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 of Country 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 species?		Sampling Point: Wet - 40
Tree Stratum (Plot size: 30 m)	Absolut	e R	tel.Strat. Cover	Indicator Status	Dominance Test worksheet:
Nyssa biflora	20	V		OBL	Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)
Liquidambar styraciflua	5	Ē	17.2%	FAC	That are OBL, FACW, or FAC:
Ouescue plans	3		10.3%	FAC	Total Number of Dominant
Telephone as his	1		3.4%	FAC	Species Across All Strata: 7 (B)
The state of the s	0		0.0%		Percent of dominant Species
	0	F	0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B
	0		0.0%		Prevalence Index worksheet:
	0	$\overline{}$	0.0%	V	
0% of Total Cover: 14.5 20% of Total Cover: 5.8			otal Cove		Total % Cover of: Multiply by: OBL. species 43 x 1 = 43
1 2 2		- 1	OLAI COVE	1	
pling or Sapling/Shrub Stratum (Plot size: _30 m Nyssa biflora		. 4			FACW species $1 \times 2 = 2$
+ F * 6 + 1 ± 71 ■		V		OBL	FAC species x 3 =
Quercus nigra		V	41.7%	FAC	FACU species 0 x 4 = 0
Acer rubrum		Н	12.5%	FAC	UPL species $0 \times 5 = 0$
Triadica sebifera			4.2%	FAC	Column Totals: 81 (A) 156 (B)
			0.0%		Prevalence Index = B/A = 1.926
•			0.0%		
	0		0.0%		Hydrophytic Vegetation Indicators:
	0		0.0%		1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 12 20% of Total Cover: 4.8	24	= Te	otal Cove	r	✓ 2 - Dominance Test is > 50%
rub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 1
Quercus nigra	5	V	41.7%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
Acer rubrum	5	V	41.7%	FAC	
Triadica sebifera	1		8.3%	FAC	¹ Indicators of hydric soil and wetland hydrology mus
Diospyros virginiana		\Box	8.3%	FAC	be present, unless disturbed or problematic.
			0.0%		Definition of Vegetation Strata:
The second to the second secon	0		0.0%		Tree - Woody plants, excluding woody vines,
0% of Total Cover: 6 20% of Total Cover: 2.4	12	= 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)				111.0.72.21	Sapling - Woody plants, excluding woody vines.
Typha lattifolia		V	76.9%	OBL	approximately 20 ft (6 m) or more in height and less
Scirpus expansus		V	23.1%	OBL	than 3 in. (7.6 cm) DBH.
·	0	\sqcup	0.0%		
	O	\square	0.0%	•	Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	\sqcup	0.0%		and one borrand greater than 3.20 ft (111) tail.
	0	Ц.	0.0%		Shrub - Woody plants, excluding woody vines,
		\sqsubseteq	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
	0	\sqcup	0.0%		Hart All barbaras of the state
	. 0	\sqsubseteq	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	Ш_	0.0%	-,	3 ft (1 m) in height.
	0		0.0%		
	13	= То	tal Cover		Woody vine - All woody vines, regardless of height.
% of Total Cover: 6.5 20% of Total Cover: 2.6				-	
% of Total Cover: 6.5 20% of Total Cover: 2.6 ody Vine Stratum (Plot size: 30 m)	<u> </u>		EC 701	EAC	
% of Total Cover: 6.5 20% of Total Cover: 2.6 ody Vine Stratum (Plot size: 30 m) Vitts rotundifolia			66.7%	FAC	
% of Total Cover: 6.5 20% of Total Cover: 2.6 ody Vine Stratum (Plot size: 30 m) Vitts rotundifolia Smilax laurifolia	1		33.3%	FACW	
% of Total Cover: 6.5 20% of Total Cover: 2.6 ody Vine Stratum (Plot size: 30 m) Vitis rotundifolia Smilax laurifolia	1 0		33.3% 0.0%		
% of Total Cover: 6.5 20% of Total Cover: 2.6 cody Vine Stratum (Plot size: 30 m) Vitis rotundifolia Smilax laurifolia	1 0 0		33.3% 0.0% 0.0%		Hydrophytic
% of Total Cover: 6.5 20% of Total Cover: 2.6 cody Vine Stratum (Plot size: 30 m) Vitis rotundifolia Smilax Jaurifolia	0 0 0		33.3% 0.0%		Hydrophytic Vegetation 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) % Type 1					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:										
Depth (inche	es):								Hydric Soil Present?	Yes 💿 No 🔾
Remarks:								:		

Project/Site: NASA - Stennis: 1,100 Acre Wetland Delineation Ci	ity/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: S 32 T 7 S R 16 W
10.4	ocal relief (concave, convex, none): None Slope: 0.0 % / 0.0 * 0° 23' 46.616" N Long.: 89° 36' 57.298" W Datum: NAD83
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	me nome of outloading product.
SUMMARY OF FINDINGS - Attach site map showing same	
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes 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) High Water Table (A2) 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) Presence of Reduced Thin Muck Surface (C Other (Explain in Rem Depth (inches):	or (C1) Moss Trim Lines (B16) s along Living Roots (C3) Dry Season Water Table (C2) Iron (C4) Crayfish Burrows (C8) n in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
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 O
Remarks:	previous inspectionsy, in uvullable.

