	PAMS ACTION T	RACKING SHEET (R A	т s)
****	*****	******	*********
APPLICATION NUMBER D1553(7 )/	20040006	D NUMBER	PROJECT MANAGER PATTILLO
APPLICATION RECEIVED	12 Jan 2004	APPLICATION COME	PLETE 19 Mar 2004
APPLICANT INFORMATION		******	*****
Chevron, Al			
Applicant/Violator		Contractor/Agent	
2811 Hayes Road			
Address		Address	
Houston, TX 77210-48	79 		
City, State, Zip		City, State, Zip	
(713)560-2235	( ) -		
Work Phone			
**************************************	*****	******	******
Corpus Christi Ship (	Channel	Nueces//TX	
Waterway		County/City/State	
Area Office SAO	Auth:	10 404 × 10/404	9 103
Work Description: Wetland delineation	verification o	of 0.59 acre of wetl	lands contiguous
Corpus Christi Ship	Channel on 174-	acre McDermott prop	erty at Harbor
**************************************			******
Send Notice To:	Zone: 1	2 3	4 5
Mayor/City Manag	ger	Postmaster	
U.S. Park Servic	ce	County Judge	
Adjacent Propert	ty Owners	Navigation Dis	strict

PUBLIC NOTICE/COOR	NOITANIO	LETTER	INFORMAT	CION (	CONT'D):	
Issued						30 days
Extended						15 days
Ended						
**************************************		****	* * * * * * * *	****	*****	*****
EA/SOF/404(B)(1)			Draft F	Permit	Forwarded	
Appl. Denied			Permit	Issue	ed	
Permit Expiration	Date 23	Mar 20	09 - <b>-</b>		Fee	
Appl. Withdrawn			Mitiga	ation:	Yes	X No
Type of Action:	IP	LP	GP	NV	Mod	Transfer
						mit Required
**************************************				*****	*****	*****
After-the-Fact	Issued	Vo:	l. Rest.		Litigation	
	After-t	he-Fact	Penalty		Case Closed	
**************************************			* * * * * * * *	****	*****	*****
					Penalty	
*****	*****	*****	*****	****	*****	* * * * * * * * * * * *
401 Cert.	_	CZM		F	Railroad Cer	t. 
Related Action ID's	s: 2004	00045				

USACE GORPUS.
Port Polingon

Port Polician Introduction

John HARVAT
JOHN WONG
Mant Path 160
Matt Barrak
Mike De Nicola

ENTRIX
USACE-Corpus
USACE-Corpus
ENTRIX

Chevron Texaco

Thanvat centrix com 713 662 1917 361-814-5847 361-814-5847 713 662-1906

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mbarczyk @entrix. com
713/560-2235
noeNicola Ochevrantemo. com

Pre-Application
RAMS ID# 2004 00045

### CHEVRON/ENTERIX Meeting Notes – 12 January 2004

John Wong and I met with Michael De Nicola (Chevron), John Harvat (Enterix), and Matthew Barczyk (Enterix) to discuss their respective companies proposal to construct an offshore LNG re-gassification structure on Harbor Island at the existing McDermott Facility. Construction would require excavating uplands and wetlands to provide a water-filled work area (gravity dock) connected to the Corpus Christi Ship Channel (Port Pelican), which would be used to tow the structure into the Gulf of Mexico. Chevron would be the main partner in the venture and Enterix would be "minor" partners. Mr. De Nicola provided a description of the LNG process and locations where similar facilities were already in place (Louisiana, etc.). The re-gassification facility would be built onshore and floated out into the GOM approximately 40 miles offshore to a water depth of -83 feet. The facility would use the ambient heat of the GOM waters to warm the LNG up to gaseous state and transport the gas onshore via an 8-inch pipeline. The Port Pelican project has already received a U.S. Coast Guard permit for a deep-water port facility. An existing facility in Louisiana received a Section 10 permit from the U.S. Corps of Engineers (New Orleans District). NPDES Permit for Louisiana project allows for production of chilled water 20 degrees F below ambient temperature. Coldwater effluent from the facility should return to within 1 degree F within 100 feet of the structure's discharge point. NPDES permit expected to be issued for Texas project within 1 month. Minimum channel depth of -45 feet is needed to tow the structure offshore - 2 such sites in Galveston, two on CCSC (McDermott and Zachary) and one on La Quinta (Kiewit). Some minor dredging of CCSC may be necessary to ensure minimum depth. We mentioned possible traffic congestion at McDermott site due to small road and high ferry traffic and they responded that their engineering team was looking into that issue as well as possibly going with one of the other possible sites. They added that their plan right now is to use the CCSC unloading facilities and trucking construction material into the McDermott site. Construction of the gravity dock for the offshore facility will be by either mechanical or hydraulic excavation using DMPA 6A for disposal of excavated material. Hydraulic excavation would produce more material than mechanical. Gravity dock would be dredged to -45 feet below grade directly into the CCSC and would be 500 feet long and approximately 300 to 400 feet wide. The Project Team estimated that it would take approximately 3 years to build the re-gassification structure. JEW asked about fate of gravity dock when project was completed and the team responded that it would probably be retained by the site owner (McDermott) for whatever use they decided. The team asked if subsequent dewatering by the site owner after the LNG project could be authorized under NWP 33 and we stated it was possible, but we would have to see project plans before we could make that determination. We briefly discussed water quality issues and mentioned that unless they produced effluent during their dredging the Corps would not be involved and that it would be a state issue. We recommended that they contact TCEQ for specific requirements regarding water quality. The project team estimated that 0.63 acre of wetlands would be impacted -0.15 near the spoil site and 0.48 acre near the CCSC. Estimated spoil disposal was 0.8 mm yd3 available on site and 1.7 mm yd3 available at DMPA 6A. We advised them to present the project to our Joint Evaluation Meeting to get Resource Agency input once their plans became more definite. We also recommended that they coordinate their plans with our Real Estate Division and the Southern Area Office.

Mark Pattillo

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Since 1984 - Environmental Excellence

ENTRIX, Inc. 5252 Westchester, Suite 250 Houston, Texas 77005 (713) 666-6223 (713) 666-5227 FAX

JAN 1 2 2004

January 12, 2004

Mr. Lloyd Mullins Unit Leader Corpus Christi Field Office U.S. Army Corps of Engineers Galveston District 5151 Flynn Parkway, Suite 306 Corpus Christi, Texas 78411

Re: Request for Jurisdictional Verification

McDermott Property on Harbor Island

Nueces County, Texas Entrix Project # 1076903

Dear Mr. Mullins:

On behalf of ChevronTexaco, ENTRIX, Inc. requests a U.S. Army Corps of Engineers (COE) jurisdictional verification for an approximately 174-acre site located in Nueces County, Texas. The McDermott site is located on Harbor Island in Aransas Pass, Nueces County, Texas, which is west of the confluence of Aransas Channel, Corpus Christi Channel, and Lydia Ann Channel (see Delineation Report for site details).

Thank you for your time and consideration in this matter. If you have any questions or comments please contact me at 713-662-1906 or Barry Gillespie at 713-662-1908.

Sincerely,

Matthew B. Barczyk

Staff Scientist

Barry Gillespie Senior Consultant

# WETLAND ASSESSMENT AND DELINEATION MCDERMOTT PROPERTY ON HARBOR ISLAND NUECES COUNTY, TEXAS

Prepared for:

### **CHEVRONTEXACO**

Houston, Texas

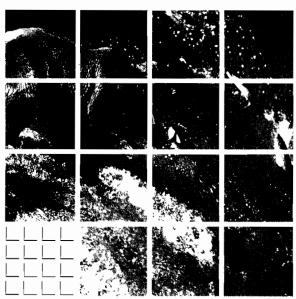
Prepared by:

**ENTRIX, Inc.** 

5252 Westchester, Suite 250 Houston, Texas 77005



October 2003



### WETLAND ASSESSMENT AND DELINEATION

## MCDERMOTT PROPERTY ON HARBOR ISLAND NUECES COUNTY, TEXAS

Prepared for:

### **CHEVRONTEXACO**

Houston, Texas

Prepared by:

ENTRIX, Inc.

5252 Westchester Suite 250 Houston, Texas 77005

Project No. 1076903

October 2003

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### 1.1 Scope of Work

This report presents the results of a wetland assessment and delineation conducted for ChevronTexaco, by ENTRIX, Inc. for an approximately 174-acre site in Nueces County, Texas.

On October 3, 2003, ENTRIX personnel (Matt Barczyk and Graciela Moore) conducted a wetlands delineation to determine:

- If potential jurisdictional wetlands or potentially jurisdictional Waters of the US (WUS) exist within the proposed boundaries of the site, and
- Approximate potential jurisdictional boundaries within the site.

This report summarizes the results of the wetland delineation.

### 1.2 Area Description

The McDermott site is located on Harbor Island in Aransas Pass, Nueces County, Texas, which is west of the confluence of Aransas Channel, Corpus Christi Channel, and Lydia Ann Channel. The site is currently being used to fabricate offshore structures. The site is bordered by the Corpus Christi Channel to the south, by State Highway 361 to the east, by undeveloped land consisting primarily of coastal marsh to the north, and by Brown and Root to the west. The Port of Corpus Christi Authority (POCCA) Zachry site is east of SH 361 (Figure 1 and Figure 2).

The majority of the McDermott property is industrialized and unvegetated. The site has offices, a lay down yard, warehouses, slips, and a bulkhead. The northwest portion of the property is vegetated and would be classified as a shrub/grassland vegetation type. A leveed dredge spoil area is located on the western portion of the property, which is dominated by a mixture of herbaceous wetland and upland vegetation. The southern border of the McDermott property is located along an intercoastal waterway. The majority of the site boundary directly adjacent to the water has been bulkheaded or eroded and is not vegetated. An area in the southwest portion of the site has not been impounded and would be classified as a marsh. This area is primarily composed of herbaceous salt marsh species interspersed with Black mangrove (Avicennia germinans) shrubs.

S:\Secure\Pelican\2003\6000 Assigned Task Studies\6207 FabricationSite EA\McDermott\Wetlands\Figure 1.mxd

S:\Secure\Pelican\2003\6000 Assigned Task Studies\6207 FabricationSite EA\McDermott\Wetlands\Figure 2.mxd

### 2.1 Jurisdictional Wetlands

The jurisdictional wetland evaluation consisted of a site examination to determine whether the three wetland characteristics (hydrophytic vegetation, hydric soils, and wetland hydrology) were present at the site as determined by the U.S. Army Corps of Engineers (COE) criteria for jurisdictional wetlands.

Reference material used in the field and during report preparation included:

- USGS 7.5 minute series topographic map: Port Aransas, Texas; 1968,
- Aerial photography obtained from Lanmon Aerial Photography, Inc. (Date flown: 8/26/2002),
- Federal Emergency Management Agency (FEMA) 100-year floodplain map,
- The United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Soil Survey of Nueces County, Hydric Soils List in Nueces County Area, Texas,
- Munsell Soil Color Charts,
- US Army Corps of Engineers 1987 Wetlands Delineation Manual,
- National List of Plant Species that Occur in Wetlands: South Plains (Region 6), and
- Various field-identification books for plants.

Wetland assessment methodology as set forth in the COE Federal Manual for Identification of Jurisdictional Wetlands (1987) was followed. Background soils information of the subject tract was obtained from the USDA SCS-- Soil Survey of Nueces County, Texas. The publication The National List of Plant Species That Occur In Wetlands: South Plains--Region 6 (USFWS 1988) was used to determine the wetland status of plant species found at the site. ENTRIX relied upon field measurements and Global Positioning System (GPS) equipment to determine the approximate wetland acreage.

The findings of the field assessment are presented below. In accordance with the 1987 *Manual*, a survey in an area greater than five acres in size requires the use of transects. Transects were established for the project site prior to conducting field efforts. Data points were placed along the transects where vegetation, hydrology, and soils data was collected. The locations of the data points are analogous with the soil pit locations.

### 3.1 Vegetation

### 3.1.1 Plant Indicators Definitions

Table 1 summarizes the Wetland Indicator Status for plants as described in the publications, National List of Vascular Plant Species That Occur In Wetlands: 1988 National Summary (USFWS 1988), and Aquatic and Wetland Plants of the Western Gulf Coast (Stutzenbaker, 1999).

**TABLE 1: Plant Indicator Status Categories** 

Indicator Category	Indicator Symbol	Definition
Obligate Wetland Plants	OBL	Plants that occur almost always (estimated probability >99%) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1%) in non-wetlands. Examples: Spartina alterniflora, Taxodium distichum.
Facultative Wetland Plants	FACW	Plants that occur usually (estimated probability 67-99%) in wetlands, but also occurring in both wetlands and non-wetlands. Examples: Fraxinus pennsylvanica; Sesbania drummondi.
Facultative Plants	FAC	Plants with a similar likelihood (estimated probability of 33-67%) of occurring in both wetlands and non-wetlands. Examples: Myrica cerifera, Celtis occidentalis
Facultative Upland Plants	FACU	Plants that occur sometimes (estimated probability 1-33%) in wetlands, but occur more often (estimated probability 67-99%) in nonwetlands. Examples: Sapium sebiferum; Quercus rubra.
Obligate Upland Plants	UPL	Plants that occur rarely (estimated probability <1%) in wetlands, but almost always (>99% estimated probability) in non-wetlands.  Examples: Pinus echinata

### 3.1.2 Site Observations

The following table indicates the species name and the indicator status of plants found in the potential jurisdictional wetland areas identified within the project site.

ENTRIX

**TABLE 2: List of Plant Species Observed** 

Site ID	Vegetation Type	Indicator Status
WB-001	Eleocharis parvula	OBL
	Typha latifolia	OBL
	Sesbania drumundii	FACW
	Andropogon glomeratus	FACW+
	Brachiaria platyphylla	FAC
WB-002	Spartina alterniflora	OBL
	Avicennia germinans	OBL
	Batis maritima	OBL
	Distichlis spicata	FACW+

Based upon the dominance of hydrophytic vegetation, the hydrophytic vegetation requirement, as set forth in the 1987 *Manual*, is met for the two potential jurisdictional wetland locations identified within the project site.

### 3.2 Soils

The 1987 *Manual* defines a hydric soil as a "soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation".

Table 3 provides a list of field indicators used to define hydric soils.

**TABLE 3: Field Indicators for Hydric Soils** 

No.	Indicator	Description
1.	Organic Soils	A soil is an organic soil when: (1) More than 50% (by volume) of the upper 32 inches of soil is composed of organic material; or (2) organic soil material of any thickness rests on bedrock.
2.	Histic Epipedons	A histic epipedon is an 8- to 16-inch layer at or near the surface of a mineral hydric soil that is saturated with water for 30 consecutive days or more in most years and contains a minimum of 20% organic matter when no clay is present or a minimum of 30% organic matter when clay content is 60% or greater.
3.	Sulfidic Materials	When mineral soils emit an odor of rotten eggs, hydrogen sulfide is present. Such odors are detected only in waterlogged soils that are permanently saturated and have sulfidic material within a few centimeters of the soil surface.
4.	Aquic or Peraquic Moisture Regime	An aquic moisture regime is a reducing one: i.e., it is virtually free of dissolved oxygen because the soil is saturated by ground water or by water of the capillary fringe. Soils with peraquic moisture regimes are characterized by the presence of groundwater always at or near the soil surface.
5.	Direct Observation of Reducing Soil Conditions	Soils saturated for long or very long duration will usually exhibit reducing conditions. Under such conditions, ions of iron are transformed from a ferric valence state to a ferrous valence state. This condition can be detected in the field by a ferrous iron test performed by USDA soil scientists.
6.	Soil Colors	The colors of various soil components are often the most diagnostic indicator of hydric soils. Colors of these components are strongly influenced by the frequency and duration of soil saturation, which leads to reducing soil conditions. Mineral hydric soils will be either gleyed (gray colors) or will have bright mottles (rust colored spots) and/or low matrix chroma. The soil matrix is the portion of the soil that has the predominant color.
7.	Soil Appearing on Hydric Soils List	Using the National Technical Committee on Hydric Soils (NTCHS) criteria for hydric soils, the NTCHS developed both a local and national list of hydric soils. Listed soils possess reduced soil conditions for a significant portion of the growing season in a major portion of the root zone and are frequently saturated within 12 inches of the soil surface.
8.	Iron and Manganese Concretions	During the oxidation-reduction process, iron and manganese in suspension are sometimes segregated as oxides into concretions or soft masses. These accumulations are usually black or dark brown. Concretions >2 mm in diameter occurring within 7.5 cm of the surface are evidence that the soil is saturated for long periods of time near the surface.
9.	Indicators for Coarse- textured or Sandy Hydric Soils	<ul> <li>a. High organic matter content in the surface horizon</li> <li>b. Dark vertical streaking of subsurface horizon by organic matter</li> <li>c. Wet spodosols</li> <li>d. New sandbars</li> </ul>

The following Soil Series was mapped by the USDA-Soil Conservation Service (USDA-SCS) and corresponds to the wetland areas defined previously (Figure 3).

Tidal flats (Listed as Hydric)

ENTRIX

This soil is classified as hydric according to the USDA, SCS Hydric Soils in Nueces County Area, Texas hydric soils list.

### 3.2.1 Tidal flats (Ta)

Tidal flats are mainly barren, nearly level areas that are above salt water at low tide but are flooded at normal high tide. Slopes range from 0 to 1 percent. At low tide the flats can be seen along parts of the mainland shore, along the edge of islands, and protruding above the water in shallow bays and lagoons.

Layers of sand, shells, and clay make up Tidal flats, but these layers are not considered in texture, in thickness, or in their arrangement. In some places gray clay occurs that is similar to, or is the same as, the parent material of many soils on the mainland.

A sparse growth of grasses and weeds tolerant of salt water borders the edges of these flats that are above water most often. Tidal flats have not been placed in a capability unit.

### 3.2.2 Soils Site Observations

Based upon the literature reviewed and field observations at the potential jurisdictional wetland location identified, the hydric soil requirement, as set forth in the 1987 *Manual*, is met for the two potential jurisdictional wetland locations identified.

Positive hydric soil indicators were documented at the potential jurisdictional wetland locations, including:

- Gleyed or Low-Chroma Colors
- Listed in Local Hydric Soils List

### 3.3 Hydrology

The 1987 Manual definition of wetland hydrology "encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season". The project site elevation is approximately 0 to 10 feet above mean sea level based upon examination of the USGS 7.5-minute Port Aransas, Texas quadrangle.

### 3.3.1 Indicators for Wetland Hydrology

Wetland indicators are important to assess properly the type of wetland investigated. The following table describes 1987 *Manual* field indicators for wetland hydrology determinations.

