VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1041

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Rumex crispus	3	☑	25.0%	FAC
2 . Taraxacum officinale	3	☑	25.0%	FACU
3 . Nama hispidum	2	☐	16.7%	UPL
4 . Amaranthus retroflexus	2	☐	16.7%	FAC
5 . Lysimachia arvensis	1	☐	8.3%	FACU
6 . Geranium carolinianum	1	☐	8.3%	UPL
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 6	20% of Total Cover: 2.4	12	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	5	x 3 =	15	
FACU species	4	x 4 =	16	
UPL species	3	x 5 =	15	
Colum Totals:	16	(A)	70	(B)

Prevalence Index = B/A= 4.375

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1041

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 3/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

ag field

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/6/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1042**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.92818 **Long:** -97.240398 **Datum:** NAD 83

Soil Map Unit Name: Victoria clay, depressional (Vd) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ◉	No ○			

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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): 0

Wetland Hydrology Present? **Yes** ◉ **No** ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1042

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Rumex crispus	5	☑	35.7%	FAC
2 . Taraxacum officinale	3	☑	21.4%	FACU
3 . Lysimachia arvensis	2	☐	14.3%	FACU
4 . Geranium carolinianum	2	☐	14.3%	UPL
5 . Medicago lupulina	2	☐	14.3%	UPL
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 7 20% of Total Cover: 2.8	14		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species	4	x 5 =	20
Colum Totals:	12 (A)		46 (B)

Prevalence Index = B/A= 3.833

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1042

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

ag field

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/6/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1043**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Toeslope **Local relief (concave, convex, none):** Flat **Slope:** 3 % 1.7 °

Subregion (LRR): LRR T **Lat:** 27.927846 **Long:** -97.239594 **Datum:** NAD 83

Soil Map Unit Name: Victoria clay 0 to 1 percent slopes (VcA) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1043

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)			
1 . Bothriochloa ischaemum var. songarica	85 ✔	85.0%	UPL
2 . Geranium carolinianum	10	10.0%	UPL
3 . Chaerophyllum tainturieri	3	3.0%	FAC
4 . Taraxacum officinale	2	2.0%	FACU
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
9 .	0	0.0%	
10 .	0	0.0%	
11 .	0	0.0%	
12 .	0	0.0%	
50% of Total Cover: 50 20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	3	x 3 =	9
FACU species	2	x 4 =	8
UPL species	95	x 5 =	475
Colum Totals:	14 (A)		55 (B)

Prevalence Index = B/A= 3.929

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1043

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Location[2]	Texture	Remarks
0 - 8	10YR 3/1	100					Clay	
8 - 16	10YR 7/3	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/6/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1044**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.928188 **Long:** -97.231695 **Datum:** NAD 83

Soil Map Unit Name: Victoria clay, depressional (Vd) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1044

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Cynodon dactylon	90	☑	90.0%	FACU
2 . Rumex crispus	5	☐	5.0%	FAC
3 . Medicago lupulina	5	☐	5.0%	UPL
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	90	x 4 =	360
UPL species	5	x 5 =	25
Colum Totals:	100 (A)		492 (B)

Prevalence Index = B/A= 4.920

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1044

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 1	10YR 3/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: gravel

Depth (inches): 1

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/6/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1045**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.928425 **Long:** -97.230938 **Datum:** NAD 83

Soil Map Unit Name: Victoria clay, depressional (Vd) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [✓] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1045

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Rumex crispus	15	✔	40.5%	FAC
2.	Taraxacum officinale	15	✔	40.5%	FACU
3.	Cynodon dactylon	5	☐	13.5%	FACU
4.	Chaerophyllum tainturieri	2	☐	5.4%	FAC
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 19	20% of Total Cover: 7.4	37	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	17	x 3 =	51
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Colum Totals:	100 (A)		400 (B)

Prevalence Index = B/A= 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1045

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 3/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

ag field

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/6/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1046**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.92828 **Long:** -97.227571 **Datum:** NAD 83

Soil Map Unit Name: Calallen sandy clay loam, 0 to 1 percent slopes (Os) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [✓] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

Field Observations:

Surface Water Present?	Yes ( ) No (●)	Depth (inches):	
Water Table Present?	Yes (●) No ( )	Depth (inches):	2
Saturation Present? (includes capillary fringe)	Yes ( ) No (●)	Depth (inches):	