		Domin Specie		Sampling Point: Wet - 41
Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.St	rat. Indicato	
1 Pinus elliottii	5		.7% FACW	Number of Dominant Species That are OBL, FACW, or FAC: 9 (A)
2. Nyssa biflora	10		.5% OBL	That are Obl., FACW, or FAC.
3. Magnolla virginiana		=	.7% FACW	Total Number of Dominant
	. 5			Species Across All Strata: 9 (B)
The service of the se			7% FAC	Percent of dominant Species
5. Cyrilla racemifiora	1		3% FACW	That Are OBL, FACW, or FAC: 100.0% (A/B)
<u>6</u>			0%	Makeulk e
7.	0		0%	Prevalence Index worksheet:
8	0		0%	Total % Cover of: Multiply by:
50% of Total Cover: 11.5 20% of Total Cover: 4.6	23 :	= Total C	Cover	OBL species 26 x 1 = 26
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)			FACW species $\underline{66}$ x 2 = $\underline{132}$
1 Pinus elliottii	5	16.	7% FACW	FAC species 8 x 3 = 24
2 Cyrilla racemiflora	_ 10	✓ 33.	3% FACW	FACU species $0 \times 4 = 0$
3. Acer rubrum	5	☐ 16.	7% FAC	UPL species $0 \times 5 = 0$
4. Nyssa bifiora	10	✓ 33.	3% OBL	Column Totals: 100 (A) 182 (B)
5	0	0.0	0%	100
6.	0	0.0	0%	Prevalence Index = B/A = 1.820
7.	0	0.0	0%	Hydrophytic Vegetation Indicators:
8.	0	0.0	0%	A Bouid Took for Modern both Woods to
50% of Total Cover: 15 20% of Total Cover: 6	30 =	= Total C		✓ 1 - Rapid Test for Hydrophytic Vegetation
	30 -	- 10tal C	WACI	✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m				3 - Prevalence Index is ≤3.0 ¹
1 Ilex coriacea	25	67.	6% FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Magnolia virginiana	5	13.	5% FACW	
3. Cyrilla racemiflora	5 _	13.	5% FACW	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4 Ilex vomitoria	1	2.7	7% FAC	be present unless disturbed of problematic,
5. Persea palustris	1	2.7	% FACW	Definition of Vegetation Strata:
6	0	0.0)%	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 18.5 20% of Total Cover: 7.4 Herb Stratum (Plot size: 30 m)	37 =	= Total C	Cover	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
1 Sarracenia alabamensis	2	✓ 22.:	2% OBL	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
2 Arundinaria tecta	3	33.3	3% FACW	than 3 in. (7.6 cm) DBH.
3. Dichanthelium scabriusculum	2	22,2	2% OBL	
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.
6	0	0.0	1%	Shrub - Woody plants, excluding woody vines,
7.	0	0.0	1%	approximately 3 to 20 ft (1 to 6 m) in height.
8		0.0	1%	
9	0	0.0		Herb - All herbaceous (non-woody) plants, including
10		0.0		herbaceous vines, regardless of size, and woody
11.	0	0.0		plants, except woody vines, less than approximately 3 ft (1 m) in height.
12.	0	0.0		
50% of Total Cover: 4.5 20% of Total Cover: 1.8		= Total C		Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m)				
Smilax laurifolia	1 [100	0% FACW	-
		0.0	1 1 100 100 100 100 100 100 100 100 100	
	0 1			
	_ 0 l	0.0	****	
1. ,		0.0	21. (*********	Hydrophytic
5. ,	<u> </u>	0.0	7 0	Vegetation
50% of Total Cover: 0.5 20% of Total Cover: 0.2	1 =	Total Co	over	Present? Yes S No C
Remarks: (If observed, list morphological adaptations below).				
*Indicator suffix = National status or professional decision assigned because Re	gional status n	ot defined	by FWS.	<u> </u>

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: Waveland - Hancock Sampling Date: 25-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 43
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): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.:	.: 30° 23' 52.457" N Long.: 89° 37' 18.611" W Datum: NAD83
Soil Map Unit Name: Smithton - escambia	NWI classification: PFO 1/4 C
Are climatic/hydrologic conditions on the site typical for this time of ye	(11 lis) deplois in 12 list
	antly disturbed? Are "Normal Circumstances" present? Yes No Virginial No Virginial No Virginial No Virginial No Virginial No Virginial No. Vir
SUMMARY OF FINDINGS - Attach site map showing sa	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No No Remarks:	Is the Sampled Area within a Wetland? Yes No O
Low drainage area approximately 250-feet east of the black top roa	oad in the SW part of the AOI.
HYDROLOGY	
Sediment Deposits (B2)	(B13) Sparsely Vegetated Concave Surface (B8) (B15) (LRR U) ✓ Drainage Patterns (B10) de Odor (C1) ✓ Moss Trim Lines (B16) spheres along Living Roots (C3) Dry Season Water Table (C2) duced Iron (C4) Crayfish Burrows (C8) sduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) face (C7) ✓ Geomorphic Position (D2) in Remarks) Shallow Aquitard (D3) ✓ FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U) Sh: Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial phot Remarks:	otos, previous inspections), if available:

Mouse afford 10		/Blot size: 20 1	Absolute			Indicator	Dominance Test worksheet:
Nysab Biffore 15	Tre	x y .	% Cover	_	Cover	Status	
3 Quercus higher 5	1.			=		er to a serie	That are OBL, FACW, or FAC:
Towodlum ascendens							
5. 0 0.0% Percent of dominant Species 100.0% That Are OBL, FACW, PAC 100.0% That Are OBL, FACW, PAC 100.0% Prevalence Index worksheet: Total % Cover of: Multiply by: Multiply b		u Tarana a Tarana a Araba a Araba a Araba a Araba		Η.	·	****	Species Across All Strata: 6 (B)
6		Taxodium ascendens	3	H		ÓBL	Porcont of dominant Species
5				Ц.	-		
8.	6.			H			
Sow of Total Cover: 16.5 20% of Total Cover: 6.6 33 = Total Cover		No. 1 Control of the		Η.			