TABLE 4: Primary and Secondary Indicators for Wetland Hydrology

Primary	Indicator
1.	Visual observations of inundation
2.	Visual observations of soil saturation within 12 inches of the soil surface
3.	Water marks on vegetation (particularly woody species)
4.	Drift lines
5.	Water-borne sediment deposits
6.	Drainage patterns characteristic of wetlands
Secondary	Indicator
7.	Oxidized rhizospheres (root channels) associated with living roots and
	rhizomes
8.	Water-Stained Leaves
9.	Local Soil Survey Data (if data correlates to visual observations)
10.	Morphological plant adaptations (e.g. buttressed tree trunks)
11.	FAC-Neutral test (comparative dominance of FAC, FACW, and OBL
	vegetative species versus FACU and UPL vegetative species)

### 3.3.2 Hydrological Site Observations

During the site visit, ENTRIX made the following observations regarding primary and secondary wetland hydrology indicators observed in the potential jurisdictional areas identified within the project site:

### Primary

- Inundated,
- Saturated in Upper 12 Inches,

### Secondary

- Oxidized Root Channels in Upper 12 Inches, and
- Water-stained leaves

Based upon the hydrological indicators observed at the two potential jurisdictional wetland locations within the project site, the wetland hydrology requirement, as set forth in the 1987 *Manual*, is met for the areas investigated.

Figure 4 details the project site, which was determined to contain two potential jurisdictional wetlands based upon 1987 *Manual* criteria. Approximately 0.63 acres of potential jurisdictional wetlands were identified on the project site:

Wetland area WB-001
Wetland area WB-002
0.15 acres
0.48 acres

### Total Potential Jurisdictional Wetland Acreage 0.63 acres

A review of aerial photographs (2002) of the project site revealed "signatures" characteristic of jurisdictional wetlands. The presence of hydric soils was confirmed and documented through the use of soil survey information and observational indicators. The three characteristics of a wetland (hydrophytic vegetation, hydric soils, and wetland hydrology) were met at the two potentially jurisdictional wetland areas identified. Figure 4 identifies the project site boundary, the potential jurisdictional wetlands identified, potential jurisdictional wetland impacts, soil pit locations, and transect locations. The field data sheets are included in Appendix A and site photographs are included in Appendix B.

Both of the potential jurisdictional wetland areas identified are located within the FEMA 100-year floodplain (Figure 5). The COE considers the FEMA 100-year floodplain when determining if a potentially jurisdictional wetland is isolated (non-jurisdictional) or an adjacent wetland (jurisdictional) for regulatory purposes. Most wetlands located outside the FEMA 100-year floodplain would be considered isolated by the COE. If a potentially jurisdictional wetland contains two or more hydrological barriers from a Water of the U.S and is located within the FEMA 100-year floodplain it is likely the wetland will be considered isolated for regulatory purposes and therefore not jurisdictional.

It should be understood that the scope of this delineation was to determine whether or not in our professional opinion wetlands exist within the project boundaries, and is not a legal delineation of jurisdictional boundaries. The COE has regulatory authority regarding wetland issues, and the COE is responsible for the final jurisdictional determination of wetlands at a given site. This wetland delineation is not official until it has been verified and approved by the COE.

S\Secure\Pelican\2003\6000 Assigned Task Studies\6207 FabricationSite EA\McDermott\Wetlands\Figure 5.mxd

# **APPENDIX A** Field Data Sheets

		Applicant		can – McDermott Pro	perty	County/State:	Nuece	s County, Texas
			October 3, 20			Investigator:		Barczyk
		Date. C	)Clober 5, 20	103		investigator.	<u>Iviati</u>	Daiczyk
		DAT	A FORN	1				
ROUTINE WETLAND DETERMINATION								
				eation Manual)				
	(150, 00		2 0111	· · · · · · · · · · · · · · · · · · ·				
Do Normal Circumstances exist on the site		(Ye)	No	Community ID:			_	
Have vegetation, soils, or hydrology been d	listurbed?	Yes	(MO)	Transect ID.:	T-2			
Is the area a potential Problem Area?		Yes	<b>(</b> № )	Plot ID:	Pit-002	2		
(If needed ownlein on neverne)					- 11 00-			
(If needed, explain on reverse.)								
(If needed, explain on reverse.)  Sample Location:								
Sample Location:	a hava mambalani		to wotlands w	:th o #)				
Sample Location:  VEGETATION (Note those species observed to			to wetlands w	· — — — — — — — —			tum	Indicator
Sample Location:  VEGETATION (Note those species observed to Dominant Plant Species	o have morphologic <u>Stratum</u> H	cal adaptations  Indicator  FACU-	to wetlands w	Dominant Pla	nt Species	Stra	tum	Indicator
Sample Location:  VEGETATION (Note those species observed to  Dominant Plant Species  1. Chasmaecrista fasciculata	Stratum	Indicator		Dominant Pla	nt Species	Stra		Indicator
Sample Location:  VEGETATION (Note those species observed to Dominant Plant Species  1. Chasmaecrista fasciculata  2. Oputina humifusa	<u>Stratum</u> H	Indicator FACU-	9.	Dominant Pla	nt Species	Stra		Indicator
Sample Location:  VEGETATION (Note those species observed to  Dominant Plant Species  1. Chasmaecrista fasciculata  2. Oputina humifusa	Stratum H H	Indicator FACU- FACU	9. 10.	Dominant Pla	nt Species	Stra		Indicator
Sample Location:  VEGETATION (Note those species observed to Dominant Plant Species  1. Chasmaecrista fasciculata 2. Oputina humifusa 3. Schizachyrium scoparium 4. Ambrosia cumanensis	Stratum H H H	Indicator FACU- FACU FACU+	9. 10.	Dominant Pla	nt Species	Stra		Indicator
Sample Location:  VEGETATION (Note those species observed to Dominant Plant Species  1. Chasmaecrista fasciculata  2. Oputina humifusa  3. Schizachyrium scoparium  4. Ambrosia cumanensis  5. Croton spp.	Stratum H H H H	Indicator FACU- FACU FACU+ FAC-	9. 10. 11. 12.	Dominant Pla	nt Species	Stra		Indicator
Sample Location:  VEGETATION (Note those species observed to Dominant Plant Species  1. Chasmaecrista fasciculata 2. Oputina humifusa 3. Schizachyrium scoparium 4. Ambrosia cumanensis	Stratum H H H H	Indicator FACU- FACU FACU+ FAC-	9. 10. 11.	Dominant Pla	nt Species	Stra		Indicator

Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water: N/A (in.)  Depth to Free Water in Pit: >18 (in.)  Depth to Saturated Soil: >18 (in.)	Primary Indicators:  Secondary Indicators	Inundated Saturated in Upper 12 inches Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands (2 or more required): Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data Other (Explain in Remarks)	
Remarks: No hydrology observed		Other (Explain in Remarks)	

(except FAC-). Include species noted (\*) as showing

morphological adaptations to wetlands.

Remarks:

Taxonomy (Subgroup):    Profile Description:   Matrix Color (Munsell Moist)   Mottle Colors (Munsell Moist)   Alt	Listed as hydric	
(Subgroup):    Confirm Mapped Type?	Listed as Hydric	
Profile Description:    Depth (inches)	Yes: No:	
Depth (inches)   Horizon (Munsell Moist)   All	165. 140.	
Depth (inches) Horizon (Munsell Moist) (Munsell Moist)  0-2 O/A 10YR 4/2  2-18 O/A 10YR 5/3 -  Hydric Soil Indicators:  Histosol Concret Histic Epipedon High Or Organic Probable Aquic Moisture Regime X Listed in Reducing Conditions X Gleyed or Low-Chroma Colors Other (E		
0-2 O/A 10YR 4/2  2-18 O/A 10YR 5/3  Hydric Soil Indicators:  Histosol Concret Histic Epipedon High Or Sulfidic Odor Organic Probable Aquic Moisture Regime X Listed in Reducing Conditions Listed o X Gleyed or Low-Chroma Colors Other (I	Mottle	Texture, Concretions,
Hydric Soil Indicators:  Histosol Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions Jisted of Other (E	Abundance/Contrast	Structure, etc.
Hydric Soil Indicators:  Histosol Concret Histic Epipedon High Or Sulfidic Odor Organic Probable Aquic Moisture Regime X Listed in Reducing Conditions Listed of X Gleyed or Low-Chroma Colors Other (Remarks:  VETLAND DETERMINATION Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No Hydric Soils Present? Yes No	<u> </u>	Sand
Histosol Concret Histic Epipedon High Or Sulfidic Odor Organic Probable Aquic Moisture Regime X Listed in Reducing Conditions Listed or X Gleyed or Low-Chroma Colors Other (I		Sand with clay lense
Histosol Concret Histic Epipedon High Or Sulfidic Odor Organic Probable Aquic Moisture Regime X Listed in Reducing Conditions Listed or X Gleyed or Low-Chroma Colors Other (I		
Histosol Concret Histic Epipedon High Or Sulfidic Odor Organic Probable Aquic Moisture Regime X Listed in Reducing Conditions Listed or X Gleyed or Low-Chroma Colors Other (I		
Histosol Concret Histic Epipedon High Or Sulfidic Odor Organic Probable Aquic Moisture Regime X Listed in Reducing Conditions Listed or X Gleyed or Low-Chroma Colors Other (I		
Histic Epipedon Sulfidic Odor Organic Probable Aquic Moisture Regime Reducing Conditions I Listed of X Gleyed or Low-Chroma Colors  VETLAND DETERMINATION Hydrophytic Vegetation Present? Yes Wetland Hydrology Present?  Wetland Hydrology Present?  Yes No Hydric Soils Present?  High Or Organic X Listed in X	retions	
Sulfidic Odor Organic Probable Aquic Moisture Regime X Listed in Reducing Conditions Listed o X Gleyed or Low-Chroma Colors  Remarks:  VETLAND DETERMINATION Hydrophytic Vegetation Present? Yes No Hydric Soils Present? Yes No Hydric Soils Present? Yes No	Organic Content in	Surface Layer
Reducing Conditions  Gleyed or Low-Chroma Colors  Cother (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	nic Streaking	
Z Gleyed or Low-Chroma Colors Other (I  Remarks:  VETLAND DETERMINATION  Hydrophytic Vegetation Present? Yes No  Hydric Soils Present? Yes No  Hydric Soils Present? Yes No	d in Local Hydric So	oils List
Remarks:  VETLAND DETERMINATION  Hydrophytic Vegetation Present? Yes No  Hydroc Soils Present? Yes No  Hydric Soils Present? Yes No	d on National Hydrid r (Explain in Remark	
Wetland Hydrology Present?  Wetland Hydrology Present?  Yes  No  Hydric Soils Present?  Yes  No  No	(Explain in Kemark	KO)
Wetland Hydrology Present?  Yes  No  Hydric Soils Present?  No	63)	
Hydric Soils Present? Yes No	Yes No	)
Remarks:		

		Project No	o/.Site:	Pelican – McDermott Pro	perty		
		Applicant	:: <u>Che</u>	vronTexaco	County	/State: Nuece	s County, Texas
		Date: C	October 3	, 2003	Investig	gator: Mat	Barczyk
		70.40		D. 1.			
n	<u> ALITINIE</u>		A FO		<b>∆</b> T		
	_			ETERMINATION	<b>N</b>		
(	1987 CO	E Wettan	ias Dei	lineation Manual)			
Do Normal Circumstances exist on the site?		(Yes)	No	Community ID:		<del></del>	
Have vegetation, soils, or hydrology been distur	bed?	Yes	<b>®</b>	Transect ID.:	T-3		
Is the area a potential Problem Area?		Yes	$(N_9)$	Plot ID:	Pit-001		
(If needed, explain on reverse.)							
Sample Location:			4:_				
•							
VEGETATION (Note those species observed to have	e morphologi	cal adaptations	to wetland	ls with a *)			
Dominant Plant Species	Stratum	Indicator		Dominant Pla	nt Species	Stratum	Indicator
1. Baccharis halimifolia	S	FACW-	9.				
2. Oputina humifusa	Н	FACU	10.				
3. Schizachyrium scoparium	<u>H</u>	FACU+	11.	•			
4.			12.				
5.			13.				
6.			14.				
7.			_ 15.				
8.			16.				
Percent of Dominant Species that are OBL, FAC (except FAC-). Include species noted (*) as sho		1/3 (33.3%)	)				
morphological adaptations to wetlands.	owing						
Remarks:							
							l
		<del></del>	<del></del>		<del></del>	. <del></del>	
HYDROLOGY							
Recorded Data (Describe in Remarks):		V	Vetland I	Hydrology Indicators:	<del></del>		
Stream, Lake, or Tide Gage	1	•	Chang	,			
X Aerial Photographs	Primar	y Indicators	:				
Other No Recorded Data Available				Inundated			
Field Observations:	†			Saturated in Upper 12 in	ches		J
				Water Marks Drift Lines			
Depth of Surface Water: N/A (in.)				Sediment Deposits			
Depth to Free Water in Pit: >18 (in.)				Drainage Patterns in We	tlands		
	Second	lary Indicat	tors	(2 or more required):			
Depth to Saturated Soil: >18 (in.)				Oxidized Root Channels	in Upper 12 Inche	s	
				Water-Stained Leaves			
				Local Soil Survey Data Other (Explain in Remar	ks)		
				(Explain in Remai			
Remarks: No hydrology observed							

Map Unit Name:	Tidal flats (Ta)		Drainage Class:	Listed as h	nydric	
Taxonomy			Field Observations			
Subgroup):			Confirm Mapped Type?	Yes:	No:	
rofile Description:						
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mo Abundanc		Texture, Concretion <u>Structure</u> , etc.
0-18	<u>110112011</u> O/A	10YR 6/2	(Mulisen Moist)	Abundanc	e Commasi	Silty sand with grav
0-10		1011012				and shell
	-					und short
			-			
lydric Soil Indicators:						
	Histosol			ncretions	Toutout in	Sumfaga Lawar
	Histic Epipedon Sulfidic Odor		Or	gn Organic C ganic Streak	ing	Surface Layer
	Probable Aquic Moisture R	legime	XLis	sted in Local	Hydric So	oils List
X_	Reducing Conditions	-l	Lis	sted on Natio	nal Hydrid	e Soils Lists
	Gleyed or Low-Chroma Co	DIORS	Ot	her (Explain	in Kemark	(S)
					<del></del>	
ETLAND DETERM						
Hydrophytic Vegetation	on Present? Yes	No Is this Samp	oling Point Within a Wetland?	Yes	No	)
Wetland Hydrology Pr	resent? Yes	No No				
Hydric Soils Present?	(Yes)	No				
Remarks:						

		Project I	No/.Site:	Pelican - McDermott Pro	perty		
		Applica	nt: <u>C</u> h	evronTexaco	Co	ounty/State: No	eces County, Texas
		Date:	October	3, 2003	Inv	vestigator:	Matt Barczyk
		<b>.</b>	- · ·				
	O FIRST IN		TA FC		N.T.		
				DETERMINATION			
(	1987 COE	Wetla	nds De	elineation Manual)			
Do Normal Circumstances exist on the site?		Neb)	No	Community ID:			
Have vegetation, soils, or hydrology been disturb	oed?	Yes Yes	<b>Q</b>	Transect ID.:	T-1		<del></del>
Is the area a potential Problem Area?		Yes	(No)	Plot ID:	Pit-003		
(If needed, explain on reverse.)							
Sample Location:		<del> </del>				<del></del> -	<del></del>
VEGETATION (Note those species observed to have	morphological	adaptation	s to wetlar	nds with a *)			
Dominant Plant Species	Stratum	Indicator		Dominant Pla	nt Species	Stratur	Indicator
1. Sporobolus virginicus	<u>H</u>	FACW+	_ 9	)			
2. Iva angustifolia	Н	FAC	10				
3.							
4.			12				
5.			13				
6.			14				
7.			 15				
8.			16				
Percent of Dominant Species that are OBL, FAC	W. or FAC	2/2 (100%	)				
(except FAC-). Include species noted (*) as short			_				
morphological adaptations to wetlands.							
D 1							
Remarks:							
					<del></del>	<del></del>	
Recorded Data (Describe in Remarks):			Wetland	Hydrology Indicators:			
Recorded Data (Describe in Remarks):Stream, Lake, or Tide Gage		,	Wetland	Hydrology Indicators:			
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs	Primary			Hydrology Indicators:			
Recorded Data (Describe in Remarks):Stream, Lake, or Tide Gage	Primary			Inundated			
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other	Primary			Inundated Saturated in Upper 12 inc	ches		
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available Field Observations:		Indicator	s:	Inundated Saturated in Upper 12 ine Water Marks	ches		
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available		Indicator	s:	Inundated Saturated in Upper 12 ine Water Marks Drift Lines	ches		
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available Field Observations:  Depth of Surface Water: N/A (in.)		Indicator	s:	Inundated Saturated in Upper 12 ine Water Marks Drift Lines Sediment Deposits			
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available Field Observations:		Indicator	s:	Inundated Saturated in Upper 12 inc Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet			
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X. Aerial Photographs Other No Recorded Data Available Field Observations:  Depth of Surface Water: N/A (in.)  Depth to Free Water in Pit: 12 (in.)		Indicator	s:	Inundated Saturated in Upper 12 ine Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet (2 or more required):	tlands	nches	
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available Field Observations:  Depth of Surface Water: N/A (in.)		Indicator	s:	Inundated Saturated in Upper 12 inc Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet	tlands	nches	
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X. Aerial Photographs Other No Recorded Data Available Field Observations:  Depth of Surface Water: N/A (in.)  Depth to Free Water in Pit: 12 (in.)		Indicator	s:	Inundated Saturated in Upper 12 inc Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet (2 or more required): Oxidized Root Channels	tlands	nches	
Stream, Lake, or Tide GageX_Aerial PhotographsOtherNo Recorded Data Available  Field Observations:  Depth of Surface Water:N/A(in.)  Depth to Free Water in Pit:12(in.)		Indicator	s:	Inundated Saturated in Upper 12 ine Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wet (2 or more required): Oxidized Root Channels Water-Stained Leaves	tlands in Upper 12 I	nches	

Remarks:

Taxonomy (Subgroup):  Confirm Mapped Type? Yes: No:  Profile Description:  Depth (inches) Horizon (Munsell Moist) (Munsell Moist) Abundance Contrast Structure, Concretions  O-18 O/A 10YR 5/2 Gley 2 6/10B 109% Sand  Hydric Soil Indicators:  Histosol Histis Epipedon High Organic Content in Surface Layer Organic Streaking Probable Aquic Moisture Regime X Listed in Local Hydric Soils List Reducing Conditions  Remarks:  FEIEI Observations Mottle Texture, Concretions Mottle Olors (Munsell Moist) Abundance Contrast Structure, Step Sand  Concretions High Organic Content in Surface Layer Organic Streaking Organic Streaking Norganic Streaking Organic Streaking Norganic Streaking	Map Unit Name:	Tidal flats (Ta)		Drainage Class:	Listed as l	nydric	
Matrix Color					e? Yes:	No:	
Depth (inches)   Horizon (Munsell Moist) (Munsell Moist)   Abundance/Contrast Structure, etc.	rofile Description:		Martin C	Calca Martin Calcan		#la	Tautura Congratio
O-18 O/A 10YR 5/2 Gley 2 6/10B 10% Sand  Hydric Soil Indicators:  Histosol Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions A Listed in Local Hydric Soils Lists A Gleyed or Low-Chroma Colors  Cemarks:    Concretions   High Organic Content in Surface Layer   Organic Streaking   Organic Streaking   X Listed in Local Hydric Soils Lists   Listed on National Hydric Soils Lists   Other (Explain in Remarks)    Concretions   High Organic Content in Surface Layer   Organic Streaking   X Listed in Local Hydric Soils Lists   Other (Explain in Remarks)    Concretions   High Organic Content in Surface Layer   Organic Streaking   X Listed in Local Hydric Soils Lists   Other (Explain in Remarks)    Concretions   High Organic Content in Surface Layer   Organic Streaking   X Listed in Local Hydric Soils Lists   Other (Explain in Remarks)    Concretions   High Organic Content in Surface Layer   Organic Streaking   X Listed in Local Hydric Soils Lists   Other (Explain in Remarks)    Concretions   High Organic Content in Surface Layer   Organic Streaking   X Listed in Local Hydric Soils Lists   Other (Explain in Remarks)    Concretions   High Organic Content in Surface Layer   Organic Streaking   X Listed in Local Hydric Soils Lists   Other (Explain in Remarks)    Concretions   High Organic Content in Surface Layer   Organic Streaking   X Listed in Local Hydric Soils Lists   Other (Explain in Remarks)    Concretions   High Organic Content in Surface Layer   Organic Streaking   X Listed in Local Hydric Soils Lists   Organic Streaking   Organic Strea	Depth (inches)	Horizon					
Histosol — High Organic Content in Surface Layer — Sulfdic Odor — Probable Aquic Moisture Regime — Probable Aquic Moisture Regime — Reducing Conditions — Listed in Local Hydric Soils Lists — Reducing Conditions — Listed on National Hydric Soils Lists — X Gleyed or Low-Chroma Colors — Other (Explain in Remarks)  Remarks:    ETLAND DETERMINATION							
Histosol Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions X Listed in Local Hydric Soils Lists Reducing Conditions Other (Explain in Remarks)  ETLAND DETERMINATION  Hydrophytic Vegetation Present?  High Organic Content in Surface Layer Organic Streaking X Listed in Local Hydric Soils Lists Listed on National Hydric Soils Lists Other (Explain in Remarks)  ETLAND DETERMINATION  Hydrophytic Vegetation Present?  High Organic Content in Surface Layer Organic Streaking X Listed in Local Hydric Soils Lists Other (Explain in Remarks)  ETLAND DETERMINATION  Hydrophytic Vegetation Present?  High Organic Content in Surface Layer Organic Streaking X Listed in Local Hydric Soils Lists Other (Explain in Remarks)  ETLAND DETERMINATION  Hydrophytic Vegetation Present?  High Organic Content in Surface Layer Organic Streaking X Listed in Local Hydric Soils Lists Other (Explain in Remarks)  Is this Sampling Point Within a Wetland? Yes  No							
Histosol Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions A Listed in Local Hydric Soils Lists Reducing Conditions A Concretions High Organic Content in Surface Layer Organic Streaking Listed in Local Hydric Soils Lists Cother (Explain in Remarks)  CTLAND DETERMINATION Prophytic Vegetation Present?  Yes No  Is this Sampling Point Within a Wetland?  Yes Vydric Soils Present?  Yes No							
Histic Epipedon Sulfidic Odor Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions ACTUAND DETERMINATION  Surface Layer Organic Streaking Listed in Local Hydric Soils List Listed on National Hydric Soils Lists Other (Explain in Remarks)  CTLAND DETERMINATION  Surface Layer Organic Streaking Listed on National Hydric Soils Lists Other (Explain in Remarks)  CTLAND DETERMINATION  Surface Layer Organic Streaking Listed on National Hydric Soils Lists Other (Explain in Remarks)  Surface Layer Organic Streaking Listed on National Hydric Soils Lists Other (Explain in Remarks)  Surface Layer Organic Streaking Listed on National Hydric Soils Lists Other (Explain in Remarks)  Surface Layer Organic Streaking Listed on National Hydric Soils Lists Other (Explain in Remarks)  Surface Layer Organic Streaking Listed on National Hydric Soils Lists Other (Explain in Remarks)  Surface Layer Organic Streaking Listed on National Hydric Soils Lists Other (Explain in Remarks)  Surface Layer Organic Streaking Listed on National Hydric Soils Lists Other (Explain in Remarks)	-	stosol			Concretions		
Probable Aquic Moisture Regime Reducing Conditions X Gleyed or Low-Chroma Colors  Cother (Explain in Remarks)  ETLAND DETERMINATION Hydrophytic Vegetation Present? Yes No Vetland Hydrology Present? Yes No Hydric Soils Present? Yes No	Hi	stic Epipedon			_ High Organic (		urface Layer
Reducing Conditions  X Gleyed or Low-Chroma Colors  Ettland Determination  Hydrophytic Vegetation Present? (Yes) No Is this Sampling Point Within a Wetland? Yes (No)  Wetland Hydrology Present? Yes (No)  Hydric Soils Present? (Yes) No			. D im.	<u>v</u>	Organic Streak	ing	1- T :-+
	Pro	obable Aquic Moisture	e Regime	X	Listed in Local Listed on Natio	nal Hydric	is List Soils Lists
ETLAND DETERMINATION  Hydrophytic Vegetation Present? (Yes) No Is this Sampling Point Within a Wetland? Yes (No)  Wetland Hydrology Present? Yes (No)  Hydric Soils Present? (Yes) No			Colors	•	Other (Explain	in Remarks	3)
Hydric Soils Present? Yes No							
	Hydrophytic Vegetation	Present? (Yes)	. 8	this Sampling Point Within a Wetla	ind? Yes	(No	
Remarks:	Hydrophytic Vegetation Wetland Hydrology Prese	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	ınd? Yes	(No')	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	ind? Yes	(No)	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	ind? Yes	(No')	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	and? Yes	No	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	ind? Yes	(No)	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	ind? Yes	(No	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	and? Yes	(No)	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	nd? Yes	(No)	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	ind? Yes	(No	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	nd? Yes	(No)	
	Hydrophytic Vegetation Wetland Hydrology Prese Hydric Soils Present?	Present? (Yes) ent? Yes	<b>ଜ</b>	this Sampling Point Within a Wetla	nd? Yes	(No)	

		Project No/	.Site: Pel	ican – McDermott Pro	perty		
		Applicant:	_	onTexaco		nty/State: Nuec	es County, Texas
			tober 3, 20				t Barczyk
		E WETLAN		M ΓERMINATION eation Manual)	N		
Do Normal Circumstances exist on the site? Have vegetation, soils, or hydrology been di Is the area a potential Problem Area? (If needed, explain on reverse.)		Yes Yes Yes	No (PS (No	Community ID: Transect ID.: Plot ID:	T-1 Pit-004 (W)	B-001)	
Sample Location:							
VEGETATION (Note those species observed to			wetlands w			- die sie - la - a - a	
Dominant Plant Species	Stratum	Indicator		Dominant Plan	nt Species	Stratum	Indicator
1. Eleocharis parvula	<u>H</u>	OBL	9.				
2. Typha latifolia	H	OBL	10.				
3. Sesbania drumundii	<u> </u>	FACW	11.				
4. Andropogon glomeratus	Н	FACW+	12.				
5. Brachiaria platyphylla	Н	FAC	13.				
6.			14.				
7			15.				
8.			16.				
(except FAC-). Include species noted (*) as morphological adaptations to wetlands.  Remarks:							
HYDROLOGY							
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs	Primary	Wes	tland Hyd	lrology Indicators:			
OtherNo Recorded Data Available		X	 Inu	indated			
Field Observations:	_	X		urated in Upper 12 inc	hes		
rieid Ouservations:			_ Wa	nter Marks			
Depth of Surface Water: N/A (ii	1.)		_	ift Lines			
,				diment Deposits			
Depth to Free Water in Pit: 2 (ir	L) Second	ary Indicator		ainage Patterns in Wet	lands		
		ary indicator	_ \	or more required):			
Depth to Saturated Soil: >18 (in	1.)	X	Wa	idized Root Channels ater-Stained Leaves cal Soil Survey Data	in Upper 12 Inc	nes	
			_ Oth	ner (Explain in Remark	:s)		
Remarks:							

Profile Description:    Depth (inches)   Horizon   (Munsell Moist)   (Munsell Moist)   Abun	ed as hydric	
Depth (inches)   Horizon   Matrix Color (Munsell Moist)   Abun	Yes: No:	
Depth (inches) Horizon (Munsell Moist) (Munsell Moist)  0-2 O/A 10YR 4/1 -  2-18 O/A 10YR 5/1 -  Hydric Soil Indicators:  Histosol Concretion Histic Epipedon High Orga Sulfidic Odor Organic St Probable Aquic Moisture Regime X Listed in L Reducing Conditions X Gleyed or Low-Chroma Colors Other (Exp.  Remarks:    ETLAND DETERMINATION		
2-18 O/A 10YR 5/1 -  Hydric Soil Indicators:  Histosol Concretion High Orga Sulfidic Odor Organic St Probable Aquic Moisture Regime X Listed in L Reducing Conditions Listed on 1 X Gleyed or Low-Chroma Colors Other (Exp.  Remarks:    ETLAND DETERMINATION	Mottle indance/Contrast	Texture, Concretion Structure, etc.
Hydric Soil Indicators:  Histosol Concretion Histic Epipedon High Orga Sulfidic Odor Organic St Probable Aquic Moisture Regime X Listed in L Reducing Conditions Listed on I X Gleyed or Low-Chroma Colors Other (Exp  Remarks:  /ETLAND DETERMINATION  Hydrophytic Vegetation Present? (S) No Is this Sampling Point Within a Wetland? (Fe) Wetland Hydrology Present? (S) No Hydric Soils Present? (S) No		Sand
Histosol Concretion Histic Epipedon High Orga Sulfidic Odor Organic St Probable Aquic Moisture Regime X Listed in L Reducing Conditions Listed on N X Gleyed or Low-Chroma Colors Other (Exp  Remarks:  SETLAND DETERMINATION Hydrophytic Vegetation Present? (Ses) No Is this Sampling Point Within a Wetland? (Fes) Wetland Hydrology Present? (Ses) No Hydric Soils Present? (Yes) No	-	Sand
Histosol Concretion Histic Epipedon High Orga Sulfidic Odor Organic St Probable Aquic Moisture Regime X Listed in L Reducing Conditions Listed on N X Gleyed or Low-Chroma Colors Other (Exp  Remarks:  ETLAND DETERMINATION Hydrophytic Vegetation Present? Yes No Is this Sampling Point Within a Wetland? Yes Wetland Hydrology Present? Yes No Hydric Soils Present? Yes No		
Histic Epipedon Sulfidic Odor Organic St Probable Aquic Moisture Regime Reducing Conditions X Gleyed or Low-Chroma Colors  CETLAND DETERMINATION Hydrophytic Vegetation Present?  Wetland Hydrology Present?  Wetland Hydrology Present?  Yes No Hydric Soils Present?  Yes No Hydric Soils Present?  High Orga Organic St Ax Listed in L Listed on N Other (Exp  Wetland Probable Aquic Moisture Regime X Listed in L Listed on N Other (Exp  Wetland Probable Aquic Moisture Regime X Listed in L Listed on N Other (Exp  Wetland Probable Aquic Moisture Regime X Listed in L Listed on N Other (Exp  Wetland Probable Aquic Moisture Regime X Listed in L Listed on N Other (Exp  Wetland Probable Aquic Moisture Regime X Listed in L Listed on N Other (Exp  Wetland Probable Aquic Moisture Regime X Listed in L Listed on N Other (Exp	one	
Probable Aquic Moisture Regime Reducing Conditions Listed on 1 X Gleyed or Low-Chroma Colors  CTLAND DETERMINATION  Hydrophytic Vegetation Present?  Wetland Hydrology Present?  Wetland Hydrology Present?  Yes No Hydric Soils Present?  Yes No Hydric Soils Present?  Yes No	anic Content in S	Surface Layer
Reducing Conditions  Gleyed or Low-Chroma Colors  Cother (Exp. Cother	Streaking	ila Filat
Remarks:  VETLAND DETERMINATION Hydrophytic Vegetation Present?  Wetland Hydrology Present?  Wetland Hydrology Present?  Yes No Hydric Soils Present?  Yes No Hydric Soils Present?  Yes No  Hydric Soils Present?  Yes No	National Hydric	Soils Lists
/ETLAND DETERMINATION  Hydrophytic Vegetation Present? (Yes) No Is this Sampling Point Within a Wetland? (Yes)  Wetland Hydrology Present? (Yes) No  Hydric Soils Present? (Yes) No	plain in Remarks	
Wetland Hydrology Present? (Fes No Hydric Soils Present? (Yes) No		
Hydric Soils Present? Yes No	es) No	<del></del>
Remarks:		
·		

County/State: Nueces County, Texas Investigator: Matt Barczyk  -005
-005
ecies Stratum Indicator

(except FAC-). Include species noted (*) as showing morphological adaptations to wetlands.	
Remarks:	

HYDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators: Stream, Lake, or Tide Gage X Aerial Photographs Primary Indicators: \_\_\_Other Inundated No Recorded Data Available Saturated in Upper 12 inches Field Observations: Water Marks Drift Lines Depth of Surface Water: N/A (in.) Sediment Deposits Drainage Patterns in Wetlands Depth to Free Water in Pit: >18 (in.) **Secondary Indicators** (2 or more required): Oxidized Root Channels in Upper 12 Inches Depth to Saturated Soil: >18 (in.) Water-Stained Leaves Local Soil Survey Data Other (Explain in Remarks) Remarks: No hydrology observed

Map Unit Name:	Tidal flats (Ta)		D	rainage Class:	Listed as h	ydric	
Гахопоту				ield Observations			
Subgroup):			С	onfirm Mapped Type?	Yes:	No:	
Profile Description:							
Depth (inches)	<u>Horizon</u>	Matrix (Munsel		Mottle Colors (Munsell Moist)	Mo Abundance		Texture, Concretions Structure, etc.
0-18	O/A	10YI		10YR 5/4	10		Sandy clay
·		-					
lydric Soil Indicators							
	Histosol Histic Epipedon				oncretions	Content in S	urface Layer
	Sulfidic Odor			Or	ganic Streak	ing	
	Probable Aquic Moistu	ire Regime		XLis	sted in Local	Hydric Soil	ls List
	Reducing Conditions Gleyed or Low-Chrom	a Colors			sted on Natio her (Explain		
		2 00.010			(=		,
temarks:							
(emarks:							
Remarks:							
Remarks:							
Remarks:							
Kemarks:							
Remarks:							
Remarks:							
	INATION						
ETLAND DETERM		I (69)	s this Sampling I	Point Within a Wetland	? Yes	(No)	
ETLAND DETERM Hydrophytic Vegetati	on Present? Yes		s this Sampling I	Point Within a Wetland	? Yes	No	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	<b>√</b> Nô)	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P	on Present? Yes		s this Sampling I	Point Within a Wetland	? Yes	(No)	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	No	
ETLAND DETERM	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	<b>√</b> Nô)	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	⟨Nô)	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	No	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	No	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	⟨√√6⟩	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	No	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	No	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	<b>√</b> Nδ)	
ETLAND DETERM Hydrophytic Vegetati Wetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	No	
ETLAND DETERM Hydrophytic Vegetati Vetland Hydrology P Hydric Soils Present?	on Present? Yes resent? Yes	60	s this Sampling I	Point Within a Wetland	? Yes	No	

		Project No.	Site I	Pelican – McDermott Pro	nertv			
		Applicant:	_	vronTexaco		County/State:	Nueces (	County, Texas
			ctober 3,			nvestigator:	Matt Ba	
						3		
			ND D	RM ETERMINATION ineation Manual)	N			
Do Normal Circumstances exist on the site? Have vegetation, soils, or hydrology been disturble the area a potential Problem Area? (If needed, explain on reverse.)	ped?	Yes Yes Yes	No 800	Community ID: Transect ID.: Plot ID:	T-1 Pit-006			
Sample Location:	- <del>- 1</del>							
Dominant Plant Species  1. Baccharis halimifolia 2. Oputina humifusa 3. Heterotheca subaxillaris 4. Mimosa strigoillosa 5. 6. 7. 8.  Percent of Dominant Species that are OBL, FAC (except FAC-). Include species noted (*) as show morphological adaptations to wetlands.  Remarks:	Stratum S H H H	Indicator FACW- FACU UPL FAC	9. 10. 11. 12. 13. 14. 15. 16.	Dominant Plan				Indicator
HYDROLOGY	<b></b>			<del> </del>				——————————————————————————————————————
Recorded Data (Describe in Remarks):Stream, Lake, or Tide GageX_Aerial Photographs Other	Primary	We		Hydrology Indicators:				
No Recorded Data Available				Inundated Saturated in Upper 12 inc	haa			į
Field Observations:				Saturated in Opper 12 inc Water Marks	iles			
Depth of Surface Water:N/A(in.)			_	Drift Lines Sediment Deposits				
Depth to Free Water in Pit:(in.)  Depth to Saturated Soil:(in.)	Second	ary Indicato	<u>rs</u>	Drainage Patterns in Wet (2 or more required): Oxidized Root Channels i Water-Stained Leaves Local Soil Survey Data		Inches		

Other (Explain in Remarks)

Remarks: No hydrology observed

Map Unit Name:	Tidal flats (Ta)		Drainage Class:	Listed as hydric	
Taxonomy (Subgroup):			Field Observations Confirm Mapped Type?	Yes: No:	
Profile Description:		Matrix Color	Mottle Colors	Mottle	Texture, Concretions
Depth (inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.
0-18	O/A	10YR 6/2			Sandy silt
Hydric Soil Indicators:	Histosol		Cc	oncretions	
	Histic Epipedon Sulfidic Odor			gh Organic Content in S	urface Layer
	Sumaic Odor Probable Aquic Moisture R	Regime	XLis	ganic Streaking sted in Local Hydric Soi	ls List
	Reducing Conditions Gleyed or Low-Chroma Co			sted on National Hydric her (Explain in Remarks	
					<u> </u>
Remarks:					
			<del></del>		
		OA Lo this Som	aling Doint Within a Watland	) Von ATA	
VETLAND DETERM Hydrophytic Vegetation	on Present? Yes		oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Pr	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation	on Present? Yes		oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Pr	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (Nb)	
Hydrophytic Vegetation Wetland Hydrology Pro Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Production Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (Nb)	
Hydrophytic Vegetation Wetland Hydrology Proceed Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Proceed Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Production Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Production Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Proceed Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Proceed Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	Yes (No)	
Hydrophytic Vegetation Wetland Hydrology Proceed Hydric Soils Present?	on Present? Yes resent? Yes	No l	oling Point Within a Wetland	? Yes (No)	

