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

Dominant Sampling Point: Up - 50

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

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

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

VEGETATION	(Five/Four Strata) -	Use scientific names of plants.
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Pinus elliottil Nyssa sylvatica Magnolla virginiana	% Cove 25 10 3		7.0	Indicator Status FACW	Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)
Pinus elliottil Nyssa sylvatica Magnolia virginiana	25 10 3 0	V	65.8%	FACW	
Nyssa sylvatica Magnolia virginiana	10 3 0	=	7.0	·	
Nyssa sylvatica Magnolia virginiana	3	✓	26.3%	EAC	
Magnolia virginiana	3			FAC	
	0		7.9%	FACW	Total Number of Dominant
				THON	Species Across All Strata: 6 (B)
·			_ 0.0%	_	Porcent of deminant Charles
	0	Ц	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100 0% (A/B)
			0.0%	r	mac Arc obly FACW, of FAC.
	0		0.0%		Prevalence Index worksheet:
	0		0.0%		Total % Cover of: Multiply by:
50% of Total Cover: 19 20% of Total Cover: 7.6	30	- T	otal Cove		OBL species 1 x 1 = 1
4.555.4		- ''	otal Cove		
Sapling or Sapling/Shrub Stratum (Plot size: 30 m	}}	_			FACW species 101 x 2 = 202
Pinus elliottii	2		16.7%	FACW	FAC species $15 \times 3 = 45$
Nyssa sylvatica	5	V	41.7%	FAC	FACU species $0 \times 4 = 0$
Magnolia virginiana		V	41.7%	FACW	UPL species $0 \times 5 = 0$
	0	$\overline{\Box}$	0.0%		
		\equiv			Column Totals: 117 (A) 248 (B)
		1	0.0%		Prevalence Index = B/A = 2.120
			0.0%		
	0		0.0%		Hydrophytic Vegetation Indicators:
w	0		0.0%		D 4 Bank Bank Bank Bank Bank Bank Bank Bank
	12	- T-	otal Cover		1 - Rapid Test for Hydrophytic Vegetation
50% of Total Cover: 6 20% of Total Cover: 2.4	12	= 10	otai Covei		✓ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m)					✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	50	V	82.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
21 1-1 -			16.4%	FACW	
					¹ Indicators of hydric soil and wetland hydrology must
Persea palustris			1.6%	FACW	be present, unless disturbed or problematic.
	0	Ш	0.0%		
	C		0.0%		Definition of Vegetation Strata:
	0		0.0%		Tree - Woody plants, excluding woody vines,
50% of Total Cover: 30.5 20% of Total Cover: 12.2		_ 7	otal Cover		approximately 20 ft (6 m) or more in height and 3 in.
	61	- 10	Juli Cover		(7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m					
Lycopodiella alopecuroides	14		16.7%	OBL	Sapling - Woody plants, excluding woody vines,
•		✓	83.3%	FACW	approximately 20 ft (6 m) or more in height and less
` 				LHCAA	than 3 in. (7.6 cm) DBH.
		\square	0.0%		
	0	\square	0.0%	P	Sapling/Shrub - Woody plants, excluding vines, less
	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	\Box	0.0%		Clamb March Street at the control of
		\Box	0.0%		Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
The among the Contract of the		H			approximately 5 to 20 it (1 to 6 m) in neight.
-		Н	0.0%	. 55.0	Hank All hanks are to form the start of the start of the
For the control of th	0	Ш,	0.0%		Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardiess of size, and woody
·	0		0.0%		plants, except woody vines, less than approximately
•	0		0.0%		3 ft (1 m) in height.
•	0	\Box	0.0%	Ja. 7	3
		Ч,		_	Woody vine - All woody vines, regardless of height,
60% of Total Cover: 3 20% of Total Cover: 1.2	6	= To	tal Cover		vvoody vine - All woody vines, regardless of neight.
(Plot size: 30 m					
Smilax rotundifolia	0		ען מען	EAC	
Simax roundina		Η.	0.0%	FAC	
	. 0	\Box	0.0%		
	О		0.0%		
	0	\Box	0.0%		
	D	\Box	0.0%		Hydrophytic
	_	Ч.			Vegetation Present? Yes ● No ○
0% of Total Cover: 0 20% of Total Cover: 0	0 :	= To	tal Cover	l	Present? Yes Vio U
	100000				
marks: (If observed, list morphological adaptations below).					

