Tree Stratum (Plot size: 30 m	Absolute % Cover	Rei.Strat. Cover	Indicator Status	Dominance Test worksheet:
1700 02.02.01				Number of Dominant Species
1. Nyssa sylvatica	2	15.4%	FAC	That are OBL, FACW, or FAC: 6 (A)
2. Pinus elliottii	10	76.9%	FACW	Total Number of Dominant
3 Quercus nigra	1	7.7%	FAC	Species Across All Strata: 6 (B)
4	. 0 .	0.0%	W	
5	0	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
6	0	0.0%		Inat are OBL, racw, or rac:
7	^	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 :	= Total Cover		OBL species $0 \times 1 = 0$
Sapling or Sapling/Shrub Stratum (Plot size: 30 m				FACW species $41 \times 2 = 82$
		75.0%	E4.0144	
1. Pinus elliottii	15		FACW	FAC species 39 x 3 = 117
2. Nyssa sylvatica		10.0%	FAC	FACU species $0 \times 4 = 0$
3. Acer rubrum		10.0%	FAC	UPL species $0 \times 5 = 0$
4 Magnolia virginiana		5.0%	FACW	Column Totals: 80 (A) 199 (B)
5.	0	C.0%		
6	0	0.0%		Prevalence Index = B/A = 2.487
7		0.0%		Hydrophytic Vegetation Indicators:
8.	0	C.0%		4 Basid Task for Understation
50% of Total Cover: 10 20% of Total Cover: 4		= Total Cover		1 - Rapid Test for Hydrophytic Vegetation
		- Iotai cover		✓ 2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)		_		✓ 3 - Prevalence Index is ≤3.0 ¹
1. Ilex corlaces	5	16.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Ilex vomitoria	20	€ 66.7%	FAC	
3. Morella cerifera	5	16.7%	FAC	¹ Indicators of hydric soil and wetland hydrology must
4.	0	0.0%		be present, unless disturbed or problematic.
5.	0	0.0%		Definition of Vegetation Strata:
6.	0	0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 15 20% of Total Cover: 6		= Total Cover		approximately 20 ft (6 m) or more in height and 3 in.
		- TOLAI COVEI		(7.6 cm) or larger in diameter at breast height (DBH).
Herb Stratum (Plot size: 30 m				
1 Arundinaria tecta	10	✓ 100.0%	FACW	Sapling - Woody plants, excluding woody vines, 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%		
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				
7	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	0.0%		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%	in the last	3 ft (1 m) in height.
12.	0	0.0%		
50% of Total Cover: 5 20% of Total Cover: 2	10 =	: Total Cover		Woody vine - All woody vines, regardless of height.
			1	
Woody Vine Stratum (Plot size: 30 m			}	
1. Rubus argutus	-	28.6%	- 'M	
2. Vitts rotundifolia	5	71.4%	FAC	
3	0	0.0%		
4	0	0.0%		
5	o l	0.0%		Hydrophytic Vegetation
50% of Total Cover: 3.5 20% of Total Cover: 1.4	7 =	Total Cover		Present? Yes No
20% of Total Cover. 3.5 20% of Total Cover. 1.4		TOTAL COVER		
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: 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, 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): Туре: **Hydric Soil Present?** Yes O No 💿 Depth (inches): Remarks:

Applicant/Owner: NASA Investigator(s): Lars Larson. Randy Ellis	
Are Vegetation , Soil , or Hydrology significantly of Are Vegetation , Soil , or Hydrology naturally prot	blematic? (If needed, explain any answers in Remarks.)
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: This is a broad flat just south of railroad spur 150 feet.	Is the Sampled Area within a Wetland? Yes O No
HYDROLOGY	
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	or (C1)
Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Cincludes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, large research to the provided research to the present of the present	Wetland Hydrology Present? Yes ○ No ④ previous inspections), if available:

			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%		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 and the state of the state 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%		Market de Mark	
		一"	0 0.0%		Hydrophytic Venetation	
0% of Total Cover: 0 20% of Total Cover: 0	0		0.0%		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 Surfa	` ,
_	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 Delineation	City/County: Waveland - Hancock Sampling Date: 18	3-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 21	
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7 S R 16 W	
	Local relief (concave, convex, none): undulating Slope: 2.0 %	/ 1,1°
(* 8 , * 15 , a.c. a.c. a.c. a.c. a.c. a.c. a.c. a.	30° 24' 24.404" N Long.: 89° 37' 15.745" W Datum:	
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		
	(a) may explain in realization,	0
	roblematic? (If needed, explain any answers in Remarks.)	•
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	mpling point locations, transects, important features, etc.	
Hydrophytic Vegetation Present? Yes No	To the Country Anna	
Hydric Soil Present? Yes No O	Is the Sampled Area Watten a Wattend 2 Yes No No	
Wetland Hydrology Present? Yes ○ No ●	within a Welland?	
Remarks: Hillslope just up from Plot Wet 21 approximately 50 to 60-feet.		
Thistope just up from Flot Tet 21 approximately 55 to 65 feet		
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)	115-1
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 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)	ed Iron (C4) Crayfish Burrows (C8)	
☐ Drift Deposits (B3) ☐ Recent Iron Reduct	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 Re	emarks) Shallow Aquitard (D3)	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 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 capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos	s. previous inspections), if available:	
best be resolved batta (stream gauge, montening real, dental protect	y provides inspectation, in evaluation	
Decorder		
Remarks:		