		Project N	No/.Site: Peli	can - McDermott Pro	operty			
		Applicar	nt: Chevro	nTexaco		County/Stat	e: Nuece	s County, Texas
		Date:	October 3, 20	03		Investigator:	Matt	Barczyk
		E WETL		I ERMINATIO: eation Manual)				
Do Normal Circumstances exist on the site? Have vegetation, soils, or hydrology been di Is the area a potential Problem Area? (If needed, explain on reverse.)		Yes Yes Yes	No (No)	Community ID: Transect ID.: Plot ID:	T-1 Pit-007	7		
Sample Location:								
VEGETATION (Note those species observed to Dominant Plant Species	Stratum	Indicator		ith a *)  Dominant Pla	ant Species	St	ratum	Indicator
VEGETATION (Note those species observed to  Dominant Plant Species  1. Mimosa strigoillosa	Stratum H	Indicator FAC	9.				ratum	Indicator
VEGETATION (Note those species observed to  Dominant Plant Species  1. Mimosa strigoillosa  2. Oputina humifusa	Stratum H H	Indicator FAC FACU	9. 10.	Dominant Pla			ratum	Indicator
Dominant Plant Species  Mimosa strigoillosa  Oputina humifusa  Heterotheca subaxillaris	Stratum H	Indicator FAC	9. 10.	Dominant Pla				Indicator
Dominant Plant Species  1. Mimosa strigoillosa 2. Oputina humifusa 3. Heterotheca subaxillaris 4.	Stratum H H	Indicator FAC FACU	9. 10. 11.	Dominant Pla				Indicator
VEGETATION (Note those species observed to  Dominant Plant Species  1. Mimosa strigoillosa 2. Oputina humifusa 3. Heterotheca subaxillaris 4. 5.	Stratum H H H	Indicator FAC FACU	9. 10. 11. 12.	Dominant Pla				Indicator
Dominant Plant Species  1. Mimosa strigoillosa 2. Oputina humifusa 3. Heterotheca subaxillaris 4. 5. 6.	Stratum H H H	Indicator FAC FACU	9. 10. 11. 12. 13.	Dominant Pla				Indicator
Dominant Plant Species  1. Mimosa strigoillosa 2. Oputina humifusa 3. Heterotheca subaxillaris 4. 5. 6.	Stratum H H H	Indicator FAC FACU UPL	9. 10. 11. 12. 13. 14.	Dominant Pla				Indicator
NEGETATION (Note those species observed to  Dominant Plant Species  1. Mimosa strigoillosa 2. Oputina humifusa 3. Heterotheca subaxillaris 4. 5. 6. 7. 8.	Stratum H H H	Indicator FAC FACU UPL	9. 10. 11. 12. 13. 14. 15.	Dominant Pla				Indicator
<ol> <li>Mimosa strigoillosa</li> <li>Oputina humifusa</li> <li>Heterotheca subaxillaris</li> <li>5.</li> <li>6.</li> <li>7.</li> </ol>	Stratum H H H H FACW, or FAC	Indicator FAC FACU UPL	9. 10. 11. 12. 13. 14. 15.	Dominant Pla				Indicator

HYDROLOGY Recorded Data (Describe in Remarks): Wetland Hydrology Indicators: Stream, Lake, or Tide Gage X Aerial Photographs Primary Indicators: Other Inundated No Recorded Data Available Saturated in Upper 12 inches Field Observations: Water Marks Drift Lines Depth of Surface Water: N/A (in.) Sediment Deposits Drainage Patterns in Wetlands Depth to Free Water in Pit: >18 (in.) **Secondary Indicators** (2 or more required): Oxidized Root Channels in Upper 12 Inches Depth to Saturated Soil: >18 (in.) Water-Stained Leaves Local Soil Survey Data Other (Explain in Remarks) Remarks: No hydrology observed

SOILS	T: 1.1 a . (T)		- R : 01	Tin 1 1 1 1	
Map Unit Name:	Tidal flats (Ta)		Drainage Class:	Listed as hydric	
Taxonomy (Subgroup):			Field Observations Confirm Mapped Type?	Yes: No:	
Profile Description:	1	Matrix Color	Mottle Colors	Mottle	Texture, Concretions,
Depth (inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.
0-18	O/A	10YR 4/3	<u> </u>	<u>•</u>	Sandy silt
Hydric Soil Indicators					
	Histosol			oncretions	
	Histic Epipedon			gh Organic Content in S	urface Layer
	Sulfidic Odor Probable Aquic Moisture R	agima	Or XLis	ganic Streaking sted in Local Hydric Soil	le Liet
	Reducing Conditions	egnne	Lis	sted in Local Hydric Son	Soils Lists
	Gleyed or Low-Chroma Co	lors	Ot	her (Explain in Remarks	)
Remarks:					
WETLAND DETERM Hydrophytic Vegetation		No Is this Samp	oling Point Within a Wetland	Yes (No)	<del></del>
		$\equiv$ 1	Julig I Ollic Wildini a Wedand	. 10	
Wetland Hydrology Pr	resent? Yes	<b>6</b>			
Hydric Soils Present?	(Yes)	No			
11, 1110 00110 1 1 0001111					
Remarks:					

		Applicant		can – McDermott Pro nTexaco	<u> </u>	County/State:	Nuece	s County, Texas
			october 3, 20	03		Investigator:		Barczyk
		TD 4 77	. For	_				
	DOUTINE		A FORN	1 TERMINATION	LT.			
					•			
	(1987 CO	E wetian	as Delin	eation Manual)				
Do Normal Circumstances exist on the site	?	(GS)	No	Community ID:	_			
Have vegetation, soils, or hydrology been d	isturbed?	Yes	<b>6</b>	Transect ID.:	T-1			
Is the area a potential Problem Area?		Yes	KO	Plot ID:	Pit-008	(WB-002)		
	<b>O</b>							
(If needed, explain on reverse.)								
Sample Location:						<u> </u>		
Sample Location:	o have morphologic	cal adaptations	o wetlands w	ith a *)				
Sample Location:	o have morphologic Stratum	cal adaptations	o wetlands w	ith a *)  Dominant Pla	nt Species	Stra	tum	Indicator
Sample Location:  /EGETATION (Note those species observed to			o wetlands w	Dominant Pla			tum	Indicator
FACE TATION (Note those species observed to  Dominant Plant Species	Stratum	Indicator						Indicator
Fample Location:  /EGETATION (Note those species observed to	Stratum H	Indicator OBL	9.	Dominant Pla				Indicator
Sample Location:  /EGETATION (Note those species observed to	Stratum H S	Indicator OBL OBL	9. 10.	Dominant Pla				Indicator
FACTOR (Note those species observed to Dominant Plant Species  1. Spartina alterniflora  2. Avicennia germinans  3. Batis maritima	Stratum H S H	Indicator OBL OBL OBL	9. 10. 11.	Dominant Pla				Indicator
Sample Location:    FEGETATION (Note those species observed to Dominant Plant Species	Stratum H S H H	Indicator OBL OBL OBL	9. 10. 11.	Dominant Pla				Indicator
Sample Location:  VEGETATION (Note those species observed to   Dominant Plant Species  1. Spartina alterniflora  2. Avicennia germinans  3. Batis maritima  4. Distichlis spicata  5.	Stratum H S H H	Indicator OBL OBL OBL	9. 10. 11. 12. 13.	Dominant Pla				Indicator

Percent of Dominant Species that are OBL, FACW, or FA (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands.	C 4/4 (100%)	
Remarks:		_
HYDROLOGY		
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage	Wetland Hydrology Indicators:	-

X Aerial Photographs Primary Indicators: Other Inundated No Recorded Data Available Saturated in Upper 12 inches Field Observations: Water Marks Drift Lines Depth of Surface Water: N/A (in.) Sediment Deposits Drainage Patterns in Wetlands Depth to Free Water in Pit: 0 (in.) Secondary Indicators (2 or more required): X Oxidized Root Channels in Upper 12 Inches Depth to Saturated Soil: 0 (in.) Water-Stained Leaves Local Soil Survey Data Other (Explain in Remarks) Remarks:

Map Unit Name:	Tidal flats (Ta)		Drainage Class:	Listed as hydric	
Taxonomy			Field Observations		
(Subgroup):			Confirm Mapped Type?	Yes: No:	
Profile Description:					
		Matrix Color	Mottle Colors	Mottle	Texture, Concretion
Depth (inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance/Contrast	
0-18	O/A	10YR 5/1	10YR 5/6	15%	Sand
Hydric Soil Indicators:					
	istosol			ncretions	
	istic Epipedon			gh Organic Content in	Surface Layer
	ulfidic Odor	•	Or	ganic Streaking	
P1	robable Aquic Moisture R educing Conditions	legime		sted in Local Hydric S sted on National Hydri	
	leyed or Low-Chroma Co	lors	Oti	her (Explain in Remar	rks)
				( <i></i>	,
		No Is this Sam	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation	Present? (es)	No Is this Sam	oling Point Within a Wetland?	No No	
ETLAND DETERMING Hydrophytic Vegetation Wetland Hydrology Present?	Present? (es)		oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? (es)	No	oling Point Within a Wetland?	No No	

APPENDIX B

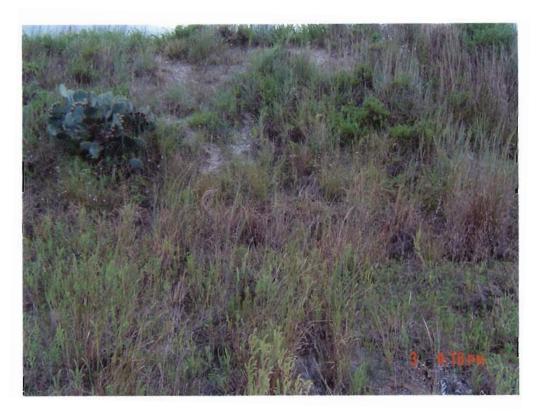
Photograph Log



Photograph 1: Facing north from upland Pit-001.



Photograph 2: Facing south from upladn Pit-002.



Photograph 3: Facing west from upland Pit-003.



Photograph 4: Facing west toward wetland WB-001.



Photograph 5: Facing west from Pit-008 in wetland WB-002.



Photograph 6: Facing south from the northeast corner of the site.



Photograph 7: Facing northwest from southeast corner of the site.

#### Pattillo, Mark E SWG

From:

Pattillo, Mark E SWG

Sent:

Monday, January 26, 2004 11:16 AM

To:

'mbarczyk@entrix.com'

Subject: McDermott Property delineation

#### Dear Matt:

Our unit leader, Lloyd Mullins, assigned verification of the subject delineation to me for processing. To verify I will need the following:

- 1) Written permission from the property owner granting the Corps permission to enter the site to verify the delineation.
- 2) The wetlands should be staked prior to our visit and the stakes numbered to correspond with delination map.
- 3) Survey of the delination once any adjustments have been made and the boundary has been verified by the Corps, you will need to provide a survey of the wetland sites prepared by a certified Professional Land Surveyor or a Professional Engineer with their signature and seal.

Let me know if you have any questions.

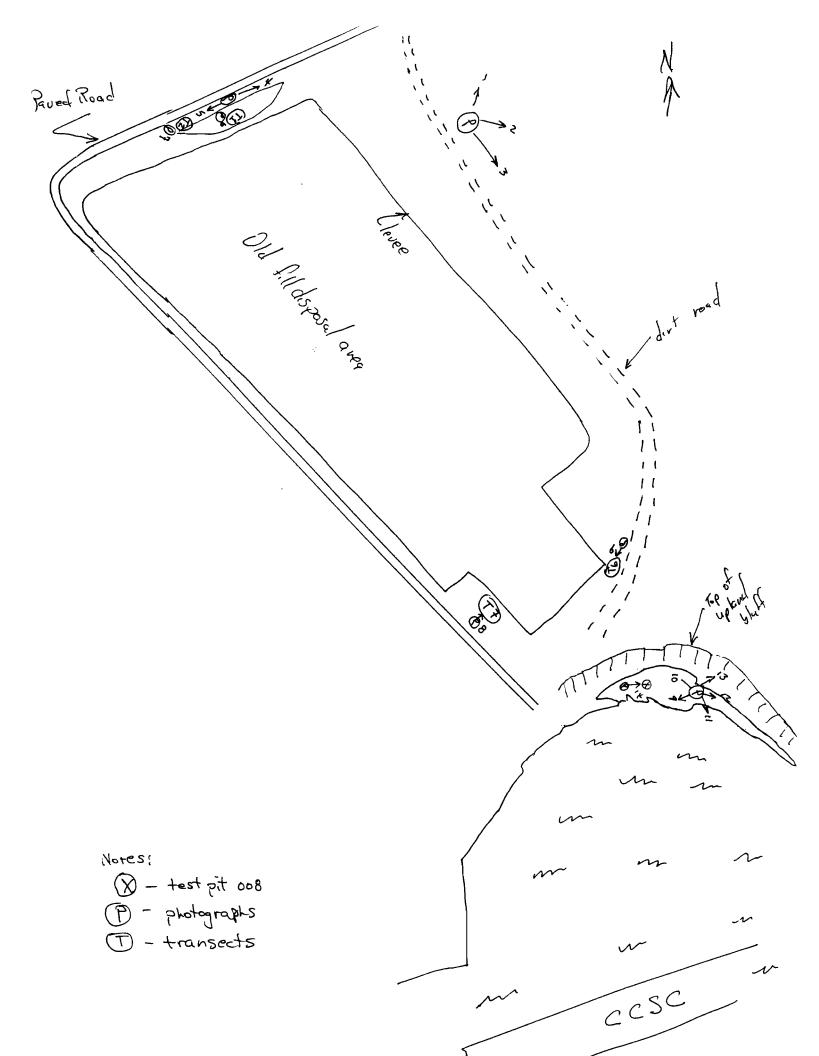
Sincerely,

Mark P









# Photographs taken by Mark Pattillo of shoreline adjacent to Corpus Christi Ship Channel at McDermott site on Harbor Island On 24 February 2004



Photo 1: Facing north from dirt road along east side of old leveed disposal area toward NE corner of property. Fence along northern property line visible on left side of photo.

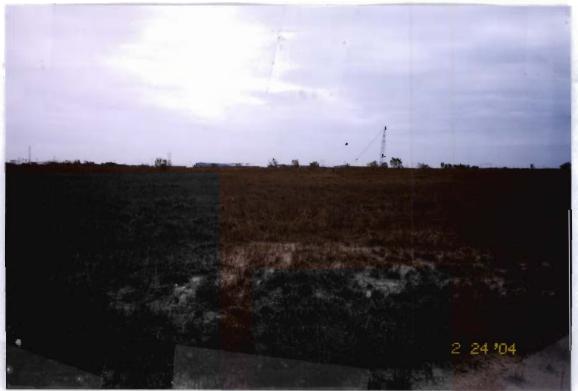


Photo 2: Facing east from same site to show area to the right of Photo 1 for panoramic view

# Photographs taken by Mark Pattillo of shoreline adjacent to Corpus Christi Ship Channel at McDermott site on Harbor Island On 24 February 2004



Photo 3: Facing SSE from same site to show area to the right of Photo 2` for panoramic view. Leveed area is to the right (south) of the dirt road.



Photo 4: Facing NE along borrow area for levee along north property line to show cattail wetland resulting from water trapped by depressional area between levee on the right (south) and roadbed to the left (north).

# Photographs taken by Mark Pattillo of shoreline adjacent to Corpus Christi Ship Channel at McDermott site on Harbor Island On 24 February 2004 (pg 3)



Photo 5: Facing west from same site to show opposite side of wetland area.



Photo 6: Test Pit 1 sampled in upland area between Wetland WB 001 and roadway at north end of agent's transect (T-1).

# Photographs taken by Mark Pattillo of shoreline adjacent to Corpus Christi Ship Channel at McDermott site on Harbor Island On 24 February 2004 (pg 4)



Photo 7: Facing NE toward Test Pit 3 sampled in upland area at south end of disposal area at agent's test pit (PIT-007).



Photo 8: Facing SW toward Test Pit 4 sampled in upland area at south end of disposal area at agent's test pit (PIT-006).

# Photographs taken by Mark Pattillo of shoreline adjacent to Corpus Christi Ship Channel at McDermott site on Harbor Island On 24 February 2004 (pg 5)



Photo 9: Facing west along shoreline from middle of wetland area (WB-002).



Photo 10: Facing WNW from same site to show area to the right of Photo 9 for panoramic view. Shovel in middle of picture placed at approximate seasonal high tide line.

# Corpus Christi Ship Channel at McDermott site on Harbor Island On 24 February 2004 (pg 6)



Photo 11: Facing NE along shoreline from west end of wetland area (WB-002).



Photo 12: Facing ENE from same site to show area to the left of Photo 11 for panoramic view.

# Corpus Christi Ship Channel at McDermott site on Harbor Island On 24 February 2004 (pg 7)



Photo 13: Facing north from same site to show area to the left of Photo 12 for panoramic view.



Photo 14: Facing SSE toward agent's sample point (Pit-008) marked by shovel.

Since 1984 - Environmental Excellence

ENTRIX, Inc. 5252 Westchester, Suite 250 Houston, Texas 77005 (713) 666-6223 (713) 666-5227 FAX

March 12, 2004

Mr. Mark Patillo Corpus Christi Field Office U.S. Army Corps of Engineers Galveston District 5151 Flynn Parkway, Suite 306 Corpus Christi, Texas 78411

Re: Revised Delineation Report

McDermott Property on Harbor Island

Nueces County, Texas Entrix Project # 1076903

Dear Mr. Mullins:

Please find the revised version of the "Wetland Assessment and Delineation, McDermott Property on Harbor Island" report. Revisions to the report were based on the results of the delineation verification conducted on February 24, 2004. The GPS data corresponding to this delineation report was emailed to you on Friday, March 12, 2004.

Thank you for your help. If you have any questions or comments please contact me at 713-662-1906 or Barry Gillespie at 713-662-1908.

Sincerely,

Matthew B. Barczyk

Staff Scientist



# WETLAND ASSESSMENT AND DELINEATION MCDERMOTT PROPERTY ON HARBOR ISLAND NUECES COUNTY, TEXAS

Prepared for:

# **CHEVRONTEXACO**

Houston, Texas

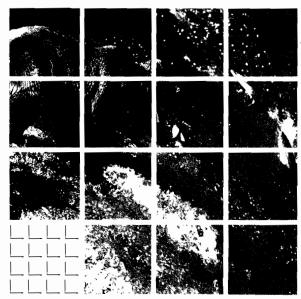
Prepared by:

# ENTRIX, Inc.

5252 Westchester, Suite 250 Houston, Texas 77005



October 2003 (Revised March 2004)



**USACE** Verified

# WETLAND ASSESSMENT AND DELINEATION

# MCDERMOTT PROPERTY ON HARBOR ISLAND NUECES COUNTY, TEXAS

Prepared for:

# **CHEVRONTEXACO**

Houston, Texas

Prepared by:

ENTRIX, Inc.

5252 Westchester Suite 250 Houston, Texas 77005

Project No. 1076903

October 2003 (Revised March 2004)

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Figure 1	Vicinity Map	
Figure 2	Site Location Map	
Figure 3 Figure 4	Aerial Photograph Illustrating Nucces County Soils	
Figure 5	Aerial Photograph Illustrating Potential Jurisdictional Areas Aerial Photograph Illustrating FEMA 100-Year Flood Plain	
Appendix		
Appendix A	Field Data Sheets	
Appendix B	Photograph Log	

#### 1. INTRODUCTION

#### 1.1 Scope of Work

This report presents the results of a wetland assessment and delineation conducted for ChevronTexaco, by ENTRIX, Inc. for an approximately 174-acre site in Nueces County, Texas.

On October 3, 2003, ENTRIX personnel (Matt Barczyk and Graciela Moore) conducted a wetlands delineation to determine:

- If potential jurisdictional wetlands or potentially jurisdictional Waters of the US (WUS) exist within the proposed boundaries of the site, and
- Approximate potential jurisdictional boundaries within the site.

