



Photo 15 – Soil Sample at Plot R-4



Photo 16-Vegetation at Plot R-4 looking northerly.



Project/Site: Axis - Redfish Facility	City/Co	ounty: San Patrio	cio Co.	Sampling Date: 11/27/2018
Applicant/Owner: Axis Midstream Partners, LLC			State: TX	
Investigator(s): R. Ganczak & A. Snellgrove	Section			
				Slope (%): 0
Subregion (LRR or MLRA): LRRT/150B	Lat: 27.875746°	Lo	ong: -97.160668°	Datum: WGS 84
Landform (hillslope, terrace, etc.): pimple mound Subregion (LRR or MLRA): LRRT/150B Soil Map Unit Name: Is - Ijam - rarely flooded		·	NWI classific	ation: NA
Are climatic / hydrologic conditions on the site typical for	this time of year? Ye	es X No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology				eresent? Yes X No No
Are Vegetation, Soil, or Hydrology			ded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site ma				
Hydrophytic Vegetation Present? Yes X	No			
Hydrophytic Vegetation Present? Yes X Yes	No X	Is the Sampled A		Y
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No X	within a Wetland	l? Yes	No X
Remarks:				
Plot taken on top of topographic high	(pimple moun	a).		
HYDROLOGY				
Wetland Hydrology Indicators:			_	tors (minimum of two required)
Primary Indicators (minimum of one is required; check a			Surface Soil	
	atic Fauna (B13)	110		getated Concave Surface (B8)
	Deposits (B15) (LRR ogen Sulfide Odor (C		☐ Drainage Pat☐ Moss Trim Li	
	ized Rhizospheres ald			Water Table (C2)
	ence of Reduced Iron		Crayfish Burr	
	ent Iron Reduction in 1	Tilled Soils (C6)	Saturation Vi	sible on Aerial Imagery (C9)
	Muck Surface (C7)		Geomorphic	
	r (Explain in Remarks	s)	☐ Shallow Aqui	` '
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)			FAC-Neutral	Test (D5) noss (D8) (LRR T, U)
Field Observations:			<u> </u>	1055 (D0) (LKK 1, U)
Surface Water Present? Yes No X I	Depth (inches):			
Water Table Present? Yes No X				
Saturation Present? Yes No X I	Depth (inches):	Wetl	and Hydrology Presen	t? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring we	ell. aerial photos, prev	rious inspections).	if available:	
NRCS Soil Survey Data, Aerial Pho				
Remarks:				
Plot does not meet the Hydrology Cri	teria .			

١	VEGETATI	ON /Eau	r Stratal	Hee	coiontifio	namac	of plan	ato.
١	VEGETATI	ION (FOU	r Strata) –	use	scientific	names	or blar	แร

/EGETATION (Four Strata) – Use scientific na	mes of pl	ants.		Sampling Point: K-5	
201		Dominant		Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 30') 1. none		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)	
2				Total Number of Dominant	
3				Species Across All Strata: 1 (B)	,
4.				(2)	
5.				Percent of Dominant Species That Are OBL FACW or FAC: 100 (A/I	D,
				That Are OBL, FACW, or FAC: 100 (A/I	в)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:	
8				OBL species x 1 =	
		= Total Cov	/er	FACW species $\frac{5}{}$ x 2 = $\frac{10}{}$	
50% of total cover:	20% of	total cover	:	FAC species 85 x 3 = 255	
Sapling/Shrub Stratum (Plot size: 30')				FACU species 5 x 4 = 20	
1. none					
2				UPL species x 5 =	
3				Column Totals: 95 (A) 285 (B	3)
4.				Prevalence Index = B/A = 3	
5				Hydrophytic Vegetation Indicators:	
6				1 - Rapid Test for Hydrophytic Vegetation	
7				2 - Dominance Test is >50%	
8	=-0			3 - Prevalence Index is ≤3.0¹	
		= Total Cov		Problematic Hydrophytic Vegetation ¹ (Explain)	
50% of total cover: 35	20% of	total cover	:		
Herb Stratum (Plot size: 30')				¹ Indicators of hydric soil and wetland hydrology must	
1. Andropogon virginicus	85	Yes	FAC	be present, unless disturbed or problematic.	
2. Ambrosia artemisiifolia	5	No	FACU	Definitions of Four Vegetation Strata:	
3. Iva frutescens	5	No	FACW		
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) of more in diameter at breast height (DBH), regardless of	
				height.	JI
5					
6				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	3
7				than 3 iii. DBH and greater than 3.26 it (1 iii) tali.	
8				Herb - All herbaceous (non-woody) plants, regardles	ss
9				of size, and woody plants less than 3.28 ft tall.	
10				Woody vine – All woody vines greater than 3.28 ft in	1
11				height.	
12					
	95	= Total Cov	/er		
50% of total cover: 47.5					
Woody Vine Stratum (Plot size: 30')			· ——		
, none					
2					
3					
4					
5				Hydrophytic	
	:	= Total Cov	/er	Vegetation X X	
50% of total cover:	20% of	total cover	:	Present? Yes X No	
Remarks: (If observed, list morphological adaptations belo	w).			. L	
Plot meets hydrophytic vegetation criter	ia (DT 8	₹ PI).			

Profile Des	cription: (Describ Matrix	e to the depti	n needed to document the indicator or confi Redox Features	rm the absence of	indicators.)
(inches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²	Texture	Remarks
0-15	10YR 6/3	100		sandy silt	
					_
	-				
¹Type: C=C	oncentration D=De	enletion RM=I	Reduced Matrix, MS=Masked Sand Grains.	² Location: PL	=Pore Lining, M=Matrix.
			RRs, unless otherwise noted.)		Problematic Hydric Soils ³ :
☐ Histosol			Polyvalue Below Surface (S8) (LRR S, T		k (A9) (LRR O)
=	pipedon (A2)		Thin Dark Surface (S9) (LRR S, T, U)		k (A10) (LRR S)
=	istic (A3)		Loamy Mucky Mineral (F1) (LRR O)		Vertic (F18) (outside MLRA 150A,B)
Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	Piedmont	Floodplain Soils (F19) (LRR P, S, T)
Stratifie	d Layers (A5)		Depleted Matrix (F3)	<u> </u>	is Bright Loamy Soils (F20)
=	Bodies (A6) (LRR	-	Redox Dark Surface (F6)	☐ (MLRA	•
	ucky Mineral (A7) (I		Depleted Dark Surface (F7)		nt Material (TF2)
	resence (A8) (LRR		Redox Depressions (F8)		low Dark Surface (TF12)
	uck (A9) (LRR P, T) d Below Dark Surfa		Marl (F10) (LRR U) Depleted Ochric (F11) (MLRA 151)	U Other (Ex	plain in Remarks)
= '	d Беюw Багк Зипа ark Surface (А12)	ice (ATT)	Iron-Manganese Masses (F12) (LRR O,	P T) ³ Indicato	rs of hydrophytic vegetation and
=	rairie Redox (A16)	(MLRA 150A)			d hydrology must be present,
=	Mucky Mineral (S1)		Delta Ochric (F17) (MLRA 151)		disturbed or problematic.
=	Gleyed Matrix (S4)	,	Reduced Vertic (F18) (MLRA 150A, 150	В)	·
Sandy F	Redox (S5)		Piedmont Floodplain Soils (F19) (MLRA	149A)	
Stripped	d Matrix (S6)		Anomalous Bright Loamy Soils (F20) (M	LRA 149A, 153C, 15	53D)
	ırface (S7) (LRR P,				
Restrictive	Layer (if observed	I):			
Type:			<u> </u>		
Depth (in	ches):		<u></u>	Hydric Soil Pre	esent? Yes No X
Remarks:	lot doos not	moot byd	ric soil criteria.		
Г	iot does not	meet nya	no son cinena.		







Photo 17 – Soil Sample at Plot R-5



Photo 18 – Vegetation at Plot R-5 looking westerly.



Project/Site: Axis - Redfish Facility Applicant/Owner: Axis Midstream Partners, LLC	City/County: Sa	an Patricio Co.	Sampling Date: 11/27/2018
Applicant/Owner: Axis Midstream Partners, LLC	State: TX		
Investigator(s): R. Ganczak & A. Snellgrove	Section, Towns	nip, Range: NA	
nimple mound clone		convey	Slope (%): 1
Subregion (LRR or MLRA): LRRT/150B	Lat: 27.875827°	Long: -97.160643°	Datum: WGS 84
Subregion (LRR or MLRA): LRRT/150B Soil Map Unit Name: Is - Ijam - rarely flooded		NWI classific	cation: NA
Are climatic / hydrologic conditions on the site typical for the			
Are Vegetation, Soil, or Hydrology			oresent? Yes X No
Are Vegetation, Soil, or Hydrology		(If needed, explain any answe	
SUMMARY OF FINDINGS – Attach site map			
The decided in Vigoria in Second 2	N		
Hydrophytic Vegetation Present? Yes X Hydric Soil Present?	No X Is the Sa	ampled Area	V
Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No X within a	Wetland? Yes	No X
Remarks:			
Plot taken on slope of topographic hig	n (pimpie mouna).		
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; check al		Surface Soil	· ·
	ic Fauna (B13) Deposits (B15) (LRR U)		getated Concave Surface (B8)
	gen Sulfide Odor (C1)	<u> </u>	
	zed Rhizospheres along Living	_	Water Table (C2)
	nce of Reduced Iron (C4)	Crayfish Bur	
	nt Iron Reduction in Tilled Soi	s (C6) 🔲 Saturation V	isible on Aerial Imagery (C9)
	Muck Surface (C7)		Position (D2)
	(Explain in Remarks)	☐ Shallow Aqu	` '
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)		✓ FAC-Neutral	noss (D8) (LRR T, U)
Field Observations:		<u> </u>	11033 (D0) (EIXIX 1, O)
	Pepth (inches):		
	Pepth (inches):		
Saturation Present? Yes No X D	Depth (inches):	Wetland Hydrology Preser	nt? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well	I. aerial photos, previous insc	ections), if available:	
NRCS Soil Survey Data, Aerial Phot			
Remarks:			
Plot does not meet the Hydrology Crite	eria.		