			ninant cies? _		Sampling Point: Up - 21		
(Diet size) 20 es	Absolute	Rel.	Strat.	Indicator	Dominance Test worksheet:		
ree Stratum (Plot size: 30 m) Plnus elliottii	% Cover		over	Status	Number of Dominant Species		
Pinus elliottii	101	Y	96.2%	FACW	That are OBL, FACW, or FAC: 3 (A)		
Magnolia virginiana	_ 3	H-	2,9%	FACW	Total Number of Dominant		
Quercus nigra		H.	1.0%	FAC	Species Across All Strata: 3 (B)		
		H-	0.0%		Percent of dominant Species		
			0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)		
Mr. May 1 v. 1	0	H-	0.0%				
**************************************		片	0.0%		Prevalence Index worksheet:		
	.0	-	0.0%		Total % Cover of Multiply by:		
60% of Total Cover: 52.5 20% of Total Cover: 21	105 =	= Tota	al Cove	•	OBL species 3 x 1 = 3		
apling or Sapling/Shrub Stratum (Plot size: 30 m					FACW species $161 \times 2 = 322$		
Pinus elliottii		~	83.3%	FACW	FAC species $11 \times 3 = 33$		
Magnolia virginiana	1_	Ш_	16.7%	FACW _	FACU species $0 \times 4 = 0$		
			0.0%		UPL species $0 \times 5 = 0$		
			0.0%		Column Totals: 175 (A) 358 (B)		
	0		0.0%				
	0		0.0%		Prevalence Index = B/A = 2.046		
	0		0.0%		Hydrophytic Vegetation Indicators:		
11			0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation		
50% of Total Cover: 3 20% of Total Cover: 1.2	6 =	= Tota	i Cove		✓ 2 - Dominance Test is > 50%		
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹		
Ylan andran	50	V	83.3%	FACW			
Ilex conacea	10		16.7%	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)		
			0.0%	FAC	¹ Indicators of hydric soil and wetland hydrology must		
					be present, unless disturbed or problematic.		
-	O		0.0%	E	Definition of Vegetation Strata:		
		<u> </u>	0.0%	-	_		
	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: 30 20% of Total Cover: 12	60 =	= Tota	il 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.		
	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.		
			0.0%				
),	o l		0.0%		Herb - All herbaceous (non-woody) plants, including		
•	o l		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%				
60% of Total Cover: 1.5 20% of Total Cover: 0.6		_	Cover		Woody vine - All woody vines, regardless of height.		
	-						
/oody Vine Stratum (Plot size: 30 m)	, [_ ,	00.001	FAC:11	·		
Smilax laurifolia	_ 1		00.0%	FACW			
1.*	- <u>0</u> l		0.0%				
	O [-	0.0%				
	0 [R	0.0%		Hydrophytic		
	. O . [0.0%	,,	Vegetation		
	1 = Total Cover				Present? Yes No		

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)		
	k (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 Surie	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 secon	
• 1	21 2303 1 1
Soil Map Unit Name: EuB, Escambia loamy fine sand, 2 to 5 percent sk	
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	Is the Sampled Area
Hydric Soil Present? Yes ○ No •	Vac () No (0)
Wetland Hydrology Present? Yes ○ No ●	within a Wedland?
Remarks:	
900 feet (+/-) east of Up - 21.	
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 (Odor (C1) Moss Trim Lines (B16)
	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)	
☐ 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):	
Darridge Video Frederic	· · · · · · · · · · · · · · · · · · ·
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 ○ No ●
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
,	
Damadra	
Remarks:	
Side slope 60-feet (+/-) up from bottom drain area and riparian buffe	ar zone on North side of Turtle Skin Creek.
	İ
İ	

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				
	~	~	-	

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
	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 . , 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.)
	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No No	
Hydric Soil Present? Yes ○ No ⑥	Is the Sampled Area Yes ○ No ●
Wetland Hydrology Present? Yes No	within a Wetland? Yes O No O
Remarks:	silenus accord road . Mostorn AOT
Area along drainage way (North to south) on the west side of the ra	nispui accesss road - Western Aor.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	A second
Surface Water (A1) Aquatic Fauna (B1	
High Water Table (A2) Marl Deposits (B19)	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 (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 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 wen, aeriai priote	os, previous inspections), ii available.
Remarks:	

		_	ominant pecies? .		Sampling Point: Up - 23	
471.1.2	Absolute	R	el.Strat.		Dominance Test worksheet:	
ree Stratum (Plot size: 30 m)	% Cover		Cover	Status	Number of Dominant Species	
Pinus elliottii	5	Y	22.7%	FACW	That are OBL, FACW, or FAC: 7 (A)	
Pinus taeda	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		
			0.0%		Percent of dominant Species That Are OBJ FACW or FAC: 77.8% (A/B)	
	0		0.0%		That Are OBL, FACW, or FAC: 17.8% (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	= To	otal Cove	г	OBL species $0 \times 1 = 0$	
)				FACW species 25 x 2 =50	
Quercus nigra		V	93.8%	FAC	FAC species 84 x 3 = 252	
Quercus muehlenbergli	1		6.3%	UPL	FACU species	
	_	\Box	0.0%			
	0		0.0%			
			0.0%		Column Totals: 122 (A) 355 (B)	
			0.0%		Prevalence Index = B/A = 2.910	
			0.0%		Hydrophytic Vegetation Indicators:	
	0		0.0%			
200/ - 17-1-16		_		-	1 - Rapid Test for Hydrophytic Vegetation	
50% of Total Cover: 8 20% of Total Cover: 3.2	16	= To	tal Cove	r	2 - Dominance Test is > 50%	
hrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹	
Ilex vomitoria	25	✓	55.6%	FAC	Problematic Hydrophytic Vegetation ¹ (Explaîn)	
Ilex coriacea	15	✓	33.3%	FACW		
Ouercus nigra	5		11.1%	FAC	¹ Indicators of hydric soil and wetland hydrology mus	
	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: 22.5 20% of Total Cover: 9	45	= 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)						
Quercus falcata	2	V	28.6%	FACU	Sapling - Woody plants, excluding woody vines,	
Z Ilex coriacea	5		71,4%	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.	
aren corrected	0	ň	0.0%		t dian o in: (7.0 din) bbit.	
	0	П	0.0%		Sapling/Shrub - Woody plants, excluding vines, less	
•	0	H	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.	
		H				
	0	\exists	0.0%	, quare 5 100 1000	Shrub - Woody plants, excluding woody vines,	
A		=	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.	
	# / A	Η.	0.0%	-	Herb - All herbaceous (non-woody) plants, including	
				-	herbaceous vines, regardless of size, and woody	
Tr.		H	0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.	
			0.0%		orctin) in neight	
	0	Ψ,	0.0%		Woody vine - All woody vines, regardless of height.	
		= To	tal Cove	r	Trooty this the rooty thisa, legandess of floight	
50% of Total Cover: 3.5 20% of Total Cover: 1.4	7 :					
0% of Total Cover: 3.5 20% of Total Cover: 1.4	7 :					
0% of Total Cover: 3.5 20% of Total Cover: 1.4	7 =	V	93.8%	FAC		
0% of Total Cover: 3.5 20% of Total Cover: 1.4 Coody Vine Stratum (Plot size: 30 m)			93.8% 3.1%	FAC FAC		
0% of Total Cover: 3.5 20% of Total Cover: 1.4 cody Vine Stratum (Plot size: 30 m) Smllax rotundifolia	30		_ , w			
0% of Total Cover: 3.5 20% of Total Cover: 1.4 Coody Vine Stratum (Plot size: 30 m) Smilax rotundifolia Vitis rotundifolia	30		3.1%	FAC		
0% of Total Cover: 3.5 20% of Total Cover: 1.4 foody Vine Stratum (Plot size: 30 m) Smllax rotundifolia Vitis rotundifolia	30 1 1		3.1%	FAC	Hydrophytic	
Voody Vine Stratum (Plot size: 30 m) Smllax rotundifolia Vitis rotundifolia	30 1 1 0		3.1% 3.1% 0.0%	FAC FAC	Hydrophytic Vegetation Present? Yes No	