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1046

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)			
1 .	0	☐ 0.0%	
2 .	0	☐ 0.0%	
3 .	0	☐ 0.0%	
4 .	0	☐ 0.0%	
5 .	0	☐ 0.0%	
6 .	0	☐ 0.0%	
7 .	0	☐ 0.0%	
8 .	0	☐ 0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)			
1 .	0	☐ 0.0%	
2 .	0	☐ 0.0%	
3 .	0	☐ 0.0%	
4 .	0	☐ 0.0%	
5 .	0	☐ 0.0%	
6 .	0	☐ 0.0%	
7 .	0	☐ 0.0%	
8 .	0	☐ 0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)			
1 .	0	☐ 0.0%	
2 .	0	☐ 0.0%	
3 .	0	☐ 0.0%	
4 .	0	☐ 0.0%	
5 .	0	☐ 0.0%	
6 .	0	☐ 0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)			
1 . Taraxacum officinale	5	☑ 100.0%	FACU
2 .	0	☐ 0.0%	
3 .	0	☐ 0.0%	
4 .	0	☐ 0.0%	
5 .	0	☐ 0.0%	
6 .	0	☐ 0.0%	
7 .	0	☐ 0.0%	
8 .	0	☐ 0.0%	
9 .	0	☐ 0.0%	
10 .	0	☐ 0.0%	
11 .	0	☐ 0.0%	
12 .	0	☐ 0.0%	
50% of Total Cover: 2.5 20% of Total Cover: 1	5	= Total Cover	
Woody Vine Stratum (Plot Size : 30)			
1 .	0	☐ 0.0%	
2 .	0	☐ 0.0%	
3 .	0	☐ 0.0%	
4 .	0	☐ 0.0%	
5 .	0	☐ 0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Colum Totals:	37 (A)		131 (B)

Prevalence Index = B/A= 3.541

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1046

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

ag field

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/6/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1047**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928661 **Long:** -97.216086 **Datum:** NAD 83

Soil Map Unit Name: Orelia fine sandy loam, 0 to 1 percent slopes (Or) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1047

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Zanthoxylum fagara	5	☑	50.0%	FACU
2 . Prosopis glandulosa	5	☑	50.0%	UPL
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 5	20% of Total Cover: 2	10	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Andropogon gerardii	45	☑	47.9%	FAC
2 . Bothriochloa ischaemum var. songarica	35	☑	37.2%	UPL
3 . Opuntia lindheimeri	5	☐	5.3%	UPL
4 . Oxalis stricta	3	☐	3.2%	UPL
5 . Lysimachia arvensis	3	☐	3.2%	FACU
6 . Geranium carolinianum	3	☐	3.2%	UPL
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 47	20% of Total Cover: 19	94	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	45	x 3 =	135	
FACU species	8	x 4 =	32	
UPL species	51	x 5 =	255	
Colum Totals:	5	(A)	20	(B)

Prevalence Index = B/A= 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1047

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 3/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/6/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1048**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928408 **Long:** -97.215189 **Datum:** NAD 83

Soil Map Unit Name: Orelia fine sandy loam, 0 to 1 percent slopes (Or) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [x] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

Field Observations:

Surface Water Present?	Yes (●) No ( )	Depth (inches):	1
Water Table Present?	Yes ( ) No (●)	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes (●) No ( )	Depth (inches):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1048

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	5	☑	100.0%	UPL
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 2.5	20% of Total Cover: 1	5	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Eleocharis montevidensis	35	☑	35.0%	FACW
2 . Bothriochloa ischaemum var. songarica	25	☑	25.0%	UPL
3 . Andropogon gerardii	20	☑	20.0%	FAC
4 . Cynodon dactylon	20	☑	20.0%	FACU
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	30	x 5 =	150
Colum Totals:	104 (A)		422 (B)

Prevalence Index = B/A= 4.058

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1048

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 3/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/6/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1049**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.928502 **Long:** -97.208526 **Datum:** NAD 83

Soil Map Unit Name: Narta loam, 0 to 1 percent slopes, rarely flooded (Na) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1049

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1. Prosopis glandulosa	30	✔	100.0%	UPL
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 15 — 20% of Total Cover: 6	30		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 0 — 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1. Prosopis glandulosa	20	✔	66.7%	UPL
2. Forestiera angustifolia	10	✔	33.3%	UPL
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
50% of Total Cover: 15 — 20% of Total Cover: 6	30		= Total Cover	
Herb Stratum (Plot Size : 30)				
1. Panicum virgatum	100	✔	100.0%	FAC
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
9.	0		0.0%	
10.	0		0.0%	
11.	0		0.0%	
12.	0		0.0%	
50% of Total Cover: 50 — 20% of Total Cover: 20	100		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
50% of Total Cover: 0 — 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	100	x 3 =	300	
FACU species	0	x 4 =	0	
UPL species	60	x 5 =	300	
Colum Totals:	105	(A)	360	(B)

Prevalence Index = B/A= 3.429

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1049

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 3/1	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/7/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1050**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.929751 **Long:** -97.199593 **Datum:** NAD 83