OIL					Sampling Point:	Up - 51
Profile Descr	iption: (Des	scribe to	the depth	needed to document the indicator or confir	m the absence of indicators.)	
Depth		Matrix		Redox Features		
(inches)	Color (moist)	%	Color (moist) % Type 1	oc² Texture F	Remarks
0-4	10YR	3/2	100			
4-11	10YR	4/2	100			
11-20	10YR	5/4	100			
				1 L and 1 Land L		- 1994 Maria
					# · · · · · ·	
	-		•			
Type: C=Cond	centration. D	 =Depletio	n. RM=Redu	ced Matrix, CS=Covered or Coated Sand Grains	² Location: PL≃Pore Lining, M=Matrix	
Hydric Soll I		- ор осно			Indicators for Problematic H	
Histosol (/	A1)			Polyvalue Below Surface (S8) (LRR S, T,		,,
Histic Epig	edon (A2)			☐ Thin Dark Surface (S9) (LRR S, T, U)	2 cm Muck (A10) (LRR S)	
Black Hist	ic (A3)			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outsi	ide MI DA 150A R\
Hydrogen	Sulfide (A4)			Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (I	
_	Layers (A5)			Depleted Matrix (F3)	Anomalous Bright Loamy Sc	
Organic B	odies (A6) (LI	RR P, T, L	J)	Redox Dark Surface (F6)	Red Parent Material (TF2)	(מככנ אאטויין) (טג ו) מונ
5 cm Muc	ky Mineral (A:	7) (LRR P	, T, U)	Depleted Dark Surface (F7)	Very Shallow Dark Surface	CTC12)
Muck Pres	ence (A8) (Li	RR U)	-	Redox Depressions (F8)	r=,	
1 cm Mucl	k (A9) (LRR P	ν, Τ)		Marl (F10) (LRR U)	Uther (Explain in Remarks)	
Depleted B	Below Dark Si	urface (A:	11)	Depleted Ochric (F11) (MLRA 151)		
_	Surface (A1)	-	•	Iron-Manganese Masses (F12) (LRR O,) T)	
-	rle Redox (A1		150A)	Umbric Surface (F13) (LRR P, T, U)	, 17	
_	ck Mineral (Si			Delta Ochric (F17) (MLRA 151)		
_	yed Matrix (S		, 0,		3Indicators of hydropi	nytic vegetation and
Sandy Rec	-	19		Reduced Vertic (F18) (MLRA 150A, 150B	" wetland hydrology i	must be present,
Stripped M				Piedmont Floodplain Soils (F19) (MLRA :	•	or problematic.
	ice (\$7) (LRR	DCTI	1)	Anomalous Bright Loamy Soils (F20) (Mi	KA 149A, 153C, 153D)	
Dark Surio	ice (37) (Likk		•)			
estrictive La	ver (if ohse	erved):				
Type:	iyei (ii obse	i veu).				
	es):				Hydric Soll Present? Yes	○ No
Remarks:	, , , , , , ,					
oil chroma be	egins to cha	ange to a	ligh ter 3-4	4 below 11-12 inches.		
			•			