N/	/CCET/	MOLTA	/Equr	Strata) -	Hee	coiontifio	namac	of pl	onto
ν	EGEIF	A I IUN	(Four	Strata) –	use	scientilic	names	OI DI	ants

EGETATION (Four Strata) – Use scientific na	Absolute	Dominar	t Indicator	Dominance Test worksheet:		
Tree Stratum (Plot size: 30') 1. none	% Cover	Species	? Status	Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)		
2				Total Number of Dominant		
3		-		Species Across All Strata: 1 (B)		
1		-		Percent of Dominant Species		
5				That Are OBL, FACW, or FAC: 100 (A/B)		
5						
7				Prevalence Index worksheet:		
3				Total % Cover of: Multiply by:		
		= Total Co	over	OBL species x 1 =		
50% of total cover:	20% of	total cove	er:	FACW species 20 x 2 = 40		
Sapling/Shrub Stratum (Plot size: 30')				FAC species 65 x 3 = 195		
1. none		-		FACU species $\frac{5}{}$ x 4 = $\frac{20}{}$		
2.	_			UPL species x 5 =		
3				Column Totals: 90 (A) 255 (B)		
4.				Prevalence Index = B/A = 2.8		
5.				Hydrophytic Vegetation Indicators:		
3				1 - Rapid Test for Hydrophytic Vegetation		
7.				2 - Dominance Test is >50%		
3.				✓ 3 - Prevalence Index is ≤3.0 ¹		
		= Total Co				
50% of total cover:				Problematic Hydrophytic Vegetation ¹ (Explain)		
Herb Stratum (Plot size: 30')				1 adjactors of budgie only and well and budgeton and		
1. Andropogon virginicus	65	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.		
2. Andropogon glomeratus	15	No	FACW	Definitions of Four Vegetation Strata:		
3 Iva frutescens	5	No	FACW			
Ambrosia artemisiifolia	5	No	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of		
5		-		height.		
3				Sanling/Shrub Woody plants evaluding vines less		
7				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3.						
). 9.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
· 		-		of size, and woody plants loss than 6,20 it tall.		
10				Woody vine – All woody vines greater than 3.28 ft in		
11				height.		
12	00					
50% of total cover: 47.5		= Total Co				
	20% of	total cove	er: <u>10</u>			
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>) _{1.} none						
···						
2						
3		-				
4						
5				Hydrophytic		
				Vegetation Present? Yes X No		
50% of total cover:		total cove	er:			
Remarks: (If observed, list morphological adaptations bel	•					
Plot meets hydrophytic vegetation crite	ria (DT 8	& PI).				
		-				

Profile Desc	ription: (Describe	to the depti	n needed to docun	nent the i	ndicator	or confirn	n the absence of in	dicators.)	
Depth	Matrix			x Features				_	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remark	(S
0-6	10YR 52	100					sandy loam		
6-15	10YR 7/3	100					sandy loam		
	-								
¹Type: C=Co	oncentration, D=De	oletion, RM=I	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: PL=	Pore Lining, M=M	atrix.
	ndicators: (Applic							Problematic Hydi	
☐ Histosol	(A1)		Polyvalue Be	low Surfac	ce (S8) (L	RR S, T, l	J) 1 cm Muck	(A9) (LRR O)	
Histic Ep	pipedon (A2)		Thin Dark Su	rface (S9)	(LRR S,	T, U)	2 cm Muck	(A10) (LRR S)	
Black Hi	stic (A3)		Loamy Mucky	y Mineral ((F1) (LRR	O)			le MLRA 150A,B)
= .	n Sulfide (A4)		Loamy Gleye		F2)				19) (LRR P, S, T)
_	l Layers (A5)		Depleted Mat	, ,	(0)			Bright Loamy Soi	ls (F20)
=	Bodies (A6) (LRR F	-	Redox Dark S				(MLRA 1		
_	icky Mineral (A7) (L esence (A8) (LRR (Depleted Dar					Material (TF2) w Dark Surface (1	TE12)
_	ick (A9) (LRR P, T)	,	Marl (F10) (L	,	3)		—	ain in Remarks)	11 12)
=	Below Dark Surfac	ce (A11)	Depleted Och	•	(MLRA 15	51)	Other (Expr	an in Romano,	
=	ark Surface (A12)	,	Iron-Mangan	, ,	•	•	T) ³ Indicators	of hydrophytic ve	egetation and
Coast Pi	airie Redox (A16) (MLRA 150A)	Umbric Surfa	ce (F13) (LRR P, T,	, U)	wetland	hydrology must be	e present,
Sandy M	lucky Mineral (S1) (LRR O, S)	Delta Ochric	(F17) (ML	RA 151)		unless d	isturbed or proble	matic.
=	Bleyed Matrix (S4)		Reduced Ver						
	ledox (S5)		Piedmont Flo	-		•	•		
	Matrix (S6)	C T II)		right Loan	ny Soils (F	-20) (MLR	RA 149A, 153C, 153	D)	
	rface (S7) (LRR P, s _ayer (if observed)								
	_ayer (ii observed)	•							
Type:	- L V.						III. III. O. II D		No X
Depth (ind	cnes):						Hydric Soil Pres	sent? Yes	No <u>^</u>
Remarks:	lot does not r	neet hyd	ric soil criteria	a					
•	101 0000 1101 1	noot nya		4.					



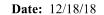




Photo 19 – Soil Sample at Plot R-6



Photo 20 – Vegetation at Plot R-6 looking southwesterly.



Project/Site: Axis - Redfish Facility	City/C	_{county:} San Patricio Co.	Sampling Date:
Applicant/Owner: Axis Midstream Partner	s, LLC	State: TX	
Investigator(s): R. Ganczak & A. Snellgro		on, Township, Range: NA	
			Slone (%). 0
Landform (hillslope, terrace, etc.): tidal flat Subregion (LRR or MLRA): LRRT/150B	Local	97.160634°	Slope (%)
Soil Map Unit Name: Is - Ijam - rarely floor	Lat:	Long:	Datum: F2FM1P
		NWI classi	
Are climatic / hydrologic conditions on the site			
Are Vegetation, Soil, or Hydro			" present? Yes 🔨 No
Are Vegetation, Soil, or Hydro	ology naturally problema	atic? (If needed, explain any ansv	vers in Remarks.)
SUMMARY OF FINDINGS – Attacl	h site map showing sam	npling point locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? You	es X No		
Hydric Soil Present?	es X No	Is the Sampled Area	No
Wetland Hydrology Present?	es X No	within a Wetland? Yes X	No
Remarks:			
Plot taken adjacent to pimple	mound.		
HYDROLOGY			
Wetland Hydrology Indicators:			cators (minimum of two required)
Primary Indicators (minimum of one is requi			oil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)		egetated Concave Surface (B8)
High Water Table (A2) Saturation (A3)	Marl Deposits (B15) (LRF Hvdrogen Sulfide Odor (C		Patterns (B10)
Saturation (A3) Water Marks (B1)	✓ Hydrogen Sulfide Odor (C✓ Oxidized Rhizospheres a	-	Lines (B16) n Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron		urrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in		Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorph	ic Position (D2)
Iron Deposits (B5)	Other (Explain in Remark	· =	quitard (D3)
Inundation Visible on Aerial Imagery (B	7)	=	al Test (D5)
Water-Stained Leaves (B9)		LI Sphagnum	moss (D8) (LRR T, U)
Field Observations:	No X Depth (inches):		
	No Depth (inches):		
	No Depth (inches): 0	 Wetland Hydrology Pres	ent? Yes ^X No
(includes capillary fringe)			ent: 165 NO
Describe Recorded Data (stream gauge, mo			
NRCS Soil Survey Data, Aei	rial Photography, NF	ID Data	
Remarks:			
Plot meets the Hydrology Crit	eria with four primary	^r (A2, A3, B7 & C1) and two	secondary indicators
(B8 & D5) .			

N/	/CCET/	MOLTA	/Equr	Strata) -	Hee	coiontifio	namac	of pl	onto
ν	EGEIF	A I IUN	(Four	Strata) –	use	scientilic	names	OI DI	ants

'EGETATION (Four Strata) – Use scientific na	ames of pi	ants.		Sampling Point: R-7
Trans Charles (Distriction 30'		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 30')		Species?		Number of Dominant Species
				That Are OBL, FACW, or FAC: 4 (A)
2				Total Number of Dominant
3				Species Across All Strata: 4 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/I
6			-	Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species 50 x 1 = 50
		= Total Cov		FACW species $\frac{20}{20}$ \times 2 = $\frac{40}{20}$
50% of total cover:	20% of	total cover	:	FAC species 30 x 3 = 90
Sapling/Shrub Stratum (Plot size: 30')				
1. none				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: <u>100</u> (A) <u>180</u> (B
4.				Prevalence Index = B/A = 1.8
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7				
8				
0		= Total Cov		3 - Prevalence Index is ≤3.0¹
50% of total cover				Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: <u>Herb Stratum</u> (Plot size: 30')	20 /0 01	loidi cover	·	
Herb Stratum (Plot size:) 1. Spartina patens	20	Yes	FACW	¹ Indicators of hydric soil and wetland hydrology must
Andropogon virginicus	30	Yes	FAC	be present, unless disturbed or problematic.
				Definitions of Four Vegetation Strata:
3. Monanthochloe (Distichlis) littoralis	30	Yes	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm)
4. Salicornia bigelovii		Yes	OBL	more in diameter at breast height (DBH), regardless of
5				height.
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				Herb – All herbaceous (non-woody) plants, regardles
9				of size, and woody plants less than 3.28 ft tall.
10				Woody vine – All woody vines greater than 3.28 ft in
11				height.
12				
		= Total Cov	ver	
50% of total cover: 50	20% of			
Woody Vine Stratum (Plot size: 30')				
1. none				
2				
3				
4				
5				Hydrophytic Vegetation
		= 10181 Lo	√er	Vegetation
50% of total cover:	200/ -			Present? Yes X No

Depth	Matrix		Red	ox Featur	es		n the absence of in	
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹		Texture	Remarks
0-7	10YR 4/1	95	10YR 6/1	5	_ <u>D</u>	_ <u>M</u>	sandy loam	
7-16	10YR 6/1	100					sandy loam	
				_				
				_				
1 _{Tumor} C=C		anletion DM	-Dadwood Motrix N				2l continu DI -	-Dava Lining M-Matrix
			=Reduced Matrix, N LRRs, unless othe			nains.		=Pore Lining, M=Matrix. Problematic Hydric Soils ³ :
☐ Histosol			Polyvalue B		-	(LRR S. T. I		(A9) (LRR O)
_	pipedon (A2)		Thin Dark S					(A10) (LRR S)
Black H	istic (A3)		Loamy Muc	ky Minera	ıl (F1) (LR	RO)	Reduced V	/ertic (F18) (outside MLRA 150A,B)
	en Sulfide (A4)		Loamy Gley		(F2)			Floodplain Soils (F19) (LRR P, S, T)
=	d Layers (A5)	D T 11)	Depleted M		(FO)			s Bright Loamy Soils (F20)
=	: Bodies (A6) (LRR ucky Mineral (A7) (-	Redox Dark Depleted Da		` '		(MLRA 1	t Material (TF2)
	resence (A8) (LRR		Redox Depi		` '			ow Dark Surface (TF12)
	uck (A9) (LRR P, T		Marl (F10) (,	,			olain in Remarks)
= '	d Below Dark Surfa	ace (A11)	Depleted O	-				
=	ark Surface (A12)		☐ Iron-Manga					s of hydrophytic vegetation and
=	rairie Redox (A16) Mucky Mineral (S1)	-	A) Umbric Surf			-		I hydrology must be present, disturbed or problematic.
=	Gleyed Matrix (S4)	(LKK 0, 3)	Reduced Ve					disturbed of problematic.
_	Redox (S5)		Piedmont F					
	d Matrix (S6)			-			RA 149A, 153C, 153	3D)
	ırface (S7) (LRR P							
	Layer (if observed	d):						
Type:								Y
Depth (in	ches):						Hydric Soil Pres	sent? Yes X No
Remarks:	lot does mee	et hydric	soil criteria					
•	iot dood mot	or my arro	con ornoria.					
								1
								1
								1







Photo 21 – Soil Sample at Plot R-7



Photo 22 – Vegetation at Plot R-7 looking easterly. Note elevation change.