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	j)	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 - Hand	Sampling Date: 19-Oct-16				
Applicant/Owner: NASA	State: MS	Sampling Point: Up - 24				
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range:	S 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.:	•	ng.: 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				
	ar? Yes • No •					
Are climatic/hydrologic conditions on the site typical for this time of ye		(If no, explain in Remarks.)				
		al Circumstances" present? Yes Ves No				
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,	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?					
Remarks: Transitional area 400-500 feet west of access orad in old Ammuniti borderline wet/up and no significant hydrological indicators are presented.		lance 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) 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)				
	eres 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 (B4) Thin Muck Surface	e (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 ⑨					
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	Wettaliu ny	arology Present: 165 C 140 C				
Remarks: No significant hydrology indicators in soil or area except for FAC Neuequipment usage in the past.						

Perus electricity Security	Tree Stratum (Plot size: 30 m)	Absolute	e R	pecies? _ el.Strat. Cover	Indicator Status	Dominance Test worksheet:
2 Pinus teacle		4	_		24.373.4	
0		-	=			That are OBL, FACW, or FAC:5(A)
3		*****	V		FAC	Total Number of Dominant
5	3	0	Ш	0.0%		
6	4	0		0.0%		
6	5	0		0.0%		
7.				0.0%		That Are OBL, FACW, or FAC:
8	7	0		0.0%		Prevalence Index worksheet
Soly of Total Cover 5 20% of Total Cover 2 10 = Total Cover 5 Saplino of Sapling (Shrind) Stratum (Plot size: 30 m) 7,14% FACW 0	· · · · ·		г ж.	and the second		
Septima or Septima (Plot size: 30 m)			_			
1. Pinus elliottii	50% of Total Cover: 5 20% of Total Cover: 2	10	= To	otal Cove		
2	Sapling or Sapling/Shrub Stratum (Plot size: 30 m)				mental and
2	1 Pinus elliottii	. 5	V	71,4%	FACW	FAC species $4 \times 3 = 12$
3.	O Marine No activities as		V	28.6%	FACW	FACIL Species 0 x 4 = 0
1.				0.0%		
5.6			\exists	· · · · · · ·		4-0
0			H		_	Column Totals: 83 (A) 168 (B)
Down Down					_	Prevalence Index = B/A = 2.024
8	б	. 0				·
Solid Cover 3.5 20% of Total Cover 1.4 7 = Total Cover		0	Ш	0.0%		Hydrophytic Vegetation Indicators:
Solution Stratum Solution Stratum Solution Stratum Solution Stratum Solution Stratum Solution So	8	0		0.0%		1 - Panid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size: 30 m) 1.	50% of Total Cover: 3.5 20% of Total Cover: 1.4	7	= T	otal Cover		
1. Ilex corlaces 2. Ilex glabra 3. 0			,	0.01 0010		III <u></u>
2. Nex glabra 3.	Shrub Stratum (Plot size: 30 m					✓ 3 - Prevalence Index is ≤3.0 ¹
3.	1. Ilex corlacea	50	✓	83.3%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
4.	2. Ilex glabra	10		16.7%	FACW	
4.	3.	0		0.0%		
5.	4	0	$\overline{\Box}$	0.0%	-	be present, unless disturbed or problematic.
6.	_ 3		П		_	Definition of Vegetation Strata:
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. Lycopodiella alopecuroides 2 50.0% OBL 2. Andropogon glomeratus 2 50.0% FACW 3. 0 0.0% 4. 0 0.0% 5. 0 0.0% 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% 9. 0 0.0% 10.0 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 0.0% 10. 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 0.0% 10. 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% 19. 0 0.0% 19. 0 0.0% 19. 0 0.0% 19. 0 0.0% 19. 0 0.0% 19. 0 0.0% 19. 0 0.0% 19. 0 0.0% 10. 0 0.			H			_
No. Comparison	0	Щ	0.0%			
1. Lycopodiella alopecuroides 2. Andropogon glomeratus 2. Solomonos FACW 3. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 3. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 5. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 5. Shrub - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. (7.6 cm) DBH. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. (7.6 cm) DBH. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. (7.6 cm) DBH. 5. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. S	50% of Total Cover: 30 20% of Total Cover: 12	60	= To	otal Cover	1	
1. Lycopodiella alopecuroides 2. Andropogon glomeratus 2. Solomonos FACW 3. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 3. Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 5. Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. 5. Shrub - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. (7.6 cm) DBH. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. (7.6 cm) DBH. 5. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. (7.6 cm) DBH. 5. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Sapling - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody plants, excluding woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. Shrub - Woody vines, less than 3 in. (7.6 cm) DBH and greater than 3.28 ft (1m) tall. 5. S	Herh Stratum (Plot size: 30 m					
2		7		E0 004	OBI	
3.			\vdash			
4.					FACW	than 3 in. (7.6 cm) DBH.
5.		0	Щ	0.0%		
6	4.	0. ,	\square	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
7.	5	0		0.0%		than 3 in. Don and greater than 3.20 it (1111) tall.
7.	6.	0		0.0%		Shruh Moody plants, evaluding woody since
8.		0				
9.	8	ຄ	\Box			
10.	•	L.	\exists			Herb - All herbaceous (non-woody) plants, including
11.				· -		herbaceous vines, regardless of size, and woody
12.			\vdash			
50% of Total Cover: 2 20% of Total Cover: 0.8 4 = Total Cover Woody Vine Stratum (Plot size: 30 m 1. Smilax rotundifolia 2 100.0% FAC 2. 0 0.0% 3. 0 0.0% 4. 0 0.0% 5. 0 0.0% 5. 0 0.0% 5. 0 0.0% 5. 0 0.0% 5. 0 0.0% 5. 0 0.0% 5. 0 0.0% 6. 0 0.0%		0	Ш	0.0%		3 ft (1 m) in height.
Woody Vine Stratum (Plot size: 30 m) 1. Smilax rotundifolia 2	12	0		0.0%		
Woody Vine Stratum (Plot size: 30 m) 1. Smilax rotundifolia 2	50% of Total Cover: 2 20% of Total Cover: 0.8	4	= To	tal Cover		Woody vine - All woody vines, regardless of height,
1. Smilax rotundifolia 2.						
2.					· ·	
3.		2	Ц,	100.0%	FAC	
3.	2	0		0.0%		
4				0.0%		
5. O O O.0% Hydrophytic Vegetation Present? Yes No O		0	\Box	0.0%		
50% of Total Cover: 1 20% of Total Cover: 0.4 2 = Total Cover Present? Yes No			\Box			Hydrophytic
50% bi Total Cover. 1 20% bi Total Cover. 0.4 2 = Total Cover			Ш.			
Remarks: (If observed, list morphological adaptations below).	50% of Total Cover: 1 20% of Total Cover: 0.4	2 :	= To	tal Cover		Present? ICS C NO C
remains. (a abserved, list morphological adaptadons below).	Demarks: (If observed, list morphological adaptations below)					
	kemarks: (1r observed, list morphological adaptations below).					