Sapling or Saplina/Shrab Stratum (Plot size: 30 m)				Ш,	*		
1. Pinus elilottil 2. Taxodium secendens 10	50	% of Total Cover: 16.5 20% of Total Cover: 6.6		= To	tal Cove	r	
2 Taxodium ascendens 3 Nyss biffore 5 ✓ 23.5% OBL 4 Cyrtlia racenilifore 5 ✓ 23.5% OBL 5 ✓ 23.5% OBL 4 Cyrtlia racenilifore 5 ✓ 23.5% OBL 5 ✓ 23.5% OBL 6 ✓ 0 □ 0.0% 6 ○ □ 0.0% 7 ✓ 0 □ 0.0% 8. 8. 9 □ 0.0% 8. 9 □ 0.0% 8. 10 □ 0.0% 8. 11 Oyrilla racenilifora 10 ✓ 58.8% FACW 11 Oyrilla racenilifora 10 ✓ 58.8% FACW 12 → Total Cover 11 Oyrilla racenilifora 10 ✓ 58.8% FACW 13 → Prevalence Index = B/A = 1.681 Hydrophytic Vegetation Indicators: □ 1 - Rapid Test for Hydrophytic Vegetation 12 → Dominance Test is > 50% 13 → Prevalence Index is \$3.0 □ 14 → Total Cover 15 → Total Cover 16 → Total Cover 17 → Total Cover 18 → Total Cover 18 → Total Cover 19 → Total Cover 10 → 0.0% 10 → 0.0% 11 → Total Cover 11 → Total Cover 12 → Total Cover 13 → Total Cover 15 → Total Cover 16 → 0 □ 0.0% 16 → 0 □ 0.0% 17 → Total Cover 18 → Total Cover 19 → 0 □ 0.0% 10 → 0.0% 11 → Total Cover 10 → 0.0% 11 → Total Cover 11 → Total Cover 12 → Total Cover 13 → Total Cover 14 → 0 □ 0.0% 15 → Total Cover 16 → 0 □ 0.0% 16 → 0 □ 0.0% 17 → Total Cover 18 → Total Cover 19 → 0 □ 0.0% 10 □ 0.0% 11 → Total Cover 10 □ 0.0% 11 → Total Cover 11 → Total Cover 12 → Total Cover 13 → Total Cover 14 → 0 □ 0.0% 15 → Total Cover 16 → 0 □ 0.0% 16 → 0 □ 0.0% 17 → 0 □ 0.0% 18 → 0 □ 0.0% 19 → 0 □ 0.0% 10 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 12 → Total Cover 17 → Total Cover 18 → Total Cover 19 → Total Cover 10 □ 0.0% 10 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 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% 18 → 0 □ 0.0% 19 → 0 □ 0.0% 19 → 0 □ 0.0% 19 → 0 □ 0.0% 10 □ 0.0% 10 □ 0.0% 10 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 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% 19 → 0 □ 0.0% 10 □ 0.0% 10 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 11 → 0 □ 0.0% 12 → 0 □ 0.0% 13 → 0 □ 0.0% 14 → 0 □ 0.0% 15	Saj	pling or Sapling/Shrub Stratum (Plot size: 30 m)				
2. Taxodium ascendens 10 M 47,6% OBL 4. Cyrilla racentiflora 5 M 23,8% OBL 5. 0 0,0% 6. 0 0,0% 7. 0 0,0% 8. 0 0,0% 8. 0 0,0% 8. 0 0,0% 8. 0 0,0% 8. 0 0,0% 8. 0 0,0% 8. 0 0,0% 8. 0 0,0% 8. 0 0,0% 9. 1. Oyrilla racentiflora 10 M 58,8% FACW 1. Oyrilla racentiflora 10 M 58,8% FACW 2. Morella cerifera 5 29,4% FAC 3. Megnolia virginiana 2 11,8% FACW 4. 0 0,0% 8. 0 0,0% 9. Ook 1. Aundinaria tecta 1 100,0% 1. Aundinaria tecta 1 100,0% 2. Morella cerifera 1 100,0% 3. Aundinaria tecta 1 100,0% 4. 0 0,0% 5. 0 0,0% 5. 0 0,0% 6. 0 0,0% 7. Replace test is > 50% 9. 0 0,0% 1. Aundinaria tecta 1 100,0% 1. Aundinaria tecta 1 00,0% 1. Aundinaria tecta 0 0,0% 2. 0 0,0% 3. 0 0,0% 4. 0 0,0% 5. 0 0,0% 6. 0 0,0% 7. 0 0,0% 8. 0 0,0% 9. 0 0,0% 9. 0 0,0% 1. Aundinaria tecta 0 0,0% 1. A	1.	Pinus elliottii	3		14.3%	FACW	FAC species $10 \times 3 = 30$
4. Cyrilla racemillora 3	2.			V,	47.6%	OBL	FACU species $0 \times 4 = 0$
5.	3.	Nyssa biflora	5	V.	23.8%	OBL	UPL species $0 \times 5 = 0$
5.	4.	Cyrilla racemiflora	3		14.3%	FACW	Column Totals: 72 (A) 121 (B)
0			0		0.0%		
7. 0			0		0.0%	7 77	Prevalence Index = B/A = 1.681
8.			0		0.0%		Hydrophytic Vegetation Indicators:
Solution Stratum Flot size: 30 m			0		0.0%		1 - Panid Test for Hydranhytic Vegetation
Shrub Stratum Plot size: 30 m 10		% of Total Cover: 10.5 20% of Total Cover: 4.2	21 =	= To	tal Cove	r	
1. Cyrilla racemiflora 2. Morella cerifera 3. Magnolla virginlana 2. □ 11.896 FACW 5. □ 0.0% 5. □ 0.0% 5. □ 0.0% 5. □ 0.0% 5. □ 0.0% 6. □ 0.0% 7. □ 0.0% 7. □ 0.0% 7. □ 0.0% 7. □ 0.0% 8. □ 0.0% 8. □ 0.0% 9. □ 0.0% 9. □ 0.0% 9. □ 0.0% 9. □ 0.0% 10. □ 0.0% 11. Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. 7. Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 1 than 3 in. (7.6 cm) or larger in diameter at breast height (7.6 cm) or larger							
2		-	45		-0.00/	546044	
3 Magnolia virginiana				-		-	Problematic Hydrophytic Vegetation 1 (Explain)
be present, unless disturbed or problematic.				ዾ.	-		1 To discharge of herdule and sendenced herdunians much
1		Magnolla virginiana		님.		FACW	
6.		. ***	0	Η.	0.0%	-	
Some of Total Cover: 8.5 20% of Total Cover: 3.4 17 = Total Cover approximately 20 ft (6 m) or more in height and (7.6 cm) or larger in diameter at breast height (D total Cover) 1		20., . M . A., .	0	Ц,	0.0%		_
Herb Stratum (Plot size: 30 m)			0	Ш.	0.0%		
Herb Stratum	50	% of Total Cover: 8.5 20% of Total Cover: 3.4	17_=	= To	tal Cove	•	(7.6 cm) or larger in diameter at breast height (DBH).