This report summarizes the results of the wetland delineation. In addition, this report has been revised based on the results of a wetland verification conducted on February 24, 2004 by ENTRIX (Matt Barczyk) and the COE (Mark Patillo).

# 1.2 Area Description

The McDermott site is located on Harbor Island in Aransas Pass, Nueces County, Texas, which is west of the confluence of Aransas Channel, Corpus Christi Channel, and Lydia Ann Channel. The site is currently being used to fabricate offshore structures. The site is bordered by the Corpus Christi Channel to the south, by State Highway 361 to the east, by undeveloped land consisting primarily of coastal marsh to the north, and by Brown and Root to the west. The Port of Corpus Christi Authority (POCCA) Zachry site is east of SH 361 (Figure 1 and Figure 2).

The majority of the McDermott property is industrialized and unvegetated. The site has offices, a lay down yard, warehouses, slips, and a bulkhead. The northwest portion of the property is vegetated and would be classified as a shrub/grassland vegetation type. A leveed dredge spoil area is located on the western portion of the property, which is dominated by a mixture of herbaceous wetland and upland vegetation. The southern border of the McDermott property is located along an intercoastal waterway. The majority of the site boundary directly adjacent to the water has been bulkheaded or eroded and is not vegetated. An area in the southwest portion of the site has not been impounded and would be classified as a marsh. This area is primarily composed of herbaceous salt marsh species interspersed with Black mangrove (*Avicennia germinans*) shrubs.

St/Secure/Pelican/2003/6000 Assigned Task Studies/6207 FabricationSite EAIMcDermott/Wetlands/Figure 1.mxd

#### 2. ASSESSMENT METHODOLOGY

#### 2.1 Jurisdictional Wetlands

The jurisdictional wetland evaluation consisted of a site examination to determine whether the three wetland characteristics (hydrophytic vegetation, hydric soils, and wetland hydrology) were present at the site as determined by the U.S. Army Corps of Engineers (COE) criteria for jurisdictional wetlands.

Reference material used in the field and during report preparation included:

- USGS 7.5 minute series topographic map: Port Aransas, Texas; 1968,
- Aerial photography obtained from Lanmon Aerial Photography, Inc. (Date flown: 8/26/2002),
- Federal Emergency Management Agency (FEMA) 100-year floodplain map,
- The United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Soil Survey of Nueces County, Hydric Soils List in Nueces County Area, Texas,
- Munsell Soil Color Charts,
- US Army Corps of Engineers 1987 Wetlands Delineation Manual,
- National List of Plant Species that Occur in Wetlands: South Plains (Region 6), and
- Various field-identification books for plants.

Wetland assessment methodology as set forth in the COE Federal Manual for Identification of Jurisdictional Wetlands (1987) was followed. Background soils information of the subject tract was obtained from the USDA SCS-- Soil Survey of Nueces County, Texas. The publication The National List of Plant Species That Occur In Wetlands: South Plains--Region 6 (USFWS 1988) was used to determine the wetland status of plant species found at the site. ENTRIX relied upon field measurements and Global Positioning System (GPS) equipment to determine the approximate wetland acreage.

The findings of the field assessment are presented below. In accordance with the 1987 *Manual*, a survey in an area greater than five acres in size requires the use of transects. Transects were established for the project site prior to conducting field efforts. Data points were placed along the transects where vegetation, hydrology, and soils data was collected. The locations of the data points are analogous with the soil pit locations.

# 3. RESULTS OF FINDINGS

#### 3.1 Vegetation

#### 3.1.1 Plant Indicators Definitions

Table 1 summarizes the Wetland Indicator Status for plants as described in the publications, National List of Vascular Plant Species That Occur In Wetlands: 1988 National Summary (USFWS 1988), and Aquatic and Wetland Plants of the Western Gulf Coast (Stutzenbaker, 1999).

**TABLE 1: Plant Indicator Status Categories** 

Indicator Category	Indicator Symbol	Definition
Obligate Wetland Plants	OBL	Plants that occur almost always (estimated probability >99%) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1%) in non-wetlands. Examples: Spartina alterniflora, Taxodium distichum.
Facultative Wetland Plants	FACW	Plants that occur usually (estimated probability 67-99%) in wetlands, but also occurring in both wetlands and non-wetlands. Examples: Fraxinus pennsylvanica; Sesbania drummondi.
Facultative Plants	FAC	Plants with a similar likelihood (estimated probability of 33-67%) of occurring in both wetlands and non-wetlands. Examples: Myrica cerifera, Celtis occidentalis
Facultative Upland Plants	FACU	Plants that occur sometimes (estimated probability 1-33%) in wetlands, but occur more often (estimated probability 67-99%) in nonwetlands. Examples: Sapium sebiferum; Quercus rubra.
Obligate Upland Plants	UPL	Plants that occur rarely (estimated probability <1%) in wetlands, but almost always (>99% estimated probability) in non-wetlands.  Examples: Pinus echinata

#### 3.1.2 Site Observations

The following table indicates the species name and the indicator status of plants found in the potential jurisdictional wetland areas identified within the project site.

**TABLE 2: List of Plant Species Observed** 

Site ID	Vegetation Type	Indicator
		Status
WB-001	Eleocharis parvula	OBL
	Typha latifolia	OBL
	Sesbania drumundii	FACW
	Andropogon glomeratus	FACW+
	Juncus spp.	OBL
	Brachiaria platyphylla	FAC
WB-002	Spartina alterniflora	OBL
	Avicennia germinans	OBL
	Batis maritima	OBL
	Spartina patens	FACW
	Borrichia frutescens	FACW+
	Distichlis spicata	FACW+

Based upon the dominance of hydrophytic vegetation, the hydrophytic vegetation requirement, as set forth in the 1987 *Manual*, is met for the two potential jurisdictional wetland locations identified within the project site.

#### 3.2 Soils

The 1987 *Manual* defines a hydric soil as a "soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation".

Table 3 provides a list of field indicators used to define hydric soils.

**TABLE 3: Field Indicators for Hydric Soils** 

No.	Indicator	Description
1.	Organic Soils	A soil is an organic soil when: (1) More than 50% (by volume) of the upper 32 inches of soil is composed of organic material; or (2) organic soil material of any thickness rests on bedrock.
2.	Histic Epipedons	A histic epipedon is an 8- to 16-inch layer at or near the surface of a mineral hydric soil that is saturated with water for 30 consecutive days or more in most years and contains a minimum of 20% organic matter when no clay is present or a minimum of 30% organic matter when clay content is 60% or greater.
3.	Sulfidic Materials	When mineral soils emit an odor of rotten eggs, hydrogen sulfide is present. Such odors are detected only in waterlogged soils that are permanently saturated and have sulfidic material within a few centimeters of the soil surface.
4.	Aquic or Peraquic Moisture Regime	An aquic moisture regime is a reducing one: i.e., it is virtually free of dissolved oxygen because the soil is saturated by ground water or by water of the capillary fringe. Soils with peraquic moisture regimes are characterized by the presence of groundwater always at or near the soil surface.
5.	Direct Observation of Reducing Soil Conditions	Soils saturated for long or very long duration will usually exhibit reducing conditions. Under such conditions, ions of iron are transformed from a ferric valence state to a ferrous valence state. This condition can be detected in the field by a ferrous iron test performed by USDA soil scientists.
6.	Soil Colors	The colors of various soil components are often the most diagnostic indicator of hydric soils. Colors of these components are strongly influenced by the frequency and duration of soil saturation, which leads to reducing soil conditions. Mineral hydric soils will be either gleyed (gray colors) or will have bright mottles (rust colored spots) and/or low matrix chroma. The soil matrix is the portion of the soil that has the predominant color.
7.	Soil Appearing on Hydric Soils List	Using the National Technical Committee on Hydric Soils (NTCHS) criteria for hydric soils, the NTCHS developed both a local and national list of hydric soils. Listed soils possess reduced soil conditions for a significant portion of the growing season in a major portion of the root zone and are frequently saturated within 12 inches of the soil surface.
8.	Iron and Manganese Concretions	During the oxidation-reduction process, iron and manganese in suspension are sometimes segregated as oxides into concretions or soft masses. These accumulations are usually black or dark brown. Concretions >2 mm in diameter occurring within 7.5 cm of the surface are evidence that the soil is saturated for long periods of time near the surface.
9.	Indicators for Coarse- textured or Sandy Hydric Soils	<ul> <li>a. High organic matter content in the surface horizon</li> <li>b. Dark vertical streaking of subsurface horizon by organic matter</li> <li>c. Wet spodosols</li> <li>d. New sandbars</li> </ul>

The following Soil Series was mapped by the USDA-Soil Conservation Service (USDA-SCS) and corresponds to the wetland areas defined previously (Figure 3).

#### > Tidal flats (Listed as Hydric)

This soil is classified as hydric according to the USDA, SCS Hydric Soils in Nueces County Area, Texas hydric soils list.

#### 3.2.1 Tidal flats (Ta)

Tidal flats are mainly barren, nearly level areas that are above salt water at low tide but are flooded at normal high tide. Slopes range from 0 to 1 percent. At low tide the flats can be seen along parts of the mainland shore, along the edge of islands, and protruding above the water in shallow bays and lagoons.

Layers of sand, shells, and clay make up Tidal flats, but these layers are not considered in texture, in thickness, or in their arrangement. In some places gray clay occurs that is similar to, or is the same as, the parent material of many soils on the mainland.

A sparse growth of grasses and weeds tolerant of salt water borders the edges of these flats that are above water most often. Tidal flats have not been placed in a capability unit.

#### 3.2.2 Soils Site Observations

Based upon the literature reviewed and field observations at the potential jurisdictional wetland location identified, the hydric soil requirement, as set forth in the 1987 *Manual*, is met for the two potential jurisdictional wetland locations identified.

Positive hydric soil indicators were documented at the potential jurisdictional wetland locations, including:

- Gleyed or Low-Chroma Colors
- Listed in Local Hydric Soils List

S:\Secure\Pelican\2003\6000 Assigned Task Studies\6207 FabricationSite EA\McDermott\Wetlands\Figure 3.mxd



#### 3.3 Hydrology

The 1987 *Manual* definition of wetland hydrology "encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season". The project site elevation is approximately 0 to 10 feet above mean sea level based upon examination of the USGS 7.5-minute Port Aransas, Texas quadrangle.

#### 3.3.1 Indicators for Wetland Hydrology

Wetland indicators are important to assess properly the type of wetland investigated. The following table describes 1987 *Manual* field indicators for wetland hydrology determinations.

TABLE 4: Primary and Secondary Indicators for Wetland Hydrology

Primary	Indicator			
1.	Visual observations of inundation			
2.	Visual observations of soil saturation within 12 inches of the soil surface			
3.	Water marks on vegetation (particularly woody species)			
4.	Drift lines			
5.	Water-borne sediment deposits			
6.	Drainage patterns characteristic of wetlands			
Secondary	Indicator			
7.	Oxidized rhizospheres (root channels) associated with living roots and			
	rhizomes			
8.	Water-Stained Leaves			
9.	Local Soil Survey Data (if data correlates to visual observations)			
10.	Morphological plant adaptations (e.g. buttressed tree trunks)			
11.	FAC-Neutral test (comparative dominance of FAC, FACW, and OBL			
	vegetative species versus FACU and UPL vegetative species)			

#### 3.3.2 Hydrological Site Observations

During the site visit, ENTRIX made the following observations regarding primary and secondary wetland hydrology indicators observed in the potential jurisdictional areas identified within the project site:

#### **Primary**

- Inundated,
- Saturated in Upper 12 Inches,

#### Secondary

- Oxidized Root Channels in Upper 12 Inches, and
- Water-stained leaves



Based upon the hydrological indicators observed at the two potential jurisdictional wetland locations within the project site, the wetland hydrology requirement, as set forth in the 1987 *Manual*, is met for the areas investigated.

### 4. CONCLUSION

Figure 4a details the project site, which was determined to contain two wetlands based upon 1987 *Manual* criteria. Figures 4b-4c details the wetland locations. Approximately 0.99 acres of wetlands were identified on the project site. Based on the wetland verification wetland area WB-001 was determined not to be under COE section 404 jurisdiction and WB-002 was determined to be jurisdictional by the COE:

Total Jurisdictional Wetland Acreage	0.59 acres
• Wetland area WB-002	0.59 acres
<b>Total Wetland Acreage</b>	0.99 acres
• Wetland area WB-002	0.59 acres
<ul> <li>Wetland area WB-001</li> </ul>	0.40 acres

A review of aerial photographs (2002) of the project site revealed "signatures" characteristic of jurisdictional wetlands. The presence of hydric soils was confirmed and documented through the use of soil survey information and observational indicators. The three characteristics of a wetland (hydrophytic vegetation, hydric soils, and wetland hydrology) were met at the two potentially jurisdictional wetland areas identified. Figure 4 identifies the project site boundary, the wetlands identified, soil pit locations, and transect locations. The field data sheets are included in Appendix A and site photographs are included in Appendix B.

Both of the wetland areas identified are located within the FEMA 100-year floodplain (Figure 5). The COE considers the FEMA 100-year floodplain when determining if a potentially jurisdictional wetland is isolated (non-jurisdictional) or an adjacent wetland (jurisdictional) for regulatory purposes. Most wetlands located outside the FEMA 100-year floodplain would be considered isolated by the COE. If a potentially jurisdictional wetland contains two or more hydrological barriers from a Water of the U.S and is located within the FEMA 100-year floodplain it is likely the wetland will be considered isolated for regulatory purposes and therefore not jurisdictional.

The COE has regulatory authority regarding wetland issues, and the COE is responsible for the final jurisdictional determination of wetlands at a given site. On February 24, 2004 ENTRIX (Matt Barczyk) and COE (Mark Patillo) conducted a site verification to verify the jurisdictional status of the wetlands outlined in this delineation report. The wetland boundaries presented in this report have been verified and approved by the COE.

S:\Secure\Pelican\2003\6000 Assigned Task Studies\6207 FabricationSite EA\McDermott\Wellands\Figure 5.mxd

**USACE** Verified

**APPENDIX A** 

Field Data Sheets

Applica	No/.Site: Pelican – McDermott Property nt: ChevronTexaco		Nueces County, Texa
Date:	October 3, 2003	Investigator:	

### ROUTINE (1987 COE Wetlands Delineation Manual)

Do Normal Circumstances exist on the site?		(Yes)	No	Community ID:			
Have vegetation, soils, or hydrology been disturbed	ed?	Yes	ത്ര	Transect ID.:	T-3		
Is the area a potential Problem Area? (If needed, explain on reverse.)		Yes	(No)	Plot ID:	Pit-001		
(If ficeded, explain on reverse.)							
Sample Location:	·						
VECETATION (New through the control of the control		.1 . 4		'			
VEGETATION (Note those species observed to have Dominant Plant Species	morphologica Stratum	Indicator	o wetlands	Dominant Plan	nt Species	Strotum	Indicator
1. Baccharis halimifolia	S	FACW-	9.			Stratum	maicator
2. Oputina humifusa	<u>н</u> -	FACU-	- 10.				
3. Schizachyrium scoparium	<del>-                                    </del>	FACU+	-				
4.	<del></del> -	FACUT	- 11.				
			- 12.				
			- <sup>13.</sup>				<del></del> -
-			- 14. 15.				
0			_ 16.				
Percent of Dominant Species that are OBL, FACV		1/2 (22 20/)					
(except FAC-). Include species noted (*) as show	ving	1/3 (33.370)					
morphological adaptations to wetlands.	6						
Remarks:							
HYDROLOGY							
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage		W	etland Hy	ydrology Indicators:			
Stream, Lake, or Tide GageX_Aerial Photographs							
Other	Primary	Indicators:					1
No Recorded Data Available				nundated	1		
Field Observations:				aturated in Upper 12 inc Vater Marks	nes		}
Depth of Surface Water:N/A(in.)				Prift Lines			
Depth of Surface Water. N/A (in.)				ediment Deposits			
Depth to Free Water in Pit:(in.)			D	Prainage Patterns in Wet	ands		
	Seconda	ry Indicato		or more required):			
Depth to Saturated Soil: >18 (in.)				oxidized Root Channels i	in Upper 12 Inches		
				Vater-Stained Leaves ocal Soil Survey Data			
				ocal Soil Survey Data Other (Explain in Remark	·e)		
				LAPIAN IN KENIAK			
Remarks: No hydrology observed							

Taxonomy	lal flats (Ta)			Drainage Class:	Listed as hydric	
(Subgroup):				Field Observations Confirm Mapped Type?	Yes: No:	
Profile Description:			1atrix Color	Mottle Colors	Mottle	Texture, Concretions,
Depth (inches)	<u>Horizon</u>	(M	unsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.
0-18	O/A		10YR 6/2	-	<u> </u>	Silty sand with gravel
						and shell
Hydric Soil Indicators:						
Histos					ncretions gh Organic Content in	Surface Laver
Sulfidi	Epipedon c Odor			Or	ganic Streaking	
	ole Aquic Moist ing Conditions	ire Regime		XLis	ted in Local Hydric So ted on National Hydri	oils List
X Gleye	d or Low-Chron	na Colors		Oti	ner (Explain in Remar	ks)
Remarks:						
Tomaks.						
			<del></del>			<del></del>
	ION					
<u>WETLAND DETERMINAT</u>	1011					
WETLAND DETERMINAT  Hydrophytic Vegetation Pres		(No)	Is this Samp	oling Point Within a Wetland?	Yes (No	)
	sent? Yes	_	Is this Samp	oling Point Within a Wetland?	Yes (No	)
Hydrophytic Vegetation Present?	Yes Yes	<b>6</b>	Is this Samp	oling Point Within a Wetland?	Yes (No	)
Hydrophytic Vegetation Pres	sent? Yes	_	Is this Samp	oling Point Within a Wetland?	Yes (No	)
Hydrophytic Vegetation Present?	Yes Yes	<b>6</b>	Is this Samp	oling Point Within a Wetland?	Yes (No	)
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>	Is this Samp	oling Point Within a Wetland?	Yes (Nō)	)
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>	Is this Samp	oling Point Within a Wetland?	Yes (No	)
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>	Is this Samp	oling Point Within a Wetland?	Yes (Nō	)
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>	Is this Samp	oling Point Within a Wetland?	Yes (No	)
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>		oling Point Within a Wetland?	Yes (Nō	
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>		oling Point Within a Wetland?	Yes (Nô	)
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>		oling Point Within a Wetland?	Yes (Nō)	
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>		oling Point Within a Wetland?	Yes (No	
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>		oling Point Within a Wetland?	Yes (Nō)	
Hydrophytic Vegetation Pres Wetland Hydrology Present? Hydric Soils Present?	Yes Yes	<b>6</b>		oling Point Within a Wetland?	Yes (No	