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

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

		Dominant Species?		Sampling Point: Up - 52
		Rel.Strat.	Indicator	Dominance Test worksheet:
ee Stratum (Plot size: 30 m)	% Cover		Status	Number of Dominant Species
Pinus elliottii		60.0%	FACW	That are OBL, FACW, or FAC:7 (A)
Magnolia virginiana		20.0%	FACW	Total Number of Dominant
Quercus nigra	2	8.0%	FAC	Species Across All Strata: 7 (B)
Magnolia grandiflora		12.0%	FAC	Barrent of descious Consider
	0	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
	, 0.	0.0%		That Aic obly FACH, of FAC
N.W. A. S. W. S.	0	0.0%		Prevalence Index worksheet:
	0	0.0%		Total % Cover of: Multiply by:
% of Total Cover: 12.5 20% of Total Cover: 5	25 =	= Total Cover		OBL species 0 x 1 = 0
pling or Sapling/Shrub Stratum (Plot size: 30 m)			FACW species83 x 2 = _166
Pinus elliottii	3	✓ 25.0%	FACW	FAC species $14 \times 3 = 42$
Magnolia virginiana		✓ 41.7%	FACW	FACU species $0 \times 4 = 0$
Quercus nigra		✓ 25.0%	FAC	UPL species $0 \times 5 = 0$
Ilex opaca		8.3%	FAC	Column Totals: 97 (A) 208 (B)
		0.0%		Column locals: 97 (A) 208
		0.0%		Prevalence Index = B/A = 2.144
	0	0.0%		Hydrophytic Vegetation Indicators:
	0	0.0%		
W of Total Covery E 200 of Tatal Covery 5	-			1 - Rapid Test for Hydrophytic Vegetation
1% of Total Cover: 6 20% of Total Cover: 2.4	12 =	= Total Cover		2 - Dominance Test is > 50%
rub Stratum (Plot size: 30 m)		_		✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex corlacea	50	✓ 92.6%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria	3	5.6%	FAC	
Ilex opaca	1	1.9%	FAC	Indicators of hydric soil and wetland hydrology must
	O O	0.0%		be present, unless disturbed or problematic.
	0	0.0%		Definition of Vegetation Strata:
	0	0.0%	F. 4.1	Tree - Woody plants, excluding woody vines,
% of Total Cover: 27 20% of Total Cover: 10.8	54 =	Total Cover		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
rb Stratum (Piot size: 30 m)				Carline Marach alama analysina washinda
Ilex corlacea	5	100.0%	FACW	Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
	0	0.0%		than 3 in. (7.6 cm) DBH.
	0	0.0%		
	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
	0	0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tail.
	0 1	0.0%		Chrish Mandy planta avaluating wands vince
	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. (. m) in noight
		0.0%		Woody vine - All woody vines, regardless of height.
% of Total Cover: 2.5 20% of Total Cover: 1	5 =	: Total Cover		,,
ody Vine Stratum (Plot size: 30 m				
Vitis rotundifolia	1 [100.0%	FAC	
	0 [0.0%		
	<u>o</u> [0.0%		
	0 [0.0%		
	0	0.0%		Hydrophytic
		- W 17 1.1		Vegetation Present? Yes No
% of Total Cover: 0.5 20% of Total Cover: 0.2	1 -	Total Cover		Present? Yes 🔍 NO 🔾

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

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineatiion City/County: Waveland - Hand	ock Sampling Date: 31-Oct-16
	Sampling Point: Up - 53
Investigator(s): Lars Larson, Randy Ellis Section, Township, Range: S	
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex,	none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.: 30° 25′ 2.412" N Lon	g.: 89° 36' 15.101" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year?	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Norma	I Circumstances" present? Yes ● No ○
	explain any answers in Remarks.)
(
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, t	ransects, important reatures, etc.
Hydrophytic Vegetation Present? Yes No No Is the Sampled Area	
Hydric Soil Present? Yes No No	Yes ○ No ⑨
Wetland Hydrology Present? Yes O No O within a Wetland?	100 - 110 -
Remarks:	
Upland transect approximately 150-feet east of Wet - 53 to the south of the access road in the NE	AOI.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	Dry Season Water Table (C2)
Sediment Deposits (B2) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Geomorphic Position (D2)
	Shallow Aquitard (D3)
☐ Iron Deposits (B5) ☐ Other (Explain in Remarks) ☐ Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Fleld Observations:	Springfram moss (50) (Erry 1, 0)
Surface Water Present? Yes No Depth (inches):	
Software Proceeds Wetland Hyd	rology Present? Yes O No 💿
Saturation Present? (includes capillary fringe) Yes No Depth (Inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available	ilable:
Remarks:	
remarks.	
	i