1	Her	b Stratum (Plot size: 30 m				i	
2.	-		1		100.0%	FACW	Sapling - Woody plants, excluding woody vines,
3.	2.00			\Box	-	171011	
4.			0	Π,		=	tian 3 in. (7.5 din) DBH.
5.	"		-	Η.			Sapling/Shrub - Woody plants, excluding vines, less
6.	- 1	The Water				No. 7 F Alex	than 3 in. DBH and greater than 3.28 ft (1m) tall.
7.	٥.	-	•	Η-			
8.	7.			Н-		-	Shrub - Woody plants, excluding woody vines,
9.	-			Η.	~	-	approximately 3 to 20 ft (1 to 6 m) in height.
10.				H			Herb - All herbaceous (non-woody) plants, including
11.					•		herbaceous vines, regardless of size, and woody
12.	IU.,			닖.			plants, except woody vines, less than approximately
Woody Vine Stratum (Plot size: 30 m)	11.			Ц.			on (im) in neight.
Woody Vine Stratum (Plot size: 30 m) 1. 0 0.0% 2. 0 0.0% 3. 0 0.0% 4. 0 0.0% 5. 0 0.0% Hydrophytic				Щ			Mondy vine - All woody vines regardless of height
1. 0 0.0% 2. 0 0.0% 3. 0 0.0% 4. 0 0.0% 5. 0 0.0% Hydrophytic	509	% of Tota! Cover: 0.5 20% of Total Cover: 0.2	1 =	: Tol	tal Cover	'	vvoody ville - All woody villes, regardless of neight.
2. 0 0.0% 3. 0 0.0% 4. 0 0.0% 5. 0 0.0% Hydrophytic	Wor	ody Vine Stratum (Plot size: 30 m				ļ	
2. 0 0.0% 3. 0 0.0% 4. 0 0.0% 5. 0 0.0% Hydrophytic	1		0		0.0%		
3. 0 0.0% 4. 0 0.0% 5. 0 0.0% Hydrophytic	_		. 0		0.0%		
4. 0 0.0% Hydrophytic					0.0%		
5. 0 0.0% Hydrophytic					0.0%		
	5. <u> </u>				0.0%		V
50% of Total Cover: 0 20% of Total Cover: 0 0 = Total Cover Present? Yes • No				Tot	al Cover		Vegetation Present? Yes No
ET STATE		20/001 TOTAL COVERS	- Villes				

~	_	-	
	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	
ių.			
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 Delineatiion	City/County: Waveland - Hano	ock Sampling Date: 27-Oct-16
Applicant/Owner: NASA	State: MS	Sampling Point: Wet - 47
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: \$	31 T 7s R 16 W
Landform (hillslope, terrace, etc.): Hillside		none): flat Slope: 2.0 % / 1.1
* * Market Will a Million Will a Million Will a Million William Willia	30° 24' 15.210" N Lon	
Soil Map Unit Name: Su, Smithton fine sandy loam, frequently flooded	24.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	DCC 1/4
Are climatic/hydrologic conditions on the site typical for this time of year		(If no, explain in Remarks.)
	ly disturbed? Are "Norma	l Circumstances" present? Yes Son O
Are Vegetation, Soll, or Hydrology naturally p	roblematic? (If needed,	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 ○	within a Wetland?	Yes No
Wetland Hydrology Present? Yes ● No ○	within a wetianu?	