Project No/.Site: Pelican - McDermott Property	
Applicant: ChevronTexaco	County/State: Nueces County, Texas
Date: October 3, 2003	Investigator: Matt Barczyk

to Normal Circumstances exist on the site?  ave vegetation, soils, or hydrology been dist the area a potential Problem Area?  (If needed, explain on reverse.)	urbed?	Yes Yes Yes	No X	Community ID: Transect ID.: Plot ID:	T-2 Pit-002		
mple Location:  GETATION (Note those species observed to h	ave morphologi	cal adaptations to	o wetlands				
Dominant Plant Species	Stratum	<u>Indicator</u>		Dominant Plan	nt Species	Stratum	Indicator
Chasmaecrista fasciculata	<u>H</u>	FACU-	<b>-</b> 9.				
Oputina humifusa	<u>H</u>	FACU	10.				
Schizachyrium scoparium	<u>H</u>	FACU+	_ 11.				
Ambrosia cumanensis	<u>H</u>	FAC-	12.				
Croton spp.	<u>H</u>	FAC	13.				
			_ 14.				
			15.				
· · · · · · · · · · · · · · · · · · ·			_ 16.				
except FAC-). Include species noted (*) as so orphological adaptations to wetlands.	howing	· · · · · · · · · · · · · · · · · · ·					
emarks:	howing						
DROLOGY  Recorded Data (Describe in Remarks):	howing	We	etland Hy	drology Indicators:			
DROLOGY Recorded Data (Describe in Remarks):Stream, Lake, or Tide Gage		We y Indicators:	In	undated			
DROLOGY Recorded Data (Describe in Remarks):Stream, Lake, or Tide Gage X_Aerial PhotographsOther	Primar	y Indicators:	In	nundated aturated in Upper 12 inc	ches		
PROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage  Aerial Photographs  Other  No Recorded Data Available eld Observations:	Primar		In	undated	ches		
PROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage  Aerial Photographs  Other  No Recorded Data Available eld Observations:  epth of Surface Water:  N/A (in.	Primar	y Indicators:	In Si	nundated aturated in Upper 12 included attracted in Upper 12 included attracted Marks rift Lines ediment Deposits rainage Patterns in Wet	lands		
DROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage  X Aerial Photographs  Other  No Recorded Data Available eld Observations:  epth of Surface Water:  N/A (in.	Primar  Second	y Indicators:	In   Si   W   D   Si   D   D   T   Si   C   T   T	nundated aturated in Upper 12 inc /ater Marks rift Lines ediment Deposits rainage Patterns in Wet	lands in Upper 12 Inc	hes	

Map Unit Name:	Tidal flats (Ta)		Drainage Class:	Listed as hy	ydric	
Faxonomy Subgroup):			Field Observations Confirm Mapped Type?	Yes:	No:	
Profile Description:		Matrix Color	Mottle Colors	Moti	tle	Texture, Concretions
Depth (inches)	<u>Horizon</u>	(Munsell Moist)	(Munsell Moist)	Abundance		Structure, etc.
0-2	O/A	10YR 4/2	<u> </u>	-		Sand
2-18	O/A	10YR 5/3				Sand with clay lens
Hydric Soil Indicators:						
Hist	tosol tic Epipedon		Hi			Surface Layer
Prol	fidic Odor bable Aquic Moisture	Regime	XLis	ganic Streakingsted in Local	Hydric Soi	ils List
Red	lucing Conditions eyed or Low-Chroma	•	Lis	sted on Natior her (Explain i	nal Hydric	Soils Lists
X Gle	eyed or Low-Chroma	Colors	Ot	ner (Explain i	in Kemarks	s)
Remarks:						
Remarks: ETLAND DETERMINA						
		(Vi) Is this Sam	pling Point Within a Wetland?	? Yes	No	
ETLAND DETERMINA	resent? Yes	(Ng) Is this Sam	pling Point Within a Wetland?	? Yes	No	
ETLAND DETERMINA Hydrophytic Vegetation P	resent? Yes		pling Point Within a Wetland?	? Yes	No	
ETLAND DETERMINA Hydrophytic Vegetation P Vetland Hydrology Present Hydric Soils Present?	resent? Yes nt? Yes	<b>1 1 1 1 1 1 1 1 1 1</b>	pling Point Within a Wetland?	? Yes	No	
ETLAND DETERMINA Hydrophytic Vegetation P Vetland Hydrology Present Hydric Soils Present?	resent? Yes nt? Yes	<b>1 1 1 1 1 1 1 1 1 1</b>	pling Point Within a Wetland?	? Yes	No	
ETLAND DETERMINA Hydrophytic Vegetation P Vetland Hydrology Present Hydric Soils Present?	resent? Yes nt? Yes	<b>1 1 1 1 1 1 1 1 1 1</b>	pling Point Within a Wetland?	? Yes	No	
ETLAND DETERMINA Hydrophytic Vegetation P Vetland Hydrology Preser	resent? Yes nt? Yes	<b>1 1 1 1 1 1 1 1 1 1</b>	pling Point Within a Wetland	? Yes	No	
ETLAND DETERMINA Hydrophytic Vegetation P Vetland Hydrology Present Hydric Soils Present?	resent? Yes nt? Yes	<b>1 1 1 1 1 1 1 1 1 1</b>	pling Point Within a Wetland?	? Yes	No	

Project No/.Site: Pelican - McDermott Property

Applicant: ChevronTexaco

County/State: Nueces County, Texas

Date: October 3, 2003

Investigator:

Matt Barczyk

## **DATA FORM** ROUTINE WETLAND DETERMINATION

Sample Location:  VEGETATION (Note those species observed to have morphological adaptations to wetlands with a ")  Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator  1. Sporobolus virginicus H FACW+ 9.  2. Iva angustifolia H FAC 10.  3. 11.  4. 12.  5. 13.  6. 14.  7. 15.  8. 15.  9. 16.  Percent of Dominant Species that are OBL, FACW, or FAC 2/2 (100%)  (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands.  Remarks:  HYDROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage  X. Acrial Photographs Other No Recorded Data Available Frield Observations:  Depth of Surface Water: N/A (in.) Depth to Free Water in Pit: 12 (in.) Depth to Saturated Soil: >18 (in.)  Remarks:  Remarks:  Stream Lake, or Tide Gage  Depth to Saturated Soil: >18 (in.)  Depth to Saturated Soil: >18 (in.)  No Recorded Data (Describe in Remarks)  Secondary Indicators: Oxidized Root Channels in Upper 12 Inches Water Stained Leaves Local Soil Survey Data Other (Explain in Remarks)		Normal Circumstances exist on the site? e vegetation, soils, or hydrology been distur e area a potential Problem Area? (If needed, explain on reverse.)	rbed?	Yes Yes Yes	No ®	Community ID: Transect ID.: Plot ID:	T-1 Pit-003		
Sporabolus virginicus	-	ETATION (Note those species observed to have	e morphologi		o wetlands w				
2.						Dominant Pla	nt Species	Stratum	Indicator
3.	1.		<u>H</u>		<b>-</b> 9.				
4.	2.	lva angustifolia	<u>H</u>	FAC	_ 10.				
12.   5.   6.   14.     7.   15.   8.   16.   16.     16.     16.   16.     16.	3.				_ 11.				
6.	4.				12.				
7. 8. 15. 16. 16. 16. 16. 16. 16. 17. 17. 18. 16. 16. 16. 16. 16. 16. 16. 16. 16. 16	5.				13.				
8	6.				_ I4.				
Percent of Dominant Species that are OBL, FACW, or FAC 2/2 (100%) (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands.  Remarks:    HYDROLOGY	7.				_ 15.				
Percent of Dominant Species that are OBL, FACW, or FAC 2/2 (100%) (except FAC-). Include species noted (*) as showing morphological adaptations to wetlands.  Remarks:    HYDROLOGY	8.				16.				
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available Field Observations:  Depth of Surface Water: N/A (in.)  Depth to Free Water in Pit: Depth to Saturated Soil:  Ovidized Root Channels in Upper 12 Inches  Water-Stained Leaves  Local Soil Survey Data  Other (Explain in Remarks)									
Stream, Lake, or Tide Gage  X Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  Saturated in Upper 12 inches  Saturated Soil:  Oxidized Root Channels in Upper 12 Inches  Cocal Soil Survey Data  Other (Explain in Remarks)				<del></del>					
Other (Explain in Remarks)	HYDI								
	X Field Dep	Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage Aerial Photographs Other No Recorded Data Available d Observations:  th of Surface Water: N/A (in.)  with to Free Water in Pit: 12 (in.)	Second	y Indicators:	Inu Sat Wa Dri Sec Dra Ors (2 o	andated curated in Upper 12 inc ater Marks ift Lines diment Deposits ainage Patterns in Wet or more required): idized Root Channels ater-Stained Leaves	lands	nes	

Field Observations   Confirm Mapped Type? Yes: No:	T.	l flats (Ta)			Drainage Class:	Listed as hydric	
Matrix Color   Mottle Colors						Yes: No:	
Depth (inchea) Horizon (Munsell Moist) (Munsell Moist) Abundance/Contrast Structure, etc.  0-18 O/A 10YR 5/2 Gley 2 6/10B 10% Sand  Hydric Soil Indicators:  Hydric Soil Indicators:  Histosol Concretions Hist Epipedon High Organic Content in Surface Layer Organic Streaking Probable Aquic Moisture Regime X Listed in Local Hydric Soils List Reducing Conditions Listed National Hydric Soils Lists A Gleyed or Low-Chroma Colors  Remarks:    Concretions High Organic Content in Surface Layer Organic Streaking Organic Streaking A Listed in Local Hydric Soils Lists Other (Explain in Remarks)    District Content in Surface Layer Organic Streaking   Organic Streaking   X Listed in Local Hydric Soils Lists   District Content in Surface Layer Organic Streaking   X Listed in Local Hydric Soils Lists   District Content in Surface Layer Organic Streaking   X Listed in Local Hydric Soils Lists   District Content in Surface Layer Organic Streaking   X Listed in Local Hydric Soils Lists   District Content in Surface Layer Organic Streaking   X Listed in Local Hydric Soils Lists   District Content in Surface Layer Organic Streaking   X Listed in Local Hydric Soils Lists   District Content in Surface Layer Organic Streaking   X Listed in Local Hydric Soils Lists   District Content in Surface Layer Organic Streaking   X Listed in Local Hydric Soils Lists   District Content in Surface Layer Organic Streaking   District Content in Surface Layer Organic Content in Surface Layer Org	Profile Description:			<u>.</u>			
Hydric Soil Indicators:  Histosol Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions A Listed on National Hydric Soils List Reducing Conditions A Concretions High Organic Streaking Reducing Conditions A Listed on National Hydric Soils List Other (Explain in Remarks)  No Hydrophytic Vegetation Present?  Wetland Hydrology Present?  Ves No Wetland Hydrology Present?  No Remarks:	Denth (inches)	Horizon					
Hydric Soil Indicators:  Histosol Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions X Listed on National Hydric Soils List Listed on National Hydric Soils List Other (Explain in Remarks)  Remarks:  /ETLAND DETERMINATION Hydrophytic Vegetation Present?  Yes No Wetland Hydrology Present? Yes No Remarks:							
Histosol Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions Aligh Organic Streaking Probable Aquic Moisture Regime Reducing Conditions Aligh Organic Streaking Alisted on National Hydric Soils Lists Alisted on National Hydric Soils Lists Other (Explain in Remarks)  Remarks:    Concretions							
Histosol Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Reducing Conditions A Listed in Local Hydric Soils List A Gleyed or Low-Chroma Colors  CETLAND DETERMINATION Hydrophytic Vegetation Present? Hydric Soils Present? Hydric Soils Present? Hydric Soils Present? No Remarks:							
Histic Epipedon Sulfidic Odor Probable Aquic Moisture Regime Probable Aquic Moisture Regime Reducing Conditions X Listed in Local Hydric Soils List Clisted on National Hydric Soils Lists Other (Explain in Remarks)  ETLAND DETERMINATION Hydrophytic Vegetation Present? Yes No Wetland Hydrology Present? Yes No Wetland Hydrology Present? Yes No Remarks:					Co	narations	
Sulfidic Odor Probable Aquic Moisture Regime X Listed in Local Hydric Soils List Reducing Conditions Listed on National Hydric Soils Lists Other (Explain in Remarks)  Remarks:    Conditions							Surface Layer
Reducing Conditions X Gleyed or Low-Chroma Colors  CETLAND DETERMINATION Hydrophytic Vegetation Present?  We No Wetland Hydrology Present?  Yes No Wetland Hydrology Present?  Wes No Remarks:  Listed on National Hydric Soils Lists Other (Explain in Remarks)  Listed on National Hydric Soils Lists Other (Explain in Remarks)  Wetland I sthis Sampling Point Within a Wetland? Yes No Wetland Hydrology Present?  No Remarks:	Sulfidic	Odor			Or	ganic Streaking	
Remarks:  Other (Explain in Remarks)  VETLAND DETERMINATION  Hydrophytic Vegetation Present? Yes No Wetland Hydrology Present? Yes No Hydric Soils Present? No Remarks:			Regime		XLis	sted in Local Hydric So sted on National Hydric	als List Soils Lists
/ETLAND DETERMINATION  Hydrophytic Vegetation Present? Yes No  Wetland Hydrology Present? Yes No  Hydric Soils Present? No  Remarks:	X Gleyed	or Low-Chroma (	Colors		Ot	her (Explain in Remark	(s)
Wetland Hydrology Present?  Yes No  Hydric Soils Present?  No  Remarks:							
Hydric Soils Present? No Remarks:							
Remarks:	Hydrophytic Vegetation Prese	nt? (Yes	_	Is this Samp	ling Point Within a Wetland?	Yes (No)	)
· ·	Hydrophytic Vegetation Prese	nt? (Yes	_	Is this Samp	ling Point Within a Wetland?	Yes (No)	
	Hydrophytic Vegetation Prese Wetland Hydrology Present?	nt? Yes	No	Is this Samp	ling Point Within a Wetland	Yes (No)	)
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No	Is this Samp	ling Point Within a Wetland'	Yes (No)	)
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No	Is this Samp	ling Point Within a Wetland?	Yes (No)	
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No		ling Point Within a Wetland?	Yes No	
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No		ling Point Within a Wetland'	Yes (No)	
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No		ling Point Within a Wetland	Yes No	
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No		ling Point Within a Wetland	Yes (No)	
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No		ling Point Within a Wetland?	Yes No	
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No		ling Point Within a Wetland	Yes No	
	Hydrophytic Vegetation Prese Wetland Hydrology Present? Hydric Soils Present?	nt? Yes	No		ling Point Within a Wetland	Yes No	

Applicant: ChevronTexaco	County/State: Nueces County, Tex
Date: October 3, 2003	Investigator: Matt Barczyk

	Normal Circumstances exist on the site?	10	(Yes)	No	Community ID:			
	e vegetation, soils, or hydrology been disturb e area a potential Problem Area?	ed?	Yes Yes	<b>M</b>	Transect ID.: Plot ID:	T-1		
18 11	(If needed, explain on reverse.)		168	No	PIOUID.	Pit-004 (WB-00	01)	
	(if needed, explain on reverse.)							
Samp	le Location:	<u></u>						
-								
VEGI	ETATION (Note those species observed to have			to wetlan		· <del>-</del>		
1	Dominant Plant Species	Stratum	<u>Indicator</u>		Dominant Plan	nt Species	Stratum	Indicator
1.	Eleocharis parvula	<u>H</u>	OBL	_ 9				
2.	Typha latifolia	H	OBL	10				
3.	Sesbania drumundii	<u>S</u>	FACW_	11				
4.	Andropogon glomeratus	H	FACW+	12				
5.	Brachiaria platyphylla	Н	FAC	13				
6.				14				
7.				_ 15				
8.				_ 16				
	ent of Dominant Species that are OBL, FAC	W or EAC	5/5 (1009/)					
							<del></del>	
HYDI	ROLOGY  Recorded Data (Describe in Remarks):		<b>V</b>	latland	Hydrology Indicators:		<del></del>	
	Stream, Lake, or Tide Gage		VV	CHAIR	rrydrology marcators.			
	Aerial Photographs	Primar	y Indicators:					
_	Other	1111141	X	<u> </u>	Inundated			
	No Recorded Data Available		X		Saturated in Upper 12 inc	ches		
Field	d Observations:	,			Water Marks			
Den	th of Surface Water: N/A (in.)				Drift Lines			
Вср	mi of Surface Water IVA(m.)				Sediment Deposits			
Dep	oth to Free Water in Pit: 2 (in.)	-	, F.,		Drainage Patterns in Wet	lands		
	,	Second	dary Indicat	ors	(2 or more required):			
Dep	oth to Saturated Soil: >18 (in.)		X		Oxidized Root Channels	in Upper 12 Inches		
					Water-Stained Leaves			
					Local Soil Survey Data			
					Other (Explain in Remark	ks)		
Rem	arks:				<del></del>			

0-2	Horizon			Field Observations Confirm Mapped Type?	Yes:	No:	
Depth (inches) I	Horizon						
0-2	Horizon						
0-2		(Mu	atrix Color insell Moist)	Mottle Colors (Munsell Moist)	Mottl Abundance/		Texture, Concretion Structure, etc.
	O/A		0YR 4/1	•	-		Sand
2-18	O/A	1	0YR 5/1	-			Sand
						<del></del> .	
lydric Soil Indicators:							
Histosol					oncretions		efo . a I aven
Histic Epipe Sulfidic Odo				Oı	gh Organic Co ganic Streakin	ontent in Sui	rrace Layer
Probable Aq	quic Moisture	Regime		XLi	sted in Local F	lydric Soils	List
Reducing Co X Gleyed or L	onditions .ow-Chroma (	Colors			sted on Nation her (Explain in		oils Lists
Oldycardi E	ow-emonia v	Colors			inci (Explain ii	i Kemarks)	
ETLAND DETERMINATION							
Hydrophytic Vegetation Present?	YES	No	Is this Samp	ling Point Within a Wetland	? (Yè	No	
Wetland Hydrology Present?	<b>⊗</b>	No					
Hydric Soils Present?	(Ye)	No					
Remarks:			ll				
			,				
	•		•				

		Applicant		ican – McDermott Pro nTexaco		County/State	e: Nuece	s County, Texa
			October 3, 20	003		Investigator:	Mat	Barczyk
	DOUTINE		TA FORN	M TERMINATION	<b>N</b> T			
				eation Manual)				
Oo Normal Circumstances exist on the site? Have vegetation, soils, or hydrology been dis the area a potential Problem Area?		Yes Yes Yes	No No	Community ID: Transect ID.: Plot ID:	T-1 Pit-005	-verified		
(If needed, explain on reverse.)								<del></del>
EGETATION (Note those species observed to	have morphologic		to wetlands w					
mple Location:  EGETATION (Note those species observed to Dominant Plant Species	Stratum	Indicator		ith a *)  Dominant Pla	nt Species	Str	ratum	Indicator
mple Location:  GETATION (Note those species observed to  Dominant Plant Species  Baccharis halimifolia	Stratum H	Indicator FACW-	9.		•		ratum	Indicator
CGETATION (Note those species observed to  Dominant Plant Species  Baccharis halimifolia  Oputina humifusa	Stratum H H	Indicator FACW- FACU	9. 10.	Dominant Pla				Indicator
CGETATION (Note those species observed to  Dominant Plant Species  Baccharis halimifolia  Oputina humifusa  Schizachyrium scoparium	Stratum H	Indicator FACW-	9. 10.	Dominant Pla				Indicator
mple Location:  CGETATION (Note those species observed to Dominant Plant Species  Baccharis halimifolia  Oputina humifusa  Schizachyrium scoparium	Stratum H H	Indicator FACW- FACU	9. 10. 11.	Dominant Pla				Indicator
mple Location:  GETATION (Note those species observed to  Dominant Plant Species  Baccharis halimifolia  Oputina humifusa  Schizachyrium scoparium	Stratum H H	Indicator FACW- FACU	9. 10. 11. 12.	Dominant Pla				Indicator
mple Location:  CGETATION (Note those species observed to  Dominant Plant Species  Baccharis halimifolia  Oputina humifusa  Schizachyrium scoparium	Stratum H H	Indicator FACW- FACU	9. 10. 11. 12. 13.	Dominant Pla				Indicator
mple Location:  EGETATION (Note those species observed to  Dominant Plant Species  Baccharis halimifolia  Oputina humifusa  Schizachyrium scoparium	Stratum H H	Indicator FACW- FACU	9. 10. 11. 12.	Dominant Pla				Indicator

