = 75
Dieur alliattii	10	✓ 23.8%	FACW	FACU species 0 x 4 = 0
N		11.9%	FAC	
Actor milimin		4.8%	FAC	
f 2	^		TAC	Column Totals: 114 (A) 249 (B)
· %		0.0%		Prevalence Index = B/A = 2.184
		0.0%		Hydrophytic Vegetation Indicators:
• 3		0.0%		nyuropnytic vegetation indicators:
	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 21 20% of Total Cover: 8.4	42 =	= Total Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 1
Cyrilla racemiflora	20	✓ 71.4%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
* 11 * 1 * 1 * 1 * 1 * 1 * 1 * 1 * 1 *		17.9%	FACW	
· · · · · · · · · · · · · · · · · · ·	_	10.7%	FAC	¹ Indicators of hydric soil and wetland hydrology must
			TAC	be present, unless disturbed or problematic.
-		0.0%		Definition of Verentation Streets.
	0	0.0%		Definition of Vegetation Strata:
	0	0.0%	·	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 14 20% of Total Cover: 5.6	28 =	Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: , 30 m				
1 . Arundinaria tecta	5	✓ 62.5%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2. Woodwardia areolata		✓ 37.5%	OBL	than 3 in. (7.6 cm) DBH.
3.	_	0.0%		,
	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
5. <u> </u>	0	0.0%	· · · · · · · · · · · · · · · · · · ·	
		0.0%	PM - DK ANDA	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7. 3	0			approximately 3 to 20 ft (1 to 0 fil) in height.
	0	0.0%		Herb - All herbaceous (non-woody) plants, including
9			N	herbaceous vines, regardless of size, and woody
	0	0.0%		plants, except woody vines, less than approximately
1		0.0%	-	3 ft (1 m) in height.
2,	0	0.0%		186 I Company of Company of Company
50% of Total Cover: 4 20% of Total Cover: 1.6	8 =	Total Cover		Woody vine - All woody vines, regardless of height.
Voody Vine Stratum (Plot size: 30 m			ļ	
Vitis rotundifolia	5	1 00.0%	FAC	
		0.0%		
TO THE STATE OF TH		0.0%		
		0.0%	-	
		0.0%	-	Hydrophytic
		Total Cover	7	Vegetation Present? Yes No ○
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	Total Cover		
marks: (If observed, list morphological adaptations below).				
indicator suffix = National status or professional decision assigned because Re	gional status n	ot defined by FW	S.	

									Sa	mpling Point: Wet - 2
rofile Desc	ription: (Des	cribe to	the depth	needed to docu	ment	the indi	cator or co	onfirm the	absence of indicato	ors.)
Depth	y	Matrix		,	Re	dox Feat				
(inches)	Color (noist)	%	Color (moi	st)_	%	Type 1	_ Loc2	Texture	Remarks
0-4	10YR	3/1	100							
4-20	10YR	4/2	95	10YR	6/2	5	D	М	Sandy Loam	Very fine granied
									-	
	- T: '0'						2F -		120	
									1.0	
					и г					
·	ncentration. Da	-Depletio	л. RM=Redu	ced Matrix, CS=0	 Covere	d or Coate	ed Sand Gra	ins ² Loca	tion: PL=Pore Lining.	. M=Matrix Problematic Hydric Soils 3:
Histosol (☐ Polyvali	e Bek	w Surface	(S8) (LRR	S. T. ID	_	-
	ipedon (A2)			_ ·			(JB) (LKK (LRR S, T, I			(A9) (LRR O)
Black His				_		• • •	:1) (LRR O)	•		(A10) (LRR S)
	n Sulfide (A4)				-	_				rtic (F18) (outside MLRA 150A,B)
-	Layers (A5)					Matrix (F.	4)			oodplain Soils (F19) (LRR P, S, T)
		ND T .	n	Deplete					Anomalous I	Bright Loamy Soils (F20) (MLRA 153B)
	Bodies (A6) (LI		-	_		urface (F6			Red Parent I	Material (TF2)
	cky Mineral (A		, T, U)	☐ Deplete	d Dark	Surface (F7)		Very Shallov	v Dark Surface (TF12)
Muck Pre	sence (A8) (Li	RU)		Redox [epres	sions (F8)			Other (Expla	ain in Remarks)
1 cm Mue	ck (A9) (LRR P	, T)		Marl (F1	0) (LF	IR U)				•
Depleted	Below Dark St	ırtace (A.	11)	Deplete	d Ochi	ic (F11) (f	MLRA 151)			
Thick Dar	rk Surface (A1	2)					(F12) (LRF	(O, P, T)		
Coast Pra	irie Redox (A1	6) (MLRA	150A)				RR P, T, U)			
	uck Mineral (51			_		-17) (MLR				
	eyed Matrix (S		, -,	_	-			1500)	³ Indica	ators of hydrophytic vegetation and
Sandy Re		77		_			LRA 150A,	-	wet	land hydrology must be present,
						•	s (F19) (M	•		nless disturbed or problematic.
	Matrix (S6)		15	Anomak	ous Bri	ght Loamy	/ Soils (F20) (MLRA 14	9A, 153C, 153D)	
Dark Sum	face (S7) (LRR	P, 5, 1, l	J)							
strictive L	ayer (if obse	rved):								
Type:						-				
Depth (Inc	hes):								Hydric Soll Prese	ent? Yes 🖲 No 🔾
marks:				· · · · · · · · · · · · · · · · · ·						
							,		Balan Karan Kalan B	
letions in	lower soil co	olumn ap	ppear to be	scattered thro	ugho	ut the pr	imary ma	rıx. Very	light, but not domii	nant.

Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded Are climatic/hydrologic conditions on the site typical for this time of year		1.1°
	problematic? (If needed, explain any answers in Remarks.) Impling point locations, transects, important features, etc.	
Hydrophytic Vegetation Present? Yes No No No Wetland Hydrology Present? Yes No No Remarks:	Is the Sampled Area within a Wetland? Yes No	
HYDROLOGY Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Aquatic Fauna (B1 High Water Table (A2) Marl Deposits (B1! ✓ Saturation (A3) Hydrogen Sulfide Water Marks (B1) Oxidized Rhizosph Sediment Deposits (B2) Presence of Reduc	Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Image	
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): (includes capillary fringe) Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photo	Wetland Hydrology Present? Yes No	
Remarks:		

Tree Stratum (Plot size: 30 m.) % Cover 1. Magnolia virginiana 15 15 15 15 15 15 15 1	✓ 45.5% ✓ 45.5% ✓ 9.1%	FACW FAC FACW FACW FACW FACW	Number of Dominant Species That are OBL, FACW, or FAC: 9 (A) Total Number of Dominant Species Across All Strata: 9 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 100 0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Magnolia virginiana	✓ 45.5% ✓ 45.5% ✓ 9.1%	FACW FAC FAC FACW FAC FACW FACW FACW	That are OBL, FACW, or FAC: 9 (A) Total Number of Dominant Species Across All Strata: 9 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 100 0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Nvssa sylvatica 15 Quercus nigra 3 Quercus nigra 0 Quercus nigra 0 Quercus nigra 0 Sow of Total Cover: 16.5 20% of Total Cover: 6.6 33 Sapling or Sapling/Shrub Stratum (Plot size: 30 m) Magnolla virginiana 20 Quercus nigra 10 Acer rubrum 5 Cyrilla racemiflora 3 Quercus nigra 10 Quercus nigra 10 Acer rubrum 5 Cyrilla racemiflora 3 Quercus nigra 10 Quercus	✓ 45.5% 9.1% 9.1% 0.0% 0.0% 0.0% 0.0% ✓ 52.6% ✓ 26.3% 13.2% 7.9% 0.0% 0.0% ■ Total Cove ✓ 57.1% ✓ 28.6% 14.3% 0.0% 0.0% ■ 14.3% 0.0% ■ 14.3% 0.0% ■ 14.3% □ 0.0% ■ 14.3% □ 0.0% ■ Total Cove ✓ 33.3%	FAC FACW FAC FACW FACW FACW FACW	That are OBL, FACW, or FAC: 9 (A) Total Number of Dominant Species Across All Strata: 9 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 100 0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Quercus nigra	9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 52.6% 26.3% 13.2% 7.9% 0.0% 0.0% 57.1% 28.6% 14.3% 0.0% 14.3% 0.0% 14.3% 0.0% 33.3%	FACW FAC FACW FACW FACW FACW	Percent of dominant Species That Are OBL, FACW, or FAC: Total % Cover of: Multiply by: OBL species 10 × 1 = 10 FACW species 78 × 2 = 156 FAC species 38 × 3 = 114 FACU species 0 × 4 = 0 UPL species 0 × 5 = 0 Column Totals: 126 (A) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	□ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 52.6% □ 26.3% □ 13.2% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 14.3% □ 14.3% □ 0.0% □ 0.0% □ 14.3% □ 0.0% □	FACW FAC FACW FACW FACW	Percent of dominant Species That Are OBL, FACW, or FAC: Total % Cover of: Multiply by: OBL species 10 × 1 = 10 FACW species 78 × 2 = 156 FAC species 38 × 3 = 114 FACU species 0 × 4 = 0 UPL species 0 × 5 = 0 Column Totals: 126 (A) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	□ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 52.6% ☑ 26.3% □ 13.2% □ 0.0% □ 0.0% □ 0.0% □ 14.3% □ 14.3% □ 0.0% □ 0.0% □ 0.0% □ 14.3% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 14.3% □ 0.0% □	FACW FAC FACW FACW FACW FACW	That Are OBL, FACW, or FAC: 100 0% (A/8) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	□ 0.0% □ 0.0% □ 0.0% ■ Total Cov □ 52.6% □ 26.3% □ 13.2% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 14.3% □ 14.3% □ 0.0% □ 0.0% □ 0.0% □ 14.3% □ 0.0% □ 0.	FACW FAC FACW FACW FACW FACW	That Are OBL, FACW, or FAC: 100 0% (A/8) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	□ 0.0% □ 13.2% □ 0.0% □ 13.2% □ 0.0% □ 0.0% □ 0.0% □ 14.3% □ 14.3% □ 0.0% □ 0.0% □ 14.3% □ 0.0% □ 0.0% □ 14.3% □ 0.0% □ 0.0% □ 14.3% □ 0.0% □ 0.0% □ 14.3% □ 0.0%	FACW FAC FACW FACW FACW FACW	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	□ 0.0% = Total Cov □ 52.6% □ 13.2% □ 7.9% □ 0.0% □ 0.0% □ 0.0% □ 57.1% □ 28.6% □ 14.3% □ 0.0%	FACW FAC FACW FACW FACW FACW	Total % Cover of: Multiply by: OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	■ Total Cove 1 52.6% 2 26.3% 13.2% 7.9% 0.0% 0.0% 0.0% ■ Total Cove 28.6% 14.3% 0.0% 0.0% ■ 14.3% 14.3% 0.0% ■ 14.3% 14.3% 14.3% 14.3% 14.3% 15.1% 28.6% 14.3% 14.3% 33.3%	FACW FAC FACW FACW FACW FACW	OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
apling or Sapling/Shrub Stratum (Plot size: 30 m) Magnolla virginiana 20 Quercus nigra 10 Acer rubrum 5 Cyrilla racemiflora 3 Cyrilla racemiflora 3 Cyrilla racemiflora 20 Cyrilla racemiflora 3 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 5 Cyrilla racemiflora 7 Cyrilla racemiflora 5 Cyrilla racemiflora 6 Cyrilla racemiflora 6 Cyrilla racemiflora 6 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyrila racemiflora 7 Cyrilla racemiflora 7 Cyrilla racemiflora 7 Cyri	✓ 52.6% ✓ 26.3%	FACW FAC FACW FACW FACW FACW	OBL species 10 x 1 = 10 FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Magnolla virginiana 20 20 20 20 20 20 20 2	✓ 26.3% 13.2% 7.9% 0.0% 0.0% 0.0% 57.1% ✓ 57.1% ✓ 28.6% 14.3% 0.0% 0.0% 10.0% ■ 0.0% 33.3%	FAC FACW FACW FACW FACW	FACW species 78 x 2 = 156 FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Magnolia virginiana 20 Quercus nigra 10 Acer rubrum 5 Cyrilla racemiflora 3 0	✓ 26.3% 13.2% 7.9% 0.0% 0.0% 0.0% 57.1% ✓ 57.1% ✓ 28.6% 14.3% 0.0% 0.0% 10.0% ■ 0.0% 33.3%	FAC FACW FACW FACW FACW	FAC species 38 x 3 = 114 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Quercus nigra 10 Acer rubrum 5 Cyrilla racemiflora 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10 0 0 0 <tr< td=""><td>✓ 26.3% 13.2% 7.9% 0.0% 0.0% 0.0% 57.1% ✓ 57.1% ✓ 28.6% 14.3% 0.0% 0.0% 10.0% ■ 0.0% 33.3%</td><td>FAC FACW FACW FACW FACW</td><td>FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.</td></tr<>	✓ 26.3% 13.2% 7.9% 0.0% 0.0% 0.0% 57.1% ✓ 57.1% ✓ 28.6% 14.3% 0.0% 0.0% 10.0% ■ 0.0% 33.3%	FAC FACW FACW FACW FACW	FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Acer rubrum 5	13.2% 7.9% 0.0% 0.0% 0.0% 57.1% 28.6% 14.3% 0.0% 0.0% Total Cove	FACW FACW FACW FACW	UPL species 0 x 5 = 0 Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Cyrilla racemiflora	7.9% 0.0% 0.0% 0.0% 0.0% 57.1% 28.6% 14.3% 0.0% 0.0% Total Cove	FACW FACW FACW	Column Totals: 126 (A) 280 (B) Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	□ 0.0% □ 0.0% □ 0.0% □ 0.0% ■ Total Cove □ 57.1% □ 28.6% □ 14.3% □ 0.0% □ 0.0% □ 0.0% ■ Total Cove	FACW FACW FACW	Prevalence Index = B/A = 2.222 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	□ 0.0% □ 0.0% □ 0.0% ■ Total Cov □ 57.1% □ 28.6% □ 14.3% □ 0.0% □ 0.0% □ 0.0% ■ Total Cov □ 33.3%	FACW FACW FACW	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	0.0% Total Cove 57.1% 28.6% 14.3% 0.0% 0.0% Total Cove	FACW FACW FACW	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	□ 0.0% = Total Cove 57.1% 28.6% 14.3% 0.0% 0.0% Total Cove 33.3%	FACW FACW FACW	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
19	■ Total Cov 57.1% 28.6% 14.3% 0.0% 0.0% Total Cov 33.3%	FACW FACW FACW	✓ 2 - Dominance Test is > 50% ✓ 3 - Prevalence Index is ≤ 3.0 ¹ ✓ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Cyrilla racemiflora 20 20 20 20 20 20 20 2	✓ 57.1% ✓ 28.6% ☐ 14.3% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ Total Cove	FACW FACW FACW	
Cyrilia racemiflora 20 Ilex coriacea 10 Magnolia virginiana 5 0 0 00% of Total Cover: 17.5 20% of Total Cover: 7 35 erb Stratum (Plot size: 30 m) 30 30 Arundinaria tecta 5 4 4 Woodwardia areolata 10 0 0 0 0	28.6% 14,3% 0.0% 0.0% 0.0% Total Cove	FACW	
Cyrilla racemiflora 20	28.6% 14,3% 0.0% 0.0% 0.0% Total Cove	FACW	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Ilex corlacea	28.6% 14,3% 0.0% 0.0% 0.0% Total Cove	FACW	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Magnolia virginiana 5 0 0 0 0 0 0 0 0 0	14.3% 0.0% 0.0% 0.0% 0.0% 33.3%	FACW	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 33.3%		Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	☐ 0.0% ☐ 0.0% = Total Cove	ır	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0 0 0 0 0 0 0 0 0 0	○ 0.0% = Total Cove	ır	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0% of Total Cover: 17.5 20% of Total Cover: 7 35 erb Stratum (Plot size: 30 m) 35 Arundinaria tecta 5 Woodwardia areolata 10 6 0 0 0 0 0	= Total Cove		approximately 20 ft (6 m) or more in height and 3 in.
Arundinaria tecta	✓ 33.3%	r	
Arundinaria tecta			(7.6 cm) or larger in diameter at breast height (DBH).
2. Woodwardia areolata 10 3. 0 4. 0 5. 0			
Woodwardia areolata 10 C O O		FACW	Sapling - Woody plants, excluding woody vines,
0 0	66.7%	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
. 0	0.0%		
0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0.0%		Shrub - Woody plants, excluding woody vines,
0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
	0.0%		Herb - All herbaceous (non-woody) plants, including
0	0.0%		herbaceous vines, regardless of size, and woody
)0	0.0%		plants, except woody vines, less than approximately
0	0.0%		3 ft (1 m) in height.
00	0.0%		
50% of Total Cover: 7.5 20% of Total Cover: 3 15	= Total Cove	r	Woody vine - All woody vines, regardless of height.
/oody Vine Stratum (Plot size: 30 m	•		
	1 00.0%	FAC	
	0.0%		
667.2 Sec. 15 Control of the Control			
	0.0%		
	0.0%		Hydrophytic
0	0.0%		Vegetation V. C. N. C.
60% of Total Cover: 2.5 20% of Total Cover: 1 5 =	= Total Cove	r	Present? Yes No
marks: (If observed, list morphological adaptations below).			

New York New York		iption: (De:	scribe to	the depth	needed to	document	t the indic	cator or c	onfirm the	absence of indicators.)	
(Inches) Color (moist)	Depth		Matrix			Re					
ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ype: C=Concentration. D=Depletion. RM=Reduced Verity (Fig. Splits) Indicators for Problematic Hydric Solis 3:	(inches)	Color (moist)	%	Color	moist)	%	Type 1	Loc2	Texture	Remarks
ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Variet Soil Indicators:	0-5	10YR	3/1	95	10YR	6/6	5	С	М	Sandy Loam	
ydric Soil Indicators: Histosoi (A1)	5-22	10YR	3/2	90	10YR	6/2	10	D	M	Sandy Loam	
ydric Soil Indicators: Histosoi (A1)			_			-	-			-	
ydric Soil Indicators: Histosoi (A1)										*-	
ydric Soil Indicators: Histosoi (A1)								-			
Histosol (A1)	Type: C=Con	centration. D	=Depletior	 . RM=Redu	uced Matrix, (CS=Covere	 ed or Coate	ed Sand Gr	ains ² Loca	ntion: PL=Pore Lining. M=	-Matrix
Histosof (A1)	ydric Soil I	ndicators:								Indicators for Pro	blematic Hydric Soils ³ :
Histic Epipedon (A2)	Histosol (41)			Pol	yvalue Bel	ow Surface	(S8) (LRR	(S, T, U)		•
Black Histic (A3)	Histic Epip	edon (A2)			☐ Thì	n Dark Sur	face (S9) ((LRR S, T,	υ)	_ ` `	• •
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Organic Bodiles (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodiles (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodiles (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Other (Explain in Remarks) Thick Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 150B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Wery Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) In on-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F11) (MLRA 151) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Redox Dark Surface (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150B) Redox Dark Surface (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150B) Redox Dark Surface (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150B) Redox Dark Surface (S1) (LRR O, S) Delta Ochric (F18) (MLRA 150A, 150B) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Delta Ochric (F18) (MLRA 150A, 150B) Redox Dark Surface (S1) (LRR O, S) Delta Ochric (F18) (MLRA 150A, 150B) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) (LRR O, S) Redox Dark Surface (S1) Redox Dark Surface (S1) Redox Dark Surface (S1) Redox Dark Surface (S1) Redox Dark Surface (S1) Redox Dark Surface (S1) Redox Dar	Black Hist	ic (A3)			Loa	my Mucky	Mineral (F	1) (LRR O)	_ `	, ,
Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Sc m Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) I cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR Q, S) Sandy Muck Mineral (S1) (LRR Q, S) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Stripped Matrix (S6) Derived Matri	Hydrogen	Sulfide (A4)			Loa	my Gleyed	d Matrix (F	2)			
Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) S cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Delta Ochric (F17) (MLRA 151) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Stratified	Layers (A5)			☐ Deg	oleted Mat	rix (F3)			_	
S cm Mucky Mineral (A7) (LRR P, T, U) Muck Presence (A8) (LRR U) Redox Depressions (F8) 1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type:	Organic B	odies (A6) (L	RR P, T, U)	Rec	lox Dark S	urface (F6))			
Muck Presence (A8) (LRR U)	5 cm Muc	ky Mineral (A	7) (LRR P,	T, U)	☐ Dep	oleted Darl	c Surface (I	F7)			• •
1 cm Muck (A9) (LRR P, T)	Muck Pres	ence (A8) (L	rr u)		☐ Rec	lox Depres	sions (F8)	_			• •
Thick Dark Surface (A12)	1 cm Muc	k (A9) (LRR F	r, T)		☐ Mai	l (F10) (LF	RR U)			C Odiei (Explair ii	i Nemana)
Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Depleted I	Below Dark S	urface (A1	1)	☐ Dep	leted Och	ric (F11) (N	MLRA 151)			
Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Thick Dark	Surface (A1	2)		☐ Iron	-Mangane	se Masses	(F12) (LRI	R O, P, T)		
Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Coast Prai	rie Redox (A:	l6) (MLRA	150A)	Um Um	bric Surfac	:e (F13) (Ц	RR P, T, U))		
Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Solls (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Sandy Mu	ck Mineral (S	1) (LRR O,	S)	☐ Deli	ta Ochric (F17) (MLR	A 151)		-	
Sandy Redox (55)	Sandy Gle	yed Matrix (S	4)						150B)		
Stripped Matrix (S6) Anomalous Bright Loamy Solls (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Sandy Rec	lox (S5)						•	-		
Dark Surface (S7) (LRR P, S, T, U) strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No C	Stripped N	latrix (S6)					•				o distallated of problemated
strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No C			P. S. T. U	1)		indicas bi	ignic Louini,	9 50.15 (1 20	// (FICION 2).	574 1550, 1550)	
Type: Depth (inches): Hydric Soil Present? Yes No O emarks:											
Depth (inches): Hydric Soil Present? Yes No O		yer (if obse	rved):								
emarks:		ac).								Hydric Soil Present?	Yes No
			······································				-3				
otchy areas with lighter coloring that appear stripped of darker organic material.											
	otchy area:	s with lighte	er coloring	g that app	ear strippe	d of dark	er organi	c materia	l.		

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 11-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet- 6
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 28 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): undulating Slope: 1.0 % / 0.6°
Subregion (LRR or MLRA): LRR T Lat:	30° 24' 40.727" N Long.: 89° 36' 31.790" W Datum: NAD83
Soil Map Unit Name: Atmore	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of year	ear? Yes No (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes No
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Yes No No	Is the Sampled Area within a Wetland? Yes No
Remarks: Low bottom-draiange area approximately 60-70 feet from UP-6 wthi	in riparian flood plain of Turtleskin Creek.
HYDROLOGY	
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Dry Drainage Patterns (B10) Moss Trim Lines (B16) heres along Living Roots (C3) Dry Season Water Table (C2) Idea (Iron (C4) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Electron in Tilled Soils (C6) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U) Wetland Hydrology Present? Yes No
Remarks: Drainage patterns, low bottom area with numerous buttressed trees.	

VEGETATION	(Five/Four	Strata) -	Use	scientific	names o	f plants.
	-	-				Dominant

		Dominant Species? _		Sampling Point: Wet- 6
(Plat day 20	Absolute	e Rel.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m)	% Cove		Status	Number of Dominant Species
Nyssa sylvatica	15	55.6%	FAC	That are OBL, FACW, or FAC: 8 (A)
Quercus nigra	10	✓ 37.0%	FAC	Total Number of Dominant
Pinus elliottii	2	7.4%	FACW	Species Across All Strata: 8 (B)
	0	0.0%	Barrier a service	
		0.0%		Percent of dominant Species That Are OBL_FACW_or_FAC: 100.0% (A/B
	.0	0.0%	# F-1	That Are OBL, FACW, or FAC: 100.0% (A/B
(m. 1. 14. 16. 1)	0	0.0%		Prevalence Index worksheet:
		0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 13.5 20% of Total Cover: 5.4		= Total Cove	r	OBL species 12 x 1 = 12
apling or Sapling/Shrub Stratum (Plot size: 30 m	1			FACW species $22 \times 2 = 44$
Nyssa sylvatica	4.0	✓ 50.0%	FAC	FAC species $45 \times 3 = 135$
Quercus nigra	_	₹ 25.0%	FAC	FACU species $0 \times 4 = 0$
Ordin manufact		15.0%	FACW	UPL species $0 \times 5 = 0$
A4	_	10.0%	FACW	3.2 Sp32.23
		0.0%	11.0044	Column Totals: 79 (A) 191 (B)
-		0.0%		Prevalence Index = B/A = 2.418
- H.W	_	1		Hydrophytic Vegetation Indicators:
- ·		0.0%		larakulta rademman manatana
	. 0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 10 20% of Total Cover: 4	20	= Total Cove	r	✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m				\checkmark 3 - Prevalence Index is ≤3.0 ¹
Magnolia virginiana	10	✓ 58.8%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Acer rubrum	5	₹ 29.4%	FAC	
Pinus elliottii		11,8%	FACW	¹ Indicators of hydric soil and wetland hydrology mus
		0,0%	111011	be present, unless disturbed or problematic.
 			, p	Definition of Vegetation Strata:
	0	0.0%	For	•
****	0	□ 0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0% of Total Cover: 8.5 20% of Total Cover: 3.4	17	= Total Cove	•	(7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m)				Sapling - Woody plants, excluding woody vines,
Woodwardla areolata	10	66.7%	OBL	approximately 20 ft (6 m) or more in height and less
Arundinaria tecta	3	✔ 20.0%	FACW	than 3 in. (7.6 cm) DBH.
Woodwardia virginica	2	13.3%	OBL	
The second secon	. 0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0	0.0%	•	than 3 in. DBH and greater than 3.28 ft (1m) tall.
Wasser .	0	0.0%	W	Observe 18 leader aloude analysis and advision as
Notes the second	- 0	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
The state of the s	0	0.0%		abbrevious a rate of the rate in in modern
	0	0.0%	,	Herb - All herbaceous (non-woody) plants, including
				herbaceous vines, regardless of size, and woody
West, and the second se		0.0%		plants, except woody vines, less than approximately
	0	□ 0.0%	,	3 ft (1 m) in height.
to the second of		0.0%		Mondy vina All woods vinas rogerdless of heiself
60% of Total Cover: 7.5 20% of Total Cover: 3	15	= Total Cover		Woody vine - All woody vines, regardless of height.
(Plot size: 30 m		_	ļ	
	0	0.0%		
The second secon	0	0.0%	The same of the sa	
	0	0.0%		
- 11 M. PAT	0	0.0%		
V V	0	0.0%		Hydrophytic
	· · · · · · · · · · · · · · · · · · ·	= Total Cover	-	Vegetation Present? Yes No ○
50% of Total Cover: 0 20% of Total Cover: 0				The state of the s

Profile Becci									Samplir	ig Point: Wet-6
, Torne Descri	iption: (Des		the depth	needed to do				onfirm the	absence of indicators.)	
Depth		Matrix				dox Featu	- 1			
(inches)	Color (1		0/0	Color (n	olst)	%	Type *	Loc2	Texture	Remarks
0-5	10YR	3/1	100					_		14 118
5-16	10YR	3/2	90	10YR	7/2	10	. C	M	Sandy Loam	
	-				-					
							-			v. x
Pa.										
Гуре: C=Conc	entration. D	=Depletion	n. RM=Redu	ced Matrix, CS	=Covere	d or Coate	d Sand Gra	ains ² Loca	tion : PL=Pore Lining. M=M	latrix
lydric Soil Ia	ndicators:								Indicators for Probl	ematic Hydric Soils ³ :
Histosol (A	•			Polyv	alue Belo	ow Surface	(S8) (LRR	S, T, U)	☐ 1 cm Muck (A9) (I	_RR O)
Histic Epip						face (S9) (I		-	2 cm Muck (A10)	
Black Histic				Loam	y Mucky	Mineral (F	l) (LRR O)		Reduced Vertic (F	18) (outside MLRA 150A,B)
	Sulfide (A4)			Loam	y Gleyed	l Matrix (F2)		Piedmont Floodpla	ain Soils (F19) (LRR P, S, T)
Stratified L				Deple	ted Matr	tx (F3)			Anomalous Bright	Loamy Soils (F20) (MLRA 153B)
	odies (A6) (LF		-	Redo	CDark S	urface (F6)			Red Parent Materi	al (TF2)
_	cy Mineral (A)		, T, U)	Deple	ted Dark	Surface (F	7)		Very Shallow Dark	Surface (TF12)
	ence (A8) (LF			Redo	Depres	sions (F8)			Other (Explain in F	Remarks)
_	(A9) (LRR P			Marl	(F10) (LF	RR U)				•
	Below Dark St	-	11)	Deple	ted Ochr	ric (F11) (M	ILRA 151)			
	Surface (A1	•		Iron-	Mangane	se Masses	(F12) (LRF	R O, P, T)		
_	ie Redox (A1			Umbr	ic Surfac	e (F13) (LF	R P, T, U)			
_ `	k Mineral (\$1		, S)	☐ Delta	Ochric (I	F17) (MLRA	151)		37	.e
_	ed Matrix (S	4)		Redu	ed Vertl	c (F18) (MI	RA 150A,	150B)	-indicators o wetland h	of hydrophytic vegetation and ydrology must be present,
J Sandy Red Sandy				Piedn	ont Floo	dplain Solls	(F19) (M	LRA 149A)		disturbed or problematic.
Stripped M				Anor	alous Bri	ight Loamy	Soils (F20) (MLRA 149	9 A, 153C, 153D)	
	ce (S7) (LRR	P, S, T, U	J)							
□ Dark Surface										
」 Dark Surfa										
	ver (if obse	rved):								
estrictive La	yer (if obse	rved):								
estrictive La		rved):	Trace	47.00		-			Hydric Soil Present?	Yes ● No ○
estrictive La Type: Depth (inch		rved):							Hydric Soil Present?	Yes ● No ○
estrictive La Type: Depth (inch		rved):		V					Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):	ne see			4			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):		- V		<u>-</u>			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):				<u>.</u>			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes [●] No [○]
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes ● No ○
estrictive La		rved):				-			Hydric Soil Present?	Yes ● No ○
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes No
estrictive La Type: Depth (inch		rved):				-			Hydric Soil Present?	Yes No

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 11-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 7
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 28 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat:	30° 24' 46.797" N Long.: 89° 36' 26.603" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of ye	
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation 🔲 , Soil 🗌 , or Hydrology 🔲 naturally (problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	Is the Sampled Area
Hydric Soil Present? Yes No O	within a Wetland? Yes No
Wetland Hydrology Present? Yes No No	
Remarks: Terrace area within 100 feet of power line ROW. Area seems possib HYDROLOGY	oly disturbed with a mix of vegetative species just north of heavy pine overstory.
HTDROLOGT	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Presence of Redui	Sparsely Vegetated Concave Surface (B8) 5) (LRR U) Odor (C1) Moss Trim Lines (B16) Dry Season Water Table (C2)
☐ Drift Deposits (B3) ☐ Recent Iron Reduction Algel Mat or Crust (B4) ☐ Thin Muck Surface ☐ Iron Deposits (B5) ☐ Other (Explain in ☐ Irundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9)	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) e (C7) Geomorphic Position (D2)
Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Depth (inches): Saturation Present? (includes capillary fringe) Pescribe Recorded Data (stream gauge, monitoring well, aerial photo Remarks:	Wetland Hydrology Present? Yes No
INCHRAINS)	

Tree Stratum (Plot size: _30 m)	Absolute % Cove	e Rel	ecies? . I.Strat. lover	Indicator Status	Dominance Test worksheet:
1 Pinus elliottii	10	V	52,6%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 10 (A)
2. Nyssa sylvatica	5		26,3%	FAC	That are obly thew, of the.
		-	15.8%	FAC	Total Number of Dominant
Manualtandustrians		_			Species Across All Strata: 10 (B)
Magnolia virginiana		<u> </u>	5.3%	FACW	Develop of descinant Consist
	0	Щ.	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
N. VIVIAL. III WAR	. 0	ш_	0.0%		That Are Obe, FACW, OF FAC.
F. LEW. No. 1	. 0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 9.5 20% of Total Cover: 3.8	19	= Tota	al Cove		OBL species 7 x 1 = 7
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	1				FACW species 29 x 2 = 58_
			==		
Pinus elllottil			55,6%	FACW	FAC species 44 x 3 = 132
Magnolia virginiana	5		27.8%	FACW	FACU species $0 \times 4 = 0$
Acer rubrum	3	Щ	16.7%	FAC	UPL species $0 \times 5 = 0$
Figs. property Majorian take the Company	. 0	Ш_	0.0%		Column Totals: 80 (A) 197 (B)
	0		0.0%		
	0		0.0%		Prevalence Index = B/A = 2.463
• • •	0		0.0%		Hydrophytic Vegetation Indicators:
	0		0.0%	Mar. 1 - 404	
1			,		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 9 20% of Total Cover: 3.6	18	≃ Tota	al Cove		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Morella cerifera	10	V	40.0%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
Acer rubrum	-	_	28.0%	FAC	
□ 1 ; · · · · · · · · · · · · · · · · · ·	5	- T		FAC	¹ Indicators of hydric soil and wetland hydrology must
		=-	20.0%		be present, unless disturbed or problematic.
Persea palustris	3	Ц.	12.0%	FACW	
	0		0.0%		Definition of Vegetation Strata:
	. 0		0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 12.5 20% of Total Cover: 5 lerb Stratum (Plot size: 30 m) 1. Woodwardla areolata	,		71,4%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2 Woodwardia virginica		V	28.6%	QBL	than 3 in. (7.6 cm) DBH.
3.	0		0.0%		,
	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less
45.	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
J					
0		H-	0.0%	1 mm m m-	Shrub - Woody plants, excluding woody vines,
7	., 0	Ц-	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
3	0	□	0.0%	4 74 MM	
9.,	0		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
0	0		0,0%		plants, except woody vines, less than approximately
1,55	0		0.0%		3 ft (1 m) in height.
2.	0		0.0%		
50% of Total Cover: 3.5 20% of Total Cover: 1.4			al Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m					
Vitis rotundifolia	10	V	90.9%	FAC	
Rubus argutus	1		9.1%	FAC	
The second secon	0		0.0%		
			0.0%		
	-				Hydrophytic
	0		0.0%		Vegetation
50% of Total Cover: 5.5 20% of Total Cover: 2.2	11 =	= Tota	l Cover		Present? Yes No U
Remarks: (If observed, list morphological adaptations below).	·····				

COL	
SI H	

Denth Matrix	in the war and an area in the interest of a continuity and	absence of Indicators.)
pepui	Redox Features	
(inches) Color (moist) % 0-6 10YR 3/1 100	Color (moist) % Type 1 Loc2	Texture Remarks
6-16 10YR 4/2 90	10YR 7/2 10 D M	Loamy Sand
₩ #:		20 20 20 20 20 20 20 20 20 20 20 20 20 2

¹ Type: C=Concentration. D=Depletion. RM=Re	duced Matrix, CS=Covered or Coated Sand Grains 2Loca	ation: PL=Pore Lining, M=Matrix
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Polyvalue Below Surface (S8) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
Histic Epipedon (A2)	☐ Thin Dark Surface (S9) (LRR S, T, U)	
Black Histic (A3)	Loamy Mucky Mineral (F1) (LRR O)	2 cm Muck (A10) (LRR S)
☐ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Reduced Vertic (F18) (outside MLRA 150A,B)
Stratified Layers (A5)	Depleted Matrix (F3)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Organic Bodies (A6) (LRR P, T, U)		Anomalous Bright Loamy Soils (F20) (MLRA 153B)
5 cm Mucky Mineral (A7) (LRR P, T, U)	Redox Dark Surface (F6)	Red Parent Material (TF2)
Muck Presence (A8) (LRR U)	Depleted Dark Surface (F7)	└── Very Shallow Dark Surface (TF12)
1 cm Muck (A9) (LRR P, T)	Redox Depressions (F8)	Other (Explain in Remarks)
	☐ Marl (F10) (LRR U)	
Depleted Below Dark Surface (A11)	Depleted Ochric (F11) (MLRA 151)	
☐ Thick Dark Surface (A12)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Prairie Redox (A16) (MLRA 150A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Muck Mineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)	³ Indicators of hydrophytic vegetation and
Sandy Gleyed Matrix (S4)	Reduced Vertic (F18) (MLRA 150A, 150B)	wetland hydrology must be present,
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 149A)	unless disturbed or problematic.
Stripped Matrix (S6)	Anomalous Bright Loamy Soils (F20) (MLRA 14	ł9A, 153C, 153D)
☐ Dark Surface (S7) (LRR P, \$, T, U)		
Restrictive Layer (if observed):		_
	Į.	
Type:		
Type:		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
7.		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No
Depth (inches):		Hydric Soil Present? Yes No No
Depth (inches):		Hydric Soil Present? Yes No No
Depth (inches):		Hydric Soil Present? Yes No No
Depth (inches):		Hydric Soil Present? Yes No No

Troject Steet 10 art Scanning Lybo rate Vectoria Scinicatori	City/County: Waveland - Hancock Sampling Date: 11-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 8
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 28 T 7s R 16 W
Landform (hillslope, terrace, etc.):	Local relief (concave, convex, none): Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 39.246" N Long.: 89° 36' 46.299" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of yea	ar? Yes No (If no, explain in Remarks.)
	tly disturbed? Are "Normal Circumstances" present? Yes No O
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sai	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	To the Spanish Aven
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes No O	within a Wedland?
Remarks: Low drainage area.	
EOT Grandings area.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1:	3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15	5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide C	Odor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☑ Oxidized Rhizosphe	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	ced Iron (C4)
☐ Drift Deposits (B3) ☐ Recent Iron Reduc	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	(C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in R	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes O No O Depth (inches):	0 0
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ◎ No ○
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	or previous inspections) if available:
Describe Recorded Data (stream gauge, monitoring well, dental prioto	is, previous inspections), if available.
Remarks:	

			ominant pecies? .		Sampling Point: Wet - 8
(0)	Absolute	e Re	el.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m	% Cove		Cover	Status	Number of Dominant Species
Pinus elliottii	10	✓.	50.0%	FACW	That are OBL, FACW, or FAC: 9 (A)
Nyssa aquatica	. 5	V	25.0%	OBL	Total Number of Dominant
Quercus virginiana	. 5	✓.	25.0%	FACU	Species Across All Strata: 10 (B)
	0		0.0%		
'#:	0		0.0%		Percent of dominant Species That Are OBL FACW or FAC: 90.0% (A/B)
***************************************	0		0.0%		That Are OBL, FACW, or FAC: 90.0% (A/B)
	O		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 10 20% of Total Cover: 4	20	= To	tal Cove	г	OBL species 28 x 1 = 28
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species68 x 2 =136
Liquidambar styraciflua	5	V	35.7%	FAC	FAC species $19 \times 3 = 57$
Dinus alliattii	765	V	35.7%	FACW	FACU species $7 \times 4 = 28$
Overes desirates	-		14.3%	FACU	
			14.3%	FAC	
* * * * * * * * * * * * * * * * * * *			0.0%	IAC	Column Totals: 122 (A) 249 (B)
		\exists	0.0%		Prevalence Index = B/A = 2.041
C *** **************************		Π,	0.0%	-	Hydrophytic Vegetation Indicators:
			0.0%		
		Ш,		-	1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 7 20% of Total Cover: 2.8	14	= To	tal Cove	r	✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Cyrilla racemiflora	15	V	28.8%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex coriacea	25	V.	48.1%	FACW	
Ilex opaca			19.2%	FAC	¹ Indicators of hydric soil and wetland hydrology mus
Morella cerifera			3.8%	FAC	be present, unless disturbed or problematic.
			0.0%		Definition of Vegetation Strata:
	0		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 26 20% of Total Cover: 10.4	52	= To	tal Cove		approximately 20 ft (6 m) or more in height and 3 in.
lerb Stratum (Plot size: 30 m)					(7.6 cm) or larger in diameter at breast height (DBH).
	02			1201	Sapling - Woody plants, excluding woody vines,
Woodwardia virginica			27.8%	OBL	approximately 20 ft (6 m) or more in height and less
. Woodwardia areolata			27.8%	OBL	than 3 in. (7.6 cm) DBH.
. Arundinaria tecta	8	V	22.2%	FACW	Continue (Obracha) Manada and an annia discontinue a lang
, Hypericum cistifolium	5	Щ	13.9%	FACW	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Dichanthelium scabriusculum	3	Ц,	8.3%	OBL	and the portain ground start of the term tain
·	0	Щ.	0.0%		Shrub - Woody plants, excluding woody vines,
the state of the s	0	Ц.	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
ζ	0	∐.	0.0%		Hart Attachage / Line Line Line Line
Market Barren Branch Br	0		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
	0		0.0%		plants, except woody vines, less than approximately
	0		0.0%		3 ft (1 m) in height.
	_0		0.0%		
0% of Total Cover: 18 20% of Total Cover: 7.2	36	= Tot	tal Cover	,	Woody vine - All woody vines, regardless of height.
loody Vine Stratum (Plot size:)				j	
oody vine stratum (151 size.	0		0.0%		
	#. C. H.	Η.	0.0%		
**************************************	M	H			
	•		0.0%		
		님	0.0%	1010-01-01-01	Hydrophytic
+ M / W - W	0	\square	0.0%		Vegetation
i0% of Total Cover: 0 20% of Total Cover: 0					Present? Yes No