Project/Site: Axis - Redfish Facility	City/Co	unty: San Patricio	Co.	Sampling Date: 11/27/2018
Project/Site: Axis - Redfish Facility Applicant/Owner: Axis Midstream Partners, LLC		State: TX	Sampling Point: R-8	
Investigator(s): R. Ganczak & A. Snellgrove	NA			
Landform (hillslope, terrace, etc.): levee slope				Slope (%): 2
Subregion (LRR or MLRA): LRRT/150B	Lat: 27.875668°	Long:	-97.160167°	Datum: WGS 84
Soil Map Unit Name: Is - Ijam - rarely flooded			NWI classific	eation: E2EM1P
Are climatic / hydrologic conditions on the site typical for the site ty	this time of year? Ye			
Are Vegetation, Soil, or Hydrology				present? Yes X No
Are Vegetation, Soil, or Hydrology			, explain any answe	
SUMMARY OF FINDINGS – Attach site ma				·
Hudrophytic Vacatation Procent? Vac	No X			
Hydric Soil Present? Yes	No X	Is the Sampled Area		Y
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes X	No	within a Wetland?	Yes	No <u>^</u>
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check a	ell that annly)		Surface Soil	· · · · · · · · · · · · · · · · · · ·
	tic Fauna (B13)			getated Concave Surface (B8)
	Deposits (B15) (LRR	U)	Drainage Pa	- , ,
	ogen Sulfide Odor (C1	•	Moss Trim L	
	zed Rhizospheres alo			Water Table (C2)
Sediment Deposits (B2)	ence of Reduced Iron	(C4)	Crayfish Bur	rows (C8)
	nt Iron Reduction in T	illed Soils (C6)	_	isible on Aerial Imagery (C9)
	Muck Surface (C7)			Position (D2)
☐ Iron Deposits (B5) ☐ Other☐ Inundation Visible on Aerial Imagery (B7)	r (Explain in Remarks)		,
Water-Stained Leaves (B9)				moss (D8) (LRR T, U)
Field Observations:			<u> </u>	11000 (20) (2 001 - 1, 0)
Surface Water Present? Yes No X [Depth (inches):			
Water Table Present? Yes X No				
Saturation Present? Yes X No [Depth (inches): 12	Wetland	Hydrology Prese	nt? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring we	ll aerial photos, previ	ious inspections), if a	vailahle	
NRCS Soil Survey Data, Aerial Pho			valiable.	
Remarks:	· ((AO 0 AO) and		
Plot meets the Hydrology Criteria with	i two primary (A2 & A3) and	one seconda	ry indicator (C9).

VEGETATION (Four	Strata) _ lle	a scientific name	se of plante	

/EGETATION (Four Strata) – Use scientific na	ames of pl	ants.		Sampling Point: R-8
001		Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 30') 1. none		Species?		Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 50 (A/B)
6				
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
		= Total Cov	er er	OBL species
50% of total cover:	20% of	total cover	:	FAC species 65
Sapling/Shrub Stratum (Plot size: 30')				FACU species 30
1. none				
2				UPL species $x = 5 = 5$ Column Totals: $x = 5 = 5$ (A) $x = 5 = 5$ (B)
3				Column Totals (A) (B)
4				Prevalence Index = $B/A = \frac{3.25}{}$
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
		= Total Cov	er er	Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover:	20% of	total cover	:	
Herb Stratum (Plot size: 30')				¹ Indicators of hydric soil and wetland hydrology must
1. Andropogon virginicus	55	Yes	FAC	be present, unless disturbed or problematic.
2. Ambrosia artemisiifolia	30	Yes	FACU	Definitions of Four Vegetation Strata:
3. Andropogon glomeratus	_ 5	No	FACW	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4. Helianthus annuus	10	No	FAC	more in diameter at breast height (DBH), regardless of
5				height.
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				Herb – All herbaceous (non-woody) plants, regardless
9				of size, and woody plants less than 3.28 ft tall.
10				Woody vine – All woody vines greater than 3.28 ft in
11				height.
12				
		= Total Cov		
50% of total cover: 50	20% of	total cover	: 20	
Woody Vine Stratum (Plot size: 30')				
1. none				
2				
3				
4				
5				Hydrophytic
		= Total Cov	er er	Vegetation
50% of total cover:	20% of	total cover	:	Present? Yes No X
Remarks: (If observed, list morphological adaptations bel	ow).			
Plot does not meet the hydrophytic veg	getation o	criteria.		

Profile Desc	ription: (Describe	to the depth	needed to docun	nent the in	ndicator o	r confirm	the absence	of indicate	ors.)	
Depth (inches)	Matrix Color (moist)	<u></u> %	Redox Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remark	6
0-8	10YR 5/2	/ 0	Color (Illoist)		Type	LUC	sandy loam	shell deb		5
8-16	10YR 5/1	100					sandy loam	shell deb		
0-10	1011(3/1						- Sandy Idam			
								_		
¹Type: C=Co	ncentration, D=De	oletion, RM=R	Reduced Matrix, MS	=Masked	Sand Gra	ins.	² Location:	PL=Pore L	ining, M=Ma	atrix.
	ndicators: (Appli								matic Hydr	
Histosol			Polyvalue Be		. , .		. —	/luck (А9) (I	-	
	ipedon (A2)		Thin Dark Su		-	-		/luck (A10)		
Black His			Loamy Mucky Loamy Gleye			O)				e MLRA 150A,B) 19) (LRR P, S, T)
	n Sulfide (A4) Layers (A5)		Depleted Mat	,	F2)				Loamy Soil	
	Bodies (A6) (LRR F	P, T, U)	Redox Dark S		6)			RA 153B)	Louiny Con	(1 20)
	cky Mineral (A7) (L		Depleted Dar	k Surface	(F7)			arent Mater	ial (TF2)	
	esence (A8) (LRR I	J)	Redox Depre	•	3)				k Surface (T	F12)
=	ck (A9) (LRR P, T)	- (044)	Marl (F10) (L		/MI DA 45	4)	<u></u> Other	(Explain in I	Remarks)	
=	l Below Dark Surfac rk Surface (A12)	e (ATT)	Depleted Och	, ,	•	•	T) ³ Indic	eators of hyd	dronhytic ve	getation and
=	airie Redox (A16) (MLRA 150A)					•	-	ogy must be	-
	ucky Mineral (S1)	LRR O, S)	Delta Ochric	(F17) (ML	RA 151)	-	unle	ess disturbe	ed or probler	matic.
	leyed Matrix (S4)		Reduced Ver							
	edox (S5)		Piedmont Flo	-			•	450D)		
=	Matrix (S6) face (S7) (LRR P, :	S T II)		rignt Loan	ny Solis (F	20) (WLR	A 149A, 153C	, 153D)		
	ayer (if observed)									
Type:										
Depth (inc	:hes):		<u> </u>				Hydric Soil	Present?	Yes	No X
Remarks:										
Р	lot does not	meet the	hydric soil cr	iteria.						



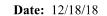




Photo 23 – Soil Sample at Plot R-8



Photo 24 – Vegetation at Plot R-8 looking northeasterly.



Project/Site: Axis - Redfish Facility	City/County:	San Patricio Co.	Sampling Date:
Project/Site: Axis - Redfish Facility Applicant/Owner: Axis Midstream Partners, LLC		State: TX	
Investigator(s): R. Ganczak & A. Snellgrove	Section, Tov	wnship, Range: NA	
marah		nono	Slope (%): 0
Subregion (LRR or MLRA): LRRT/150B	Lat: 27.876794°	Long: -97.165111°	Datum: WGS 84
Subregion (LRR or MLRA): LRRT/150B Soil Map Unit Name: Mu - Mustang fine sand, 0-1%	slope	NWI classi	fication: NA
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes X	No (If no, explain in	Remarks.)
Are Vegetation, Soil, or Hydrology			
Are Vegetation, Soil, or Hydrology		(If needed, explain any ansv	
SUMMARY OF FINDINGS – Attach site ma			ŕ
Livelengh, tie Verseteilen Denne 2	Ne	<u>-</u>	
Hydrophytic Vegetation Present? Yes X Hydric Soil Present? Yes X	No Is the	e Sampled Area	
Hydric Soil Present? Yes X Wetland Hydrology Present? Yes X	No withi	in a Wetland? Yes X	No
Remarks:			
HYDROLOGY			
Wetland Hydrology Indicators:			cators (minimum of two required)
Primary Indicators (minimum of one is required; check		_	oil Cracks (B6)
	atic Fauna (B13) Deposits (B15) (LRR U)		egetated Concave Surface (B8) Patterns (B10)
 	rogen Sulfide Odor (C1)		Lines (B16)
	lized Rhizospheres along L	_	n Water Table (C2)
Sediment Deposits (B2)	sence of Reduced Iron (C4)	Crayfish B	urrows (C8)
	ent Iron Reduction in Tilled	-	Visible on Aerial Imagery (C9)
	Muck Surface (C7)	_	ic Position (D2)
Iron Deposits (B5)	er (Explain in Remarks)	_	quitard (D3) al Test (D5)
Water-Stained Leaves (B9)			moss (D8) (LRR T, U)
Field Observations:			(, (, -,
Surface Water Present? Yes No X	Depth (inches):		
Water Table Present? Yes X No	Depth (inches): 4		.,
	Depth (inches): 0	Wetland Hydrology Pres	ent? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring we	ell, aerial photos, previous	inspections), if available:	
NRCS Soil Survey Data, Aerial Pho	otography, NHD D	Data	
Remarks:			
Plot meets the Hydrology Criteria wit	h three primary (A	.2, A3 & C3) and two se	econdary indicators (C9
& D5).			

VEGETATION (Four Strata) – Use scientific names of plants.	Sampling Point: R-9
--	---------------------

ator Dominance Test worksheet:
Number of Dominant Species
That Are OBL, FACW, or FAC: $\frac{3}{}$ (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Species Across All Strata: 3 (B)
Percent of Dominant Species
That Are OBL, FACW, or FAC: 100 (A/B)
Prevalence Index worksheet:
Total % Cover of: Multiply by:
OBL species 80 x 1 = 80
$EACW$ energies 20 $\times 2 - 40$
FAC species 60 x 3 = 180
FACU species x 4 =
W UPL species x 5 =
Column Totals: 160 (A) 325 (B)
(2)
Prevalence Index = B/A = 1.87
Hydrophytic Vegetation Indicators:
' ' ' '
1 - Rapid Test for Hydrophytic Vegetation
—— 💹 2 - Dominance Test is >50%
——
Problematic Hydrophytic Vegetation ¹ (Explain)
in the state of th
1
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Definitions of Four Vegetation Strata:
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
more in diameter at breast height (DBH), regardless of
height.
<u> </u>
Sapling/Shrub – Woody plants, excluding vines, less
than 3 in. DBH and greater than 3.28 ft (1 m) tall.
—— Herb – All herbaceous (non-woody) plants, regardless
of size, and woody plants less than 3.28 ft tall.
Woody vine – All woody vines greater than 3.28 ft in
height.
-