Recorded Data (Describe in Remarks):Stream, Lake, or Tide GageX Aerial PhotographsOtherNo Recorded Data Available Field Observations:  Depth of Surface Water:N/A(in.)  Depth to Free Water in Pit:>18(in.)  Depth to Saturated Soil:>18(in.)	Inundated Saturated in Upper 12 inches Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands (2 or more required): Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data Other (Explain in Remarks)
---	---

Remarks:

Map Unit Name:	Tidal flats (Ta)			Drainage Class:	Listed as hy	dric	
Taxonomy (Subgroup):				Field Observations Confirm Mapped Type?	Yes:	No:	
Profile Description:		Ма	atrix Color	Mottle Colors	Mott	le	Texture, Concretions
Depth (inches)	<u>Horizon</u>	(Mur	nsell Moist)	(Munsell Moist)	Abundance/	Contrast	Structure, etc.
0-18	O/A	10	OYR 5/3	10YR 5/4	10%	<u></u>	Sandy clay
Hydric Soil Indicators:							
	istosol istic Epipedon				ncretions gh Organic Co	ontent in Su	urface Layer
Sı	ılfidic Odor	. D. '.		Or	ganic Streakin	ng	
	robable Aquic Moistu educing Conditions	re Regime		XLis Lis	sted in Local F sted on Nation	nal Hydric Son	s List Soils Lists
G	leyed or Low-Chroma	Colors		Ot	her (Explain i	n Remarks)	)
				,			
VETLAND DETERMIN	NATION			,			
VETLAND DETERMIN Hydrophytic Vegetation		(No)	Is this Sampli	ng Point Within a Wetland	Yes	(Nô)	
Hydrophytic Vegetation	Present? Yes	(D)	Is this Sampli		Yes	(Nô)	
VETLAND DETERMIN Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? Yes		Is this Sampli		? Yes	(Nô)	
Hydrophytic Vegetation Wetland Hydrology Pres	Present? Yes sent? Yes	∞	Is this Sampli		Yes Yes	(Nô)	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? Yes sent? Yes	∞	Is this Sampli		Yes	(Nô)	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? Yes sent? Yes	∞			? Yes	(Nô)	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? Yes sent? Yes	∞	Is this Sampli		Yes	(Nô)	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? Yes sent? Yes	∞			Yes	(Nô)	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? Yes sent? Yes	∞			? Yes	(No)	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? Yes sent? Yes	∞			Yes	(Nô)	
Hydrophytic Vegetation Wetland Hydrology Pres Hydric Soils Present?	Present? Yes sent? Yes	∞			Yes Yes	No	

Project No/.Site: Pelican - McDermott Property	
Applicant: ChevronTexaco	County/State: Nueces County, Texas
Date: October 3, 2003	Investigator: Matt Barczyk

Do Normal Circumstances exist on the site? Have vegetation, soils, or hydrology been disturb Is the area a potential Problem Area? (If needed, explain on reverse.)	ped?	Yes Yes Yes	No RO	Community ID: Transect ID.: Plot ID:	T-1 Pit-006-verified	1	
Sample Location:			<del></del>		<del></del>	<del></del> - ·	
VEGETATION (Note those species observed to have	morphologic	al adaptations to	n wetlande	s with a *)			
Dominant Plant Species	Stratum	Indicator	o worthing	Dominant Plan	nt Species	Stratum	Indicator
1. Baccharis halimifolia	S	FACW-	9.				
2. Oputina humifusa	Н	FACU	10.				
3. Heterotheca subaxillaris	Н	UPL	11.				
4. Mimosa strigoillosa	H	FAC	12.				
5.			13.				
6.			14.				
7.			15.				
8			16.				
HYDROLOGY  Recorded Data (Describe in Remarks):		W	etland H	udralam Indicators			
Stream, Lake, or Tide Gage  X Aerial Photographs Other No Recorded Data Available  Field Observations:	Primary	Indicators:	ı	ydrology Indicators: nundated Saturated in Upper 12 inc	hes		
Depth of Surface Water: N/A (in.)			_ '	Water Marks Drift Lines Sediment Deposits			
Depth to Free Water in Pit: >18 (in.)	Second	ary Indicato	rs (	Orainage Patterns in Wetl  2 or more required):			
Depth to Saturated Soil: >18 (in.)			'	Oxidized Root Channels i Water-Stained Leaves Local Soil Survey Data Other (Explain in Remark			
Remarks: No hydrology observed	· · · · · · · · · · · · · · · · · · ·						

Taxonomy	flats (Ta)			Drainage Class:	Listed as hydric	
(Subgroup):				Field Observations Confirm Mapped Type?	Yes: No:	
Profile Description:						
Depth (inches)	Horizon		Matrix Color <u>(unsell Moist)</u>	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretion Structure, etc.
0-18	0/A		10YR 6/2	-	-	Sandy silt
						- Sundy sint
			<del></del>			
U. J.: C. 7 L. F.						
Hydric Soil Indicators: Histosol				Co	oncretions	
Histic Ep	ipedon				gh Organic Content in	Surface Layer
Sulfidic (	Odor Aquic Moistu	re Regime		Or X Lis	ganic Streaking sted in Local Hydric So	sile Liet
	Conditions	ie Regillie			sted in Eocal Trydic Sc sted on National Hydric	
	Low-Chroina	Colors			her (Explain in Remarl	
Remarks:						
Evidence that dredge fill materia	al has been pla	ced in this ar	rea, but this appe	ears to have been many years	ago.	
_	_					
		· · · · · · · · · · · · · · · · · · ·				
		No	Is this Samp	ling Point Within a Wetland?	Yes (No)	
Hydrophytic Vegetation Presen		RS)	Is this Samp	ling Point Within a Wetland?	Yes (No)	
Hydrophytic Vegetation Presen	t? Yes	No	Is this Samp	ling Point Within a Wetland?	Yes (No)	
Hydrophytic Vegetation Presen Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes		Is this Samp	ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Present Wetland Hydrology Present?	t? Yes Yes		Is this Samp	ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes		Is this Samp	ling Point Within a Wetland?	Yes (No)	
Hydrophytic Vegetation Presen Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes		Is this Samp	ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes		Is this Samp	ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Presen Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes		Is this Samp	ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes			ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes			ling Point Within a Wetland?	Yes No	
Wetland Hydrology Present?  Hydric Soils Present?	t? Yes Yes			ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes			ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes			ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Presen Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes			ling Point Within a Wetland?	Yes No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	t? Yes Yes			ling Point Within a Wetland?	Yes No	

		Project N	o/.Site: Pel	ican – McDermott Pro	perty		
		Applicant		nTexaco		nty/State: Nuece	es County, Texa
			October 3, 20	003			Barczyk
		_					
		E WETLA		M TERMINATION eation Manual)			
Do Normal Circumstances exist on the site?		(See	No	Community ID:			
Have vegetation, soils, or hydrology been d			No	Transect ID.:	T-1		
Is the area a potential Problem Area?		Yes	(No)	Plot ID:	Pit-007-ver	rified	
(If needed, explain on reverse.)							
Sample Location:  VEGETATION (Note those species observed to	o have morphologi	cal adaptations	to wetlands w	vith a *)			
Dominant Plant Species	Stratum	Indicator		Dominant Pla	nt Species	Stratum	Indicator
1. Mimosa strigoillosa	H	FAC	9.				
2. Oputina humifusa	Н	FACU	10.				
3. Distichlis spicata	H	FACW+	11.				
4. Ambrosia trifida	Н	FAC	12.				
5. Machaeranthera phyllocephala	Н	FACW	13.				
6.			14.				
7.			15.				
8			16.				
Percent of Dominant Species that are OBL, (except FAC-). Include species noted (*) as morphological adaptations to wetlands.  Remarks:		2 4/5 (80%)					
HYDROLOGY Recorded Data (Describe in Remarks):Stream, Lake, or Tide GageX_Aerial Photographs		W y Indicators		drology Indicators:			
Other	Frimar	y indicators		ındated			
No Recorded Data Available				madica			

HYDROLOGY Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available Saturated in Upper 12 inches Field Observations: Water Marks Drift Lines Depth of Surface Water: N/A (in.) Sediment Deposits Drainage Patterns in Wetlands Depth to Free Water in Pit: \_\_\_ >18\_\_\_\_(in.) Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 Inches Depth to Saturated Soil: >18 (in.) Water-Stained Leaves Local Soil Survey Data Other (Explain in Remarks) Remarks: No hydrology observed

Map Unit Name:	Tidal flats (Ta)			Drainage Class:	Listed as hydric	c	
Гахопоту (Subgroup):				Field Observations Confirm Mapped Type?	Yes: No	o:	
Profile Description:			atrix Color	Mottle Colors	Mottle		Texture, Concretions
Depth (inches)	Horizon		insell Moist)	(Munsell Moist)	Abundance/Con	ntrast	Structure, etc.
0-18	O/A	1	0YR 4/3				Sandy silt
Hydric Soil Indicators:							
	listosol Iistic Epipedon				oncretions gh Organic Conte	ent in Surf	ince I aver
S	ulfidic Odor			Or	ganic Streaking		
	robable Aquic Moisture leducing Conditions	Regime		XLis	sted in Local Hyd sted on National I	iric Soils I Hydric Soi	List ils Lists
G	leyed or Low-Chroma C	Colors			her (Explain in R		no Bioto
Remarks:							
	NATION						
ETLAND DETERMI		No	Is this Sampl	ing Point Within a Wetland	? Yes	No	
'ETLAND DETERMI	n Present? Yes	No No	Is this Sampl	ing Point Within a Wetland	? Yes	No	
ETLAND DETERMI Hydrophytic Vegetation	n Present? Yes	_	Is this Sampl	ing Point Within a Wetland	? Yes	No	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre	n Present? (Yes) sent? Yes	€	Is this Sampl	ing Point Within a Wetland	? Yes	No	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present? Remarks:	rsent? (Yes) rsent? Yes (Yes)	№ No				No	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present? Remarks:	rsent? (Yes) rsent? Yes (Yes)	№ No		ing Point Within a Wetland		(Vo)	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present? Remarks:	rsent? (Yes) rsent? Yes (Yes)	№ No				No	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present? Remarks:	rsent? (Yes) rsent? Yes (Yes)	№ No				No	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present? Remarks:	rsent? (Yes) rsent? Yes (Yes)	№ No				No	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present? Remarks:	rsent? (Yes) rsent? Yes (Yes)	№ No				No	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present? Remarks:	rsent? (Yes) rsent? Yes (Yes)	№ No				(No)	
ETLAND DETERMI Hydrophytic Vegetation Wetland Hydrology Pre Hydric Soils Present? Remarks:	rsent? (Yes) rsent? Yes (Yes)	№ No				No	

		Project No	o/.Site: Pel	ican – McDermott Pro	perty					
		Applicant	: Chevro	nTexaco	Cou	anty/State: Nue	eces County, Texas			
		Date: O	October 3, 20	003	Inv	estigator: M	att Barczyk			
	DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)									
Do Normal Circumstances exist on the site?		(T)	No	Community ID:						
Have vegetation, soils, or hydrology been disturb Is the area a potential Problem Area?	ed?	Yes Yes	<b>₩</b> 9	Transect ID.: Plot ID:	T-1					
(If needed, explain on reverse.)		1 5	$\bigcirc$	riot iD.	Pit-008 (W	B-002) - veri	fied			
Sample Location:  VEGETATION (Note those species observed to have	morphologi	cal adaptations	to wetlands w	vith a *)						
	Stratum	Indicator		Dominant Plan	nt Species	Stratum	Indicator			
1. Spartina alterniflora	Н	OBL	9.							
2. Avicennia germinans	S	OBL	10.							
3. Batis maritima	Н	OBL	11.							
4. Distichlis spicata	Н	FACW+	12.							
5. Spartina patens	Н	FACW	13.							
6. Borrichia frutescens	H	FACW+	14.							
7.			15.							
8			16							

Spartina alterniflora	H	OBL	9.		
Avicennia germinans	S	OBL	10.		
Batis maritima	Н	OBL	11.		
Distichlis spicata	H	FACW+	12.		
Spartina patens	Н	FACW	13.		
Borrichia frutescens	H	FACW+	14.		
			15.		
			16.		
ept FAC-). Include species noted (*) as sh		C 6/6 (100%)			
arks:					
•	Avicennia germinans  Batis maritima  Distichlis spicata  Spartina patens  Borrichia frutescens  ent of Dominant Species that are OBL, FA	Avicennia germinans  Batis maritima  Distichlis spicata  H  Spartina patens  Borrichia frutescens  H  ent of Dominant Species that are OBL, FACW, or FACept FAC-). Include species noted (*) as showing phological adaptations to wetlands.	Avicennia germinans  Batis maritima  H OBL  Distichlis spicata  H FACW+  Spartina patens  Borrichia frutescens  H FACW+  H FACW+  ent of Dominant Species that are OBL, FACW, or FAC  ept FAC-). Include species noted (*) as showing phological adaptations to wetlands.	Avicennia germinans  Batis maritima  H OBL 11.  Distichlis spicata H FACW+ 12.  Spartina patens H FACW+ 13.  Borrichia frutescens H FACW+ 14.  15.  16.  ent of Dominant Species that are OBL, FACW, or FAC 6/6 (100%) ept FAC-). Include species noted (*) as showing phological adaptations to wetlands.	Avicennia germinans  S OBL 10.  Batis maritima H OBL 11.  Distichlis spicata H FACW+ 12.  Spartina patens H FACW 13.  Borrichia frutescens H FACW+ 14.  15.  16.  ent of Dominant Species that are OBL, FACW, or FAC 16 (100%) ept FAC-). Include species noted (*) as showing phological adaptations to wetlands.

HYDROLOGY		
Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage	Wetland	Hydrology Indicators:
X Acrial Photographs Other No Recorded Data Available	Primary Indicators:	Inundated
Field Observations:	X	Saturated in Upper 12 inches Water Marks
Depth of Surface Water: N/A (in.)		Drift Lines Sediment Deposits
Depth to Free Water in Pit: 0 (in.)	Secondary Indicators	Drainage Patterns in Wetlands (2 or more required):
Depth to Saturated Soil: 0 (in.)	X X	Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves
		Local Soil Survey Data Other (Explain in Remarks)
Remarks:		

Map Unit Name: <u>Tidal</u>	flats (Ta)			Drainage Class:	Listed as hydr	ic	
Taxonomy (Subgroup):				Field Observations Confirm Mapped Type?	Yes: N	lo:	
Profile Description:							
Depth (inches)	Horizon		ix Color ell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Co	ontrast	Texture, Concretions <u>Structure</u> , etc.
0-18	O/A		/R 5/1	10YR 5/6	15%		Sand
		-					
Hydric Soil Indicators: Histosol				Co	ncretions		
Histic Ep				Hi	gh Organic Cont	ent in Sur	face Layer
Sulfidic C	Odor Aquic Moisture	Regime		OrOrOr	ganic Streaking sted in Local Hyd	d <del>ri</del> c Soils l	List
Reducing	Conditions	-		Lis	sted on National	Hydric So	
X Gleyed or	Low-Chroma C	Colors		Ot	her (Explain in R	Remarks)	
			<del></del>				
		No	Is this Sampling	y Point Within a Wetland?	Yès	No	
Hydrophytic Vegetation Present		No No	Is this Sampling	g Point Within a Wetland?	(Yès)	No	
Hydrophytic Vegetation Present Wetland Hydrology Present?	? <b>(%</b> )	1	Is this Sampling	g Point Within a Wetland?	Yes	No	
WETLAND DETERMINATION Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present? Remarks:	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	Yes	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	(Yes)	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	Yes	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	Point Within a Wetland?	(Yes)	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	Yes	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	Yes	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	Yes	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	Yes	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	Yes	No	
Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present?	(20) ?: (20)	No	Is this Sampling	g Point Within a Wetland?	Yes	No	

Project No/.Site: Pelican - McDermott Property		
Applicant: ChevronTexaco	County/State:	Nueces County, Texas
Date: February 24, 2004	Investigator:	Matt Barczyk and Mark Patillo

Oo Normal Circumstances exist on the site?  Have vegetation, soils, or hydrology been distusted that area a potential Problem Area?  (If needed, explain on reverse.)	rbed?	(િલ્ Yes Yes	No No	Community ID: Transect ID.: Plot ID:	T-1 Pit-009 (WB	-001) – Verifi	cation Poi
mple Location:		<del></del>					
GETATION (Note those species observed to ha	ve morphologic	al adaptations to	o wetlands wi	ith a *)			
Dominant Plant Species	Stratum	Indicator		Dominant Pla	nt Species	Stratum	Indicato
Eleocharis parvula	Н	OBL	9.				
Typha latifolia	Н	OBL	10.				
Juncus spp.	Н	OBL	11.				
Andropogon glomeratus	H	FACW+	12.				
			13.				
			14.				
			I5.				
			- 16.				
except FAC-). Include species noted (*) as shorphological adaptations to wetlands.		4/4 (100%)					
except FAC-). Include species noted (*) as shorphological adaptations to wetlands.  emarks:		4/4 (100%)					·
except FAC-). Include species noted (*) as shorphological adaptations to wetlands.  demarks:  CDROLOGY  Recorded Data (Describe in Remarks):			etland Hyd	rology Indicators:			
PROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage	owing	W	etland Hydr	rology Indicators:			
PROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage  X_Aerial Photographs	owing		_				-
PROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage	owing	Wo Indicators:	Inu	ndated			- -
PROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage  X Aerial Photographs Other No Recorded Data Available	owing	W	Inu	ndated urated in Upper 12 inc	ches		
PROLOGY  Recorded Data (Describe in Remarks):  Stream, Lake, or Tide Gage  X Aerial Photographs  Other  No Recorded Data Available ield Observations:	Primary	Word Indicators:	Inu Sati Wa	ndated urated in Upper 12 inc ter Marks	ches		
PROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available Tield Observations:	Primary	Wo Indicators:	Inu Sati Wa Dri:	ndated urated in Upper 12 inc	ches		-
PROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available Tield Observations:  Depth of Surface Water: N/A (in.)	Primar	V Indicators:	Inu Sati Wa Dri Sed	ndated urated in Upper 12 ind ter Marks ft Lines liment Deposits uinage Patterns in Wet			
PROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage X Aerial Photographs Other No Recorded Data Available  Tield Observations:  Depth of Surface Water: N/A (in.)	Primar	V Indicators: X ary Indicato	Inu Sati Dri Sed Dra Drs (2 o	ndated urated in Upper 12 ind ter Marks ft Lines liment Deposits uinage Patterns in Wet or more required):	tlands		
Stream, Lake, or Tide Gage  X_Aerial Photographs OtherNo Recorded Data Available  Tield Observations:  Depth of Surface Water: N/A (in.)	Primar	y Indicators:  X  ary Indicator X	Inum Sate Wa Drit Sed Dra Ors (2 o	ndated urated in Upper 12 inditer Marks ft Lines liment Deposits uinage Patterns in Wet or more required): idized Root Channels	tlands	nes	-
PROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage  X Aerial Photographs Other No Recorded Data Available  Tield Observations:  Depth of Surface Water:  N/A (in.)	Primar	V Indicators: X ary Indicato	Inum   Sate   Wa   Dri:   Sed   Dra   Drs (2 of   Oxi	ndated urated in Upper 12 inc ter Marks ft Lines liment Deposits uinage Patterns in Wet or more required): idized Root Channels ter-Stained Leaves	tlands	nes	
PROLOGY  Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gage  X Aerial Photographs Other No Recorded Data Available field Observations:  Depth of Surface Water: No Price Water in Pit: No Price W	Primar	y Indicators:  X  ary Indicator X	Inui   Sati   Wa   Dri:   Sed   Dra   Oxi   Wa   Loc	ndated urated in Upper 12 inditer Marks ft Lines liment Deposits uinage Patterns in Wet or more required): idized Root Channels	tlands in Upper 12 Incl	nes	