SOIL					Sampling	g Point: Wet - 8	
Profile Desci	ription: (Describe to	the depth	needed to document the indicator or confirm	m the absen	nce of indicators.)	···································	
Depth	Matrix		Redox Features		_		
(inches)	Color (moist)	%	1	Loc2	Texture	Remarks	
0-7	10YR 2/1	90		Cla	y Loam		
7-16	10YR 4/1	80	10YR 3/1 20				
							_
							
¹ Type: C=Con	centration. D=Depletion	. RM=Red	uced Matrix, CS=Covered or Coated Sand Grains	² Location:	PL=Pore Lining. M=Ma	atrix	
Hydric Soil I	Indicators:			I	ndicators for Proble	ematic Hydric Soils ³ :	
Histosol (A1)		Polyvalue Below Surface (S8) (LRR S, T,		1 cm Muck (A9) (L	<u>-</u>	
Histic Epip	pedon (A2)		☐ Thin Dark Surface (S9) (LRR S, T, U)		2 cm Muck (A10) (-	
☐ Black Hist	ic (A3)		Loamy Mucky Mineral (F1) (LRR O)	,		L8) (outside MLRA 150A,B)	
Hydrogen	Sulfide (A4)		Loamy Gleyed Matrix (F2)		_		
	Layers (A5)		Depleted Matrix (F3)	L	_	in Soils (F19) (LRR P, S, T)	
	odies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	L		Loamy Soils (F20) (MLRA 153B)	
	ky Mineral (A7) (LRR P,	•	Depleted Dark Surface (F7)	L	Red Parent Materia	* *	
	sence (A8) (LRR U)	1,0,	_ ' ' '	L	Very Shallow Dark	• •	
_	* (A9) (LRR P, T)		Redox Depressions (F8)	L	_ Other (Explain in R	lemarks)	
		43	☐ Marl (F10) (LRR U)				
	Below Dark Surface (A1	1)	Depleted Ochric (F11) (MLRA 151)				
	k Surface (A12)		☐ Iron-Manganese Masses (F12) (LRR O, P	P, T)			
	irie Redox (A16) (MLRA		Umbric Surface (F13) (LRR P, T, U)				
_	ck Mineral (S1) (LRR O,	S)	Delta Ochric (F17) (MLRA 151)		3	er i i i i i i i i i i i i i i i i i i i	
Sandy Gle	yed Matrix (S4)		Reduced Vertic (F18) (MLRA 150A, 150B	3)	Indicators of wetland hy	f hydrophytic vegetation and /drology must be present,	
Sandy Red	dox (S5)		Piedmont Floodplain Soils (F19) (MLRA 1-	149A)		disturbed or problematic.	
Stripped N	Matrix (S6)		Anomalous Bright Loamy Soils (F20) (ML	LRA 149A, 15	3C, 153D)		
Dark Surfa	ace (S7) (LRR P, S, T, U)					
			·				
Restrictive La	ayer (if observed):						
Туре:					4-1- C-11 D12	v @ v O	
Depth (inch	nes):			Нус	dric Soil Present?	Yes No O	
Remarks:							
							- 1

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland	- Hancock Sampling D	Date: 11-Oct-16
Applicant/Owner: NASA	State: M	Sampling Point: Wet -	9
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Ra	inge: 5 28 T 7s	R 16 W
Landform (hillslope, terrace, etc.):	Local relief (concave, co	onvex, none): Siope	0.0 % / 0.0°
Subregion (LRR or MLRA): LRR T Lat.:	30° 24′ 29.150" N	Long.: 89° 36′ 46.346″ W	Datum: NADB3
Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent sl		NWI classification:	
Are climatic/hydrologic conditions on the site typical for this time of ye	(2)		~ · · · · · · · · · · · · · · · · · · ·
		(=, = 4	Yes No
		rtornar on camountous prosent	
Are Vegetation, Soil, or Hydrology naturally	problematic? (If no	eeded, explain any answers in Remar	·KS.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point location	ons, transects, important fea	tures, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled	Area	
Hydric Soil Present? Yes ● No ○	within a Wetlar	Van (Na (
Wetland Hydrology Present? Yes ● No ○	within a wedar		
Remarks:			
		<u> </u>	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (minimum	of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soll Cracks (B6)	
Surface Water (A1) Aquatic Fauna (B:	-	Sparsely Vegetated Concave	e Surface (B8)
High Water Table (A2) Mari Deposits (B1		✓ Drainage Patterns (B10)	
Saturation (A3) Hydrogen Sulfide		Moss Trim Lines (B16)	
	neres along Living Roots (C3)		2)
Sediment Deposits (B2) Presence of Redu		Crayfish Burrows (C8)	
	ction in Tilled Soils (C6)	Saturation Visible on Aerial I	Imagery (C9)
Algal Mat or Crust (B4)	• •	Geomorphic Position (D2)	
☐ Iron Deposits (B5) ☐ Other (Explain in	Remarks)	Shallow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR	Τ, υ)
Field Observations: Surface Water Present? Yes No Depth (inches):			
	-		
	Wetla	nd Hydrology Present? Yes 💿	No O
Saturation Present? (includes capillary fringe) Yes No Depth (inches):			<u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections)	, if available:	
Remarks:			
			l

Species? Rel. Strat. Cover ✓ 62.5% ✓ 25.0%	FACW FACW FACW FACW FACW FAC	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: 10 (A) Total Number of Dominant Species Across All Strata: 11 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 90.9% (A/B Prevalence Index worksheet: Total % Cover of: Multiply by OBL species 52 x 1 = 52 FACW species 115 x 2 = 230 FAC species 26 x 3 = 78 FACU species 5 x 4 = 20 UPL species 0 x 5 = 0 Column Totals: 198 (A) 380 (B) Prevalence Index = B/A = 1.919 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is > 50% ✓ 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology musbe present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines,
✓ 62.5% ✓ 25.0%	FACW FACW FACW FACW FACW FACW FACW FACW	That are OBL, FACW, or FAC: 10 (A) Total Number of Dominant Species Across All Strata: 11 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 90.9% (A/B Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 52 x 1 = 52 FACW species 115 x 2 = 230 FAC species 26 x 3 = 78 FACU species 5 x 4 = 20 UPL species 0 x 5 = 0 Column Totals: 198 (A) 380 (B) Prevalence Index = B/A = 1.919 Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
✓ 25.0% 12.5% 0.0% 0.0% 0.0% 0.0% 0.0% ✓ 44.4% ✓ 33.3% ✓ 22.2% 0.0% 0.0% 0.0% 0.0% 0.0% ✓ 0.0% 0.0% 0.0% ✓ 0.0% ✓ 0.0% Total Cover ✓ 43.5% ✓ 2.2% 0.0% 0.0% 0.0% ✓ 32.6% ✓ 21.7% 2.2% 0.0% 0.0% 0.0% 0.0% ✓ 33.5% ✓ 35.5%	FACW FACW FACW FACW FACW FACW FACW FACW	That are OBL, FACW, or FAC: 10 (A) Total Number of Dominant Species Across All Strata: 11 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 90.9% (A/B Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 52 x 1 = 52 FACW species 115 x 2 = 230 FAC species 26 x 3 = 78 FACU species 5 x 4 = 20 UPL species 0 x 5 = 0 Column Totals: 198 (A) 380 (B) Prevalence Index = B/A = 1.919 Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation 1 (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
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V 44.4% 33.3% 22.2% 0.0% 0.0% 0.0% 0.0% 0.0% Total Cover 43.5% 2.2% 0.0% 0.0% 32.6% 21.7% 2.2% 0.0% 0.0% 0.0% 887.7% 8.8% 3.5%	FACW FACW FACW FACW FACW FAC	OBL species 52 x 1 = 52 FACW species 115 x 2 = 230 FAC species 26 x 3 = 78 FACU species 5 x 4 = 20 UPL species 0 x 5 = 0 Column Totals: 198 (A) 380 (B) Prevalence Index = B/A = 1.919 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
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22.2% 0.0% 0.0% 0.0% 0.0% 0.0% Total Cover 243.5% 21.7% 2.2% 0.0% 0.0% Total Cover 87.7% 8.8% 3.5%	FACW FACW FAC FAC	UPL species 0 x 5 = 0 Column Totals: 198 (A) 380 (B) Prevalence Index = B/A = 1.919 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
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43.5% 32.6% 21.7% 2.2% 0.0% 0.0% Total Cover 87.7% 8.8% 3.5%	FACW FAC FAC	2 - Dominance Test is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
✓ 32.6% ✓ 21.7%	FAC FAC	3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
✓ 32.6% ✓ 21.7%	FAC FAC	Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
✓ 32.6% ✓ 21.7%	FAC FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
21.7% 2.2% 0.0% 0.0% Total Cover 87.7% 8.8% 3.5%	FAC FAC	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2.2% 0.0% 0.0% Total Cover 87.7% 8.8% 3.5%	FAC	be present, unless disturbed or problematic. Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
0.0% 0.0% Total Cover 87.7% 8.8% 3.5%	, 4	Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
0.0% Total Cover 87.7% 8.8% 3.5%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Total Cover ■ 87.7% ■ 8.8% ■ 3.5%		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
2 87.7% 8.8% 3.5%		(7.6 cm) or larger in diameter at breast height (DBH).
3.5%		Sanling - Woody plants, evoluting woody vines
3.5%		Sanling - Woody plante, evoluding woody vince
3.5%	OBL	approximately 20 ft (6 m) or more in height and less
	FACW	than 3 in. (7.6 cm) DBH.
	OBL	
0.0%	- **	Sapling/Shrub - Woody plants, excluding vines, less
0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
	- · · · · · · · · · · · · · · · · · · ·	
0.0%		Shrub - Woody plants, excluding woody vines,
0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
0.0%	(VI)	Harb. All harbanas in from woods) plants including
0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
0.0%		plants, except woody vines, less than approximately
0.0%		3 ft (1 m) in height.
0.0%		
Total Cover		Woody vine - All woody vines, regardless of height.
	[
50.0%	FACW	
		Hydrophytic
0.0%	-	Vegetation V
Total Cover		Present? Yes VO
	0.0% 0.0% 0.0% 0.0% Total Cover 50.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% C.0% Total Cover 50.0% FACU 0.0% 0.0% 0.0%

rofile Descri									Sampling F		
OIIIC DESCII	iption: (Des	cribe to	the depth	needed to	iocument	the indic	ator or co	nfirm the a	absence of indicators.)		
Depth		Matrix	W - 1 / A.A			dox Featu					
(inches) 0-5	Color (r		% 90		moist)	10	Type 1	_Loc2_	Texture	Remarks	
	10YR	3/1		10YR	2/1	10			= ====		
5-18	10YR	3/2	80	10YR	2/1	20					
					-					1	
				_	_						
					-	4 C 1					
pe: C=Cono	entration. D=	-Depletio	n. RM= Red u	iced Matrix,	S=Covere	d or Coate	d Sand Gra	ins ^z Locat	ion: PL=Pore Lining. M=Matri	x	
dric Soil Ir	ndicators:					•			Indicators for Problem	atic Hydric Soils ³ :	
Histosol (A	•			Po!	value Bek	w Surface	(S8) (LRR:	\$, T, U)	1 cm Muck (A9) (LRR	O)	
Histic Epipe	edon (A2)			☐ Thi	n Dark Sur	face (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)		
Black Histic				Loa	my Mucky	Mineral (F	1) (LRR O)		Reduced Vertic (F18)	(outside MLRA 150A,B)	
	Sulfide (A4)			Loa	my Gleyed	Matrix (F2	2)		Piedmont Floodplain S	Soils (F19) (LRR P, S, T)	
Stratified L				De _l	leted Matr	ix (F3)			Anomalous Bright Loa	my Soils (F20) (MLRA 153B)	
-	odies (A6) (LF		-	Rec	lox Dark S	urface (F6)			Red Parent Material (IF2)	
-	y Mineral (A7		, T, U)	☐ De _l	leted Dark	: Surface (I	- 7)		Very Shallow Dark Su		
	ence (A8) (LR	•		☐ Red	lox Depres	sions (F8)			Other (Explain in Rem	arks)	
1 cm Muck	(A9) (LRR P	, T)		Mai	! (F10) (LF	R U)			_ , ,	•	
	Below Dark Su	•	11)	Dep	leted Och	ic (F11) (N	fLRA 151)				
-	Surface (A12	•			_		(F12) (LRR	O, P, T)			
1	ie Redox (A1			L Um	bric Surfac	e (F13) (LF	RR P, T, U)				
_	k Mineral (S1		, S)	☐ Del	a Ochric (i	F17) (MLR/	A 151)		3 _{Tradicators of h}	ydrophytic vegetation and	
	ed Matrix (Se	4)		☐ Red	uced Verti	c (F18) (M	LRA 150A,	150B)	wettand hydro	ology must be present,	
Sandy Red							s (F19) (ML			urbed or problematic.	
Stripped Ma				And	malous Br	ight Loamy	Soils (F20)	(MLRA 149	A, 153C, 153D)		
Dark Surfac	ce (S7) (LRR	P, S, T, l	J)								
	yer (if obse	rved):									
						-		İ	Hydric Soil Present?	Ves (a) No (
Depth (inche	es):					-			Tryunc 3011 Fresent:	TES © NU C	
Type: Depth (inche			inches					,	Hydric Soil Present?	Yes No	

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion City/County	y: Waveland - Hancock Sampling Date: 12-Oct-16		
Applicant/Owner: NASA	State: MS Sampling Point: Wet -10		
Investigator(s): Lars Larson, Randy Ellis Section, To	ownship, Range: S 31 T 7s R 16 W		
The second secon	(concave, convex, none): concave Slope: 2.0 % / 1.1°		
Subregion (LRR or MLRA): LRR T Lat.: 30° 24′ 8.99			
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: PFO 1/4 C		
and an interest of the control of th	Yes No (If no, explain in Remarks.)		
Are Vegetation , Soil , or Hydrology significantly disturbed?	? Are "Normal Circumstances" present? Yes 🍥 No 🔾		
Are Vegetation . , Soil . , or Hydrology . naturally problematic?	(If needed, explain any answers in Remarks.)		
SUMMARY OF FINDINGS - Attach site map showing sampling po	int locations, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes No No	the Sampled Area		
Hydric Soil Present? Yes No No	Von (No. ()		
Wetland Hydrology Present? Yes No No	hin a Wetland?		
Remarks: Natural drain to ephemeral stream approximatly 30-40 feet west of access path.			
HYDROLOGY			
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)		
Primary Indicators (minimum of one required; check all that apply)			
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)		
High Water Table (A2) Marl Deposits (B15) (LRR U)	✓ Drainage Patterns (B10)		
Saturation (A3) Hydrogen Sulfide Odor (C1) Oddived Phirogenhope plane Lind	Moss Trim Lines (B16)		
☐ Water Marks (B1) ☐ Oxidized Rhizospheres along Livi ☐ Sediment Deposits (B2) ☐ Presence of Reduced Iron (C4)			
Drift Deposits (B3) Recent Iron Reduction in Tilled S	Crayfish: Burrows (C8) Solls (C6) Saturation Visible on Aerial Imagery (C9)		
Algal Mat or Crust (B4) Thin Muck Surface (C7)	✓ Geomorphic Position (D2)		
☐ Iron Deposits (B5) ☐ Other (Explain in Remarks)	Shallow Aguitard (D3)		
☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)		
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)		
Field Observations:			
Surface Water Present? Yes No Depth (inches):			
Water Table Present? Yes ○ No ● Depth (inches):			
Saturation Present? (includes capillary fringe) Yes No Depth (inches): 9	Wetland Hydrology Present? Yes No		
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous i	Increations) if available:		
bescribe Recorded Data (Scream gauge, Monitoring Well, aerial priotos, previous i	rispections), if available.		
Remarks:			
Renars.			
	84		
1	I		

v	FGFTATION	(Five/Four	Strata) -	Use scientific nam	es of plants.
-	FREINITON	I FIVE/1 OUI	Juara -	And adjoining mount	C3 Or Pidires

			ominant pecies? .		Sampling Point: Wet -10
	Absolute	R	el.Strat.	Indicator	Dominance Test worksheet:
e Stratum (Plot size: 30 m)	% Cove	r	Cover	Status	Number of Dominant Species
Magnolia virginiana	5		16.7%	FACW	That are OBL, FACW, or FAC: 9 (A)
Pinus elliottii	10	V	33.3%	FACW	Total Number of Devices
Nyssa sylvatica	15	~	50.0%	FAC	Total Number of Dominant Species Across All Strata: 9 (B)
TO SAN THAT HE BETT TO SAN THE STATE OF THE	. 0		0.0%		
27.479	-		0.0%	6-20-E	Percent of dominant Species
·	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
* · · · · · · · · · · · · · · · · · · ·			0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
% of Total Cover: 15 20% of Total Cover: 6	. 30	= To	otal Cove	r	OBL species 6 x 1 = 6
ling or Sapling/Shrub Stratum (Plot size: 30 m	.)				FACW species 52 x 2 = 104_
Magnolia virginiana	10	V	37.0%	FACW	FAC species 32 x 3 = 96
Nyssa sylvatica	10	V	37.0%	FAC	FACU species $0 \times 4 = 0$
Cyrilla racemiflora		\Box	18.5%	FACW	UPL species 0 x 5 = 0
Pinus elliottii		\Box	7.4%	FACW	500
***************************************			0.0%		Column Totals: 90 (A) 206 (8)
			0.0%		Prevalence Index = B/A = 2.289
-			0.0%	_	Hydrophytic Vegetation Indicators:
	0		0.0%		
		Ш.			1 - Rapid Test for Hydrophytic Vegetation
% of Total Cover: 13.5 20% of Total Cover: 5.4	27	= To	otal Cove	r	✓ 2 - Dominance Test is > 50%
ub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Magnolia virginiana	5	V	22.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Cyrilla racemiflora	10	V	45.5%	FACW	
Manufly and San	_		22.7%	FAC	¹ Indicators of hydric soil and wetland hydrology must
			9.1%	FAC	be present, unless disturbed or problematic.
liex vomitoria				FAC	Definition of Vegetation Strata:
	C	H	0,0%		Definition of Vegetation Strata:
	0	Щ,	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
6 of Total Cover: 11 20% of Total Cover: 4.4	22	= To	tal Cover	•	(7.6 cm) or larger in diameter at breast height (DBH).
b Stratum (Plot size: , 30 m)					
Woodwardia areolata	5	V	62.5%	OBL	Sapling - Woody plants, excluding woody vines,
			25.0%	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Hypericum cistrollum Osmunda regalis	1		12.5%	OBL	
				ÚDL.	 Sapling/Shrub - Woody plants, excluding vines, less
	0	Η.	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
		H	0.0%		, ,
	0	님.	0.0%		Shrub - Woody plants, excluding woody vines,
. The service of the	0	닏,	0.0%	e	approximately 3 to 20 ft (1 to 6 m) in height.
	0	\square	0.0%	ran a see	Hart Allback and A
13 W.			0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
	0		0.0%		plants, except woody vines, less than approximately
			0.0%		3 ft (1 m) in height.
	0		0.0%		
6 of Total Cover: 4 20% of Total Cover: 1.6	8 =	= To	tal Cover	-	Woody vine - All woody vines, regardless of height.
ody Vine Stratum (Plot size: 30 m)			_		
	•		400.004	F4C44	
Smilax laurifolia	3	님.	100.0%	FACW	
	_	닏	0.0%	-	
	0	닏	0.0%	to who to the train	
	. 0	ᆜ.	0.0%	6 15 1.5 1 N 1 N 1	Lhedwa a badi'a
			0.0%		Hydrophytic Vegetation
					Present? Yes No
of Total Cover: 1.5 20% of Total Cover: 0.6	3 =	= To	tal Cover		i resent:

DIL								Sa	mpling Point:	Wet -10		
rofile Descr	iption: (Des	scribe to	the depth	needed to docume	nt the Indi	cator or co	onfirm the	absence of indicate	ors.)			
Depth	Matrix Color (moist) %			R	edox Feat							
(inches)			%	Color (moist)	%	Type 1	Loc2	Texture	Re	marks		
0-4	10YR	3/1	100					Muck				
4-16	10YR	3/2	100			D	M	Muck	wet-sat	urated 8-9-inches		
					1: Z-um				-			
pe: C=Cond	centration. D:	=Depletio	n. R M=Red u	ced Matrix, CS=Cover	red or Coat	ed Sand Gra	ains ^z Loca	ntion: PL=Pore Lining	. M=Matrix			
ydric Soil I								Indicators for	Problematic Hy	dric Soils ³ :		
Histosol (A	•			Polyvalue Be	low Surface	e (\$8) (LRR	S, T, U)	1 cm Muck	(A9) (LRR O)			
Histic Epip				Thin Dark Su	ırface (S9)	(LRR S, T, I	U)	r-	(A10) (LRR 5)			
Black Histi				Loamy Muck	y Mineral (f	F1) (LRR O)	1	Reduced Vertic (F18) (outside MLRA 150A,B)				
, · ·	Sulfide (A4)			Loamy Gleye	ed Matrix (F	72)		_	loodplain Soils (F1			
	_ayers (A5)			Depleted Ma	trix (F3)			Anomalous	Bright Loamy Soil	s (F20) (MLRA 153B)		
Organic Bo	odies (A6) (LI	RR P, T, l	J)	Redox Dark	Surface (F6	5)		Red Parent Material (TF2)				
5 cm Muck	ky Mineral (A	7) (LRR P	, T, U)	Depleted Da	rk Surface ((F7)		☐ Very Shallow Dark Surface (TF12)				
	ence (A8) (LI			Redox Depre	ssions (F8))		Other (Expla	ain in Remarks)	•		
1 cm Muci	k (A9) (LRR P	P, T)		Marl (F10) (L	_RR Ų)				,			
Depleted E	Below Dark S	urface (A	11)	Depleted Oc	hric (F11) (MLRA 151)						
Thick Dark	Surface (A1	2)		☐ Iron-Mangan	iese Masses	s (F12) (LRF	R O, P, T)					
Coast Prair	rie Redox (A1	L6) (MLRA	150A)	Umbric Surfa	ice (F13) (L	RR P, T, U)	1					
Sandy Muc	ck Mineral (S	1) (LRR O	, S)	Delta Ochric	(F17) (MLR	RA 151)		3				
Sandy Gley	yed Matrix (S	4)		Reduced Ver	tic (F18) (N	1LRA 150A,	150B)	India wet	ators of hydrophy land hydrology mi	tic vegetation and		
Sandy Red	lox (S5)			Piedmont Flo	odplain Soi	ils (F19) (MI	LRA 149A)		ınless disturbed o			
Stripped M	latrix (S6)			Anomalous B	iright Loam	y Soils (F20) (MLRA 14	9A, 153C, 153D)				
Dark Surfa	ce (S7) (LRR	. P, S, T, l	J)									
	yer (if obse	erved):										
Type:								Hydric Soil Prese	ent? Yes 🖲	No O		
Depth (inch	es):				-Q.,			—	1ES U	NO C		
marks:												
		nieral. S	olid dark g	ray to brown all the	e way to b	base of sh	ovel. Mud	k at top with more	sitly clay mater	ial toward base of		
vel sample												

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland					
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 11					
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: 5 31 T 7s R 16 W					
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, co	onvex, none): flat Slope: $0.0 \% / 0.0^{\circ}$				
Subregion (LRR or MLRA): LRR T Lat:	Long.: 89° 37′ 26.844″ W Datum: NAD83					
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes		NWI classification: PFO 1/4 C				
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 🖲 No	(
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲 significant	tly disturbed? Are "	'Normal Circumstances" present? Yes No				
Are Vegetation . , Soil . , or Hydrology . naturally p	problematic? (If n	eeded, explain any answers in Remarks.)				
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locati	ons, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No O	T- 4b- 6					
Hydric Soil Present? Yes No O	Is the Sampled	Area Yes No				
Wetland Hydrology Present? Yes No O	within a Wetlar	nd? Yes © NO C				
Remarks:						
Bottom riparian floodplain area approximately 40 feet from Up-11.						
bottom riparian noodplain area approximately no recembin op 11.						
HYDROLOGY		· · · · · · · · · · · · · · · · · · ·				
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)				
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)				
☐ Surface Water (A1) ☐ Aquatic Fauna (B1	13)	Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2) Marl Deposits (B1	.5) (LRR U)	✓ Drainage Patterns (B10)				
Saturation (A3) Hydrogen Sulfide	Odor (C1)	✓ Moss Trim Lines (B16)				
☐ Water Marks (B1) ✓ Oxidized Rhizosph	neres along Living Roots (C3)) Dry Season Water Table (C2)				
Sediment Deposits (B2)	ced Iron (C4)	Crayfish Burrows (C8)				
☐ Drift Deposits (B3) ☐ Recent Iron Redu	ction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	a (C7)	Geomorphic Position (D2)				
☐ Iron Deposits (B5) ☐ Other (Explain in I	Remarks)	Shallow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)				
☐ Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)				
Field Observations:						
Surface Water Present? Yes No Depth (inches):						
Water Table Present? Yes No Depth (inches):						
Saturation Present? (includes capillary fringe) Yes No Depth (inches):		nd Hydrology Present? Yes 🏵 No 🗅				
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	** * * * *	if available				
Describe Recorded Data (stream gauge, monitoring well, aerial prior	os, previous irispecuoris)	, ii avallable.				
Remarks:						

/EGETATION (Five/Four Strata) -	Use scientific names of plants.
•	Dominant

	33.3% 14.3% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FACW FAC FACW	Number of Dominant Species That are OBL, FACW, or FAC:			
= TC	47.6% 33.3% 14.3% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW FAC FAC FACW FACW FACW FACW FACW FA	That are OBL, FACW, or FAC:			
	33.3% 14.3% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW FACW FACW FACW	That are OBL, FACW, or FAC:			
	14.3% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FACW FACW FACW FACW	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 13			
- TO	4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW FACW FAC FACW	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 13			
- TO	0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.1% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FAC FACW	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B. Prevalence Index worksheet:			
- TO	0.0% 0.0% 0.0% 0.0% 0.1% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 13 x 1 = 13 FACW species 88 x 2 = 176 FAC species 14 x 3 = 42 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test Is > 50% 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
- TO	0.0% 0.0% 0.0% 0.0% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 13 x 1 = 13 FACW species 88 x 2 = 176 FAC species 14 x 3 = 42 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is > 50% ✓ 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
- TO	0.0% 0.0% 0.0% 0.0% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	Total % Cover of: Multiply by: OBL species 13 x 1 = 13 FACW species 88 x 2 = 176 FAC species 14 x 3 = 42 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test Is > 50% ✓ 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
- TO	0.0% otal Cove 9.1% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	Total % Cover of: Multiply by: OBL species 13 x 1 = 13 FACW species 88 x 2 = 176 FAC species 14 x 3 = 42 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test Is > 50% ✓ 3 - Prevalence Index is ≤ 3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
- TO	9.1% 22.7% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	OBL species 13 x 1 = 13 FACW species 88 x 2 = 176 FAC species 14 x 3 = 42 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test Is > 50% ✓ 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
- TO	9.1% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	FACW species 88 x 2 = 176 FAC species 14 x 3 = 42 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test Is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
= T(22.7% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	FAC species 14 x 3 = 42 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test Is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
= T(22.7% 22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW FAC FACW FACW	FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
= T(22.7% 45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FAC FACW	UPL species 0 x 5 = 0 Column Totals: 115 (A) 231 (B) Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation ✓ 2 - Dominance Test is > 50% ✓ 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
= T(45.5% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW	Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test Is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
= T(0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 60.0% 0.0%	FACW	Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	0.0% 0.0% 0.0% otal Cove 40.0% 60.0% 0.0% 0.0%	FACW	Prevalence Index = B/A = 2.009 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	0.0% 0.0% otal Cove 40.0% 60.0% 0.0% 0.0% 0.0%	FACW	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test Is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	0.0% otal Cove 40.0% 60.0% 0.0% 0.0% 0.0%	FACW	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	0.0% otal Cove 40.0% 60.0% 0.0% 0.0% 0.0%	FACW	2 - Dominance Test Is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	40.0% 60.0% 0.0% 0.0% 0.0%	FACW	2 - Dominance Test Is > 50% 3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	40.0% 60.0% 0.0% 0.0% 0.0%	FACW	3 - Prevalence Index is ≤3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	60.0% 0.0% 0.0% 0.0% 0.0%		Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	60.0% 0.0% 0.0% 0.0% 0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	0.0% 0.0% 0.0% 0.0%	FACW	be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	0.0% 0.0% 0.0%		be present, unless disturbed or problematic. Definition of Vegetation Strata:			
	0.0% 0.0%		Definition of Vegetation Strata:			
 	0.0%		_			
	0.0%		_			
= To						
		· · · · · · · · · · · · · · · · · · ·	approximately 20 ft (6 m) or more in height and 3 in.			
			(7.6 cm) or larger in diameter at breast height (DBH).			
_			Sapling - Woody plants, excluding woody vines,			
\square	18.8%	FACW	approximately 20 ft (6 m) or more in height and less			
✓	50.0%	OBL	than 3 in. (7.6 cm) DBH.			
✓	31.3%	OBL				
	0.0%		Sapling/Shrub - Woody plants, excluding vines, less			
	0.0%	.,	than 3 in. DBH and greater than 3.28 ft (1m) tall.			
		· .	Ohash Maady plants avaluating young trains			
			Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.			
			approximately o to 20 it (1 to 0 iii) iii reight			
		IG TON LOWER A	Herb - All herbaceous (non-woody) plants, including			
H			herbaceous vines, regardless of size, and woody			
			plants, except woody vines, less than approximately			
			3 ft (1 m) in height.			
\Box	0.0%		Maradania Allana de de la companya del companya de la companya del companya de la			
= To	tal Cove		Woody vine - All woody vines, regardless of height.			
Y	83.3%	FAC				
		•				
\Box						
\exists			Hydrophytic			
Ш,			Vegetation Van Ala			
= To	tai Cover		Present? Yes No			
		0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	□ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 10.0% □ 15.7% FACW □ 0.0% □ 0.0%			

Profile Desci	ription: (De	scribe to	the depth	needed to	documen	t the indi	cator or co	onfirm the	absence of indicators.)	·			
Depth Matrix			Re	dox Feat			-						
(inches)		(moist)	%	Color	(moist)	%	Typę ¹	. Loc2	Texture	Remarks			
0-4	10YR	3/1	100			-			Sandy Loam				
4-16	10YR	4/2	90	10YR	6/2	10	D	М	Loamy Sand				
_					. –				, para 2012, para 1, 1 12	.32			
	x, w						-	•	7				
	_					-							
=-=-													
¹ Type: C=Con	centration. D	=Depletio	n. RM= Red u	iced Matrix,	CS=Covere	ed or Coate	ed Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=	Matrix			
Hydric Soil I	ndicators:								Indicators for Prob	elematic Hydric Soils ³ :			
Histosof (A	A1)			🗹 Pol	yvalue Bek	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9)	•			
Histic Epipedon (A2)						face (S9)	(LRR \$, T, L	J)	2 cm Muck (A10)				
Black Hist	ic (A3)			Loa	my Mucky	Mineral (F	1) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)				
Hydrogen	Sulfide (A4)				ımy Gleyed					lain Soils (F19) (LRR P, S, T)			
Stratified	Layers (A5)			_	pleted Mat	•	•			t Loamy Soils (F20) (MLRA 153B)			
	odies (A6) (L	RR P, T, L	J)		ox Dark S)						
	ky Mineral (A				oleted Darl				Red Parent Material (TF2)				
	sence (A8) (L			_	fox Depres	7	· -						
	k (A9) (LRR I	•		_	rl (F10) (Li	• •			U Other (Explain in	Remarks)			
	Below Dark S		11)				MLRA 151)						
	k Surface (A1	•	,					. O 7 T					
	rie Redox (A		1504)		_		(F12) (LRF						
	ck Mineral (S		-	_			RR P, T, U)						
	yed Matrix (S		, 3)		ta Ochric (-		³ Indicators of hydrophytic vegetation and				
Sandy Rec		77)		_			ILRA 150A,	-	wetland hydrology must be present,				
				_			ls (F19) (MI	=		s disturbed or problematic.			
Stripped M				∐ And	malous Br	ight Loam	y Soils (F20) (MLRA 14	9A, 153C, 153D)				
☐ Dank Surfa	ice (S7) (LRF	(P, S, 1, C	J)										
Restrictive La	yer (if obs	erved):											
Type:						_0		i					
Depth (inch	ies):	.,,,,							Hydric Soil Present?	Yes 💿 No 🔾			
Remarks:		, ,						!					
Kemarks,													

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation City/County: Waveland	- Hancock Sampling Date: 12-Oct-16								
Applicant/Owner: NASA State: M	41. No								
Investigator(s): Lars Larson, Randy Ellis Section, Township, Ra	unge: \$ 29 T 7s R 16 W								
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, co									
	I was an all								
1. 7									
oil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes NWI classification: PSS re climatic/hydrologic conditions on the site typical for this time of year? Yes No O (If no, explain in Remarks.)									
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "	Normal Circumstances" present? Yes 🌘 No 🔾								
Are Vegetation . , Soil . , or Hydrology . naturally problematic? (If no	eeded, explain any answers in Remarks.)								
SUMMARY OF FINDINGS - Attach site map showing sampling point location	ons, transects, important features, etc.								
Hydrophytic Vegetation Present? Yes No O	Area								
Hydric Soil Present? Yes No	Van (R) No (C)								
Wetland Hydrology Present? Yes No Within a Wetlan	nd? 165 5 186 5								
Remarks: This plot is within a Palustrine Scrub-Shrub habitat (low area) roughlyt 200 feet north of old	E-W logging road in middle of AOI.								
HYDROLOGY									
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)								
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)								
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)								
High Water Table (A2) Marl Deposits (B15) (LRR U)	✓ Drainage Patterns (B10)								
Saturation (A3) Hydrogen Sulfide Odor (C1)	☐ Moss Trim Lines (B16)								
Water Marks (B1)									
Sediment Deposits (B2) Presence of Reduced Iron (C4) Recent iron Reduction in Tilled Sails (C6)	✓ Crayfish Burrows (C8)								
☐ Drift Deposits (B3) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Algai Mat or Crust (B4) ☐ Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)								
	✓ Geomorphic Position (D2) Shallow Aquitard (D3)								
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)								
✓ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)								
Field Observations:									
Surface Water Present? Yes O No O Depth (inches):									
Water Table Present? Yes No Depth (inches):									
Wetla	nd Hydrology Present? Yes 💿 No 🔾								
(includes capitally finige)									
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections),	, if available:								
Remarks:	100								
Area is dry - normal for this time of year. This is a low flat area that appears to drain north the that flows down slope (north) toward Turtleskin Creek riparian buffer.	nrough culver under logging road into ephemeral drain								
9									

VEGETATION	(Five/Four	Strata) -	Use scientific na	ames of plants.
	-	-		Dominant

			nacine?		Sampling Point: Wet - 12		
/Plot size: 20 m		R	pecies? . el.Strat.	Indicator	Dominance Test worksheet:		
Free Stratum (Plot size: 30 m)	% Cover	_	Cover	Status	Number of Dominant Species		
Pinus elliottii	10	V	1. <	FACW	That are OBL, FACW, or FAC: 7 (A)		
Nyssa sylvatica	15	V	60.0%	FAC	Total Number of Dominant		
	0		0,0%		Species Across All Strata: 7 (B)		
Section and the section of	0		0.0%				
	.0		0.0%		Percent of dominant Species That Are OBL_FACW_or_FAC: 100.0% (A/B		
	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/E		
* 1,4444 ·			0.0%		Prevalence Index worksheet:		
	0		0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 12.5 20% of Total Cover: 5	25	= To	otal Cove		OBL species 45 x 1 = 45		
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species 48 x 2 = 96		
Name alliants	_		14 20/	EACH			
At	and the same of		14.3%	FACW			
Nyssa sylvatica		V	42.9%	FAC	FACU species $0 \times 4 = 0$		
Magnolia virginiana		~	28.6%	FACW	UPL species $0 \times 5 = 0$		
Cyrilla racemiflora	5		14.3%	FACW	Column Totals: 123 (A) 231 (B)		
	. 0		0.0%	1 2 2 5 THE	Province Index - P/A - 4 070		
to the manufacture of the state	0		0.0%		Prevalence Index = B/A = 1.878		
.			0.0%	allar a	Hydrophytic Vegetation Indicators:		
	0		0.0%		1 - Danid Took for Undership Versteller		
50% of Total Cover: 17.5 20% of Total Cover: 7	35	= T/	tal Cove		1 - Rapid Test for Hydrophytic Vegetation		
					✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹		
Cyrilla racemifiora	10	✓,	55.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
Ilex corlacea	5	V	27.8%	FACW			
Magnolia virginiana	3		16.7%	FACW	¹ Indicators of hydric soil and wetland hydrology mus		
with a second	0		0.0%		be present, unless disturbed or problematic.		
	0		0.0%		Definition of Vegetation Strata:		
	0		0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 9 20% of Total Cover: 3.6	P-X	= To	tal Cover		approximately 20 ft (6 m) or more in height and 3 in.		
					(7.6 cm) or larger in diameter at breast height (DBH).		
lerb Stratum (Plot size: 30 m)					Sapling - Woody plants, excluding woody vines,		
, Lycopodiella alopecuroides	40	V	88.9%	OBL	approximately 20 ft (6 m) or more in height and less		
Sarracenia alata	5		11.1%	OBL	than 3 in. (7.6 cm) DBH.		
	0		0.0%				
	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less		
	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
V	0		0.0%		Olemak 186 - da alamaka arrabadin ar		
	0	\Box	0.0%	ORET LAN	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
3	0	\Box	0.0%	-	approximatory of to 20 it (1 to 0 it) it noight		
	0	\exists	0.0%		Herb - All herbaceous (non-woody) plants, including		
•				-	herbaceous vines, regardless of size, and woody		
		Η.	0.0%		plants, except woody vines, less than approximately		
	0	닏.	0.0%		3 ft (1 m) in height.		
•	0	Ш	0.0%		Mindred Allender		
50% of Total Cover: 22.5 20% of Total Cover: 9	45 =	= To	tal Cover		Woody vine - All woody vines, regardless of height.		
Voody Vine Stratum (Plot size: 30 m)							
	0		0.0%				
	0	\Box	0.0%	-			
•	0		0.0%	1			
	_	7	0.0%				
		<u>ا</u>	*	-	Hydrophytic		
	0	Ц_	0.0%		Vegetation		
50% of Total Cover: 0 20% of Total Cover: 0					Present? Yes • No •		

COTI	

OIL			Sampling Point: Wet - 12		
rofile Desci	ription: (Describe to the de	pth needed to document the indicator or confirm th	e absence of indicators.)		
Depth	Matrix	Redox Features	•		
(inches)	Color (moist) %	Color (moist) % Type 1 Loc2	Texture Remarks		
0-4	10YR 3/1 100		Loamy Sand		
4-16	10YR 3/2 90	10YR 7/2 10 D M	Loamy Sand Very`fine grained		
		Reduced Matrix, CS=Covered or Coated Sand Grains ² Lou			
ydric Soil I] Histosol (#			Indicators for Problematic Hydric Soils ³ :		
_ `	•	Polyvalue Below Surface (S8) (LRR S, T, U)	1 cm Muck (A9) (LRR O)		
_	pedon (A2)	Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)		
☐ Black Histi		Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)		
	Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)		
	Layers (A5)	Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)		
	odies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	Red Parent Material (TF2)		
-	ky Mineral (A7) (LRR P, T, U)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)		
-	sence (A8) (LRR U)	Redox Depressions (F8)	Other (Explain in Remarks)		
_	k (A9) (LRR P, T)	Marl (F10) (LRR U)	•		
Depleted I	Below Dark Surface (A11)	Depleted Ochric (F11) (MLRA 151)			
Thick Dark	k Surface (A12)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)			
Coast Prai	rie Redox (A16) (MLRA 150A)	Umbric Surface (F13) (LRR P, T, U)			
Sandy Mur	ck Mineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)	2		
Sandy Gle	yed Matrix (S4)	Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and		
Sandy Rec	iox (S5)	Piedmont Floodplain Soils (F19) (MLRA 149A)	wetland hydrology must be present, unless disturbed or problematic.		
Stripped M		Anomaious Bright Loamy Soils (F20) (MLRA 1			
Dark Surfa	ace (S7) (LRR P, S, T, U)		, , ,		
estrictive La	ayer (if observed):				
Type:			Hydric Soil Present? Yes No		
Depth (inch	nes):		Hydric Soil Present? Yes W No		
emarks:					

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation Cit	y/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 13
Investigator(s): Lars Larson, Randy Ellis S	ection, Township, Range: S 29 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace Loc	cal relief (concave, convex, none): Slope: 0,0 % / 0,0 °
Subregion (LRR or MLRA): LRR T Lat.: 30	° 24' 7.308" N Long.: 89° 37' 9.843" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PSS 1/4
Are climatic/hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly d	isturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrology naturally prob	
SUMMARY OF FINDINGS - Attach site map showing samp	ling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	Ver (No. (
Wetland Hydrology Present? Yes No O	within a Wetland?
Remarks: Hydrology is marginal We are in a dry period last measurable preci	pitaction has been approximately 2 weeks ago.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (L	
Saturation (A3) Hydrogen Sulfide Odor	
	along Living Roots (C3)
Sediment Deposits (B2) Presence of Reduced I	
Drift Deposits (B3) Recent Iron Reduction Also Meters Crust (B4)	
Algal Mat or Crust (B4) Thin Muck Surface (C7 Iron Deposits (B5) Other (Explain in Rema	
☐ Iron Deposits (B5) ☐ Other (Explain in Remain Inundation Visible on Aerial Imagery (B7)	arks)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
	Wetland Hydrology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
Remarks:	
Very little evidence of hydrology.	
Tary mass critical or rigarology.	
	İ