— Hydrophytic
Vegetation Present? Yes X No
Present? res NO
 _

Profile Desc Depth	ription: (Describe Matrix	e to the dep	oth needed to docu Red	ment the		r or confirn	n the absence of	indicators.)
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 4/2	85	10YR 2/1	15	С	M	loam	
10-16	10YR 5/2	100					loam	
	-							
	-							
				_				
¹ Type: C=Co	oncentration, D=De	pletion, RM	=Reduced Matrix, M	IS=Maske	ed Sand G	Grains.	² Location: PL	.=Pore Lining, M=Matrix.
Hydric Soil	ndicators: (Appli	icable to all	LRRs, unless other	erwise no	ted.)		Indicators for	Problematic Hydric Soils ³ :
Histosol	` ,		Polyvalue B					k (A9) (LRR O)
	pipedon (A2)		Thin Dark S			-		k (A10) (LRR S)
Black Hi	, ,		Loamy Mucl	-		(R O)		Vertic (F18) (outside MLRA 150A,B)
= ' '	n Sulfide (A4) I Layers (A5)		Loamy Gley ✓ Depleted Ma		(FZ)			Floodplain Soils (F19) (LRR P, S, T) is Bright Loamy Soils (F20)
	Bodies (A6) (LRR	P, T, U)	Redox Dark	` '	(F6)		(MLRA	
=	cky Mineral (A7) (L	-) 🔲 Depleted Da	ark Surfac	e (F7)		1 1	nt Material (TF2)
Muck Pr	esence (A8) (LRR	U)	Redox Depr	essions (F8)			low Dark Surface (TF12)
	ck (A9) (LRR P, T)		☐ Marl (F10) (U Other (Ex	plain in Remarks)
= '	d Below Dark Surfa	ice (A11)	Depleted Oc	•	, ,	•	T) 3Indianta	we of budges butte up setation and
=	ark Surface (A12) rairie Redox (A16)	(MI RA 150	☐ Iron-Mangar A) ☐ Umbric Surf			-	•	rs of hydrophytic vegetation and dhydrology must be present,
	lucky Mineral (S1)	-	Delta Ochric		-	-		disturbed or problematic.
=	leyed Matrix (S4)	, , ,	Reduced Ve					·
Sandy R	edox (S5)		Piedmont FI	oodplain	Soils (F19	9) (MLRA 1 4	49A)	
	Matrix (S6)			Bright Lo	amy Soils	(F20) (MLF	RA 149A, 153C, 15	53D)
	face (S7) (LRR P,						T	
	_ayer (if observed	1):						
Type:	-1 X-						II also o di Da	esent? Yes ^X No
Depth (inc	ches):		<u></u>				Hydric Soil Pre	esent? Yes ^ No
Remarks:	lot meets the	e hvdric	soil criteria.					
•		o my amo	con ornaria					



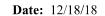




Photo 25 – Soil Sample at Plot R-9



Photo 26 – Vegetation at Plot R-2 looking northerly towards Redfish Bay.



Project/Site: Axis - Redfish Facility	City/County: San Patricio	Co.	Sampling Date: 11/28/2018
Applicant/Owner: Axis Midstream Partners, LLC		State: TX	Sampling Point: R-10
	Section, Township, Range		
	Local relief (concave, conv		Slope (%): 0
Subregion (LRR or MLRA): LRRT/150B	27.877084° Long	97.166096°	Datum: WGS 84
Subregion (LRR or MLRA): LRRT/150B Lat: Soil Map Unit Name: Mu - Mustang fine sand, 0-1% slope		NWI classific	cation: PEM1A
Are climatic / hydrologic conditions on the site typical for this tim			
Are Vegetation, Soil, or Hydrology signi			
Are Vegetation, Soil, or Hydrology natu		ed, explain any answe	
SUMMARY OF FINDINGS – Attach site map she		•	,
		·	· · · · · · · · · · · · · · · · · · ·
Hydrophytic Vegetation Present? Yes X No _ Hydric Soil Present? Yes X No _			
Wetland Hydrology Present? Yes X No_		Yes X	No
Remarks:			
HYDROLOGY			
Wetland Hydrology Indicators:		Socondan/Indio	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	annly)	Secondary indication	· · · · · · · · · · · · · · · · · · ·
Surface Water (A1) Aquatic Fau			getated Concave Surface (B8)
	ts (B15) (LRR U)	Drainage Pa	= ' '
	ulfide Odor (C1)	Moss Trim L	
	izospheres along Living Roots (C	_	Water Table (C2)
Sediment Deposits (B2)	Reduced Iron (C4)	Crayfish Bur	rows (C8)
	Reduction in Tilled Soils (C6)	Saturation V	isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	` '	=	Position (D2)
	ain in Remarks)	Shallow Aqu	` '
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)		FAC-Neutral	noss (D8) (LRR T, U)
Field Observations:		<u> </u>	11055 (D0) (ERR 1, 0)
Surface Water Present? Yes No X Depth (inches):		
Water Table Present? Yes X No Depth	inches): 4		
Saturation Present? Yes X No Depth		ıd Hydrology Presei	nt? Yes ^X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeria			
NRCS Soil Survey Data, Aerial Photogra		avallable:	
Remarks:			
Plot meets the Hydrology Criteria with two	primary (A2 & A3) and	d two seconda	ry indicators (C9 &
D5).			

		ants.	Indicator	Sampling Point: R-10
ree Stratum (Plot size: 30' none	% Cover	Dominant Species?	Status	Dominance Test worksheet: Number of Dominant Species That Are ORL FACW or FAC: 4 (A)
				That Are OBL, FACW, or FAC: 4 (A)
				Total Number of Dominant Species Across All Strata: 5 (B)
				Species Across All Strata.
				Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/I
				That Are OBL, FACW, or FAC.
				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
		= Total Cov	/er	OBL species $\frac{35}{45}$ $\times 1 = \frac{35}{20}$
50% of total cover:	20% of	f total cover	:	FACW species $\frac{15}{70}$ $\times 2 = \frac{30}{210}$
apling/Shrub Stratum (Plot size: 30')				FAC species 70 x 3 = 210
Baccharis halimifolia	10	Yes	FAC	FACU species 35 $\times 4 = 140$
				UPL species x 5 =
				Column Totals: <u>155</u> (A) <u>415</u> (B
				Prevalence Index = B/A = 2.7
				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
				☑ 3 - Prevalence Index is ≤3.0¹
	10	= Total Cov	/er	Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 5	20% of	total cover	: 2	<u></u>
erb Stratum (Plot size: 30')				¹ Indicators of hydric soil and wetland hydrology must
Paspalum dilatatum	25	Yes	FAC	be present, unless disturbed or problematic.
Juncus roemerianus	25	Yes	OBL	Definitions of Four Vegetation Strata:
Ambrosia artemisiifolia	15	No	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm)
Hydrocotyle umbrellata	10	No	OBL	more in diameter at breast height (DBH), regardless of
Andropogon virginicus	15	No	FAC	height.
Andropogon glomeratus	15	No	FACW	Sapling/Shrub – Woody plants, excluding vines, less
				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
				Herb – All herbaceous (non-woody) plants, regardles
				of size, and woody plants less than 3.28 ft tall.
)				Woody vine – All woody vines greater than 3.28 ft in
1				height.
2				
		= Total Cov		
50% of total cover: 52.5	20% of	total cover	: 21	
/oody Vine Stratum (Plot size: 30')	00		E4.0	
Smilax bona-nox	20	Yes	FAC	
Smilax smallii		Yes	FACU	
				Hydrophytic
	40	= Total Cov		Vegetation Present? Yes X No

Profile Desc	ription: (Describe	to the deptl	n needed to docur	nent the	indicato	or confirn	n the absence of in	ndicators.)	
Depth	Matrix			x Feature					
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-2	10YR 2/1	100					sandy loam		
2-15	10YR 3/1	95	10YR 5/1	5	D	M	sandy loam		
	-								
					-				
¹ Type: C=C	oncentration, D=De	nletion RM=I	Reduced Matrix MS	S=Masko	d Sand G	raine	² Location: PL =	Pore Lining, M=Matrix.	
	Indicators: (Appli					iaiiio.		Problematic Hydric Soils	s ³ :
☐ Histosol			Polyvalue Be		-	IRRSTI		(A9) (LRR O)	
_	pipedon (A2)		Thin Dark Su					(A10) (LRR S)	
 	stic (A3)		Loamy Muck					ertic (F18) (outside MLR	A 150A,B)
=	en Sulfide (A4)		Loamy Gleye	-		,		loodplain Soils (F19) (LR	
Stratified	d Layers (A5)		Depleted Ma	trix (F3)			<u> </u> Anomalous	Bright Loamy Soils (F20))
= -	Bodies (A6) (LRR I		Redox Dark	Surface (F6)		(MLRA 1		
	ıcky Mineral (A7) (L		✓ Depleted Dar		, ,			Material (TF2)	
	esence (A8) (LRR		Redox Depre	`	- 8)			w Dark Surface (TF12)	
_	ick (A9) (LRR P, T)		☐ Marl (F10) (L				U Other (Expl	ain in Remarks)	
	d Below Dark Surfa ark Surface (A12)	ce (A11)	Depleted Ocl	, ,	•	•	T) ³ Indicators	s of hydrophytic vegetation	n and
=	rairie Redox (A16) (MI DA 150A)	=		. ,	•	•	hydrology must be presei	
_	fucky Mineral (S1) (Delta Ochric		-			listurbed or problematic.	111,
_	Gleyed Matrix (S4)	Little 0, 0)	Reduced Ver					istarbed or problematio.	
_	Redox (S5)		Piedmont Flo						
	Matrix (S6)			-	•		RA 149A, 153C, 153	SD)	
	rface (S7) (LRR P,								
Restrictive	Layer (if observed)):							
Type:									
Depth (in	ches):						Hydric Soil Pres	sent? Yes X No	o
Remarks:									
F	Plot meets the	e hydric s	oil criteria.						



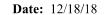




Photo 27 – Soil Sample at Plot R-10



Photo 28 – Vegetation at Plot R-10 looking south.



Project/Site: Axis - Redfish Facility		City/C	county: San F	Patricio Co	Э.	_ Sampling Date	; 11/28/2018
					State: TX		
Investigator(s): R. Ganczak & A. Sr	on, Township,			<u> </u>			
Landform (hillslope, terrace, etc.): ma		Local				Slo	ope (%): 0
Subregion (LRR or MLRA): LRRT/15	50B	Lat: 27.877222°)	Long: -9	97.166621°		Datum: WGS 84
Soil Map Unit Name: Mu - Mustang	fine sand, 0-1%	slope		_ ==g	NWI classifi	cation. PEM1A	
Are climatic / hydrologic conditions on							
Are Vegetation, Soil, o							X _{No}
Are Vegetation, Soil, o					explain any answe		
SUMMARY OF FINDINGS – A			ipinig poin	it iocalio	nis, transect	s, important	ieatures, etc.
Hydrophytic Vegetation Present?	Yes X	No X	Is the Samp	led Area			
Hydric Soil Present?	Yes	. No <u>X</u>	within a We		Yes	X	
Wetland Hydrology Present? Remarks:	Yes X	No					
HYDROLOGY					0 1 1 1		
Wetland Hydrology Indicators:	io monuimodu obook	all that annly			Secondary Indic		of two required)
Primary Indicators (minimum of one i						Cracks (B6)	o Curfoco (B9)
Surface Water (A1) High Water Table (A2)		atic Fauna (B13) l Deposits (B15) (LRF	5 11/			egetated Concave atterns (B10)	e Surface (Bo)
Saturation (A3)		rogen Sulfide Odor (C			Moss Trim L		
Water Marks (B1)		lized Rhizospheres al	•	oots (C3)	=	Water Table (C2	2)
Sediment Deposits (B2)	Pres	sence of Reduced Iron	n (C4)		Crayfish Bu	rrows (C8)	
Drift Deposits (B3)		ent Iron Reduction in	Tilled Soils (C	26)		/isible on Aerial I	magery (C9)
Algal Mat or Crust (B4)		Muck Surface (C7)	,		= '	Position (D2)	
Iron Deposits (B5)		er (Explain in Remark	(S)		Shallow Aqu	` ,	
Inundation Visible on Aerial Image Water-Stained Leaves (B9)	jery (B7)				FAC-Neutra	moss (D8) (LRR	T II)
Field Observations:					Opriagnami	11033 (20) (2111)	1, 0,
	No X	Depth (inches):					
Water Table Present? Yes _	No X	Depth (inches):					
Saturation Present? Yes	X No	Depth (inches): 8		Wetland H	lydrology Prese	nt? Yes X	No
(includes capillary fringe) Describe Recorded Data (stream gau	 uae. monitorina w	ell. aerial photos, pre	vious inspection	ons). if avai	ilable:		
NRCS Soil Survey Data				,,			
Remarks:							
Plot meets the Hydrology	/ Criteria wit	h one primary	(A3) and	two see	condary inc	licators (C9	8 D5).