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 Redox Features									
(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
	· *** *** *** ***	,	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 obco								
	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 classification: N/A
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 I	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	V () N- (0)
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?
Remarks: Upland plot approximatley 50-60 feet up from lower riparian drainage	ge 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	,,,,
☐ 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 ☐ Drift Deposits (B3) ☐ Recent Iron Reduction	
☐ Algal 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):	
Water Table Present? Yes No Depth (inches):	A
Saturation Precent?	Wetland Hydrology Present? Yes ○ No ●
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	
	İ
	TV

ree Stratum (Plot size: 30 m) Pinus elilottil Nvssa sylvatica	% Cover	Cover		. i	
The second secon	10		Status	Number of Dominant Species	
NYSSA SYIVAUCA	10			That are OBL, FACW, or FAC: 7 (A)	
Mlts (duelnians	3	☐ 16.79 ✓ 27.89		Total Number of Dominant	
Magnolia virginiana	5	_		Species Across All Strata: 7. (B)	
T LLD 2's -1, M.		0.0%		Descent of descinant Charins	
	0	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)	
		0.0%	6	That he obe, men, or me.	
	. 0	☐ 0.0%	o. "	Prevalence Index worksheet:	
12	0	0.0%	Ď.	Total % Cover of: Multiply by:	
50% of Total Cover: 9 20% of Total Cover: 3.6	18	= Total Co	ver	OBL species 0 x 1 = 0	
apling or Sapling/Shrub Stratum (Plot size: 30 m)			FACW species 83 x 2 = 166	
Nyssa sylvatica	10	✓ 45.59	% FAC	FAC species $25 \times 3 = 75$	
The second secon	-	✓ 45.59		FACU species $0 \times 4 = 0$	
		9.1%			
		0.0%		UPL species	
17 C 1 C		0.0%		Column Totals: 108 (A) 241 (B)	
		=		Prevalence Index = B/A = 2.231	
+ ×.	0	0.0%		Hydrophytic Vegetation Indicators:	
		0.0%		riyarophytic regetation indicators:	
	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation	
50% of Total Cover: 11 20% of Total Cover: 4.4	22	= Total Co	ver	✓ 2 - Dominance Test is > 50%	
hrub Stratum (Plot size: 30 m				✓ 3 - Prevalence Index is ≤3.0 ¹	
Ilex corfacea	40	81.69	6 FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
Magnolla grandiflora	1	2.0%		Problematic riverophytic vegetation (Explain)	
Ilex vomitoria	5	10.29		¹ Indicators of hydric soil and wetland hydrology must	
				be present, unless disturbed or problematic.	
Ilex glabra	3	6.1%		Definition of Variation Streets	
-		0.0%		Definition of Vegetation Strata:	
60% of Total Cover: 24.5 20% of Total Cover: 9.8	0	□ 0.0%) . w. i	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.	
erb Stratum (Plot size: 30 m) Ilex corlacea Ilex glabra	10	✓ 66.79 ✓ 33.39	c .	(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%	1		
	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 Mandy plants evaluating weedy visca	
	0	0.0%		Shrub - Woody plants, excluding woody vines, 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	
		0.0%		plants, except woody vines, less than approximately 3 ft (1 m) in height.	
	0			O to (1 m) in noight	
7	0	0.0%		Woody vine - All woody vines, regardless of height.	
0% of Total Cover: 7.5 20% of Total Cover: 3	15	= Total Cov	/er	Woody vine - All woody vines, regardless of fieldfil.	
Yoody Vine Stratum (Plot size: 30 m					
Vitis rotundifolia	3	75.0%			
Smilax rotundifolia	1	25.09	6 FAC		
	. 0	0.0%			
	0	0.0%			
		0.0%		Hydrophytic	
		= Total Cov	rer .	Vegetation Present? Yes No ○	