Tree Stratum (Plot size: .30 m)	Absolute % Cove	R	pecies? el.Strat. Cover	Indicator Status			
Pinus elliottii	10	V	83.3%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)		
2. Magnolia virginiana	2		16.7%	FACW			
3.	0	П	0.0%		Total Number of Dominant		
			0.0%	19:	Species Across All Strata: 7 (B)		
			0.0%	_	Percent of dominant Species		
		H		- 4	That Are OBL, FACW, or FAC: 100.0% (A/B)		
		Н	0.0%				
/		\vdash	0.0%		Prevalence Index worksheet:		
3,	0	Ш	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 6 20% of Total Cover: 2.4	12	= To	otal Cove	г	OBL species 3 x 1 = 3		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species 96 x 2 = 192		
Pinus elliottii	15	V	44.1%	FACW	FAC species 13 x 3 = 39		
Magnolia virginiana	10	V	29.4%	FACW	FACU species $0 \times 4 = 0$		
Liquidambar styraciflua	5		14.7%	FAC			
Persea palustris		\Box	2.9%	FACW	,		
• • • • • • • • • • • • • • • • • • • •			8.8%	FAC	Column Totals: 112 (A) 234 (B)		
· · · · · · · · · · · · · · · · · · ·	3.			IAC	Prevalence Index = B/A = 2.089		
			0.0%		Hydrophytic Vegetation Indicators:		
			0.0%	-	nyurophytic vegetation indicators:		
	0_	\square	0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 17 20% of Total Cover: 6.8	34	= To	otal Cove	r	✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹		
Tlass and ann	50	V	96.2%	FACW			
* 4			x		Problematic Hydrophytic Vegetation ¹ (Explain)		
- · · · · · · · · · · · · · · · · · · ·		H	3.8%	FAC	1 Tadiophore of hydric coll and wetland hydrology much		
. 6	0_		0.0%		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
1.7	0	Ш	0.0%				
	0	\Box	0.0%	¥ r. '.	Definition of Vegetation Strata:		
	.0		0.0%		Tree - Woody plants, excluding woody vines,		
50% of Total Cover: 26 20% of Total Cover: 10.4 Herb Stratum (Plot size: 30 m)	52	= Ta	otal Cove	r	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
1 Hypericum cistifolium	2	✓	20.0%	FACW	Sapling - Woody plants, excluding woody vines,		
2 Eriocaulon decangulare		V	30.0%	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
3. Andropogon glomeratus	5	V	50.0%	FACW	than o m. (1.5 om) BBM.		
A			0.0%		Sapling/Shrub - Woody plants, excluding vines, less		
5.		H			than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5 6	<u>_</u>	片.	0.0%	te s			
U _{1, 2} ,	<u> 0</u>	H	0.0%	-	Shrub - Woody plants, excluding woody vines,		
7.		片.	0.0%	-	approximately 3 to 20 ft (1 to 6 m) in height.		
<u> </u>	0	Ц,	0.0%		Hode All basis again from the All States		
9.,		\sqsubseteq_i	0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody		
0			0.0%		plants, except woody vines, less than approximately		
1	0		0.0%		3 ft (1 m) in height.		
2.	0		0.0%				
50% of Total Cover: 5 20% of Total Cover: 2	10 =	= To	tal Covei		Woody vine - All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: 30 m	_	_					
Smilax rotundifolia	3	H.	75.0%	FAC			
Smilax laurifolia		\sqcup	25.0%	FACW			
	0		0.0%				
	0		0.0%				
*	0		0.0%	9 - 9	Hydrophytic		
50% of Total Cover: 2 20% of Total Cover: 0.8					Vegetation Present? Yes No ○		

SOIL									Sampli	ng Point:	Wet - 13
rofile Descr	iption: (Des	scribe to	the depth r	eeded to	document	t the indic	ator or co	onfirm the	absence of indicators.)		
Depth	7 1 %	Matrix			Re	dox Featu	ıres		41		
(inches)	Color (%	Color	(moist)	%	Type ¹	Loc2	Texture	Rem	arks
0-4	10YR	3/1	100						Sandy Loam		
4-16	10YR	3/2	90	10YR	7/2	10	D	M	Loamy Sand		
					_						
	1915										
					-						
									-		
ype: C=Cond lydric Soil I		=Depletio	n. RM≃Reduc	ed Matrix,	CS=Covere	d or Coate	d Sand Gra	ains ² Locat	tion: PL=Pore Lining. M=N Indicators for Probl		ric Soils ³ :
Histosol (/	41)			Po	lyvalue Bek	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9) (LRR O)	
` ` `	edon (A2)			Th	in Dark Sur	face (S9) (LRR S, T, I	J)	2 cm Muck (A10)		
Black Histi	ic (A3)			☐ Lo	amy Mucky	Mineral (F	1) (LRR O)		Reduced Vertic (F		MLRA 150A.B)
Hydrogen	Sulfide (A4)			☐ Lo	amy Gleyed	Matrix (F2	2)		Piedmont Floodpla		
Stratified I	Layers (A5)			□ De	pleted Mat	rix (F3)					(F20) (MLRA 153B)
Organic B	odies (A6) (LI	RR P, T, L	J)		dox Dark S		I		Red Parent Mater		(0, (. 120 (1000)
5 cm Muc	ky Minera! (A:	7) (LRR P	, T, U)		pleted Dark						2)
Muck Pres	ence (A8) (Li	RR U)			dox Depres		•		✓ Very Shallow Dark Surface (TF12)✓ Other (Explain in Remarks)		
1 cm Mucl	k (A9) (LRR P	, T)		_	เส (F10) (LF	• • •			L ⊃ouier (Explain in i	xemanks)	
-	Below Dark S		(1)		pleted Och	-	/LRA 151\				
Thick Dark	c Surface (A1)	2)	•		n-Mangane		-	2 O P T)			
_	rie Redox (A1	-	150A)		ibric Surfac						
1	ck Mineral (Si		•		lta Ochric (i						
	yed Matrix (S		, -,		-			1 EOD)	³ Indicators	of hydrophytic	vegetation and
Sandy Rec		'/			duced Verti		-	-	wetland h	ydrology mus	t be present,
Stripped M					dmont Floo			•		disturbed or p	problematic,
_	ice (S7) (LRR	P, S, T, U	l)	LJ AN	oniaious br	ignt Loainy	' 3011S (F20) (MLRA 149	9A, 153C, 153D)		
			-								
	yer (if obse	rvea):									
Type:						_			Hydric Soil Present?	Yes 💿	No O
Depth (inch	es):				7				riyane son r resene.		NO U
emarks:											

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 14
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
PRESCRIPTION FOR THE MARKET	30° 24' 9.792" N Long.: 89° 37' 1.854" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PSS 1/4
Are climatic/hydrologic conditions on the site typical for this time of year	ar? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significant	tly disturbed? Are "Normal Circumstances" present? Yes No O
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes O No	Von O No (P)
Wetland Hydrology Present? Yes No O	within a Wetland?
Remarks:	
Slightly lower wetter area approximatley 70 feet south of Up - 14. G	Gradual transitional area back toward west.
angua, to to the opposition of	
HYDROLOGY	M= 40
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required: check all that apply)	☐ Surface Soil Cracks (B6)
Surface Water (A1)	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15	5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide (Odor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☑ Oxidized Rhizospho	neres along Living Roots (C3)
Sediment Deposits (B2)	ced Iron (C4) Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Reduc	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	e (C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in R	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes O No O Depth (Inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ◎ No ○
(includes capillary fringe) Pes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photo	
beside recorded bata (stream gauge, monte mg rea, certa, prote	sy provides inspections, it availables
Remarks:	

			ominant pecies? _		Sampling Point: Wet - 14
(Plot size: 20 m	Absolute	e R	el.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m)	% Cove	,	Cover	Status	Number of Dominant Species
Pinus elliottii	10	V	43.5%	FACW	That are OBL, FACW, or FAC: 6 (A)
Magnolia virginiana		V	30.4%	FACW	Total Number of Dominant
Nyssa sylvatica		V	21.7%	FAC	Species Across All Strata: 6 (B)
Liquidambar styraciflua			4.3%	FAC	Barrant of development Consider
-			0.0%	_	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
No. 1964			0.0%	1 I SAL	111d27ii 2 ODE, 171044, 01 1710.
£ \\	0		0.0%		Prevalence Index worksheet:
	0	L.J.	0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 11.5 20% of Total Cover: 4.6	23	= To	otal Cove		OBL species 3 x 1 = 3
apling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species 114 x 2 = 228
Magnolia virginiana	20	V	76.9%	FACW	FAC species $7 \times 3 = 21$
Pinus elliottii	5		19.2%	FACW	FACU species $0 \times 4 = 0$
Liquidambar styraciflua			3.8%	FAC	UPL species 0 x 5 = 0
*			0.0%		Column Totals: 124 (A) 252 (B)
	0		0.0%		
	0		0.0%		Prevalence Index = B/A = 2.032
The state of the s	0		0.0%		Hydrophytic Vegetation Indicators:
	0		0.0%		Parid Yant Son Hadron Late - November 1
0% of Total Cover: 13 20% of Total Cover: 5.2		= To	tal Cover		1 - Rapid Test for Hydrophytic Vegetation
*	20	- 10			✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex corlacea		ዾ.	83.3%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex glabra		\square	15.7%	FACW	
197			0.0%		Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	0	Ш,	0.0%		
	0		0.0%		Definition of Vegetation Strata:
	. 0	Ш.	0.0%		Tree - Woody plants, excluding woody vines,
0% of Total Cover: 30 20% of Total Cover: 12	60	= To	tal Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: , 30 m)					
. Hypericum cistifolium	10	✓	76.9%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Eriocaulon decangulare	2		15.4%	OBL	than 3 in. (7.6 cm) DBH.
Lycopodiella alopecuroides	1		7.7%	OBL	
	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	C		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
Portraction and a company of the second of t	0		0.0%		Charle Mander dark and all discovered and a
Transfer for the control of the cont	0		0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
T			0.0%		, , , , , , , , , , , , , , , , , , ,
			0.0%		Herb - All herbaceous (non-woody) plants, including
The second second second second second second second second second second second second second second second se			0.0%		herbaceous vines, regardless of size, and woody
>	0	\Box	0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.
	0		0.0%		- · · · · · · · · · · · · · · · · · · ·
		= Test	tal Cover		Woody vine - Ali woody vines, regardless of height.
	10 2	- 10	an Cover		
0% of Total Cover: 6.5 20% of Total Cover: 2.6					
0% of Total Cover: 6.5 20% of Total Cover: 2.6 coody Vine Stratum (Plot size: 30 m					
0% of Total Cover: 6.5 20% of Total Cover: 2.6 cody Vine Stratum (Plot size: 30 m) Smilax laurifolia	2		100.0%	FACW	
0% of Total Cover: 6.5 20% of Total Cover: 2.6 cody Vine Stratum (Plot size: 30 m) Smílax laurifolia	0		0.0%	FACW	
0% of Total Cover: 6.5 20% of Total Cover: 2.6 cody Vine Stratum (Plot size: 30 m) Smílax laurifolia			0.0%	FACW	
0% of Total Cover: 6.5 20% of Total Cover: 2.6 cody Vine Stratum (Plot size: 30 m) Smilax laurifolia	0		0.0%	FACW	
0% of Total Cover: 6.5 20% of Total Cover: 2.6 coody Vine Stratum (Plot size: 30 m) Smilax laurifolia	0 0		0.0%	FACW	Hydrophytic Vegetation Present? Yes No

COTI				
	_	~	-	

Sampling Point: Wet - 14 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of Indicators.) Matrix **Redox Features** Depth Loc2 (inches) Color (moist) % Color (moist) 9/0 Type 1 Texture Remarks 0-4 10YR 100 3/2 Loamy Sand 10YR 4/2 95 4-16 10YR Loamy Sand 5/6 ²Location: PL=Pore Lining. M=Matrix ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Hydric Soll Indicators: Indicators for Problematic Hydric Soils3: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) ☐ Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Lavers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) ☐ Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: **Hydric Soil Present?** Yes O No 💿 Depth (inches): Remarks:

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Har	ncock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS	Sampling Point: Wet - 15
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range:	S 29 T 7s R 16W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex	k, none): none Slope: 0.0 % / 0.0°
Subregion (LRR or MLRA): LRR T Lat:	30° 24'18.728" N Lo	ong.: 89° 36′ 51.786″ W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes		NWI classification: PSS 1/4
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 💿 No 🔾	(If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significan	tly disturbed? Are "Norm	nal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (If needed	d, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations,	transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area	
Hydric Soil Present? Yes No		Yes No
Wetland Hydrology Present? Yes ● No ○	within a Wetland?	100 0 110 0
Remarks:		
Saturated soils do not exist, nor does the presence of any other stro	ong hydrology indicators, but i	it has not rained in over 2 weeks.
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B.		Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	• • •	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	• •	Moss Trim Lines (B16)
	heres along Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Redu	• •	☐ Crayfish Burrows (C8)
	iction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface The Deposits (B5)	• •	✓ Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in Inundation Visible on Aerial Imagery (B7)	Remarks)	☐ Shailow Aquitard (D3) FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
		Spriagrium moss (Do) (ERR 1, D)
Field Observations: Surface Water Present? Yes No Depth (inches):		
John (monos)	Wetland H	ydrology Present? Yes No
Saturation Present? Yes No Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if av	/ailable:
Remarks:		
		i

Pinus elliottii Magnolla virginiana Nyssa sylvatica	15 3	V V	35.7% 53.6%	FACW FACW	Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)	
2. Magnolia virginiana 3. Nyssa sylvatica 4.	15 3		53.6%	4 - 1		
3. Nyssa sylvatica 4. 5.	3	Ψ.		TACVY		
4	-			E4.0	Total Number of Dominant	
5		Η.	10.7%	FAC	Species Across All Strata: 6 (B)	
5	_0	Ц,	0.0%			
	Ō	Щ	0.0%		Percent of dominant Species That Are OBL_FACW_or_FAC: 100.0% (A/B)	
6,	0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)	
7.			0.0%		Prevalence Index worksheet:	
8.	0		0.0%			
-						
	28 =	= 10	tal Cove		OBL species 6 x 1 = 6	
Sapling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species 84 x 2 =168	
1. Pinus elliottii	3		13.0%	FACW	FAC species $10 \times 3 = 30$	
2 Magnolia virginiana	15	V	65.2%	FACW	FACU species $0 \times 4 = 0$	
3. Nyssa sylvatica	-	V	21.7%	FAC	UPL species $0 \times 5 = 0$	
4	_	H	0.0%	ostilia.	or a special	
4 5.		=			Column Totals: 100 (A) 204 (B)	
	0	۲.	0.0%		Prevalence Index = B/A = 2.040	
6		느	0.0%			
7	0	LI.	0.0%		Hydrophytic Vegetation Indicators:	
8	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation	
		: To	tal Cover			
	23		cai corci		✓ 2 - Dominance Test is > 50%	
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹	
1 Ilex coriacea	40	V	95-2%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
2. Ilex opaca	2		4.8%	FAC		
3	0	□¨	0.0%		1 Indicators of hydric soil and wetland hydrology must	
		$\overline{\Box}$	0.0%		be present, unless disturbed or problematic.	
	1				Definition of Vegetation Strata:	
		Η.	0.0%		<u>-</u>	
6	<u> </u>	Ш.,	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.	
50% of Total Cover: 21 20% of Total Cover: 8.4 Herb Stratum (Plot size: 30 m)	42 =	2 = Total Cover			(7.6 cm) or larger in diameter at breast height (DBH),	
1 Lycopodiella alopecuroides	5	V	83.3%	OBL.	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
0.144 - 1 - 14	1	=	16.7%	OBL		
2. woodwardia areolata 3.	0	7		ODL		
		_	0.0%			
4	0	٣.	0.0%			
5	0 [,-	0.0%	-		
6,	0 [□.	0.0%	0.0000000000000000000000000000000000000		
7.	0		0.0%			
8	0	J.	0.0%			
_	0 [Ξ"	0.0%			
		Ξ+				
0	0 L	≓-	0.0%			
1	0		0.0%			
	0		0.0%			
	6 =	Tot	al Cover		Woody vine - All woody vines, regardless of height.	
Woody Vine Stratum (Plot size: 30 m		_		h		
Smilax laurifolla		۲	100.0%	FACW		
70.00	0		0.0%			
3	0 [0.0%			
]	0.0%			
	0		0.0%		Hydrophytic	
50% of Total Cover: 0.5 20% of Total Cover: 0.2		Tot	al Cover		Vegetation Present? Yes No	

	ption: (De:	scribe to	the depth	needed to d	ocument	the indic	ator or co	ntirm the	absence of indicators	··)
Depth		Matrix		4		lox Featu	res			
(inches)	Color (9/6	Color (moist)	0/0	Type 1	Loc2	Texture	Remarks
0-4	10YR	3/2	100			· · · · · · · · · · · · · · · · · · ·			Loarny Sand	
4-12	10YR	4/2	98	10YR	6/6	2	С	M	Loamy Sand	
12-20	10YR	4/3	95	10YR	6/6	5	С	M	Loamy Sand	
			_			-	-			
ana C Cana	naturation D	Double .	n DM-Dadu	and Balling C	25. 6	d C	4 C4 C	21	Was Di Bassiliais A	
ydric Soif In		=Deplector	n. RM=Redu	сев мастх, с	S=Covere	d or Coate	a Sana Gra	ins ²Loca	tion: PL=Pore Lining. N	oblematic Hydric Soils ³ :
Histosol (AI Histic Epipe Black Histic Hydrogen S Stratified Le Organic Boo 5 cm Mucky Muck Prese 1 cm Muck Depleted Boo Thick Dark S Coast Prairi Sandy Muck Sandy Gleyo Sandy Redo Stripped Ma	edon (A2) c (A3) Sulfide (A4) ayers (A5) dies (A6) (L y Mineral (A ence (A8) (LI (A9) (LRR F elow Dark S Surface (A1 de Redox (A: k Mineral (S ed Matrix (S ox (S5)	7) (LRR P RR U) P, T) urface (A: 2) 16) (MLRA 1) (LRR O	, T, U) 11) (150A)	Thir Loai Loai Loai Dep Red Dep Red Dep Iron Umi Red Pled	n Dark Surfi my Mucky my Gleyed leted Matri ox Dark Su leted Dark ox Depress (F10) (LR leted Ochri Manganes oric Surface a Ochric (F uced Vertic imont Flooi	Face (S9) (I Mineral (F Matrix (F2 ix (F3) urface (F6) Surface (F6) Surface (F8) R U) ic (F11) (M se Masses e (F13) (LF F17) (MLRA c (F18) (M dplain Soils	F7) MLRA 151) (F12) (LRR RR P, T, U) A 151) LRA 150A, 5 (F19) (ML	150B) RA 149A)	Piedmont Floo Anomalous Bri Red Parent Ma Very Shallow I Other (Explain	10) (LRR S) c (F18) (outside MLRA 150A,B) dplain Soils (F19) (LRR P, S, T) ght Loamy Soils (F20) (MLRA 153B) sterial (TF2) Dark Surface (TF12)
Dark Surface strictive Lay Type: Depth (inche	er (if obse				. 4	= / = -			Hydric Soil Present	:? Yes [⊚] No O
emarks:					no soil s	nt wation		,		

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 16
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 28 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): none Slope: 1.0 % / 0.6°
# 1, % V P# 1	30° 24' 11.612" N Long.: 89° 36' 43.600" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of ye	0 0
	A TOTAL PLANTS
	problematic? (If needed, explain any answers in Remarks.) Impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No No No No No No No No No No No No	Is the Sampled Area within a Wetland? Yes No
Wet area ner former home/settlement - drainage swale/gentle slope HYDROLOGY	ed terrain going back to main wetland area to the west.
Wetland Hydrology Indicators:	Consider Valleton (- International Property of Department)
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Primary Indicators (minimum of one required; check all that apply) Aquatic Fauna (B1) Marl Deposits (B1) Hydrogen Sulfide Oxidized Rhizosph Presence of Reductions	Sparsely Vegetated Concave Surface (B8) 5) (LRR U) Odor (C1) Moss Trim Lines (B16) Dry Season Water Table (C2) ced Iron (C4) Ction in Tilled Soils (C6) E (C7) Remarks) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U) Wetland Hydrology Present? Yes No
Remarks:	

% Cove	r Cover		
40	20.000	Status	Number of Dominant Species
10	20.8%	FACW	That are OBL, FACW, or FAC: 10 (A)
20	41.7%	OBL	Total Number of Dominant
15	31.3%	FACW	Species Across All Strata: 10 (B)
3_	6.3%	FAC	Percent of dominant Species
0	0.0%		That Are OBL, FACW, or FAC: 100 0% (A/B)
-		7 - 30	Prevalence Index worksheet:
.0	□ c.0%		Total % Cover of Multiply by:
48	= Total Cove	. F	OBL species $41 \times 1 = 41$
)			FACW species $\underline{66}$ x 2 = 132
15	✓ 62.5%	OBL	FAC species $19 \times 3 = 57$
5	✓ 20.8%	FACW	FACU species $0 \times 4 = 0$
3	12.5%	FACW	UPL species $0 \times 5 = 0$
1	4.2%	FACW	Column Totals: 126 (A) 230 (B)
0	0.0%		
0	0.0%		Prevalence Index = B/A = 1 825
0	0.0%		Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
24	= lotal Cove	T	✓ 2 - Dominance Test is > 50%
	_		☑ 3 - Prevalence Index is ≤3.0 ¹
15	✓ 55.6%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
10	✓ 37.0%	FACW	
2 _	7.4%	FACW	Indicators of hydric soil and wetland hydrology must
0	0.0%	0	be present, unless disturbed or problematic.
0	0.0%		Definition of Vegetation Strata:
0	0.0%		Tree - Woody plants, excluding woody vines,
	T-4-1 0		approximately 20 ft (6 m) or more in height and 3 in.
	= Total Cove ✓ 47.6%	r FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 30 ft (6 m) or more in beight and less.
10			(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
10	✓ 47.6% ✓ 23.8%	FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines,
10 5 3	✓ 47.6% ✓ 23.8% □ 14.3%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
10 5 3 2	✓ 47.6% ✓ 23.8% 14.3% 9.5%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
10 5 3 2	✓ 47.6% ✓ 23.8% ☐ 14.3% ☐ 9.5% ☐ 4.8%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
10 5 3 2 1	✓ 47.6% ✓ 23.8% ☐ 14.3% ☐ 9.5% ☐ 4.8% ☐ 0.0%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
10 5 3 2 1	✓ 47.6% ✓ 23.8% ☐ 14.3% ☐ 9.5% ☐ 4.8% ☐ 0.0% ☐ 0.0%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
10 5 3 2 1 0	✓ 47.6% ✓ 23.8%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
10 5 3 2 1 0 0	✓ 47.6% ✓ 23.8%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10 5 3 2 1 0 0	✓ 47.6% ✓ 23.8% ☐ 14.3% ☐ 9.5% ☐ 4.8% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
10 5 3 2 1 0 0 0	✓ 47.6% ✓ 23.8% ☐ 14.3% ☐ 9.5% ☐ 4.8% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0%	FACW OBL FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10 5 3 2 1 0 0 0 0	✓ 47.6% ✓ 23.8% 14.3% 9.5% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW OBL FACW FACW OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
10 5 3 2 1 0 0 0 0	✓ 47.6% ✓ 23.8% ☐ 14.3% ☐ 9.5% ☐ 4.8% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0% ☐ 0.0%	FACW OBL FACW FACW OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
10 5 3 2 1 0 0 0 0 0	✓ 47.6% ✓ 23.8%	FACW OBL FACW FACW OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
10 5 3 2 1 0 0 0 0 0 0 21	✓ 47.6% ✓ 23.8% 14.3% 9.5% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% ■ 0.0% ■ 0.0% ■ Total Cover	FACW OBL FACW OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
10 5 3 2 1 0 0 0 0 0	✓ 47.6% ✓ 23.8% 14.3% 9.5% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0%	FACW OBL FACW FACW OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
10 5 3 2 1 0 0 0 0 0 0 21	✓ 47.6% ✓ 23.8% 14.3% 9.5% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% ■ 0.0% ■ 0.0% ■ Total Cover	FACW OBL FACW OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
10 5 3 2 1 0 0 0 0 0 21 = 5 1	✓ 47.6% ✓ 23.8% 14.3% 9.5% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0% ■ 0.0%	FACW OBL FACW OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.
10 5 3 2 1 0 0 0 0 0 0 21 5 1 0	✓ 47.6% ✓ 23.8%	FACW OBL FACW OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
	0 0 0 48) 15 5 3 1 0 0 0 24	0	0

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~ 1.	

SOIL						Sampling Point: Wet - 16
Profile Descr	ription: (Desc	ribe to	the depth	needed to document the Indicator or confirm	m the a	absence of Indicators.)
Depth		Matrix		Redox Features		
(inches)	Color (m	oist)	%	Color (moist) % Type 1 L	LOC2	Texture Pemarks
0-3	10YR	2/1	100			Muck
3-16	10YR	3/1	100			
						-
				AME TO AME OF THE CONTROL OF LEASENING		No. 1988 - No. 1987 - O. Tambari Markal Bala (1984) (1984) - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 -
					_	
-						* *
¹ Type: C=Cond	centration. D=1	Depletio	n. RM=Redu	iced Matrix, CS=Covered or Coated Sand Grains	² Locati	ation: PL=Pore Lining, M=Matrix
Hydric Soil I	indicators:					Indicators for Problematic Hydric Soils ³ :
Histosof (#	A1)			Polyvalue Below Surface (S8) (LRR S, T,	. U)	1 cm Muck (A9) (LRR O)
	oedon (A2)			☐ Thin Dark Surface (S9) (LRR S, T, U)		2 cm Muck (A10) (LRR S)
Black Histi	ic (A3)			Loamy Mucky Mineral (F1) (LRR O)		Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)
	Layers (A5)			Depleted Matrix (F3)		Anomalous Bright Loamy Soils (F20) (MLRA 153B)
	odies (A6) (LRI		•	Redox Dark Surface (F6)		Red Parent Material (TF2)
	ky Mineral (A7)		, T, U)	Depleted Dark Surface (F7)		☐ Very Shallow Dark Surface (TF12)
_	sence (A8) (LRI			Redox Depressions (F8)		Other (Explain in Remarks)
	k (A9) (LRR P,	•		Marl (F10) (LRR U)		
	Below Dark Sur		11)	Depleted Ochric (F11) (MLRA 151)		
	k Surface (A12)			☐ Iron-Manganese Masses (F12) (LRR O, P	P, T)	
	irie Redox (A16		•	Umbric Surface (F13) (LRR P, T, U)		
_	ck Mineral (S1)), S)	Delta Ochric (F17) (MLRA 151)		³ Indicators of hydrophytic vegetation and
· ·	yed Matrix (S4))		Reduced Vertic (F18) (MLRA 150A, 150B)		wetland hydrology must be present,
Sandy Rec				☐ Piedmont Floodplain Soils (F19) (MLRA 1	-	unless disturbed or problematic.
	4atrix (S6) ace (S7) (LRR P	e T !	n	Anomalous Bright Loamy Soils (F20) (ML	_RA 149/	9A, 153C, 153D)
□ Daik Sulla	2CE (37) (LKK P	, 5, 1, (J)			
Restrictive La	yer (if obser	ved):				
Type:						
Depth (inch	nes):	·		, , , , , , , , , , , , , , , , , , ,		Hydric Soil Present? Yes No
Remarks:						

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 17
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 33 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 23' 45.027" N Long.: 89° 36' 40.425" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sande loam frequently flooded	
Are climatic/hydrologic conditions on the site typical for this time of ye	(a) in a community
Are Vegetation, Soil, or Hydrology significant	tly disturbed? Are "Normal Circumstances" present? Yes O No 💿
Are Vegetation . , Soil . , or Hydrology . naturally p	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	Von (No (
Wetland Hydrology Present? Yes No	within a Wetland?
Remarks:	
	most likely by construction of man-made ditch to east and south of location.
	postions, but soils are DRY - barely sufficient chromat qualify as wetland.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	☐ Surface Soil Cracks (B6)
☐ Surface Water (A1) ☐ Aquatic Fauna (B1	
High Water Table (A2) Marl Deposits (B1	5) (LRR U)
Saturation (A3) Hydrogen Sulfide	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	neres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	ced Iron (C4) Crayfish Burrows (C8)
Drift Deposits (B3)	ction in Tilled Soils (C6) Saturation Visible on Aeriai Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	e (C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in I	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes O No O Depth (Inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ◎ No ○
(includes capitally fillinge)	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), ir available:
Remarks:	
Maniipulated drained wetland ditch in SE AOI - near area of previous	silvicutural land clearing. Man made ditch has pulled down water table
apparently.	- · · · · · · · · · · · · · · · · · · ·
	i i

		_ s	pecies?		Sampling Point: Wet-17
Tree Stratum (Plot size: 30 m)	Absolute % Cover	R		Indicator Status	Dominance Test worksheet:
Nyssa sylvatica	15	✓	•	FAC	Number of Dominant Species
Quercus nigra	5		19.2%		That are OBL, FACW, or FAC: 7 (A)
Magnolla virginiana		\vdash		FAC	Total Number of Dominant
	5	H	19.2%	FACW	Species Across All Strata: 7 (B)
			3.8%	OBL	Dorgont of dominant Consists
			0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
·		\vdash	0.0%		That is a supply of the
	0		0.0%		Prevalence Index worksheet:
	0	Ш	0.0%		Total % Cover of Multiply by:
50% of Total Cover: 13 20% of Total Cover: 5.2	26	= To	otal Cove	r	OBL species 3 x 1 = 3
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	}}				FACW species 33 x 2 = 66
Nyssa sylvatica	10	V	55.6%	FAC	FAC species $49 \times 3 = 147$
Quercus nigra	5	~	27.8%	FAC	FACU species 0 \times 4 = 0
Cyrilla racemiflora	2		11.1%	FACW	UPL species $0 \times 5 = 0$
Liquidambar styracifiua	1		5.6%	FAC	
		\Box	0.0%		Column Totals: 85 (A) 216 (B)
TOTAL TO THE TOTAL	0		0.0%		Prevalence Index = B/A = 2.541
************************************	0	Ξ	0.0%		Hydrophytic Vegetation Indicators:
# 1-77-7 FC 1879		H	0.0%		
					1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 9 20% of Total Cover: 3.6	18 =	= To	tal Cove		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Cyrilla racemiflora	10	V	55.6%	FACW	Problematic Hydrophytic Vegetation 1 (Explain)
Quercus nigra	-	V	27.8%	FAC	- Tronsmitter of the control of the
Liquidambar styraciflua	• • • • • • • • • • • • • • • • • • • •		16,7%	FAC	¹ Indicators of hydric soil and wetland hydrology must
		$\overline{\Box}$	0.0%		be present, unless disturbed or problematic.
		\Box	0.0%		Definition of Vegetation Strata:
	0	H	0.0%	ry	Tree - Woody plants, excluding woody vines,
:0% of Total Cover: 9 20% of Total Cover: 3.6		_			approximately 20 ft (6 m) or more in height and 3 in.
	18 , =	= 10	tal Cover		(7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m)					
Arundinaria tecta	15	✓	88.2%	FACW	Sapling - Woody plants, excluding woody vines,
Woodwardia areolata	2		11.8%	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
No.			0.0%	-	The state of the s
	0		0.0%	. ''a	Sapling/Shrub - Woody plants, excluding vines, less
	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
		Ξ'-	0.0%		
*		-	0.0%		Shrub - Woody plants, excluding woody vines,
# John Common Co		=	•	· · · · · ·	approximately 3 to 20 ft (1 to 6 m) in height.
·		-	0.0%		Herb - All herbaceous (non-woody) plants, including
Name of the state	O _ I		0.0%	-	herbaceous vines, regardless of size, and woody
· · · · · · · · · · · · · · · · · · ·		Η-	0.0%		plants, except woody vines, less than approximately
	[_	0.0%		3 ft (1 m) in height.
·	0		0.0%		
0% of Total Cover: 8.5 20% of Total Cover: 3.4	17 =	Tot	al Cover		Woody vine - All woody vines, regardless of height.
oody Vine Stratum (Plot size: 30 m					
Rubus argutus	5	V	83.3%	EAC	
		-			
Smilay laurifolia	1	Η-		FACW	
			0.0%		
	0	= "			
	0	<u> </u>	0.0%		Undranhatia
Smilax laurifolia	0 [0.0%		Hydrophytic Veaetation
	0 [Tota	м		Hydrophytic Vegetation Present? Yes No

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OIL		Sampling Point: Wet - 17
Profile Description: (Describe to the	depth needed to document the indicator or confirm th	e absence of Indicators.)
Depth Matrix	Redox Features	
	% Color (moist) % Type 1 Loc2	Texture Remarks
0-6 10YR 4/2 10)	Silt Loam
6-16 10YR 6/3 10	0	
	The base of the ba	
		• (2)
	=Reduced Matrix, CS=Covered or Coated Sand Grains ² Lo	cation: PL=Pore Lining, M=Matrix
lydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	Polyvalue Below Surface (S8) (LRR S, T, U)	1 cm Muck (A9) (LRR O)
☐ Histic Epipedon (A2)	Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Black Histic (A3)	Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified Layers (A5)	Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
☐ Organic Bodies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	Red Parent Material (TF2)
5 cm Mucky Mineral (A7) (LRR P, T, U	- = p-proton park barraco (17)	☐ Very Shallow Dark Surface (TF12)
Muck Presence (A8) (LRR U)	Redox Depressions (F8)	Other (Explain in Remarks)
1 cm Muck (A9) (LRR P, T)	Mari (F10) (LRR U)	
Depleted Below Dark Surface (A11)	Depleted Ochric (F11) (MLRA 151)	
☐ Thick Dark Surface (A12)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Prairie Redox (A16) (MLRA 150/		
Sandy Muck Mineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)	³ Indicators of hydrophytic vegetation and
☐ Sandy Gleyed Matrix (S4)	Reduced Vertic (F18) (MLRA 150A, 150B)	wetland hydrology must be present.
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 149A)	
✓ Stripped Matrix (S6) ☐ Dark Surface (S7) (LRR P, S, T, U)	Anomalous Bright Loamy Soils (F20) (MLRA 1	.49A, 153C, 153D)
Dark Sulface (57) (ERR P, 5, 1, 0)		
estrictive Layer (if observed): Type:		
Depth (inches):		Hydric Soil Present? Yes No
	A Company of the Company	1
emarks:		
Il matrices appear to have (at one ti	me) been sufficiently stripped of organic matter due t lors than what are typiclaly seen in a wetland but low	to wet weather drainage through area, but dry weather
radions only display higher value co	iors than what are typicially seen in a wedaria but low	ver chromas seemto meet the chtena.

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 18-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 18
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
	Local relief (concave, convex, none): none Slope: 0,0 % / 0,0 °
SECTION AND THE SECTION AND TH	
Subregion (LRR or MLRA): LRR T Lat.:	30° 24′ 45.183" N Long.: 89° 37′ 38.549" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI dassification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation 🗌 , Soil 🗍 , or Hydrology 🗌 significant	ly disturbed? Are "Normal Circumstances" present? Yes 💿 No 🔾
Are Vegetation . , Soil . , or Hydrology . naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	To the Complet Aven
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes No	within a Wetland? Tes S NO C
Remarks:	
Low drainage area approximately 50 feet east of Up - 18.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1)	3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15	5) (LRR U)
Saturation (A3) Hydrogen Sulfide (Odor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☐ Oxidized Rhizosphe	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	red Iron (C4)
✓ Drift Deposits (B3) Recent Iron Reduc	tion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	(C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in R	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
₩ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (Inches):	
Water Table Present? Yes O No O Depth (inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes No ○
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
	, , , , , , , , , , , , , , , , , , ,
Remarks:	
Kanara	
	i

Name Name						ominant pecies? _		Sampling Point: Wet - 18
Nysas pikratics		(Districts 20)	,	Absolute	R	el.Strat.		Dominance Test worksheet:
Nessa sylvatica S		(riot size: 30 m)			_	.,		
Prince ellocidit		· ,		-	_		100	That are OBL, FACW, or FAC: 7 (A)
Seyes Arose Al Strata: 7 (6)				-	Y			Total Number of Dominant
0 0.0% Percent of dominant Species That Area OBL, FACW, or FACE 100,0% (A)								
0	C AN THREE P					-	FACW	Description of description of Control
0					Η.			
Total Gover 11.5 20% of Total Cover 4.5 23 = Total Cover 23 = Total Cover 24 27 42 42 42 42 42 42		/# 4. ·			片			17.001.00.00.00.00.00.00.00.00.00.00.00.00
Some of Total Cover: 1.1.5		u		0		0.0%		
Spring or Sapting of			_	0	\square	0.0%		
Nyssa biflora	50% of Total Cov	er: 11.5 20% of Total Cover:	4.6	23	= To	tal Cove	r	OBL species 42 x 1 = 42
Dyrilla recentiflore 10	apling or Saplin	ng/Shrub Stratum (Plot size: 30 n	n)				
Pinus elliotti				15	V	53.6%	OBL	FAC species $6 \times 3 = 18$
Pinus elliotti	Cyrilla racemif	fora		10	V.	35.7%	FACW	FACU species $0 \times 4 = 0$
Column Totals: 85 (A) 134 Column Totals: 85 (A) 134	Pinus elliottii			3		10.7%	FACW	
0	P. C			0		0.0%		
0 0.0% 0.0						0.0%	p	CO 14 10 10 10 10 10 10 10 10 10 10 10 10 10
0				0		0.0%		Prevalence Index = B/A = 1.576
1 - Rapid Test for Hydrophytic Vegetation 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is > 50%				0		0.0%		Hydrophytic Vegetation Indicators:
2 - Dominance Test 1 > 50% of Total Cover: 14 20% of Total Cover: 5.6 28 = Total Cover				0		0.0%		1 - Panid Tact for Hudronhydia Variation
Arrundinarla becta 10		er: 14 20% of Total Cover:	5.6	28	To	tal Cove		
Problematic Hydrophytic Vegetation 1 (Explain)								
Persea palustris				4.5	. 4			
Time Time		100 mas 4			Y ,			Problematic Hydrophytic Vegetation 1 (Explain)
Time of the present		5	_					1 Todisantons of hydric and made mattered to dealers, managed
1 6.3% FAC		. 54 1			\square			
10	Ilex opaca			1	Щ	6.3%	FAC	
approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Saping - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH Saping - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 10 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 2 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 2 in. (7.6 cm) DBH. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 10 in. (7.6 cm) DBH. Sapling - Woody plants, exclu				-			· · · · · · · · · · · · · · · · · · ·	_
Comparison of total cover Constitution Cover C				0	Ш.	0.0%		
Woodwardia areolata	50% of Total Cove	er: 8 20% of Total Cover:	3.2	16 :	= To	tai Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Avoid mark a section 10	lerb Stratum (Plot size: 30 m)					- 1	
2. Arundinaria tecta 3. Sarracenia flava 2. □ 11.8% OBL 3. Sarracenia flava 2. □ 11.8% OBL 4. □ 0 □ 0.0% 5. □ 0 □ 0.0% 6. □ 0.0% 7. □ 0 □ 0.0% 7. □ 0 □ 0.0% 8. □ 0 □ 0.0% 8. □ 0 □ 0.0% 9. □ 0.0%	, Woodwardia as	reolata		10	V	58.8%	OBL	
Saracenia flava 2	Arundinaria ted			5	V	29.4%	FACW	than 3 in. (7.6 cm) DBH.
than 3 in. DBH and greater than 3.28 ft (1m) tall. 0	Sarracenia flav		.,			11.8%	OBL	
than 3 in. DBH and greater than 3.28 ft (1m) tall. O	l.			0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less
Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. O	5.	•		0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
approximately 3 to 20 ft (1 to 6 m) in height. 0				0	\Box			Charle 18Jandy alamba ayalyalina wandy dana
O			w				-	
O	* * · · * · · · · · · · · · · · · · · ·	A Published Substitute of the Control of the Contro	. *.*				_	The state of the s
0					\Box			
0					\Box		-	
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1								
Smilax laurifolia		gr 0 E 200/ of Total Course	2.4		_ <u>_</u>			Woody vine - All woody vines, regardless of height.
Smilax laurifolia 1 100.0% FACW 0 0.0% 0 0.0% 0 0.0% 0 0.0% Hydrophytic Vegetation Vegetation			3.4	1/	- 101	Lai Cover		, January Commission of the Co
0 0.0% 0 0.0% 0 0.0% Hydrophytic Vegetation					_		}	
0 0.0% 0 0.0% Hydrophytic Vegetation	Smilax laurifolia		-	-	Ц.		FACW	
0	** /*/*B: * *			0	\sqcup	0.0%		
0 0.0% Hydrophytic Vegetation				0	Ц.	0.0%		
Vegetation Vegetation				0		0.0%		
				0		0.0%		Vegetation
	0% of Total Cove	r: 0.5 20% of Total Cover:	0.2	1 =	: Tof	tal Cover		
emarks: (If observed, list morphological adaptations below).								

