

Belaire Environmental, Inc.

Planning · Permitting · Habitat Creation

November 19, 2001

Mr. Lloyd Mullins
U.S. Army Corps of Engineers
5151 Flynn Parkway, Suite 306
Corpus Christi, TX 78411

PADRE ISLAND

NOV 28 2001

NATIONAL SEASHORE

Dear Lloyd:

Re: Wetland Determination Report, Proposed Well Pad, Access Road and Pipeline,
BNP Petroleum Corporation, Lemon/Lemonseed Unit Prospects,
Padre Island National Seashore (PINS)

Enclosed please find one copy of a wetland determination report prepared by Belaire Environmental, Inc. (BEI) for the referenced project. On behalf of BNP Petroleum Corp., I ask that you provide written verification of this determination at your earliest convenience.

We are assisting BNP with preparation of a Plan of Operations and Environmental Assessment of the proposed project. That document will be submitted on or about November 21, 2001, to the PINS for evaluation. The written verification from the Corps is required as part of the PINS environmental assessment process. I am, thus, forwarding a copy of this correspondence to Arlene Wimer of PINS for her records.

Please contact me to arrange a site visit if you deem that one is required.

Your prompt attention is appreciated.

Sincerely,

Charles E. Belaire / ssd

Charles E. Belaire

Encl.

cc: Arlene Wimer
National Park Service
Padre Island National Seashore
P.O. Box 181300
Corpus Christi, TX 78480-1300

Scott Taylor & Bo Waters
BNP Petroleum Corp.
500 North Water Street, Suite 1000
Corpus Christi, TX 78471

NPS DOCUMENT # 481

**WETLAND DETERMINATION
PROPOSED ACCESS ROAD, WELL PAD AND
PIPELINE ROUTE
BNP PETROLEUM CORPORATION
LEMON/LEMONSEED UNIT PROSPECTS
PADRE ISLAND NATIONAL SEASHORE**

**Prepared for:
BNP PETROLEUM CORPORATION
500 North Water Street, Suite 1000
Corpus Christi, TX 78471**

**Prepared by:
BELAIRE ENVIRONMENTAL, INC.
P.O. Box 741
Rockport, TX 78381**

November 19, 2001

PREFACE

This report has been prepared by Belaire Environmental, Inc. (BEI) to describe a wetland determination performed for BNP Petroleum Corporation. The determination was performed at a proposed access road, well pad and pipeline route approximately three miles north of Yarborough Pass Road within the Padre Island National Seashore.

The following report is structured according to the report outline included in the U.S. Army Corps of Engineers' Wetland Delineation Manual. BEI has utilized this outline format in order to provide ease of access to the information required.

TABLE OF CONTENTS

	<u>Section</u>	
I.	Introduction	3
II.	Methods	4
III.	Results and Discussion	5
IV.	Conclusions	8
V.	Literature Cited	9
VI.	Appendices	10
	A. Vicinity Map & USGS Quad	11
	B. Wetland Delineation Forms & Survey Plats	14
	C. U.S. Department of Agriculture Soils Map	26
	D. Aerial/Vegetation Map & National Wetland Inventory Map	29

I. INTRODUCTION

A. Who authorized the delineation?

BNP Petroleum Corporation (BNP) requested that Belaire Environmental, Inc. (BEI) perform a wetland determination on the proposed access road, well pad and pipeline route.

B. Why it is being done?

BNP proposes to construct a 21,800 sq ft access road, a 136,603 sq ft well pad and 164,000 sq ft pipeline route. The proposed placement of the access road, well pad and pipeline route was selected, at BNP's request, to avoid wetlands.

C. Location of site (map):

The proposed access road entrance is approximately 12 miles south of where Park road 22 meets the Gulf Beach, and begins at the Gulf Beach/Dune interface. The proposed access road then runs west approximately 790 ft to the well pad. The proposed well pad is approximately 900 ft west of the Gulf of Mexico. The proposed pipeline route runs from the west edge of the proposed pad, approximately 4300 ft west-north-west to an existing HPL pipeline. The entire project site lies within the Kenedy county portion of the Padre Island National Seashore (PINS) Texas (Appendix A).

D. Date of visit(s):

BEI and Frontier Surveying Co. performed a site visit and the wetland determination on August 24, 2001. On September 6, 2001 BEI personnel performed another site visit to verify the lack of hydrology and lack of hydric soils along the proposed pipeline route after PINS had received the majority of its 7.46 inches of rain during a period from August 1, 2001 to September 6, 2001. BEI also mapped and described the vegetation habitats along the proposed access road, well pad and pipeline route on September 6, 2001.

E. Identification of delineators:

The referenced determination was performed by BEI personnel led by Charlie Belaire. Jeff Nelson and Seth Gambill assisted in the delineation.