Remarks: Sideslope of low relief hillside drainage feature that transitions down Lot (Main NASA site) road.	into more of a wet area below	. Plot is approximately 500-600- feet east of Trent
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 C	* *	✓ Moss Trim Lines (B16)
	eres along Living Roots (C3)	☐ Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduc	, ,	Crayfish Burrows (C8)
	tion in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
	• •	Shallow Aquitard (D3)
☐ Iron Deposits (B5) ☐ Other (Explain in R☐ Inundation Visible on Aerial Imagery (B7)	emarks)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		✓ Sphagnum moss (D8) (LRR T, U)
Field Observations:		E Springham mose (50) (crox 1) 0)
Surface Water Present? Yes No Depth (inches):		
Water Table Present? Yes O No O Depth (inches):		
	Wetland Hyd	rology Present? Yes 💿 No 🔾
(includes capillary fringe) Yes V No V Depth (inches):		
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if ava	ilable:
Remarks:		
No real strong hydrology, but a few secondary indicators,		

- (Plot size) 20 m		te Rel.S		licator	Dominance Test worksheet:
Tree Stratum (Plot size: 30 m			or was not be a second	atus	Number of Dominant Species
1 Pinus elilottii	. 15		1.7% FAC		That are OBL, FACW, or FAC: 10 (A)
2. Nyssa sylvatica	10	_	4.5% FAC		Total Number of Dominant
4 Outstand alam			.9% FAC		Species Across All Strata: 10 (B)
			.4% FAC		Percent of dominant Species
	1		.4% FAC	<u></u>	That Are OBL, FACW, or FAC: 100.0% (A/B)
<u>6</u>			.0%		
7.			.0%		Prevalence Index worksheet:
8.		*	.0%	9.17	Total % Cover of: Multiply by:
50% of Total Cover: 14.5 20% of To	otal Cover: 5.8 29	= Total	Cover		OBL species 10 x 1 = 10
Sapling or Sapling/Shrub Stratum (Ple	ot size: _30 m)			'	FACW species $43 \times 2 = 86$
1 Pinus elliottii	,10		7.6% FAC	CW, I	FAC species $56 \times 3 = 168$
2 Magnolia virginiana	- 5		3.8% FAC	CW I	FACU species $0 \times 4 = 0$
3 Nyssa sylvatica	5	✓ 2.	8.8% FAC	<u> </u>	UPL species $0 \times 5 = 0$
4. Morella certfera	_ 1	□ 4	.8% FAC		Column Totals: 109 (A) 264 (B)
5	. 0		.0%	-	
6	0		.0%		Prevalence Index = B/A = 2.422
7	0		.0%		Hydrophytic Vegetation Indicators:
8.	0	□ 0	.0%		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 10.5 20% of To	otal Cover: 4.2 21	= Total	Cover		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m			. 40/ - 540	.	✓ 3 - Prevalence Index is ≤3.0 ¹
	25	-	2.1% FAC		☐ Problematic Hydrophytic Vegetation ¹ (Explain)
	10).8% FAC		1 To displace of hydric call and watland budgeloon worth
	10	(.8% FAC		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4. Ilex opaca	2	4	.2% FAC	-	- C
		***	1% FAC	art a new all a	Definition of Vegetation Strata:
3	0. ,	0	.0%	4 -0/-	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
50% of Total Cover: 24 20% of To	otal Cover: 9.6 48	= Total	Cover		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m	_)				
	5_	✓ 50	.0% OBL		Sapling - Woody plants, excluding woody vines,
2. Woodwardia areolata	3		.0% OBL		approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
3. Sagittaria lancifolia	1		.0% OBL		than 3 in. (7.3 dif) DDF.
A Disharthallow applyingstone			.0% OBL		Sapling/Shrub - Woody plants, excluding vines, less
5.		(The others)	.0% ODE		than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0				
6			.0%	S	Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
7				- 6	approximately 3 to 20 it (1 to 6 iii) in height.
8			.0%		Herb - All herbaceous (non-woody) plants, including
9			0%	I	herbaceous vines, regardless of size, and woody
l0,		=	0%		plants, except woody vines, less than approximately
11,		1,000,000	0%		3 ft (1 m) in height.
12.		0.	.0%		Mandy vine All woods vines regardless of bright
50% of Total Cover: 5 20% of To	otal Cover: 2 10	= Total	Cover	Ι,	Woody vine - All woody vines, regardless of height.
Woody Vine Stratum (Plot size: 30 m)			_	
Smilax laurifolla	1	100	0.0% FAC	.w _ [
	/ · · ·		0%		
3.			0%		
·		-	0%		
			0%		Hydrophytic
.V			Ų70		
1. 5. 50% of Total Cover: 0.5 20% of To					Vegetation Present? Yes No

Matrix lor (moist) 'R 3/2	0/0			dov Earl	FOC				
		Color (n	noist)	dox Featu %	Type 1	Loc2	Texture Remarks		
	100	CORTIN	ioist)	/4	1100	LUC	Sandy Loam	Normal Ra	
R 4/2	95	10YR	6/6	5	С	M	Sandy Loam	-11	
od m						=	1		
n. D=Depletio	n. RM=Redu	.ced Matrix, C	5=Covere		d Sand Gra	ins ²Loca	tion: PL=Pore Lining. M=	-Matrix	
ors:							Indicators for Pro	blematic Hydric Solls ³ :	
(A4) A5) 6) (LRR P, T, L rai (A7) (LRR P, 8) (LRR U) LRR P, T) ark Surface (A: e (A12) vx (A16) (MLRA rai (S1) (LRR O rix (S4)	, T, U) 11) A 150A) , S)	Thin Loan Loan Deple Redo Deple Redo Inon- Iron- Delta Redu	Dark Surny Mucky by Mucky by Gleyece eted Matro ox Dark Seted Dark ox Depres (F10) (Lifeted Och Mangane ric Surfac Ochric (ced Verti nont Floc	face (S9) (i Mineral (F I Matrix (F2 rix (F3) urface (F6) c Surface (F issions (F8) RR U) ric (F11) (M isse Masses rie (F13) (LF F17) (MLRA c (F18) (Mi odplain Soils	LRR S, T, U (LRR O) (LRR O) (F) (F12) (LRR (RR P, T, U) (LRA 150A, (F19) (ML	O, P, T) 150B) RA 149A)	2 cm Muck (A10 Reduced Vertic Piedmont Flood Anomalous Brigi Red Parent Mate Very Shallow Da Other (Explain in	o) (LRR S) (F18) (outside MLRA 150A,B) clain Soils (F19) (LRR P, S, T) th Loamy Soils (F20) (MLRA 153B) crial (TF2) ork Surface (TF12)	
				-			Hydric Soll Present?	Yes ● No ○	