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Color (molst) Ye	OIL									Samp	ling Point: Wet - 18
Color (moles) Co	rofile Descr	iption: (De	scribe to	the depth	needed to d	locumen	t the Indi	cator or c	onfirm the	absence of indicators.)
0-4 10YR 3/1 90 10YR 7/2 10 D M Loamy Sand 4-20 10YR 3/2 85 10YR 7/2 20 D M Sandy Loam De: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains De: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains De: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains De: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains De: C=Concentration. D=Depletion. RM=Reduced Matrix Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Reduced K(A10) (IRR S) Reduced K(A10) (IRR S) Reduced K(A10) (IRR S) Reduced K(A10) (IRR S) Reduced Vertic (F10) (IRR S) Reduced Vertic (F10) (IRR A 150) Reduced Vertic (F11) (MLRA 150) Reduced Vertic (F11) (MLRA 150) Sandy Muck Mineral (S1) (IRR O, S) Delte Octnic (F17) (MLRA 150) Reduced Vertic (F18) (MLRA 150) Indicators of hydrophydic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Dark Surface (S7) (IRR P, S, T, U) Indicators for Problematic Hydric Soils Present? Reduced Vertic (F18) (MLRA 150) (MLRA 149A) 153C, 153D) Indicators of hydrophydic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Indicators F	Depth		Matrix			Re	dox Feat	ures			
Dee: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains **Location: PL=Pore Lining. M=Matrix **Indicators for Problematic Hydric Soils **1: I am Muck (A9) (LRR D) Peldmont Floodplain Soils (F19) (LRR S) Depleted Matrix (F3) Depleted Delaw Surface (F7) Depleted Selow Dark Surface (F1) (LRR D) Redox Dark Surface (F7) Depleted Below Dark Surface (A11) Depleted Delaw Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F7) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Redox Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (A12) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (A11) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (A12) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted Dark Surface (F1) (LRR D) Depleted D	(inches)										Remarks
De: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Indicators Indic	0-4	10YR	3/1	90	10YR		10	D	М	Loamy Sand	
Artic Soll Indicators: Histosol (A1)	4-20	10YR	3/2	, 85	10YR	7/2	20	D	. <u>M</u>	Sandy Loarn	
Histo Soll Indicators: Histosol (A1)		_			;		· page · v · u · ;	-			
Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) I cm Muck (A9) (LRR O) Histic Epipedon (A2) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Pedmont Floodplain Solis (F19) (LRR P, S, T) Depleted Below Surface (F6) Thin Dark Surface (F6) Stratified Layers (A5) Doganic Bodies (A6) (LRR P, T, U) Depleted Matrix (F3) Cram Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F6) Tom Muck (A9) (LRR P, T, U) Depleted Dark Surface (F7) Wuck Presence (A8) (LRR P, T) Depleted Below Dark Surface (F7) Depleted Below Dark Surface (F7) Depleted Below Dark Surface (F8) Depleted Dark Surface (F8) Depleted Below Dark Surface (F8) Depleted Below Dark Surface (F8) Depleted Below Dark Surface (F8) Depleted Below Dark Surface (F11) Tron-Manganese Masses (F12) (LRR O, P, T) Depleted Below Dark Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) Sandy Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) Sandy Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Pledmont Floodplain Soils (F90) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) **Hydric Soil Present?** Hydric Soil Present?** Yes No No		er.									Angletig 1999 to the
Histosol (A1)			=Depletio	n. RM=Redu	iced Matrix, (S=Cover	ed or Coate	ed Sand Gr	ains ² Loca		·
Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gieyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 1538) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Dark Surface (F7) Very Shallow Dark Surface (TF12) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Bolow Dark Surface (A11) Depleted Born Material (T51) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) (Depleted Bolow Dark Surface (A12) Umbric Surface (F13) (LRR O, P, T) (MLRA 151) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A, 150B) Very Shallow Dark Surface (MLRA 150A) Umbric Surface (F13) (LRR O, P, T) (MLRA 150A) Umbric Surface (F13) (LRR O, P, T) (MLRA 149A) Umbric Surface (F13) (LRR O, P, T) (MLRA 150A) Umbric Surface (F13) (LRR O, P, T) (MLRA 149A) Umbric Surface (F13) (LRR O, P, T) (MLRA 149A) Umbric Surface (F13) (MLR										Indicators for Pro	blematic Hydric Soils³:
Black Histic (A3)		•								1 cm Muck (A9)	(LRR O)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Depleted Dark Surface (F6) Red Parent Material (TF2) Stratified Layers (A8) (LRR P, T, U) Depleted Dark Surface (F7) Wery Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Derlow Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S4) Stripped Matrix (S4) Dark Surface (S7) (LRR P, S, T, U) Piedmont Floodplain Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Pietrictive Layer (if observed): Type: Depth (inches): Piedmont Floodplain Soils (P3) Hydric Soil Present? Yes No No No No No No No No No No					∐ Thi	n Dark Su	face (S9) ((LRR S, T,	U)	2 cm Muck (A10	0) (LRR S)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Depleted Matrix (F3) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Stratified Layers (A8) (LRR P, T, U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Depleted Dark Surface (F7) Mari (F10) (LRR U) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Minerai (S1) (LRR O, S) Sandy Gleyed Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 150A) Sandy Redox (S5) Delta Ochric (F17) (MLRA 150A, 150B) Sandy Redox (S5) Stripped Matrix (S4) Dark Surface (S7) (LRR P, S, T, U) Trictive Layer (if observed): Type: Depth (inches): Piedmont Floodplain Soils (F19) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F19) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F19) (MLRA 149A, 153C, 153D) Phydric Soil Present? Yes No		-			☐ Loa	my Mucky	Mineral (F	1) (LRR 0))	Reduced Vertic	(F18) (outside MLRA 150A,B)
Stratified Layers (A5)	Hydrogen	Sulfide (A4)			Loa	my Gleye	d Matrix (F.	2)			
Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) **Trictive Layer (if observed):** Type: Depth (inches): Marl (F10) (LRR U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Wery Shallow Dark Surface (TF12) Wery Shallow Dark Surface (TF12) Wery Shallow Dark Surface (TF12) Wery Shallow Dark Surface (TF12) Uhran (F10) (LRR O, P, T) Under (Explain in Remarks) 1 in Remarks 3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) **Trictive Layer (if observed):* Type: Depth (inches): Hydric Soil Present? Yes No	Stratified L	Layers (A5)			☐ Dep	leted Mat	rix (F3)				
5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Depleted Below Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) Dark Surface (S7) (LRR P, S, T, U) trictive Layer (if observed): Type: Depth (inches): Mari (F10) Reduced Vertic (F18) (MLRA 149A, 153C, 153D) Hydric Soil Present? Yes No	Organic Bo	odies (A6) (L	.RR P, T, (J)			- /)		_	, , , , ,
Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Delta Ochric (F17) (MLRA 151) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) trictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	5 cm Muci	ky Mineral (A	7) (LRR P	', T, U)			•	-			= -
1 cm Muck (A9) (LRR P, T)							•				• •
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Dumbric Surface (F13) (LRR O, P, T) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Dark Surface (S7) (LRR P, S, T, U) **Trictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No No Hydric Soil Present? Yes No No No No No No No No						•				Uther (Explain i	n kemarks)
Thick Dark Surface (A12)				11)	_		-	MI DA 4541			
Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Pledmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dertictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No			•)				-			
Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Arictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No		•	•	A 150A\		_					
Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) trictive Layer (if observed): Type: Depth (inches): The strict observed in the strict		_)		
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) trictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No		-), S)	Delt	a Ochric (F17) (MLR	A 151)		3radianta	c of hydrophytic vacatotics and
Sandy Redox (55) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6)			54)		L Red	uced Vert	ic (F18) (M	ILRA 150A,	150B)	unucator wetland	i hydrology must be present.
Dark Surface (S7) (LRR P, S, T, U) trictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No O	Sandy Red	lox (S5)			Piec	lmont Flo	odplain Soi	ls (F19) (M	LRA 149A)		
trictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No O	Stripped M	latrix (S6)			Ano	malous Bi	ight Loamy	y Soils (F20) (MLRA 149	9A, 153C, 153D)	
Type:	Dark Surfa	ice (S7) (LRF	R P, S, T, I	J)							
Depth (inches): Hydric Soil Present? Yes No Control No	trictive La	yer (if obse	erved):								<u> </u>
narks:	Type:						_		Ì		
narks:	Depth (inch	es):								Hydric Soil Present?	' Yes 🖲 No 🔾
		,					***		-		
eted - stripped matrix in lower portion of sample. Redox concentrations also enountered.			Star Star Laure		-£1-	D - d		u			
	etea - stri	ippea matri	iix in iow	er portion	or sample.	кеаох с	oncentrat	cions aiso	enountere	a.	

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion City/County	r: Waveland - Hancock Sampling Date: 18-Oct-16						
Applicant/Owner: NASA	State: MS Sampling Point: Wet -19						
Investigator(s): Lars Larson, Randy Ellis Section, T	ownship, Range: S 29 T 7s R 16 W						
Landform (hillslope, terrace, etc.): Swale Local relief	(concave, convex, none): none Slope: 0.0 % / 0.0 °						
A Later Company of the Company of th							
	DEO 4/4.0						
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PFO 1/4 C						
Are climatic/hydrologic conditions on the site typical for this time of year?	res No (If no, explain in Remarks.)						
Are Vegetation , soil , or Hydrology significantly disturbed	? Are "Normal Circumstances" present? Yes O No 💿						
Are Vegetation . , Soll . , or Hydrology . naturally problematic?	(If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS - Attach site map showing sampling po	int locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No O	the Sampled Area						
Hydric Soil Present? Yes No O	he sampled Area Yes No						
Wetland Hydrology Present? Yes No O	hin a Wetland?						
Remarks:							
Bottom area of drainage way between railbeds - this areas had been altered and	water connection apparently disrupted, but not enough to keep it						
from being wet. HYDROLOGY							
Wetland Hydrology Indicators:	Constant Testing Control Constant Control						
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)						
Surface Water (A1) Aquatic Fauna (B13)	Surface Soil Cracks (B6)						
High Water Table (A2) Marl Deposits (B15) (LRR U)	☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10)						
Saturation (A3) Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)						
✓ Water Marks (B1)	<u> </u>						
Sediment Deposits (B2) Presence of Reduced Iron (C4)	✓ Crayfish Burrows (C8)						
☐ Drift Deposits (B3) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Saturation Visible on Aerial Imagery (C9)							
Algal Mat or Crust (B4) Thin Muck Surface (C7)	✓ Geomorphic Position (D2)						
	Shallow Aquitard (D3)						
Iron Deposits (B5) Unundation Visible on Aerial Imagery (B7)	✓ FAC-Neutral Test (D5)						
✓ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)						
Field Observations:							
Surface Water Present? Yes No Depth (inches):							
, , , , , , , , , , , , , , , , , , ,							
Caturation Brocant?	─ Wetland Hydrology Present? Yes No ○						
(includes capillary fringe) Yes No Depth (inches):	ii 2						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous i Remarks:	nspections), if available:						
	•						
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	j						
I .	I						

VEGETATION	(Five/Four Strata) -	Use scientific names of plants.
AFORIVITAL	litelion Shari-	dad agreement memora de bidurat

			inant		Sampling Point: Wet -19
	Absolute		cies? _ Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m)	% Cove	г Со	ver	Status	Number of Dominant Species
Magnolia virginiana	10	✓ _5	50.0%	FACW	That are OBL, FACW, or FAC: 8 (A)
Nyssa biflora	5	V 2	25.0%	OBL	Total North Co. 1
Pinus elliottii	3		15.0%	FACW	Total Number of Dominant Species Across All Strata: 8 (B)
Acer rubrum	2		10.0%	FAC	
5-15-	D		0.0%		Percent of dominant Species
	0		0.0%		That Are OBL, FACW, or FAC: 100 0% (A/B)
	0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 10 20% of Total Cover: 4		= Tota	l Cove		OBL species 40 x 1 = 40
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species 69 x Z = 138
A#		V	10.0%	FACW	FAC species 2 x 3 = 6
Nimes hiffers	40		10.0%	OBL	
and the second s			20.0%	FACW	
			y. w	FACVV	UPL species 0 x 5 = 0
en en en en en en en en en en en en en e			0.0%		Column Totals: 111 (A) 184 (B)
		-	0.0%		Prevalence Index = B/A = 1.658
			0.0%		
			0.0%		Hydrophytic Vegetation Indicators:
	0	Щ_	0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
60% of Total Cover: 12.5 20% of Total Cover: 5	25	= Total	l Cover		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Cyrilla racemiflora	25	✓ 6	7.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Magnolia virginiana			7.0%	FACW	
			5.4%	FACW	1 Indicators of hydric soil and wetland hydrology must
			0.0%	IACV	be present, unless disturbed or problematic.
A			·*		Definition of Vegetation Strata:
	0		0.0%	-	_
	0		0.0%	-	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0% of Total Cover: 18.5 20% of Total Cover: 7.4	37	= Total	I Cover	ľ	(7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m)					
. Woodwardia virginica	20	√ 7	1.4%	OBL	Sapling - Woody plants, excluding woody vines,
Woodwardia areolata	5		7.9%	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Arundinaria tecta			0.7%	FACW	(,
NAME OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OWNER OF THE OWNER OWNE	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0	_	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
·	0		0.0%		
			0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
			0.0%		approximately 3 to 20 ft (1 to 6 ff) in height.
	0				Herb - All herbaceous (non-woody) plants, including
•		_	0.0%		herbaceous vines, regardless of size, and woody
The second section of the second section of the second section of the second section s			0.0%		plants, except woody vines, less than approximately
-	0		0.0%		3 ft (1 m) in height.
	0		0.0%		Manakerina Alleranderinas
0% of Total Cover: 14 20% of Total Cover: 5.6	28	= Total	Cover		Woody vine - All woody vines, regardless of height.
oody Vine Stratum (Plot size: 30 m)				Ĺ	
Smilax laurifolia	_ 1	□ 10	0.0%	FACW	
	0		0.0%	<u> </u>	
			0.0%		
	1,000		0.0%	B. 1. 499 Tu 4. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
		III. Dia.	1.2 1.1 1	*, 2, ** - AM	Hydrophytic
A	23	1 1 0	.0%		Vegetation
	0	= Total			Present? Yes No

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Depth Matrix Color (moist) 9% Color (moist) 9% Type 10% Sandy Loam Sandy Redox (As) (IRR P, T, U) Sandy Muck Mineral (A7) (IRR P, T, U) Sandy Muck Mineral (A7) (IRR P, T, U) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Gleyed Matrix (A1) Sandy Redox (A1) (IRR D) Sandy Redox (A1) (IRR D) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) San	Color (moist)	SOIL		Sampling Point: Wet -19
Color (moist)	Color (moist)	Profile Description: (Describe to the d	epth needed to document the Indicator or confirm the	e absence of Indicators.)
Color Col	Color Col	Depth Matrix	Redox Features	_
0-6 10YR 3/1 100 6-16 10YR 3/2 90 10YR 6/2 10 D M Sandy Loam Polyve; C - Concentration, D = Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains	0-6 10YR 3/1 100 6-16 10YR 3/2 90 10YR 6/2 10 D M Sandy Loam Polyve; C - Concentration, D = Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains 2-Location: PL = Pore Lining, M = Matrix Polyvalue Below Surface (S9) (LRR S, T, U)		Color (moist) % Type 1 Loc2	Texture Remarks
Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2-Location: PL=Pore Lining. M=Matrix **Hoffic Soil Indicators:** Histosoi (A1)	Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Plactor Pl	0-6 10YR 3/1 100		Sandy Loam
Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) 1 tm Muck (A9) (LRR O) 2 cm Muck (A10) (LRR S) 2 cm Muck (A10) (LRR S) 3 cm Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Redox Dark Surface (F6) Red Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide Layers (A5) Depleted Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Redox Dark Surface (F6) Red Vertic (F18) (LRR P, S, T) Redox Dark Surface (F6) Red Vertic (F18) (LRR P, S, T) Redox Dark Surface (F7) Redox Dark Surface (F7) Very Shallow Dark Surface (F20) (MLRA 153B) Other (Explain in Remarks) Tm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Ochric (F11) (MLRA 151) Depleted Below Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Depleted Ochric (F13) (LRR P, T, U) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Vertical Present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Histosol (A1)	6-16 10YR 3/2 90	10YR 6/2 10 D M	Sandy Loam
ydric Soil Indicators: Histosol (A1)	ydric Soil Indicators: Histosol (A1)			
ydric Soil Indicators: Histosol (A1)	ydric Soil Indicators: Histosol (A1)	unou CConcentration DDepletion IIIM	Deduced Matrix: CC_Covered as Cented Sand Carine 21 au	entions DI Dave Lising M. Metric
Histosol (A1)	Histosol (A1)	· · · · · · · · · · · · · · · · · · ·	-Reduced Matrix, CS=Covered or Coated Sand Grains -Loc	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) Thick Dark Surface (A11) Depleted Delow Dark Surface (A11) Depleted Delow Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Delta Ochric (F17) (MLRA 150A, 150B) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Pledmont Floodplain Soils (F20) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Present? Yes No No	Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) Thick Dark Surface (A11) Depleted Delow Dark Surface (A11) Depleted Delow Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Delta Ochric (F17) (MLRA 150A, 150B) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Pledmont Floodplain Soils (F20) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Present? Hydric Soil Present? Yes No	Histic Epipedon (A2)		1 cm Muck (A9) (LRR O)
Stratified Layers (A5) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Other (Explain in Remarks) Thick Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F3) Anomalous Bright Loamy Soils (F20) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, T, U) Pestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Stratified Layers (A5) Depleted Matrix (F3)	_ ' '	Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Stratified Layers (A5) Depleted Matrix (F3) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Dark Surface (F7) Muck Presence (A8) (LRR P, T, U) Depleted Dark Surface (F7) Mark (F10) (LRR U) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Derived Matrix (S6) Dark Surface (S7) (LRR P, T, U) Pedmont Floodplain Soils (F20) (MLRA 149A) Derived Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Petmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Redox Dark Surface (S7) (Present? Yes No	Stratified Layers (A5) Depleted Matrix (F3) Redox Dark Surface (F6) Red Parent Material (TF2) Depleted Dark Surface (F7) Muck Presence (A8) (LRR P, T, U) Depleted Dark Surface (F7) Mark (F10) (LRR U) Depleted Below Dark Surface (F7) Depleted Below Dark Surface (F7) Depleted Below Dark Surface (TF12) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Defla Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	· · ·	Loamy Gleyed Matrix (F2)	
Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TT2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Stratified Layers (A5)	✓ Depleted Matrix (F3)	
S cm Mucky Mineral (A7) (LRR P, T, U)	S cm Mucky Mineral (A7) (LRR P, T, U)	Organic Bodies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	
Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) **Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 15DA) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Pledmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) **Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	5 cm Mucky Mineral (A7) (LRR P, T, U	Depleted Dark Surface (F7)	
1 cm Muck (A9) (LRR P, T)	1 cm Muck (A9) (LRR P, T)	Muck Presence (A8) (LRR U)	Redox Depressions (F8)	= ' ' '
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Delta Ochric (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Delta Ochric (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	1 cm Muck (A9) (LRR P, T)	Marl (F10) (LRR U)	Otter (Explain III: Remarks)
Thick Dark Surface (A12) Tron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 15DA) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Thick Dark Surface (A12) Tron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 15DA) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Depleted Below Dark Surface (A11)		
Coast Prairie Redox (A16) (MLRA 15DA) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (F13) (LRR P, T, U) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Coast Prairie Redox (A16) (MLRA 15DA) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Diedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Thick Dark Surface (A12)		
Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Coast Prairie Redox (A16) (MLRA 150A		
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Reduced Vertic (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 150A, 150B) Reduced Vertic (F18) (MLRA 149A) Wetland hydrology must be present, unless disturbed or problematic. Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No	•		
Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Weedand hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No	Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes • No •			
Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	-		wetland hydrology must be present,
Dark Surface (S7) (LRR P, S, T, U) **strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Dark Surface (S7) (LRR P, S, T, U) **strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	_	_	<u>.</u>
Type: Depth (inches): Hydric Soil Present? Yes No No	Type:	- '' ' '	Anomalous Bright Loamy Soils (F20) (MLRA 14	49A, 153C, 153D)
Type: Depth (inches): Hydric Soil Present? Yes No No	Type: Depth (inches): Hydric Soil Present? Yes No No			
Depth (inches): Hydric Soil Present? Yes No O	Depth (inches): Hydric Soil Present? Yes No	estrictive Layer (if observed):		
Septi (inclus)	Septi (inclus)	Туре:		
		Depth (inches):		Hydric Soil Present? Yes No
omarke:	GIIGINS.			

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 18-Oct-16						
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 21						
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: 5 29 T 7 S R 16 W						
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): Slope: 2,0 % / 1,1 °						
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 24.006" N Long.: 89° 37' 15.980" W Datum: NAD83						
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded							
Are climatic/hydrologic conditions on the site typical for this time of year							
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes No						
Are Vegetation . , Soil . , or Hydrology . naturally p	problematic? (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes No	Tetho Compled Aven						
Hydric Soil Present? Yes No	Is the Sampled Area						
Wetland Hydrology Present? Yes No	within a Wetland? Yes No C						
Remarks:	in and the second to the singuistic buffer above TC Cook to the south						
Just downslope from railspur in North/NW part of AOI. Nice transiti	ional area from upland to riparian buffer above TS Creek to the south.						
HYDROLOGY							
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)						
Primary Indicators (minimum of one required; check all that apply)							
Surface Water (A1) Aquatic Fauna (B1							
High Water Table (A2) Marl Deposits (B1)							
Saturation (A3) Hydrogen Sulfide							
	heres along Living Roots (C3) Dry Season Water Table (C2)						
Sediment Deposits (B2) Presence of Reduc							
	action in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)						
Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2)							
☐ Iron Deposits (B5) ☐ Other (Explain in Remarks) ☐ Shallow Aquitard (D3)							
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)						
Water-Stained Leaves (B9)							
	☐ Sphagnum moss (D8) (LRR T, U)						
Field Observations: Surface Water Present? Yes No Depth (inches):							
, , ,	***************************************						
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ● No ○						
Saturation Present? (includes capillary fringe) Yes No Depth (inches):							
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:						
Remarks:							
	į						

			ominant		Sampling Point: Wet - 21
(DIA state of	Absolute	Re		Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m)	% Cover		Cover	Status	Number of Dominant Species
Pinus elliottii	5	\sqsubseteq	16.1%	FACW	That are OBL, FACW, or FAC: 10 (A)
	10	V	32.3%	FAC	Total Number of Dominant
Magnolia virginiana	15	V	48.4%	FACW	Species Across All Strata: 10 (B)
Taxodium ascendens	1		3.2%	OBL	
	0		0.0%		Percent of dominant Species
	. 0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/E
			0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 15.5 20% of Total Cover: 6.2	31 :	= Ta	tal Cove		OBL species 25 x 1 = 25
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species
			3.8%	OBL	FAC species 22 x 3 = 66
Manager Manager			38.5%		
Oyrilla racemiflora		_:		FACW	FACU species $0 \times 4 = 0$
			38.5%	FACW	UPL species $0 \times 5 = 0$
Acer rubrum		님.	19.2%	FAC	Column Totals: 117 (A) 231 (B)
			0.0%		Prevalence Index = B/A = 1.974
		닏,	0.0%		
<u> </u>	0	\Box	0.0%		Hydrophytic Vegetation Indicators:
Winds and the second se	0	⊔.	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 13 20% of Total Cover: 5.2	26 =	= То	tal Cove		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Manager	10	V	33.3%	EΔC\W	
DEC III UMANIA.	December 118	樫.	-	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
Acer rubrum		H	16.7%	FAC	1 Indicators of hydric sail and wetland hydroloss was
Cyrilla racemifiora	5		16.7%	FACW	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
Ilex coriacea	10	Y .	33.3%	FACW	
	Ó	닏.	0.0%		Definition of Vegetation Strata:
	C	\square	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 15 20% of Total Cover: 6	30 =	To	tal Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m)					
. Woodwardia areolata	5	V	21.7%	OBL	Sapling - Woody plants, excluding woody vines,
Woodwardia virginica		_ _	65.2%	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Osmunda regalis	2		8.7%	OBL	than one (1.0 only DDI).
Sarracenia alabamensis	1	Π.	4.3%	OBL	Sapling/Shrub - Woody plants, excluding vines, less
, sarrace illa dioparite i siste		₩~	0.0%	ODL "	than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	7		-	
	0	片-	0.0%		Shrub - Woody plants, excluding woody vines,
			0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
No. 1999 Sept. 1999 Se	0	Ξ.			approximately 2 to 20 to (1 to 2 to 1) at the gran
No. 1 control of the	0 .		0.0%		
	0		0.0%		Herb - All herbaceous (non-woody) plants, including
•	0 0 0				
	0 0 0		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
).	0		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
	0 0 0		0.0% 0.0% 0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
0% of Total Cover: 11.5 20% of Total Cover: 4.6	0 0 0		0.0% 0.0% 0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 11.5 20% of Total Cover: 4.6	0 0 0 0 0 0 23		0.0% 0.0% 0.0% 0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 11.5 20% of Total Cover: 4.6 cody Vine Stratum (Plot size: 30 m) Vitis rotundifolia	0 0 0 0 0 0 0 23 =	✓.	0.0% 0.0% 0.0% 0.0% tal Cover	FAC	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 11.5 20% of Total Cover: 4.6 cody Vine Stratum (Plot size: 30 m) Vitis rotundifolia Smilax laurifolia	0 0 0 0 0 23 =		0.0% 0.0% 0.0% tal Cover 28.6% 71.4%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 11.5 20% of Total Cover: 4.6 cody Vine Stratum (Plot size: 30 m) Vitis rotundifolia	0 0 0 0 0 23 =	✓.	0.0% 0.0% 0.0% tal Cover 28.6% 71.4% 0.0%	FAC	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 11.5 20% of Total Cover: 4.6 Coody Vine Stratum (Plot size: 30 m) Vitis rotundifolia Smilax laurifolia	0 0 0 0 0 23 =	✓.	0.0% 0.0% 0.0% 0.0% tal Cover 28.6% 71.4% 0.0%	FAC	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.
3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3	0 0 0 0 0 23 =	✓.	0.0% 0.0% 0.0% tal Cover 28.6% 71.4% 0.0%	FAC	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height. Hydrophytic
7. 3. 9. 9. 1. 2. 50% of Total Cover: 11.5 20% of Total Cover: 4.6 Voody Vine Stratum (Plot size: 30 m) Vitis rotundifolia Smilax laurifolia	0 0 0 0 0 23 =	y	0.0% 0.0% 0.0% 0.0% tal Cover 28.6% 71.4% 0.0%	FAC	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height. Hydrophytic

SOIL									Sampli	ing Point: Wet - 21
Profile Desc	ription: (De:	scribe to	the depth	needed to	documen	t the ind	icator or co	onfirm the	absence of indicators.)	
Depth		Matrix			Re	edox Feat	tures	2 4 2		
(inches)	Color (moist)_	%	Color	(moist)	%	Type ¹	Loc2	Texture	Remarks
. 0-5	10YR	3/1	100						Fine Loamy Sand	.,
5-16	10YR	3/2	95	10YR	7/2	5	D	М	Loamy Sand	
		-	-	_	•	-		-		-
					-		LT. 400.			
· · ·					1					
Type: C=Con Hydric Soil 1		=Depletio	n. RM=Redu	iced Matrix,	CS=Cover	ed or Coat	ted Sand Gra	ains ²Loça	ation: PL=Pore Lining. M=1	Matrix Jematic Hydric Soils ³ :
Histosol ((A1)			☐ Po	lyvalue Be	low Surfac	e (S8) (LRR	S. T. U)	1 cm Muck (A9) (
	pedon (A2)			_	•		(LRR S, T, l		2 cm Muck (A10)	
Black Hist				_			(F1) (LRR O)	•		
	Sulfide (A4)				amy Gleye				`	F18) (outside MLRA 150A,B)
_	Layers (A5)				pleted Mai				_	lain Soils (F19) (LRR P, S, T)
	Bodies (A6) (L	RR P. T. I	D	_	dox Dark S	` '	E)		_	t Loamy Soils (F20) (MLRA 153B)
	ky Mineral (A				pleted Dar	•	•		Red Parent Mater	• •
	sence (A8) (L		, ,, 0,	_	dox Depre				☐ Very Shallow Dari	
	:k (A9) (LRR F	,		_	•	•)		Other (Explain in	Remarks)
	Below Dark S		11)		ırl (F10) (L	-	(84538.454)			
	k Surface (A1		11)		-		(MLRA 151)			
_	_	•	1504\		_		s (F12) (LRF			
_	irie Redox (A:		•				LRR P, T, U)			
_	ıck Mineral (S		, 5)		ita Ochric				3 _{Indicators}	of hydrophytic vegetation and
	eyed Matrix (S	4)					MLRA 150A,		wetland l	hydrology must be present,
Sandy Re	•			L. Pie	dmont Flo	odplain So	ils (F19) (MI	_RA 149A)	unless	disturbed or problematic.
	Matrix (S6)			∟ An	omalous B	right Loam	ıy Soils (F20) (MLRA 149	9A, 153C, 153D)	
Dark Surfa	ace (S7) (LRR	P, S, T, I	J)							
estrictive Li	ayer (if obse	erved):							1	
Type:	· ·	-						1		
Depth (incl	hes):					_			Hydric Soil Present?	Yes 🏵 No 🔾
	100)	· · ·								
lemarks:										

Traject state that the state of	ity/County: Waveland - Hancock Sampling Date: 18-Oct-16							
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 22							
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W							
Landform (hillslope, terrace, etc.): Terrace Lo	ocal relief (concave, convex, none): concave Slope: 0.0 % / 0.0 °							
Subregion (LRR or MLRA): LRR T Lat: 30	0° 24' 28.866" N Long.: 89° 37' 9.203" W Datum: NAD83							
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PFO 1/4 C							
Are climatic/hydrologic conditions on the site typical for this time of year?								
Are Vegetation . , Soil . , or Hydrology . significantly of	disturbed? Are "Normal Circumstances" present? Yes No							
Are Vegetation . , Soil . , or Hydrology . naturally prol	blematic? (If needed, explain any answers in Remarks.)							
SUMMARY OF FINDINGS - Attach site map showing samp	pling point locations, transects, important features, etc.							
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area							
Hydric Soil Present? Yes No	Vac (R) No (
Wetland Hydrology Present? Yes No No	within a Wetland?							
Remarks:								
Bottom Area within riparian buffer zone approximately 50 feet south of	f Up-22.							
HYDROLOGY								
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)							
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)							
Surface Water (A1) Aquatic Fauna (B13)	<u> </u>							
High Water Table (A2) Marl Deposits (B15) (
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1) ☑ Moss Trim Lines (B16)								
Water Marks (B1)								
☐ Sediment Deposits (B2) ☐ Presence of Reduced Iron (C4) ☐ Crayfish Burrows (C8)								
☐ Drift Deposits (B3) ☐ Recent Iron Reduction								
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C								
Iron Deposits (B5) Uther (Explain in Rem								
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)							
☐ Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)							
Field Observations: Surface Water Present? Yes No Depth (inches):								
Salitate viates i laborei								
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No							
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	wetland hydrology Present? 165 © 140 ©							
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:							
	·							
Remarks:								
Refligits.								
Î								
	•							

Tree Stratum (Plot size: 30 m	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
				Number of Dominant Species
Pinus elliottii Nyssa biflora	5 10	☐ 17.9% ☑ 35.7%	FACW OBL	That are OBL, FACW, or FAC: 9 (A)
3. Magnolia virginiana		_		Total Number of Dominant
	10		FACW	Species Across All Strata: 9 (B)
C Touristic services	2	7.1%	UPL	Percent of dominant Species
C		3.6%	OBL	That Are OBL, FACW, or FAC: 100.0% (A/B)
6.		0.0%		
1		0.0%	i	Prevalence Index worksheet:
8.	0	□ 0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 14 20% of Total Cover: 5.6	. 28	= Total Cover		OBL species 41 x 1 = 41
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)			FACW species $54 \times 2 = 108$
1. Pinus elliottil		5.3%	FACW	FAC species $0 \times 3 = 0$
2 Magnolia virginiana		52.6%	FACW	FACU species $0 \times 4 = 0$
3. Nyssa biflora		✓ 36.8%	OBL	UPL species $\frac{2}{x}$ x 5 = $\frac{10}{x}$
4. Taxodium ascendens	1	5.3%	OBL	Column Totals: 97 (A) 159 (B)
5	0	0.0%		Prevalence Index = B/A = 1.639
6	0	0.0%		
7	0	C.0%		Hydrophytic Vegetation Indicators:
8	0	0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 9.5 20% of Total Cover: 3.8	19 =	= Total Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 ¹
1 Ilex coriacea	15	✓ 57.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Magnolla virginiana	-	☑ 38.5%	FACW	- Problemate Hydrophytic regendon (Explain)
3. Persea palustris		3.8%	FACW	¹ Indicators of hydric soil and wetland hydrology must
4		0.0%	TACIT	be present, unless disturbed or problematic.
5.	0	0.0%		Definition of Vegetation Strata:
6.	0	0.0%	r	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 13 20% of Total Cover: 5.2		= Total Cover		approximately 20 ft (6 m) or more in height and 3 in.
	- 20 -	- IOCAL COVE		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m		_		Sapling - Woody plants, excluding woody vines,
1 Sarracenia alabamensis		✓ 31.8%	OBĹ	approximately 20 ft (6 m) or more in height and less
2. Woodwardia areolata	_	45.5%	OBL	than 3 in. (7.6 cm) DBH.
3. Woodwardia virginica	5	22.7%	OBL	
4	Ö.	0.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0	0.0%		than 3 m. DDIT and greater than 3.20 it (111) tan.
6.	0	0.0%		Shrub - Woody plants, excluding woody vines,
7		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8		0.0%		
9		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10	_ <u>0</u> _ i	0.0%		plants, except woody vines, less than approximately
11	0	0.0%		3 ft (1 m) in height.
12	0	0.0%		
50% of Total Cover: 11 20% of Total Cover: 4.4	22 =	: Total Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m)			1	
Smilax laurifolia	2	100.0%	FACW,	
2		0.0%	i new	
	_	0.0%		
		0.0%		
4. <u> </u>	0 [0.0%		Hydrophytic
		r		Vegetation V (A) N (C)
50% of Total Cover: 1 20% of Total Cover: 0.4	2 =	Total Cover		Present? Yes V NO V
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	gional status n	ot defined by FW	s.	

SOIL Sampling Point: Wet - 22 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (inches) Color (moist) % Color (moist) % Type Loc2 Texture Remarks Loamy Sand 0-4 10YR 100 3/1 4-16 10YR 3/2 90 10YR Loamy Sand 7/2 ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils3: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) ☐ Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) ☐ Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) ☐ Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Yes

No **Hydric Soil Present?** Depth (inches): Remarks:

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 23
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): concave Slope: 0.0 % / 0.0
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 25.915" N Long.: 89° 37' 21.222" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of year	
	A control of control o
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	Wes ● No ○
Wetland Hydrology Present? Yes No	within a Wedand?
Remarks:	
Lower drain area approximately 50-50-feet east of Up-23	
EDWAR ARAM AREA APPROXIMATELY DO SO TOOL GOOD OF ED	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
☐ Surface Water (A1) ☐ Aquatic Fauna (B1	_
☐ High Water Table (A2) ☐ Marl Deposits (B15	
Saturation (A3)	
☐ Water Marks (B1) ☑ Oxidized Rhizosph	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	
	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in R	_ ` ` ` _ ` ` ` ` ` ` ` ` ` ` ` ` ` ` `
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes O No O Depth (inches):	
Water Table Present? Yes No O Depth (inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes ● No ○
(medacs capitally range)	, , , , , , , , , , , , , , , , , , , ,
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	
Depletions observed in 4-16 inch interval. Some (very little) oxidized	root channels).

			ominant pecies? .		Sampling Point: Wet - 23
Tree Stratum (Plot size: _30 m)	Absolute	e R	pecies? . el.Strat. Cover	Indicator Status	Dominance Test worksheet:
TOG DELIBERTY					Number of Dominant Species
Nyssa sylvatica	10	V	37.0%	FAC	That are OBL, FACW, or FAC: 10 (A)
Magnolia virginiana		V	55.6%	FACW	Total Number of Dominant
Liquidambar styraciflua	2		7.4%	FAC	Species Across All Strata: 10 (B)
7	. 0		0.0%		Daniel of designat Canada
	0	Щ	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
		\sqcup	0.0%		That is a second of the second
		\square	0.0%	4 C W M	Prevalence Index worksheet:
	0		0.0%		Total % Cover of; Multiply by:
50% of Total Cover: 13.5 20% of Total Cover: 5.4	27	≃ To	tal Cove	г	OBL species 3 x 1 = 3
apling or Sapling/Shrub Stratum (Plot size: 30 m	1				FACW species $67 \times 2 = 134$
Magnolia virginiana	15	V	41.7%	FACW	FAC species 32 x 3 = 96
Nyssa sylvatica		V	27.8%	FAC	FACU species $0 \times 4 = 0$
Pinus elliottii			2.8%	FACW	
Cyrilla racemiflora			27.8%	FACW	
				PACVV	Column Totals: 102 (A) 233 (B)
*-		1	0.0%	aca w	Prevalence Index = B/A = 2.284
		끔	0.0%	3/4-1	Hydrophytic Vegetation Indicators:
		끔	0.0%		nyarophytic vegetation indicators:
TO NOTE OF THE SECOND S	0,	Ш	0.0%	-	1 - Rapid Test for Hydrophytic Vegetation
60% of Total Cover: 18 20% of Total Cover: 7.2	36	= To	tal Cove		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m				i	✓ 3 - Prevalence Index is ≤3.0 ¹
Cyrilla racemiflora	15	V	50.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Manalla andform	4.0		33.3%	FAC	Problematic Hydrophytic Vegetation - (Explain)
The code con	******				¹ Indicators of hydric soil and wetland hydrology mus
Ilex corlacea	5		16.7%	FACW	be present, unless disturbed or problematic.
$F(x) = e^{-\frac{1}{2}(x)} - e^{-\frac{1}{2}(x)} = e^{$	0	\Box	0.0%		
	. 0		0.0%		Definition of Vegetation Strata:
	. 0	\square	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 15 20% of Total Cover: 6	30	= To	tal Cove		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
lerb Stratum (Plot size: 30 m)					
, Hellanthus angustifolius	3	V	37.5%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Eriocaulon decangulare	1		12.5%	OBL	than 3 in. (7.6 cm) DBH.
Hypericum cistifolium		V	25.0%	FACW	, a.a., o, (o, 22
Woodwardia areolata	2	<u></u>	25.0%	OBL	Sapling/Shrub - Woody plants, excluding vines, less
, Troum and an earning	0		0.0%	ODL	than 3 in. DBH and greater than 3.28 ft (1m) tall.
		Η.			
	0	Η.	0.0%		Shrub - Woody plants, excluding woody vines,
Fig. WEST AND AND TO SEE A SECOND TO		Η.	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
No	0	H	0.0%		Herb - All herbaceous (non-woody) plants, including
•			0.0%		herbaceous vines, regardless of size, and woody
			0.0%		plants, except woody vines, less than approximately
Chica Control of the	0		0.0%		3 ft (1 m) in height.
	0		0.0%		
0% of Total Cover: 4 20% of Total Cover: 1.6	8	= To	tal Cover		Woody vine - All woody vines, regardless of height.
/oody Vine Stratum (Plot size: 30 m				Į	
Smilax laurifolia	1		100.0%	FACW	
	_		0.0%		
	0	\Box	0.0%	w · ,	
		H	0.0%		
	0		U.U.70		Hydrophytic
	0		0.00/		
50% of Total Cover: 0.5 20% of Total Cover: 0.2	0		0.0%		Vegetation Present? Yes No

SOIL									Sam	pling Point: Wet - 23	Fiction -
Profile Descr	ription: (De:	scribe to	the depth	needed to	documer	nt the Indi	icator or c	onfirm the	absence of indicators	:-)	
Depth	400	Matrix			Re	edox Feat	tures		in se		
(inches)	Color (%		(moist)	%	Type ¹		Texture	Remarks	
0-5	10YR	3/2	95	10YR	6/2	5	D	_ M	Loamy Sand		.
5-16	10YR	4/2	90	10YR	6/2	10	D	М	Loamy Sand	· · · · ·	
	C			0							
-			· · ·				. q:	A 400 MAY 10 1 -			
example 1	-				7				-		
	-	-		-				-	-		
	-			e .							
	t etten D	مناوات -	Dt4-Bod		Coun	1 - Cont	1210	21 og			
		=Depletio	n. RM=Keu	aced Matrix,	CS=Cover	ed or coate	ed Sano G	ains -Loca	ation: PL=Pore Lining. M		
Hydric Soil I Histosol (/				□ pc	1 - Non De	Confine	(20) (10)			oblematic Hydric Soils ³ :	
	pedon (A2)						ce (S8) (LRR		1 cm Muck (A9		
Black Histi							(LRR S, T,		2 cm Muck (A1	• • •	
	tic (A3) 1 Sulfide (A4)						(F1) (LRR 0))	_	c (F18) (outside MLRA 150A,B)	
	Layers (A5)					ed Matrix (F	<i>;</i> -2)			dplain Soils (F19) (LRR P, S, T)	•
		22 D T /	· n		epleted Mat					ght Loamy Soils (F20) (MLRA 1	.53B)
	Bodies (A6) (Li		•			Surface (F6	-		Red Parent Ma	` '	
	cky Mineral (A. seace (AR) (LE		, 1, 0)		•	ırk Surface (_ `	Dark Surface (TF12)	
	sence (A8) (LF -k (A9) (LDD D	-		_	•	essions (F8))		Other (Explain	in Remarks)	
l —	:k (A9) (LRR P Below Dark Si		443	_	ari (F10) (L		2224454				
· ·	Below Dark Si k Surface (A1:		11)		•		(MLRA 151)	-			
	irie Redox (A1	-	* 1504)		_		es (F12) (LR				
_	-		-				(LRR P, T, U))			
_	ıck Mineral (S: eyed Matrix (S		, 5)			(F17) (MLR		1500)	³ Indicato	ors of hydrophytic vegetation as	nd
Sandy Gle		/1)		_			MLRA 150A,		wetian	nd hydrology must be present,	-
	oox (S5) Matrix (S6)					•	oils (F19) (M	•		ess disturbed or problematic.	
	Matrix (S6) ace (S7) (LRR	10 C T.1	r IX	∟J Anu	omaious o	right Loam	ıy Solis (r∠ı	J) (MLKA 14	49A, 153C, 153D)		
L Daik Suite	3CE (37) (Live	(P, 5, 1, .	J)								
Restrictive La	ayer (if obse	arved):						!			
Type:								1	To the Cilibration		
Depth (inch	nes):			1.1.					Hydric Soil Present	? Yes ® N o ○	
Remarks:											