Soil Map Unit Name: Narta loam, 0 to 1 percent slopes, rarely flooded (Na) **NWI Classification:** PEM1A

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ◉	No ○			

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

Field Observations:

Surface Water Present?	Yes ◉ No ○	Depth (inches):	4
Water Table Present?	Yes ○ No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ◉ No ○	Depth (inches):	0

Wetland Hydrology Present? **Yes** ◉ **No** ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1050

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Chloris cucullata	70	☑	70.0%	UPL
2 . Andropogon gerardii	20	☑	20.0%	FAC
3 . Panicum virgatum	7	☐	7.0%	FAC
4 . Helenium amarum	3	☐	3.0%	FACU
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	27	x 3 =	81	
FACU species	3	x 4 =	12	
UPL species	70	x 5 =	350	
Colum Totals:	160	(A)	600	(B)

Prevalence Index = B/A= 3.750

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1050

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 3/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/7/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1051**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.929541 **Long:** -97.198573 **Datum:** NAD 83

Soil Map Unit Name: Narta loam, 0 to 1 percent slopes, rarely flooded (Na) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation is not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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):	2

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1051

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	15	☑	37.5%	UPL
2 . Celtis pallida	10	☑	25.0%	UPL
3 . Vachellia farnesiana	5	☐	12.5%	FACU
4 . Forestiera angustifolia	5	☐	12.5%	UPL
5 . Zanthoxylum fagara	5	☐	12.5%	FACU
6 .	0	☐	0.0%	
50% of Total Cover: 20 20% of Total Cover: 8	40		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Spartina spartinae	40	☑	75.5%	OBL
2 . Bothriochloa ischaemum var. songarica	5	☐	9.4%	UPL
3 . Opuntia lindheimeri	5	☐	9.4%	UPL
4 . Oenothera speciosa	3	☐	5.7%	UPL
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 27 20% of Total Cover: 11	53		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	43	x 5 =	215
Colum Totals:	100 (A)		443 (B)

Prevalence Index = B/A= 4.430

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1051

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features						
	Color (moist)		%	Color (moist)		%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR	4/1	97	10YR	5/6	3	C	PL	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/7/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1052**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.929854 **Long:** -97.195413 **Datum:** NAD 83

Soil Map Unit Name: Narta loam, 0 to 1 percent slopes, rarely flooded (Na) **NWI Classification:** PEM1A

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?** **(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 within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉		
Wetland Hydrology Present?	Yes ○	No ◉		

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1052

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	50	☑	100.0%	UPL
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 25	20% of Total Cover: 10	50	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Opuntia lindheimeri	10	☑	17.2%	UPL
2 . Spartina patens	10	☑	17.2%	FACW
3 . Oenothera speciosa	10	☑	17.2%	UPL
4 . Paspalum plicatulum	10	☑	17.2%	FAC
5 . Parkinsonia aculeata	5	☐	8.6%	FAC
6 . Lysimachia arvensis	5	☐	8.6%	FACU
7 . Opuntia leptocaulis	5	☐	8.6%	UPL
8 . Nothoscordum bivalve	3	☐	5.2%	FACU
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 29	20% of Total Cover: 12	58	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	10	x 2 =	20	
FAC species	15	x 3 =	45	
FACU species	8	x 4 =	32	
UPL species	75	x 5 =	375	
Colum Totals:	93	(A)	295	(B)

Prevalence Index = B/A= 3.172

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1052

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	7.5YR 4/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/7/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1053**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.931148 **Long:** -97.191197 **Datum:** NAD 83

Soil Map Unit Name: Calallen sandy clay loam, 0 to 1 percent slopes (Os) **NWI Classification:** PEM1A

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ◉	No ○			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1053

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	10	☑	50.0%	UPL
2 . Celtis pallida	5	☑	25.0%	UPL
3 . Zanthoxylum fagara	5	☑	25.0%	FACU
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Panicum virgatum	65	☑	68.4%	FAC
2 . Spartina patens	20	☑	21.1%	FACW
3 . Lysimachia arvensis	5	☐	5.3%	FACU
4 . Geranium carolinianum	5	☐	5.3%	UPL
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 48	20% of Total Cover: 19	95	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	65	x 3 =	195
FACU species	10	x 4 =	40
UPL species	20	x 5 =	100
Colum Totals:	108 (A)		472 (B)

Prevalence Index = B/A= 4.370

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1053

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features						
	Color (moist)		%	Color (moist)		%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR	4/1	97	10YR	5/6	3	C	PL	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/7/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1054**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.930573 **Long:** -97.192848 **Datum:** NAD 83

Soil Map Unit Name: Calallen sandy clay loam, 0 to 1 percent slopes (Os) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1054