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:

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 - 26				
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W				
	Local relief (concave, convex, none): undulating Slope: 3.0 % / 1.7°				
Landform (hillslope, terrace, etc.): Hillside					
	30° 24' 34.961" N Long.: 89° 37' 43.663" W Datum: NAD83				
Soil Map Unit Name: SaC, Sauder fine sandy loam, 5 to 8 percent slop					
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 . , Soll . , 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 Convoled Supp				
Hydric Soil Present? Yes No No	Is the Sampled Area Yes No No Vertical Authority Services Ser				
Wetland Hydrology Present? Yes ○ No •	within a Wetland?				
Remarks:					
Area is just inside railbed approximately 200-250-feet, in western-ne	orthern portion of AOT.				
The is just his de full bed approximately 200 250 feet in western in	ordin portion of real				
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					
	ineres 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)				
☐ 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):					
0 6					
Water Table Present? Yes No Depth (inches):	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:					
Training)					

ator Dominance Test worksheet:
Number of Dominant Species
That are OBL, FACW, or FAC: 6 (A)
Total Number of Dominant
Species Across All Strata: 8 (B)
Percent of dominant Species That Are OBL_FACW, or FAC: 75.0% (A/B)
That Are OBL, FACW, or FAC:75.0% (A/B)
Prevalence Index worksheet:
Total % Cover of: Multiply by:
OBL species 0 x 1 = 0
FACW species <u>78</u> x 2 = 156
FAC species $17 \times 3 = 51$
FACU species $9 \times 4 = 36$
UPL species 0 x 5 = 0
Column Totals: 104 (A) 243 (B)
Prevalence Index = B/A = 2.337
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 to discount of the state of
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.
Mondaying Allymadayings resembles of beight
Woody vine - All woody vines, regardless of height.
w -
-
Hydrophytic
Vegetation V
Present? Yes No

~	$\overline{}$	-	

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)	0/1	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	, Τ, ህ)	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
Depth (inch	ies):				
Remarks:					

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion	City/County: Waveland - Hanco	ck 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.
	•	provinces of the first terms of
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, r	
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 26.719" N Long	3.: 89° 37′ 36.739" 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	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		explain any answers in Remarks.)
	`	•
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, to	ransects, important features, etc.
Hydrophytic Vegetation Present? Yes No No	Is the Sampled Area	
Hydric Soil Present? Yes O No	•	Yes ○ No ⑨
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?	100
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 (B:		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) 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 O Depth (inches):		
Water Table Present? Yes No Depth (inches):		
Saturation Present?	Wetland Hydi	rology Present? Yes 🔾 No 🖲
(includes Capillary Hillye)		
Describe Recorded Data (stream gauge, monitoring well, aerial phot	os, previous inspections), if avail	able:
Remarks:		

	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
Free Stratum (Plot size: 30 m)	% Cover		Status	Number of Dominant Species
Pinus elliottii	10	41.7%	FACW	That are OBL, FACW, or FAC: 7 (A)
Pinus taeda	5	20.8%	FAC	Total Number of Dominant
Nyssa sylvatica		20.8%	FAC	Species Across All Strata: 7 (B)
Liquidambar styraciflua		12.5%	FAC	Bound of descious Succion
Quercus falcata		4.2%	FACU	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
-		0.0%		Triatria del Triatri
	0	□ 0.0%		Prevalence Index worksheet:
	0	0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 12 20% of Total Cover: 4.8	24	= Total Cove		OBL species $0 \times 1 = 0$
Sapling or Sapling/Shrub Stratum (Plot size: 30 m)			FACW species $72 \times 2 = 144$
Pinus elliottii	25	✓ 62.5%	FACW	FAC species 46 x 3 = 138
Pinus taeda	5	12.5%	FAC	FACU species $\frac{1}{x} \times 4 = \frac{4}{x}$
Liquidamber styraciflua		12.5%	FAC	UPL species $0 \times 5 = 0$
Magnolia virginiana		5.0%	FACW	
Nyssa sylvatica		7.5%	FAC	Column Totals: 119 (A) 286 (B)
		0.0%		Prevalence Index = B/A = 2.403
		0.0%		Hydrophytic Vegetation Indicators:
		0.0%		
				1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 20 20% of Total Cover: 8	40 :	= Total Cove		2 - Dominance Test is > 50%
Shrub Stratum (Plot size: 30 m)				✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	35	74.5%	FACW	Problematic Hydrophytic Vegetation 1 (Explain)
Ilex vomitoria	10	✓ 21.3%	FAC	
Acer rubrum	2	4.3%	FAC	Indicators of hydric soil and wetland hydrology must
	0	0.0%		be present, unless disturbed or problematic.
	9125	0.0%		Definition of Vegetation Strata:
	0	0.0%	F/4 V 1 1	Tree - Woody plants, excluding woody vines,
50% of Total Cover: 23.5 20% of Total Cover: 9.4	47 :	= 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)				Sapling - Woody plants, excluding woody vines
1 _ Lygodium japonicum		100.0%	FAC	approximately 20 ft (6 m) or more in height and less
2		0.0%		than 3 in. (7.6 cm) DBH.
3	0	0.0%		One line (Oberta - Minado alenta - maladian adena - fasa
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	0.0%		alan o in Don and ground than o.20 it (111) tain
3	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	0.0%		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: 2.5 20% of Total Cover: 1	 5 =	= Total Cover		Woody vine - All woody vines, regardless of height.
		·	j	
Voody Vine Stratum (Plot size: 30 m				-
Vitis rotundifolia		100.0%	rAC	
		0.0%		
		0.0%		
	0	0.0%		Norden and Andrea
	0	0.0%		Hydrophytic Vegetation Present? Yes No