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 25
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): none Slope: 2.0 % / 1.1°
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 38.761" N Long.: 89° 37' 32.356" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	
Are climatic/hydrologic conditions on the site typical for this time of year	
	tly disturbed? Are "Normal Circumstances" present? Yes No O
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Remarks: drainage slough approximately 250 feet south of Turtleskin Creek actions.	Is the Sampled Area within a Wetland? Yes No Coccess road. This is a south to north drainage feature feeding TS creek.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Sediment Deposits (B2)	Drainage Patterns (B10) Odor (C1) Wess Trim Lines (B16) Dry Season Water Table (C2) Crayfish Burrows (C8) Ction In Tilled Soils (C6) C(7) Geomorphic Position (D2) Remarks) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U) Wetland Hydrology Present? Yes No
Remarks:	

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
		_		Number of Dominant Species
	_ <u>5</u> _ 1	✓ 83.3% 16.7%	FACW	That are OBL, FACW, or FAC: 7 (A)
—• · · · · · · · · · · · · · · · · · · ·	0		FACVV	Total Number of Dominant
3		0.0%		Species Across All Strata: 7 (B)
4	ó	0.0%	-	Percent of dominant Species
5		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
6		0.0%		
7	0	0.0%		Prevalence Index worksheet:
8	, _0			Total % Cover of: Multiply by
50% of Total Cover: 3 20% of Total Cover: 1.2	6 =	= Total Cove	er	OBL species 8 x 1 = 8
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	1			FACW species 90 x 2 = 180
1. Pinus elliottii	15	✓ 60.0%	FACW	FAC species $3 \times 3 = 9$
2. Magnolla virginiana	10	40.0%	FACW	FACU species $0 \times 4 = 0$
3.		0.0%		UPL species $0 \times 5 = 0$
4.	0	0.0%		Column Totals: 101 (A) 197 (B)
5.	0	0.0%		Column locals:lol (A) ,
6.	0	0.0%		Prevalence Index = B/A = 1.950
7	0	0.0%		Hydrophytic Vegetation Indicators:
7 8	0	0.0%		
	-	V		✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 12.5 20% of Total Cover: 5	25_ =	= Total Cove	:F	2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m.)				☑ 3 - Prevalence Index is ≤3.0 ¹
1 Magnolia virginiana	30	✓ 69.8%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex corlacea	10	✓ 23.3%	FACW	
3. Liquidambar styracifiua	2	4.7%	FAC	¹ Indicators of hydric soil and wetland hydrology must
4 Acer rubrum		2,3%	FAC	be present, unless disturbed or problematic.
5		0.0%	. 12 A 2 MAY . 12 .	Definition of Vegetation Strata:
6.	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 21.5 20% of Total Cover: 8.6	43 =	= Total Cove	r	approximately 20 ft (6 m) or more in height and 3 in.
			-	(7.6 cm) or larger in diarneter at breast height (DBH).
Herb Stratum (Plot size: 30 m)		_		Sapling - Woody plants, excluding woody vines,
1. Arundinaria tecta	15	60.0%	FACW	approximately 20 ft (6 m) or more in height and less
2. Scirpus atrocinctus	. 2	8.0%	FACW	than 3 in. (7.6 cm) DBH.
3. Woodwardia areolata	5	✓ 20.0%	OBL	
4. Osmunda regalis	1	4,0%	OBL	Sapling/Shrub - Woody plants, excluding vines, less
5. Juncus polycephalos	2	8.0%	OBL	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.	0	0.0%		Shrub - Woody plants, excluding woody vines,
7	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8.	0	0.0%		
9		0.0%		Herb - All herbaceous (non-woody) plants, including
10	0	0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
11.	0	0.0%		3 ft (1 m) in height.
12.	0	0.0%		
		Total Cove		Woody vine - All woody vines, regardless of height.
50% of Total Cover: 12.5 20% of Total Cover: 5	20 =	I OLAI COVE	'	
Woody Vine Stratum (Plot size: 30 m				
1 Smilax laurifolia	2	100.0%	FACW	
2	0 [0.0%		
3	0	0.0%		
4	,	0.0%		
5	0	0.0%		Hydrophytic Vegetation
	2 =	Total Cove		Present? Yes No
50% of Total Cover: 1 20% of Total Cover: 0.4				

SOIL									Sam	pling Point: Wet - 25
Profile Descripti	ion: (Descri	be to	the depth	needed to	documer	t the inc	licator or c	onfirm the	absence of indicators	i.)
Depth	Ma	atrix			Re	edox Fea				
(inches)	Color (mo	ist)	%	Color	(moist)	%n	, Type ¹	Loc2	Texture	Remarks
0-4	10YR	3/2	97	10YR	7/2	3	D	М	Loamy Sand	
4-16	10YR	4/2	95	10YR	7/2	5	D	М	Loamy Sand	
	Levas									
					**		· mac . v	_	#2	
							_	_		

		pletion	ı. RM= Red u	iced Matrix,	CS=Cover	ed or Coa	ted Sand Gr	ains ² Locat	tion: PL=Pore Lining, M	I=Matrix
Hydric Soil Indic	cators:								Indicators for Pro	oblematic Hydric Solls ³ :
Histosol (A1)	(42)						ce (S8) (LRR		1 cm Muck (A9)) (LRR O)
Histic Epipedo				∐ Thi	in Dark Su	rface (S9)	(LRR S, T,	U)	2 cm Muck (A1	(IO) (LRR S)
Black Histic (A	•			Loa	amy Mucky	/ Mineral	(F1) (LRR 0))	_	(F18) (outside MLRA 150A,B)
				Loa	amy Gleye	d Matrix (F2)			dplain Soils (F19) (LRR P, S, T)
Stratified Laye				De,	pleted Mat	rix (F3)				ght Loamy Soils (F20) (MLRA 153B)
Organic Bodies			•	Red	dox Dark S	Surface (F	6)		Red Parent Mai	
5 cm Mucky M	ineral (A7) (LRR P,	T, U)	☐ De	pleted Dar	k Surface	(F7)			Park Surface (TF12)
Muck Presence	e (A8) (LRR l	J)		☐ Red	dox Depre	ssions (F8	3)		Other (Explain	• •
🗌 1 cm Muck (A9	9) (LRR P, T)	ı			н (F10) (LI	-			□ Ouler (Explain	ir: Remarks)
Depleted Belov	w Dark Surfa	ce (A1:	1)				(MLRA 151)			
Thick Dark Sur	rface (A12)						:s (F12) (LRI			
Coast Prairie R		(MI RA	150A)							
Sandy Muck Mi							LRR P, T, U)	1		
Sandy Mack Mi		LICK O,	3)		ta Ochric (3 _{Tadicato}	rs of hydrophytic vegetation and
				_			MLRA 150A,		wetland	d hydrology must be present,
Sandy Redox (Pied	dmont Floo	odplain Sc	ils (F19) (M	LRA 149A)	unle	ss disturbed or problematic.
Stripped Matrix	٠,,			And	malous Br	ight Loan	ny Soils (F20) (MLRA 149.	A, 153C, 153D)	
Dark Surface (S	S7) (LRR P, 9	S, T, U))							
lestrictive Layer	(if observe	d):			-	<u> </u>	•			
Туре:										
Depth (inches):								İ	Hydric Soil Present?	? Yes 🏵 No 🔾
Remarks:		_								
Cindiks.										

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hand	
Applicant/Owner: NASA	State: MS	Sampling Point: Wet - 26
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range:	5 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex,	none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 34.974" N Lor	ng.: 89° 37′ 44.173" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes		NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes 💿 No 🔾	(If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significan	tly disturbed? Are "Norm	al Circumstances" present? Yes 🍑 No 🔾
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (If needed	, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations,	transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	To the Conveled Aven	
Hydric Soil Present? Yes No No	Is the Sampled Area	Yes No
Wetland Hydrology Present? Yes No	within a Wetland?	res 9 NO 0
Remarks: Lower end of drain approximately 300 to 400 feet East of Railspur i	n Northern part of AOI.	
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B	•	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)		✓ Drainage Patterns (B10) Moss Trim Lines (B16)
	heres along Living Roots (C3)	✓ Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Redu		Crayfish Burrows (C8)
	action in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface		Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in	Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	,	✓ FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes No Depth (inches):		
Water Table Present? Yes O No Depth (Inches):		0 0
Saturation Present? (includes capillary frince) Yes No Depth (inches):	Wetland Hy	drology Present? Yes 💿 No 🔾
Describe Recorded Data (stream gauge, monitoring well, aerial phot		allahler
Describe Recorded Data (stream gauge, monitoring well, aeriai prioc	os, previous inspections), ii avi	aliable,
Remarks:		

VEGETATION (Five/Four Strata) - Use scientific names of plants.

		Dominant		Sampling Point: Wet - 26		
	Absolute	Species? _ e Rel.Strat.	Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30 m)	% Cove	r Cover	Status	Number of Dominant Species		
Pinus elliottii	5	✓ 22.7%	FACW	That are OBL, FACW, or FAC: 8 (A)		
Magnolia virginiana	10	✓ 45.5%	FACW	Total Number of Deminant		
Liriodendron tulipifera	2	9.1%	FACU	Total Number of Dominant Species Across All Strata: 8 (B)		
Nyssa sylvatica	5	₹ 22.7%	FAC			
	0	0.0%		Percent of dominant Species		
	0	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)		
	0	0.0%		Prevalence Index worksheet:		
	0	0.0%		Total % Cover of: Multiply by:		
50% of Total Cover: 11 20% of Total Cover: 4.4	22	= Total Cover	-	OBL species 3 x 1 = 3		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m.				FACW species 65 x 2 = 130		
		✓ 50.0%	FAC	FAC species $21 \times 3 = 63$		
THE TOTAL AND A CONTRACT OF THE CONTRACT OF TH		✓ 25.0%				
Magnolia virginiana Pinus elliottii			FACW			
		10.0%	FACW	UPL species $0 \times 5 = 0$		
• was the state of		15.0%		Column Totals: 91 (A) 204 (B)		
	0	0.0%	_	Prevalence Index = B/A = 2.242		
		0.0%	_	. ,.		
		0.0%	(0. 3 *	Hydrophytic Vegetation Indicators:		
	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 10 20% of Total Cover: 4	20	= Total Cover		✓ 2 - Dominance Test is > 50%		
Shrub Stratum (Plot size: _30 m)				✓ 3 - Prevalence Index is ≤3.0 ¹		
Ilex corlacea	20	✓ 55.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
Cyrilla racemiflora	10 BK - B	✓ 27.8%	FACW	rrobicinate nyarophysic regention (axplain)		
Ilex vomitoria	1	2.8%	FAC	¹ Indicators of hydric soil and wetland hydrology mus		
The same of	_	13.9%	FAC	be present, unless disturbed or problematic.		
			100	Definition of Vegetation Strata:		
A2 40 () () ()		0.0%		Tree - Woody plants, excluding woody vines,		
***	0	0.0%		approximately 20 ft (6 m) or more in height and 3 in.		
50% of Total Cover: 18 20% of Total Cover: 7.2	36	= Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).		
Herb Stratum (Plot size: 30 m						
1 . Arundinaria tecta	10	71.4%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less		
2. Sarracenia alabamensis	2	14.3%	OBL	than 3 in. (7.6 cm) DBH.		
3. Scirpus atrocinctus	1	7.1%	FACW	,		
1. Woodwardia virginica		7.1%	OBL	Sapling/Shrub - Woody plants, excluding vines, less		
).	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
5. 	0	0.0%		Obert Misselselselselselselselselselselselselsel		
7	0	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
3,	0	0.0%		approximatory o to 20 it (1 to 0 iii) iii noight.		
	0	0.0%	-	Herb - All herbaceous (non-woody) plants, including		
		0.0%		herbaceous vines, regardless of size, and woody		
)				plants, except woody vines, less than approximately 3 ft (1 m) in height.		
	0	0.0%		3 it (1 m) in neight.		
2	- 0	0.0%		Woody vine - All woody vines, regardless of height.		
50% of Total Cover: 7 20% of Total Cover: 2.8	14:	= Total Cover		vyoddy vine - All woody vines, regardless of neight.		
Voody Vine Stratum (Plot size: 30 m			Į.	<u>.</u>		
Smilax laurifolia	2	100.0%	FACW			
	0	0.0%				
· · · · · · · · · · · · · · · · · · ·	0	0.0%				
	0	0.0%				
	0	0.0%		Hydrophytic		
			******	Vegetation Present? Yes No ○		
50% of Total Cover: 1 20% of Total Cover: 0.4	2 =	= Total Cover		FICACINE 100 - 110 -		

_	_	- 1	•

Profile Desci	ription: (De	scribe to	the depth	needed to do	cumen	t.the indic	cator or co	onfirm the	absence of indicators.		
Depth		Matrix				dox Feat	ires,				
(inches)		(moist)	%	Color (m	oist)_	. 0/0	Type ¹	Loc2	Texture	Remarks	
0-4	10YR	5/2	100			-			Loamy Sand	and the second s	
5-16	10YR	6/2	95	10YR	7/2	5	D	М	Loamy Sand		
·		, , , , , , , , , , , , , , , , , , , ,						: :	Management III.	W 17-00 - 11 - 12 - 12 - 12 - 12 - 12 - 12 -	
0		***				-	_				
10-2											
									, , , w-	ichii A	
¹ Type: C=Cone Hydric Soll I		=Depletio	n. RM=Redu	iced Matrix, CS	=Covere	ed or Coate	d Sand Gra	ains ² Loca	ation: PL=Pore Lining. M=	-Matrix blematic Hydric Soils ³ :	
Histosol (□ Polyv	alue Rel	ow Surface	(SR) (LBB	STIN	_		
	edon (A2)					rface (S9) (1 cm Muck (A9)		
Black Hist				_		Mineral (F			2 cm Muck (A10		
_	Sulfide (A4)					d Matrix (F			_	(F18) (outside MLRA 150A,B)	
	Layers (A5)					•	<u>-)</u>			plain Soils (F19) (LRR P, S, T)	
_	odies (A6) (L	DD D T I	n		ted Mat					ht Loamy Soils (F20) (MLRA 153B)	
	, , ,		•			Surface (F6)			Red Parent Mate		
	ky Mineral (A		, 1, 0)			k Surface (Very Shallow Da	ark Surface (TF12)	
	епсе (A8) (L				-	ssions (F8)			Other (Explain i	n Remarks)	
	k (A9) (LRR I				(F10) (LI	-					
= :	Below Dark S	•	11)	_		ric (F11) (M					
	k Surface (A1	-				ese Masses					
	rie Redox (A		-	Umbr	ic Surfac	ce (F13) (LI	RR P, T, U)				
Sandy Mu	ck Mineral (S	1) (LRR 0	, S)	Delta	Ochric ((F17) (MLR	A 151)		³ Indicators of hydrophytic vegetation and		
Sandy Gle	yed Matrix (S	54)		Reduc	ed Vert	ic (F18) (M	LRA 150A,	150B)		s of nycrophytic vegetation and I hydrology must be present,	
Sandy Red	iox (S5)			Piedm	ont Floo	odplain Soil	s (F19) (MI	LRA 149A)		s disturbed or problematic.	
Stripped M	1atrix (S6)			Anom	alous Br	ight Loamy	Soils (F20) (MLRA 14	9A, 153C, 153D)		
☐ Dark Surfa	ace (S7) (LRF	R P, S, T, I	٦)								
Restrictive La	ver (if obs	erved):									
Туре:	., (,.									
Depth (inch	nec).								Hydric Soil Present?	Yes 💿 No 🔾	
	ics).					979					
Remarks:											

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 19-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 27
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 1.0 % / 0.6°
Subregion (LRR or MLRA): LRR T Lat:	30° 24' 26.188" N Long.: 89° 37' 37.076" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	the state of the s
Are climatic/hydrologic conditions on the site typical for this time of ye	
	tly disturbed? Are "Normal Circumstances" present? Yes No
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	
Hydric Soil Present? Yes No O	Is the Sampled Area Ves No No
Wetland Hydrology Present? Yes No	within a Wetland? Yes WO
Remarks:	
Head of drainage feature about 50 feet west - northwest of Up-27.	
Treat of diamage reduce about 50 rect west. Horativese of 5p 277	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B2	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Mari Deposits (B1	L5) (LRR U)
Saturation (A3) Hydrogen Sulfide	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Cxidized Rhizosph	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	iced Iron (C4)
Drift Deposits (B3)	action in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	
☐ Iron Deposits (B5) ☐ Other (Explain in	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes O No O Depth (inches):	
Saturation Present? (Includes contlined friend) Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(Includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	
beschibe Recorded bata (stream gauge, monitoring waii, acriai phot	os, previous inspectacity, in available.
Remarks:	
Fairly dry soil conditions given time of year. No strong redoximorphic	c features noted in soil profile, but surface hydrological indicators are present.
İ	

(Plat size) 25 1	Absolute	Rel.Strat		Dominance Test worksheet:		
Tree Stratum (Plot size: 30 m) Magnolla virginiana	% Cover		Status	Number of Dominant Species		
Magnolla virginiana Nyssa sylvatica	10	40.09		That are OBL, FACW, or FAC: 9 (A)		
Nyssa sylvatica	10	40.0%		Total Number of Dominant		
Pinus elliottii		20.0%	- 10 - 11	Species Across All Strata: 9 (B)		
Li-	0_	0.0%		December of development Consider		
	0_	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)		
		□ 0.0%		That is a state of the state of		
and the second	. 0	0.0%		Prevalence Index worksheet:		
	0	0.0%		Total % Cover of: Multiply by:		
0% of Total Cover: 12.5 20% of Total Cover: 5	25 :	= Total Cov	rer	OBL species 2 x 1 = 2		
pling or Sapling/Shrub Stratum (Plot size: 30 m				FACW species $101 \times 2 = 202$		
Magnolia virginiana	15	4 6.9%	6 FACW	FAC species $19 \times 3 = 57$		
Cyrilla racemifiora	10	31.3%	6 FACW	FACU species $0 \times 4 = 0$		
Nyssa sylvatica		15.6%		UPL species 0 x 5 = 0		
Acer rubrum	2	6.3%	**	-		
	0	0.0%		Column Totals: 122 (A) 261 (B)		
		0.0%		Prevalence Index = B/A = 2.139		
	0	0.0%		Hydrophytic Vegetation Indicators:		
• *			*4			
	0_	0.0%		1 - Rapid Test for Hydrophytic Vegetation		
0% of Total Cover: 16 20% of Total Cover: 6.4	32	= Total Cov	er	✓ 2 - Dominance Test is > 50%		
rub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 1		
Ilex coriacea	30	✓ 52.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)		
Cyrilla racemiflora	15	26.3%	FACW			
Magnolia virginiana	10	17.5%	FACW	¹ Indicators of hydric soil and wetland hydrology must		
Ilex opaca		3.5%		be present, unless disturbed or problematic.		
		0.0%	***	Definition of Vegetation Strata:		
1.0(12.1)	0	0.0%		Tree - Woody plants, excluding woody vines,		
erb Stratum (Plot size: 30 m) Arundinaria tecta Woodwardia areolata		✓ 71.4% ✓ 28.6%		(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.		
	0	0.0%				
		0.0%	-1	Sapling/Shrub - Woody plants, excluding vines, less		
	•	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
	0	0.0%		8		
The second secon		0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
The same of the sa		0.0%	100 s	approximately o to 20 K (1 to 0 M) III Noighi		
	0	0.0%		Herb - All herbaceous (non-woody) plants, including		
	0	0.0%	A	herbaceous vines, regardless of size, and woody		
	0	0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.		
	0	0.0%				
				Woody vine - All woody vines, regardless of height.		
0% of Total Cover: 3.5 20% of Total Cover: 1.4	7 =	= Total Cov	er	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
oody Vine Stratum (Plot size: 30 m						
Smilax laurifolia	1	100.09	FACW			
<u></u>	0	0.0%				
	0	0.0%				
	0	0.0%	-51677			
ж. А	0	0.0%	position	Hydrophytic		
				Vegetation Present? Yes No		
0% of Total Cover: 0.5 20% of Total Cover: 0.2		= Total Cov	125			

Profile Descr	iption: (De	scribe to	the depth	needed to document	t the indi	ator or co	nfirm the	absence of indicators.)	
Depth		Matrix			dox Feat	ures			
(inches)		moist)_	%_	Color (moist)	%	Type 1	Loc2	Texture	Remarks
0-5	10YR	5/1	100		* *** * * *B			Loamy Sand	
5-16	10YR	. , 5/2	95	10YR 7/2	5	C	M	Loamy Sand	
		=Depletio	n. RM= R edu	uced Matrix, CS=Covere	ed or Coate	ed Sand Gra	ins ²Loca	ition: PL=Pore Lining, M=	Matrix
Hydric Soil I				_				Indicators for Prob	lematic Hydric Soils ³ :
Stratified ! Organic Bd S cm Muck Muck Pres 1 cm Muck Depleted E Thick Dark Coast Praii Sandy Muc Sandy Gley Sandy Red Stripped M	pedon (A2) ic (A3) Sulfide (A4) Layers (A5) odies (A6) (L ky Mineral (A pence (A8) (L k (A9) (LRR I Below Dark S k Surface (A1 rie Redox (A ck Mineral (S yed Matrix (S dox (S5)	RR P, T, U 17) (LRR P RR U) P, T) Surface (A: 12) 16) (MLRA 51) (LRR O	, T, U) 11) A 150A) , S)	Polyvalue Bell Thin Dark Sur Loamy Mucky Loamy Gleyed Depleted Mat Redox Dark S Depleted Darl Redox Depres Marl (F10) (Ll Depleted Och Iron-Mangane Umbric Surfac Delta Ochric (Reduced Vert Piedmont Floc Anomalous Br	face (S9) if Mineral (Fild Matrix (F3) murface (F6) k Surface (F8) murface (F8) murface (F11) (I) murface (F13) (L) murface (F13) (L) murface (F13) (L) murface (F13) (MLR) ic (F18) (Modplain Sol	(LRR S, T, U F1) (LRR O) 2)) F7) MLRA 151) (F12) (LRR RR P, T, U) A 151) iLRA 150A, Is (F19) (ML	O, P, T) 150B) RA 149A)	Piedmont Floodp Anomalous Brigh Red Parent Mate Very Shallow Dar Other (Explain in	I (LRR S) F18) (outside MLRA 150A,B) Iain Soils (F19) (LRR P, S, T) t Loamy Soils (F20) (MLRA 153B) rial (TF2) k Surface (TF12)
Restrictive La	yer (if obs	erved):	_						
Type:								Hydric Soil Present?	Yes ● No ○
Depth (inch	es):	-,		- Ja. - C				nyuric 3011 Fresenti	TES © NO C
Remarks:									

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hanco	21 00.10				
Applicant/Owner: NASA	State: MS	Sampling Point: Wet - 29				
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: 5	31 T 7s R 16 W				
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, n	none): none				
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 23.925" N Long	9: 89° 37' 49.957" W Datum: NAD83				
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	The state of the s	NWI classification: PFO 1/4 C				
Are climatic/hydrologic conditions on the site typical for this time of year	ır? Yes 💿 No 🔾	(If no, explain in Remarks.)				
Are Vegetation . , Soil . , or Hydrology . significantl	y disturbed? Are "Normal	Circumstances" present? Yes No				
Are Vegetation, Soil, or Hydrology naturally p		explain any answers in Remarks.)				
SUMMARY OF FINDINGS - Attach site map showing sar	npling point locations, t	ransects, important features, etc.				
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area					
Hydric Soil Present? Yes No		Yes No				
Wetland Hydrology Present? Yes ● No ○	within a Wetland?					
Remarks:		· ·				
Lower bottom area just up from UP - 20 approximately 50 feet.						
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)				
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)				
Surface Water (A1) Aquatic Fauna (B1	•	Sparsely Vegetated Concave Surface (B8)				
High Water Table (A2) Marl Deposits (B15		✓ Drainage Patterns (B10)				
Saturation (A3) Hydrogen Sulfide C	* *	Moss Trim Lines (B16)				
	eres along Living Roots (C3)	Dry Season Water Table (C2)				
Sediment Deposits (B2) Presence of Reduction (B2) Presence of Reduction (B2)						
☐ Drift Deposits (B3) ☐ Recent Iron Reduction ☐ Algal Mat or Crust (B4) ☐ Thir: Muck Surface	tion in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)				
☐ Iron Deposits (B5) ☐ Other (Explain in R	• •	Shallow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B7)	enarks)	FAC-Neutral Test (D5)				
✓ Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)				
Field Observations:						
Surface Water Present? Yes No Depth (inches):						
Water Table Present? Yes No Depth (inches):						
	Wetland Hydr	rology Present? Yes 💿 No 🔾				
(includes capillary fringe) Yes No Depth (inches):						
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if avail	lable:				
	<u> </u>					
Remarks:						
Lower area within a drain with plenty of secondary hydrological indica	ators.					
•						

	(District on A)				Indicator	Dominance Test worksheet:
	ree Stratum (Plot size: 30 m)	% Cover		Cover	Status	Number of Dominant Species
1.	Pinus elliottii			11.1%	FACW	That are OBL, FACW, or FAC: 9 (A)
2.	Magnolia virginiana	10	V	55.6%	FACW	Total Number of Dominant
3.	Acer rubrum	5	V	27,8%	FAC	Species Across All Strata: 9 (B)
4.	Nyssa bifiora	1		5.6%	OBL	Percent of dominant Species
5.		0		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
6.		0		0.0%		
7.	1, c= A	0		0.0%		Prevalence Index worksheet:
8.		0	Ш	0.0%	-	Total % Cover of: Multiply by:
5	0% of Total Cover: 9 20% of Total Cover: 3.6	18	= To	otal Cove	r	OBL species 13 x 1 = 13
S	apling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species $55 \times 2 = 110$
1.	Magnolia virginiana	5		18.5%	FACW	FAC species $15 \times 3 = 45$
2.	Acer rubrum	10	V	37.0%	FAC	FACU species $0 \times 4 = 0$
3.	Cyrilla racemiflora	10	V	37.0%	FACW	UPL species $0 \times 5 = 0$
4.	Nyssa biflora	2		7.4%	OBL	Column Totals: 83 (A) 168 (B)
5.		0		0.0%		
6.		Ö		0.0%		Prevalence Index = B/A = 2.024
7.	60	0		0.0%		Hydrophytic Vegetation Indicators:
8.		0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
5	0% of Total Cover: 13.5 20% of Total Cover: 5.4	27 =	= To	otal Cove	r	✓ 2 - Dominance Test is > 50%
	-					
	rrub Stratum (Plot size: 30 m)	-		20.00/	FACIAL	✓ 3 - Prevalence Index is ≤3.0 ¹
1.	Magnolia virginiana			20.0%	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
2.	Cyrilla racemiflora			40.0%	FACW	¹ Indicators of hydric soil and wetland hydrology must
3.	Ilex corlacea	-		40.0%	FACW	be present, unless disturbed or problematic.
4.	3.	****		0.0%		Definition of Venetation Charles
5.	garantee (1975). Talmana at a till till till till till till til	0	Ц,	0.0%	- 175	Definition of Vegetation Strata:
6			Щ	0.0%	A.F * 40	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
5	0% of Total Cover: 12.5 20% of Total Cover: 5	25 =	= To	otal Cove	г	(7.6 cm) or larger in diameter at breast height (DBH).
Не	erb Stratum (Plot size: 30 m					
	. Woodwardia areolata	5	V	41.7%	OBL	Sapling - Woody plants, excluding woody vines
	Osmunda regalis		<u>_</u>	25.0%	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
	Arundinaria tecta	2		16.7%	FACW	Than one (1.5 only 55).
_		_		16.7%	OBL	Sapling/Shrub - Woody plants, excluding vines, less
5	T	0		0.0%	ODL	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6		0	<u>,</u>	0.0%		
7	•		□,	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
	· · · · · · · · · · · · · · · · · · ·		Η,	0.0%	.,	approximately 5 to 20 ft (1 to 6 ff) in fielding
			=	0.0%	_	Herb - All herbaceous (non-woody) plants, including
						herbaceous vines, regardless of size, and woody
	With the second of the second	0	4	0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.
		0,	_	0.0%	**************************************	3 π (1 m) in neight.
12		0		0.0%		Woody vine - All woody vines, regardless of height.
50	0% of Total Cover: 6 20% of Total Cover: 2.4	12 =	То	tal Cover		Woody Ville - All Woody Villes, regardless of fielght.
W	oody Vine Stratum (Plot size: 30 m				1	
	Smilax laurifolia	1		100.0%	FACW	
2.		0		0.0%		
3.		0		0.0%		
4.		0		0.0%		
5.	. *	0 [0.0%	1.14	Hydrophytic
	194 of Total Covers 0.5 2094 of Total Covers 0.3		To	tal Cover		Vegetation Present? Yes No
50	1% of Total Cover: 0.5 20% of Total Cover: 0.2		- 10	rai cover		
Rem	arks: (If observed, list morphological adaptations below).					
*To c	licator suffix = National status or professional decision assigned because Re	olonal etatus n	ot d	ofined by El	we	

rı	

	.heioir (DE		are acput					,, UIC	absence of indicators.)		
Depth Matrix (inches) Color (moist) %		0/			dox Featu %	res Type 1	1 2	c² Texture Remarks			
0-4	10YR	3/2	95	Color (me	7/2	5	D	Loc ² _	Loamy Sand	Remarks	
									•		
4-16	10YR	4/2	90	10YR	7/2	10	D	М	Loamy Sand		
								_	passar la ini	-	
										<i>y</i>	
	centration. D Indicators:	=Depletio	n. RM=Redu	iced Matrix, CS=	=Covere	ed or Coate	ed Sand Gra	ains ² Loca	tion: PL=Pore Lining. M=	Matrix lematic Hydric Soils ³ :	
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5)				☐ Thin D ☐ Loamy ☐ Loamy ☐ Deplet	Oark Sur / Mucky / Gleyed ted Mat	ow Surface fface (S9) (Mineral (F d Matrix (F2 rix (F3)	(LRR S, T, U (1) (LRR O) (2)	J)	1 cm Muck (A9) (LRR O) 2 cm Muck (A10) (LRR S) Reduced Vertic (F18) (outside MLRA 150A,B) Pledmont Floodplain Soils (F19) (LRR P, S, T) Anomalous Bright Loamy Soils (F20) (MLRA 153B)		
5 cm Muc	odies (A6) (L ky Mineral (A sence (A8) (L	7) (LRR P	-	Deplet	: Dark S :ed Darl : Depres	rial (TF2) k Surface (TF12) Remarks)					
1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A)			150A)	Deplet Iron-M Umbrid	langane c Surfac	ric (F11) (M ese Masses ce (F13) (Li	(F12) (LRF RR P, T, U)				
Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U)					LRA 149A)						
strictive La	ayer (if obse	erved):									
Type: Depth (inch	\ae\·					-			Hydric Soil Present?	Yes ● No □	
emarks:	163),		<u></u>	,							
letions thr	oughout so	il profile.									

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - I	3	mpling Date: 21-Oct-16
Applicant/Owner: NASA	State: MS	Sampling Point:	Wet - 30
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Rang	e: 5 31 T 7s	To all pages All and the Table 1
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, conv	ex, none): none	Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 20.526" N	Long.: 89° 37' 41.438" \	W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	,	NWI dassificati	ion: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes 💿 No 🔾	(If no, explain in Ren	narks.)
		rmal Circumstances" prese	ent? Yes No
		ied, explain any answers in	
SUMMARY OF FINDINGS - Attach site map showing sa	•		-
Hydrophytic Vegetation Present? Yes No No	Is the Sampled Ar		
Hydric Soil Present? Yes No O	<u> </u>	Vec (No (
Wetland Hydrology Present? Yes No No	within a Wetland?	163 0 110 0	
Remarks:			
Lower portion of riparian flood zone within 100 feet north of Turtles	skin Creek.		
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks	s (B6)
Surface Water (A1) Aquatic Fauna (B1	•		d Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1		✓ Drainage Patterns (
Saturation (A3) Hydrogen Sulfide	• •	✓ Moss Trim Lines (B	•
	neres along Living Roots (C3)	Dry Season Water	
Sediment Deposits (B2) Presence of Redui	• •	Crayfish Burrows (· •
	ction in Tilled Soils (C6)		on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface ☐ Iron Deposits (B5) ☐ Other (Explain in		✓ Geomorphic Positio Shallow Aquitard (I	` '
Iron Deposits (B5) Uther (Explain in I Inundation Visible on Aerial Imagery (B7)	Kemarks)	FAC-Neutral Test (I	·
Water-Stained Leaves (B9)		Sphagnum moss (E	·
Field Observations:			30) (2.51.7.5)
Surface Water Present? Yes No Depth (Inches):			
Water Table Present? Yes O No O Depth (inches):	-		
	Wetland	Hydrology Present? Y	res ● No ○
(includes capillary fringe) Yes No Depth (inches):			
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if	available:	
Remarks:			
1			

Tree Stratum (Plot size: 30 m)	Absolute % Cover		l.Strat.	Indicator Status	Dominance Test worksheet:
11000000000	2 2		13.3%	FACW	Number of Dominant Species
Plnus elliottii Nyssa biflora	_		53.3%	OBL	That are OBL, FACW, or FAC: 8 (A)
3. Magnolia virginiana			33.3%	FACW	Total Number of Dominant
	0		0.0%	1 ACM	Species Across All Strata: 8 (B)
4	0	H	0.0%		Percent of dominant Species
C		Η.			That Are OBL, FACW, or FAC: 100.0% (A/B)
6.		님.	0.0%		
7.		జ	0.0%		Prevalence Index worksheet:
8.	0	⊔,	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 7.5 20% of Total Cover: 3	15 =	= Tol	tal Cove		OBL species 16 x 1 = 16
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species $\underline{54}$ x 2 = $\underline{108}$
1. Pinus elliottii	2	\square	14.3%	FACW	FAC species 12 x 3 = 36
2. Nyssa biflora	5	ਂ	35.7%	OBL	FACU species $0 \times 4 = 0$
3. Acer rubrum		✓	35.7%	FAC	UPL species $0 \times 5 = 0$
4. Cyrilla racemifiora	2		14.3%	FACW	Column Totals: 82 (A) 160 (B)
5.	0		0.0%		
6.	0		0.0%	-	Prevalence Index = B/A = 1 951
7.	0		0.0%		Hydrophytic Vegetation Indicators:
8.	0		0.0%	0	1 - Daniel Took for Hydrochytic Vesstation
50% of Total Cover: 7 20% of Total Cover: 2.8	-	= Tot	tal Cove		1 - Rapid Test for Hydrophytic Vegetation
	11 .	- 101	0076		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m				angaya y	✓ 3 - Prevalence Index is ≤3.0 ¹
1. Pinus elliottii		片	11.9%	FACW	☐ Problematic Hydrophytic Vegetation ¹ (Explain)
2. Cyrilla racemiflora		☑	47.6%	FACW	
3. Magnolia virginiana	10	V	23.8%	FACW	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4 Acer rubrum	5	Ш,	11.9%	FAC	be present antess diseased of problemater
5. Morella cerifera			4.8%_	FAC	Definition of Vegetation Strata:
6	0.		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 21 20% of Total Cover: 8.4	42 =	2 = Total Cover			approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m)					(7.5 dity of larger in diameter at breast height (5511).
			27.20/	ENCIN	Sapling - Woody plants, excluding woody vines,
1. Andropogon glomeratus		✓	27.3%	FACW	approximately 20 ft (6 m) or more in height and less
2. Arundinaria tecta		V _	45.5%	FACW	than 3 in. (7.6 cm) DBH.
3. Woodwardla areolata	2	٣-	18.2%	OBL	Continuió Mando planta evaludina visca loss
4. Scirpus expansus	1	Ц.	9.1%	OBL	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
5	0	Ц.	0.0%		and the same ground and same and same
6	_0_	<u>. </u>	0.0%		Shrub - Woody plants, excluding woody vines,
7,		Ц.	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
8		Щ	0.0%	1.23	Hade All back and the second of the second o
9			0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10,			0.0%		plants, except woody vines, less than approximately
11			0.0%		3 ft (1 m) in height.
12	0		0.0%		
50% of Total Cover: 5.5 20% of Total Cover: 2.2	11 =	Tot	al Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m)					
	o í		0.004	Ì	
1	0 1	۵.	0.0%	-	
2		۵.	0.0%		
3		∐-	0.0%		
4.		ᆜ_	0.0%		Hydrophytic
5	0,		0.0%		Managastan
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Tot	al Cover		Present? Yes No O
Remarks: (If observed, list morphological adaptations below).			•		
*Indicator suffix = National status or professional decision assigned because Re	gional status n	ot de	fined by FV	/S.	