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	40	☑	72.7%	UPL
2 . Zanthoxylum fagara	10	☐	18.2%	FACU
3 . Celtis pallida	5	☐	9.1%	UPL
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 28	20% of Total Cover: 11	55	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Opuntia lindheimeri	10	☑	76.9%	UPL
2 . Opuntia leptocaulis	3	☑	23.1%	UPL
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 6.5	20% of Total Cover: 2.6	13	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	10	x 4 =	40	
UPL species	58	x 5 =	290	
Colum Totals:	115	(A)	375	(B)

Prevalence Index = B/A= 3.261

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1054

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 4/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/8/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1055**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.931506 **Long:** -97.189903 **Datum:** NAD 83

Soil Map Unit Name: Calallen sandy clay loam, 0 to 1 percent slopes (Os) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1055

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Celtis pallida	10	☑	40.0%	UPL
2 . Prosopis glandulosa	10	☑	40.0%	UPL
3 . Zanthoxylum fagara	5	☑	20.0%	FACU
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 13	20% of Total Cover: 5	25	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Cynodon dactylon	40	☑	40.0%	FACU
2 . Spartina patens	40	☑	40.0%	FACW
3 . Panicum virgatum	10	☐	10.0%	FAC
4 . Borrichia frutescens	5	☐	5.0%	OBL
5 . Prosopis glandulosa	5	☐	5.0%	UPL
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	5	x 1 =	5	
FACW species	40	x 2 =	80	
FAC species	10	x 3 =	30	
FACU species	45	x 4 =	180	
UPL species	25	x 5 =	125	
Colum Totals:	68	(A)	330	(B)

Prevalence Index = B/A= 4.853

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1055

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 4/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/8/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1056**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.93165 **Long:** -97.18903 **Datum:** NAD 83

Soil Map Unit Name: Calallen sandy clay loam, 0 to 1 percent slopes (Os) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉		
Wetland Hydrology Present?	Yes ○	No ◉		

Remarks:
Hydric soil and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1056

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	30	☑	75.0%	UPL
2 . Forestiera angustifolia	5	☐	12.5%	UPL
3 . Zanthoxylum fagara	5	☐	12.5%	FACU
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 20 20% of Total Cover: 8	40	= Total Cover		
Herb Stratum (Plot Size : 30)				
1 . Spartina patens	35	☑	35.0%	FACW
2 . Opuntia lindheimeri	15	☑	15.0%	UPL
3 . Distichlis spicata	15	☑	15.0%	OBL
4 . Panicum virgatum	15	☑	15.0%	FAC
5 . Lysimachia arvensis	10	☐	10.0%	FACU
6 . Geranium carolinianum	5	☐	5.0%	UPL
7 . Solanum triquetrum	5	☐	5.0%	UPL
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50 20% of Total Cover: 20	100	= Total Cover		
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	35	x 2 =	70
FAC species	15	x 3 =	45
FACU species	15	x 4 =	60
UPL species	60	x 5 =	300
Colum Totals:	125 (A)		420 (B)

Prevalence Index = B/A= 3.360

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1056

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 4/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/8/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1057**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.93191 **Long:** -97.184501 **Datum:** NAD 83

Soil Map Unit Name: Dietrich loamy fine sand, 0 to 1 percent slopes, very rarely flooded (Dt) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1057

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	10	☑	66.7%	UPL
2 . Celtis pallida	5	☑	33.3%	UPL
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 7.5	20% of Total Cover: 3	15	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Panicum virgatum	100	☑	100.0%	FAC
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	100	x 3 =	300	
FACU species	0	x 4 =	0	
UPL species	15	x 5 =	75	
Colum Totals:	115	(A)	375	(B)

Prevalence Index = B/A= 3.261

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1057

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 4/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/8/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1058**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.931747 **Long:** -97.183793 **Datum:** NAD 83

Soil Map Unit Name: Dietrich loamy fine sand, 0 to 1 percent slopes, very rarely flooded (Dt) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1058

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	5	☑	100.0%	UPL
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 2.5 20% of Total Cover: 1	5		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Chloris cucullata	30	☑	36.1%	UPL
2 . Panicum virgatum	25	☑	30.1%	FAC
3 . Ambrosia artemisiifolia	15	☐	18.1%	FACU
4 . Helenium amarum	5	☐	6.0%	FACU
5 . Opuntia lindheimeri	5	☐	6.0%	UPL
6 . Opuntia leptocaulis	3	☐	3.6%	UPL
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 42 20% of Total Cover: 17	83		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	20	x 4 =	80
UPL species	43	x 5 =	215
Colum Totals:	115 (A)		375 (B)

Prevalence Index = B/A= 3.261

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1058

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 4/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/11/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1059**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.931333 **Long:** -97.18396 **Datum:** NAD 83