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

Dominant

		Dominant		Sampling Point: Up - 53
	Absolute	_ Species? _ Rel.Strat.	Indicator	Dominance Test worksheet:
ree Stratum (Plot size: 30 m.)	% Cover	Cover	Status	Number of Dominant Species
Pinus elliottii	10	76.9%	FACW	That are OBL, FACW, or FAC: 4 (A)
Magnolia virginiana	2	15.4%	FACW	
Nyssa sylvatica		7.7%	FAC	Total Number of Dominant Species Across All Strata: 4 (B)
W 14 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.0%		Species Across All Salata.
The state of the s		0.0%		Percent of dominant Species
10.00 Marie Marie (Marie 10.00)		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
	^	0.0%	~	Prevalence Index worksheet:
<u> </u>	0	0.0%		
	-	. ,	_	Total % Cover of: Multiply by
0% of Total Cover: 6.5 20% of Total Cover: 2.6		= Total Cover		OBL species $0 \times 1 = 0$
pling or Sapling/Shrub Stratum (Plot size: 30 m		_		FACW species 122 x 2 = 244
Pinus elliottii		71.4%	FACW	FAC species 4 x 3 = 12
Magnolia virginiana	- 5	17.9%	FACW	FACU species $0 \times 4 = 0$
Nyssa sylvatica	3	10.7%	FAC	UPL species $0 \times 5 = 0$
		0.0%		Column Totals: 126_ (A) 256 (B)
		0.0%		
	0	0.0%		Prevalence Index = B/A = 2.032
		0.0%		Hydrophytic Vegetation Indicators:
	0	0.0%		_
	C		-	✓ 1 - Rapid Test for Hydrophytic Vegetation
0% of Total Cover: 14 20% of Total Cover: 5.6	28 =	= Total Cover		✓ 2 - Dominance Test is > 50%
rub Stratum (Plot size: 30 m)				✓ 3 - Prevalence Index is ≤3.0 ¹
Ilex coriacea	75	1 00.0%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
	0	0.0%		
•		0.0%		¹ Indicators of hydric soil and wetland hydrology musi
	_	0.0%		be present, unless disturbed or problematic.
				Definition of Vegetation Strata:
		0.0%		_
	0	0.0%	_	Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
0% of Total Cover: 37.5 20% of Total Cover: 15	75 =	Total Cover		(7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 30 m				
Ilex coriacea	10	100.0%	FACW	Sapling - Woody plants, excluding woody vines,
	0	0.0%		approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
		0.0%		than o in. (1.5 only 55) i.
	0	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
to the second se			_	than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	0.0%		
	_0	0.0%		Shrub - Woody plants, excluding woody vines,
	0!	0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
· · · · · · · · · · · · · · · · · · ·	0		•	Clark All harters on Congress A Starte Service
CONTRACTOR OF THE STREET	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: 5 20% of Total Cover: 2	10 =	Total Cover		Woody vine - All woody vines, regardless of height.
pody Vine Stratum (Plot size: 30 m				-
, · •··	0	0.0%	*10 *10 *10	
· · · · · · · · · · · · · · · · · · ·	0	0.0%		
· · · · · · · · · · · · · · · · · · ·	0	0.0%		
3	0	0.0%		
3				Librarium ninariim
3	_ 0 [0.0%		Hydrophytic
0% of Total Cover: 0 20% of Total Cover: 0	0[0.0%		Vegetation Present? Yes No