II. METHODS

A. Brief description of methods used:

To perform the determination, BEI used “The Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual” (Wetland Training Institute, Inc., 1999). The routine method for plots less than 5 acres was employed. To determine hydric soils, BEI used Version 4.0 of “Field Indicators of Hydric Soils in the United States,” published by the U.S. Department of Agriculture, Natural Resource Conservation Service (USDA, 1998). That document is recommended by the National Technical Committee on Hydric Soils and the COE requires that methods included in that document be used to determine hydric soil indicators (NWI, 1999). Vegetation and hydrology were evaluated using methods described in NWI (1999).

B. Any modification of methods:

BEI used the methods described above in Section II.A. to perform the wetland determination.

C. Sources of existing information used:

BEI referenced the USGS Topographical map of the Yarborough Pass Quadrangle, 1992 aerial photographs from Lanmon Aerial Photo, 1992 National Wetland Inventory (NWI) map of Yarborough Pass, USDA General Soil Map of Kenedy County 1980, FEMA Flood Plain Maps, and the National List of Plant Species That Occur in Wetlands: 1988 – South Plains (Region 6) when performing this wetland determination.

III. RESULTS AND DISCUSSION

A. Description of site:

1. Topography:

Appendix B includes topographic information for the project area. The proposed access road would be cut through approximately 150 linear feet barrier dunes, and approximately 640 linear feet of hummocky uplands. The proposed well pad and pipeline route are on hummocky to flat uplands with a few minor upland depressions. Elevations range from approximately +6.99 MSL to +24.46 MSL along the access road, +7.58 MSL to +15.40 MSL on the well pad, and +5.12 MSL to +11.60 MSL along the pipeline route (Appendix B).

2. Plant communities:

BEI constructed a vegetation map of the Lemon/Lemonseed Unit that was included in the Plan of Operations submitted to PINS officials by BNP and BEI. An aerial photograph was used to draw in the different vegetation habitats within a 1000 ft radius of the well pad and access road and a 250 ft radius around the pipeline route. Then the project site was laid over and drawn onto the aerial to create the vegetation map. The complete vegetation map and habitat types are taken from the Lemon/Lemonseed Plan of Operations and are included in Appendix D of this report. The vegetation map will help describe the vegetation habitats present at the proposed project site. The proposed project will directly impact all vegetation habitats mapped with the exception of habitat D, therefore, habitat D is not included in this determination.

The proposed access road was comprised of three vegetation habitats. The section of the proposed access road that lies within the fore dunes (Habitat F) was typically dominated by silver-leaf croton (*Croton punctatus*, UPL), beach morning glory (*Ipomea pes-caprae*, FAC), camphorweed (*Heterotheca subaxillaris*, UPL), prairie clover (*Dalea leporina*, NI), western ragweed (*Ambrosia psilostachya*, FAC-) and sea oats (*Uniola paniculata*, FACU). The section of the proposed access road that lies within the high dune field (Habitat E) was generally dominated by camphorweed, prairie clover, sea oats, seacoast bluestem (*Schizachyrium scoparium* var. *littoralis*, FACU+) and western ragweed. The section of the proposed access road that lies within hummocky uplands (Habitat B) was dominated by gulf dune paspalum (*Paspalum monostachyum*, FACW+), seacoast bluestem and slimleaf dichantheleum (*Dichantheleum linearifolium*, UPL). Wetland dataforms for habitats F, E, and B are shown in appendix B.

The area of the proposed pad is made up of vegetation habitat B. As described above, habitat B is hummocky upland typically dominated by gulf dune paspalum, seacoast bluestem and slimleaf dichantheleum. The wetland dataform for habitat B is shown in appendix B.

The proposed pipeline route is comprised of three vegetation habitats. The majority of the pipeline route is comprised of previously described habitat B. Another section of the pipeline route is made up of vegetation habitat A. Vegetation habitat A is a high hummocky ridge dominated by prairie clover, partridge pea, gulf dune paspalum, and camphorweed. A small portion of the pipeline route lies within vegetation habitat C. Vegetation habitat C is a transitional area dominated by marshhay cordgrass (*Spartina patens*, FACW), bulrush (*Scirpus americanus*, OBL), and gulf dune paspalum. The wetland dataforms for habitats A, B and C are shown in appendix B

3. Soils mapped and found:

According to the U.S Department of Agriculture – Soil Conservation Service Soil Survey for Kenedy County Texas and Final Oil and Gas Management Plan Environmental Impact Statement for Padre Island National Seashore, Texas (DOI,2000), the soils at the project site are Galveston – Mustang Sand series (See Appendix C).

Due to the high elevation and dominance of upland vegetation, sample pits were not taken within vegetation habitats A, E and F. Sample pits were however, taken at the approximate lowest points within vegetation habitats B and C along the proposed pipeline route. Soils in habitat B (Pit 1) were found to be sandy with a matrix color 10YR 6/2+ down to 20 inches. Soil mottles were 10YR 6/8 and comprised 5% of the entire matrix. These soils do not meet any of the criteria S1 through S9 for hydric sandy soils as outlined in Version 4.0 of “Field Indicators of Hydric Soils” (See Appendix B).

Soils in vegetation habitat C (Pit 2) were found to be sandy with a matrix color of 10YR 6/3 down to 22 inches. Mottling started at 10 inches and were 10YR 5/6. Mottles comprised 10% of the entire matrix. These soils do not meet any of the criteria S1 through S9 for hydric sandy soils as outlined in Version 4.0 of “Field Indicators of Hydric Soils” (See Appendix B).

4. Hydrology information:

Sediment deposits were found on the soil’s surface around sample pit 1 within vegetation community B. The sediment deposits were scarce and appeared to be extremely dry algae. No other primary or secondary hydrologic indicators were found within vegetation habitat B. According to Ken McMullen, Chief of Science and Resource Management for the PINS, between August 1, 2001 and September 6, 2001 the PINS received 7.46 inches of rain, and no primary or secondary indicators of hydrology were observed in any of the other vegetation habitats.

5. Existing wetland mapping:

The U.S. Department of The Interior, Fish and Wildlife Service NWI map of Yarborough Pass, Texas does not show any indication that any part of the proposed project site lies within a wetland (See Appendix D).

B. Findings:

BEI determined that the vegetation habitats A, B, C, E and F were all uplands, and the proposed project will not impact any wetlands or non-wetland waters of the United States. Vegetation habitat B had hydrologic indicators, but had no positive indicators for vegetation or soil. Vegetation habitat C had a dominance of hydrophytic vegetation, but had no positive indicators for soil or hydrology.

IV. CONCLUSION

A. Brief summary of total area and types of wetlands and other regulated water:

The proposed 21,800 sq ft access road, 136,603 sq ft well pad and 164,000 sq ft pipeline route were determined to be on uplands. Neither wetlands, nor non-wetland waters of the United States will be impacted by the proposed project.

B. Statement regarding the need for permits:

On behalf of BNP Petroleum Corporation, BEI requests that the COE provide written verification of this determination at the COE's earliest convenience. BEI finds that no permit is required from the COE for work within the proposed access road, well pad and pipeline route.

C. Caution that final authority rests with the appropriate agencies:

The COE has final authority over whether the subject land lies within COE jurisdiction. If the COE would like to schedule a site visit for verification of this determination, please call Charles E. Belaire at 361-729-2948.

V. LITERATURE CITED

- U.S. Department of Agriculture. Natural Resources Conservation Service Wetland Science Institute and Soil Survey Division. 1998. Field Indicators of Hydric Soils in the United States. G.W. Hurt, Whited, P.M., and Pringle, R.F. (eds.). USDA, NRCS, Fort Worth, TX.
- Wetland Training Institute, Inc. 1999. Field Guide for Wetland Delineation: 1997 Corps of Engineers Manual. Glenwood, NM. WTI 99-1.143pp.
- U.S. Department of the Interior – National Park Service. 2000. Final Oil and Gas Management Plan Environmental Impact Statement: Padre Island National Seashore. USDOY, NPS, Corpus Christi, TX.

VI. LIST OF APPENDICES

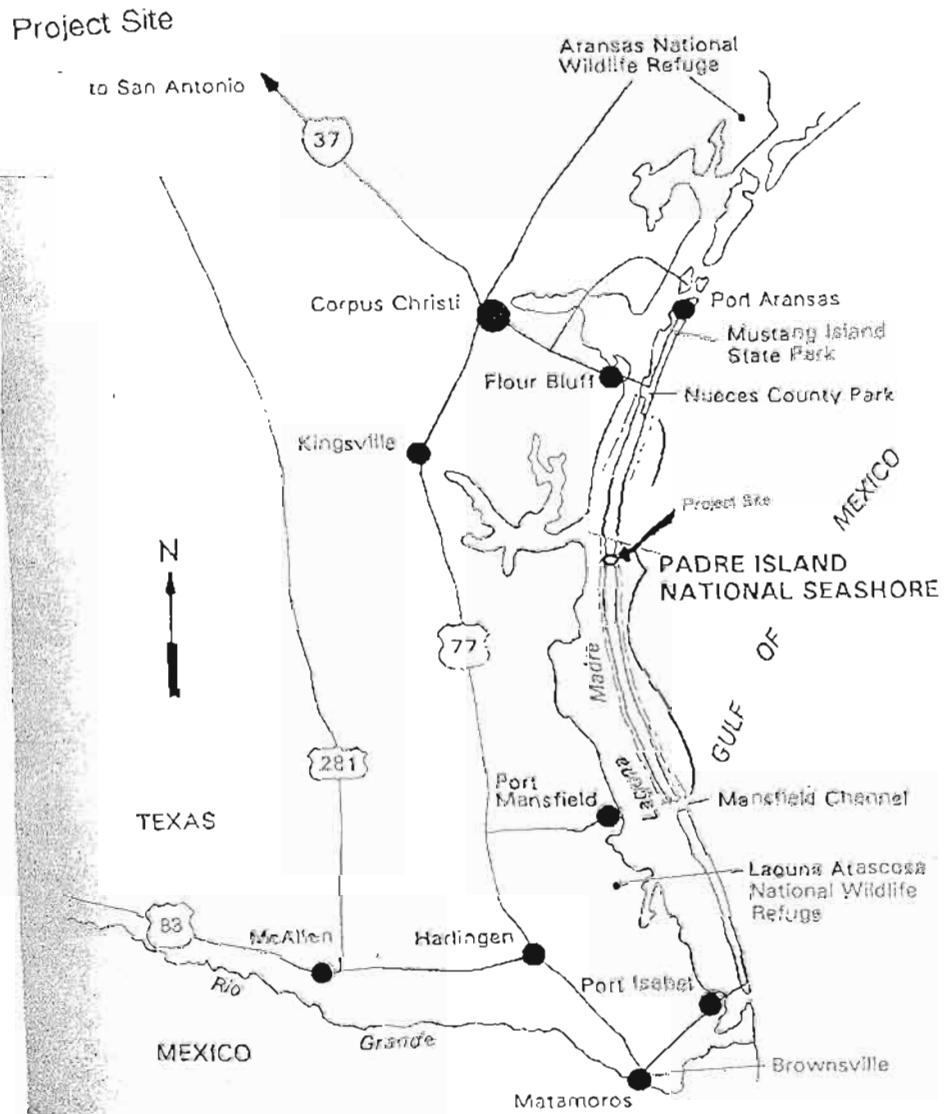
- A. Vicinity Map
- B. Wetland Data Forms and Survey Plat
- C. USDA General Soil Map of Kenedy County, TX
- D. Aerial Photo/Vegetation Map and NWI Map of Yarborough Pass Quad

**APPENDIX A
VICINITY MAP &
USGS QUADRANGLE MAP (Yarborough Pass)**

Appendix A



VICINITY MAP



REGION/VICINITY

PADRE ISLAND NATIONAL SEA SHORE
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

SCALE 613-80018
Nov 1994 SWNO

YARBOROUGH PASS QUADRANGLE

TEXAS—KENEDY CO.

7.5 MINUTE SERIES (TOPOGRAPHIC)

NW/4 POTRERO CORTADO 15' QUADRANGLE

6538 1V SE

(SOUTH BIRD ISLAND SE) 2 370 000 FEET

97°21'

27°15'

660

97°22'30"

636

3015

3014

3013
570 000
FEET

3012

3011

12°30"

3010

Project Site

Sand and Mud

S E A S H O R E

Shifting

Sand

N A S L I

Sand and Mud

Yarborough Pass

N



DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Lemon/Lemonseed Unit</u> Applicant/Owner: <u>BNP Petroleum</u> Investigator: <u>L. Belaire</u>	Date: <u>9-6-01</u> County: <u>Kenedy</u> State: <u>TX</u>				
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse.)	<table style="width: 100%;"> <tr> <td style="text-align: center;">Yes ☒ No ☐</td> <td style="text-align: center;">Yes ☐ No ☒</td> </tr> <tr> <td style="text-align: center;">Yes ☐ No ☒</td> <td style="text-align: center;">Yes ☐ No ☒</td> </tr> </table>	Yes ☒ No ☐	Yes ☐ No ☒	Yes ☐ No ☒	Yes ☐ No ☒
Yes ☒ No ☐	Yes ☐ No ☒				
Yes ☐ No ☒	Yes ☐ No ☒				
Community ID: <u>Habitat A</u> Transect ID: _____ Plot ID: <u>Pipeline route</u>					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Dalea leporina</u>		<u>NI</u>	9. _____		
2. <u>Cassia fasciculata</u>		<u>FACU</u>	10. _____		
3. <u>Paspalum monostachyum</u>		<u>FACW+</u>	11. _____		
4. <u>Heterotheca subaxillaris</u>		<u>UPL</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 33%

Remarks: Hydrophytic Veg. is lacking.

HYDROLOGY

☐ Recorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Explain in Remarks)
Remarks: <u>Due to lack of hydrophytic Veg., no hydrology evaluation was performed.</u>	

Habitat A

WETLAND DETERMINATION

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Lemon/Lemonseed Unit</u> Applicant/Owner: <u>BWP Petroleum</u> Investigator: <u>C. Belaire</u>	Date: <u>9-24-01</u> County: <u>Kenedy</u> State: <u>TX</u>		
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse.)	<table style="width: 100%;"> <tr> <td style="text-align: center;"> ☒ Yes ☐ No </td> <td style="text-align: center;"> ☐ Yes ☒ No </td> </tr> </table> Community ID: <u>Habitat B</u> Transect ID: _____ Plot ID: <u>Wellpad + Pipeline</u> <u>Pit 1</u>	☒ Yes ☐ No	☐ Yes ☒ No
☒ Yes ☐ No	☐ Yes ☒ No		

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Paspalum monostachyum</u>		<u>FACW+</u>	9. _____		
2. <u>Schizachyrium scoparium</u>		<u>FA</u>	10. _____		
3. <u>var. littoralis</u>		<u>FACW+</u>	11. _____		
4. <u>Pickanthaleum linearifolium</u>		<u>UPL</u>	12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 33%

Remarks: Hydrophytic Veg. is lacking.

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☒ Aerial Photographs ☒ Other _____ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☒ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>none</u> (in.) Depth to Free Water in Pit: <u>none</u> (in.) Depth to Saturated Soil: <u>none</u> (in.)	Remarks: <u>Small pieces of dried algae were found around pit 1.</u> <u>aerial photo's and NWI maps do not indicate wetland.</u>

Habitat B

WETLAND DETERMINATION

Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Lemon/Lemonwood Unit</u> Applicant/Owner: <u>BND Petroleum</u> Investigator: <u>C. Belaire</u>	Date: <u>9-6-01</u> County: <u>Kenedy</u> State: <u>TX</u>						
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse.)	<table style="width: 100%;"> <tr> <td style="text-align: center;">☒ Yes</td> <td style="text-align: center;">☐ No</td> </tr> <tr> <td style="text-align: center;">☐ Yes</td> <td style="text-align: center;">☒ No</td> </tr> <tr> <td style="text-align: center;">☐ Yes</td> <td style="text-align: center;">☒ No</td> </tr> </table>	☒ Yes	☐ No	☐ Yes	☒ No	☐ Yes	☒ No
☒ Yes	☐ No						
☐ Yes	☒ No						
☐ Yes	☒ No						
Community ID: <u>habitat C</u> Transect ID: _____ Plot ID: <u>PIT 2</u> <u>Pipeline</u>							

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Spartina patens</u>		<u>FACW</u>	9. _____		
2. <u>Scirpus americanus</u>		<u>OBL</u>	10. _____		
3. <u>Paspalum monostachyum</u>		<u>FACW+</u>	11. _____		
4. _____			12. _____		
5. _____			13. _____		
6. _____			14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks: Hydrophytic Veg. is present

HYDROLOGY

☒ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☒ Aerial Photographs ☐ Other ☐ No Recorded Data Available	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Dnft Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>None</u> (in.) Depth to Free Water in Pit: <u>None</u> (in.) Depth to Saturated Soil: <u>None</u> (in.)	Remarks: <u>No hydrologic indicators were observed.</u> <u>Aerial photos and NWI maps do not indicate wetlands</u>

habitat C pit 2

WETLAND DETERMINATION

Approved by HODUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Lemon/Lemonseed Unit</u> Applicant/Owner: <u>BP Petroleum</u> Investigator: <u>C. Belaire</u>	Date: <u>9-6-01</u> County: <u>Kenedy</u> State: <u>TX</u>
Do Normal Circumstances exist on the site? ☒ Yes ☐ No Is the site significantly disturbed (Atypical Situation)? ☐ Yes ☒ No Is the area a potential Problem Area? ☐ Yes ☒ No (If needed, explain on reverse.)	Community ID: <u>habitat E</u> Transect ID: _____ Plot ID: <u>access Road</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Heterotheca subaxillaris</u>		<u>UPL</u>	9. _____		
2. <u>Pala leporina</u>		<u>NI</u>	10. _____		
3. <u>Uniola paniculata</u>		<u>FACV</u>	11. _____		
4. <u>Gehizachyrium scoparium</u>			12. _____		
5. <u>var. littoralis</u>		<u>FACV+</u>	13. _____		
6. <u>Ambrosia psilostachya</u>		<u>FAC-</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 0%

Remarks: No Hydrophytic Veg. Present.

HYDROLOGY

___ Recorded Data (Describe in Remarks): ___ Stream, Lake, or Tide Gauge ___ Aerial Photographs ___ Other ___ No Recorded Data Available Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Wetland Hydrology Indicators: Primary Indicators: ___ Inundated ___ Saturated in Upper 12 Inches ___ Water Marks ___ Drift Lines ___ Sediment Deposits ___ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ___ Oxidized Root Channels in Upper 12 Inches ___ Water-Stained Leaves ___ Local Soil Survey Data ___ FAC-Neutral Test ___ Other (Explain in Remarks)
Remarks: <u>Due to lack of hydrophytic veg, no hydrology evaluation was performed.</u>	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>Lemon/Lemonseed Unit</u> Applicant/Owner: <u>BAID Petroleum</u> Investigator: <u>C. Belaire</u>	Date: <u>9-6-01</u> County: <u>Kenedy</u> State: <u>TX</u>				
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situation)? Is the area a potential Problem Area? (If needed, explain on reverse.)	<table style="width: 100%;"> <tr> <td style="text-align: center;">Yes ☒ No ☐</td> <td rowspan="3" style="vertical-align: middle; padding-left: 10px;"> Community ID: <u>Habitat F</u> Transect ID: _____ Plot ID: <u>access road</u> </td> </tr> <tr> <td style="text-align: center;">Yes ☐ No ☒</td> </tr> <tr> <td style="text-align: center;">Yes ☐ No ☒</td> </tr> </table>	Yes ☒ No ☐	Community ID: <u>Habitat F</u> Transect ID: _____ Plot ID: <u>access road</u>	Yes ☐ No ☒	Yes ☐ No ☒
Yes ☒ No ☐	Community ID: <u>Habitat F</u> Transect ID: _____ Plot ID: <u>access road</u>				
Yes ☐ No ☒					
Yes ☐ No ☒					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Croton punctatus</u>		<u>UPL</u>	9. _____		
2. <u>Ipomea prostrata</u>		<u>FAL</u>	10. _____		
3. <u>Heterotheca subaxillaris</u>		<u>UPL</u>	11. _____		
4. <u>Dalea leporina</u>		<u>NI</u>	12. _____		
5. <u>Ambrosia filostachya</u>		<u>FAL-</u>	13. _____		
6. <u>Uniola paniculata</u>		<u>FALV</u>	14. _____		
7. _____			15. _____		
8. _____			16. _____		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 20%

Remarks: Hydrophytic Veg. is lacking

HYDROLOGY

☐ Recorded Data (Describe in Remarks): ☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	Wetland Hydrology Indicators: Primary Indicators: ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands Secondary Indicators (2 or more required): ☐ Oxidized Root Channels in Upper 12 Inches ☐ Water-Stained Leaves ☐ Local Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Explain in Remarks)
Remarks: <u>Due to lack of hydrophytic veg., no hydrology evaluation was performed.</u>	

APPENDIX B
WETLAND DATA FORMS &
SURVEY PLATS

**APPENDIX C
GENERAL SOIL MAP OF
KENEDY COUNTY**

line, light brownish gray fine sand surface layer about 7 inches thick. The next 48 inches is friable, strongly alkaline, grayish brown and light grayish brown fine sandy loam that is mottled in shades of brown and yellow. From 55 to 65 inches the soil is friable, strongly alkaline, saline, gray fine sandy loam that is mottled in shades of brown and yellow. Most of this unit is used for rangeland and improved pastures.

6

SARITA-SAUZ: Somewhat poorly and well drained fine sands that have moderately slowly and moderately rapidly permeable lower layers with low and moderate shrink-swell potentials. This unit consists of about 60 percent Sarita soils, 20 percent Sauz soils and 20 percent other soils. Sarita soils have a very friable, slightly acid, light brownish gray and very pale brown fine sand surface layer about 48 inches thick. From 48 to 80 inches the soil is friable, slightly acid to moderately alkaline, pale brown and light yellowish brown sandy clay loam that is mottled in shades of red, brown, yellow and gray. Sauz soils have a friable, mildly alkaline, light brownish gray fine sand surface layer about 7 inches thick. The next 48 inches is friable, strongly alkaline, grayish brown and light grayish brown fine sandy loam that is mottled in shades of brown and yellow. From 55 to 65 inches the soil is friable, strongly alkaline, saline, gray fine sandy loam that is mottled in shades of brown and yellow. Most of this association is used for rangeland.

SOILS OF THE COASTAL TERRACES, RIDGES AND TIDAL FLATS

7

GALVESTON-MUSTANG-ACTIVE SAND DUNES: Poorly and somewhat excessively drained fine sands that have very rapidly and rapidly permeable lower layers with very low shrink-swell potential. This unit consists of about 40 percent Galveston soils, 35 percent Mustang soils, 10 percent Active Sand Dunes and 15 percent other soils. Galveston soils have a loose, neutral, light gray fine sand surface layer about 4 inches thick. From 4 to 70 inches the soil is loose, mildly alkaline, white fine sand with a permanent water table between 40 and 72 inches. Mustang soils have a loose, neutral, light brownish gray fine sand surface layer about 6 inches thick. From 6 to 72 inches the soil is loose, neutral, light gray fine sand with a permanent water table less than 40 inches. Active Sand Dunes are loose, neutral, light gray fine sands. Most of this unit is used for rangeland and recreation.

8

SATATTON-TATTON: Ponded to poorly drained loamy sands and fine sands that have rapidly permeable lower layers with very low and low shrink-swell potentials. This unit consists of about 60 percent Satatton soils, 30 percent Tatton soils and 10 percent other soils. Satatton soils have a very friable, strongly alkaline, saline, pale brown fine sand surface layer about 6 inches thick. From 6 to 60 inches the soil is firm, strongly alkaline, saline, grayish brown and light brownish gray fine sand. Tatton soils have a very friable, moderately alkaline, saline, light gray loamy sand surface layer about 5 inches thick. From 5 to 60 inches the soil is very friable, moderately alkaline, saline, white loamy sand. Most of this unit is used for recreation.

9

BARRADA-ARRADA-LALINDA: Very poorly, poorly and well drained clays and sandy clay loams that have very slowly and moderately slowly permeable lower layers with low and high shrink-swell potentials. This unit consists of about 40 percent Barrada soils, 30 percent Arrada soils, 15 percent Lalinda soils and 15 percent other soils. Barrada soils are very firm and firm, strongly alkaline, extremely saline, dark grayish brown clay from 0 to 52 inches. Arrada soils have a friable, strongly alkaline, extremely saline, gray sandy clay loam surface layer about 16 inches thick. From 16 to 80 inches the soil is friable, strongly alkaline, extremely saline, gray and greenish gray sandy clay loam. Lalinda soils have a friable, mildly alkaline, grayish brown and gray surface layer about 6 inches thick. The next 50 inches is friable, moderately alkaline, grayish brown, light brownish gray and light gray sandy clay loam that is saline in the lower part. From 56 to 72 inches the soil is friable, moderately alkaline, saline, light gray sandy clay loam. Most of this unit is used for recreation.

SOILS OF THE COASTAL PLAINS

10

LYFORD-LOZANO: Moderately well and well drained sandy clay loams and fine sandy loams that have moderately slowly and moderately permeable lower layers with moderate shrink-swell potential. This unit consists of about 40 percent Lyford soils, 35 percent Lozano soils and 25 percent other soils. Lyford soils have a friable, neutral, very dark grayish brown sandy clay loam surface layer about 11 inches thick. The next 23 inches is friable, neutral and moderately alkaline, dark grayish brown and light brownish gray sandy clay loam that is mottled in shades of brown. From 34 to 63 inches the soil is friable, moderately alkaline, pale brown sandy clay loam. Lozano soils have a friable, neutral, dark grayish brown fine sandy loam surface layer that is about 11 inches thick. The next 36 inches is friable, neutral and moderately alkaline, dark grayish brown, brown and light brown sandy clay loam that is mottled in shades of brown. From 47 to 63 inches the soil is friable, moderately alkaline, very pale brown sandy clay loam. Most of this unit is used for cropland.

11

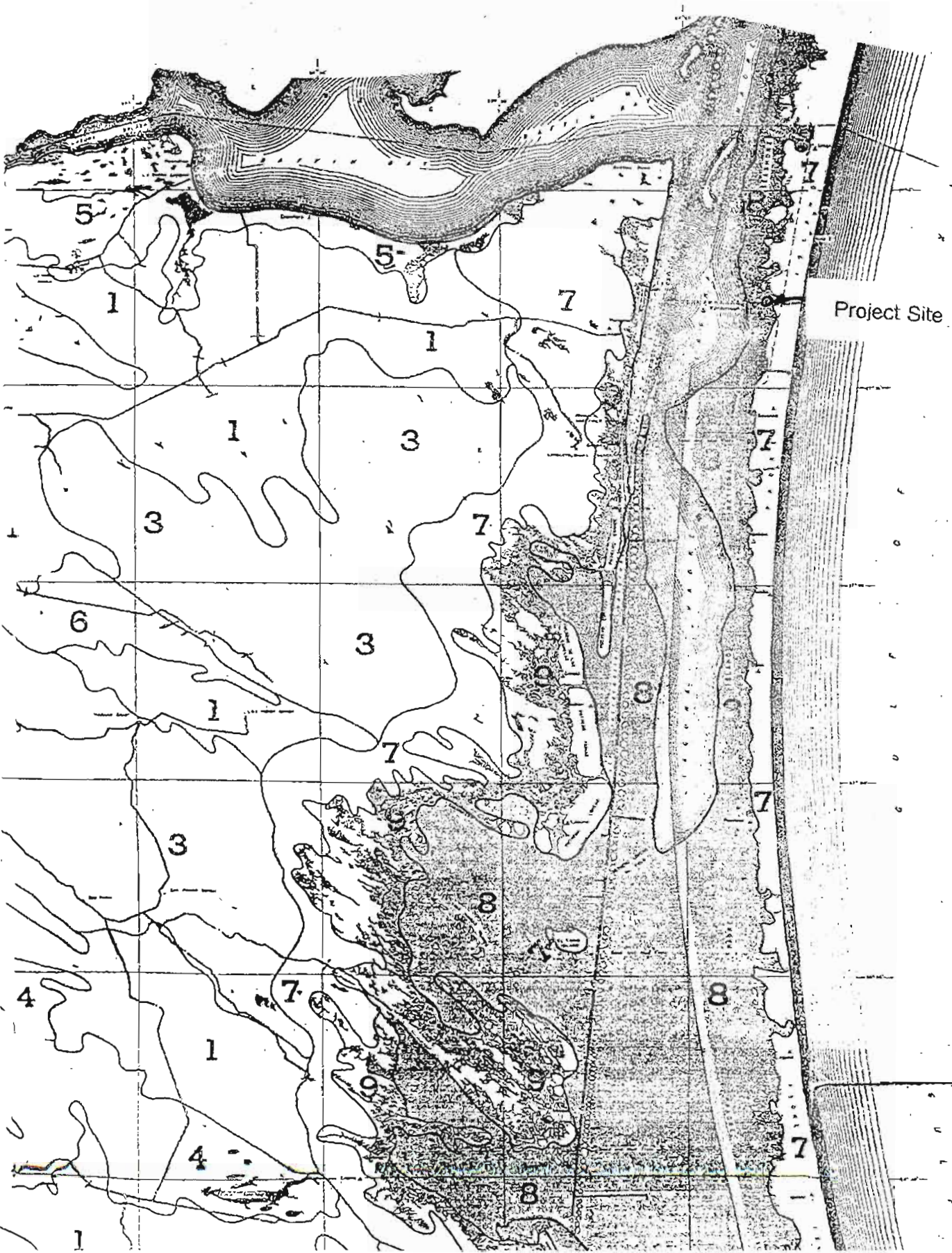
RAYMONDVILLE-MERCEDES: Moderately well drained clays and clay loams that have very slowly and slowly permeable lower layers with high and very high shrink-swell potentials. This unit consists of 60 percent Raymondville soils, 20 percent Mercedes soils and 20 percent other soils. Raymondville soils have a friable, moderately alkaline, gray and dark gray clay loam surface layer about 14 inches thick. The next 23 inches is firm and very firm, moderately alkaline, gray and light brownish gray clay loam and clay. From 37 to 78 inches the soil is very firm, moderately alkaline, light gray and light brownish gray clay. Mercedes soils have a firm, moderately alkaline, gray clay surface layer about 29 inches thick. The next 34 inches is very firm, moderately alkaline, light brownish gray and pale brown clay. From 63 to 74 inches the soil is very firm, moderately alkaline, very pale brown clay. Most of this unit is used for cropland.

GENERAL SOIL MAP KENEDY COUNTY TEXAS

The Texas A&M University System
The Texas Agricultural Extension Service
The Texas Agricultural Experiment Station
in cooperation with

The U.S. Department of Agriculture, Soil Conservation Service

MP 1412-131
FIPS 261



APPENDIX D
AERIAL PHOTOGRAPH &
NATIONAL WETLAND INVENTORY MAP

DESCRIPTION OF HABITAT & VEGETATION TYPES
BNP PETROLEUM CORPORATION
Lemon/Lemon Seed Unit

- Habitat A High hummocky ridge dominated by prairie clover (*Dalea sp.*), partridge pea (*Cassia fasciculata*), gulf dune paspalum (*Paspalum monostachyum*), and camphorweed (*Heterotheca subaxillaris*), with eastern prickly pear (*Opuntia compressa*), sea oats (*Uniola paniculata*), white stem wild indigo (*Baptisia leucophaera*), and narrow-leaf sumpweed (*Iva angustifolia*). Vegetation coverage in this area is approximately 75%-95%.
- Habitat B Hummocky upland dominated by gulf dune paspalum and seacoast bluestem (*Schizachyrium scoparium*), and slimleaf dichantheleum (*Dichantheleum linearifolium*) in the lower areas, with bulrush (*Scirpus americanus*), seaside pennywort (*Hydrocotyle bonariensis*), mist flower (*Eupatorium coelestinum*), narrow-leaf sumpweed, bushy broomsedge (*Andropogon glomeratus*), prairie clover, partridge pea, camphor weed, american snout bean (*Rhynchosia americana*). Vegetation coverage in this area is approximately 70%-100%.
- Habitat C Transitional area dominated by marshhay cordgrass (*Spartina patens*), bulrush, gulf dune paspalum, with sea ox-eye (*Borrchia frutescens*), narrow leaf sumpweed, bushy bluestem (*Andropogon glomeratus*), sea lavender (*Limonium carolinianum*), mist flower, seaside pennywort, frog-fruit (*Phyla nodiflora*), slimleaf dichantheleum. Vegetation coverage in this area is approximately 60%-85%.
- Habitat D Sparsely vegetated to unvegetated, non-tidal sandflat dominated by marshhay cordgrass and sea ox-eye. Vegetation coverage in this area is approximately 0%-65%.
- Habitat E High dune field with scattered upland swales generally dominated by camphorweed, prairie clover, sea oats, seacoast bluestem, western ragweed (*Ambrosia psilostachya*) with tropic croton (*Croton grandulosus*). Vegetation coverage in this area is approximately 75%-95%.
- Habitat F Fore dunes typically dominated by silverleaf croton (*Croton punctatus*), beach morning glory (*Ipomea pre-caprae*), camphor weed, prairie clover, western ragweed, and sea oats. Vegetation coverage in this area is approximately 60%-95%.

Habit of E

WETLAND DETERMINATION

Approved by HQUSACE 3792

Habitat F

WETLAND DETERMINATION

Approved by HQUSACE 3/92



YARBOROUGH PASS, TEX.

classes, and Water Regimes
specifically for NATIONAL
mapping.

SP R4SBW, OR R4SBJ
S) not meet the defini-

unconsolidated Shore (US).
class was designated Beach/
classes remain the same in both



U.S. DEPARTMENT OF THE INTERIOR FISH AND WILDLIFE SERVICE

Prepared by National Wetlands Inventory

Base map provided by the United States Geological Survey

TOPOGRAPHY

DATE: ____/____/____

SCALE: ____

TYPE: ____

1999

SYSTEM

SUBSYSTEM

2 — INTERTIDAL

RF — RED	RS — ROCKY SHORE	US — UNCONSOLIDATED SHORE	EM — EMERGENT	SS — SCRUB-SHRUB	FO — FORESTED	CLASS
1 Gravel	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous	Subclass

-R 75 659 4-CCH 660 B3-B4 97°22'30" 6538 IV SE (SOUTH BIRD ISLAND SE) 2 370 000 FEET 636 97°21' 27 3015