Map Unit Name: <u>Tidal fl</u>	ats (Ta)			Drainage Class:	Listed as h	nydric	
Taxonomy (Subgroup):				Field Observations Confirm Mapped Type?	Yes:	No:	
Profile Description:			atrix Color	Mottle Colors	Mo	#la	Texture, Concretion
Depth (inches)	Horizon		nsell Moist)	(Munsell Moist)	Abundance		Structure, etc.
0-18	O/A	10	0YR 7/1		10YF	R 6/4	Sand
<del></del>							
Hydric Soil Indicators:							
Histosol				Со	ncretions		
Histic Epip				High	gh Organic (	Content in S	urface Layer
Sulfidic Oc	lor quic Moisture	Regime		Org	ganic Streak ted in Local	ing Hydric Soil	ls List
Reducing (	Conditions			Lis	ted on Natio	onal Hydric	Soils Lists
X Gleyed or	Low-Chroma	Colors		Oti	ner (Explain	in Remarks	s)
/ETLAND DETERMINATION							
		No	Is this Sampl	ing Point Within a Wetland?	X es)	No	
Hydrophytic Vegetation Present?		No No	Is this Sampl	ing Point Within a Wetland?	(Yes)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present?	<b>(a)</b>		Is this Sampl	ing Point Within a Wetland?	(fes)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	(G)	No	Is this Sampl	ing Point Within a Wetland?	(fes)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	(G)	No	Is this Sampl	ing Point Within a Wetland?	(Yes)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	(G)	No	Is this Sampl	ing Point Within a Wetland?	(f es)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	(G)	No	Is this Sampl	ing Point Within a Wetland?	(fes)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	(G)	No		ing Point Within a Wetland?	(Yes)	No	
VETLAND DETERMINATION Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present? Remarks:	(G)	No		ing Point Within a Wetland?	(fes)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	(G)	No		ing Point Within a Wetland?	(i es)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	(G)	No		ing Point Within a Wetland?	(fes)	No	
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	(G)	No		ing Point Within a Wetland?	(fes)	No	

**USACE** Verified

APPENDIX B

Photograph Log



Photograph 1: Facing north from upland Pit-001.



Photograph 2: Facing south from upladn Pit-002.



Photograph 3: Facing west from upland Pit-003.



Photograph 4: Facing west toward wetland WB-001.



Photograph 5: Facing west from Pit-008 in wetland WB-002.



Photograph 6: Facing south from the northeast corner of the site.



Photograph 7: Facing northwest from southeast corner of the site.

#### MEMORANDUM FOR THE FILE:

DATE: 17 March 2004

SUBJECT: Determination. D-15537; Entrix/ChevronTexaco, Wetland Delineation Verification

On 24 February 2004, I made a site visit to the 174-acre McDermott property, in order to verify a delineation of waters of the United States as identified by Entrix, who is acting as consultant for ChevronTexaco. Weather was cloudy, approximately 60 degrees F, NE wind approximately 20 mph. Heavy rains occurred at the site as we concluded our evaluation. A portion of the site has been leveed and used as a dredged material disposal site. Material to construct the levees appears to have been obtained by "borrowing" the material from the area adjacent to the levee. This construction method has created a ditch that runs along the outside perimeter of the levee with low spots that trap water for extended periods of time. The remainder of the McDermott site shows evidence of having been filled in the past because of the nature of the soil (includes rocks, clay, manmade debris). The site is located on Harbor Island, approximately 0.25 mile west of the Port Aransas ferry terminal on the west side of the Corpus Christi Ship Channel, Nueces County, Texas. The site was photographed for the file.

- T-3, Pit-001 is an upland area that did not meet any of the three criteria for wetlands as prescribed in the 1987 manual; therefore, we find that this area is not a water of the U.S. subject to our regulation. All conditions were as reported by the consultant in the data sheet for this site. The area was photographed (Photos 1 and 2) for the file.
- T-2, Pit-002 is an upland area that did not meet the vegetation and hydrology criteria for wetlands as prescribed in the 1987 manual; therefore, we find that this area is not a water of the U.S. subject to our regulation. All conditions were as reported by the consultant in the data sheet for this site. The area is included in Photos 1 and 2.
- T-1, Pit-003 is an upland area that did not meet the hydrology criterion for wetlands as prescribed in the 1987 manual; therefore, we find that this area is not a water of the U.S. subject to our regulation. All conditions were as reported by the consultant in the data sheet for this site. The area is included in Photos 1, 2, and 3.
- T-1, Pit-004 is located in wetland WB-001. The site is a depressional area, approximately 0.40 acre in size, that has the three wetland characteristics and is located within the "borrow" area for the disposal area levee. However, area that forms this site is essentially an upland drainage ditch that was formed by the "borrowing" of material to build the levee. Since we typically do not regulate upland drainage ditches or wetlands that form as the result of construction activities, we find that this area is not a water of the U.S. subject to our regulation. All conditions were as reported by the consultant in the data sheet for this site. Photos 4-6 show area.
- T-1, Pit-009 is located in wetland WB-001. This test pit was dug by the Corps to verify the limits of this wetland. Conditions were similar to those reported for Pit-004. Photo 7 shows area.
- T-1, Pit-005 is an upland area that did not meet the vegetation and hydrology criteria for wetlands as prescribed in the 1987 manual; therefore, we find that this area is not a water of the U.S. subject to our regulation. All conditions were as reported by the consultant in the data sheet for this site.

- T-1, Pit-006 is an upland area that did not meet the vegetation and hydrology criteria for wetlands as prescribed in the 1987 manual; therefore, we find that this area is not a water of the U.S. subject to our regulation. All conditions were as reported by the consultant in the data sheet for this site. Photo 9 shows area.
- T-1, Pit-007 is an upland area that did not meet the hydrology criterion for wetlands as prescribed in the 1987 manual; therefore, we find that this area is not a water of the U.S. subject to our regulation. All conditions were as reported by the consultant in the data sheet for this site. Photo 8 shows area.
- T-1, Pit-008 is located in wetland WB-002, which is an adjacent wetland contiguous with the CCSC. The area has saltmarsh vegetation as reported in the data sheet for this site. All other conditions were generally as reported by the consultant in the data sheet for this site. Photos 9-13 show site.

Based on our 24 February 2004 site visit and the information provided by Entrix, consultant for ChevronTexaco, we concur that 0.59 acre is a reasonable assessment of the waters of the United States, including wetlands, present on the McDermott facility and subject to our regulation under Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

Mark Pattillo

Since 1984 - Environmental Excellence

ENTRIX, Inc.

5252 Westchester, Suite 250 Houston, Texas 77005 (713) 666-6223 (713) 666-5227 FAX

March 19, 2004

Mr. Mark Patillo Corpus Christi Field Office U.S. Army Corps of Engineers Galveston District 5151 Flynn Parkway, Suite 306 Corpus Christi, Texas 78411

Re: Supplements to Wetland Assessment and Delineation Report

McDermott Property on Harbor Island

Nueces County, Texas Entrix Project # 1076903

Dear Mr. Patillo:

Per our March 18, 2004 conversion I have enclosed the supplemental information to the "Wetland Assessment and Delineation, McDermott Property on Harbor Island" report we discussed. This information includes the revised versions of Figure 4b and 4c and an additional table, which lists the GPS coordinates of wetland verticies depicted in the revised figures.

Thank you for your help. If you have any questions or comments please contact me at 713-662-1906.

Sincerely,

Matthew B. Barczyk

Staff Scientist

Enclosure: Figure 4b, Figure 4c, and Table 5

	$ldsymbol{le}}}}}}}$		$\Box$
			$\Box$
L	$\Box$	$\Box$	$\Box$
l		1	

Table 5: Wetland Coordinates Corresponding to the Wetland Verticies in Figures 4b and 4c (Coordinates are shown in UTM NAD83 Zone14N, meters)

_	<u>VB-001</u> orthing	Easting
1 30	81912.65	688557.60
	81904.86	688568.62
	81915.68	688599.74
	81933.82	688644.54
	81935.81 81932.32	688659.08 688671.49
	81934.27	688672.78
	81942.38	688666.53
	81945.77	688674.11
	81951.59	688677.30
	81958.25	688675.38
12 30	81932.00	688604.26
13 30	81920.34	688573.12
_	VB-002	
Point #	X	Υ
	81525.42	688884.22
	81525.64	688895.47 688898.53
	81522.20	
4 20	04500 00	
	81523.30	688902.10
5 30	81528.67	688902.10 688906.06
5 306 6 306	81528.67 81523.52	688902.10 688906.06 688907.13
5 306 6 306 7 306	81528.67	688902.10 688906.06
5 306 6 306 7 306 9 306	81528.67 81523.52 81522.07	688902.10 688906.06 688907.13 688913.47
5 306 6 306 7 306 9 306 8 306	81528.67 81523.52 81522.07 81515.84	688902.10 688906.06 688907.13 688913.47 688941.12
5 306 6 306 7 306 9 306 8 306 10 306 11 306	81528.67 81523.52 81522.07 81515.84 81524.94 81515.95 81521.04	688902.10 688906.06 688907.13 688913.47 688941.12 688921.49
5 306 6 306 7 306 9 306 8 306 10 306 11 306 12 306	81528.67 81523.52 81522.07 81515.84 81524.94 81515.95	688902.10 688906.06 688907.13 688913.47 688941.12 688921.49 688947.42 688953.88 688965.30
5 306 6 306 7 306 9 306 8 306 10 306 11 306 12 306 13 306	81528.67 81523.52 81522.07 81515.84 81524.94 81515.95 81521.04 81520.37 81481.94	688902.10 688906.06 688907.13 688913.47 688941.12 688921.49 688947.42 688953.88 688965.30 689022.16
5 300 6 300 7 300 9 300 8 300 10 300 11 300 12 300 13 300 14 300	81528.67 81523.52 81522.07 81515.84 81524.94 81515.95 81521.04 81520.37 81481.94 81469.29	688902.10 688906.06 688907.13 688913.47 688941.12 688921.49 688947.42 688953.88 688965.30 689022.16 689036.91
5 306 6 306 7 306 9 306 8 306 10 306 11 306 12 306 13 306 14 306 15 306	81528.67 81523.52 81522.07 81515.84 81524.94 81515.95 81521.04 81520.37 81481.94 81469.29 81486.31	688902.10 688906.06 688907.13 688913.47 688941.12 688921.49 688947.42 688953.88 688965.30 689022.16 689036.91 689022.41
5 306 6 306 7 306 9 306 8 306 10 306 11 306 12 306 13 306 14 306 15 306 16 306	81528.67 81523.52 81522.07 81515.84 81524.94 81515.95 81521.04 81520.37 81481.94 81469.29 81486.31 81516.67	688902.10 688906.06 688907.13 688913.47 688941.12 688921.49 688947.42 688953.88 688965.30 689022.16 689036.91 689022.41 688984.48
5 306 6 306 7 306 9 306 8 306 10 306 11 306 12 306 13 306 14 306 15 306 16 306 17 306	81528.67 81523.52 81522.07 81515.84 81524.94 81515.95 81521.04 81520.37 81481.94 81469.29 81486.31 81516.67 81549.12	688902.10 688906.06 688907.13 688913.47 688941.12 688921.49 688947.42 688953.88 688965.30 689022.16 689036.91 689022.41 688984.48 688951.78
5 306 6 306 7 306 9 306 8 306 10 306 11 306 12 306 13 306 14 306 15 306 17 306 17 306	81528.67 81523.52 81522.07 81515.84 81524.94 81515.95 81521.04 81520.37 81481.94 81469.29 81486.31 81516.67	688902.10 688906.06 688907.13 688913.47 688941.12 688921.49 688947.42 688953.88 688965.30 689022.16 689036.91 689022.41 688984.48

#### U.S. Army Corps of Engineers - Galveston District **Regulatory Branch**

#### **Basis for Jurisdictional Determination**

	Applicants: ChevronTexaco File Number: D-15537 Date: 22 Mar 04
⊠ A. P	roperty referenced in the attached correspondence contains waters of the United States based on:
	The presence of wetlands determined by the occurrence of hydrophytic vegetation, hydric soils and wetland hydrology. The wetlands are adjacent to navigable or interstate waters, or eventually drain or flow into navigable or interstate waters through a tributary system that may include man-made conveyances such as ditches or channelized streams.
$\boxtimes$	The presence of waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, i.e., navigable waters of the United States (in part). Includes all property below the ordinary high water mark of the navigable stream or channel. <sup>3</sup>
$\boxtimes$	The presence of waters which are subject to the ebb and flow of the tide, including tidal wetlands, i.e., navigable waters of the United States (in part). <sup>1, 3</sup>
	The presence of one or more tributaries (stream channels, man-made conveyances, lakes, ponds, rivers, etc.) that eventually drain or flow into navigable or interstate waters. Includes property below the ordinary high water mark of the tributary. <sup>3</sup>
	The presence of interstate waters. <sup>3</sup>
	The presence of an impoundment(s) of waters of the United States.
	The presence of territorial seas.
	The site contains other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce. The claim of interstate commerce is based on the following:
	Property referenced in the attached correspondence does not include or contain any of the waters of United States described above.
I *** - 41 -	Is an identified and delimented using the methods and evitaria established in the Course of Franciscous Western Delimentian

Project Manager: Mark Pattillo

Wetlands are identified and delineated using the methods and criteria established in the Corps of Engineers Wetland Delineation Manual (87 Manual).

<sup>2</sup> Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, etc. are

<sup>&</sup>quot;adjacent wetlands".

The lateral limits of waters of the U.S. are/or have been determined by the high tide line, ordinary high water mark, and/or by the

# REPLY TO ATTENTION OF

#### **DEPARTMENT OF THE ARMY**

GALVESTON DISTRICT, CORPS OF ENGINEERS
Corpus Christi Regulatory Field Office
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318

March 22, 2004

Regulatory Branch

Subject: D-15537

**Entrix** 

Attn: Mr. Matthew Barczyk 5252 Westchester, Suite 250 Houston, Texas 77005-4102

#### Gentlemen:

This concerns your January 12, 2004, letter requesting a wetland delineation of a 174-acre industrial complex located on Harbor Island, approximately 0.25 mile west of the Port Aransas ferry terminal on the west side of the Corpus Christi Ship Channel (CCSC), Nueces County, Texas.

Based on our site visit of February 24, 2004, we concur that 0.59 acre, WB-002, is a reasonable depiction of the geographic extent of waters of the United States, including wetlands contiguous to the CCSC, on the site as shown on the survey you submitted on five sheets (copies enclosed). The wetlands exhibit the indicators necessary as per the 1987 Corps Wetland Delineation Manual; a predominance of hydrophytic vegetation, wetland soils, and hydrology sufficient to support the aforementioned indicators. Under Section 404 of the Clean Water Act a Department of the Army (DA) permit is required prior to the discharge of dredged and/or fill material into any water of the United States. Please note that the CCSC is a navigable water, and as such, any structures and/or work in/or affecting this water will also require a DA permit under Section 10 of the Rivers and Harbors Act of 1899.

We also determined that an additional 0.4 acre (WB-001) of waters of the U.S., including wetlands, are present in the planned project area. However, based on a review of additional site-specific information, our determination is that these areas are non-tidal and consist of a ditch and livestock ponds excavated from uplands, and isolated, non-navigable, intrastate waters, which have no known nexus to interstate commerce and as such are not waters of the U.S. subject to DA jurisdiction under Section 404. This verification does not address seagrass beds, which are special aquatic sites, that may be present in the area.

This delineation has been conducted to identify the limits of the Corps Clean Water Act jurisdiction for the particular site identified in this request. This delineation may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

This approved determination is valid for 5 years from the date of this letter unless new information warrants revision before the expiration date. Please reference the determination number D-15537 in all future correspondence with our office regarding this request. If you have any questions, please contact Mark Pattillo at the letterhead address or by telephone at (361) 814-5851. The attached sheet provides information associated with the administrative appeals process.

Sincerely,

Malu Lloyd Mullins

Leader, Corpus Christi Field Office

Enclosures

Copy Furnished:

Chevron Pipe Line Company Attn: Michael De Nicola 2811 Hayes Road Houston, Texas 77210-4879

Table 5: Wetland Coordinates Corresponding to the Wetland Verticies in Figures 4b and 4c (Coordinates are shown in UTM NAD83 Zone14N, meters)

Point #	WB-001 Northing	Easting
1	3081912.65	688557.60
2	3081904.86	688568.62
3	3081915.68	688599.74
4	3081933.82	688644.54
5	3081935.81	688659.08
6	3081932.32	688671.49
7	3081934.27	688672.78
8	3081942.38	688666.53
9	3081945.77	688674.11
10	3081951.59	688677.30
11	3081958.25	688675.38
12	3081932.00	688604.26
13	3081920.34	688573.12
	WB-002	
Point #	X	Υ
1	3081525.42	688884,22
2	3081525.64	688895.47
3	3081522.20	688898.53
4	3081523.30	688902.10
5	3081528.67	688906.06
8	3081523.52	688907.13
7	3081522.07	688913.47
9	3081515.84	688941.12
8	3081524.94	688921.49
10	3081515.95	688947.42
11	3081521.04	688953.88
12	3081520.37	688965.30
13	3081481.94	689022.16
14	3081469.29	689036.91
15	3081486.31	689022,41
16	3081516.67	688984.48
17	3081549.12	688951.78
18	3081555.48	688928,75
19	3081544.58	688911.63
20	3081532.86	688890.32