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		Matrix		7.01	Re	dox Feat	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 Material (TF2)				
_	5 cm Mucky Mineral (A7) (LRR P, T, U) Muck Presence (A8) (LRR U)					k Surface (Very Shallow Da	ark Surface (TF12)			
_		•			•	ssions (F8)			Uther (Explain i	n Remarks)			
	☐ 1 cm Muck (A9) (LRR P, T) ☐ Depleted Below Dark Surface (A11)				(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 °
	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 classification: N/A
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	Is the Sampled Area
Hydric Soil Present? Yes O No	within a Washanda Yes O No 💿
Wetland Hydrology Present? Yes ○ 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 Water (A1) Aquatic Fauna (B1	
High Water Table (A2) Marl Deposits (B1)	
Saturation (A3) Hydrogen Sulfide	
	heres along Living Roots (C3)
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 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):	
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:	

1. Pinus allitutis	Tree Stratum (Plot size: 30 m	Absolute % Cover	R	pecies? . el.Strat. Cover	Indicator Status		
2. Myses spheliker 4.	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		
4. 0		1		5.3%	FAC		
5		0		0.0%		Species Across Air Strate.	
6		0	$\overline{\Box}$	0.0%		Percent of dominant Species	
7. 0			\Box	**** · * · · ·		That Are OBL, FACW, or FAC: 100.0% (A/B)	
8.	7		\Box			Prevalence Index worksheet	
Sopking or Saether/Shrink Stratum Plot size: 30 m 1 2 Magnella stratum Plot size: 30 m 1 2 Magnella stratum Plot size: 30 m 1 2 Magnella stratum Plot size: 30 m 1 2 Magnella stratum Plot size: 30 m 1 2 Magnella stratum Plot size: 30 m 1 2 Magnella stratum Plot size: 30 m 1 2 Magnella stratum Plot size: 30 m 1 2 2 2 2 2 2 2 2 2		0					
Septima or Sanking / Shrub Stratum (Piot size: 30 m 1 Pinus ellicital 5 \$			 = Tr	•	r		
1. Pinus ellottii 2. Perspola vigrilatan 3. 3	4.00	12		3001 0010	•		
Magnolla virginiana		!	.0	F0 00/	F4.0041		
3. Liquidamber styreoffies 2.	O M		$\overline{}$		и ра		
4.							
0 0.0% Prevalence Index = B/A = 2.178					FAC		
6.						Column Totals: 101 (A) 220 (B)	
Note	· ·					Prevalence Index = B/A = 2.178	
8							
Solid Cover Solid Cover		-	H			Hydrophytic vegetation indicators:	
Shrub Stratum (Piot size: 30 m) 1.	8.	0	\Box	0.0%		1 - Rapid Test for Hydrophytic Vegetation	
1. Ilex coritaces 2. Ilex vomitoria 3. 10	50% of Total Cover: 5 20% of Total Cover: 2	10 :	= To	otal Cove	r	✓ 2 - Dominance Test is > 50%	
2. Ilex vomitoria 3.	Shrub Stratum (Piot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 1	
2. Ilex vomitoria 3.	1 Ilex corlacea	60	V	85.7%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
4.	2. Ilex vomitoria			14.3%	FAC		
4.	3.	0		0.0%			
5.		0		0.0%		be present, unless disturbed or problematic.	
6.				0.0%		Definition of Vegetation Strata:	
approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Herb Stratum			\Box			Tree - Woody plants, excluding woody vines,	
Herb Stratum (Plot size: 33)		70	= To		200	approximately 20 ft (6 m) or more in height and 3 in.	
1.	Hart Stratum (Plot size: 33	, ·				(7.6 cm) of larger in diameter at bleast neight (DBH).	
2.				0.004		Sapling - Woody plants, excluding woody vines,	
3.			Η.				
4.			Η.			than 3 in. (7.6 cm) DBH.	
5.	3.					Canling/Charle Mandy plants avaluding vince loop	
6.	4		片				
7.	5		Ц,			, ,	
8.			닖.				
9		0	H	-		approximately 3 to 20 ft (1 to 6 m) in height.	
10.		0	Η,			Herb - All herbaceous (non-woods) plents, including	
10.			Щ.				
12.			닏.			plants, except woody vines, less than approximately	
50% of Total Cover: 0 20% of Total Cover: 0 0 = Total Cover Woody Vine Stratum (Plot size: 30 m)		0	Ц.	0.0%	→ v.·	3 ft (1 m) in height.	
Woody Vine Stratum (Plot size: 30 m) 2 100.0% FAC 2. 0 0.0% 3. 0 0.0% 4. 0 0.0% 50% of Total Cover: 1 20% of Total Cover: 0.4 2 = Total Cover	12	0	Ш,	0.0%			
1. Vitis rotundifolia 2.	50% of Total Cover: 0 20% of Total Cover: 0	0 =	= To	tal Cover		Woody vine - All woody vines, regardless of height.	
1. Vitis rotundifolia 2.	Woody Vine Stratum (Plot size: 30 m				ļ		
2	4 Land I am II am	2		100.0%	FAC		
3.		0		0.0%			
4.		0		0.0%			
5. O O.0% Hydrophytic Vegetation Present? Yes No O		0		0.0%			
50% of Total Cover: 1 20% of Total Cover: 0.4 2 = Total Cover Present? Yes No		0		0.0%	5675-0101		
Remarks: (If observed, list morphological adaptations below).		2 =	To	tal Cover	. ,,.,.		
	Remarks: (If observed, list morphological adaptations below).						
	*Indicator suffix — National status or professional decision assigned because P.	:		-E4 b FU	uc		