	(A4) (A5) (6) (LRR P, T, to rel (A7) (LRR P, 8) (LRR U) LRR P, T) ark Surface (A2) (A16) (MLRA C) (A16) (MLRA C) (A16) (LRR C) (A16) (MLRA C) (A16) (LRR C) (A16) (MLRA C) (A16) (LRR C)	(A4) (A5) (6) (LRR P, T, U) (7) (LRR P, T, U) (8) (LRR U) LRR P, T) (7) (A12) (A12) (A14) (MLRA 150A) (A15) (MLRA 0, S) (A16) (MLRA 0, S) (A16) (MLRA 0, S) (A16) (MLRA 0, S) (A17) (A18) (MLRA 0, S) (A18) (MLRA 0, S)	Polys A2)	Polyvalue Bela Polyvalue Bela Thin Dark Sur Loamy Mucky Loamy Mucky Loamy Gleyed Loa	Polyvalue Below Surface A2)	Polyvalue Below Surface (S8) (LRR 9) A2)	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) A5) Depleted Matrix (F3) (A6) (LRR P, T, U) Redox Dark Surface (F6) ral (A7) (LRR P, T, U) Redox Depressions (F8) LRR P, T) Ark Surface (A11) Popleted Ochric (F11) (MLRA 151) (A12) Depleted Ochric (F13) (LRR O, P, T) DX (A16) (MLRA 150A) Tal (S1) (LRR O, S) Delta Ochric (F17) (MLRA 150A) Reduced Vertic (F18) (MLRA 150A, 150B) Piedmont Floodplain Soils (F19) (MLRA 149A) Anomalous Bright Loamy Soils (F20) (MLRA 1446) (LRR P, S, T, U)	Polyvalue Below Surface (S8) (LRR S, T, U)	

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: Wet - 52
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' 2.553" N Long.: 89° 36' 29.223" W Datum: NAD83
Soil Map Unit Name: HIA, Harleston fine sandy loam, 0 to 2 percent slo	# · ** * # * * · · · · · · · · · · · · ·
Are climatic/hydrologic conditions on the site typical for this time of yea	
	ty 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 Hydric Soil Present? Yes No Yes No	Is the Sampled Area
1.	within a Wetland? Yes No
Remarks: Area is approximately 250 feet east of Up - 52.	
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	
Saturation (A3) Hydrogen Sulfide (
	eres along Living Roots (C3) Ury Season Water Table (C2)
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):	
Suite Held Hessie	
	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:	
Barely have hydrology Slight evidence of oxidized rhizospheres.	
	w
į.	***
	I

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A) Total Number of Dominant Species Across All Strata: 7 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
Total Number of Dominant Species Across All Strata: 7 (B) Percent of dominant Species
Species Across All Strata: 7 (B) Percent of dominant Species
Percent of dominant Species
I HIGH THE ODE LACTICAL TO LACT
Prevalence Index worksheet:
Total % Cover of: Multiply by:
OBL species 0 x 1 = 0
FACW species 104 x 2 =208_
FAC species $22 \times 3 = 66$
FACU species $0 \times 4 = 0$
UPL species $0 \times 5 = 0$
Column Totals: 126 (A) 274 (B)
Prevalence Index = B/A = 2.175
Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
✓ 2 - Dominance Test is > 50%
T C C C C C C C C C C C C C C C C C C C
3 - Prevalence Index is ≤3.0 ¹
Problematic Hydrophytic Vegetation ¹ (Explain)
² Indicators of hydric soil and wetland hydrology must
be present, unless disturbed or problematic.
D. C. M
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.
that o in. (7.0 only part.
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.
approximately 5 to 20 ft (1 to 6 ft) 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.
vvoody vine - All woody vines, regardless of rielgilt.
Hydrophytic
Vegetation Present? Yes No

Depth	-	Matrix	_ · ĸ · · ·		Redox Feat						
(Inches)	Color (moist) %		Color (moist) % Type 1				Texture	Remarks			
0-4	10YR	3/2	100					Loamy Sand			
4-12	10YR	4/2	97	10YR 6	6 3	D	М	Loamy Sand			
12-24	10YR	5/2	97	10YR 6	6 3	D	M	Loamy Sand	. ***		
. 27	JULIC	3/2		IOIK O	· .			Louiny Sand	٠. ٨.		
			7 Mars 10 1		_				- 'm' m''		
			-								
								.,			
wood C—Conc	ontration D	-Danlotia	n DM-Dedi	uced Matrix, CS=Co	vered or Coats	od Sand Gr	aine 21 nca	ation: PL=Pore Lining, M=Matr	·iv		
ydric Soll Ir		-Depicao	II, KI-I—KCAI	accu mad ix, co=co	vereu or coun	ca Sana Gre	am3 Loca	Indicators for Problem			
Histosol (A				Polyvalue	Below Surface	- (SR) (LRR	STID	_	<u>-</u>		
Histic Epipe	•				Surface (S9)			1 cm Muck (A9) (LRF	•		
Black Histic				_	icky Mineral (f			2 cm Muck (A10) (LR	•		
	Sulfide (A4)								(outside MLRA 150A,B)		
Stratified L					eyed Matrix (F	د)		_	Soils (F19) (LRR P, S, T)		
	dies (A6) (L	ויי ססס	n		Matrix (F3)	`		= -	amy Soils (F20) (MLRA 153B)		
	ules (A6) (L y Mineral (A		•		rk Surface (F6	-		Red Parent Material (• •		
-	y Milnerai (A ence (A8) (L		, 1, 0)		Dark Surface (☐ Very Shallow Dark Surface (TF12)			
	(A9) (LRR F	•			pressions (F8)	,		Other (Explain in Remarks)			
				☐ Marl (F10							
-	elow Dark S		11)	_ `	Ochric (F11) (I						
-	Surface (A1				janese Masses						
_	ie Redox (A		-		irface (F13) (L						
_	k Mineral (S		, S)		ric (F17) (MLR						
	ed Matrix (S	54)			/ertic (F18) (M						
Sandy Red					Floodplain Soi		-				
Stripped M				Anomalou	s Bright Loam	y Soils (F20) (MLRA 14	9A, 153C, 153D)			
」 Dark Surfac	e (S7) (LRR	₹ P, S, T, l	J)								
							1				
strictive La	yer (if obse	erved):									
Type:	,							Harded - Call Danas and	Yes No		
Depth (inche	es):							Hydric Soil Present?	Yes No		
emarks:											

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hand			
Applicant/Owner: NASA	State: MS	Sampling Point: Wet - 53		
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S	21 T 7s R 16W		
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		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.)		