Soil Map Unit Name: Dietrich loamy fine sand, 0 to 1 percent slopes, very rarely flooded (Dt) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1059

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)			
1 . Prosopis glandulosa	20 ✔	100.0%	UPL
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
50% of Total Cover: 10 20% of Total Cover: 4	20	= Total Cover	
Herb Stratum (Plot Size : 30)			
1 . Panicum virgatum	90 ✔	100.0%	FAC
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
6 .	0	0.0%	
7 .	0	0.0%	
8 .	0	0.0%	
9 .	0	0.0%	
10 .	0	0.0%	
11 .	0	0.0%	
12 .	0	0.0%	
50% of Total Cover: 45 20% of Total Cover: 18	90	= Total Cover	
Woody Vine Stratum (Plot Size : 30)			
1 .	0	0.0%	
2 .	0	0.0%	
3 .	0	0.0%	
4 .	0	0.0%	
5 .	0	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	20	x 5 =	100
Colum Totals:	88 (A)		370 (B)

Prevalence Index = B/A= 4.205

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1059

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 4/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/11/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1060**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.932986 **Long:** -97.17348 **Datum:** NAD 83

Soil Map Unit Name: Narta loam, 0 to 1 percent slopes, rarely flooded (Na) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ◉	No ○			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1060

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Prosopis glandulosa	30	☑	100.0%	UPL
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Cynodon dactylon	75	☑	75.0%	FACU
2 . Spartina patens	15	☐	15.0%	FACW
3 . Opuntia lindheimeri	5	☐	5.0%	UPL
4 . Borrichia frutescens	5	☐	5.0%	OBL
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	5	x 1 =	5	
FACW species	15	x 2 =	30	
FAC species	0	x 3 =	0	
FACU species	75	x 4 =	300	
UPL species	35	x 5 =	175	
Colum Totals:	110	(A)	370	(B)

Prevalence Index = B/A= 3.364

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1060

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features						
	Color (moist)		%	Color (moist)		%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR	4/1	97	10YR	5/6	3	C	PL	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/11/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1061**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.931301 **Long:** -97.17028 **Datum:** NAD 83

Soil Map Unit Name: Dietrich loamy fine sand, 0 to 1 percent slopes, very rarely flooded (Dt) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1061

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Medicago lupulina	45	☑	46.9%	UPL
2.	Geranium carolinianum	40	☑	41.7%	UPL
3.	Panicum virgatum	5	☐	5.2%	FAC
4.	Galium aparine	3	☐	3.1%	FACU
5.	Nothoscordum bivalve	3	☐	3.1%	FACU
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 48	20% of Total Cover: 19	96	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	5	x 3 =	15	
FACU species	6	x 4 =	24	
UPL species	85	x 5 =	425	
Colum Totals:	130	(A)	510	(B)

Prevalence Index = B/A= 3.923

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1061

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 4/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1062**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 2 % 1.1 °

Subregion (LRR): LRR T **Lat:** 27.929746 **Long:** -97.166677 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Wetland hydrology is not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1062

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1. Quercus virginiana	30	✔	100.0%	FACU
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1. Ilex vomitoria	25	✔	100.0%	FAC
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
50% of Total Cover: 13	20% of Total Cover: 5	25	= Total Cover	
Herb Stratum (Plot Size : 30)				
1. Panicum virgatum	80	✔	84.2%	FAC
2. Schizachyrium scoparium	15		15.8%	FACU
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
9.	0		0.0%	
10.	0		0.0%	
11.	0		0.0%	
12.	0		0.0%	
50% of Total Cover: 48	20% of Total Cover: 19	95	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	105	x 3 =	315	
FACU species	45	x 4 =	180	
UPL species	0	x 5 =	0	
Colum Totals:	96	(A)	464	(B)

Prevalence Index = B/A= 4.833

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1062

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/2	97	10YR 5/6	3	C	PL	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1063**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 3 % 1.7 °

Subregion (LRR): LRR T **Lat:** 27.928975 **Long:** -97.160187 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** PEM1A

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?** **(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 ◉	No ○	Is the Sampled Area within a Wetland? Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1063

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Heterotheca subaxillaris	20	☑	33.3%	UPL
2 . Taraxacum officinale	15	☑	25.0%	FACU
3 . Geranium carolinianum	10	☐	16.7%	UPL
4 . Helianthus argophyllus	10	☐	16.7%	UPL
5 . Lysimachia arvensis	5	☐	8.3%	FACU
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 30	20% of Total Cover: 12	60	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	20	x 4 =	80	
UPL species	40	x 5 =	200	
Colum Totals:	60	(A)	280	(B)

Prevalence Index = B/A= 4.667

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ◉ **No** ○

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1063

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 7/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1064**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928322 **Long:** -97.15807 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation is not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)
- [x] Geomorphic Position (D2)
- [ ] Shallow Aquitard (D3)
- [ ] FAC-Neutral Test (D5)
- [ ] 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):	2