VEGETATION (Four Strata) – Use scientific names of plants.

		Dominan		Dominance Test worksheet:
ree Stratum (Plot size: 30') none		Species		Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
				Total Number of Dominant Species Across All Strata: 4 (B)
-				Opecies Across All Ottata.
				Percent of Dominant Species That Are OBL_FACW_or FAC: 50 (A/B
5			· 	That Are OBL, FACW, or FAC: 50 (A/B
				Prevalence Index worksheet:
·			· ——	Total % Cover of: Multiply by:
•		= Total Co	vor	OBL species <u>55</u> x 1 = <u>55</u>
50% of total covo	r: 20% c	•		FACW species $\frac{5}{}$ x 2 = $\frac{10}{}$
0.01		n total cove	١٠	FAC species 20 x 3 = 60
Sapling/Shrub Stratum (Plot size: 30' Baccharis halimifolia	<i>)</i> 10	Yes	FAC	FACU species <u>85</u> x 4 = <u>340</u>
•				UPL species x 5 =
2				Column Totals: 165 (A) 465 (B)
·				
l				Prevalence Index = B/A = 2.8
5				Hydrophytic Vegetation Indicators:
				1 - Rapid Test for Hydrophytic Vegetation
·			·	2 - Dominance Test is >50%
3				☑ 3 - Prevalence Index is ≤3.0 ¹
		= Total Co		Problematic Hydrophytic Vegetation ¹ (Explain)
	r: <u>5</u> 20% c	of total cove	r: <u>2</u>	
Herb Stratum (Plot size: 30')				¹ Indicators of hydric soil and wetland hydrology must
Juncus roemerianus	40	Yes	OBL	be present, unless disturbed or problematic.
Juncus roemerianus Ambrosia artemisiifolia	25	Yes Yes	FACU	Definitions of Four Vegetation Strata:
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata				Definitions of Four Vegetation Strata:
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown	25	Yes	FACU	
. Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus	25 15 15 5	Yes No	FACU	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus	25 15 15	Yes No No	FACU OBL	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus	25 15 15 5	Yes No No	FACU OBL FAC	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum	25 15 15 5 5 5	Yes No No No No	FACU OBL FAC FACW	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum	25 15 15 5 5 5	Yes No No No No No No	FACU OBL FAC FACW	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum	25 15 15 5 5 5	Yes No No No No No	FACU OBL FAC FACW	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum	25 15 15 5 5 5	Yes No No No No No	FACU OBL FAC FACW	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum 0. 0. 1.	25 15 15 5 5 5	Yes No No No No No	FACU OBL FAC FACW	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum	25 15 15 5 5 5	Yes No No No No No	FACU OBL FAC FACW FAC	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum 3. 0. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	25 15 15 5 5 5 5	Yes No No No No No To No To	FACU OBL FAC FACW FAC	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum Juncus roemerianus Paspalum dilatatu	25 15 15 5 5 5 5	Yes No No No No No No	FACU OBL FAC FACW FAC	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum 3. 10. 11.	25 15 15 5 5 5 5	Yes No No No No No To No To	FACU OBL FAC FACW FAC	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum 0. 0. 1. 2. Smilax smallii Ambrosia artemisiifolia Hydrocotyle umbrellata Hydroc	25 15 15 5 5 5 5 5 110 7: 55 20% c	Yes No No No No No To No Yes Total Co f total cove	FACU OBL FAC FACW FAC Ver r: 22	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum O. O. Smilax smallii Pictoria (Plot size: 30')	25 15 15 5 5 5 5 5 110 7: 55 20% c	Yes No No No No No To No Yes Total Co f total cove	FACU OBL FAC FACW FAC Ver r: 22	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum Juncus roemerianus Andropogon virginicus Andropogon glomeratus Andropogon glomerat	25 15 15 5 5 5 5 5 110 	Yes No No No No No Total Co of total cove	FACU OBL FAC FACW FAC Ver r: 22	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum O. O. Smilax smallii Pictoria (Plot size: 30')	25 15 15 5 5 5 5 5 110 	Yes No No No No No Total Co of total cove	FACU OBL FAC FACW FAC Ver r: 22	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum Juncus roemerianus Andropogon virginicus Andropogon glomeratus Andropogon glomerat	25 15 15 5 5 5 5 5 110 20% c	Yes No No No No No Total Co f total cove	FACU OBL FAC FACW FAC FACU FACU FACU	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Juncus roemerianus Ambrosia artemisiifolia Hydrocotyle umbrellata Unknown Andropogon virginicus Andropogon glomeratus Paspalum dilatatum 0. 1. 2. 50% of total cover Smilax smallii	25 15 15 5 5 5 5 5 110 	Yes No No No No No No Yes = Total Co f total cove	FACU OBL FAC FACW FAC Ver T: 22 FACU Ver	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.

Profile Desc	ription: (Describe	to the depth	needed to docun	nent the ir	ndicator o	or confirn	n the absence o	of indicate	ors.)	
Depth	Matrix	<u></u> %		x Features		Loc ²	Taxtura		Remark	
(inches) 0-16	Color (moist) 10YR 4/2	%	Color (moist)	%	Type ¹	LOC	Texture sandy loam		кетагк	<u>s</u>
0-10	1011(4/2						Januy Ioani			_
							-			
1- 0.0							21	21 5 1		
	ncentration, D=Deponderators: (Applie					ains.	Location: F			
Histosol		able to all Li	Polyvalue Be		-	DDCTI				ic soils .
=	pipedon (A2)		Thin Dark Su		. , .		_	uck (A9) (L uck (A10) (-	
Black His			Loamy Mucky		-	-				e MLRA 150A,B)
=	n Sulfide (A4)		Loamy Gleye			•				19) (LRR P, S, T)
=	l Layers (A5)		Depleted Mat	rix (F3)			L Anomal	ous Bright	Loamy Soil	s (F20)
= -	Bodies (A6) (LRR F		Redox Dark S		,			A 153B)		
	cky Mineral (A7) (L		Depleted Dar		, ,			rent Mater	, ,	
	esence (A8) (LRR l ck (A9) (LRR P, T)	(נ	Redox Depre		3)			allow Dark Explain in f	k Surface (T	F12)
=	Below Dark Surfac	e (A11)	Depleted Och	-	MLRA 15	51)	Other (E		(Ciliaiks)	
= :	ark Surface (A12)	()	Iron-Mangane		-		T) ³ Indica	tors of hyd	drophytic ve	getation and
Coast Pr	airie Redox (A16) (MLRA 150A)	Umbric Surfa	ce (F13) (I	LRR P, T,	U)	wetla	and hydrol	ogy must be	e present,
	lucky Mineral (S1) (LRR O, S)	Delta Ochric					ss disturbe	ed or proble	matic.
	lleyed Matrix (S4)		Reduced Ver							
	edox (S5)		Piedmont Flo	-		•		4 E 2 D \		
=	Matrix (S6) face (S7) (LRR P, 3	S T II)		rigni Loan	ny Solis (F	-20) (WILR	RA 149A, 153C,	1530)		
	_ayer (if observed)									
Type:	,									
Depth (inc	ches):						Hydric Soil F	Present?	Yes	No_X
Remarks:										
Р	lot does not r	neet hydr	ic soil criteria	э.						



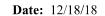




Photo 29 – Soil Sample at Plot R-11



Photo 30 – Vegetation at Plot R-11 looking westerly towards FM 2725.



Project/Site: Axis - Redfish Facility	City/County: San I	Patricio Co.	_ Sampling Date:
Applicant/Owner: Axis Midstream Partners, LLC	State: TX	Sampling Point: PL-1	
	Section, Township,		
	Local relief (concav		Slope (%). 0
Subregion (LRR or MLRA): LRRT/150B	2564, Feller (567,647,	Long: -97.167705°	Natum: WGS 84
Subregion (LRR or MLRA): LRRT/150B La Soil Map Unit Name: Mu - Mustang fine sand, 0-1% slop	ле ре	NWI classifi	cation: NA
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation, Soil, or Hydrology sig			
Are Vegetation, Soil, or Hydrology na		If needed, explain any answe	
SUMMARY OF FINDINGS – Attach site map si			·
-			,portant routaros, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes No	Is the Samp		
Hydric Soil Present? Yes X No Wetland Hydrology Present?	within a We	etland? Yes	No X
Wetland Hydrology Present? Yes No Remarks:			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indic	ators (minimum of two required)
Primary Indicators (minimum of one is required; check all the	at apply)	🔲 Surface Soil	l Cracks (B6)
Surface Water (A1)	auna (B13)	☐ Sparsely Ve	egetated Concave Surface (B8)
	osits (B15) (LRR U)		atterns (B10)
	Sulfide Odor (C1)	☐ Moss Trim L	` '
	Rhizospheres along Living R		Water Table (C2)
	of Reduced Iron (C4)	Crayfish Bu	, ,
	on Reduction in Tilled Soils (0	_	/isible on Aerial Imagery (C9)
	k Surface (C7) plain in Remarks)	☐ Geomorphic	c Position (D2)
Inundation Visible on Aerial Imagery (B7)	piairi iri Nemarks)	FAC-Neutra	` '
Water-Stained Leaves (B9)		=	moss (D8) (LRR T, U)
Field Observations:			
Surface Water Present? Yes No X Dept	h (inches):		
Water Table Present? Yes No X Dept			
Saturation Present? Yes No X Dept		Wetland Hydrology Prese	nt? Yes No_X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, as	arial photos, previous inspect	ions) if available:	
NRCS Soil Survey Data, Aerial Photog		ions), ii avallable.	
Remarks:			
Plot does not meet the Hydrology Criteri	a.		
Man-made drainage feature runs along i	ailroad bed and so	uth of Plot location.	(No OHWM)

VEGETATION (Four Strata) – Use scientific names of plants.