Depth		eriba ta	the don't	needed to	log me-	the indi-	cator or co	onfirm the	absence of indicators.)	
Debth		Matrix	ше аерш	needed to		dox Feati		Summing file	absence of indicators.)	
(inches)	Color (ı		%	Color (moist)	%	Type 1	Loc2	Texture	Remarks
0-5	10YR	4/2	100					,	Loamy Sand	
5-16	10YR	5/4	95	10YR	7/6	5	С	PL	Loamy Sand	
				20111				-	to and	· · · · · · · ·
							-			
. a	1 B. 19.7 W				-	-			1 (00000	
		_								
	-					-	-			
	-				-					
		=Depletio	n. RM=Redi	uced Matrix,	CS=Covere	ed or Coate	ed Sand Gr	ains ² Loca	ation: PL=Pore Lining. M=1	-
ydric Soil II									Indicators for Prob	lematic Hydric Soils ³ :
☐ Histosol (A	•			_	•		(S8) (LRR		1 cm Muck (A9) (LRR O)
_i Histic Epip				_			(LRR S, T,	•	2 cm Muck (A10)	(LRR S)
_ Black Histic	Sulfide (A4)			_			1) (LRR 0)	ř		F18) (outside MLRA 150A,B)
_						d Matrix (F.	2)			ain Soils (F19) (LRR P, S, T)
_	ayers (A5)	20 D T I	D.	_	oleted Mat				Anomalous Bright	: Loamy Soils (F20) (MLRA 153B)
-	odies (A6) (LF		-			urface (F6	•		Red Parent Mater	` '
_	ky Minerai (A) ence (A8) (LF		, 1, 0)			c Surface (Very Shallow Dar	
					•	ssions (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)										
-	Surface (A12	•	11)	_ `			MLKA 151) (F12) (LRI	0 0 0 70		
_	ie Redox (A1		A 150A)	_	-		RR P, T, U)			
_	k Mineral (S1		-	_		F17) (MLR		,		
	ed Matrix (S		7-7				ILRA 150A,	150B)	³ Indicators	of hydrophytic vegetation and
Sandy Red		-,						LRA 149A)		nydrology must be present, disturbed or problematic.
Stripped M									9A, 153C, 153D)	distance of photochiana
	ce (S7) (LRR	P. S. T. U	U)		indiod3 Di	igite Ecolin	y 50115 (1 2 c	,, (11210121	37, 1330, 1330)	
_	(/ (,							
								1		
estrictive La	yer (If obse	rved):								
Type:						-			Hydric Soil Present?	Yes O No 💿
Depth (inch	es):,					_			nyunc son Present:	165 0 100
emarks:										

pplicant/Jowner: NASA State: MS Sampling Point: Up - 29 westigator(s): Lars Larson, Randy Ellis Section, Township, Range: \$ 31
andform (hillslope, terrace, etc.): Hillside
Lat.: 30° 24' 24.071" N Long.: 89° 37' 49.856" W Datum: NAD83
in Map Unit Name: ScD, Saucier-Susquehanna complex, 5 to 12 percent slopes
re climatic/hydrologic conditions on the site typical for this time of year? Are Vegetation
Are Vegetation
Are Vegetation
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes No Wo Wetland Hydrology Present? Yes No Wo Wetland Hydrology Present? Yes No Wo Wetland Hydrology Present? Yes No Wo Wetland Hydrology Present? Yes No Wo Wetland Hydrology Present? Yes No Wo Wetland Hydrology Indicators: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Marl Deposits (B15) (LRR U) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Sediment Deposits (B2) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Thin Muck Surface (C7) Algal Mat or Crust (B4) Thin Muck Surface (C7) Sedimont Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)
Hydrophytic Vegetation Present? Yes No So No So Within a Wetland? Yes No So Within a Wetland? Yes No So No So Within a Wetland? Yes No So No So Within a Wetland? Yes No So No No No No No No No No No No No No No
Hydric Soil Present? Wetland Hydrology Present? Remarks: Hillslope approximately 60-feet south off E-W Property line fenceline in Western part of the AOI. HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) High Water Table (A2) Saturation (A3) Water Warks (B1) Sediment Deposits (B1) Sediment Deposits (B2) Presence of Reduced Iron (C4) Sediment Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Signal Mat or Crust (B4) Thin Muck Surface (C7) Sphagnum moss (D8) (LRR T) Shallow Aquikard (D3) Shallow Aquikard (D3) Shallow Aquikard (D3) Shallow Aquikard (D3) Sphagnum moss (D8) (LRR T, U) Sphagnum moss (D8) (LRR T, U) Shallow Aquikard (D3) Shallow Aquikard (D3) Shallow Aquikard (D3) Sphagnum moss (D8) (LRR T, U)
Hydric Soil Present? Wetland Hydrology Present? Yes No No No No Within a Wetland? Wetland Hydrology Present? Remarks: Hillslope approximately 60-feet south of E-W Property line fenceline in Western part of the AOI. HYDROLOGY Wetland Hydrology Indicators: 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) (LRR U) Saturation (A3) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Presence of Reduced Iron (C4) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Algal Mat or Crust (B4) Thin Muck Surface (C7) Sphagnum moss (D8) (LRR T, U) Water-Stained Leaves (B9) Wetland Hydrology Present? No No No No No No No No No N
Wetland Hydrology Present? Yes No Within a Wetland? Remarks: Hillslope approximately 60-feet south off E-W Property line fenceline in Western part of the AOI. ### PROLOGY ### Wetland Hydrology Indicators:
Remarks: Hillslope approximately 60-feet south ofr E-W Property line fenceline in Western part of the AOI. HYDROLOGY Wetland Hydrology Indicators: 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) Crayfish Burrows (C8) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Other (Explain In Remarks) Sphagnum moss (D8) (LRR T, U)
HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of 2 required) 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) Water Marks (B1) Sediment Deposits (B2) Presence of Reduced Iron (C4) Crayfish Burrows (C8) Algal Mat or Crust (B4) Thin Muck Surface (C7) Geomorphic Position (D2) Inon Deposits (B5) Water-Stained Leaves (B9) Water-Stained Leaves (B9) Wetland Hydrology Indicators: Secondary Indicators (minimum of 2 required) Secondary Indicators (minimum of 2 required) Secondary Indicators (minimum of 2 required) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) FAC-Neutral Test (D5) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U)
Wetland Hydrology Indicators: 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 Living Roots (C3) 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) 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)
Primary Indicators (minimum of one required; check all that apply) Surface Soil Cracks (B6) Surface Water (A1) High Water Table (A2) Marl Deposits (B15) (LRR U) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Algal Mat or Crust (B4) Thin Muck Surface (C7) Other (Explain In Remarks) Surface Soil Cracks (B6) Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U)
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High Water Table (A2) Marl Deposits (B15) (LRR U) Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marks (B1) Oxidized Rhizospheres along Living Roots (C3) Sediment Deposits (B2) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Algal Mat or Crust (B4) Iron Deposits (B5) Other (Explain In Remarks) Marl Deposits (B10) Drainage Patterns (B10) Moss Trim Lines (B16) Dry Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Iron Deposits (B5) Other (Explain In Remarks) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U)
Saturation (A3)
Water Marks (B1)
Sediment Deposits (B2) Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U)
□ 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) □ 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)
Algal Mat or Crust (B4) Iron Deposits (B5) Other (Explain In Remarks) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Thin Muck Surface (C7) Other (Explain In Remarks) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U)
□ 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)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9) ☐ Sphagnum moss (D8) (LRR T, U)
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 Depth (inches):
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
3-3-,,,,,,
Remarks:
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(Blot size) 20)		Rel.Stra			
e Stratum (Plot size: 30 m)	% Cove		. 47	Number of Dominant Species	
Pinus elliottii	10	50.0		That are OBL, FACW, or FAC: 5 (A)	
Quercus nigra	5	25.0	% FAC	Total Number of Dominant	
Acer rubrum	2	10.0	% FAC	Species Across All Strata: 5 (B)	
Magnolla grandiflora	. 1	5.09	% FAC		
and the second s	2	10.0	% FAC	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	%	Prevalence Index worksheet:	
	0	0.09	/ ₀	Total % Cover of:Multiply by:	
% of Total Cover: 10 20% of Total Cover: 4	20	= Total Co	ver	OBL species $0 \times 1 = 0$	
				FACW species 50 x 2 = 100	
oling or Sapling/Shrub Stratum (Plot size: 30 m		□ 43.5	0/ 54/04/		
Pinus elliottii		12,5			
Quercus nigra		62.5		FACU species $1 \times 4 = 4$	
Magnolia virginiana	3	18.8		UPL species $0 \times 5 = 0$	
Acer rubrum	1	6.39	% FAC	Column Totals: 82 (A) 197 (B)	
	0	0.09	%		
TO THE STATE OF TH	0	0.09	%	Prevalence Index = B/A = 2.402	
	0	0.09	%	Hydrophytic Vegetation Indicators:	
		0.09	/ ₀	D d Parid Tark for Hardward and Manageria	
% of Total Cover: 8 20% of Total Cover: 3.2	_	= Total Co	war	1 - Rapid Test for Hydrophytic Vegetation	
	10	- Iotai Co	ACI	✓ 2 - Dominance Test is > 50%	
rub Stratum (Plot size: 30 m)		_		✓ 3 - Prevalence Index is ≤3.0 ¹	
Ilex coriacea	30	✓ 81.1	% FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
Ilex vomitoria	5	13.5	% FAC		
Quercus nigra	2	5.49	6 FAC	¹ Indicators of hydric soil and wetland hydrology must	
	0	0.09	6	be present, unless disturbed or problematic.	
		0.09	/n	Definition of Vegetation Strata:	
	0	0.09		Tree - Woody plants, excluding woody vines,	
% of Total Cover: 18.5 20% of Total Cover: 7.4	_			approximately 20 ft (6 m) or more in height and 3 in.	
	37	= Total Co	ver	(7.6 cm) or larger in diameter at breast height (DBH).	
b Stratum (Plot size: 30 m					
Arundinaria tecta	5	83.3	% FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less	
Toxicodendron quercifolia		16.7	% FACU	than 3 in. (7.6 cm) DBH.	
		0.09	6		
	^	0.09		Sapling/Shrub - Woody plants, excluding vines, less	
	0	0.09		than 3 in. DBH and greater than 3.28 ft (1m) tall.	
		F-17	.2116		
	0	0.09		Shrub - Woody plants, excluding woody vines,	
********		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.	
	0	0.09		Lione All horbonous (now	
.a. (€	0	0.09	6	Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody	
	0 .	0.09	6	plants, except woody vines, less than approximately	
	0	0.0%	6	3 ft (1 m) in height.	
	0	0.0%	6		
% of Total Cover: 3 20% of Total Cover: 1.2		= Total Co	- 0	Woody vine - All woody vines, regardless of height.	
		1000100	7-01		
ody Vine Stratum (Plot size: 30 m					
Vitis rotundifolia		33.39	% FAC		
Smilax rotundifolia		66.79	% FAC		
	0	0.0%	6		
	0	0.0%	6		
	0	0.0%		Hydrophytic	
		= Total Co		Vegetation Present? Yes No No	
6 of Total Cover: 1.5 20% of Total Cover: 0.6	3 =				

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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 Delineation City/Count	21 00, 10
Applicant/Owner: NASA	State: MS Sampling Point: Up - 30
Investigator(s): Lars Larson, Randy Ellis Section, T	Township, Range: S 31 T 75 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 year?	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?	
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.	
Hydrophytic Vegetation Present? Yes No O	the Complete Area
Hydric Soil Present? Yes O No	the Sampled Area
Wetland Hydrology Present? Yes ○ No ●	thin a Wetland?
Remarks: Terrace/slight hillside area just above riparian buffer along north side of Turtle S	ikin 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 (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor (C1) Water Marke (C1)	Moss Trim Lines (B16)
Water Marks (B1)	
Drift Deposits (B3) Recent Iron Reduction in Tilled:	Crayfish Burrows (C8) 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):	
Saturation Present? Vec No (Depth (inches):	Wetland Hydrology Present? Yes ○ No ⊙
(includes capillary tringe)	innocations) if purilphia
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous	inspections), if available:
Remarks:	