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1064

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Cynodon dactylon	100	☑	100.0%	FACU
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	100	x 4 =	400	
UPL species	0	x 5 =	0	
Colum Totals:	60	(A)	280	(B)

Prevalence Index = B/A= 4.667

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1064

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1065**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928234 **Long:** -97.156526 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** PEM1A

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?** **(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 within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○		
Wetland Hydrology Present?	Yes ○	No ◉		

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1065

		Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Sapling or Sapling/Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		
Herb Stratum	(Plot Size : 30)				
1.	Cynodon dactylon	55	☑	84.6%	FACU
2.	Eleocharis montevidensis	10	☐	15.4%	FACW
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
6.		0	☐	0.0%	
7.		0	☐	0.0%	
8.		0	☐	0.0%	
9.		0	☐	0.0%	
10.		0	☐	0.0%	
11.		0	☐	0.0%	
12.		0	☐	0.0%	
50% of Total Cover: 33	20% of Total Cover: 13	65	= Total Cover		
Woody Vine Stratum	(Plot Size : 30)				
1.		0	☐	0.0%	
2.		0	☐	0.0%	
3.		0	☐	0.0%	
4.		0	☐	0.0%	
5.		0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Colum Totals:	100 (A)		400 (B)

Prevalence Index = B/A= 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1065

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1066**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928524 **Long:** -97.156743 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** PEM1C

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?** **(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 within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○		
Wetland Hydrology Present?	Yes ○	No ◉		

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1066

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Cynodon dactylon	45	☑	90.0%	FACU
2 . Dichanthelium oligosanthes	5	☐	10.0%	FACU
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 25	20% of Total Cover: 10	50	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	50	x 4 =	200	
UPL species	0	x 5 =	0	
Colum Totals:	65	(A)	240	(B)

Prevalence Index = B/A= 3.692

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1066

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1067**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928344 **Long:** -97.155966 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** PEM1C

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1067

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Cynodon dactylon	25	☑	83.3%	FACU
2 . Dichanthelium oligosanthes	5	☐	16.7%	FACU
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	30	x 4 =	120	
UPL species	0	x 5 =	0	
Colum Totals:	50	(A)	200	(B)

Prevalence Index = B/A= 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1067

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1068**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.928064 **Long:** -97.154231 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes ( )	No (●)			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [ ] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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** (●)

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1068

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Schizachyrium scoparium	80	✔	84.2%	FACU
2 . Helianthus argophyllus	10	☐	10.5%	UPL
3 . Quercus virginiana	5	☐	5.3%	FACU
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 48	20% of Total Cover: 19	95	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	85	x 4 =	340	
UPL species	10	x 5 =	50	
Colum Totals:	30	(A)	120	(B)

Prevalence Index = B/A= 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1068

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix			Redox Features						
	Color (moist)		%	Color (moist)		%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR	4/1	95	10YR	5/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** San Patricio **Sampling Date:** 2/12/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1069**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.926505 **Long:** -97.152611 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes (●)	No ( )			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation is not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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):	0

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1069

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 . Quercus virginiana	15	✔	100.0%	FACU
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 7.5 20% of Total Cover: 3	15		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Quercus virginiana	20	✔	57.1%	FACU
2 . Ilex vomitoria	15	✔	42.9%	FAC
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
50% of Total Cover: 18 20% of Total Cover: 7	35		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Schizachyrium scoparium	40	✔	61.5%	FACU
2 . Andropogon virginicus	25	✔	38.5%	FAC
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
9 .	0		0.0%	
10 .	0		0.0%	
11 .	0		0.0%	
12 .	0		0.0%	
50% of Total Cover: 33 20% of Total Cover: 13	65		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Colum Totals:	95 (A)		390 (B)

Prevalence Index = B/A= 4.105

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1069

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 5/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1070**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 3 % 1.7 °

Subregion (LRR): LRR T **Lat:** 27.924223 **Long:** -97.148986 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** PEM1A

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ◉	No ○			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1070

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Schizachyrium scoparium	40	☑	44.4%	FACU
2 . Heterotheca subaxillaris	30	☑	33.3%	UPL
3 . Helianthus argophyllus	15	☐	16.7%	UPL
4 . Opuntia lindheimeri	5	☐	5.6%	UPL
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 45	20% of Total Cover: 18	90	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	40	x 4 =	160	
UPL species	50	x 5 =	250	
Colum Totals:	115	(A)	420	(B)

Prevalence Index = B/A= 3.652

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1070

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 5/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1071**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Convex **Slope:** 2 % 1.1 °