/EGETATION (Four Strata) – Use s	cientific names of pl	ants.	Sampling Point: PL-1
201	Absolute	Dominant Indicator	
<u>Tree Stratum</u> (Plot size: 30') 1. none	<u>% Cover</u>	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2			Total Number of Dominant
3			
4			
5.			Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6.			That Are ODE, I AGW, OF I AG. (A/B)
7.			Prevalence Index worksheet:
8.			Total % Cover of: Multiply by:
<u> </u>		= Total Cover	OBL species x 1 =
50% of total	cover: 20% of		FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 30'		total cover.	FAC species x 3 =
4 none			FACU species 90 x 4 = 360
			UPL species x 5 =
2			Column Totals: 90 (A) 360 (B)
3			
4			Prevalence Index = B/A = 4.0
5			Hydrophytic Vegetation Indicators:
6			- Lapid Test for Hydrophytic Vegetation
7			- Lack 2 - Dominance Test is >50%
8			- ☐ 3 - Prevalence Index is ≤3.0 ¹
		= Total Cover	Problematic Hydrophytic Vegetation ¹ (Explain)
	cover: 20% of	total cover:	
Herb Stratum (Plot size: 30')			¹ Indicators of hydric soil and wetland hydrology must
1. Cynodon dactylon	60	Yes FACU	be present, unless disturbed or problematic.
2. Eragrostis spectabilis	30	Yes FACU	Definitions of Four Vegetation Strata:
3			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4			more in diameter at breast height (DBH), regardless of
5			height.
6			Sapling/Shrub – Woody plants, excluding vines, less
7			than 3 in DBH and greater than 3.28 ft (1 m) tall.
8			Herb – All herbaceous (non-woody) plants, regardless
9			of size, and woody plants less than 3.28 ft tall.
10			Manderstine Allege describes are start than 2.20 ft in
11.			Woody vine – All woody vines greater than 3.28 ft in height.
12.			
		= Total Cover	
50% of total	cover: 45 20% of		
Woody Vine Stratum (Plot size: 30'			
1	·		
2			•
3			•
			•
4			•
5		= Total Cover	- Hydrophytic Vegetation
500/ - 51-1-1-1	·		Present? Yes No X
	cover: 20% of	total cover:	<u> </u>
Remarks: (If observed, list morphological ad			
Plot does not meet the hydrop	nylic vegetation (лиена.	

cription: (Describe	to the dep	oth needed to docur	nent the	indicator	or confir	m the absence of inc	icators.)		
Matrix	0/_				Loc²	Texture	Pemarks		
	100	Coloi (Illoist)		туре	LUC		Nemarks	<u>'</u>	
-	80	7 5YR 4/6	10	- <u>C</u>		·			
					. ———				
-					· 				
10VP 4/1	70				. ———	sandy loam			
		-				Sandy Idam	- Canay Ioani		
		7.51K 4/4	- 15		IVI	·			
					ains.				
pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) e Bodies (A6) (LRR Fucky Mineral (A7) (Lresence (A8) (LRR V, T) d Below Dark Surfacark Surface (A12) rairie Redox (A16) (Mucky Mineral (S1) (RR P, T, U J) se (A11) MLRA 150	Thin Dark Su Loamy Muck Loamy Gleye Depleted Ma Redox Dark Depleted Da Redox Depre Marl (F10) (L Depleted Oc Iron-Mangan Delta Ochric	urface (SS y Mineral ed Matrix (F3) Surface (rk Surface essions (Fur Heric (F11) esse Massace (F13) (F17) (M	(LRR S, (F1) (LRF S, (F2) (F2) (F6) (F7) (F8) (MLRA 1) (MLRA 1) (LRR P, 1) (LRR P, 1) (LRA 151)	T, U) R O) 51) (LRR O, P	2 cm Muck (, Reduced Ve Piedmont Flo Anomalous E (MLRA 15: Red Parent I Very Shallow Other (Expla	A10) (LRR S) tic (F18) (outside codplain Soils (F1 Bright Loamy Soils BB) Material (TF2) Dark Surface (TI in in Remarks) of hydrophytic veg ydrology must be	9) (LRR P, S, T) 6 (F20) F12) getation and present,	
				-					
			-	, ,	•		N		
	S, T, U)	Anomalous E	ongni Loa	iiiiy Solis ((WIL	KA 149A, 193C, 193L	')		
							V		
ches):						Hydric Soil Prese	ent? Yes X	No	
Plot meets hyd	dric soil	criteria (F3).							
	Matrix Color (moist) 10YR 3/1 10YR 6/2 10YR 4/1 10YR 4/1 10YR 4/1 10YR 4/1 Concentration, D=Deplement of the properties of the proper	Matrix Color (moist) % 10YR 3/1 100 10YR 6/2 80 10YR 4/1 70 10YR 4/1 70 10YR 4/1 70 Concentration, D=Depletion, RM Indicators: (Applicable to all I (A1) pipedon (A2) distic (A3) en Sulfide (A4) d Layers (A5) d Bodies (A6) (LRR P, T, U) ducky Mineral (A7) (LRR P, T, U) ducky Mineral (A7) (LRR P, T, U) duck (A9) (LRR P, T) dd Below Dark Surface (A11) ark Surface (A12) Prairie Redox (A16) (MLRA 150 Mucky Mineral (S1) (LRR O, S) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7) (LRR P, S, T, U) Layer (if observed):	Matrix	Matrix Color (moist) % (m	Matrix	Matrix	Matrix	Color (moist)	



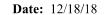




Photo 31 – Soil Sample at Plot PL-1



Photo 32 – Vegetation at Plot PL-1 looking southwesterly towards drainage feature.



Project/Site: Axis - Redfish Facility City/County: San I	Patricio Co. Sampling Date: 11/28/2018
Applicant/Owner: Axis Midstream Partners, LLC	State: TX Sampling Point: PL-2
Investigator(s): R. Ganczak & A. Snellgrove Section, Township,	
Landform (hillslope, terrace, etc.): coastal ridge (cheniere) Local relief (concav	
Subregion (LRR or MLRA): LRRT/150A Lat: 27.888655°	Long: -97.185414° Detum: WGS 84
Soil Map Unit Name: GM - Galveston-Mustang complex	NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X N	(If no explain in Pemerka)
Are Vegetation, Soil, or Hydrology significantly disturbed?	
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling poir	nt locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No X	
Hydric Soil Present? Yes X No Sith in a Marketin a Mark	· ·
Hydrophytic Vegetation Present? Yes	Stland? Yes No _^_
Remarks:	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) High Water Table (A2) Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3) Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1) Oxidized Rhizospheres along Living Records (C1)	_
Sediment Deposits (B2) Sediment Deposits (B2) Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3) Recent Iron Reduction in Tilled Soils (C4)	
Algal Mat or Crust (B4) Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5) Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)	Sphagnum moss (D8) (LRR T, U)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes No X
(includes capillary fringe)	· · · · — —
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspect	ions), if available:
NRCS Soil Survey Data, Aerial Photography, NHD Data	
Remarks.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	
Plot does not meets the Hydrology Criteria.	

VEGETATION (Four Strata) – Use scientific names of plants. Absolute Dominant Indicator Tree Stratum (Plot size: 30') % Cover Species? Status Number of Dominant Species

		Species?	Status	Dominance rest worksheet.
<u>Tree Stratum</u> (Plot size: 30') 1 Quercus virginiana	80	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
2.				
3.				Total Number of Dominant Species Across All Strata: 6 (B)
4				Species Across All Strata: 6 (B)
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 50 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8	00			OBL species x 1 =
40		= Total Cov		FACW species x 2 =
50% of total cover: 40	20% of	total cover	:	FAC species 90 $\times 3 = 270$
Sapling/Shrub Stratum (Plot size: 30')				FACU species 140 x 4 = 560
1. Ilex vomitoria	30	Yes	FAC	
2. Callicarpa americana	30	Yes	FACU	UPL species x 5 =
3. Quercus virginiana	30	Yes	FACU	Column Totals: <u>230</u> (A) <u>830</u> (B)
4				Prevalence Index = B/A = $\frac{3.6}{}$
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7				
8.				☐ 2 - Dominance Test is >50%
0	00	- Total Ca		3 - Prevalence Index is ≤3.0 ¹
500/ 51 1 5/		= Total Cov		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: <u>54</u>	20% of	total cover	:	
Herb Stratum (Plot size: 30')				¹ Indicators of hydric soil and wetland hydrology must
1. none				be present, unless disturbed or problematic.
2				Definitions of Four Vegetation Strata:
3				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4				more in diameter at breast height (DBH), regardless of
5				height.
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8.				Herb – All herbaceous (non-woody) plants, regardless
9.				of size, and woody plants less than 3.28 ft tall.
10.				
11.				Woody vine – All woody vines greater than 3.28 ft in height.
				Height.
12				
		= Total Cov		
50% of total cover:	20% of	total cover	:	
Woody Vine Stratum (Plot size: 30')	40		5.4.0	
1. Smilax bona-nox	40	Yes	FAC	
2. Vitis rotundifolia	20	Yes	FAC	
3				
4.				
···				Hydrophytic
5.		= Total Cov	/er	Vegetation
5.	60			
5.	60 20% of			Present? Yes No X

Profile Desc	ription: (Describe	to the dep	th needed to docun	nent the	indicator	or confirm	n the absence of indicators.)	
Depth	Matrix			x Feature		. 2		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type ¹	Loc ²		emarks
0-6	10YR 4/1	100					sandy loam	
6-12	10YR 5/1	95	10YR 3/4	5	С	M	sandy loam	
12-16	10YR 7/1	95	10YR 5/4	5	С	M	sandy loam	
		·						
		· ——				·		-
		-						
								
			=Reduced Matrix, MS			ains.	² Location: PL=Pore Lining,	
		able to all	LRRs, unless other				Indicators for Problematic	-
Histosol			Polyvalue Be					
	ipedon (A2)		Thin Dark Su				2 cm Muck (A10) (LRR	-
Black His			Loamy Mucky			२ ०)		outside MLRA 150A,B)
_	n Sulfide (A4)		Loamy Gleye		(⊦2)		Piedmont Floodplain So	
_	Layers (A5)	T 11)	Depleted Mat		-6)		Anomalous Bright Loan	ny Solis (F20)
_	Bodies (A6) (LRR P cky Mineral (A7) (LF	-	Redox Dark S Depleted Dar				(MLRA 153B) Red Parent Material (TI	=2)
	esence (A8) (LRR U		Redox Depre		` '		Very Shallow Dark Surf	
_	ck (A9) (LRR P, T)	,	Marl (F10) (L	•	0)		Other (Explain in Rema	` '
	Below Dark Surfac	e (A11)	Depleted Och	-	(MLRA 1	51)		
= '	rk Surface (A12)	,	Iron-Mangane		-	-	, T) ³ Indicators of hydrophy	ytic vegetation and
Coast Pr	airie Redox (A16) (N	VILRA 150	🗘 🔲 Umbric Surfa	ce (F13)	(LRR P, 1	Γ, U)	wetland hydrology m	nust be present,
Sandy M	ucky Mineral (S1) (L	RR O, S)	Delta Ochric	(F17) (M I	LRA 151)		unless disturbed or p	problematic.
	leyed Matrix (S4)		Reduced Ver		-			
	edox (S5)		Piedmont Flo	-	, ,	•	·	
	Matrix (S6)			right Loa	my Soils ((F20) (MLF	RA 149A, 153C, 153D)	
	face (S7) (LRR P, S .ayer (if observed):							
Type:	ayer (ii observed).	1						
	shoo).						Hydric Soil Present? Yes	X No
Depth (inc	mes)						nyunc son Fresent? Tes	SNO
Remarks:	lot meets hyd	ric soil	criteria.					
	,							
I								
1								
I								



Date: 12/18/18



Photo 33 – Soil Sample at Plot PL-2



Photo 34 – Vegetation at Plot PL-2 looking northerly.



Project/Site: Axis - Redfish Facility	City/Co	_{ounty:} San Patricio C	o.	Sampling Date: 11/28/2018
Project/Site: Axis - Redfish Facility Applicant/Owner: Axis Midstream Partners, LLC			State: TX	Sampling Point: PL-3
Investigator(s): R. Ganczak & A. Snellgrove	IA			
Landform (hillslope, terrace, etc.): coastal ridge (che	eniere) Local i	relief (concave, convex	, none); convex	Slope (%): 1
Landform (hillslope, terrace, etc.): coastal ridge (che Subregion (LRR or MLRA): LRRT/150A	Lat: 27.888773°	Long:	-97.185385°	Datum: WGS 84
Soil Map Unit Name: GM - Galveston-Mustang co	mplex	25.1g	NWI classifi	cation: NA
Are climatic / hydrologic conditions on the site typical for		as X No	(If no explain in F	Remarks)
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology			explain any answe	
SUMMARY OF FINDINGS – Attach site m	nap showing sam	pling point locati	ons, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes	No X	In the Committed Arres		
Hydric Soil Present? Yes	No X	Is the Sampled Area within a Wetland?	Vaa	No X
Hydric Soil Present? Wetland Hydrology Present? Yes X Pomarks:	_ No	within a wetland?	res	NO <u>**</u>
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; chec	k all that apply)		Surface Soil	
	uatic Fauna (B13)			getated Concave Surface (B8)
	rl Deposits (B15) (LRR	•	Drainage Pa	
	drogen Sulfide Odor (C idized Rhizospheres al		Moss Trim L	
	esence of Reduced Iror		Crayfish Bur	Water Table (C2)
	cent Iron Reduction in	, ,		risible on Aerial Imagery (C9)
	in Muck Surface (C7)	, .	$\overline{}$	Position (D2)
	ner (Explain in Remarks	s)	Shallow Aqu	
Inundation Visible on Aerial Imagery (B7)			FAC-Neutra	
Water-Stained Leaves (B9)			L Sphagnum r	moss (D8) (LRR T, U)
Field Observations:	Donth (inchae):			
	Depth (inches):8			
	Depth (inches): 8		Hydrology Prese	nt? Yes X No
(includes capillary fringe)				10
Describe Recorded Data (stream gauge, monitoring of NRCS Soil Survey Data, Aerial Ph			ailable:	
Remarks:				
Plot meets the hydrology criteria wit	h two primary (A2 & A3) and tv	vo secondar	y indicators (B8 &
C9).				

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: PL-3 Absolute Dominant Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: 30' % Cover Species? Status **Number of Dominant Species** 1. Quercus virginiana Yes FACU That Are OBL, FACW, or FAC: ____ (A) **Total Number of Dominant** 6 ___ (B) Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species ____ x 1 = ____ = Total Cover **FACW** species ____ x 2 = ___ 50% of total cover: 20 _ 20% of total cover: <u>8</u> ____ x 3 = 180 FAC species Sapling/Shrub Stratum (Plot size: 30' FACU species 120 x 4 = 4801. Ilex vomitoria FAC Yes **UPL** species ___ x 5 = ____ 2. Callicarpa americana 20 Yes FACU __ (A) 660 Column Totals: 180 Prevalence Index = B/A = 3.7**Hydrophytic Vegetation Indicators:** 1 - Rapid Test for Hydrophytic Vegetation ☐ 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.01 = Total Cover Problematic Hydrophytic Vegetation¹ (Explain) 50% of total cover: _20 _ 20% of total cover: 8 Herb Stratum (Plot size: 30') ¹Indicators of hydric soil and wetland hydrology must 1. Opuntia stricta FACU be present, unless disturbed or problematic. 2 Cynodon dactylon 30 Yes FACU **Definitions of Four Vegetation Strata:** 3. Eragrostis spectabilis Yes FACU Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in 11. ______ ____ ____ height. 60 = Total Cover 50% of total cover: 30 _ 20% of total cover: 12 Woody Vine Stratum (Plot size: 30')

= Total Cover

20% of total cover: 8

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

Plot does not meet the hydrophytic vegetation criteria.

50% of total cover: ²⁰

1. Smilax bona-nox

Yes ____ No X

Hydrophytic

Vegetation Present?

Sampling Point: PL-3

SOIL

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the	indicator	or confirn	n the absence of indica	tors.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Feature %	es Type ¹	Loc ²	Texture	Remarks	
0-6	10YR 4/1	100	Color (moist)		туре	LUC	sandy loam	Nemarks	<u>, </u>
6-12	10YR 5/1	100					sandy loam		
12-16	10YR 6/1	95	10YR 5/1	5			sandy loam		
12-10	1011011	_ 90	10113/1	3		IVI	Sandy Idam		
					_				
					_				
			Reduced Matrix, MS			ains.	² Location: PL=Pore		
		cable to all	LRRs, unless other		=		Indicators for Prob	-	c Soils*:
Histosol	(A1) ipedon (A2)		☐ Polyvalue Be☐ Thin Dark Su		. , .		U)		
Black Hi			Loamy Muck			-			MLRA 150A,B)
	n Sulfide (A4)		Loamy Gleye	-		. 0,	Piedmont Flood		
=	Layers (A5)		Depleted Ma		,		Anomalous Brig	,	
=	Bodies (A6) (LRR F	-	Redox Dark	,	. ,		(MLRA 153B)		
	cky Mineral (A7) (L				,		Red Parent Mat	, ,	-10)
	esence (A8) (LRR l ck (A9) (LRR P, T)	(ر	Redox Depre	,	-8)		└── Very Shallow Da		-12)
=	Below Dark Surface	ce (A11)	Depleted Ocl) (MLRA 1	51)	Other (Explain ii	i itelilaiks)	
=	rk Surface (A12)	,	Iron-Mangan	•	, ,	•	, T) ³ Indicators of h	ydrophytic veç	etation and
	airie Redox (A16) (. —		-	', U)	-	ology must be	
	ucky Mineral (S1) (LRR O, S)	Delta Ochric			OA 450D)		bed or problem	natic.
	leyed Matrix (S4) edox (S5)		Reduced Ver		-				
	Matrix (S6)			-	, ,	•	RA 149A, 153C, 153D)		
=	face (S7) (LRR P,	S, T, U)	,		,	. ==/ (=.	,,,		
Restrictive L	.ayer (if observed)):							
Type:									_
Depth (inc	ches):						Hydric Soil Present	Yes	No X
Remarks:	lot does not	meet hy	dric soil criter	ia					
	101 0000 1101	incetriy		ia.					



Date: 12/18/18



Photo 35 – Soil Sample at Plot PL-3



Photo 36 – Vegetation at Plot PL-3 looking northerly.



Project/Site: Axis - Redfish Facility	City/Cour	_{ntv:} San Patricio Co).	Sampling Date: 11/28/2018
Applicant/Owner: Axis Midstream Partners, LLC		,·	State: TX	Sampling Point: PL-4
	Section,			
Landform (hillslope, terrace, etc.): coastal ridge (cher				Slope (%): 1
Subregion (LRR or MLRA): LRRT/150A	 Lat: 27.888875°	Long:	97.186072°	Datum; WGS 84
Soil Map Unit Name: Nu - Nueces fine sand			NWI classific	cation: NA
Are climatic / hydrologic conditions on the site typical for	this time of year? Yes	X No (If no. explain in F	Remarks.)
Are Vegetation, Soil, or Hydrology				
Are Vegetation, Soil, or Hydrology			xplain any answe	
SUMMARY OF FINDINGS – Attach site ma				ŕ
Hudaanhutia Varatatian Daasanto	No X			
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No X	the Sampled Area		V
Wetland Hydrology Present? Yes X	No w	ithin a Wetland?	Yes	No X
Remarks:	<u> </u>			
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; check	all that apply)		Surface Soil	Cracks (B6)
	atic Fauna (B13)		$\overline{}$	getated Concave Surface (B8)
	Deposits (B15) (LRR U		Drainage Pa	=
	rogen Sulfide Odor (C1)		Moss Trim L	
	dized Rhizospheres alon		_	Water Table (C2)
	sence of Reduced Iron (0		Crayfish Bur	
	ent Iron Reduction in Till	•		isible on Aerial Imagery (C9)
	Muck Surface (C7)	` ,		Position (D2)
	er (Explain in Remarks)		Shallow Aqu	itard (D3)
Inundation Visible on Aerial Imagery (B7)			FAC-Neutral	` '
Water-Stained Leaves (B9)			Sphagnum r	moss (D8) (LRR T, U)
Field Observations:				
Surface Water Present? Yes No X	Depth (inches):			
Water Table Present? Yes X No	Depth (inches): 11			
	Depth (inches): 3	Wetland H	ydrology Presei	nt? Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring w	ell aerial photos, previo	us inspections), if avai	lable:	
NRCS Soil Survey Data, Aerial Pho				
Remarks:				
Plot meets the hydrology criteria with	n two primary (A	2 & A3) and on	e secondar	y indicator (C9).
,	•	,		•

VEGETATION (Four Strata) – Use scientific names of plants.	Sampling Point: PL-4
--	----------------------

<u>Tree Stratum</u> (Plot size: 30')	Absolute	Dominant		Dominance Test worksheet:
		Species?		Number of Dominant Species
1. Quercus virginiana	_ 50	Yes	FACU	That Are OBL, FACW, or FAC: 3 (A)
2. Quercus phellos3	10	No	FACW	Total Number of Dominant Species Across All Strata: 7 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 43 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
		= Total Cov		FACW species 10
	20% of	total cover	12	FAC species 110
Sapling/Shrub Stratum (Plot size: 30')				100
1. Ilex vomitoria	30	Yes	FAC	x :
2. Callicarpa americana	20	Yes	FACU	UPL species x 5 =
3				Column Totals: <u>250</u> (A) <u>870</u> (B)
4				Prevalence Index = B/A = 3.5
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0¹
	=-0	= Total Cov	er	
50% of total cover: ²⁵				Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: 30')	20 % 01	total cover		
1. Andropogon virginicus	30	Yes	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. Paspalum notatum	30	Yes	FACU	
3. Eragrostis spectabilis	30	Yes	FACU	Definitions of Four Vegetation Strata:
			TACO	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4				more in diameter at breast height (DBH), regardless of
5				height.
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				Herb – All herbaceous (non-woody) plants, regardless
9				of size, and woody plants less than 3.28 ft tall.
10				Woody vine – All woody vines greater than 3.28 ft in
11				height.
12				
	90	= Total Cov	er	
50% of total cover: 45	20% of	total cover	18	
			FAC	
Woody Vine Stratum (Plot size: 30') 1. Smilax bona-nox	50	Yes	FAC	
Woody Vine Stratum (Plot size: 30') 1. Smilax bona-nox		Yes	FAC	
Woody Vine Stratum (Plot size: 30') 1. Smilax bona-nox 2.			FAC	
Woody Vine Stratum (Plot size: 30') 1. Smilax bona-nox 2				
Woody Vine Stratum (Plot size: 30') 1. Smilax bona-nox 2				
Woody Vine Stratum (Plot size: 30') 1. Smilax bona-nox 2				Hydrophytic
Woody Vine Stratum (Plot size: 30') 1. Smilax bona-nox 2		= Total Cov	er	Hydrophytic Vegetation Present? YesNo X

Sampling Point: PL-4

SOIL

Profile Des	cription: (Describ Matrix		n needed to document the indicator or confirm Redox Features	the absence of	indicators.)
(inches)	Color (moist)	%	Color (moist) % Type ¹ Loc ²	Texture	Remarks
0-7	10YR 5/2	100		sandy loam	
7-15	10YR 6/2	100		sandy loam	
					_
					_
1					
			Reduced Matrix, MS=Masked Sand Grains. RRs, unless otherwise noted.)		_=Pore Lining, M=Matrix. r Problematic Hydric Soils³:
Histosol		icable to all L	Polyvalue Below Surface (S8) (LRR S, T, U		k (A9) (LRR O)
_	pipedon (A2)		Thin Dark Surface (S9) (LRR S, T, U)		ck (A10) (LRR S)
=	istic (A3)		Loamy Mucky Mineral (F1) (LRR O)		Vertic (F18) (outside MLRA 150A,B)
Hydroge	en Sulfide (A4)		Loamy Gleyed Matrix (F2)	Piedmont	Floodplain Soils (F19) (LRR P, S, T)
=	d Layers (A5)		Depleted Matrix (F3)		us Bright Loamy Soils (F20)
=	Bodies (A6) (LRR	-	Redox Dark Surface (F6) Depleted Dark Surface (F7)	(MLRA	153B) nt Material (TF2)
	ucky Mineral (A7) (resence (A8) (LRR		Redox Depressions (F8)		llow Dark Surface (TF12)
	uck (A9) (LRR P, T		Mari (F10) (LRR U)		plain in Remarks)
	d Below Dark Surf		Depleted Ochric (F11) (MLRA 151)		
	ark Surface (A12)		Iron-Manganese Masses (F12) (LRR O, P,		ors of hydrophytic vegetation and
=	Prairie Redox (A16)				d hydrology must be present, disturbed or problematic.
	Mucky Mineral (S1) Gleyed Matrix (S4)	(LKK U, 3)	Delta Ochric (F17) (MLRA 151) Reduced Vertic (F18) (MLRA 150A, 150B)	uniess	disturbed of problematic.
_	Redox (S5)		Piedmont Floodplain Soils (F19) (MLRA 14)	9A)	
Stripped	d Matrix (S6)		Anomalous Bright Loamy Soils (F20) (MLR	A 149A, 153C, 1	53D)
	ırface (S7) (LRR P				
	Layer (if observe	d):			
Type:			_		X
Depth (in	iches):			Hydric Soil Pr	esent? Yes No X
Remarks:	Plot does not	meet hyd	Iric soil criteria.		
	101 4000 1101				



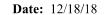




Photo 37 – Soil Sample at Plot PL-4



Photo 38 – Vegetation at Plot PL-4 looking southerly towards pipeline R-O-W.



Project/Site: Axis - Redfish Facility	City/County: San Patricio Co.	Sampling Date: 11/28/2018
Applicant/Owner: Axis Midstream Partners, LLC	State	: TX Sampling Point: PL-5
	Section, Township, Range: NA	
Landform (hillslope, terrace, etc.): coastal ridge (cheniere)		convex Slope (%). 1
Subregion (LRR or MLRA): LRRT/150A Lat:	27.891965° Long: -97.19	90999° Solope (70)
Soil Map Unit Name: GM - Galveston-Mustang complex	Long	NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this tin	, o , y , X , y , u , u , u , u , u , u , u , u , u	NVVI classification:
Are Vegetation, Soil, or Hydrology sign		
Are Vegetation, Soil, or Hydrology natu	rally problematic? (If needed, explai	n any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map sh	owing sampling point locations,	transects, important features, etc.
Hydrophytic Vocatation Procest2 Voc. No.	<	
Hydrophytic Vegetation Present? Yes No Yes N	Is the Sampled Area	V
Wetland Hydrology Present? Yes X No	within a Wetland?	Yes No X
Remarks:		
HYDROLOGY		
Wetland Hydrology Indicators:		ondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that		Surface Soil Cracks (B6)
Surface Water (A1) High Water Table (A2) Aquatic Fa	— · · · · — — — — — — — — — — — — — — —	Sparsely Vegetated Concave Surface (B8)
= man water rable (7.2)		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)
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes No X Depth	(inches):	
Water Table Present? Yes X No Depth		V
Saturation Present? Yes X No Depth (includes capillary fringe)	(inches): 0 Wetland Hydro	ology Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aer		:
NRCS Soil Survey Data, Aerial Photogr	aphy, NHD Data	
Remarks:		
Plot meets the hydrology criteria with two	primary (A2 & A3) and one s	econdary indicator (C9).

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: PL-5 Absolute Dominant Indicator | Dominance Test worksheet:

Cover B FACU FACU FACU FACU FACU	That Are OBL, FACW, or FAC: 2 (A) Total Number of Dominant Species Across All Strata: 5 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species X 1 = FACW species 135 X 3 = 285 FACU species 95 X 3 = 285 FACU species 135 X 4 = 540 UPL species X 5 = Column Totals: 230 (A) 825 (B) Prevalence Index = B/A = 3.6 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover pover: 8 FAC FACU Cover pover: 17 FACU FACU	Total Number of Dominant Species Across All Strata: 5 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B) Prevalence Index worksheet:
Cover over: 8 FAC FACU Cover over: 17 FACU FACU FACU	Species Across All Strata: 5 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B) Prevalence Index worksheet:
Cover over: 8 FAC FACU Cover over: 17 FACU FACU FACU	Species Across All Strata: 5 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B) Prevalence Index worksheet:
Cover pover: 8 FAC FACU Cover pover: 17 FACU FACU	Percent of Dominant Species That Are OBL, FACW, or FAC: Total % Cover of:
Cover pover: 8 FAC FACU Cover pover: 17 FACU FACU FACU	That Are OBL, FACW, or FAC: 40 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species
Cover over: 8 FAC FACU Cover over: 17 FACU FACU FACU	Prevalence Index worksheet:
Cover pover: 8 FAC FACU Cover pover: 17 FACU FACU FACU	Total % Cover of: Multiply by:
Cover pover: 8 FAC FACU Cover pover: 17 FACU FACU	OBL species
Cover 17 FACU FACU FACU FACU	OBL species
Cover 17 FACU FACU FACU FACU	FACW species
FACU FACU Cover over: 17 FACU FACU	FAC species 95
Cover 17 FACU FACU	FACU species 135 x 4 = 540 UPL species x 5 = Column Totals: 230 (A) 825 (B) Prevalence Index = B/A = 3.6 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover 17 FACU FACU	UPL species x 5 = Column Totals: 230 (A) 825 (B) Prevalence Index = B/A = 3.6 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover 17 FACU FACU	Column Totals: 230 (A) 825 (B) Prevalence Index = B/A = 3.6 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover over: 17 FACU FACU	Prevalence Index = B/A = 3.6 Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover over: 17 FACU FACU	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover over: 17 FACU FACU	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover over: 17 FACU FACU	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover over: 17 FACU FACU	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Cover over: 17 FACU FACU	3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
FACU FACU	Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
FACU FACU	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
FACU FACU	¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
FACU FACU	be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
FACU	be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
FACU	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
	more in diameter at breast height (DBH), regardless of
	height.
	Sapling/Shrub – Woody plants, excluding vines, less
	The first service of the first service of the servi
	 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
· · · · · · · · · · · · · · · · · · ·	_ of olzo, and woody planto loop than olzo it tall.
	Woody vine – All woody vines greater than 3.28 ft in
	height.
	_
Cover	
over: <u>16</u>	_
FAC	
-	-
	-
	-
	-
	- Hydrophytic
Cover	Vegetation
over: 7	Present? Yes No _X
<u> </u>	<u>- 1</u>
	I Cover

Sampling Point: PL-5

SOIL

Profile Desc	ription: (Describe	to the depth	needed to docun	nent the i	ndicator o	or confirm	the absence of	indicato	rs.)		
Depth (inches)	Matrix Color (moist)	<u></u> %	Redox Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remark	6	
0-4	10YR 4/2	/ 0	Color (Illoist)		<u>rype</u>	LUC	sandy loam		Nemark	5	-
4-16	10YR 6/2	100					sandy loam				-
	1011(0/2						Sandy Idam				-
											-
											-
											_
											_
											_
¹ Type: C=Co	ncentration, D=De	oletion, RM=R	Reduced Matrix, MS	S=Masked	Sand Gra	ins.	² Location: PL				
	ndicators: (Applic	able to all L	RRs, unless other	wise note	ed.)		Indicators for		•	ic Soils³:	
Histosol			Polyvalue Be		. , .		· —		-		
Black His	ipedon (A2)		Thin Dark Su Loamy Mucky		-	-	2 cm Muc		-	e MLRA 150A,	в/
=	n Sulfide (A4)		Loamy Gleye			0,				19) (LRR P, S, 1	
	Layers (A5)		Depleted Mat		-,				Loamy Soil		<i>'</i>
=	Bodies (A6) (LRR F	-	Redox Dark S	`	,		☐ (MLRA				
	cky Mineral (A7) (L		Depleted Dar		` '		Red Pare		, ,	·F40\	
	esence (A8) (LRR l ck (A9) (LRR P, T)	(נ	Redox Depre	•	3)		Other (Ex		: Surface (T Remarks)	F12)	
=	Below Dark Surfac	ce (A11)	Depleted Och	-	(MLRA 15	1)	<u> </u>	piaiii iii i	(omanto)		
Thick Da	rk Surface (A12)		Iron-Mangane	ese Masse	es (F12) (L	RR O, P,	•	-		getation and	
=	airie Redox (A16) (-				U)		-	ogy must be		
	ucky Mineral (S1) (leyed Matrix (S4)	LRR O, S)	Delta Ochric			14 150R)		disturbe	d or proble	matic.	
	edox (S5)		Piedmont Flo								
	Matrix (S6)			-	, ,	•	A 149A, 153C, 15	53D)			
	face (S7) (LRR P,										
	ayer (if observed)	:									
Type:	Janah.						Hydric Soil Pro	10	V	No_X	
Depth (ind	mes)						Hydric Soil Pro	esent?	res	NO	-
P	lot does not	meet hyd	ric soil criteri	a.							
		•									



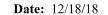




Photo 39 – Soil Sample at Plot PL-5



Photo 40 - Vegetation at Plot PL-5 looking northerly.



Project/Site: Axis - Redfish Facility	City/Co	ounty: San Patricio C	0.	Sampling Date: 11/28/2018
Applicant/Owner: Axis Midstream Partners, LLC				Sampling Point: PL-6
Investigator(s): R. Ganczak & A. Snellgrove	Sectio			
Landform (hillslope, terrace, etc.); high marsh	Local	relief (concave, convex.	none): flat	Slope (%): 0
Subregion (LRR or MLRA): LRRT/150A	Lat: 27.894788°	Long:	97.196074°	Datum: WGS 84
Soil Map Unit Name: Na - Narta Ioam, 0-1% slo	pes		NWI classific	cation: NA
Are climatic / hydrologic conditions on the site typica				
Are Vegetation, Soil, or Hydrology				present? Yes X No
Are Vegetation, Soil, or Hydrology			explain any answe	
SUMMARY OF FINDINGS – Attach site				
				<u>, , , , , , , , , , , , , , , , , , , </u>
Hydric Soil Present? Yes	No	Is the Sampled Area		V
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No	within a Wetland?	Yes	No X
Remarks:				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; ch	eck all that apply)		Surface Soil	Cracks (B6)
	Aquatic Fauna (B13)		Sparsely Veg	getated Concave Surface (B8)
	Marl Deposits (B15) (LRR		Drainage Pa	
	Hydrogen Sulfide Odor (C		Moss Trim Li	
	Oxidized Rhizospheres al			Water Table (C2)
	Presence of Reduced Iror Recent Iron Reduction in	, ,	Crayfish Buri	rows (C8) isible on Aerial Imagery (C9)
1 -	Thin Muck Surface (C7)	Tilled Golls (Go)		Position (D2)
	Other (Explain in Remarks	s)	Shallow Aqui	, ,
Inundation Visible on Aerial Imagery (B7)		,	FAC-Neutral	
☐ Water-Stained Leaves (B9)			Sphagnum n	noss (D8) (LRR T, U)
Field Observations:				
Surface Water Present? Yes No _^_	Depth (inches):			
Water Table Present? Yes X No	Depth (inches): 13 Depth (inches): 0		hadaalaaa Baasaa	nt? Yes X No
I (Includes capillary tringe)				nt? Yes <u>X</u> No
Describe Recorded Data (stream gauge, monitorin NRCS Soil Survey Data, Aerial F			ilable:	
Remarks:				
Plot meets the hydrology criteria w	vith two primary (A2 & A3) and or	ne secondar	v indicator (C9).
l lot mode the right energy ement w	, it is a primary (io occorrigar,	y maioator (30)i