Depth		Matrix			Re	dox Featı	ıres		×
(inches)	Color (moist)	0/0	Color (m	oist)	%	Type 1	Locz	Texture Remarks
0-4	10YR	3/1	100		.w				
4-14	10YR	4/2	98	10YR	7/2	2	D	М	Silty Clay Loam
14-24	10YR	5/2	95	10YR	7/2	5	D	М	Silty Clay Loam
		N.	1 5						
				, w					
				C .* 76 F		_		_	
Type: C=Conc	entration. D	=Depletio	n. R M=R edu	iced Matrix, CS	=Covere	d or Coate	d Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=Matrix
lydric Soil Ir	ndicators:								Indicators for Problematic Hydric Soils ³ :
Histosol (A	•			Polyva	alue Belo	ow Surface	(S8) (LRR	S, T, U)	1 cm Muck (A9) (LRR O)
Histic Epip				Thin C	Dark Sur	face (S9) (LRR S, T,	J)	2 cm Muck (A10) (LRR S)
Black Histic	• •			Loamy	y Mucky	Mineral (F	1) (LRR 0))	Reduced Vertic (F18) (outside MLRA 150A,B)
	Sulfide (A4)			Loamy	y Gleyed	l Matrix (F	2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified L	ayers (A5)			Deple	ted Mat	rix (F3)			Anomalous Bright Loamy Soils (F20) (MLRA 153B)
Organic Bo	dies (A6) (L	RR P, T, U	1)	Redox	Dark S	urface (F6))		Red Parent Material (TF2)
5 cm Muck	y Mineral (A	7) (LRR P,	T, U)			Surface (i			Very Shallow Dark Surface (TF12)
_	ence (A8) (LI					sions (F8)	-		Other (Explain in Remarks)
_	(A9) (LRR P			-	F10) (LF				Court (Explain in Kellans)
_	elow Dark S		11)	_		ric (F11) (!	/LRA 151)		
_	Surface (A1	-	-,			se Masses		2 O P T	
=	ie Redox (Al		150A)			e (F13) (∐			
=	k Mineral (S		-	_				ı	
	ik militerar (5.	I) (LKK U	, 3)	Delta	OCHING (F17) (MLR	W TOT)		7
_	and Manager (C	43				(-40) (0)		45003	Indicators of hydrophytic vegetation and
Sandy Gley	ved Matrix (S	4)				ic (F18) (M		-	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,
Sandy Gley Sandy Red	ox (S5)	4)		Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetiand hydrology must be present, unless disturbed or problematic.
Sandy Gley Sandy Red Stripped M	ox (S5) atrix (S6)			Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present,
Sandy Gley Sandy Red Stripped M	ox (S5)		J)	Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetiand hydrology must be present, unless disturbed or problematic.
Sandy Gley Sandy Red Stripped M Dark Surface	ox (S5) atrix (S6) ce (S7) (LRR	.P, S, T, U	J)	Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetiand hydrology must be present, unless disturbed or problematic.
Sandy Gley Sandy Red Stripped M Dark Surface	ox (S5) atrix (S6) ce (S7) (LRR	.P, S, T, U	J) 	Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfar estrictive La Type:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	.P, S, T, U	J) 	Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic.
Sandy Gley Sandy Red Stripped M Dark Surface estrictive La Type: Depth (Inche	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	.P, S, T, U	J)	Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surface estrictive Lar Type: Depth (Inche)	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surface estrictive Lar Type: Depth (Inche)	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surface estrictive Lar Type: Depth (inchestemarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surface estrictive Lar Type: Depth (inchestemarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
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Sandy Gley Sandy Red Stripped M Dark Surfar estrictive Lar Type: Depth (Incheemarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surface estrictive Lar Type: Depth (Inche)	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surface estrictive Lar Type: Depth (Inche) Demarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfactive La Type: Depth (inche) Remarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfact Restrictive Lar Type: Depth (inche) Remarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfact Restrictive Lar Type: Depth (inche) Remarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfar testrictive Lar	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfact Restrictive Lar Type: Depth (inche) Remarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfact Sestrictive Lar Type: Depth (inche)	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfactive La Type: Depth (inche) Remarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
Sandy Gley Sandy Red Stripped M Dark Surfactive La Type: Depth (inche) Remarks:	ox (S5) atrix (S6) ce (S7) (LRR yer (if obse	P, S, T, U		☐ Piedm	ont Floo	dplain Soil	s (F19) (M	LRA 149A)	wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)

Project/Site: NASA - Stennis; 1,100 Acre Wedand Delineation	City/County: Waveland - Hancock Sampling Date: 21-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 31
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24′ 0.830" N Long.: 89° 37′ 22.350" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	
Are Vegetation . , Soil . , or Hydrology . significant	ntly disturbed? Are "Normal Circumstances" present? Yes 🏵 No 🔾
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	Is the Sampled Area
Hydric Soil Present? Yes ● No ○	Ves (9) No ()
Wetland Hydrology Present? Yes No O	within a Wetland?
Remarks:	
Wet plot approximately 500 feet south of E-W Logging Road throug	gh center portion of AOI.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B:	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	15) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	e Odor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☑ Oxidized Rhizospl	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	uced Iron (C4) Crayfish: Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Redu	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	ce (C7) Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in	Remarks) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes O No O Depth (inches):	:
Saturation Present? (includes capillary frings) Yes No Depth (inches):	Wetland Hydrology Present? Yes No ○
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photographics)	
Describe Recorded Data (Stream gauge, monitoring well, actial prior	ios, previous inspections, ii available.
Remarks:	
No strong primary hydrology indicators present except for some min	nor occurrences of oxidized root channels.
(0)	
	ł

		Rel.Strat.	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size: 30 m ,) 1 Pinus elliottii	% Cover	_		Number of Dominant Species
11	15		FACW	That are OBL, FACW, or FAC: 6 (A)
2. Nyssa sylvatica	3	15.0%	FAC	Total Number of Dominant
3. Magnolia virginiana	.2	10.0%	FACW	Species Across All Strata: 6 (B)
4.		0.0%	-	Percent of dominant Species
5	. 0	0.0%	-	That Are OBL, FACW, or FAC: 100.0% (A/B)
6,		0.0%	-	
7	0	0.0%		Prevalence Index worksheet:
8	0	0.0%	41.	Total % Cover of Multiply by:
50% of Total Cover: 10 20% of Total Cover: 4	20 :	= Total Cove	г	OBL species $20 \times 1 = 20$
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	-)			FACW species94
1 Pinus elliottii	15	55,6%	FACW	FAC species $10 \times 3 = 30$
2. Magnolia virginiana	10	₹ 37.0%	FACW	FACU species $0 \times 4 = 0$
3. Nyssa sylvatica		7.4%	FAC	UPL species $0 \times 5 = 0$
4.		0.0%		(2)
5.	0	0.0%		Column Totals: 124 (A) 238 (B)
^	0	0.0%		Prevalence Index = $B/A = 1919$
7	0	0.0%		Hydrophytic Vegetation Indicators:
0	0	0.0%	a1	
				✓ 1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 13.5 20% of Total Cover: 5.4	27 =	= Total Cover	r	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)				✓ 3 - Prevalence Index is \leq 3.0 ¹
1 Ilex corlacea	40	√ 72.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex glabra	40	18.2%	FACW	
3. Ilex vomitoria	_	9.1%	FAC	¹ Indicators of hydric soil and wetland hydrology must
4.	^	0.0%		be present, unless disturbed or problematic.
		0.0%	,	Definition of Vegetation Strata:
5 6.	0	0.0%	MA I TO STATE OF THE STATE OF T	Tree - Woody plants, excluding woody vines,
		•		approximately 20 ft (6 m) or more in height and 3 in.
EOS/ of Total Course: 37 E 309/ of Total Course: 11	EE	- Total Covor	- 1	
50% of Total Cover: 27.5 20% of Total Cover: 11	55_ =	= Total Cove	r	(7.6 cm) or larger in diameter at breast height (DBH).
50% of Total Cover: 27.5 20% of Total Cover: 11 Herb Stratum (Plot size: 30 m)	55 =	= Total Cover	r	(7.6 cm) or larger in diameter at breast height (DBH).
		= Total Cover	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines,
Herb Stratum (Plot size: 30 m)	15			(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m) 1 Lycopodiella alopecuroides	15	✓ 75.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3.	15 5 0	✓ 75.0% ✓ 25.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3. 4.	15 5 0	✓ 75.0% ✓ 25.0% □ 0.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3.	15 5 0	✓ 75.0% ✓ 25.0% □ 0.0% □ 0.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3. 4. 5. 6.	15 5 0 0	✓ 75.0% ✓ 25.0% □ 0.0% □ 0.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3. 4. 5. 6. 7.	15 5 0 0 0 0	✓ 75.0% ✓ 25.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3	15 5 0 0 0 0	✓ 75.0% ✓ 25.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3. 4. 5. 6. 7. 8. 9	15 5 0 0 0 0 0	✓ 75.0% ✓ 25.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3. 4. 5. 6. 7. 8. 9. 9. 10.	15 5 0 0 0 0 0 0	75.0% 25.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3	15 5 0 0 0 0 0 0 0	▼ 75.0% ▼ 25.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3	15 5 0 0 0 0 0 0 0 0 0 0	▼ 75.0% ▼ 25.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3	15 5 0 0 0 0 0 0 0 0 0 0	▼ 75.0% ▼ 25.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 50% of Total Cover: 4	15 5 0 0 0 0 0 0 0 0 0 0	▼ 75.0% ▼ 25.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3.	15 5 0 0 0 0 0 0 0 0 0 0	▼ 75.0% ▼ 25.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Herb Stratum (Plot size: 30 m) 1 Lycopodiella alopecuroides 2 Dichanthelium scabriusculum 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 50% of Total Cover: 10 20% of Total Cover: 4 Woody Vine Stratum (Plot size: 30 m) 1 Smilax laurifolia	15 5 0 0 0 0 0 0 0 0 0 0 0 0 0	75.0% 25.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Herb Stratum (Plot size: 30 m) 1 Lycopodiella alopecuroides 2 Dichanthelium scabriusculum 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 50% of Total Cover: 10 20% of Total Cover: 4 Woody Vine Stratum (Plot size: 30 m) 1 Smilax laurifolia	15 5 0 0 0 0 0 0 0 0 0 0 0 0 0	75.0% 75.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% 100.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3	15 5 0 0 0 0 0 0 0 0 0 0 0 0 0	75.0% 75.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 50% of Total Cover: 4 Woody Vine Stratum (Plot size: 30 m.) 1. Smilax laurifolia 2. 3. 4. 1. 12. 12. 13. 14. 15. 15. 15. 15. 15. 15. 15. 15. 15. 15	15 5 0 0 0 0 0 0 0 0 0 0 20 =	75.0% 75.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Herb Stratum (Plot size: 30 m) 1. Lycopodiella alopecuroides 2. Dichanthelium scabriusculum 3	15 5 0 0 0 0 0 0 0 0 0 0 0 0 0	75.0% 75.0%	OBL OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.

TOTHE DESCR	ription: (De:	scribe to	the dep th	needed to o	locument	the indic	cator or c	onfirm the a	absence of indicators.)	
Depth	. m	Matrix				dox Feati	ures		5 6		
(inches)	(inches) Color (moist) % 0-4 10YR 3/2 97		%	Color (%	Type 1		Texture	Remarks	
U-4			-	10YR	6/2	.3	D	M	Loamy Sand		
	10YR	4/2	95	10YR	6/2	. 5	D	. M	Loamy Sand		
				W a.	r.						
					-					- AMARI	
***			. *		A :						
							-				
		_			_	1			-		
							10-10-		Niana Di Bana Liaina M	Makin	
	centration. D	=Depletio	n. RM≃Redu	ced Matrix, (S=Covere	ed or Coate	ed Sand Gr	ains ² Loca	tion: PL≂Pore Lining. M		
ydric Soil I							(00) (I DD			blematic Hydric Solis ³ :	
J Histosol (A	edon (A2)				•		(S8) (LRR		1 cm Muck (A9	• •	
_ ⊓istic epip _ Black Histi							(LRR S, T, I	•	2 cm Muck (A1	• • •	
_	Sulfide (A4)					Matrix (F	=1) (LRR 0)	,	_	(F18) (outside MLRA 150A,B)	
	Layers (A5)			_	my Gieyed oleted Mat	•	2)			Iplain Soils (F19) (LRR P, S, T)	
_	odies (A6) (L	RRPTI	n	'		urface (F6	`			ht Loamy Soils (F20) (MLRA 153B)	
	ky Mineral (A		-			s Surface (10	•		Red Parent Material (TF2) Very Shallow Dark Surface (TF12)		
_	sence (A8) (L		, ., ٠,	`		sions (F8)					
-	k (A9) (LRR F				1 (F10) (LI				Uther (Explain	in Remarks)	
	Below Dark S	-	11)				MLRA 151)				
Thick Dark	k Surface (A1	2)					(F12) (LR				
Coast Prai	rie Redox (A	16) (MLRA	150A)		_		RR P, T, U				
Sandy Mu	ck Mineral (S	1) (LRR C	, S)			F17) (MLR			2		
] Sandy Gle	yed Matrix (S	64)		Red	luced Verti	ic (F18) (M	ILRA 150A,	150B)		rs of hydrophytic vegetation and d hydrology must be present,	
Sandy Rec	ox (S5)			Piec	lmont Floo	dplain Sol	ls (F19) (M	ILRA 149A)		ss disturbed or problematic.	
Stripped M	latrix (S6)			And	malous Br	ight Loam	y Soils (F20) (MLRA 149	9A, 153C, 153D)		
Dark Surfa	ace (S7) (LRR	P, S, T, I	J)								
strictive La	yer (if obse	erved):	_								
Type:										0 0	
Depth (inch	nes):								Hydric Soil Present	? Yes 💿 No 🔾	
emarks:										<u> </u>	

Tregos, State Treated Sentential	City/County: Waveland - Hancock Sampling Date: 21-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 32
Investigator(s): Lars Larson, Randv Ellis	Section, Township, Range: S 31 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): flat Slope: 1.0 % / 0.6 °
the state of the s	30° 23' 58.663" N Long.: 89° 37' 27.288" W Datum: NAD83
Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent slop	6 0
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation , Soll , or Hydrology significantly	ly disturbed? Are "Normal Circumstances" present? Yes 🏵 No 🔾
Are Vegetation , Soll , or Hydrology naturally pr	roblematic? (If needed, explain any answers In Remarks.)
	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area
Hydric Soil Present? Yes ● No ○	Ven (1) No (
Wetland Hydrology Present? Yes No No	within a Wetland?
Remarks: Approximately 300 feet south of wet 31 - transitional area closer to r HYDROLOGY	main logging road.
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (minimum of 2 required)
Surface Water (A1) Surface Water (A1) Aquatic Fauna (B13)	
High Water Table (A2) Marl Deposits (B15)	
Saturation (A3) Hydrogen Sulfide Oc	
	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduce	
	tion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (
☐ Iron Deposits (B5) ☐ Other (Explain in Re	lemarks) Shallow Aquitard (D3)
☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Caturation Precent?	Wetland Hydrology Present? Yes ● No ○
(Medaco copinary Tringe)	The state of the s
Describe Recorded Data (stream gauge, monitoring well, aerial photos	s, previous inspections), ir available:
Remarks:	
slight evidence of oxidized root channels on living roots	
1	

	Absolute % Cover		Cover	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size: 30 m) Nyssa sylvatica	20	V	57.1%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 8 (A)
Magnolia virginiana	10	V	28.6%	FACW	This die obe, men, of their
Pinus elliottii	5		14,3%	FACW	Total Number of Dominant
· · · · · · · · · · · · · · · · · · ·	_		0.0%		Species Across All Strata: 8 (B)
	-		0.0%	-	Percent of dominant Species
	0	H	0.0%		That Are OBL, FACW, or FAC: 100 0% (A/B)
		H	0.0%	-	Prevalence Index worksheet:
	0		0.0%		
		<u> </u>		_	Total % Cover of: Multiply by:
0% of Total Cover: 17.5 20% of Total Cover: 7		= To	tal Cove	r	OBL species 20 x 1 = 20
apling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species 87 x 2 = 174
Nyssa sylvatica	15	V	40.5%	FAC	FAC species 37 x 3 = 111
Magnolia virginiana	20	✓,	54.1%	FACW	FACU species $0 \times 4 = 0$
Pinus elliottii	2		5.4%	FACW	UPL species $0 \times 5 = 0$
	0		0.0%		Column Totals: 144 (A) 305
	0		0.0%		
	0		0.0%		Prevalence Index = B/A = 2.118
			0.0%		Hydrophytic Vegetation Indicators:
	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 18.5 20% of Total Cover: 7.4		= T~	tal Cove		
	31	_ 10	701 COAC		✓ 2 - Dominance Test Is > 50%
nrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex corlacea	30	✓.	63.8%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex glabra	10	Y .	21.3%	FACW	
Ilex vomitoria	2.,		4.3%	FAC	¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
Magnolia virginiana	. 5		10.6%	FACW	be present, unless disturbed or problematic.
			0.0%		Definition of Vegetation Strata:
			01070		
v &	0	□ = To	0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0% of Total Cover: 23.5 20% of Total Cover: 9.4 Prb Stratum (Plot size: 30 m) Lycopodiella alopecuroides	0 47		0.0%	OBL OBL	
0% of Total Cover: 23.5 20% of Total Cover: 9.4 arb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis	0 47 15 5	V	0.0% tal Cove	OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2	V	0.0% tal Cover 68.2% 22.7%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2	V	0.0% tal Cover 68.2% 22.7% 9.1% 0.0%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2 0	V	0.0% tal Cover 68.2% 22.7% 9.1% 0.0%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2 0	V	0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum {Plot size: 30 m } Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2 0 0	V	0.0% tal Cover 68.2% 22,7% 9.1% 0.0% 0.0% 0.0%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2 0 0	V	0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2 0 0 0	V	0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2 0 0 0 0	V	0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	15 5 2 0 0 0 0	V	0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium	0 47 15 5 2 0 0 0 0 0		0.0% tal Cover 68.2% 22,7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium 0% of Total Cover: 11 20% of Total Cover: 4.4	0 47 15 5 2 0 0 0 0 0		0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium 0% of Total Cover: 11 20% of Total Cover: 4.4	0 47 15 5 2 0 0 0 0 0		0.0% tal Cover 68.2% 22,7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium 0% of Total Cover: 11 20% of Total Cover: 4.4 coody Vine Stratum (Plot size: 30 m)	0 47 15 5 2 0 0 0 0 0		0.0% tal Cover 68.2% 22,7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium 0% of Total Cover: 11 20% of Total Cover: 4.4 coody Vine Stratum (Plot size: 30 m)	0 47 15 5 2 0 0 0 0 0		0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% tal Cover	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
23.5 20% of Total Cover: 9.4 Prob Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium 20% of Total Cover: 11 20% of Total Cover: 4.4 Dody Vine Stratum (Plot size: 30 m) Smilax laurifolia	0 47 15 5 2 0 0 0 0 0 0 0 0		0.0% tal Cover 68.2% 22,7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 10.0% 100.0%	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 23.5 20% of Total Cover: 9.4 erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium 0% of Total Cover: 11 20% of Total Cover: 4.4 pody Vine Stratum (Plot size: 30 m) Smilax laurifolia	0 47 15 5 2 0 0 0 0 0 0 0 0		0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
erb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium O% of Total Cover: 11 20% of Total Cover: 4.4 Toody Vine Stratum (Plot size: 30 m) Smilax laurifolia	0 47 15 5 2 0 0 0 0 0 0 0 0 0 22		0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.
Jerb Stratum (Plot size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium John Size: 30 m) Lycopodiella alopecuroides Sarracenia alabamensis Hypericum cistifolium John Size: 30 m) Smilax laurifolia	0 47 15 5 2 0 0 0 0 0 0 0 0 22		0.0% tal Cover 68.2% 22.7% 9.1% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	OBL OBL FACW	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.

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	iption: (Describ	e to the depth	needed to docum	ent the ind	icator or c	onfirm the	absence of indicators.)
Depth	Mat	rix,	r	Redox Fea			_
(inches)	Color (mois	t) %	Color (moist) %	Type 1	Loc2	Texture Remarks
0-5	10YR 3,	/2 98	10YR 6/	/2 2	., C	M	Sandy Loam
5-16	10YR 4,	/2 95	10YR 6/	/2 5	С	М	Sandy Loam
	-EV FI						
-	K" " - F					_	
		.					70.
ype: C=Conc	entration. D=Dep	letion. RM=Redu	iced Matrix, CS=Co	vered or Coa	ted Sand Gr	ains ² Loca	cation: PL=Pore Linlng, M=Matrix
lydric Soil I:	ndicators:			-			Indicators for Problematic Hydric Soils ³ :
Histosol (A	(1)		☐ Polyvalue	Below Surface	ce (S8) (LRF	₹ S, T, U)	1 cm Muck (A9) (LRR O)
Histic Epip	edon (A2)		Thin Dark	Surface (S9)	(LRR S, T,	U)	2 cm Muck (A10) (LRR S)
Black Histie			Loamy Mu	udky Mineral	(F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
_ ′ ′	Sulfide (A4)		Loamy Gl	eyed Matrix (F2)		Piedmont Floodplain Soils (F19) (LRR P, S, T)
	ayers (A5)		Depleted	Matrix (F3)			Anomalous Bright Loamy Soils (F20) (MLRA 15
	odies (A6) (LRR P,		Redox Da	rk Surface (F	6)		Red Parent Material (TF2)
_	cy Mineral (A7) (Li		= .	Dark Surface			Very Shallow Dark Surface (TF12)
_	ence (A8) (LRR U))		pressions (F8	3)		Other (Explain in Remarks)
_	(A9) (LRR P, T)	- nih	Marl (F10)				
	Below Dark Surfac	e (All)	·	Ochric (F11)			
_	Surface (A12)	41 D4 4504)	_	ganese Masse			
_	rie Redox (A16) (N			urface (F13) ()	
_	k Mineral (S1) (LF	KR (), 5)	_	ric (F17) (ML		4 EOD)	³ Indicators of hydrophytic vegetation an
Sandy Red	yed Matrix (S4)		_	Vertic (F18) (wetland hydrology must be present, unless disturbed or problematic.
Stripped M			_	Floodplain So			unless distarbed or problematic. 49 A , 153C, 153D)
	ce (S7) (LRR P, S,	T. U)	☐ Al:Olilalou	is bright Loan	ily soils (12)	U) (INLINA 14	T37, 155C, 155C)
_ Dark Suria	CC (37) (BCC1, 3)	, 1, 0)					
							Т
estrictive La	yer (if observed	i):					
Type:							Hydric Soil Present? Yes No
Depth (inch	es):						Hydric Sou Present? Yes WO
temarks:							
ght redox co	oncentrations w	ith Oxidized ro	ot channels.				

Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded Are climatic/hydrologic conditions on the site typical for this time of year Are Vegetation , Soil , or Hydrology significant	
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: Transect #2 +/- 1000 feet south of logging road in central part of A	Is the Sampled Area within a Wetland? Yes No O
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Table (C2) Reced Iron (C4) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photo Remarks:	Wetland Hydrology Present? Yes No O

	% Cover	Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size: 30 m) Pinus elliottii	5 5	14.3%	FACW	Number of Dominant Species That are ORL FACW or FAC: 7 (A)
Nyssa biflora	5 20	✓ 57.1%	OBL	That are OBL, FACW, or FAC:7 (A)
Taxodium ascendens				Total Number of Dominant
Magnolla virginiana	5	14.3%	OBL	Species Across Ali Strata: 7 (B)
	5	14.3%	FACW	Percent of dominant Species
		0.0%	-	That Are OBL, FACW, or FAC: 100.0% (A/B)
		0.0%		
, .v.,	0	0.0%		Prevalence Index worksheet:
212	, O	□ 0.0%	KLA IN IME N. J	Total % Cover of: Multiply by:
50% of Total Cover: 17.5 20% of Total Cover: 7	35	= Total Cove	er	OBL species 51 x 1 = 51
apling or Sapling/Shrub Stratum _ (Plot size: 30 m)			FACW species $74 \times 2 = 148$
Nyssa biflora	20	✓ 58.8%	OBL	FAC species $0 \times 3 = 0$
Magnolia virginiana	10	29.4%	FACW _	FACU species $0 \times 4 = 0$
Pinus elliottii	. 3	8.8%	FACW	UPL species $0 \times 5 = 0$
Taxodium ascendens		2.9%	OBL	Column Totals: 125 (A) 199 (B)
		0.0%		COTAMIN TOCATO
		0.0%		Prevalence Index = B/A = 1 592
		0.0%	* # 14 * V	Hydrophytic Vegetation Indicators:
	0	0.0%	7. W 41	
ON of Total Course 17 20% of Total Course 6.9				✓ 1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 17 20% of Total Cover: 6.8	34 =	= Total Cove	:r	2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m.)		_		✓ 3 - Prevalence Index is ≤3.0 ¹
Magnolla virginiana	15_	50.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Cyrilla racemiflora	10	✓ 33.3%	FACW	
Ilex corlacea	5	16.7%	FACW	¹ Indicators of hydric soil and wetland hydrology mus
	0	0.0%		be present, unless disturbed or problematic.
	•	0.0%	-10	Definition of Vegetation Strata:
1.W. W. V. V. V. V. V. V. V. V. V. V. V. V. V.	0	0.0%		Tree - Woody plants, excluding woody vines,
erb Stratum (Plot size:) . Arundinaria tecta	20	* Total Cove	FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica	20 5	✓ 80.0%✓ 20.0%		Sapling - Woody plants, excluding woody vines,
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica	20 5 0	✓ 80.0%✓ 20.0%✓ 0.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica	20 5 0	✓ 80.0% ✓ 20.0% □ 0.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
erb Stratum (Plot size:) . Arundinaria tecta . Woodwardia virginica	20 5 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica .	20 5 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica	20 5 0 0 0 0	 ✓ 80.0% ✓ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% 	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica	20 5 0 0 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica	20 5 0 0 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica	20 5 0 0 0 0 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
erb Stratum (Plot size:) . Arundinaria tecta . Woodwardia virginica .	20 5 0 0 0 0 0 0 0	▼ 80.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
erb Stratum (Plot size:) . Arundinaria tecta . Woodwardia virginica .	20 5 0 0 0 0 0 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica	20 5 0 0 0 0 0 0 0	▼ 80.0%	FACW OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica 0% of Total Cover: 12.5 20% of Total Cover: 5	20 5 0 0 0 0 0 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	FACW OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica 0% of Total Cover: 12.5 20% of Total Cover: 5 coody Vine Stratum (Plot size: 30 m	20 5 0 0 0 0 0 0 0 0 0	▼ 80.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Plot size:	20 5 0 0 0 0 0 0 0 25 =	▼ 80.0%	FACW OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Arundinaria tecta Woodwardia virginica Woodwardia virginica 20% of Total Cover: 12.5 20% of Total Cover: 5 oody Vine Stratum (Plot size: 30 m Smilax laurifolia	20 5 0 0 0 0 0 0 0 0 0 25 =	▼ 80.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
Arundinaria tecta Woodwardia virginica 0% of Total Cover: 12.5 20% of Total Cover: 5 oody Vine Stratum (Plot size: 30 m Smilax laurifolia	20 5 0 0 0 0 0 0 0 0 0 0 0 1 0 0	80.0% 20.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
erb Stratum (Plot size:) Arundinaria tecta Woodwardia virginica Woodwardia virginica Lack Stratum (Plot size: 30 m) Smilax laurifolia	20 5 0 0 0 0 0 0 0 0 0 0 0 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	FACW OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.
2. Woodwardia virginica 3	20 5 0 0 0 0 0 0 0 0 0 0 0 0 0	▼ 80.0% ▼ 20.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0% □ 0.0%	FACW OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

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SOIL									Sampling Point: Wet	- 33
Profile Descr	iption: (Des	cribe to	the depth	needed to	document	the indic	cator or co	onfirm the	absence of indicators.)	
		Matrix				dox Feati				
Depth (inches)	Color (r		0/0	Color	(moist)	%	Type 1	Loc2	Texture Remarks	
0-4	10YR	3/1	100						Sandy Clay Loam	
4-16	10YR	3/2	95	10YR	5/6	5	С	M	Silty Clay Loam	
110	20110		. 17	10110					//	
						TN			0	A. 4
		Ka Brans								
							Water State			
-					-					
	,, ., ., .				-	-				
¹ Type: C=Cond	centration. D=	=Depletio	n. RM=Redu	ced Matrix,	CS=Covere	d or Coate	ed Sand Gr	ains ²Loca	ation: PL=Pore Lining. M=Matrix	
Hydric Soil I	ndicators:			_			-		Indicators for Problematic Hydric So	ils ³ :
Histosol (A	A1)			✓ Po	lyvalue Beld	ow Surface	e (S8) (LRR	S. T. U)	1 cm Muck (A9) (LRR O)	
	edon (A2)			_	in Dark Sur				2 cm Muck (A10) (LRR S)	
Black Histi				_	amy Mucky		•	-		150A B\
_	Sulfide (A4)				amy Gleyeo	•		,	Reduced Vertic (F18) (outside MLRA	
	Layers (A5)				pleted Mati	•	_)		Piedmont Floodplain Soils (F19) (LRR	
	odies (A6) (LF	RPTI	n		dox Dark S		,		Anomalous Bright Loamy Soils (F20)	(MLKA 153D)
	ky Mineral (A			_	pleted Dark	•	•		Red Parent Material (TF2)	
	sence (A8) (LF		, 1, 0)	_			-		☐ Very Shallow Dark Surface (TF12)	
	k (A9) (LRR P			_	dox Depres				Other (Explain in Remarks)	
	Below Dark Si		11\		irl (F10) (LF	-				
		-	11)		pleted Och					
=	s Surface (A12	•	1504	_	n-Mangane					
	rie Redox (A1			_	nbric Surfac)		
	ck Mineral (S1), 5)		Ita Ochric (³ Indicators of hydrophytic vege	etation and
	yed Matrix (S	4)		_	duced Verti				wetland hydrology must be p	oresent,
☐ Sandy Red					dmont Floo	•			unless disturbed or proble	matic.
☐ Stripped M				L An	omalous Br	ight Loam	y Soils (F20) (MLRA 149	9 A, 153C, 153D)	
☐ Dark Surfa	ice (S7) (LRR	P, S, T, 0	J)							
Restrictive La	war (if ahra	= med\1								
	iyei (ii obse	iveu).								
Type:						-			Hydric Soil Present? Yes 💿 No	0
	es):	· w	· · <u> </u>							
Remarks:										

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 24-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 34
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat:	30° 24' 2.713" N Long.: 89° 37' 1.660" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	The state of the s
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation, Soll, or Hydrology significant	tly disturbed? Are "Normal Circumstances" present? Yes 🍳 No 🔾
Are Vegetation . , Soil . , or Hydrology . naturally p	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No	15 the Samplet Area Yes No
Wetland Hydrology Present? Yes ● No ○	within a Wetland?
Remarks:	
Flat area that transitions from distinct upland to a wetland within 10)O-feet
The circuit did considers from abdited apidita to a wedaria maint as	70 1000
HYDROLOGY	· · · · · · · · · · · · · · · · · · ·
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	
☐ Surface Water (A1) ☐ Aquatic Fauna (B1	
High Water Table (A2) Marl Deposits (B1)	5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☑ Oxidized Rhizosph	neres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	ced Iron (C4) Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Redu	ction in: Tifled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	e (C7) Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in !	· —
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	
Describe Recorded Data (stream gauge, monitoring well, aerial prioto	os, previous inspectionis), ii avaliable:
Remarks:	
	,

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Species? Absolute Rel.Strat. Indicator Dominance Test worksheet: Tree Stratum (Plot size: 30 m % Cover Cover Status Number of Dominant Species 1. Pinus elliottii 30 75.0% FACW 7 That are OBL, FACW, or FAC: (A) Magnolia virginiana 10 Total Number of Dominant 0 3. 0.0% Species Across All Strata: . . . 7 (B) ____0 0.0% Percent of dominant Species 100.0% (A/B) That Are OBL, FACW, or FAC: 0.0% __ O 7. 0.0% Prevalence Index worksheet: 8. 0 0.0% Total % Cover of: Multiply by: 50% of Total Cover: 20 20% of Total Cover: 8 40 = **Total Cover** 5 x 1 = 5 OBL species FACW species $_{121}$ x 2 = Sapling or Sapling/Shrub Stratum (Plot size: 30 m 1. Pinus elliottii 15 ✓ $0 \times 3 =$ 75.0% FACW FAC species 2. Magnolia virginiana _____5 0 x 4 = 25.0% FACW FACU species 3. _____0 0.0% $0 \times 5 = 0$ UPL species 0 0.0% 4. Column Totals: 126 (A) 247 0 0.0% Prevalence Index = B/A = 1.960 0 0.0% 6. _____ Hydrophytic Vegetation Indicators: 0 0.0% ____0_ 8. __ 0.0% ✓ 1 - Rapid Test for Hydrophytic Vegetation 50% of Total Cover: 10 20% of Total Cover: 4 20 = Total Cover ✓ 2 - Dominance Test is > 50% Shrub Stratum (Plot size: 30 m 3 - Prevalence Index is ≤3.0 ¹ 1 Ilex coriacea . 60 ✓ 100.0% FACW Problematic Hydrophytic Vegetation ¹ (Explain) .0 2. _ 0.0% ¹ Indicators of hydric soil and wetland hydrology must 0 0.0% 3. be present, unless disturbed or problematic. . 0 0.0% 4. Definition of Vegetation Strata: 5. 0.0% Tree - Woody plants, excluding woody vines, 0 0.0% approximately 20 ft (6 m) or more in height and 3 in. 50% of Total Cover: 30 20% of Total Cover: 12 = Total Cover (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum (Plot size: _30 m____) Sapling - Woody plants, excluding woody vines, 1. Sarracenia alabamensis 3 **V** 60.0% OBL approximately 20 ft (6 m) or more in height and less **V** 2. Lycopodiella alopecuroides 40.0% than 3 in. (7.6 cm) DBH. 3.___ 0 0.0% Sapling/Shrub - Woody plants, excluding vines, less 0 0.0% than 3 in. DBH and greater than 3.28 ft (1m) tall. 0.0% 6. ______0 0.0% Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 8. ______0__ 0.0% Herb - All herbaceous (non-woody) plants, including 9, 0 0.0% herbaceous vines, regardless of size, and woody 0 10. plants, except woody vines, less than approximately 0 3 ft (1 m) in height. 11. 0.0% . 0 0.0% Woody vine - All woody vines, regardless of height. 50% of Total Cover: 2.5 20% of Total Cover: 1 5 = Total Cover Woody Vine Stratum (Plot size: 30 m 1 Smilax laurifolia _ 1 100.0% FACW 0 2. 0.0% ___0 3. 0.0% ___0 4. _ 0.0% Hydrophytic 0.0% Vegetation Yes 💿 No 🔾 Present? 50% of Total Cover: 0.5 20% of Total Cover: 0.2 1 = Total Cover Remarks: (If observed, list morphological adaptations below). *Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Wet - 34

Sampling Point:

SOIL									Samplin	ng Point: W	/et - 34
Profile Descri	ption: (Des	scribe to	the depth	needed to do	cument	the indi	cator or co	onfirm the	absence of indicators.)		
Depth .	. , .	Matrix			Re	dox Feat	ures		na .		
(inches)	Color (moist)	0/0	Color (m	noist)_	%	Type 1	Loc2	Texture	Remai	rks .
0-3	10YR	3/2	100						Silt Loam		to the track that the A
3-16	10YR	4/2	97	10YR	6/6	3	C	M	Sil t Loam		
									Kelmin .		
¹Type: C=Conce		=Depletio	 n. RM=Redi	uced Matrix, CS	5=Covere	ed or Coat	ed Sand Gra	ains ²Loca	ation: PL=Pore Lining, M=N		
Hydric Soil In									Indicators for Probl	lematic Hydric	: Soils ³ :
Histosol (A	1)			Polyv	alue Belo	ow Surface	e (S8) (LRR	S, T, U)	1 cm Muck (A9) (LRR O)	
Histic Epipe				Thin	Dark Şur	face (S9)	(LRR S, T, I	J)	2 cm Muck (A10)	(LRR S)	
Black Histic	(A3)			Loam	y Mucky	Mineral (i	F1) (LRR O))	Reduced Vertic (F	18) (outside ML	RA 150A,B)
💹 Hydrogen S	Sulfide (A4)			Loam	y Gleyed	d Matrix (F	2)		Piedmont Floodpla	ain Soils (F19) (LRR P, S, T)
Stratified Li				Deple	eted Mat	rix (F3)			Anomalous Bright	Loamy Soils (F	20) (MLRA 153B)
	dies (A6) (L			Redo	x Dark S	urface (F6	5)		Red Parent Mater	ial (TF2)	
	y Mineral (A		, T, U)	Deple	eted Darl	k Surface ((F7)		Very Shallow Dark	Surface (TF12))
	ence (A8) (LI	-		Redo	x Depres	sions (F8))		Other (Explain in	Remarks)	
_	(A9) (LRR P			Mari ((F10) (LF	RR U)					
_ :	elow Dark S	•	11)	Deple	ted Och	ric (F11) (MLRA 151)				
	Surface (A1	-		Iron-	Mangane	se Masses	s (F12) (LRF	R O, P, T)			
_	ie Redox (A1		-	Umbr	ic Surfac	e (F13) (L	.RR P, T, U))			
	k Mineral (S:), S)	Delta	Ochric (F17) (MLR	₹A 151)		3 _{Tactiontors}	of hydrophytic v	regetation and
	ed Matrix (S	4)		Redu	ced Verti	ic (F18) (M	1LRA 150A,	150B)	wetland h	or riyaropriyac v iydrology must l	be present,
Sandy Redo				Piedn	nont Floo	odplain Soi	ils (F19) (M	LRA 149A)	unless	disturbed or pro	oblematic.
Stripped Ma	• •			Anom	alous Br	ight Loam	y Soils (F20) (MLRA 14	9A, 153C, 153D)		
☐ Dark Surfac	ce (S7) (LRR	. P, S, T, l	J)								
Restrictive Lay	yer (if obse	rved):									
Type:						_				(6)	
Depth (inche	es):								Hydric Soil Present?	Yes 💿	No O
Remarks:	· ·										

Project/Site: NASA - Stennis, 1,100 Acre Wetland Delineation	City/County: Waveland - Hand	2100.10
Applicant/Owner: NASA	State: MS	Sampling Point: Wet - 35
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: \$	5 29 T 7 _S R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex,	none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 3.049" N Lor	ng.: 89° 36′ 57.357″ W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded		NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of year	ar? Yes 💿 No 🔾	(If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significant	fy disturbed? Are "Norma	al Circumstances" present? Yes 🍑 No 🔾
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲 naturally p	problematic? (If needed,	explaiπ any answers In Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations,	transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area	
Hydric Soil Present? Yes No	1	Yes No
Wetland Hydrology Present? Yes No No	within a Wetland?	
Remarks:		
Transitional zone into wet area after heavy pine overstory back to the	ne north. Smalll drain near this	s plot.
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)	.3)	☐ Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1)	5) (LRR U)	✓ Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide		Moss Trim Lines (B16)
	eres along Living Roots (C3)	Dry Season Water Table (C2)
Sediment Deposits (82)	` '	Crayfish Burrows (C8)
	ction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	• •	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in I	Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		✓ FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):		
Surface Water Present:		
Water Table Present? Yes No Depth (inches):	W-M	drology Present? Yes No
Saturation Present? (Includes capillary fringe) Yes No Depth (Inches):	wetiand Hyd	drology Present? Yes © No 🔾
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if ava	iilable:
producting from participation producting from	, p. 01.000 mapadama, m	
Remarks:		

Pinuce dilution	Tree Stratum (Plot size: 30 m)	Absolute	e Re	ecies? . I.Strat. Cover	Indicator	Dominance Test worksheet:
2 Special Military						
3. Segrolla virginitates						That are OBL, FACW, or FAC: 8 (A)
Magnolia vigitalina			V			Total Number of Dominant
5. Acer undrum 6.	3 Magnolia virginiana	5	Ш	15.2%	FACW	
5. Acer unbrum 6.	4. Taxodium ascendens	2		6.1%	OBL	
Third Are Ord, Park College Are College	5. Acer rubrum	1		3.0%	FAC	
				0.0%		That Are OBL, FACW, or FAC:
Total Sc Cover of: Multiply by:						Bravalence Index worksheet:
50% of Total Cover: 16.5	· · · · · · · · · · · · · · · · · · ·		\Box			
Sapiling or Sapiling / Shrub Stratum (Plot size: 30 m)		-	L.			
1. Pinus elliottii 2. Magnola virginiana 3. 0	50% of Total Cover: 16.5 20% of Total Cover: 6.6		= To	tal Cove	T.	
Misgnolla virginiana	Sapling or Sapling/Shrub Stratum (Plot size: 30 m	}}				FACW species $108 \times 2 = 216$
2. Magnolia virginiana 3.	Pinus elliottii	10	V	40.0%	FACW	FAC species $1 \times 3 = 3$
1				60.0%	FACW	FACIL species 0 x 4 = 0
1		_	$\overline{\Box}$	_		
0						
0	-		H			Column Totals: 146 (A) 256 (B)
			Н.			Prevalence Index = B/A = 1 753
3		.0	Ш,	0.0%		
1	7	0		0.0%		Hydrophytic Vegetation Indicators:
50% of Total Cover 12.5 20% of Total Cover 5 25 = Total Cover	8.	0		0.0%		1 - Banid Tost for Hudronbytis Vagetation
Shrub Stratum (Plot size: 30 m) 1			- Tot	tal Cove		
Illex corlaces	1008	23	- 10	Lai COVE		
Magnolia virginiana	Shrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
10	1 Ilex corlacea	30	V	56.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
3 Cyrilla racemiflora 10	2 Magnolia virginiana	10		18.9%	FACW	
Persea palustris		40		18.9%	FACW	¹ Indicators of hydric soil and wetland hydrology must
Definition of Vegetation Strata: Columbia Columbi	T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		\Box			be present, unless disturbed or problematic.
3					TACT	Definition of Vegetation Strata:
50% of Total Cover: 26.5 20% of Total Cover: 10.6 53 = Total Cover			H			
None Color	ô	0	Ш,	0.0%	erer	
1. Woodwardia areolata 2. Lycopodiella alopecuroides 10		53	= Tof	tal Cover		(7.6 cm) or larger in diameter at breast height (DBH).
2. Lycopodicila alopecuroides 10 ✓ 40.0% OBL than 3 in. (7.6 cm) DBH. 3. 0 0.0% Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. 0 0.0% Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 7. 0 0.0% Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. 2. 0 0.0% 3 ft (1 m) in height. 2. 0 0.0% Woody vine - All woody vines, regardless of height. Woody Vine Stratum (Plot size: 30 m) 10 ✓ 100.0% FACW 3. 0 0.0% Hydrophytic 4. 0 0.0% Hydrophytic 5. 0 0.0% Hydrophytic 6. 0.0% Hydrophytic	1 Woodwardia areolata	15	V	60.0%	OBL.	
3.	2 Lycopodiella alopecuroides	10	V	40.0%	OBL	
4.		0	\Box			
5.			\Box	-		Sapling/Shrub - Woody plants, excluding vines, less
6.			_			
7	5,		닠.			, ,
8.	6	. 0	<u> </u>	0.0%		Shrub - Woody plants, excluding woody vines,
9.	7,	0	□ . ,	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Comparison of Total Cover: 12.5 20% of Total Cover: 5 25 = Total Cover	8	0		0.0%	100 T 100 T 100	
0				0.0%		
1.				0.0%		
2. 0	(4	0				
50% of Total Cover: 12.5 20% of Total Cover: 5 25 = Total Cover Woody Vine Stratum (Plot size: 30 m) Smilax laurifolia			Η.			O It (1 m) in noight.
Smilax laurifolia		-	Ш"	0.0%		Mandu vine All weeds vines regardless of height
Smilax laurifolia	50% of Total Cover: 12.5 20% of Total Cover: 5	25	= Tot	al Cover		vvoody vine - All woody vines, regardless of height.
Smilax laurifolia	Woody Vine Stratum (Plot size: 30 m)					
0		10	1	100 004	FACW	
0 0.0% 0 0.0% Hydrophytic 0 0.0%		.* Na				
0 0.0% Hydrophytic					-	
0 0.0% Hydrophytic		0	Ц.	0.0%		
). Variation		0		0.0%		
).	0		0.0%		
50% of Total Cover: 5 20% of Total Cover: 2 10 = Total Cover Yes No		10	= Tot	al Cover		

0-4 10YR 3/2	Color (moist) % Type 1 Loc2 LOYR 6/2 20 D M	Texture Remarks Silt Loam Silt Loam
4-16 10YR 4/2 98 1 Type: C=Concentration. D=Depletion. RM =R educed N		, , , , , , , , , , , , , , , , , , ,
Type; C=Concentration. D=Depletion. RM =R educed f		Silt Loam
······································		
······································		
ydric Soil Indicators:	1atrix, CS=Covered or Coated Sand Grains 2Loca	ation: PL=Pore Lining, M=Matrix
7		Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) 5 cm Mucky Mineral (A7) (LRR P, T, U) Muck Presence (A8) (LRR U) 1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5)	□ Polyvalue Below Surface (S8) (LRR S, T, U) □ Thin Dark Surface (S9) (LRR S, T, U) □ Loamy Mucky Mineral (F1) (LRR O) □ Loamy Gleyed Matrix (F2) □ Depleted Matrix (F3) □ Redox Dark Surface (F6) □ Depleted Dark Surface (F7) □ Redox Depressions (F8) □ Marl (F10) (LRR U) □ Depleted Ochric (F11) (MLRA 151) □ Iron-Manganese Masses (F12) (LRR O, P, T) □ Umbric Surface (F13) (LRR P, T, U) □ Delta Ochric (F17) (MLRA 151) □ Reduced Vertic (F18) (MLRA 150A, 150B) □ Piedmont Floodplain Soils (F19) (MLRA 149A)	□ 1 cm Muck (A9) (LRR O) □ 2 cm Muck (A10) (LRR S) □ Reduced Vertic (F18) (outside MLRA 150A,B) □ Piedmont Floodplain Soils (F19) (LRR P, S, T) □ Anomaious Bright Loamy Soils (F20) (MLRA 153B) □ Red Parent Material (TF2) □ Very Shallow Dark Surface (TF12) □ Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Dark Surface (S7) (LRR P, S, T, U) estrictive Layer (if observed): Type:		Hydric Soil Present? Yes ◉ No ○
Depth (inches):		nyaric soil Present? Yes © No C