Sampling Point: Up - 53

Color (moist)	(Inches) Color (moist) 96 Color (moist) 95 Loarny Sand 4-16 10YR 4/1 100 4-16 10YR 5/2 98 10YR 7/2 20 C M Loarny Sand Communication Description Research Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining, M=Matrix Plantic Soil Indicators: Inches Inc	Depth	Matrix		Redo	x Features	v,====		
0-4 10YR 4/1 100 4-16 10YR 5/2 98 10YR 7/2 20 C M Loamy Sand Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Countration.	0-4 10YR 4/1 100		moist)	%	Color (moist)	% Type 1	Loc2	Texture	Remarks
Type: C-Concentration. D-Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains Polymatic Soil Indicators:	Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains **Polyric Soff Indicators:	0-4 10YR	4/1	100				Loamy Sand	
Notice Soil Indicators: Histosol (A1)	Indicators: Histosol (A1)	4-16 10YR	5/2	98	10YR 7/2	20 C	. М	Loamy Sand	
Stratified Layers (A5) Depleted Matrix (F3) Organic Bodies (A6) (LRR P, T, U) Redox Dark Surface (F6) Muck Presence (A8) (LRR U) Depleted Dark Surface (F7) Muck Presence (A8) (LRR U) Redox Depressions (F8) 1 cm Muck (A9) (LRR P, T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR Q, S) Sandy Muck Mineral (S1) (LRR Q, S) Sandy Redox (S5) Depleted Dark Surface (F13) (LRR A 150A) Sandy Redox (S5) Delta Ochric (F17) (MLRA 151) Thick Dark Surface (A12) Depleted Ochric (F17) (MLRA 151) Thick Dark Surface (A12) Depleted Dark Surface (F13) (LRR Q, P, T) Depleted Below Dark Surface (A12) Umbric Surface (F13) (LRR Q, F, T, U) Sandy Muck Mineral (S1) (LRR Q, S) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 149A) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Pastrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	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) S cm Mucky Mineral (A7) (LRR P, T, U) Depleted Dark Surface (F7) Wery Shallow Dark Surface (TF12) Muck Presence (A8) (LRR U) Redox Depressions (F8) Other (Explain in Remarks) Other (Explain in Remarks) Thick Dark Surface (A11) Depleted Delow Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Muck Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR P, S, T, U) Pestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes No	ydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3)		. RM=Reduc	Polyvalue Below Thin Dark Surfac	Surface (S8) (LRF ce (S9) (LRR S, T, ineral (F1) (LRR O	S, T, U) U)	Indicators for Probl 1 cm Muck (A9) (2 cm Muck (A10) Reduced Vertic (F	ematic Hydric Soils ³ : LRR O) (LRR S) 18) (outside MLRA 150A,B)
Type:	Type: Depth (inches): Hydric Soil Present? Yes No Cemarks:	Stratified Layers (A5) Organic Bodies (A6) (L 5 cm Mucky Mineral (A Muck Presence (A8) (L 1 cm Muck (A9) (LRR I Depleted Below Dark S Thick Dark Surface (A1 Coast Prairie Redox (A Sandy Muck Mineral (S Sandy Gleyed Matrix (S Sandy Redox (S5) Stripped Matrix (S6)	RR P, T, U) (7) (LRR P, T RR U) (7) (TRR U) (7) (Surface (A11 (2) (16) (MLRA : (11) (LRR O, 1	T, U) 1) 150A) S)	Depleted Matrix I Redox Dark Surfa Depleted Dark Si Redox Depressio Marl (F10) (LRR Depleted Ochric Iron-Manganese Umbric Surface (Delta Ochric (F17 Reduced Vertic (I) Piedmont Floodp	(F3) face (F6) urface (F7) urface (F7) urface (F8) U) (F11) (MLRA 151) Masses (F12) (LR (F13) (LRR P, T, U 7) (MLRA 151) (F18) (MLRA 150A Hain Soils (F19) (M	150B) LRA 149A)	Anomalous Bright Red Parent Materi Very Shallow Dark Other (Explain in	Loamy Soils (F20) (MLRA 1538) al (TF2) s Surface (TF12) Remarks) of hydrophytic vegetation and hydrology must be present,
anarks.		estrictive Layer (if obse Type: Depth (inches):	erved):			i		Hydric Soil Present?	Yes No

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 13
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace Subregion (LRR or MLRA): LRR T Lat.:	Local relief (concave, convex, none): flat Slope: 0.0 % / 0.0 ° 30° 24' 8.736" N Long.: 89° 37' 10.576" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of ye Are Vegetation , Soil , or Hydrology significant Are Vegetation , Soil , or Hydrology naturally p	
Hydrophytic Vegetation Present? Yes No No Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Remarks:	Is the Sampled Area within a Wetland? Yes No No
HYDROLOGY	
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Triin Muck Surface Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Depth (inches):	Drainage Patterns (B10) Odor (C1) Odor (C2) Odor (C2) Odor (C3) Odor (C4) Odor (C4) Odor (C4) Odor (C2) Odor (C4) Odor (C2) Od
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), ir available:

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

Dominant Species?

Tree Stratum (Plot size: 30 m)	Absolute % Cover	Rel.	Strat.	Indicator Status	Dominance Test worksheet:
Bot III and		F==	71,4%	FACW	Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)
Quercus virginiana	15 5		23.8%	FACU	That are OBL, FACW, or FAC: 6 (A)
Ottorous plans	1	=-	4.8%	FAC	Total Number of Dominant
Coercus riigia	-		0.0%	, 1710	Species Across All Strata: 7 (B)
	-		0.0%		Percent of dominant Species
		- P 1.	0.0%		That Are OBL, FACW, or FAC: 85 7% (A/B)
			0.0%		Prevalence Index worksheet:
	0		0.0%		
:0% of Total Cover: 10.5 20% of Total Cover: 4.2	,	le se	l Cove		
apling or Sapling/Shrub Stratum (Plot size: 30 m		= TOC	ii Cove		OBL species 0 x 1 = 0 FACW species 52 x 2 = 104
Pinus elliottii	5	V	20.0%	FACW	FAC species 27 x 3 = 81
Quercus nigra	15	V	60.0%	FAC	FACU species $\frac{8}{32}$ x 4 = $\frac{32}{32}$
Quercus virginiana	-		12.0%	FACU	UPL species $0 \times 5 = 0$
Magnolia virginiana		$\overline{}$	8.0%	FACW	ore species
	0		0.0%		Column Totals: 87 (A) 217 (B)
			0.0%		Prevalence Index = $B/A = 2.494$
**********			0.0%		Hydrophytic Vegetation Indicators:
	0		0.0%	***	
0% of Total Cover: 12.5 20% of Total Cover: 5			l Cove		□ 1 - Rapid Test for Hydrophytic Vegetation □ 2 - Dominance Test is > 50%
hrub Stratum (Plot size: 30 m	35		74 404	EACH	✓ 3 - Prevalence Index is ≤3.0 ¹
	**	=-	71.4%	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
Ilex vomitoria		-	28.6%	FAC	1
	0	Ц.	0.0%		¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.
		2.00	C.0%		<u> </u>
-	0	\Box _	0.0%	I - N	Definition of Vegetation Strata:
***	0		0.0%		Tree - Woody plants, excluding woody vines,
0% of Total Cover: 17.5 20% of Total Cover: 7	35 =	= Tota	l Cove		approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
erb Stratum (Plot size: 33)					(10 011) 01 1419-111 - 1411-111 - 1 - 1 - 1 - 1 - 1 - 1
. Ilex coriacea	5	V 1	ሰበ ሰበሬ	FACW	Sapling - Woody plants, excluding woody vines,
	0		0.0%	IACII	approximately 20 ft (6 m) or more in height and less
•				-	than 3 in. (7.6 cm) DBH.
3	0	=	0.0%		Sapling/Shrub - Woody plants, excluding vines, less
·	0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
	0	<u> </u>	0.0%		, , , , , , , , , , , , , , , , ,
5.	0	Ц	0.0%		Shrub - Woody plants, excluding woody vines,
7 No. 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1981 - 1	0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
3	0	Ц.,	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: 2.5 20% of Total Cover: 1	5 =	= Tota	l Cover		Woody vine - All woody vines, regardless of height.
/oody Vine Stratum (Plot size: _30 m)					
Smilax rotundifolia	1	1	00.0%	FAC	
			0.0%	n da ka	
		\neg	0.0%		
			0.0%		
24					Hydrophytic
	0		0.0% I Cover		Vegetation Present? Yes No
50% of Total Cover: 0.5 20% of Total Cover: 0.2					

Sampling Point: Up - 13

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

				- 3 1
	-	ь	%A 47-1.5 F 4	1 F A
1Type: C=Cond	centration D=Den	lation RM=Redu	ted Matrix, CS=Covered or Coated Sand Grains 2Lo	cation: PI =Pore Lining M=Matrix
Hydric Soll I		ictioni iti i i i ictioni	and reduced Sand Grains Ed	Indicators for Problematic Hydric Soils ³ :
Histosol (/	A1)		Polyvalue Below Surface (S8) (LRR S, T, U)	
	pedon (A2)		☐ Thin Dark Surface (S9) (LRR S, T, U)	 ☐ 1 cm Muck (A9) (LRR O) ☐ 2 cm Muck (A10) (LRR S)
Black Hist			Loamy Mucky Mineral (F1) (LRR O)	Reduced Vertic (F18) (outside MLRA 150A,B)
	Suifide (A4)		Loamy Gleyed Matrix (F2)	
Stratified (Layers (A5)		Depleted Matrix (F3)	☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
	odies (A6) (LRR P,	T, U)	Redox Dark Surface (F6)	☐ Anomaious Bright Loamy Solls (F20) (MLRA 153B) ☐ Red Parent Material (TF2)
	ky Mineral (A7) (Li		Depleted Dark Surface (F7)	` '
	sence (A8) (LRR U)		Redox Depressions (F8)	☐ Very Shallow Dark Surface (TF12) ☐ Other (Surface (F. Ramardus))
1 cm Muci	k (A9) (LRR P, T)		Mari (F10) (LRR U)	Other (Explain in Remarks)
Depleted I	Below Dark Surface	e (A11)	Depleted Ochric (F11) (MLRA 151)	
Thick Dark	k Surface (A12)		☐ Iron-Manganese Masses (F12) (LRR O, P, T)	
Coast Pral	rie Redox (A16) (N	4LRA 150A)	Umbric Surface (F13) (LRR P, T, U)	
Sandy Mu	ck Mineral (S1) (LF	RR O, S)	Delta Ochric (F17) (MLRA 151)	
Sandy Gle	yed Matrix (S4)		Reduced Vertic (F18) (MLRA 150A, 150B)	³ Indicators of hydrophytic vegetation and
Sandy Rec	dox (S5)		Piedmont Floodplain Solls (F19) (MLRA 149A)	wetland hydrology must be present,) unless disturbed or problematic.
Stripped M	Matrix (S6)		Anomalous Bright Loamy Soils (F20) (MLRA 1	
Dark Surfa	ace (S7) (LRR P, S,	T, U)	_ , , , ,	•
Restrictive La	yer (if observed):		
Туре:		•		
• • • • • • • • • • • • • • • • • • • •	nes):		Particle I Part Professor	Hydric Soil Present? Yes O No 💿
Remarks:			· · · · · · · · · · · · · · · · · · ·	
Kemarks.				

Troject/ State 14 CAT Scalins/ 1/100 Fore Tradaila Sciincación	City/County: Waveland - Hancock Sampling Date: 14-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Up - 15
Investigator(s): Lars Larson, Randy Ellis	Section, Township, Range: S 29 T 7s R 16 W
Landform (hillslope, terrace, etc.): Terrace	Local relief (concave, convex, none): none Slope: 0,0 % / 0,0 °
Subregion (LRR or MLRA): LRR T Lat.:	30° 24' 19.571" N Long.: 89° 36' 50.740" W Datum: NAD83
Soil Map Unit Name: EsB, Escambia loam, 2 to 5 percent slopes	NWI classification: N/A
Are climatic/hydrologic conditions on the site typical for this time of year	
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲 significant	ly disturbed? Are "Normal Circumstances" present? Yes 🍥 No 🔾
Are Vegetation . , Soil . , or Hydrology . naturally p	roblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sar	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes O No	Ver () No (i)
Wetland Hydrology Present? Yes ○ No ●	within a Wetland?
Remarks: Lower end of up-wet transition line approximately 700 feet south of THYDROLOGY	Turtleskin Creek. Roughly 1,200 feet north of logging road.
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13	,
High Water Table (A2) Marl Deposits (B15	
Saturation (A3) Hydrogen Sulfide C	
☐ Water Marks (B1) ☐ Oxidized Rhizosphe ☐ Sediment Deposits (B2) ☐ Presence of Reduction	eres along Living Roots (C3) Dry Season Water Table (C2)
	ed Iron (C4)
Algal Mat or Crust (B4) Thin Muck Surface	
☐ Iron Deposits (B5) ☐ Other (Explain in R	
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
☐ Water-Stained Leaves (B9)	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes O No O Depth (inches):	
Water Table Present? Yes No Depth (inches):	
	Wetland Hydrology Present? Yes ○ No
(includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:
Remarks:	
	İ

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

15 2 5 1 0	Re	pecies? el.Strat. Cover 65.2% 8.7% 21.7% 4.3%	Indicator Status FACW FACW FAC	Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant (A)
15 2 5 1		65.2% 8.7% 21.7%	FACW FACW	That are OBL, FACW, or FAC: 6 (A) Total Number of Dominant
2 5 1 0		8.7% 21.7%	FACW	That are OBL, FACW, or FAC: 6 (A) Total Number of Dominant
5 1 0		21.7%	111 F 2 1	
1			FAC	
0_		4 20/		Species Across All Strata: 6 (B)
		4.370	FACW	(6)
		0.0%		Percent of dominant Species
D		0.0%		That Are OBL, FACW, or FAC: 100.0% (A/B)
0		0.0%		Prevalence Index worksheet:
	\Box	0.0%	0.*	Total % Cover of: Multiply by:
	= To	• • • • • • • • • • • • • • • • • • • •		OBL species $0 \times 1 = 0$
-	- 10	tai corci		
				· · · · · · · · · · · · · · · · · · ·
				FAC species 12 x 3 = 36
	님			FACU species $0 \times 4 = 0$
2	님.	7.1%	FAC	UPL species 0 x 5 = 0
1	Ц.,	3.6%	FACW	Column Totals: 107 (A) 226 (B)
0		0.0%		Prevalence Index = B/A = 2.112
0		0.0%		·
0		0.0%		Hydrophytic Vegetation Indicators:
0		0.0%	0	1 - Rapid Test for Hydrophytic Vegetation
	= To	tal Cover		✓ 2 - Domínance Test is > 50%
	. 4			✓ 3 - Prevalence Index is ≤3.0 ¹
	Y			Problematic Hydrophytic Vegetation ¹ (Explain)
-	Ц,	2-1	FAC	4
10	✓_	21.7%	FACW	Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1		2.2%	FACW	
0 [0.0%		Definition of Vegetation Strata:
0		0.0%		Tree - Woody plants, excluding woody vines,
46 =	= To	tal Cover		approximately 20 ft (6 m) or more in height and 3 in.
				(7.6 cm) or larger in diameter at breast height (DBH).
				Sapling - Woody plants, excluding woody vines,
	ዾ.		FACW	approximately 20 ft (6 m) or more in height and less
0 [Ц.	0.0%		than 3 in. (7.6 cm) DBH.
0		0.0%		
0 [0.0%		Sapling/Shrub - Woody plants, excluding vines, less
0		0.0%		than 3 in. DBH and greater than 3.28 ft (1m) tall.
0		0.0%	Termer'	Shrub - Woody plants, excluding woody vines,
0		0.0%		approximately 3 to 20 ft (1 to 6 m) in height.
0 [0.0%		
0 [0.0%	- 41	Herb - All herbaceous (non-woody) plants, including
	$\overline{\Box}$			herbaceous vines, regardless of size, and woody
				plants, except woody vines, less than approximately 3 ft (1 m) in height.
				V. C. Try III Toligina
		***	-	Woody vine - All woody vines, regardless of height.
10 =	· Tot	al Cover		Troomy tale Tal troomy value, regardless of fieldith
			,	
0 [0.0%	FAC	
0		0.0%		
	=-			
			-	Hydrophytic
<u>U</u> L	-			Vegetation Present? Yes No
0 =	: Tot			Present? Yes V No V
	20 5 2 1 0 0 0 0 28 = 30 5 10 1 0 0 0 0 0 0 0 0 0 0 0 0 0	23 = To 20	23 = Total Cover 20	23 = Total Cover 20

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

Sampling Point:

Up - 15

Project/Site: NASA - Stennis; 1,100 Acre Wetland Delineation Cit	ty/County: Waveland - Hancock Sampling Date: 07-Oct-16
Applicant/Owner: NASA	State: MS Sampling Point: Wet - 1
Investigator(s): Lars Larson, Randy Ellis S	Section, Township, Range: S 20 T 7s R 16 W
	cal relief (concave, convex, none): flat Slope: 0.0 % / 0.0 °
Subregion (LRR or MLRA): LRR T Lat.: 30	9° 25' 1.091" N Long.: 89° 37' 13.129" W Datum: NAD83
Soil Map Unit Name: At, Atmore silt loam, 0 to 2 percent slopes NWI classification: PFO 1/4 C	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)	
Are Vegetation . , Soil . , or Hydrology . significantly d	listurbed? Are "Normal Circumstances" present? Yes 💿 No 🔾
Are Vegetation 🔲 , Soil 🔲 , or Hydrology 🔲 naturally problematic? (If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.	
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes No O	Von (a) No (
Wetland Hydrology Present? Yes No	within a Wetland?
Remarks: Low drainage area approximately 60 feet from a topographic rise that transitions up toward Upland Plot #1.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of 2 required)
Primary Indicators (minimum of one required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
☐ High Water Table (A2) ☐ Marl Deposits (B15) (LRR U) ☐ 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)	
☐ Algal Mat or Crust (B4) ☐ Thin Muck Surface (C7 ☐ Iron Deposits (B5) ☐ Other (Explain in Rems	
☐ Iron Deposits (B5) ☐ Other (Explain in Remi	arks) Shallow Aquitard (D3) FAC-Neutral Test (D5)
✓ Water-Stained Leaves (B9)	
	☐ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes No Depth (inches):	
	Wetland Hydrology Present? Yes ● No ○
Saturation Present? (includes capillary fringe) Yes No Depth (inches):	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	previous inspections), if available:
Remarks:	
No strong primary hydrology indicators, but it is clear that this is drainag next to Turtleskin Creek below.	ge area that conveys water from the hillslope above to the riparian buffer
	ı