	••••	·		
		I Circumstances" present? Yes NO Company No Company answers in Remarks.)		
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.				

0	Г	(District 20 or)		R		Indicator	Dominance Test worksheet;
2. Mysosa sylvetica	-						
1						44-14-14-14	That are OBL, FACW, or FAC: 7 (A)
3, Reports Argonithma. 10			15			W	Total Number of Dominant
December Command Species	3.		10		27.8%	FACW	
0	4.	Taxodium ascendens	_ 1		2.8%	OBL	
6. 0	5.		Ö		0.0%		
8. 50% of Total Cover: 38 20% of Total Cover: 7.2 30	6.		0		0.0%	-	That are OBL, FACW, OF FAC:
Sow of Total Cover 18 20% of Total Cover 7.2 35 = Total Cover 5asalina of Sasalina of Sa	7.		0		0.0%		Prevalence Index worksheet:
Sow of Total Cover 18 20% of Total Cover 7.2 35 = Total Cover 5asalina of Sasalina of Sa	8		0		0.0%		Total % Cover of: Multiply by:
1		0% of Total Cover: 18 20% of Total Cover: 7.2	36	= Tr	stal Cove		
1. Piews ellotedii 2. Mysse sylvetika 3. Megnolik virginiane 3. September 1. September 2. September 2. September 2. September 3. Septe	l				Jun 5516		
2. Myses sylvetics 3. Myses sylvetics 3. Myses sylvetics 4.		Partition - Alar			5 701	~. ~	
Magnolia virginisma	l · ·	CONTRACTOR OF THE RESERVE OF THE RES					
4			M. MAN	_	62,5%	FAC	
0	3.	Magnolla virginiana	55	\mathbf{Z}	31.3%	FACW	UPL species $0 \times 5 = 0$
0	4.		0	Ш	0.0%		Column Totals: 96 (A) 213 (B)
5	5.		0		0.0%		December 7 december 17 decembe
1	6.		0		0.0%		Prevalence Index = B/A = 2.219
8.	7.		0		0.0%		Hydrophytic Vegetation Indicators:
Shrub Stratum Plot size: 30 m 30 75.0% FACW 2 - Dominance Test is > 50% 3 - Prevalence Index is \$3.0 ¹ 1 Izer corisces 30 m 30 75.0% FACW 2 - Dominance Test is > 50% 3 - Prevalence Index is \$3.0 ¹ Problematic Hydrophytic Vegetation ¹ (Explain) 1 1 1 1 1 1 1 1 1	1		0		0.0%		D. C. David Washfan Hardward Manageria
Shrub Stratum (Plot size: 30 m)		20% of Total County 9 20% of Total County 3.3		_ T-			
1. Ilex corisces 2. Oyrilla racemiflora 3.	5	5% of Total Cover: 8 20% of Total Cover: 3.2	10	- 10	cai cove		I
2 Cyrilla racemiflora 3	Sh	rub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
3.	1.	Ilex coriacea	30_	V	75.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
4.	2.	Cyrilla racemiflora	10	✓	25.0%	FACW	
4.	3		0		0.0%		¹ Indicators of hydric soil and wetland hydrology must
5.			0	\Box	0.0%		be present, unless disturbed or problematic.
6.				_			Definition of Vegetation Strata:
Solid Total Cover: 20 20% of Total Cover: 8 40 = Total Cover		j, –. , . = = = = = =		H		-	_