Subregion (LRR): LRR T **Lat:** 27.923661 **Long:** -97.148216 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** PEM1A

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ○	No ◉			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1071

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Helianthus argophyllus	40	☑	42.1%	UPL
2 . Heterotheca subaxillaris	30	☑	31.6%	UPL
3 . Galium aparine	20	☑	21.1%	FACU
4 . Schizachyrium scoparium	5	☐	5.3%	FACU
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 48 20% of Total Cover: 19	95		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	25	x 4 =	100	
UPL species	70	x 5 =	350	
Colum Totals:	90	(A)	410	(B)

Prevalence Index = B/A= 4.556

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1071

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 16	10YR 5/3	99	10YR 5/6	1	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1072**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.923102 **Long:** -97.147345 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○	No ◉
Hydric Soil Present?	Yes ◉	No ○			
Wetland Hydrology Present?	Yes ○	No ◉			

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1072

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 . Quercus virginiana	65	✔	100.0%	FACU
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 33 20% of Total Cover: 13	65	= Total Cover		
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum (Plot Size : 30)				
1 . Quercus virginiana	5	✔	100.0%	FACU
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
50% of Total Cover: 2.5 20% of Total Cover: 1	5	= Total Cover		
Herb Stratum (Plot Size : 30)				
1 . Quercus virginiana	60	✔	73.2%	FACU
2 . Galium aparine	10		12.2%	FACU
3 . Smilax bona-nox	5		6.1%	FAC
4 . Opuntia lindheimeri	5		6.1%	UPL
5 . Schizachyrium scoparium	2		2.4%	FACU
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
9 .	0		0.0%	
10 .	0		0.0%	
11 .	0		0.0%	
12 .	0		0.0%	
50% of Total Cover: 41 20% of Total Cover: 16	82	= Total Cover		
Woody Vine Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	142	x 4 =	568
UPL species	5	x 5 =	25
Colum Totals:	95 (A)		450 (B)

Prevalence Index = B/A= 4.737

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1072

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
0 - 0	10YR 5/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1073**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Flat **Slope:** 0 % 0.0 °

Subregion (LRR): LRR T **Lat:** 27.921081 **Long:** -97.143371 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ◉	No ○		
Wetland Hydrology Present?	Yes ○	No ◉		

Remarks:
Hydrophytic vegetation and wetland hydrology are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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** ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1073

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1. Quercus virginiana	30	✔	100.0%	FACU
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 15 — 20% of Total Cover: 6	30		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
50% of Total Cover: 0 — 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1. Ilex vomitoria	30	✔	54.5%	FAC
2. Quercus virginiana	20	✔	36.4%	FACU
3. Morella cerifera	5		9.1%	FAC
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
50% of Total Cover: 28 — 20% of Total Cover: 11	55		= Total Cover	
Herb Stratum (Plot Size : 30)				
1. Smilax bona-nox	10	✔	76.9%	FAC
2. Schizachyrium scoparium	3	✔	23.1%	FACU
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
6.	0		0.0%	
7.	0		0.0%	
8.	0		0.0%	
9.	0		0.0%	
10.	0		0.0%	
11.	0		0.0%	
12.	0		0.0%	
50% of Total Cover: 6.5 — 20% of Total Cover: 2.6	13		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1.	0		0.0%	
2.	0		0.0%	
3.	0		0.0%	
4.	0		0.0%	
5.	0		0.0%	
50% of Total Cover: 0 — 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	53	x 4 =	212
UPL species	0	x 5 =	0
Colum Totals:	152 (A)		608 (B)

Prevalence Index = B/A= 4.000

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1073

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 6/1	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1074**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.920474 **Long:** -97.14317 **Datum:** NAD 83

Soil Map Unit Name: Mustang fine sand, 0 to 1 percent slopes, occasionally flooded, frequently ponde **NWI Classification:** PEM1A

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?** **(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 within a Wetland?	Yes ( )	No (•)
Hydric Soil Present?	Yes ( )	No (•)			
Wetland Hydrology Present?	Yes (•)	No ( )			

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [ ] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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):	4

Wetland Hydrology Present? **Yes** (•) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

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

Sampling Point: UPP1074

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 . Quercus virginiana	40	✔	93.0%	FACU
2 . Andropogon glomeratus	3		7.0%	FACW
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 22 20% of Total Cover: 8.6	43		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Smilax bona-nox	50	✔	71.4%	FAC
2 . Schizachyrium scoparium	20	✔	28.6%	FACU
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
6 .	0		0.0%	
7 .	0		0.0%	
8 .	0		0.0%	
9 .	0		0.0%	
10 .	0		0.0%	
11 .	0		0.0%	
12 .	0		0.0%	
50% of Total Cover: 35 20% of Total Cover: 14	70		= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0		0.0%	
2 .	0		0.0%	
3 .	0		0.0%	
4 .	0		0.0%	
5 .	0		0.0%	
50% of Total Cover: 0 20% of Total Cover: 0	0		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	50	x 3 =	150
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Colum Totals:	98 (A)		347 (B)