Project, Sites 1970A Stephins, 1,100 Act Wednis Semicadion	City/County: Waveland - Hancock Sampling Date: 24-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 36
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	ocal relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.: 3	80° 24' 5.679" N Long.: 89° 36' 45.177" W Datum: NAD83
Soil Map Unit Name: HIB, Harleston fine sandy loam, 2 to 5 percent slop	
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation . , Soil . , or Hydrology . significantly	disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation , Soil , or Hydrology naturally pro	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ● No ○	Is the Sampled Area
Hydric Soil Present? Yes ● No ○	Von (a) No (
Wetland Hydrology Present? Yes No O	within a Wetland?
Remarks;	<u> </u>
Plot is 15 feet (+/-) northeast of Up - 36 slight transition into lower	area.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15)	(LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Oc	dor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ✓ Oxidized Rhizospher	res along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	d Iron (C4) Crayfish Burrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iron Reduction	on in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Explain in Re	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? (includes capillary frings) Yes No Depth (inches):	Wetland Hydrology Present? Yes No ○
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections) if available:
beschoe Recorded bata (secam gauge, monitoring well, dental prioces,	previous inspections, it availables
Remarks:	

(0)	Absolute			Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30 m	% Cover	1	over	Status	Number of Dominant Species		
Pinus elliottii	10	V	40.0%	FACW	That are OBL, FACW, or FAC: 7 (A)		
Nyssa biflora	10	V.	40.0%	OBL	Total Number of Dominant		
Magnolla virginiana	5_	V	20.0%	FACW	Species Across Ali Strata: 7 (B)		
E 196 N			0.0%		Becaut of devinent Consider		
	0	Ц.	0.0%	-	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)		
-	D	Ц.	0.0%				
194	Ó	Ц.	0.0%		Prevalence Index worksheet:		
	0	□,.	0.0%		Total % Cover of: Multiply by:		
0% of Total Cover: 12.5 20% of Total Cover: 5	25	= Tot	al Cove	•	OBL species 28 x 1 = 28		
apling or Sapling/Shrub Stratum (Plot size: 30 m)				FACW species <u>57</u> x 2 = <u>114</u>		
Pinus elliottii	10	✓	35.7%	FACW	FAC species $0 \times 3 = 0$		
Nyssa biflora	15	V	53.6%	OBL	FACU species $0 \times 4 = 0$		
Magnolia virginiana	2		7.1%	FACW	UPL species $0 \times 5 = 0$		
Cyrilla racemiflora	1		3.6%	FACW	Column Totals: 85 (A) 142 (B)		
	0		0.0%		CO 10mm 10 m		
	0		0.0%		Prevalence Index = B/A = 1,671		
	0		0.0%		Hydrophytic Vegetation Indicators:		
	0		0.0%				
ON SETTING COURSE AND DOOR SETTING COURSE E.S.		T-4			1 - Rapid Test for Hydrophytic Vegetation		
0% of Total Cover: 14 20% of Total Cover: 5.6	28	= 100	al Cover		✓ 2 - Dominance Test is > 50%		
rub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹		
Ilex coriacea	15	∠ _	55.6%	FACW	Problematic Hydrophytic Vegetation 1 (Explain)		
Magnolla virginiana	. 10	V	37.0%	FACW			
Cyrilla racemiflora	2		7.4%	FACW	Indicators of hydric soil and wetland hydrology must		
	0		0.0%		be present, unless disturbed or problematic.		
	0		0.0%		Definition of Vegetation Strata:		
· · · · · · · · · · · · · · · · · · ·	0		0.0%		Tree - Woody plants, excluding woody vines,		
0% of Total Cover: 13.5 20% of Total Cover: 5.4 orb Stratum (Plot size: 30 m) Sarracenia alabamensis	2		al Cover	OBL	(7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less		
Lycopodiella alopecuroides	1_	<u></u>	33.3%	OBL	than 3 in. (7.6 cm) DBH.		
	0	Ц_	0.0%				
	0		0.0%		Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.		
	0		0.0%		that 3 in. DDH and greater than 3.20 it (111) tail.		
· · · · · · · · · · · · · · · · · · ·	0_		0.0%		Shrub - Woody plants, excluding woody vines,		
The state of the s	0	\square_{\cdot}	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.		
			0.0%				
The company of the co	0		0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody		
	0		0.0%		plants, except woody vines, less than approximately		
	0		0.0%		3 ft (1 m) in height.		
	0		0.0%				
0% of Total Cover: 1.5 20% of Total Cover: 0.6	3 =	= Tot	al Cover		Woody vine - All woody vines, regardless of height.		
pody Vine Stratum (Plot size: 30 m		_					
Smllax laurifolia	2		100.0%	FACW			
	. 0		0.0%				
	0		0.0%				
	0		0.0%				
	0		0.0%		Hydrophytic		
		6- 4 7 SE F			Vegetation Yes No ○		
0% of Total Cover: 1 20% of Total Cover: 0.4	2 =	= Tota	al Cover		Present? 165 0 110 0		

Color (molst)	Color (moist) % Color (moist) % Tyne Loc2 Texture Remarks		•	Matrix	•		lox Features		absence of Indicators.)
3	10YR 3/2 100 Silt Loam	Depth (inches)	Color (9/0		% Type 1	Loc2	Texture Remarks
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators: Indicators (S8) (LRR S, T, U)	E-Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2-Location: PL=Pore Lining. M=Matrix Soil Indicators:					Optor (moist?	11111		7.7
Trype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Costed Sand Grains 2Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators:	C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix Soll Indicators: Indicators for Problematic Hydric Soils 3: tosol (A1)	3-16	10YR		95	10YR 6/6	5 C	М	Silt Loam
Indicators: Histosol (A1)	Soll Indicators: tosol (A1)								•
Indicators: Histosol (A1)	Soll Indicators: tosol (A1)			OUT . WO					
Indicators: Histosol (A1)	Soll Indicators: tosol (A1)		_	-				_	•
Hydric Soll Indicators: Histosol (A1)	Soll Indicators: tosol (A1)								
Hydric Soil Indicators: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Depleted Matrix (F3) Muck Presence (A8) (LRR P, T, U) Depleted Dark Surface (F6) To Muck (A9) (LRR P, T, U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR 0, S) Sandy Gleyed Matrix (S4) Striped Matrix (S6) Delta Ochric (F13) (MLRA 150A, 150B) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Destrictive Layer (if observed): Type: Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydric Soils Present ³ : Indicators for Problematic Hydr	Soll Indicators: tosol (A1)	Type: C=Con	centration. D	=Depletio	n. RM=Reduc	ted Matrix, CS=Covered	d or Coated Sand Gra	ins ² Loca	 ation: PL=Pore Lining. M=Matrix
Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TT2) S cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sardy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Destrictive Layer (if observed): Type: Hydric Scil Present? Ver (P) No (P) No (P) Destrictive Layer (if observed): Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Destrictive Layer (if observed): Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Destrictive Layer (if observed): Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D) Piedmont Floodplain Soils (F20) (MLRA 149A, 153C, 153D)	Thin Dark Surface (S9) (LRR S, T, U) ck Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Indicators (A5) Indicators (A5) Indicators of hydrophytic vegetation and wetdand hydrology must be present, unless disturbed or problematic. Indicators (F2) Indicators of hydrophytic vegetation? Indicators (F3) Indicators of hydrophytic vegetation and wetdand hydrology must be present, unless disturbed or problematic. Indicators (F3) Indicators of hydrophytic vegetation? Indicators (F3) Indicators of hydrophytic vegetation? Indicators (F3) Indicators of hydrophytic vegetation and wetdand hydrology must be present, unless disturbed or problematic. Indicators (F3) Indicators (F3) Indicators (F3) Indicators (F3) Indicators (F3) Indicators (F3) Indicators (F3) Indicators (F3) Indicators (F3) Indicators (F3) Indicators (F4)	lydric Soll I	Indicators:						Indicators for Problematic Hydric Soils ³ :
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Depleted Matrix (F3) Muck Presence (A8) (LRR U) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MRA 150A) Sandy Muck Mineral (S1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A)B Reduced Vertic (F18) (outside MLRA 150A, B Reduced Vertic (F11) (MLRA 151) Redox Dark Surface (F10) (MLRA 150A, B) Sandy Muck Mineral (S1) (LRR O, P, T) Delta Ochric (F17) (MLRA 150A, 150B) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A, 153C, 153D) Reduced Vertic (F18) (MLRA 149A, 153C, 153D) Restrictive Layer (if observed): Type: Hydric Sail Present? Ver (8) No (1)	Thin Dark Surface (S9) (LRR S, T, U) ck Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) riogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Manomalous Bright Loamy Soils (F19) (LRR P, S, T) m Mucky Mineral (A7) (LRR P, T, U) m Mucky Mineral (A7) (LRR P, T, U) m Mucky Mineral (A7) (LRR P, T, U) m Mucky Mineral (A7) (LRR P, T, U) m Mucky Mineral (A7) (LRR P, T, U) m Mucky Mineral (A7) (LRR P, T, U) m Muck (A10) (LRR P, T, U) Depleted Matrix (F3) Redox Dark Surface (F6) m Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Marl (F10) (LRR U) Depleted Dark Surface (A11) ck Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) st Prairie Redox (A16) (MLRA 150A) dy Gleyed Matrix (S4) dy Gleyed Matrix (S4) Great (F18) (MLRA 150A) My Redox (S5) Delta Ochric (F17) (MLRA 150A) Depleted Ochric (F18) (MLRA 150A) Depleted Ochric (F18) (MLRA 150A) Delta Ochric (F19) (MLRA 150B) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox Ochric (F18) (MLRA 149A) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. My Gleyed Matrix (S6) K Surface (S7) (LRR P, S, T, U) Hydric Soil Present? Yes No	Histosol (A1)			Polyvalue Belov	w Surface (S8) (LRR	S, T, U)	
Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) S cm Mucky Mineral (A7) (LRR P, T, U) Muck Presence (A8) (LRR U) Depleted Dark Surface (F7) Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Deflat Ochric (F17) (MLRA 150A, 150B) Piedmont Floodplain Soils (F20) (MLRA 149A) Torn-Manganese Masses (F12) (LRR O, P, T) Depleted Below Dark Surface (A12) Umbric Surface (F13) (LRR P, T, U) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Delta Ochric (F17) (MLRA 150A, 150B) Sandy Redox (S5) Dark Surface (S7) (LRR P, S, T, U) Piedmont Floodplain Soils (F20) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Pestrictive Layer (if observed): Type:	Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) drogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) attified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Depleted Dark Surface (F8) Other (Explain in Remarks) Marl (F10) (LRR U) Depleted Ochric (F11) (MLRA 151) Ck Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) St Prairie Redox (A16) (MLRA 150A) dy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Delta Ochric (F17) (MLRA 150B) Weredox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Umbric Surface (S7) (LRR P, S, T, U) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Hydric Soil Present? Yes No] Histic Epij	pedon (A2)			☐ Thin Dark Surfa	ace (S9) (LRR S, T, U	ı)	
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Depleted Dark Surface (F12) Marl (F10) (LRR U) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Piedmont Floodplain Soils (F20) (MLRA 149A) Depleted Ochric (F17) (MLRA 150B) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Setrictive Layer (if observed): Type:	Inogen Sulfide (A4) Interest (A5) Interest (A15) Interest (A15) Interest (A7) Interest	Black Hist	tic (A3)			_		-	
Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Depleted Dark Surface (F7) Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F20) (MLRA 149A) Stripped Matrix (S6) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type: Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Ck Presence (A8) (LRR U) Mard (F10) (LRR U) Depleted Derive (F11) (MLRA 151) Ck Dark Surface (A11) Ck Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Set Prairie Redox (A16) (MLRA 150A) My Muck Mineral (S1) (LRR O, S) My Muck Mineral (S1) (LRR O, S) My Muck Mineral (S1) (LRR O, S) My Redox (S5) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A) My Redox (S5) Delta Ochric (F17) (MLRA 150A) My Redox (S5) Delta Ochric (F17) (MLRA 150A) My Redox (S5) Delta Ochric (F17) (MLRA 150A) My Redox (S5) Delta Ochric (F17) (MLRA 150A) My Redox (S5) Delta Ochric (F18) (MLRA 150A, 150B) My Redox (S5) Delta Ochric (F18) (MLRA 149A) Unless disturbed or problematic. My Redox (S5) My Muck Mineral (S1) (LRR P, S, T, U) Marti (F10) (LRR P, T, U) Marti (F10) (LRR P, T, U) My Muck Mineral (S1) (LRR P, T, U) My Muck Mineral (S1) (LRR P, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, S, T, U) My Muck Mineral (S1) (LRR P, T, U) My Muck Mineral (S1) (LRR P, T, U) My Muck Mineral (S1) (LRR P, T, U) My Muck Mineral	Hydrogen	Sulfide (A4)						
Organic Bodies (A6) (LRR P, T, U) S cm Mucky Mineral (A7) (LRR P, T, U) Muck Presence (A8) (LRR U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Depleted Dark Surface (F8) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Dark Surface (S7) (LRR P, S, T, U) Peleted Dark Surface (S7) (LRR P, T, U) Depleted Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Dark Surface (S7) (LRR P, S, T, U) Pestrictive Layer (if observed): Type: Hydric Soil Present2 Ver (P) No (P) No (P)	anic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Medox Dark Surface (F7) Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR P, T) Redox Depressions (F8) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Ck Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Set Prairie Redox (A16) (MLRA 150A) dy Muck Mineral (S1) (LRR O, S) dy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) Redox CS7) (LRR P, S, T, U) Redox Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Jumbric Surface (F13) (LRR P, T, U) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Reduced Vertic (F18) (MLRA 149A, 153C, 153D) Reduced Vertic (F18) (MLRA 149A, 153C, 153D)					_			
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estrictive Layer (if observed): Type: Hudric Soil Procent? Voc ® No O	tive Layer (if observed): :: :: :: ::::::::::::::::::::::::::					Anomalous Brig	ght Loamy Soils (F20) (MLRA 14	9A, 153C, 153D)
Type:	Hydric Soil Present? Yes No C	_ Dark Surfa	ace (\$7) (LRF	₹ P, S, T, I	J)				
Hudric Soil Present? Voc (9) No (1)	h (Inches): Hydric Soil Present? Yes No C	estrictive L	ayer (if obs	erved):					
Depth (inches):	it (italies).	Type:					-		rendris Call Processor - Mars (A) No.
	cs:	Depth (incl	hes):						Hydric Soil Present? Yes V No V
temarks:		.emarks:							

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 24-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 37
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24′ 1.648" N Long.: 89° 36′ 55.679" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of ye	ear? Yes No (If no, explain in Remarks.)
Are Vegetation . , Soil . , or Hydrology . significant	tly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation . , Soil . , or Hydrology . naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	To the Complet too
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes ● No ○	within a Wetland?
Remarks: Low drainage area - part of the overall main NE-SW trending draina	age way conveying surface water through the central to southern part of AOI.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B:	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	.5) (LRR U)
Saturation (A3) Hydrogen Sulfide	_ ` ` '
	heres along Living Roots (C3)
Sediment Deposits (B2) Presence of Redu	=
	ction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	
Iron Deposits (B5) Other (Explain in I	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
	(
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	
	i

Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: 8 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 39 x 1 = 39 FACW species 66 x 2 = 132 W FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 105 (A) 171 (B)
Total Number of Dominant Species Across All Strata: Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 39 x 1 = 39 FACW species 66 x 2 = 132 W FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0
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Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 39 x 1 = 39 FACW species 66 x 2 = 132 W FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0
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FACW species 66 x 2 = 132 W FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0
FAC species $0 \times 3 = 0$ FACU species $0 \times 4 = 0$ UPL species $0 \times 5 = 0$
FACU species $0 \times 4 = 0$ UPL species $0 \times 5 = 0$
UPL species 0 x 5 = 0
ort species x 3 -
Column Totals: 105 (A) 171 (B)
Prevalence Index = B/A = 1.629
Hydrophytic Vegetation Indicators:
✓ 1 - Rapid Test for Hydrophytic Vegetation
✓ 2 - Dominance Test is > 50%
✓ 3 - Prevalence Index is ≤3.0 ¹
Problematic Hydrophytic Vegetation ¹ (Explain)
W 1
I Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Definition of Vegetation Strata:
Tree - Woody plants, excluding woody vines,
approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
(7.0 dil) of larger in diameter at broad (10.5 iv)
Sapling - Woody plants, excluding woody vines,
approximately 20 ft (6 m) or more in neight and less
The state of the s
Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines,
Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
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OBL

A 40	

D-5	rofile Descr	iption: (De	cribe to	the depth	needed to d	locument	the indic	cator or co	onfirm the	absence of Indicators.)			
Sandy Clay Loam Sandy Clay Loam Silty Clay	осран					Re	dox Featı						
ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains **Location: PL=Pore Lining. M=Matrix ydric Soil Indicators:	(inches)				Çolor (moist)	0/0	Type 1	Loc2		Remarks		
ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix ydric Soil Indicators:	0-5	10YR	2/1	100						Sandy Clay Loam			
Histosol (A1)	5-20	10YR	3/1	97	10YR	7/1	3	D	<u>M</u>	Silty Clay Loam	м.		
Indicators for Problematic Hydric Soils 3: Histosol (A1)		1 Par 17 VX								-			
Histosol (A1)			=Depletio	n. RM =Red u	ced Matrix, C	S=Covere	d or Coate	ed Sand Gra	ains ² Loca				
Histic Epipedon (A2)	Histosol (/	A1)			Poly	value Belo	w Surface	(S8) (LRR	S, T, U)				
Black Histic (A3)] Histic Epip	edon (A2)			Thir	Dark Sur	face (S9) (LRR S, T,	(نـ				
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 1538) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Stratified Layers (A7) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) Wery Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Ton-Manganese Masses (F12) (LRR O, P, T) Sandy Muck Mineral (S1) (LRR O, S) Sandy Muck Mineral (S1) (LRR O, S) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (LRR 0, P, T) Depleted Below Dark Surface (F10) Umbric Surface (F13) Redox Depressions (F8) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) Other (Explain in Remarks) Inon-Manganese Masses (F12) (LRR O, P, T) Umbric Surface (F13) (LRR O, P, T) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Inon-Manganese Masses (F12) Inon-	Black Histi	ic (A3)			Loa	my Mucky	Mineral (F	1) (LRR Q)		_ ` '	` '		
Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	Hydrogen	Sulfide (A4)			Loa	my Gleyed	Matrix (F	2)					
S cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7)	Stratified (Layers (A5)			Dep	leted Matr	ix (F3)			Anomalous Brigh	t Loamy Soils (F20) (MLRA 153B)		
Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Delta Ochric (F17) (MLRA 151) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (If observed): Type: Depth (Inches): Hydric Soil Present? Yes No	Organic B	odies (A6) (Li	RR P, T, U	i)	Red	ox Dark Si	urface (F6)						
1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (If observed): Type: Depth (Inches): Marl (F10) (LRR U) Depleted Ochric (F11) (MLRA 151) Depleted Ochric (F12) (LRR O, P, T) Umbric Surface (F13) (LRR P, T, U) Umbric Surface (F13) (LRR P, T, U) Umbric Surface (F17) (MLRA 151) Sindy Mack Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (If observed): Type: Depth (Inches): Hydric Soil Present? Yes No	5 cm Muc	ky Mineral (A	7) (LRR P	, T, U)	☐ Dep	leted Dark	Surface (F7)		Very Shallow Dar	k Surface (TF12)		
Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (If observed): Type: Depth (inches): Depleted Ochric (F11) (MLRA 151) Iron-Manganese Masses (F12) (LRR O, P, T) Umbric Surface (F13) (LRR P, T, U) Delta Ochric (F17) (MLRA 151) Jindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No	,				Red	ox Depres	sions (F8)			Other (Explain in	Remarks)		
Thick Dark Surface (A12) Tron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (If observed): Type: Depth (inches): Hydric Soil Present? Yes No	_				Mar	l (F10) (LF	R U)						
Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No				l1)	Dep	leted Ochr	ric (F11) (N	MLRA 151)					
Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B) Wetland hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes No	_				Iron	-Mangane	se Masses	(F12) (LRI	R O, P, T)				
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Strictive Layer (if observed): Type: Depth (inches): Type: Depth (inches):	Coast Prai	rie Redox (A1	(MLRA	150A)	Uml	oric Surfac	e (F13) (L	RR P, T, U)					
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Strictive Layer (if observed): Type:	_ ′	_		, S)	Delt	a Ochric (I	F17) (MLR	A 151)		3 _{Indicators}	of hydrophytic variatation and		
Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) strictive Layer (If observed): Type: Depth (inches): Hydric Soil Present? Yes No			4)		Red	uced Verti	c (F18) (M	LRA 150A,	150B)				
Dark Surface (S7) (LRR P, S, T, U) strictive Layer (If observed): Type: Depth (inches): Hydric Soil Present? Yes No		lox (S5)									disturbed or problematic.		
strictive Layer (If observed): Type:					Ano	maious Bri	ight Loamy	y Soils (F20) (MLRA 14	9A, 153C, 153D)			
Type:	Dark Surfa	ice (S7) (LRR	P, S, T, l	J)									
Depth (inches): Hydric Soil Present? Yes No C		yer (if obse	rved):										
		es).								Hydric Soil Present?	Yes 💿 No 🔾		
ITHAINS:							. "			<u>. </u>	<u></u>		
	and KS.												

Applicant/Owner: NASA Investigator(s): Lars Larson, Randy Ellis Landform (hillslope, terrace, etc.): Floodplain Subregion (LRR or MLRA): LRR T Lat.: Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded Are climatic/hydrologic conditions on the site typical for this time of yea Are Vegetation , Soil , or Hydrology significantly Are Vegetation , Soil , or Hydrology naturally p	ty disturbed? Are "Normal Circumstances" present? Yes No No No Problematic? (If needed, explain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No No Remarks: Low drainage area approximately 200 feet West of Up - 38.	Is the Sampled Area within a Wetland? Yes No
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) L5) (LRR U) Odor (C1) Moss Trim Lines (B16) heres along Living Roots (C3) Indeed Iron (C4) Indeed Iron (C4) Indeed Iron (C4) Indeed Iron (C4) Indeed Iron (C4) Indeed Iron (C5) Indeed Iron (C6) I
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Consider the following process of the present of	Wetland Hydrology Present? Yes No No

Tree Stratum (Plot size: 30 m)	Absolute % Cover	R	species? . tel.Strat. Cover	Indicator Status	
1 Pinus elliottii	10	V	34.5%	FACW	Number of Dominant Species That are OBL, FACW, or FAC:8(A)
2. Nyssa bifiora	10	V		OBL	That are obej they of the
3. Taxodium ascendens	5		17.2%	OBL	Total Number of Dominant
4 Manuella duninione		H			Species Across All Strata: 8 (B)
The way of the second s			10.3%	FACW	Percent of dominant Species
5. Acer rubrum			3.4%	FAC	That Are OBL, FACW, or FAC: 100.0% (A/B)
6		\vdash	0.0%		
7	. 0		0.0%		Prevalence Index worksheet:
8	0	Ш	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 14.5 20% of Total Cover: 5.8	29	= T	otal Cove	г	OBL species 41 x 1 = 41
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	_}				FACW species $79 \times 2 = 158$
1. Pinus elliottii	10	V	35.7%	FACW	FAC species 16 x 3 = 48
2. Magnolla virginiana		Ш	17.9%	FACW	FACU species $0 \times 4 = 0$
3. Taxodium ascendens	8	✓	28.6%	OBL	UPL species $0 \times 5 = 0$
4. Acer rubrum	5		17.9%	FAC	Column Totals: 136 (A) 247 (B)
5.	0		0.0%		
6.	0		0.0%		Prevalence Index = B/A = 1.816
7.	0		0.0%		Hydrophytic Vegetation Indicators:
8.	0	\Box	0.0%		
		_			1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 14 20% of Total Cover: 5.6	28	= 10	otal Cove	•	2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
1. Ilex glabra	30	✓	62.5%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Morella cerifera	10	V	20.8%	FAC	
3. Magnolia virginiana			10.4%	FACW	¹ Indicators of hydric soil and wetland hydrology must
4. Taxodium ascendens			6.3%	OBL	be present, unless disturbed or problematic.
		\Box	0.0%		Definition of Vegetation Strata:
21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0	\exists	0.0%	Y-1.	Tree - Woody plants, excluding woody vines,
6.	, V.1	_			approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 24 20% of Total Cover: 9.6	48	= 10	otal Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m)					Sapling - Woody plants, excluding woody vines,
1 , Arundinarka tecta	10	V		FACW	approximately 20 ft (6 m) or more in height and less
2. Sarracenia alabamensis	3		10.7%	OBL	than 3 in. (7.6 cm) DBH.
3. Dichantheilum scabriusculum	2		7.1%	OBL	
4. Hypericum cistifolium	3		10.7%	FACW	Sapling/Shrub - Woody plants, excluding vines, less
5. Lycopodiella alopecuroides	10	~	35.7%	OBL	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.	0		0.0%	-	Shrub - Woody plants, excluding woody vines,
7	0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
0		$\overline{\Box}$	0.0%		
	0	\exists	0.0%		Herb - All herbaceous (non-woody) plants, including
9		吕			herbaceous vines, regardless of size, and woody
10		H	0.0%		plants, except woody vines, less than approximately
11	0	닏	0.0%		3 ft (1 m) in height.
12.	0	Щ	0.0%		Talling the All residue His Classes
50% of Total Cover: 14 20% of Total Cover: 5.6	28 =	= To	otal Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m		_			
1 Smilax laurifolia	3		100.0%	FACW	
2	0		0.0%		
3.	0		0.0%		
4	0		0.0%		
5.	0		0.0%		Hydrophytic
50% of Total Cover: 1.5 20% of Total Cover: 0.6		 = То	otal Cover		Vegetation Yes No No
	C*				
Remarks: (If observed, list morphological adaptations below).					

COTI				
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Sampling Point: Wet - 38 Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators,) Matrix **Redox Features** Depth (inches) Color (moist) 0/0 Color (moist) Loc2 Texture % Type 0-4 10YR 3/2 100 Silt Loam 4-16 10YR 97 10YR Silt Loam ¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils3: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) ☐ Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ☐ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) ☐ 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) ☐ Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, ✓ Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: No O **Hydric Soil Present?** Yes 💿 Depth (inches): Remarks: depleted matrix with redox features present in soil profile.

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 24-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 39
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 32 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
	30° 23' 47.542" N Long.: 89° 37' 8.862" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of year	ar? Yes No (If no, explain in Remarks.)
	ly disturbed? Are "Normal Circumstances" present? Yes No
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	Table Samulad Avan
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes No	within a Wetland?
to flow through area. Water in turn backs up to abnormally high lev	d) has split wetland and drainage culverts are sufficiently designed to allow water ries to the north of Keller Road. Area is 30-40 ft North of Keller Road.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1:	= ',',',',','
High Water Table (A2) Marl Deposits (B15	
Saturation (A3) Hydrogen Sulfide (
	eres along Living Roots (C3) Dry Season Water Table (C2)
	= ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in R	_ ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)	Sphagnurn moss (D8) (LRR T, U)
Field Observations:	Springman moss (20) (Ext. 1, 0)
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
	Wetland Hydrology Present? Yes ◎ No ○
(includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	

			ominant pecies? .		Sampling Point: Wet - 39
	Absolute	e R	el.Strat.	Indicator	Dominance Test worksheet:
Free Stratum (Plot size: 30 m)	% Cove	_	Cover	Status	Number of Dominant Species
Pinus elliottii	10	V	27.0%	FACW	That are OBL, FACW, or FAC: 6 (A)
Nyssa biflora Magnolia virginiana	20	V	54.1%	OBL	Total Number of Dominant
Magnolla virginiana	5		13.5%	FACW	Species Across All Strata: 6 (B)
Acer rubrum	2	Ш	5.4%	FAC	
	. 0		0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	0		0.0%		That Are Obl., FACW, or FAC. 100 078.
1.47.4%	0		0.0%	18	Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
0% of Total Cover: 18.5 20% of Total Cover: 7.4	37	= To	otal Cove	r	OBL species 26 x 1 = 26
apling or Sapling/Shrub Stratum (Plot size: 30 m	}				FACW species 70 x 2 = 140
Cyrilla racemifiora	40	V	50.0%	FACW	FAC species $5 \times 3 = 15$
Pinus elliottii	2		10.0%	FACW	FACU species $0 \times 4 = 0$
Nyssa biffora			25.0%	OBL	UPL species 0 x 5 = 0
Acer rubrum	_	$\overline{\Box}$	15.0%	FAC	4-1
CIT C	Υ	$\overline{\Box}$	0.0%		Column Totals: 101 (A) 181 (B)
4	0	П	0.0%	144	Prevalence Index = B/A = 1.792
***************************************	0	H	0.0%		Hydrophytic Vegetation Indicators:
	0	H	0.0%		
		ш			✓ 1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 10 20% of Total Cover: 4	20	= Total Cover		r	✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex glabra	20	V	90.9%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Cyrilla racemiflora	2		9.1%	FACW	
	_		0.0%	.,	$^{ m 1}$ Indicators of hydric soil and wetland hydrology mus
			0.0%		be present, unless disturbed or problematic.
	0		0.0%	-	Definition of Vegetation Strata:
2			0.0%		Definition of Vegetation Strata: Tree - Woody plants, excluding woody vines.
	0		0.0% 0.0% tal Cover		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0% of Total Cover: 11 20% of Total Cover: 4.4	0	_ = To	0.0%		Tree - Woody plants, excluding woody vines,
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m)	22		0.0% tal Cover		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
o% of Total Cover: 11 20% of Total Cover: 4.4 crb Stratum (Plot size: 30 m) Arundinaria tecta	22		0.0% tal Cover	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
o% of Total Cover: 11 20% of Total Cover: 4.4 orb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1		0.0% stal Cover 95.2% 4.8%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines,
o% of Total Cover: 11 20% of Total Cover: 4.4 orb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20		0.0% Ital Cover 95.2% 4.8% 0.0%	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20		0.0% stal Cover 95.2% 4.8% 0.0% 0.0%	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1 0		0.0% stal Cover 95.2% 4.8% 0.0% 0.0% 0.0%	FACW OBL	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1 0		0.0% stal Cover 95.2% 4.8% 0.0% 0.0%	FACW OBL	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1 0 0		0.0% stal Cover 95.2% 4.8% 0.0% 0.0% 0.0%	FACW OBL	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1 0 0 0 0		0.0% stal Cover 95.2% 4.8% 0.0% 0.0% 0.0%	FACW OBL	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1 0 0 0 0		0.0% tal Cover 95.2% 4.8% 0.0% 0.0% 0.0% 0.0%	FACW OBL	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Sdrpus expansus	20 1 0 0 0 0		0.0% **tal Cover* 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW OBL	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1 0 0 0 0 0		0.0% tal Cover 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW OBL	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1 0 0 0 0 0		0.0% **tal Cover* 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW OBL	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus	20 1 0 0 0 0 0 0		0.0% tal Cover 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus 0% of Total Cover: 10.5 20% of Total Cover: 4.2	20 1 0 0 0 0 0 0		0.0% **tal Cover* 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus 0% of Total Cover: 10.5 20% of Total Cover: 4.2 boody Vine Stratum (Plot size: 30 m)	20 1 0 0 0 0 0 0 0 0		0.0% tal Cover 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
o% of Total Cover: 11 20% of Total Cover: 4.4 arb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus o% of Total Cover: 10.5 20% of Total Cover: 4.2 cody Vine Stratum (Plot size: 30 m) Smilax laurifolia	20 1 0 0 0 0 0 0 0 0 0 0		0.0% **tal Cover* 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 100.0% tal Cover*	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
o% of Total Cover: 11 20% of Total Cover: 4.4 arb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus O% of Total Cover: 10.5 20% of Total Cover: 4.2 cody Vine Stratum (Plot size: 30 m) Smilax laurifolia	20 1 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0		0.0% tal Cover 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
o% of Total Cover: 11 20% of Total Cover: 4.4 orb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus o% of Total Cover: 10.5 20% of Total Cover: 4.2 oody Vine Stratum (Plot size: 30 m) Smilax laurifolia	20 1 0 0 0 0 0 0 0 0 0 0 21		0.0% tal Cover 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
0% of Total Cover: 11 20% of Total Cover: 4.4 erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus 0% of Total Cover: 10.5 20% of Total Cover: 4.2 coody Vine Stratum (Plot size: 30 m) Smilax laurifolia	20 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0.0% tal Cover 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine - All woody vines, regardless of height.
erb Stratum (Plot size: 30 m) Arundinaria tecta Scirpus expansus 3. Scirpus expansus 6. Scirpus expansus 7. Scirpus expansus 8. Scirpus expansus 9. Sc	20 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	∀ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	0.0% tal Cover 95.2% 4.8% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0	FACW	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

SOIL Sampling Point: Wet - 39 Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.) **Matrix Redox Features** Depth (inches) Color (moist) % Color (moist) % Type 1 Loc2 Remarks 0-8 10YR 100 3/1 Sandy Clay Loam 8-18 10YR 95 5/3 10YR Sandy Clay Loam 1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL≂Pore Lining. M=Matrix Hydric Soll Indicators: Indicators for Problematic Hydric Soils 3: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) ☐ Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Lavers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) ─ Very Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) ☐ 1 cm Muck (A9) (LRR P, T) Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) ☐ Thick Dark Surface (A12) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Yes

No **Hydric Soil Present?** Depth (inches): Remarks:

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 25-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 40
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 32 T 7 s R 16 W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (concave, convex, none): none Slope: 0.0 % / 0.0 °
/N.e.v	30° 23' 43.163" N Long.: 89° 36' 49.831" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: PFO 1/4 C
	- 6 - 0
Are climatic/hydrologic conditions on the site typical for this time of year	
	The Holling Gradition product.
Are Vegetation, Soil, or Hydrology naturally p	problematic? (If needed, explain any answers in Remarks.)
	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes ● No ○	within a Wetland? Yes No
Wetland Hydrology Present? Yes ● No ○	within a wetland?
Remarks: Bottom drainage area approximately 50-feet north of UKP - 40. Watthat restrict water flow to the south.	ater comes through this area but appears to be impacted by road and small culvert
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B1	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	.5) (LRR U)
Saturation (A3) Hydrogen Sulfide (Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosph	neres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	_ , , ,
	ction in Tilled Soils (C6)
Algal Mat or Crust (B4)	
Iron Deposits (B5) Other (Explain in F	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	Wetland Hydrology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	

			ominant		Sampling Point: Wet - 40		
ree Stratum (Plot size: 30 m)	Absolut	e R	species? tel.Strat. Cover	Indicator Status	Dominance Test worksheet:		
Nyssa biflora		√			Number of Dominant Species		
Liquidambar styraciflua	<u>20</u> 5		1	OBL	That are OBL, FACW, or FAC: 7. (A)		
Outgrave plans			17.2%	FAC	Total Number of Dominant		
	3		10.3%	FAC	Species Across All Strata: 7 (B)		
Tributan Sporter	- <u>1</u> 0		3.4%	FAC	Percent of dominant Species		
		Н	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/		
			0.0%				
,	. 0	H	0.0%	V - *	Prevalence Index worksheet:		
	0	Ш	0.0%	_	Total % Cover of: Multiply by:		
0% of Total Cover: 14.5 20% of Total Cover: 5.8	29	= T	otal Cove	r	OBL species 43 x 1 = 43		
pling or Sapling/Shrub Stratum (Plot size: 30 m)	_			FACW species $1 \times 2 = 2$		
Nyssa biflora	10	V	41.7%	OBL	FAC species		
Quercus nigra	10	V	41.7%	FAC	FACU species $0 \times 4 = 0$		
Acer rubrum	3		12.5%	FAC	UPL species $0 \times 5 = 0$		
Triadica sebifera	1		4.2%	FAC	Column Totals: 81 (A) 156 (B		
	0		0.0%				
.	0		0.0%		Prevalence Index = B/A = 1 926		
.,	0		0.0%		Hydrophytic Vegetation Indicators:		
	0		0.0%		D. Bould Todde - Under Jude -		
% of Total Cover: 12 20% of Total Cover: 4.8	24	= To	otal Cove		1 - Rapid Test for Hydrophytic Vegetation		
	-	•			✓ 2 - Dominance Test is > 50%		
rub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹		
Quercus nigra		✓	41.7%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
Acer rubrum		V	41.7%	FAC			
Triadica sebifera		Ц	8.3%	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
Diospyros virginiana	11	Ш	8,3%	FAC	be present unless disturbed of problematic		
to the contract of the contrac	0		0.0%		Definition of Vegetation Strata:		
	0		0.0%	11	Tree - Woody plants, excluding woody vines,		
% of Total Cover: 6 20% of Total Cover: 2.4	12	= To	tal Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).		
erb Stratum (Plot size: 30 m)					Sapling - Woody plants, excluding woody vines.		
Typha latifolia	10	\mathbf{Z}	76.9%	OBL	approximately 20 ft (6 m) or more in height and less		
Scirpus expansus	3	V	23.1%	OBL	than 3 in. (7.6 cm) DBH.		
	0	Ш,	0.0%				
M.		\Box	0.0%		Sapling/Shrub - Woody plants, excluding vines, less		
	. 0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.		
	. 0		0.0%		Shrub - Woody plants, excluding woody vines,		
/	0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.		
A	0		0.0%		•		
	0		0.0%		Herb - All herbaceous (non-woody) plants, including		
	0		0.0%		herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately		
100 March 100 Ma	0		0.0%		3 ft (1 m) in height.		
	0		0.0%	the "	. , 5		
% of Total Cover: 6.5 20% of Total Cover: 2.6		= To	tal Cover		Woody vine - All woody vines, regardless of height.		
ody Vine Stratum (Plot size: 30 m							
Vitis rotundifolia	2	П	66.7%	FAC			
Carilland Installantia	-		33.3%	FACW			
Similax laurirona	0	7	0.0%	IACV			
		Η-					
	_	7	0.0%		Hydrophytic		
	0		0.0%		Vegetation		
% of Total Cover: 1.5 20% of Total Cover: 0.6		-	al Cover		Present? Yes No		

SOIL									Samp	oling Point: Wet - 40	
Profile Descr	iption: (De	scribe to	the depth	needed to d	ocument	the indi	cator or c	onfirm the	absence of indicators.)	
Depth		Matrix			. Re	dox Feat					
(inches)	Color (moist)	%	Color (moist)	°/o	Type 1	Loc2	Texture	Remarks	
0-4	10YR	3/1	98	10YR	7/2	2	D	М	Silt Loam		
4-18	10YR	4/2	90	10YR	7/2	10	D	M	Silt Loam	-	
14					р мо						
Type: C=Conc		=Depletio	n. RM=Redu	iced Matrix, C	 S=Covere	ed or Coate	ed Sand Gr	rains ² Loca	ation: PL=Pore Lining. M		
Histosol (A				□ poly	valua Bak	w Surface	(CO) (I DI	1 C T 11	_	blematic Hydric Soils ³ :	
Histic Epip	•					ow Surrace face (S9) (1 cm Muck (A9)	•	
Black Histie						Mineral (F			2 cm Muck (A10		
	Sulfide (A4)					Matrix (F)		(F18) (outside MLRA 150A,B)	
	ayers (A5)				leted Matr	•	2 j		_	plain Soils (F19) (LRR P, S, T)	
	odies (A6) (L	RRPTI	n							ht Loamy Soils (F20) (MLRA 153B)	
	ry Mineral (A					urface (F6)			Red Parent Mat	` '	
	ence (A8) (L		, 1, 0)			Surface (F/)		☐ Very Shallow Dark Surface (TF12) ☐		
_	(A9) (LRR F	-				sions (F8)			Uther (Explain i	n Remarks)	
_	Below Dark S		(4)		(F10) (LF	-					
		-	11)			ic (F11) (N					
	Surface (A1					se Masses					
	ie Redox (A					e (F13) (L)			
	k Mineral (S		, S)	Delta	a Ochric (I	F17) (MLR.	A 151)		3 _{Tadiosho}	er of hardroom tier and	
-	ed Matrix (S	34)		☐ Redu	iced Verti	c (F18) (M	LRA 150A,	, 150B)		s of hydrophytic vegetation and I hydrology must be present,	
✓ Sandy Red	• •			Pied	mont Floo	dplain Soil	s (F19) (M	ILRA 149A)		ss disturbed or problematic.	
✓ Stripped M	atrix (S6)			Anor	nalous Bri	ight Loamy	Soils (F20	D) (MLRA 149	9A, 153C, 153D)		
Dark Surfac	ce (S7) (LRR	l P, S, T, l	J)								
Restrictive La	yer (if obse	erved):									
Туре:						-0.0					
Depth (inche	es):								Hydric Soil Present?	Yes 💿 No 🔾	
Remarks:								:			

Project/Site: NASA - Stennis: 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 25-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 41
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: \$ 32 T 7s R 16 W
1 10 10 10 10 10 10 10 10 10 10 10 10 10	ocal relief (concave, convex, none): none
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PFO 1/4 B
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation , Soil , or Hydrology significantly	
Are Vegetation . , Soil . , or Hydrology . naturally pro	The first of controllines present
SUMMARY OF FINDINGS - Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No No No No Wetland Hydrology Present? Yes No No Remarks:	Is the Sampled Area within a Wetland? Yes O No
HYDROLOGY Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Aquatic Fauna (B13) Aquatic Fauna (B13) Aquatic Fauna (B13) Presence of Reduced Recent Iron Reduction Recent Iron Reduction Recent Iron Reduction Recent Iron Deposits (B5) Depth (inches):	(LRR U) dor (C1) ✓ Moss Trim Lines (B10) dor (C1) ✓ Moss Trim Lines (B16) res along Living Roots (C3) d Iron (C4) on in Tilled Soils (C6) ✓ Geomorphic Position (D2)
Water Table Present? Saturation Present? (includes capillary fringe) Ves No Depth (inches): Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos,	Wetland Hydrology Present? Yes No O
Remarks:	ргеново пареснову, п вчанаме.

	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30 m)	_% Cover		Status	Number of Dominant Species	
1 Pinus elliottii	5	21.7%	FACW	That are OBL, FACW, or FAC: 9 (A)	
2. Nyssa biflora	10	43.5%	OBL	Total Number of Dominant	
3. Magnolia virginiana	5	21.7%	FACW	Species Across All Strata: 9 (B)	
4. Acer rubrum	2	8.7%	FAC		
5. Cyrilla racemifiora	1	4.3%	FACW	Percent of dominant Species That Are OR! FACW or FAC: 100.0% (A/B)	
6		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)	
7.	0	0.0%		Prevalence Index worksheet:	
8.	0	0.0%		Total % Cover of: Multiply by:	
50% of Total Cover: 11.5 20% of Total Cover: 4.6	23 :	= Total Cove	r	OBL species 26 x 1 = 26	
Sapling or Sapling/Shrub Stratum (Plot size: 30 m				FACW species66 x 2 =132	
1 Pinus elliottii	<i>'</i>	16.7%	FACW	FAC species 8 x 3 = 24	
Cyrilla racemiflora	10	✓ 33.3%	FACW		
0 1				Theo species	
4 Norma hifform	40	16.7%	FAC	UPL species $0 \times 5 = 0$	
4. Nyssa bifiora		33.3%	OBL	Column Totals: 100 (A) 182 (B)	
5.	0	0.0%		Prevalence Index = B/A = 1.820	
6.		0.0%			
7	0	0.0%	orthogonal Company	Hydrophytic Vegetation Indicators:	
8	0	0.0%	-	✓ 1 - Rapid Test for Hydrophytic Vegetation	
50% of Total Cover: 15 20% of Total Cover: 6	30 =	= Total Cove	r	✓ 2 - Dominance Test is > 50%	
Shrub Stratum (Plot size: 30 m)				✓ 3 - Prevalence Index is ≤3.0 ¹	
4 Tley corrects	25	67.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
O Magnella declara		13.5%	FACW		
	_		FACW	Indicators of hydric soil and wetland hydrology must	
V	-	13.5%		be present, unless disturbed or problematic,	
4. Ilex vomitoria	_ 1	2.7%	FAC	Definition of Vanadation Studen	
5. Persea palustris	_ 1	2.7%	FACW	Definition of Vegetation Strata:	
6	0	□ 0.0%	162	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.	
50% of Total Cover: 18.5 20% of Total Cover: 7.4	37 =	= Total Cove	r	(7.6 cm) or larger in diameter at breast height (DBH).	
Herb Stratum (Plot size: 30 m					
1. Sarracenia alabamensis	2	✓ 22.2%	OBL	Sapling - Woody plants, excluding woody vines,	
2. Arundinaria tecta		✓ 33.3%	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
3. Dichanthelium scabriusculum		✓ 22,2%	OBL	than o m. (7.0 dm) DDM.	
4. Scirpus expansus	1	11.1%	OBL	Sapling/Shrub - Woody plants, excluding vines, less	
5. Osmunda regalis	1	11.1%	OBL	than 3 in. DBH and greater than 3.28 ft (1m) tall.	
			UBL		
6	. 0	0.0%		Shrub - Woody plants, excluding woody vines,	
7.	0	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.	
8		0.0%	-	Herb - All herbaceous (non-woody) plants, including	
9		0.0%		herbaceous vines, regardless of size, and woody	
10		0.0%		plants, except woody vines, less than approximately	
11	0	0.0%		3 ft (1 m) in height.	
12	0	0.0%			
50% of Total Cover: 4.5 20% of Total Cover: 1.8	9 =	Total Cove		Woody vine - All woody vines, regardless of height.	
Woody Vine Stratum (Plot size: 30 m)	-				
1 Smilax laurifolia	a 1	100.0%	EACIN	•	
	1 1		FACV		
2.	0 1	0.0%			
3.		0.0%	· · · · · · · · · · · · · · · · · · ·		
4 <u>.</u>		0.0%	11. 27.77.47.77	Hydrophytic	
5	0 l	0.0%		Vegetation	
50% of Total Cover: 0.5 20% of Total Cover: 0.2	1 =	Total Cove	.	Present? Yes No O	
Remarks: (If observed, list morphological adaptations below).					
Territoria, (2) observed, list morphological adaptations below).					
*Indicator suffix = National status or professional decision assigned because Re	gional status n	ot defined by F	NS.		

SOIL Sampling Point: Wet - 41 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth (inches) Color (moist) 0/0 Color (moist) % Type 1 Loc2 Remarks 0-4 10YR 100 3/1 Very Fine Loamy Sand 4-18 10YR 3/2 95 10YR 6/2 Loamy Sand 1 Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix Hydric Soil Indicators: Indicators for Problematic Hydric Soils3: Histosol (A1) Polyvalue Below Surface (S8) (LRR S, T, U) ☐ 1 cm Muck (A9) (LRR O) Histic Epipedon (A2) Thin Dark Surface (S9) (LRR S, T, U) 2 cm Muck (A10) (LRR S) Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) (outside MLRA 150A,B) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (LRR P, S, T) Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loamy Soils (F20) (MLRA 153B) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Red Parent Material (TF2) 5 cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) ☐ 1 cm Muck (A9) (LRR P, T) ☐ Marl (F10) (LRR U) Depleted Below Dark Surface (A11) Depleted Ochric (F11) (MLRA 151) Thick Dark Surface (A12) ☐ Iron-Manganese Masses (F12) (LRR O, P, T) Coast Prairie Redox (A16) (MLRA 150A) Umbric Surface (F13) (LRR P, T, U) Sandy Muck Mineral (S1) (LRR O, S) Delta Ochric (F17) (MLRA 151) ³Indicators of hydrophytic vegetation and Sandy Gieyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) wetland hydrology must be present, Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) unless disturbed or problematic. ✓ Stripped Matrix (S6) Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) Dark Surface (S7) (LRR P, S, T, U) Restrictive Layer (if observed): Type: Yes 💿 No O Hydric Soil Present? Depth (inches): Remarks:

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: War	veland - Hancock	Sampling Date:	25-Oct-16
Applicant/Owner: NASA	Stat	te: MS Sa	ampling Point: Wet - 43	
Investigator(s): Lars Larson, Randy Ellis	Section, Townshi	ip, Range: S 32	T 7s R 1	16 W
Landform (hillslope, terrace, etc.): Floodplain	Local relief (conca	ve, convex, none):	flat Slope:	0.0 % / 0.0°
Subregion (LRR or MLRA): LRR \(\tau \) Lat.:	30° 23' 52.457" N	Long.: 89	° 37' 18.611" W Da	tum: NAD83
Soil Map Unit Name: Smithton - escambia	30 23 32.737 14		WI classification: PFO 1/4	
	- Von 🕞	\ O		
Are climatic/hydrologic conditions on the site typical for this time of year	CGI I	(21 110)	explain in Remarks.) stances" present? Yes	● No ○
	ntly disturbed? problematic?	Are "Normal Circum	any answers in Remarks.)	S 140 C
SUMMARY OF FINDINGS - Attach site map showing sa	-			s, etc.
Hydrophytic Vegetation Present? Yes No No			·	· _
Hydric Soil Present? Yes No	Is the San	npled Area	No O	
Wetland Hydrology Present? Yes No	within a W	Vetland? Yes	/ NO U	
, 2,				
Remarks: Low drainage area approximately 250-feet east of the black top roa	ad in the SW part of	the AOI		
Low drainage area approximately 230-reet east or the black top roc	ad in the SW part of	die vor		
HYDROLOGY				
Wetland Hydrology Indicators:		Second	dary Indicators (minimum of 2 re	equired)
Primary Indicators (minimum of one required; check all that apply))	☐ Su	rface Soil Cracks (B6)	
Surface Water (A1) Aquatic Fauna (B	313)		arsely Vegetated Concave Surfa	ce (B8)
☐ High Water Table (A2) ☐ Marl Deposits (B:	15) (LRR U)	✓ Dra	ainage Patterns (B10)	
Saturation (A3) Hydrogen Sulfide	e Odor (C1)	✓ Mo	ss Trim Lines (B16)	
☐ Water Marks (B1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Dry Season Water Table (C2)				
Sediment Deposits (B2)	uced Iron (C4)	☐ Cra	ayfish Burrows (C8)	
☐ Drift Deposits (B3) ☐ Recent Iron Redu	uction in Tilled Soils (C6	S) 🗌 Sat	turation Visible on Aerial Imager	y (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C7) ☐ Geomorphic Position (D2)				
Iron Deposits (B5) Other (Explain in	Remarks)		allow Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		_	C-Neutral Test (D5)	
Water-Stained Leaves (B9)		Spi	hagnum moss (D8) (LRR T, U)	
Field Observations:				
Surface Water Present? Yes No Depth (inches):	-			
Water Table Present? Yes No Depth (inches):			resent? Yes 💿 No '	\circ
Saturation Present? (includes capillary fringe) Yes No Depth (inches):		Wetland Hydrology P	resent? TES © NO	$^{\circ}$
Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos previous inspect	ions), if available:		
besaute recorded both (steam gauge, morning went dental prior	cos, previous mopeet	Joney, II available		
Remarks:				
				l
				l
				l
				-

(Plot size) 20 1		Rel.Strat.	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 m)	% Cover		Status	Number of Dominant Species
1. Pinus elliottii		30.3%	FACW	That are OBL, FACW, or FAC: 6 (A)
2. Nyssa biflora		45.5%	OBL	Total Number of Dominant
3 Quercus nigra	5	15.2%	FAC	Species Across All Strata: 6 (B)
4 Taxodium ascendens		9.1%	OBL	Percent of dominant Species
5.		0.0%_		That Are OBL, FACW, or FAC: 100.0% (A/B)
6.		0.0%		
7		0.0%		Prevalence Index worksheet:
8.	Ö	□ 0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 16.5 20% of Total Cover: 6.6		= Total Cove	r	OBL species 33 x 1 = 33
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	,)			FACW species 29 x 2 = <u>58</u>
1 Pinus elliottii	, 3	14.3%	FACW	FAC species $10 \times 3 = 30$
Taxodium ascendens		47.6%	OBL	FACU species $0 \times 4 = 0$
3. Nyssa biflora	5	✓ 23.8%	OBL	UPL species $0 \times 5 = 0$
4. Cyrilla racemiflora	3	14.3%	FACW	Column Totals: 72 (A) 121 (B)
5.	0	0,0%		
6.	0	0.0%	X	Prevalence Index = B/A = 1.681
7.	0	0.0%		Hydrophytic Vegetation Indicators:
8.	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 10.5 20% of Total Cover: 4.2	21 =	Total Cove	r	✓ 2 - Dominance Test is > 50%
The state of the s	V			
Shrub Stratum (Plot size: 30 m)	40		540011	✓ 3 - Prevalence Index is ≤3.0 ¹
1 Cyrilla racemiflora		58.8%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Morella cerifera		29.4%	FAC	Indicators of hydric soil and wetland hydrology must
3. Magnolia virginiana		11.8%	FACW	be present, unless disturbed or problematic.
4	0	0.0%		
5.	0	C.0%		Definition of Vegetation Strata:
6	. 0	□ 0.0%		Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 8.5 20% of Total Cover: 3.4	17 =	Total Cover	r	(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m)				
1, Arundinaria tecta	1	100.0%	FACW	Sapling - Woody plants, excluding woody vines,
2.	0	C.0%		approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
2	0	0.0%		
	_	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
4	0	0.0%	· · · · · · · · · · · · · · · · · · ·	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0	0.0%		
7	0	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
8		0.0%		approximatory of to 25 it (1 to 5 iii) iii iii iigiit.
9.		0.0%		Herb - All herbaceous (non-woody) plants, including
		0.0%		herbaceous vines, regardless of size, and woody
10	0	0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.
11				O A () By By Bolgha
12.	0l	0.0%		Woody vine - All woody vines, regardless of height.
50% of Total Cover: 0.5 20% of Total Cover: 0.2	_1 =	Total Cove		,,,
Woody Vine Stratum (Plot size: 30 m				
1	0	0.0%	·	
2.	. 0	0.0%		
3	0 [0.0%		
4	0 [0.0%	r.	
5	0 [0.0%		Hydrophytic Vegetation
50% of Total Cover: 0 20% of Total Cover: 0	0 =	Total Cover		Present? Yes No
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because R	egional status n	ot defined by FV	vs.	

_	-	
п		

SOIL			Sampling Point: Wet - 43
Profile Descr	ription: (Describe to the depti	needed to document the indicator or confirm the	absence of indicators.)
Depth	Matrix	Redox Features	
(inches)	Color (moist) %	Color (moist) % Type 1 Loc2	Texture Remarks
0-5	10YR 3/1		Very Fine Loamy Sand
5-16	10YR 3/2		Sandy Clay Loam
1			
			•
	,		M 9 9 671 mm 1 mm 11 mm 12 mm
v		- 10	
i,			
¹Type: C=Con	centration, D=Depletion, RM=Rec	luced Matrix, CS=Covered or Coated Sand Grains 2Loc	ation: PL=Pore Lining. M=Matrix
Hydric Soil I	indicators:		Indicators for Problematic Hydrlc Soils ³ :
Histosol (A1)	Polyvalue Below Surface (S8) (LRR S, T, U)	☐ 1 cm Muck (A9) (LRR O)
Histic Epip	pedon (A2)	☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)
Black Hist	ic (A3)	Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
Hydrogen	Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19) (LRR P, S, T)
Stratified	Layers (A5)	Depleted Matrix (F3)	Anomalous Bright Loamy Soils (F20) (MLRA 153B)
Organic B	odies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	Red Parent Material (TF2)
5 cm Muc	ky Mineral (A7) (LRR P, T, U)	Depleted Dark Surface (F7)	Very Shallow Dark Surface (TF12)
Muck Pres	sence (AB) (LRR U)	Redox Depressions (F8)	Other (Explain in Remarks)
1 cm Muc	k (A9) (LRR P, T)	Marl (F10) (LRR U)	Oule: (Explain in Remains)
Depleted	Below Dark Surface (A11)	Depleted Ochric (F11) (MLRA 151)	
P***	k Surface (A12)	☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Prai	irie Redox (A16) (MLRA 150A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Mu	ck Mineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)	_
_	yed Matrix (S4)	Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Red		Piedmont Floodplain Soils (F19) (MLRA 149A)	wetland hydrology must be present, unless disturbed or problematic.
	Matrix (S6)	Anomalous Bright Loamy Soils (F20) (MLRA 14	
	ace (S7) (LRR P, S, T, U)		,,
	ayer (if observed):		
Type:	. 20 33		Hydric Soil Present? Yes No
Depth (inch	nes):		7,7
Remarks:			

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 27-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 47
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 31 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): flat Slope: 2.0 % / 1.1
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 15.210" N Long.: 89° 37' 43.444" W Datum: NAD83
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	NWI classification: PSS 1/4
Are climatic/hydrologic conditions on the site typical for this time of yea	
	ly disturbed? Are "Normal Circumstances" present? Yes No O
	roblematic? (If needed, explain any answers in Remarks.)
	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	To the Complet Aven
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes No O	within a Wetland?
Remarks:	
	into more of a wet area below. Plot is approximately 500-600- feet east of Trent
Lot (Main NASA site) road.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13	3) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15	(ERR U)
Saturation (A3) Hydrogen Sulfide C	Odor (C1) Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizosphe	eres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	red Iron (C4) Crayfish Burrows (C8)
	tion in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in R	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	✓ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Sandad Video i i control	
Water Table Present? Yes ○ No ● Depth (inches):	Wetland Hydrology Present? Yes No O
Saturation Present? Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo-	s, previous inspections), if available:
· ·	
Remarks:	——————————————————————————————————————
No real strong hydrology, but a few secondary indicators,	
The real strong flyanology, but a few secondary manacions	

	(Distriction 20	Absolut			Indicator	Dominance Test worksheet:
Tree Stratu	· · · · · ·	% Cove		Cover	Status	Number of Dominant Species
1 Pinus el	····	15		51.7%	FACW	That are OBL, FACW, or FAC: 10 (A)
2. Nyssa s		10	V	34.5%	FAC	Total Number of Dominant
	mbar styraciflua			6.9%	FAC	Species Across All Strata: 10 (B)
4. Quercus			Η.	3.4%	FAC	Percent of dominant Species
	a virginiana		Ц,	3.4%	FACW	That Are OBL, FACW, or FAC: 100.0% (A/B)
3				0.0%	477	
	16.			0.0%	··.	Prevalence Index worksheet:
3		.0,,,,	LJ.	0.0%	1815	Total % Cover of: Multiply by:
50% of Total	al Cover: 14.5 20% of Total Cover: 5.8	29	= To	tal Cove	г	OBL species $10 \times 1 = 10$
Sapling or	Sapling/Shrub Stratum (Plot size: 30 m)				FACW species 43 x 2 = 86
1 Pinus ell	liottii	10	V	47.6%	FACW	FAC species $56 \times 3 = 168$
Magnolia	a virginiana	5	V	23.8%	FACW	FACU species $0 \times 4 = 0$
Nyssa s			V	23.8%	FAC	UPL species $0 \times 5 = 0$
1 Morella		1		4.8%	FAC	Column Totals: 109 (A) 264 (B)
5.	Control of the second of the s	0		0.0%		Column locals: 109 (A) 204
S		0		0.0%	.*.	Prevalence Index = $B/A = 2.422$
	·•. ··	0		0.0%		Hydrophytic Vegetation Indicators:
		0		0.0%	,	
		-				1 - Rapid Test for Hydrophytic Vegetation
50% of Tota	al Cover: 10.5 20% of Total Cover: 4.2	21	= To	tal Cove	r	✓ 2 - Dominance Test is > 50%
Shrub Strat	tum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex von	itoria	25	✓.	52.1%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex glab	ora	10	✓	20.8%	FACW	
Morella		10	\checkmark	20.8%	FAC	¹ Indicators of hydric soil and wetland hydrology must
Ilex opa		2		4.2%	FAC	be present, unless disturbed or problematic.
Persea p	* *			2.1%	FACW	Definition of Vegetation Strata:
	· · · · · · · · · · · · · · · · · · ·	0	\Box	0.0%		Tree - Woody plants, excluding woody vines,
	al Cover: 24 20% of Total Cover: 9.6	4. 1	- Tot	tal Cove	2 Z	approximately 20 ft (6 m) or more in height and 3 in.
	L	// TO	- 10	Lai Cove		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratu	m (Plot size: _30 m)					Carling Miles to all the soul of the soul
1, Osmund	a regalls	5	✓_	50.0%	OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2 Woodwa	rdia areolata	3	V.	30.0%	OBL	than 3 in. (7.6 cm) DBH.
3. Sagittaria	a lancifolia	1_		10.0%	OBL	
4, Dichanth	ellum scabriusculum	1		10.0%	OBL	Sapling/Shrub - Woody plants, excluding vines, less
5.	W 10 M 2 1 M 2 1 M 2	0_		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
6.		0		0.0%	•	Shrub - Woody plants, excluding woody vines,
		0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
	**************************************			0.0%		
				0.0%		Herb - All herbaceous (non-woody) plants, including
				0.0%	-	herbaceous vines, regardless of size, and woody
1	Vo., 1617. AMM.	0	Η-	0.0%	_	plants, except woody vines, less than approximately 3 ft (1 m) in height.
			Η.		1 9679990 7	o it (1 m) it height.
2		0		0.0%		Woody vine - All woody vines, regardless of height.
50% of Tota	Cover: 5 20% of Total Cover: 2	10	= Tot	tal Cove		Troody the 7th Woody theo, regarded of rought.
Woody Vine	Stratum (Plot size: 30 m				<u> </u>	
Smilax la		1		100.0%	FACW	
-				0.0%		
		0		0.0%	· and	
	•	0		0.0%		
• 10				0.0%		Hydrophytic
		Ω				
	i Cover: 0.5 20% of Total Cover: 0.2	0		al Cover	No. of the last	Vegetation Present? Yes No

Hydric Soil Indicators: Histosol (A1) Polyv Histic Epipedon (A2) Thin Black Histic (A3) Loam Hydrogen Sulfide (A4) Loam Stratified Layers (A5) Depk Organic Bodies (A6) (LRR P, T, U) Redo 5 cm Mucky Mineral (A7) (LRR P, T, U) Peple Muck Presence (A8) (LRR U) Redo	Sandy Loam Sandy	Golls³: A 150A,B) RR P, S, T)
0-6 10YR 3/2 100 6-16 10YR 4/2 95 10YR Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS Hydric Soil Indicators: Histosol (A1) Polyv Histic Epipedon (A2) Thin Black Histic (A3) Loam Hydrogen Sulfide (A4) Loam Stratified Layers (A5) Deple Organic Bodies (A6) (LRR P, T, U) Redo 5 cm Mucky Mineral (A7) (LRR P, T, U) Redo Muck Presence (A8) (LRR U) Redo 1 cm Muck (A9) (LRR P, T) Mark	Sandy Loam 5=Covered or Coated Sand Grains Covered or Coated S	Golls³: A 150A,B) RR P, S, T)
Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS Hydric Soil Indicators: Histosol (A1) Polyo Histic Epipedon (A2) Thin Black Histic (A3) Loam Hydrogen Sulfide (A4) Loam Stratified Layers (A5) Deple Organic Bodies (A6) (LRR P, T, U) Redo 5 cm Mucky Mineral (A7) (LRR P, T, U) Redo Muck Presence (A8) (LRR U) Redo	S=Covered or Coated Sand Grains Location: PL=Pore Lining. M=Matrix Indicators for Problematic Hydric S ralue Below Surface (S8) (LRR S, T, U)	A 150A,B) RR P, S, T)
ype: C=Concentration. D=Depletion. RM=Reduced Matrix, CS lydric Soil Indicators: Histosol (A1) Polyo Histic Epipedon (A2) Thin Black Histic (A3) Loam Hydrogen Sulfide (A4) Loam Stratified Layers (A5) Deple Organic Bodies (A6) (LRR P, T, U) Redo 5 cm Mucky Mineral (A7) (LRR P, T, U) Deple Muck Presence (A8) (LRR U) Redo	S=Covered or Coated Sand Grains 2Location: PL=Pore Lining, M=Matrix Indicators for Problematic Hydric S ralue Below Surface (S8) (LRR S, T, U)	A 150A,B) RR P, S, T)
ydric Soil Indicators: Histosol (A1) Polyv Histic Epipedon (A2) Thin Black Histic (A3) Loam Hydrogen Sulfide (A4) Loam Stratified Layers (A5) Deple Organic Bodies (A6) (LRR P, T, U) Redo 5 cm Mucky Mineral (A7) (LRR P, T, U) Deple Muck Presence (A8) (LRR U) Redo	Indicators for Problematic Hydric S ralue Below Surface (S8) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Day Mucky Mineral (F1) (LRR O) Day Mucky Mineral (F1) (LRR O) Day Mucky Mineral (F2) Day Mucky Mineral (F2) Day Mucky Mineral (F3) Day Mucky Mineral (F1) (LRR O) Day Mucky Mineral (F1) (LRR O) Day Mucky Mineral (F1) (LRR O) Day Mucky Mineral (F18) (outside MLR) Day Piedmont Floodplain Soils (F19) (LR Day Matrix (F3) Day Mucky Mineral (F18) (outside MLR) Day Mucky	A 150A,B) RR P, S, T)
Histosol (A1) Polyv Histic Epipedon (A2) Thin Black Histic (A3) Loam Hydrogen Sulfide (A4) Loam Stratified Layers (A5) Deple Organic Bodies (A6) (LRR P, T, U) Redo 5 cm Mucky Mineral (A7) (LRR P, T, U) Redo Muck Presence (A8) (LRR U) Redo	ralue Below Surface (S8) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Dark Surface (F1) (LRR O) Reduced Vertic (F18) (outside MLR) Piedmont Floodplain Soils (F19) (LR Piedmont Floodplain Soils (F19) (LR Anomalous Bright Loamy Soils (F20) Red Parent Material (TF2) Seted Dark Surface (F7) Very Shallow Dark Surface (TF12)	A 150A,B) RR P, S, T)
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (LRR P, T, U) 5 cm Mucky Mineral (A7) (LRR P, T, U) Muck Presence (A8) (LRR U) 1 cm Muck (A9) (LRR P, T) Mark	ralue Below Surface (S8) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Dark Surface (S9) (LRR S, T, U) Dark Surface (F1) (LRR O) Reduced Vertic (F18) (outside MLR) Piedmont Floodplain Soils (F19) (LR Piedmont Floodplain Soils (F19) (LR Anomalous Bright Loamy Soils (F20) Red Parent Material (TF2) Seted Dark Surface (F7) Very Shallow Dark Surface (TF12)	A 150A,B) RR P, S, T)
Coast Prairie Redox (A16) (MLRA 150A) Umbi Sandy Muck Mineral (S1) (LRR O, S) Delta Sandy Gleyed Matrix (S4) Redu Sandy Redox (S5)	x Depressions (F8)	present,
strictive Layer (if observed): Type: Depth (inches):	Hydric Soll Present? Yes N	io O

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hancock Sampling Date: 26-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 52
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 21 T 7 S R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): None Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 25' 2.553" N Long.: 89° 36' 29.223" W Datum: NAD83
Soil Map Unit Name: HIA, Harleston fine sandy loam, 0 to 2 percent si	lopes NWI dassification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye	
	tty disturbed? Are "Normal Circumstances" present? Yes No O
	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No O	To the Consoled Sun
Hydric Soil Present? Yes No	Is the Sampled Area
Wetland Hydrology Present? Yes No	within a Wetland?
Remarks:	
Area is approximately 250 feet east of Up - 52.	
The desired approximately and reduced on operation	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B:	13) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B1	L5) (LRR U) Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide	Odor (C1) Moss Trim Lines (B16)
☐ Water Marks (B1) ☑ Oxidized Rhizosph	heres along Living Roots (C3) Dry Season Water Table (C2)
Sediment Deposits (B2)	
☐ Drift Deposits (B3) ☐ Recent Iron Redu	uction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
Surface Water Flesche.	S
Water Table Present? Yes ○ No Depth (inches):	Wetland Hydrology Present? Yes No
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os. previous inspections), if available:
Seed the Need and Seed (Seeding googe, Montoning Well, Garlet prior	by pravious inspectation, in available.
!	
Remarks:	
Barely have hydrology Slight evidence of oxidized rhizospheres.	
İ	
	M.

Tree Stratum (Plot size: 30 m)	Absolute % Cover		trat. I	ndicator Status	Dominance Test worksheet:
1. Pinus elliottii	15		2.9%	FACW	Number of Dominant Species That are OBL, FACW, or FAC:
2 Magnolia virginiana	10			FACW	That are OBL, FACW, or FAC: 7 (A)
O About advetice	10	,		FAC	Total Number of Dominant
	0		0.0%	TAC.	Species Across All Strata: 7 (B)
4.					Percent of dominant Species
5.			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
6.			0.0%		
7.			0.0%		Prevalence Index worksheet:
8	0	□_0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 17.5 20% of Total Cover: 7	35 _ =	= Total	Cover		OBL species 0 x 1 = 0
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	.)				FACW species 104 x 2 =208
1. Pinus elilottii	5	15	5.6%	FACW	FAC species $22 \times 3 = 66$
2. Nyssa sylvatica	10	✓ 31	1.3%	FAC	FACU species $0 \times 4 = 0$
3. Magnolia virginiana	15	✓ 46	6.9%	ACW	UPL species $0 \times 5 = 0$
4 Acer rubrum		□ 6	5.3%	FAC	
5.	•		0.0%		Column Totals: 126 (A) 274 (B)
6.			0.0%		Prevalence Index = B/A =2.175
_		=	0,0%		Hydrophytic Vegetation Indicators:
0	0		0.0%		
- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-				1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 16 20% of Total Cover: 6.4	32 =	= Total	Cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
1. Ilex coriacea	50	✓ 94	4.3% I	ACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Cyrilla racemifiora	3	☐ 5.	.7% 1	ACW	
3.	0	□ 0.	.0%		² Indicators of hydric soil and wetland hydrology must
4.			.0%		be present, unless disturbed or problematic.
			.0%		Definition of Vegetation Strata:
5 6	0		.0%	**************************************	Tree - Woody plants, excluding woody vines,
		= Total			approximately 20 ft (6 m) or more in height and 3 in.
	33 =	= rotar	Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m)					
1 , Ilex coriacea	5	✓ 100	0.0% i	ACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2.		o.	.0%		than 3 in. (7.6 cm) DBH.
3.	0	□ 0.	.0%		,
4.		0.	.0%		Sapling/Shrub - Woody plants, excluding vines, less
5.	0	-	.0%	-	than 3 in. DBH and greater than 3.28 ft (1m) tall.
6	0		.0%	·	
7	-		.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7.	- 0		.0%		approximately 5 to 20 ft (1 to 6 ft) in height.
8.			- 1/		Herb - All herbaceous (non-woody) plants, including
9			.0%		herbaceous vines, regardless of size, and woody
10			.0%		plants, except woody vines, less than approximately
11	0	<u> </u>	.0%		3 ft (1 m) in height.
12	0	□ _ 0.	.0%		
50% of Total Cover: 2.5 20% of Total Cover: 1	5 =	= Total (Cover		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m					
1 Smilax laurifolia	1 [100	0.0% F	_{acw} [
		100,000		ACW _	
2	0		.0%		
3.		_	.0%	-	
4	_0		.0%		Hydrophytic
5	_ o . l	0.0	.0%		Venetation
50% of Total Cover: 0.5 20% of Total Cover: 0.2	1 =	Total C	Cover		Present? Yes No
Remarks: (If observed, list morphological adaptations below),					
*Indicator suffix = National status or professional decision assigned because Re	gional status n	not defined	d by FWS.		

Depth (Inches)	/R 4/2 /R 5/2	96 100 97 97	Color (mo 10YR 10YR	6/6 6/6	3	Type.1	Loc2	Texture Remarks Loamy Sand
4-12 10° 12-24 10° Type: C=Concentration	/R 4/2 /R 5/2	97	m	-	-			Loamy Sand
12-24 10°	(R 5/2		m	-	-			A TOTAL NEW TOTAL CONTROL OF THE PROPERTY OF T
/pe: C=Concentration		97	10YR	6/6	3	-	M	Loamy Sand
						D	.M	Loamy Sand
	on D-Danioti	an DM—Dedu	red Matrix CS-	Covere	d or Coate	d Sand Gra	ine 21 oca	tion: DI –Dara Lining M=Matrix
		on, Kri–Kedu	Leu Mauix, CS-	COVELE	J OI COBLE	u Sanu Gre	IIIS -LUCA	Indicators for Problematic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (ABlack Histic (A3) Hydrogen Sulfide Stratified Layers (AB) Torganic Bodies (AB) Som Mucky Mine Muck Presence (AB) Com Muck (A9) (Depleted Below EB) Thick Dark Surfact Coast Prairie Redus Sandy Muck Mine Sandy Gleyed Matter Sandy Redox (S5) Stripped Matrix (SE) Dark Surface (S7)	(A4) (A5) (A6) (LRR P, T, ral (A7) (LRR U) LRR P, T) (Ark Surface (A12) (A16) (MLR ral (S1) (LRR R) (A16) (MLR ral (S1) (LRR R) (A16) (MLR R)	P, T, U) A11) A150A) O, S)	Thin D Loamy Loamy Deplet Redox Deplet Redox Under (F Under (F Under (F) Reduce Reduce	ark Surf Mucky Gleyed ed Matri Dark Su ed Dark Depress (10) (LR ed Ochri anganes Surface Ochric (F ed Verticont Flood	ace (S9) (Mineral (F Matrix (F2 x (F3) rface (F6) Surface (F6) R U) c (F11) (N se Masses e (F13) (LF 17) (MLR c (F18) (M dplain Soile	F7) MLRA 151) (F12) (LRR RR P, T, U) A 151) LRA 150A, s (F19) (ML	(O, P, T) 150B) RA 149A)	☐ 1 cm Muck (A9) (LRR O) ☐ 2 cm Muck (A10) (LRR S) ☐ Reduced Vertic (F18) (outside MLRA 150A,B) ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T) ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. 9A, 153C, 153D)
trictive Layer (if	observed):							
Type:								
Depth (inches):								Hydric Soil Present? Yes No

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hance				
Applicant/Owner: NASA	State: MS	Sampling Point: Wet - 53			
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S	21 T 7s R 16 W			
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex,	none): none Slope: 0.0 % / 0.0 °			
Subregion (LRR or MLRA): LRR T Lat.:	30° 25' 2.254" N Lon	g.: 89° 36' 14.733" W Datum: NAD83			
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	And the second of the second o	NWI classification: N/A			
Are climatic/hydrologic conditions on the site typical for this time of ye	ar? Yes No O	(If no, explain in Remarks.)			
		· A O			
		I Circumstances" present? Yes NO O			
SUMMARY OF FINDINGS - Attach site map showing sa	• • • • • • • • • • • • • • • • • • • •				
Hydrophytic Vegetation Present? Yes No No	Is the Sampled Area				
Hydric Soil Present? Yes ● No ○	i '	Yes ● No ○			
Wetland Hydrology Present? Yes No	within a Wetland?	168 0 140 0			
Remarks: Plot is approximately 200 feet southy of the main property boundary area.	y and fence small wet area ap	oproximately 500 feet north of the toe of the landfill			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators (minimum of 2 required)			
Primary Indicators (minimum of one required; check all that apply)		Surface Soil Cracks (B6)			
Surface Water (A1) Aquatic Fauna (B1	13)	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2) Mari Deposits (B1	5) (LRR U)	✓ Drainage Patterns (B10)			
Saturation (A3) Hydrogen Sulfide	* *	Moss Trim Lines (B16)			
	neres along Living Roots (C3)	Dry Season Water Table (C2)			
Sediment Deposits (B2) Presence of Redu	• •	Crayfish Burrows (C8)			
	ction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)			
☐ Algal Mat or Crust (84) ☐ Thin Muck Surface	• •	✓ Geomorphic Position (D2)			
☐ Iron Deposits (B5) ☐ Other (Explain in I	Remarks)	Shallow Aquitard (D3)			
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)			
₩ Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)			
Field Observations: Surface Water Present? Yes No Depth (inches):					
		irology Present? Yes No			
Saturation Present? (includes capillary fringe) Yes No Depth (inches):					
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if ava	ilable:			
Remarks:		···			
No strong redoximorphic indicators in soil.					

Г	(District 20 or)		R	el.Strat. Cover	Indicator Status	Dominance Test worksheet;
-	ree Stratum (Plot size: 30 m)	% Cover				Number of Dominant Species
1.	Pinus elliottii	10	V	27.8%	FACW	That are OBL, FACW, or FAC: 7 (A)
2.	Nyssa sylvatica	15	V	41.7%	FAC	Total Number of Dominant
3.	Magnolia virginiana	10	~	27.8%	FACW	Species Across Ali Strata:7 (B)
4.	Taxodium ascendens	1		2.8%	OBL	
5.		Ö		0.0%		Percent of dominant Species That Are ORL FACW or FAC: 100.0% (A/B)
6.		0		0.0%	-	That Are OBL, FACW, or FAC: 100.0% (A/B)
7.		0		0.0%		Prevalence Index worksheet:
8.		0		0.0%		Total % Cover of: Multiply by:
l	0% of Total Cover: 18 20% of Total Cover: 7.2	36	= Tr	otal Cove	T.	OBL species 4 x 1 = 4
l				Jun 5516		FACW species 67 x 2 =134
	pling or Sapling/Shrub Stratum (Plot size: 30 m			5 701		
1.	Pinus elliottii			6.3%	FACW	FAC species $25 \times 3 = 75$
2.	Nyssa sylvatica	M. MAN	V	62,5%	FAC	FACU species $0 \times 4 = 0$
3.	Magnolla virginiana	55	₹.	31.3%	FACW	UPL species $0 \times 5 = 0$
4.		0	Ш	0.0%		Column Totals: 96 (A) 213 (B)
5.		0		0.0%		December 7 december 17 decembe
6.		0		0.0%		Prevalence Index = B/A = 2.219
7.		0		0.0%		Hydrophytic Vegetation Indicators:
8.		0		0.0%		D. C. David Washfan Hardward Manageria
	0% of Total Cover: 8 20% of Total Cover: 3.2		_ T-	tal Cove		1 - Rapid Test for Hydrophytic Vegetation
5	0% of Total Cover: 8 20% of Total Cover: 3.2	16	= 10	cai cove		✓ 2 - Dominance Test is > 50%
S	rub Stratum (Plot size: 30 m)		_			✓ 3 - Prevalence Index is ≤3.0 ¹
1.	Ilex coriacea	30_	V	75.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2.	Cyrilla racemiflora	10	V	25.0%	FACW	
3.		0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
4.		0	\Box	0.0%		be present, unless disturbed or problematic.
5.			_	0.0%		Definition of Vegetation Strata:
6.		0	H	0.0%	-	Tree - Woody plants, excluding woody vines,
	7 1 1 0 00 00 1 T 1 1 C 1 1 0	982				approximately 20 ft (6 m) or more in height and 3 in.
	0% of Total Cover: 20 20% of Total Cover: 8	40 :	= 10	tal Cove		(7.6 cm) or larger in diameter at breast height (DBH).
He	erb Stratum (Plot size: 30 m					
	Juncus polycephalos	1		33.3%	OBL	Sapling - Woody plants, excluding woody vines,
_	Sarracenia alabamensis		\Box	33.3%	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
			\Box	33,3%	OBL	
			Н	0.0%	- DE	Sapling/Shrub - Woody plants, excluding vines, less
4	· · · · ·		H			than 3 in. DBH and greater than 3.28 ft (1m) tall.
5		0	片	0.0%		
0	74).	0	片.	0.0%	-	Shrub - Woody plants, excluding woody vines,
	of the second se		Η.	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
			닏.	0.0%		Hade All backgroup (man over the Allente Sentential)
9	(,)	0_	<u>.</u> ,	0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
10		0	\Box .	0,0%		plants, except woody vines, less than approximately
11		0		0.0%		3 ft (1 m) in height.
12		0	Π.	0.0%		
	% of Total Cover: 1.5 20% of Total Cover: 0.6	3 =	. To	tal Cover		Woody vine - All woody vines, regardless of height.
			- 10	tai Covei		
W	oody Vine Stratum (Plot size: 30 m				}	
1.	Smilax laurifolia	1		100.0%	FACW	
2.	en de est en en en en en en en en en en en en en	0		0.0%		
3.		0		0.0%		
4.		0		0.0%		
5.	÷ 6	0	\Box	0.0%		Hydrophytic
	W of Total Covers D.E. 200/ of Tatal Covers					Vegetation Present? Yes No
50	% of Total Cover: 0.5 20% of Total Cover: 0.2	1, =	- 10	rai Cover		
Rem	arks: (If observed, list morphological adaptations below).					
*Inc	licator suffix = National status or professional decision assigned because Re-	gional status i	not de	efined by EV	VS.	

	-heave fac	Matrix	are achair						absence of indicators.	•	
Depth Matrix (inches) Color (moist) %		0/0	Redox Features Color (moist) % Type ¹ Loc ²					Texture	Remarks		
0-4	10YR	3/1	98	10YR	6/2	2	D	М	Sandy Loam		
4-16	10YR	4/2	98	10YR	6/2	20	D	М	Sandy Loam		
·• ·					-						
pe: C=Cond		=Depletio	n. RM= Red ı	iced Matrix, CS=	Covere	ed or Coate	d Sand Gr	ains ² Loca	tion: PL=Pore Lining. M=		
Histosol (A				Polyval	ue Rel	ow Surface	(S8) (I RR	STID		blematic Hydric Solls ³ :	
Histic Epip	•			_		rface (S9) (I			1 cm Muck (A9) 2 cm Muck (A10		
Błack Histi		Loamy Mucky Mineral (F1) (LRR O)									
Hydrogen Sulfide (A4) Stratified Layers (A5)				Loamy Gleyed Matrix (F2)						(F18) (outside MLRA 150A,B) plain Soils (F19) (LRR P, S, T)	
				Deplete	-	-	,			ht Loamy Soils (F20) (MLRA 153B)	
	odies (A6) (L	RR P, T, L	J)			iurface (F6)					
	cy Mineral (A		•	Depleted Dark Surface (F7) Redox Depressions (F8)							
	ence (AB) (L										
	(A9) (LRR F			Marl (F	•	• •			Outer (explain i	u remarks)	
	Below Dark S		11)	_		ric (F11) (M	LRA 151)				
-	Surface (A1	•				ese Masses					
Coast Prair	rie Redox (A:	16) (MLRA	150A)			ce (F13) (LR					
	k Mineral (S		-	·		F17) (MLRA		•	_		
	ed Matrix (S		-			ic (F18) (ML		150B)	³ Indicator	s of hydrophytic vegetation and	
Sandy Red						odpłain Soils				f hydrology must be present, as disturbed or problematic.	
Stripped M				F					9A, 153C, 153D)	· p	
Dark Surfa	ce (\$7) (LRR	R P, S, T, U	1)								
	yer (if obse	erved):				-					
Type:						-			Hydric Soil Present?	Yes 💿 No 🔾	
narks:	es):			<u>.</u>		=					