Herb Stratum		7 1 1 0 00 00 1 T 1 1 C 1 1 0	982				
1 Juncus polycephalos			40 :	= 10	tai Cove		(7.6 cm) or larger in diameter at breast height (DBH).
1 Juncus polycephalos	He	erb Stratum (Plot size: 30 m					
2. Sarracenia alabamensis 3. Eriocaulon decangulare 4. 0 0 0.0% 5. 0 0 0.0% 6. 0 0.0% 7. 0 0.0% 8. 0 0.0% 9. 0 0.0% 10. 0.0% 11. 0 0.0% 11. 0 0.0% 12. 0 0.0% 12. 0 0.0% 13. 33.3% 14. 0 0 0.0% 15. 0 0 0.0% 16. 0 0.0% 17. 0 0.0% 18. 0 0 0.0% 19. 0 0.0% 10. 0 0.0% 10. 0 0.0% 11. 0 0 0.0% 12. 0 0.0% 12. 0 0.0% 13. 1 0 0.0% 14. 0 0 0.0% 15. 20% of Total Cover: 0.6 3 = Total Cover 15. 0 0 0.0% 26. 0 0.0% 27. 0 0.0% 28. 0 0.0% 29. 0 0.0% 20. 0 0.0% 20. 0 0.0% 21. 0 0.0% 22. 0 0.0% 23. 0 0.0% 24. 0 0.0% 25. 0 0 0.0% 26. 0 0.0% 27. 0 0.0% 28. 0 0.0% 29. 0 0.0% 29. 0 0.0% 20. 0 0.0% 20. 0 0.0% 20. 0 0.0% 20. 0 0.0% 20. 0 0.0% 21. 1 0.00% 22. 0 0 0.0% 23. 0 0 0.0% 24. 0 0 0.0% 25. 0 0 0.0% 26. 0 0.0% 27. 0 0.0% 28. 0 0 0.0% 29. 0 0.0% 29. 0 0.0% 20. 0 0.0% 20. 0 0.0% 20. 0 0.0% 20. 0 0.0% 21. 1 0.00% 22. 0 0 0.0% 23. 0 0 0.0% 24. 0 0 0.0% 25. 0 0 0.0% 26. 0 0.0% 27. 0 0.0% 28. 0 0 0.0% 29. 0 0.0% 20.			1		33.3%	OBL	
3. Erlocaulon decangulare 4.	_	Companie alchemensis			33.3%	OBL	
4.				\Box		-	
5.				П		- DE	Sanling/Shrub - Woody plants, excluding vines, less
6.	-	· · · · · ·					
7.	0			片			
8.	0	74).	_	片.		-	
9.				片			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. 12.				닏.	0.0%		Hade All backgroup (man over the Allente Sentential)
10.	9.	(,)	0_	Ш <u>,</u>	0.0%		, ,,,
11.	10.		0	\Box .	0,0%		
12.	11 .		0		0.0%		
Woody Vine Stratum (Plot size: 30 m)			0	Π.	0.0%		
Woody Vine Stratum			3 .	- To	tal Cover		Woody vine - All woody vines, regardless of height.
1							
2. 0 0.0% 3. 0 0.0% 4. 0 0.0% 50% of Total Cover: 0.5 20% of Total Cover: 0.2 1 = Total Cover Remarks: (If observed, list morphological adaptations below).	We	pody Vine Stratum (Plot size: 30 m					
3. 0 0.0% 4. 0 0.0% 5. 0 0.0% 50% of Total Cover: 0.5 20% of Total Cover: 0.2 1 = Total Cover Remarks: (If observed, list morphological adaptations below).	1.	Smilax laurifolia	1	Ц,	100.0%	FACW	
3. 0 0.0% 4. 0 0.0% 5. 0 0.0% 50% of Total Cover: 0.5 20% of Total Cover: 0.2 1 = Total Cover Remarks: (If observed, list morphological adaptations below).	2.		0	\Box	0.0%		
4. 0 0.0% 5. 0 0.0% 50% of Total Cover: 0.5 20% of Total Cover: 0.2 1 = Total Cover Remarks: (If observed, list morphological adaptations below).	3.		0		0.0%		
5. 0 0.0% 50% of Total Cover: 0.5 20% of Total Cover: 0.2 1 = Total Cover Remarks: (If observed, list morphological adaptations below).	4.		0		0.0%		
50% of Total Cover: 0.5 20% of Total Cover: 0.2 1 = Total Cover		***		oʻ	0.0%		
Remarks: (If observed, list morphological adaptations below).		% of Total Covers 0.5 20% of Tatal Covers 0.3	- 1 1 6 A Maria			-	
		20% of Total Cover. 0.2		- 10	rai coaci		
	Rem	arks: (If observed, list morphological adaptations below).					
						uc	

-		•	1
	-		

Profile Description: (De:	scribe to	the depth	needed to docu	ment the ind	icator or c	onfirm the	absence of Indicators.)
Depth	Matrix			Redox Fea				
(inches) Color (0/0	Color (mols		Type 1		Texture	Remarks
0-4 10YR	. 3/1	98		6/2 2	D	М	Sandy Loam	
4-16 10YR	4/2	. 98	10YR	6/2 20	D	M	Sandy Loam	
Type: C=Concentration. D: Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (L 5 cm Mucky Mineral (A Muck Presence (A8) (L 1 cm Muck (A9) (LRR F Depleted Below Dark S Thick Dark Surface (A1 Coast Prairie Redox (A: Sandy Muck Mineral (S Sandy Gleyed Matrix (S6) V Stripped Matrix (S6)	RR P, T, U 7) (LRR P RR U) 9, T) urface (A 2) 16) (MLRA 1) (LRR O	J) , T, U) 11) A 150A) A, S)	Polyvalu Thin Dar Loamy M Loamy G Depleted Redox D Marl (F10 Depleted Iron-Mar Umbric S Delta Oc Reduced	e Below Surface (S9) Mucky Mineral (Sleyed Matrix (F3) Ark Surface (F6) Dark Surface (F6) Dark Surface (F10) Cochric (F11) Diganese Masse Surface (F13) (Chric (F17) (ML) Vertic (F18) (Chric (F18) (Chr	ce (S8) (LRF (LRR S, T, (F1) (LRR O F2) (F7) (MLRA 151) cs (F12) (LR LRR P, T, U RA 151) MLRA 150A oils (F19) (M	R O, P, T)) , 150B) ILRA 149A)	Indicators for Pro 1 cm Muck (A9) 2 cm Muck (A1) Reduced Vertic Piedmont Flood Anomalous Brig Red Parent Mat Very Shallow Di Other (Explain i	blematic Hydric Soils ³ :) (LRR 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)
Dark Surface (S7) (LRR Restrictive Layer (if obse								0 0
Depth (inches):							Hydric Soil Present?	Yes No
Remarks:								