Prevalence Index = B/A= 3.541

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? **Yes** ○ **No** ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1074

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Location[2]	Texture	Remarks
0 - 16	10YR 2/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1075**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.92101 **Long:** -97.142866 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ( )	No (●)
Hydric Soil Present?	Yes ( )	No (●)			
Wetland Hydrology Present?	Yes (●)	No ( )			

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- [ ] Surface Water (A1)
- [ ] High Water Table (A2)
- [x] Saturation (A3)
- [x] Water Marks (B1)
- [ ] Sediment Deposits (B2)
- [ ] Drift Deposits (B3)
- [ ] Algal Mat or Crust (B4)
- [ ] Iron Deposits (B5)
- [ ] Inundation Visible on Aerial Imagery (B7)
- [ ] Water-Stained Leaves (B9)
- [ ] Aquatic Fauna (B13)
- [ ] Marl Deposits (B15) (LRR U)
- [ ] Hydrogen Sulfide Odor (C1)
- [ ] Oxidized Rhizospheres along Living Roots (C3)
- [ ] Presence of Reduced Iron (C4)
- [ ] Recent Iron Reduction in Tilled Soils (C6)
- [ ] Thin Muck Surface (C7)
- [ ] Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- [ ] 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)

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):	4

Wetland Hydrology Present? **Yes** (●) **No** ( )

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants. Sampling Point: UPP1075

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot Size : 30)				
1 . Quercus virginiana	40	☑	88.9%	FACU
2 . Ilex vomitoria	5	☐	11.1%	FAC
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
50% of Total Cover: 23	20% of Total Cover: 9	45	= Total Cover	
Herb Stratum (Plot Size : 30)				
1 . Schizachyrium scoparium	10	☑	50.0%	FACU
2 . Andropogon virginicus	5	☑	25.0%	FAC
3 . Panicum virgatum	5	☑	25.0%	FAC
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
6 .	0	☐	0.0%	
7 .	0	☐	0.0%	
8 .	0	☐	0.0%	
9 .	0	☐	0.0%	
10 .	0	☐	0.0%	
11 .	0	☐	0.0%	
12 .	0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	= Total Cover	
Woody Vine Stratum (Plot Size : 30)				
1 .	0	☐	0.0%	
2 .	0	☐	0.0%	
3 .	0	☐	0.0%	
4 .	0	☐	0.0%	
5 .	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, ro FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B

Percent of Dominant Species That are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	15	x 3 =	45	
FACU species	50	x 4 =	200	
UPL species	0	x 5 =	0	
Colum Totals:	113	(A)	396	(B)

Prevalence Index = B/A= 3.504

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤ 3.0[1]**
- ☐ **Problematic Hydrophytic Vegetation[1] (Explain)**

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or

Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1m) tall.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present ? Yes ○ No ◉

Remarks: (If observed, list morphological adaptations below).

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: UPP1075

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Location[2]	Texture	Remarks
0 - 6	10YR 2/1	100					Sandy Loam	
6 - 16	10YR 5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR P, S, T, U)
- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)
- ☐ Thin Dark Surface (S9) (LRR S, T, U)
- ☐ Loamy Mucky Mineral (F1) (LRR O)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) (LRR U)
- ☐ Depleted Ochric (F11) (MLRA 151)
- ☐ Iron-Manganese Masses (F12) (LRR O, P, T)
- ☐ Umbric Surface (F13) (LRR P, T, U)
- ☐ Delta Ochric (F17) (MLRA 151)
- ☐ Reduced Vertic (F18) (MLRA 150A, 150B)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluewater Terminal SPM Project **City/County:** Aransas **Sampling Date:** 2/13/2019

Applicant/Owner: Phillips 66 Pipeline, LLC **State:** TX **Sampling Point:** **UPP1076**

Investigator(s): B. Bringhurst & A. Ostrowski **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** Concave **Slope:** 1 % 0.6 °

Subregion (LRR): LRR T **Lat:** 27.920969 **Long:** -97.142688 **Datum:** NAD 83

Soil Map Unit Name: Galveston-Mustang complex, 0 to 3 percent slopes, occasionally flooded (GM) **NWI Classification:** None

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?** **(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 within a Wetland?	Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉		
Wetland Hydrology Present?	Yes ◉	No ○		

Remarks:
Hydrophytic vegetation and hydric soil are not present. This is not a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (Minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (Minimum of 2 required)

- ☐ 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)

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): 6

Wetland Hydrology Present? **Yes** ◉ **No** ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks: